



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 01 20 71-0113	LF	3/8" x 1-1/2" Diameter Tubular Bronze Steel Elevator Handrail, Brushed Finish		176.62	38.68
14 01 20 71-0114	LF	3/8" x 2" Diameter Tubular Bronze Steel Elevator Handrail, Brushed Finish		190.91	38.68
14 01 20 71-0115	LF	3/8" x 2-1/2" Diameter Tubular Bronze Steel Elevator Handrail, Brushed Finish		311.54	38.68
14 01 20 71-0116	LF	3/8" x 1-1/2" Diameter Tubular Bronze Steel Elevator Handrail, Mirror Finish		200.08	38.68
14 01 20 71-0117	LF	3/8" x 2" Diameter Tubular Bronze Elevator Handrail, Mirror Finish		312.36	38.68
14 01 20 71-0118	LF	3/8" x 2-1/2" Diameter Tubular Bronze Elevator Handrail, Mirror Finish		355.04	38.68

14 01 30 Operation and Maintenance of Escalators and Moving Walks⁽¹⁴⁾

14 01 30 71 Escalators and Moving Walks Rehabilitation^(14 01 30)

14 01 30 71-0001 Maintenance^(14 01 30 71)

14 01 30 71-0002	EA	Regular Escalator Inspection (Sufficient For Issue Of Certificate/Permit)	746.83
14 01 30 71-0003	HR	Escalator Servicing, Labor Only	175.18
14 01 30 71-0004	EA	Acceptance Test Of Escalators And Moving Walks	4,107.57

14 01 30 71-0005 Modernization^(14 01 30 71)

14 01 30 71-0006	EA	Removal And Replacement Of 28" Wide Escalator Stair Tread	1,913.49
14 01 30 71-0007	EA	Removal And Replacement Of 36" Wide Escalator Stair Tread	2,051.08
14 01 30 71-0008	EA	Removal And Replacement Of 48" Wide Escalator Stair Tread	2,152.34
14 01 30 71-0009	EA	Removal And Replacement Of 54" Wide Escalator Stair Tread	2,321.70
14 01 30 71-0010	LF	Removal And Replacement Of Sliding Handrail	179.35

14 20 Elevators⁽¹⁴⁾

Note: Excludes final electrical work or shaft walls.

14 21 Electric Traction Elevators^(14 20)

14 21 13 Electric Traction Freight Elevators^(14 21)

14 21 13 00-0001 Electric Traction Freight Elevators^(14 21 13)

Note: Painted metal shaft doors and steel painted cab. Unit prices based on a shaft of 6 stops (12 feet floor to floor) and 6 openings with power doors.

14 21 13 00-0002	EA	Electric Traction Freight Elevator, 4,000 LB x 200 FPM, 6 Stops, 6 Openings	327,962.23
		For Each Opening With Bonderized Steel Door, Add	279.88
		For Each Opening With Stainless Steel Doors, Add	699.70
		For Each Opening With Two Speed Doors, Add	839.64
		For Custom Plastic Laminated Cab Interiors, Add	3,710.80
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20
		For Stainless Steel Cab Interior, Add	7,421.60
		For Elevator With Manual Door, Deduct	-10,000.00
		For Class "C-1" Loading, Add	1,545.55
		For Class "C-2" Loading, Add	1,855.40
		For Class "C-3" Loading, Add	2,538.19
		For Removal Of Existing Stop, Add	8,200.92
		For Each Additional Stop, Add	33,526.85
		For Each Floor < 6 Stops, Deduct	-29,376.69
		For Each Additional 50 FPM, Add	5,566.20
		For Removal Of Existing Elevator, Add	41,004.61
14 21 13 00-0003	EA	Electric Traction Freight Elevator, 5,000 LB x 200 FPM, 6 Stops, 6 Openings	348,496.75
		For Each Opening With Bonderized Steel Door, Add	279.88
		For Each Opening With Stainless Steel Doors, Add	699.70
		For Each Opening With Two Speed Doors, Add	839.64
		For Custom Plastic Laminated Cab Interiors, Add	3,710.80
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20
		For Stainless Steel Cab Interior, Add	7,421.60
		For Elevator With Manual Door, Deduct	-10,000.00
		For Class "C-1" Loading, Add	3,091.10
		For Class "C-2" Loading, Add	3,710.80
		For Class "C-3" Loading, Add	5,143.17
		For Removal Of Existing Stop, Add	8,200.92
		For Each Additional Stop, Add	33,526.85
		For Each Floor < 6 Stops, Deduct	-29,376.69
		For Each Additional 50 FPM, Add	5,566.20
		For Removal Of Existing Elevator, Add	41,004.61
14 21 13 00-0004	EA	Electric Traction Freight Elevator, 6,000 LB x 200 FPM, 6 Stops, 6 Openings	370,315.91
		For Elevator With Manual Door, Deduct	-10,000.00
		For Class "C-1" Loading, Add	3,091.10
		For Class "C-2" Loading, Add	3,710.80
		For Class "C-3" Loading, Add	5,143.17
		For Custom Plastic Laminated Cab Interiors, Add	4,638.50
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90
		For Stainless Steel Cab Interior, Add	8,349.30
		For Removal Of Existing Stop, Add	8,200.92
		For Each Additional Stop, Add	34,454.55
		For Each Additional 50 FPM, Add	5,566.20
		For Each Opening With Bonderized Steel Door, Add	278.31
		For Each Opening With Stainless Steel Doors, Add	556.62
		For Each Opening With Two Speed Doors, Add	695.78
		For Removal Of Existing Elevator, Add	41,004.61
		For Each Floor < 6 Stops, Deduct	-30,376.69

14 Conveying Equipment**14 20 Elevators****14 21 Electric Traction Elevators**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 21 13 00-0005	EA		Electric Traction Freight Elevator, 7,000 LB x 200 FPM, 6 Stops, 6 Openings.....	379,479.83	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Class "C-1" Loading, Add	3,091.10	
			For Class "C-2" Loading, Add	3,710.80	
			For Class "C-3" Loading, Add	5,143.17	
			For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
			For Stainless Steel Cab Interior, Add	8,349.30	
			For Removal Of Existing Stop, Add	8,200.92	
			For Each Additional Stop, Add	34,454.55	
			For Each Additional 50 FPM, Add	5,566.20	
			For Each Opening With Bonderized Steel Door, Add	278.31	
			For Each Opening With Stainless Steel Doors, Add	556.62	
			For Each Opening With Two Speed Doors, Add	695.78	
			For Removal Of Existing Elevator, Add	41,004.61	
			For Each Floor < 6 Stops, Deduct	-30,376.69	
14 21 13 00-0006	EA		Electric Traction Freight Elevator, 8,000 LB x 200 FPM, 6 Stops, 6 Openings.....	391,211.57	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional 50 FPM, Add	13,994.00	
			For Class "C-1" Loading, Add	6,184.05	
			For Class "C-2" Loading, Add	7,421.60	
			For Class "C-3" Loading, Add	10,152.75	
			For Removal Of Existing Stop, Add	8,200.92	
			For Each Additional Stop, Add	34,454.55	
			For Each Opening With Bonderized Steel Door, Add	371.08	
			For Each Opening With Stainless Steel Doors, Add	649.39	
			For Each Opening With Two Speed Doors, Add	788.54	
			For Custom Plastic Laminated Cab Interiors, Add	5,566.20	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	7,421.60	
			For Stainless Steel Cab Interior, Add	9,277.00	
			For Removal Of Existing Elevator, Add	41,004.61	
			For Each Floor < 6 Stops, Deduct	-30,376.69	
14 21 13 00-0007	EA		Electric Traction Freight Elevator, 10,000 LB x 200 FPM, 6 Stops, 6 Openings.....	404,789.92	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional 50 FPM, Add	13,994.00	
			For Class "C-1" Loading, Add	6,184.05	
			For Class "C-2" Loading, Add	7,421.60	
			For Class "C-3" Loading, Add	10,152.75	
			For Removal Of Existing Stop, Add	8,200.92	
			For Each Additional Stop, Add	34,454.55	
			For Each Opening With Bonderized Steel Door, Add	371.08	
			For Each Opening With Stainless Steel Doors, Add	649.39	
			For Each Opening With Two Speed Doors, Add	788.54	
			For Custom Plastic Laminated Cab Interiors, Add	5,566.20	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	7,421.60	
			For Stainless Steel Cab Interior, Add	9,277.00	
			For Removal Of Existing Elevator, Add	41,004.61	
			For Each Floor < 6 Stops, Deduct	-30,376.69	
14 21 13 00-0008	EA		Electric Traction Freight Elevator, 12,000 LB x 200 FPM, 6 Stops, 6 Openings.....	416,141.24	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional 50 FPM, Add	13,994.00	
			For Class "C-1" Loading, Add	6,184.05	
			For Class "C-2" Loading, Add	7,421.60	
			For Class "C-3" Loading, Add	10,152.75	
			For Removal Of Existing Stop, Add	8,200.92	
			For Each Additional Stop, Add	34,454.55	
			For Each Opening With Bonderized Steel Door, Add	371.08	
			For Each Opening With Stainless Steel Doors, Add	649.39	
			For Each Opening With Two Speed Doors, Add	788.54	
			For Custom Plastic Laminated Cab Interiors, Add	5,566.20	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	7,421.60	
			For Stainless Steel Cab Interior, Add	9,277.00	
			For Removal Of Existing Elevator, Add	41,004.61	
			For Each Floor < 6 Stops, Deduct	-30,376.69	

14 21 23 Electric Traction Passenger Elevators (14 21)**14 21 23 13 Machine Room Electric Traction Passenger Elevators (14 21 23)****14 21 23 13-0001 Electric Traction Passenger Elevators (14 21 23 13)**

Note: Baked enamel shaft doors and plastic laminate trimmed cab, allowance of \$7,500. Unit prices based on a shaft of 6 stops (12 feet floor to floor) and 6 openings.

14 21 23 13-0002	EA		Electric Traction Passenger Elevator, 2,000 LB x 200 FPM, 6 Stops, 6 Openings.....	250,934.81	
			For Each Opening With Bonderized Steel Door, Add	279.88	
			For Each Opening With Stainless Steel Doors, Add	699.70	
			For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
			For Stainless Steel Cab Interior, Add	7,421.60	
			For Each Additional 50 FPM, Add	5,772.52	
			For Removal Of Existing Stop, Add	4,100.46	
			For Each Additional Stop, Add	33,526.85	
			For Each Floor < 6 Stops, Deduct	-20,251.15	
			For Removal Of Existing Elevator, Add	30,753.47	



Conveying Equipment		14	14
Elevators		14 20	
Electric Traction Elevators		14 21	

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
14 21 23 13-0003	EA Electric Traction Passenger Elevator, 2,500 LB x 200 FPM, 6 Stops, 6 Openings.....	257,515.04		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		
14 21 23 13-0004	EA Electric Traction Passenger Elevator, 3,000 LB x 200 FPM, 6 Stops, 6 Openings.....	262,739.04		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		
14 21 23 13-0005	EA Electric Traction Passenger Elevator, 3,500 LB x 200 FPM, 6 Stops, 6 Openings.....	266,641.14		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		
14 21 23 13-0006	EA Electric Traction Passenger Elevator, 4,000 LB x 200 FPM, 6 Stops, 6 Openings.....	271,491.71		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		
14 21 23 13-0007	EA Electric Traction Passenger Elevator, 4,500 LB x 200 FPM, 6 Stops, 6 Openings.....	276,540.39		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		
14 21 23 13-0008	EA Electric Traction Passenger Elevator, 5,000 LB x 200 FPM, 6 Stops, 6 Openings.....	281,728.99		
	For Each Opening With Bonderized Steel Door, Add	279.88		
	For Each Opening With Stainless Steel Doors, Add	699.70		
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80		
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20		
	For Stainless Steel Cab Interior, Add	7,421.60		
	For Each Additional 50 FPM, Add	5,772.52		
	For Removal Of Existing Stop, Add	4,100.46		
	For Each Additional Stop, Add	33,526.85		
	For Each Floor < 6 Stops, Deduct	-20,251.15		
	For Removal Of Existing Elevator, Add	30,753.47		

14 24 Hydraulic Elevators (14 20)

Note: Prices are for a complete operating elevator including all standard controls, hydraulic motor and devices based on unit with cab sized 5' by 8' with galvanized primed shaft door with cab allowances as listed below.

14 24 13 Hydraulic Freight Elevators (14 24)

14 24 13 00-0001 Hydraulic Freight Elevators (14 24 13)

Note: Painted metal shaft doors and steel painted cab. Unit prices based on a shaft of 3 stops (15 feet floor to floor) and 3 openings with power doors.

14 Conveying Equipment**14 20 Elevators****14 24 Hydraulic Elevators**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

14 24 13 00-0002	EA Hydraulic Freight Elevator, 3,000 LB x 50 FPM, 3 Stops, 3 Openings.....	206,639.46	
	For Each Additional Stop, Add	25,753.32	
	For 2 Stops, Deduct	-15,594.30	
	For Each Opening With Bonderized Steel Door, Add	279.88	
	For Each Opening With Stainless Steel Doors, Add	699.70	
	For Each Opening With Two Speed Doors, Add	839.64	
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
	For Stainless Steel Cab Interior, Add	7,421.60	
	For Each Additional 50 FPM, Add	2,798.80	
	For Elevator With Manual Door, Deduct	-10,000.00	
	For Class "C-1" Loading, Add	1,545.55	
	For Class "C-2" Loading, Add	1,855.40	
	For Class "C-3" Loading, Add	2,538.19	
	For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
	Note: Includes Labor and Equipment.		
	For 12" PVC Liner, Add Per LF	53.44	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For 12" Steel Liner, Add Per LF	83.49	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For Removal Of Existing Stop, Add	8,200.92	
	For Removal Of Existing Elevator, Add	20,483.17	
14 24 13 00-0003	EA Hydraulic Freight Elevator, 3,500 LB x 50 FPM, 3 Stops, 3 Openings.....	213,370.10	
	For Each Additional Stop, Add	25,753.32	
	For 2 Stops, Deduct	-15,594.30	
	For Each Opening With Bonderized Steel Door, Add	279.88	
	For Each Opening With Stainless Steel Doors, Add	699.70	
	For Each Opening With Two Speed Doors, Add	839.64	
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
	For Stainless Steel Cab Interior, Add	7,421.60	
	For Each Additional 50 FPM, Add	2,798.80	
	For Elevator With Manual Door, Deduct	-10,000.00	
	For Class "C-1" Loading, Add	1,545.55	
	For Class "C-2" Loading, Add	1,855.40	
	For Class "C-3" Loading, Add	2,538.19	
	For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
	Note: Includes Labor and Equipment.		
	For 12" PVC Liner, Add Per LF	53.44	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For 12" Steel Liner, Add Per LF	83.49	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For Removal Of Existing Stop, Add	8,200.92	
	For Removal Of Existing Elevator, Add	20,483.17	
14 24 13 00-0004	EA Hydraulic Freight Elevator, 4,000 LB x 50 FPM, 3 Stops, 3 Openings.....	219,948.05	
	For Each Additional Stop, Add	25,753.32	
	For 2 Stops, Deduct	-15,594.30	
	For Each Opening With Bonderized Steel Door, Add	279.88	
	For Each Opening With Stainless Steel Doors, Add	699.70	
	For Each Opening With Two Speed Doors, Add	839.64	
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
	For Stainless Steel Cab Interior, Add	7,421.60	
	For Each Additional 50 FPM, Add	2,798.80	
	For Elevator With Manual Door, Deduct	-10,000.00	
	For Class "C-1" Loading, Add	1,545.55	
	For Class "C-2" Loading, Add	1,855.40	
	For Class "C-3" Loading, Add	2,538.19	
	For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
	Note: Includes Labor and Equipment.		
	For 12" PVC Liner, Add Per LF	53.44	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For 12" Steel Liner, Add Per LF	83.49	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For Removal Of Existing Stop, Add	8,200.92	
	For Removal Of Existing Elevator, Add	20,483.17	
14 24 13 00-0005	EA Hydraulic Freight Elevator, 5,000 LB x 50 FPM, 3 Stops, 3 Openings.....	226,315.96	
	For Each Opening With Bonderized Steel Door, Add	279.88	
	For Each Opening With Stainless Steel Doors, Add	699.70	
	For Each Opening With Two Speed Doors, Add	839.64	
	For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
	For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
	For Stainless Steel Cab Interior, Add	7,421.60	
	For Each Additional 50 FPM, Add	2,798.80	
	For Elevator With Manual Door, Deduct	-10,000.00	
	For Each Additional Stop, Add	27,152.72	
	For 2 Stops, Deduct	-16,594.30	
	For Class "C-1" Loading, Add	3,091.10	
	For Class "C-2" Loading, Add	3,710.80	
	For Class "C-3" Loading, Add	5,143.17	
	For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
	Note: Includes Labor and Equipment.		
	For 12" PVC Liner, Add Per LF	53.44	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For 12" Steel Liner, Add Per LF	83.49	
	Note: Liner for Hydraulic Elevator Well Hole if necessary.		
	For Removal Of Existing Stop, Add	8,200.92	
	For Removal Of Existing Elevator, Add	20,483.17	



Conveying Equipment		14
Elevators		14 20
Hydraulic Elevators		14 24

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 24 13 00-0006	EA		Hydraulic Freight Elevator, 6,000 LB x 50 FPM, 3 Stops, 3 Openings.....	239,565.61	
			For Each Opening With Bonderized Steel Door, Add	279.88	
			For Each Opening With Stainless Steel Doors, Add	699.70	
			For Each Opening With Two Speed Doors, Add	839.64	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional Stop, Add	27,152.72	
			For 2 Stops, Deduct	-16,594.30	
			For Class "C-1" Loading, Add	3,091.10	
			For Class "C-2" Loading, Add	3,710.80	
			For Class "C-3" Loading, Add	5,143.17	
			For Each Additional 50 FPM, Add	13,994.00	
			For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
			For Stainless Steel Cab Interior, Add	8,349.30	
			For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
			Note: Includes Labor and Equipment.		
			For 12" PVC Liner, Add Per LF	53.44	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For 12" Steel Liner, Add Per LF	83.49	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For Removal Of Existing Stop, Add	8,200.92	
			For Removal Of Existing Elevator, Add	20,483.17	
14 24 13 00-0007	EA		Hydraulic Freight Elevator, 7,000 LB x 50 FPM, 3 Stops, 3 Openings.....	245,910.49	
			For Each Opening With Bonderized Steel Door, Add	279.88	
			For Each Opening With Stainless Steel Doors, Add	699.70	
			For Each Opening With Two Speed Doors, Add	839.64	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional Stop, Add	27,152.72	
			For 2 Stops, Deduct	-16,594.30	
			For Class "C-1" Loading, Add	3,091.10	
			For Class "C-2" Loading, Add	3,710.80	
			For Class "C-3" Loading, Add	5,143.17	
			For Each Additional 50 FPM, Add	13,994.00	
			For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
			For Stainless Steel Cab Interior, Add	8,349.30	
			For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
			Note: Includes Labor and Equipment.		
			For 12" PVC Liner, Add Per LF	53.44	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For 12" Steel Liner, Add Per LF	83.49	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For Removal Of Existing Stop, Add	8,200.92	
			For Removal Of Existing Elevator, Add	30,753.47	
14 24 13 00-0008	EA		Hydraulic Freight Elevator, 8,000 LB x 50 FPM, 3 Stops, 3 Openings.....	255,614.05	
			For Each Opening With Bonderized Steel Door, Add	279.88	
			For Each Opening With Stainless Steel Doors, Add	699.70	
			For Each Opening With Two Speed Doors, Add	839.64	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional Stop, Add	27,152.72	
			For 2 Stops, Deduct	-16,594.30	
			For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
			For Stainless Steel Cab Interior, Add	8,349.30	
			For Each Additional 50 FPM, Add	15,393.40	
			For Class "C-1" Loading, Add	7,727.74	
			For Class "C-2" Loading, Add	9,277.00	
			For Class "C-3" Loading, Add	12,690.94	
			For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
			Note: Includes Labor and Equipment.		
			For 12" PVC Liner, Add Per LF	53.44	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For 12" Steel Liner, Add Per LF	83.49	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For Removal Of Existing Stop, Add	8,200.92	
			For Removal Of Existing Elevator, Add	30,753.47	
14 24 13 00-0009	EA		Hydraulic Freight Elevator, 10,000 LB x 50 FPM, 3 Stops, 3 Openings.....	262,425.09	
			For Each Opening With Bonderized Steel Door, Add	279.88	
			For Each Opening With Stainless Steel Doors, Add	699.70	
			For Each Opening With Two Speed Doors, Add	839.64	
			For Elevator With Manual Door, Deduct	-10,000.00	
			For Each Additional Stop, Add	27,152.72	
			For 2 Stops, Deduct	-16,594.30	
			For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
			For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
			For Stainless Steel Cab Interior, Add	8,349.30	
			For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
			Note: Includes Labor and Equipment.		
			For 12" PVC Liner, Add Per LF	53.44	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For 12" Steel Liner, Add Per LF	83.49	
			Note: Liner for Hydraulic Elevator Well Hole if necessary.		
			For Removal Of Existing Stop, Add	8,200.92	
			For Removal Of Existing Elevator, Add	30,753.47	
			For Each Additional 50 FPM, Add	16,792.80	
			For Class "C-1" Loading, Add	10,277.99	
			For Class "C-2" Loading, Add	12,338.41	
			For Class "C-3" Loading, Add	16,878.57	

14 Conveying Equipment**14 20 Elevators****14 24 Hydraulic Elevators**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 24 13 00-0010	EA	Hydraulic Freight Elevator, 12,000 LB x 50 FPM, 3 Stops, 3 Openings.....	274,398.39	
		For Each Opening With Bonderized Steel Door, Add	279.88	
		For Each Opening With Stainless Steel Doors, Add	699.70	
		For Each Opening With Two Speed Doors, Add	839.64	
		For Elevator With Manual Door, Deduct	-10,000.00	
		For Each Additional Stop, Add	27,152.72	
		For 2 Stops, Deduct	-16,594.30	
		For Custom Plastic Laminated Cab Interiors, Add	4,638.50	
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	6,493.90	
		For Stainless Steel Cab Interior, Add	8,349.30	
		For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
		Note: Includes Labor and Equipment.		
		For 12" PVC Liner, Add Per LF	53.44	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For 12" Steel Liner, Add Per LF	83.49	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For Removal Of Existing Stop, Add	8,200.92	
		For Removal Of Existing Elevator, Add	30,753.47	
		For Each Additional 50 FPM, Add	16,792.80	
		For Class "C-1" Loading, Add	10,277.99	
		For Class "C-2" Loading, Add	12,338.41	
		For Class "C-3" Loading, Add	16,878.57	
14 24 13 00-0011		Hydraulic Elevators Piston Drilling (14 24 13)		
14 24 13 00-0012	VLF	Up To 6" Diameter Piston Drilling	94.82	
		Note: Includes casing.		
14 24 13 00-0013	VLF	8" To 10" Diameter Piston Drilling	113.31	
		Note: Includes casing.		
14 24 23		Hydraulic Passenger Elevators (14 24)		
14 24 23 00-0001		Hydraulic Passenger Elevators (14 24 23)		
		Note: Baked enamel shaft doors and plastic laminate trimmed cab, allowance of \$7,500. Unit prices based on a shaft of 3 stops (15 feet floor to floor) and 3 openings		
14 24 23 00-0002	EA	Hydraulic Passenger Elevator, 2,100 LB x 100 FPM, 3 Stops, 3 Openings.....	147,443.28	
		For Each Additional Stop, Add	25,753.32	
		For Each Opening With Bonderized Steel Door, Add	279.88	
		For Each Opening With Stainless Steel Doors, Add	699.70	
		For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
		For Stainless Steel Cab Interior, Add	7,421.60	
		For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
		Note: Includes Labor and Equipment.		
		For 12" PVC Liner, Add Per LF	53.44	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For 12" Steel Liner, Add Per LF	83.49	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For Each Additional 50 FPM, Add	5,772.52	
		For Removal Of Existing Elevator, Add	20,483.17	
		For Removal Of Existing Stop, Add	4,100.46	
		For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0003	EA	Hydraulic Passenger Elevator, 2,500 LB x 100 FPM, 3 Stops, 3 Openings.....	150,242.08	
		For Each Additional Stop, Add	25,753.32	
		For Each Opening With Bonderized Steel Door, Add	279.88	
		For Each Opening With Stainless Steel Doors, Add	699.70	
		For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
		For Stainless Steel Cab Interior, Add	7,421.60	
		For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
		Note: Includes Labor and Equipment.		
		For 12" PVC Liner, Add Per LF	53.44	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For 12" Steel Liner, Add Per LF	83.49	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For Each Additional 50 FPM, Add	5,772.52	
		For Removal Of Existing Elevator, Add	20,483.17	
		For Removal Of Existing Stop, Add	4,100.46	
		For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0004	EA	Hydraulic Passenger Elevator, 3,000 LB x 100 FPM, 3 Stops, 3 Openings.....	152,166.26	
		For Each Additional Stop, Add	25,753.32	
		For Each Opening With Bonderized Steel Door, Add	279.88	
		For Each Opening With Stainless Steel Doors, Add	699.70	
		For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
		For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
		For Stainless Steel Cab Interior, Add	7,421.60	
		For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
		Note: Includes Labor and Equipment.		
		For 12" PVC Liner, Add Per LF	53.44	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For 12" Steel Liner, Add Per LF	83.49	
		Note: Liner for Hydraulic Elevator Well Hole if necessary.		
		For Each Additional 50 FPM, Add	5,772.52	
		For Removal Of Existing Elevator, Add	20,483.17	
		For Removal Of Existing Stop, Add	4,100.46	
		For 2 Stops, Deduct	-10,000.00	



Conveying Equipment		14	14
Elevators		14 20	
Hydraulic Elevators		14 24	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 24 23 00-0005 EA Hydraulic Passenger Elevator, 3,500 LB x 100 FPM, 3 Stops, 3 Openings.....	159,293.52	
For Each Additional Stop, Add	25,753.32	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
For Stainless Steel Cab Interior, Add	7,421.60	
For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
Note: Includes Labor and Equipment.		
For 12" PVC Liner, Add Per LF	53.44	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For 12" Steel Liner, Add Per LF	83.49	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For Each Additional 50 FPM, Add	5,772.52	
For Removal Of Existing Elevator, Add	20,483.17	
For Removal Of Existing Stop, Add	4,100.46	
For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0006 EA Hydraulic Passenger Elevator, 4,000 LB x 100 FPM, 3 Stops, 3 Openings.....	162,233.04	
For Each Additional Stop, Add	25,753.32	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
For Stainless Steel Cab Interior, Add	7,421.60	
For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
Note: Includes Labor and Equipment.		
For 12" PVC Liner, Add Per LF	53.44	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For 12" Steel Liner, Add Per LF	83.49	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For Each Additional 50 FPM, Add	5,772.52	
For Removal Of Existing Elevator, Add	20,483.17	
For Removal Of Existing Stop, Add	4,100.46	
For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0007 EA Hydraulic Passenger Elevator, 4,500 LB x 100 FPM, 3 Stops, 3 Openings.....	166,326.29	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
For Stainless Steel Cab Interior, Add	7,421.60	
For Each Additional Stop, Add	27,152.72	
For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
Note: Includes Labor and Equipment.		
For 12" PVC Liner, Add Per LF	53.44	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For 12" Steel Liner, Add Per LF	83.49	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For Each Additional 50 FPM, Add	5,772.52	
For Removal Of Existing Elevator, Add	20,483.17	
For Removal Of Existing Stop, Add	4,100.46	
For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0008 EA Hydraulic Passenger Elevator, 5,000 LB x 100 FPM, 3 Stops, 3 Openings.....	170,257.98	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Each Opening With Two Speed Doors, Add	839.64	
For Custom Plastic Laminated Cab Interiors, Add	3,710.80	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	5,566.20	
For Stainless Steel Cab Interior, Add	7,421.60	
For Each Additional Stop, Add	27,152.72	
For Well Hole Drilling (12" Diameter Hole), Add Per VLF	297.57	
Note: Includes Labor and Equipment.		
For 12" PVC Liner, Add Per LF	53.44	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For 12" Steel Liner, Add Per LF	83.49	
Note: Liner for Hydraulic Elevator Well Hole if necessary.		
For Each Additional 50 FPM, Add	5,772.52	
For Removal Of Existing Elevator, Add	20,483.17	
For Removal Of Existing Stop, Add	4,100.46	
For 2 Stops, Deduct	-10,000.00	
14 24 23 00-0009 Twin Holeless Hydraulic Passenger Elevator (14 24 23)		
Note: Baked enamel shaft doors and plastic laminate trimmed cab, allowance of \$7,500. Unit prices based on a shaft of 2 stops (10 feet floor to floor) and 2 openings.		
14 24 23 00-0010 EA Twin Holeless Hydraulic Passenger Elevator, 2,100 LB x 100 FPM.....	127,795.08	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,246.95	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	4,638.50	
For Stainless Steel Cab Interior, Add	5,566.20	
For Removal Of Existing Elevator, Add	20,483.17	
For Each Additional Stop, Add	27,270.56	
For An Additional 25 FPM, Add	2,357.99	

14 Conveying Equipment**14 20 Elevators****14 24 Hydraulic Elevators**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
14 24 23 00-0011 EA Twin Holeless Hydraulic Passenger Elevator, 2,500 LB x 100 FPM.....	132,638.59	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,246.95	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	4,638.50	
For Stainless Steel Cab Interior, Add	5,566.20	
For Removal Of Existing Elevator, Add	20,483.17	
For Each Additional Stop, Add	27,270.56	
For An Additional 25 FPM, Add	2,357.99	
14 24 23 00-0012 EA Twin Holeless Hydraulic Passenger Elevator, 3,000 LB x 100 FPM.....	137,288.13	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,246.95	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	4,638.50	
For Stainless Steel Cab Interior, Add	5,566.20	
For Removal Of Existing Elevator, Add	20,483.17	
For Each Additional Stop, Add	27,270.56	
For An Additional 25 FPM, Add	2,357.99	
14 24 23 00-0013 EA Twin Holeless Hydraulic Passenger Elevator, 3,500 LB x 100 FPM.....	159,873.29	
For Each Opening With Bonderized Steel Door, Add	279.88	
For Each Opening With Stainless Steel Doors, Add	699.70	
For Custom Plastic Laminated Cab Interiors, Add	3,246.95	
For Custom Half Plastic Laminate And Half Stainless Steel Interior, Add	4,638.50	
For Stainless Steel Cab Interior, Add	5,566.20	
For Removal Of Existing Elevator, Add	20,483.17	
For Each Additional Stop, Add	27,270.56	
For An Additional 25 FPM, Add	2,357.99	
14 26 Limited-Use/Limited-Application Elevators (14 20)		
14 26 00 00-0001 Small Elevators (LULA) (14 26)		
14 26 00 00-0002 EA Small Elevators (LULA), 1,400 LB x 30 FPM, 2 Stops, 2 Openings.....	90,970.43	
Note: 3 phase, automatic operation, includes cab interior, telephone box and telephone. 2 stops and 12 feet of rise.		
For Each Additional Stop, Add	16,366.42	
For Removal Of Existing Elevator, Add	6,150.69	
14 27 Custom Elevator Cabs and Doors (14 20)		
14 27 13 Custom Elevator Cab Finishes (14 27)		
14 27 13 00-0001 Custom Elevator Cab Finish Options (14 27 13)		
Note: Review elevator task modifiers for additional cab finishes.		
14 27 13 00-0002 EA Intercom Service.....	1,329.72	
14 27 13 00-0003 Custom Elevator Hall Finish Options (14 27 13)		
14 27 13 00-0004 EA Stainless Steel Door, Hall Finishes.....	1,698.76	
14 27 13 00-0005 EA Stainless Steel Frames, Hall Finishes.....	1,785.14	
14 27 13 00-0006 EA Hall Lantern, Signal Devices.....	878.73	
14 27 16 Custom Elevator Doors (14 27)		
14 27 16 00-0001 Custom Elevator Door Options (14 27 16)		
14 27 16 00-0002 EA Center Opening, 1 Speed Doors.....	3,417.00	
14 27 16 00-0003 EA Center Opening, 2 Speed Doors.....	4,395.94	
14 27 16 00-0004 EA Rear Opening Doors (Opposite Front).....	6,152.28	
14 27 16 00-0005 EA Side Opening, 2 Speed Doors.....	9,808.93	
14 27 16 00-0006 EA Bi-Parting Doors.....	10,310.86	
14 27 16 00-0007 EA Power Operated Door And Gate.....	32,135.58	
14 28 Elevator Equipment and Controls (14 20)		
14 28 16 Elevator Controls (14 28)		
14 28 16 00-0001 Passenger Or Freight Elevator Options (14 28 16)		
14 28 16 00-0002 EA 2 Car Group, Elevator Automatic Controls.....	8,335.56	996.98
14 28 16 00-0003 EA 3 Car Group, Elevator Automatic Controls.....	12,629.92	1,494.41
14 28 16 00-0004 EA 4 Car Group, Elevator Automatic Controls.....	19,589.74	1,992.53
14 28 16 00-0005 EA 5 Car Group, Elevator Automatic Controls.....	27,606.03	2,528.95
14 28 16 00-0006 EA 6 Car Group, Elevator Automatic Controls.....	38,590.89	2,988.77
14 28 16 00-0007 EA Duplex Care Selective Collective.....	7,719.54	
14 28 16 00-0008 EA Automatic Emergency Power Switching.....	4,581.16	
14 28 16 00-0009 EA Manual Emergency Power Switching.....	872.97	
14 28 16 00-0010 EA Up To 3, Position Indicator, Signal Devices.....	207.17	
14 28 16 00-0011 EA >3, Position Indicator, Signal Devices.....	173.61	
14 28 16 00-0012 EA High Speed Heavy Duty Door Opener.....	3,167.18	
14 28 16 00-0013 EA Variable Voltage, Overhead Gearless Machine, Minimum.....	52,458.75	
14 28 16 00-0014 EA Variable Voltage, Overhead Gearless Machine, Average.....	85,624.08	



Conveying Equipment		14	14
Elevators		14 20	
Elevator Equipment and Controls		14 28	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

14 28 16 00-0015	EA	Variable Voltage, Overhead Gearless Machine, Maximum	118,660.98	
14 28 16 00-0016	EA	Variable Voltage, Basement Installed Geared Machine, Minimum	21,898.73	
14 28 16 00-0017	EA	Variable Voltage, Basement Installed Geared Machine, Average	27,186.55	
14 28 16 00-0018	EA	Variable Voltage, Basement Installed Geared Machine, Maximum	30,180.97	

14 30 Escalators and Moving Walks ⁽¹⁴⁾

14 31 Escalators ^(14 30)

14 31 00 00-0001 Stainless Steel Escalator Construction ^(14 31)

Note: Prices are medians and are based on each moving stairway. Complete, includes all standard accessories and single microprocessor controlled electronic display sign packages, LED.

14 31 00 00-0002	EA	Escalators Stainless Steel, 32" Wide x 12' Floor To Floor Height.....	149,138.03	12,915.65
14 31 00 00-0003	EA	Escalators Stainless Steel, 32" Wide x 15' Floor To Floor Height.....	165,247.95	15,263.96
14 31 00 00-0004	EA	Escalators Stainless Steel, 32" Wide x 18' Floor To Floor Height.....	179,970.65	17,612.26
14 31 00 00-0005	EA	Escalators Stainless Steel, 32" Wide x 22' Floor To Floor Height.....	198,982.22	21,134.71
14 31 00 00-0006	EA	Escalators Stainless Steel, 32" Wide x 25' Floor To Floor Height.....	219,705.03	23,483.01
14 31 00 00-0007	EA	Escalators Stainless Steel, 36" Wide x 12' Floor To Floor Height.....	157,708.91	13,737.56
14 31 00 00-0008	EA	Escalators Stainless Steel, 36" Wide x 15' Floor To Floor Height.....	175,072.77	16,438.11
14 31 00 00-0009	EA	Escalators Stainless Steel, 36" Wide x 18' Floor To Floor Height.....	189,780.55	18,786.41
14 31 00 00-0010	EA	Escalators Stainless Steel, 36" Wide x 22' Floor To Floor Height.....	213,913.03	23,600.42
14 31 00 00-0011	EA	Escalators Stainless Steel, 36" Wide x 25' Floor To Floor Height.....	230,481.43	25,361.66
14 31 00 00-0012	EA	Escalators Stainless Steel, 48" Wide x 12' Floor To Floor Height.....	166,664.02	14,559.47
14 31 00 00-0013	EA	Escalators Stainless Steel, 48" Wide x 15' Floor To Floor Height.....	185,583.15	17,612.26
14 31 00 00-0014	EA	Escalators Stainless Steel, 48" Wide x 18' Floor To Floor Height.....	199,923.67	19,960.56
14 31 00 00-0015	EA	Escalators Stainless Steel, 48" Wide x 22' Floor To Floor Height.....	229,872.74	24,891.99
14 31 00 00-0016	EA	Escalators Stainless Steel, 48" Wide x 25' Floor To Floor Height.....	243,972.77	27,240.30
14 31 00 00-0017	EA	Escalator Fire Shutter Fusible Link	21,981.85	469.66

14 32 Moving Walks ^(14 30)

14 32 00 00-0001 Moving Sidewalks ^(14 32)

Note: Prices are medians. Includes safety rails.

14 32 00 00-0002	LF	Moving Sidewalks, 28" Wide.....	1,577.19	281.80
For Each LF Of Ramp Or Sloped Sections, Add			247.81	
14 32 00 00-0003	LF	Moving Sidewalks, 36" Wide.....	2,104.47	287.67
For Each LF Of Ramp Or Sloped Sections, Add			351.86	
14 32 00 00-0004	LF	Moving Sidewalks, 48" Wide.....	2,372.52	299.41
For Each LF Of Ramp Or Sloped Sections, Add			402.66	
14 32 00 00-0005	LF	Moving Sidewalks, 54" Wide.....	2,727.38	324.77
For Each LF Of Ramp Or Sloped Sections, Add			467.54	

14 40 Lifts ⁽¹⁴⁾

14 41 People Lifts ^(14 40)

14 41 16 Endless-Belt People Lifts ^(14 41)

14 41 16 00-0001 Personnel Lifts Electrically Operated ^(14 41 16)

Note: 1 Or 2 person lift by vertical belt with attached foot platforms average of 36" diameter openings.

14 41 16 00-0002	EA	Personnel Lifts, Electric, 1-2 Person, 3 Stops.....	28,893.17	
For An Additional Stop, Add			825.43	
For Tinted Plexiglas Enclosure, Weatherproof, Add			3,467.18	
14 41 16 00-0003	EA	Personnel Lifts, Electric, 1-2 Person, 5 Stops.....	30,394.12	
For An Additional Stop, Add			825.43	
For Tinted Plexiglas Enclosure, Weatherproof, Add			3,647.29	
14 41 16 00-0004	EA	Personnel Lifts, Electric, 1-2 Person, 7 Stops.....	31,895.06	
For An Additional Stop, Add			825.43	
For Tinted Plexiglas Enclosure, Weatherproof, Add			3,827.41	

14 41 19 Stairway Chairlifts ^(14 41)

14 41 19 00-0001 Chair Lift-Stair Climber ^(14 41 19)

Note: Includes landing, rails, lifting device and gates.

14 41 19 00-0002	EA	Chair Lift, Stair Climber Per Story, Single Passenger, Indoor, 300 LB Capacity.....	7,614.53	995.78
Note: Includes top and bottom call button, safety chair, track, and power unit.				

14 42 Wheelchair Lifts ^(14 40)

14 42 13 Inclined Wheelchair Lifts ^(14 42)

14 42 13 00-0001 Inclined Platform Wheelchair Lift-Stair Climber ^(14 42 13)

Note: Includes landing, rails, lifting device and gates.

14 42 13 00-0002	EA	Inclined Wheelchair Lift, Stair Climber Per Story, Single Passenger, Indoor, 300 LB Capacity.....	14,290.73	1,493.66
Note: Includes top and bottom call button, safety chair, track, and power unit.				

14 Conveying Equipment**14 40 Lifts****14 42 Wheelchair Lifts**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

14 42 16 Vertical Wheelchair Lifts (14 42)**14 42 16 00-0001 Wheelchair Lift (Shorty) (14 42 16)**

14 42 16 00-0002	EA	36" Vertical Travel Wheelchair Platform Scissor Lift.....	8,861.81	697.05
		Note: 1000 LB capacity. Includes handrails and manual ramp.		
		For Accordion Safety Skirt, Add	1,002.44	
		For Removable Handrails, Add	102.16	
		For Power Operated Ramp, Add	893.90	
14 42 16 00-0003	EA	42" Vertical Travel Wheelchair Platform Scissor Lift.....	10,898.48	871.30
		Note: 1000 LB capacity. Includes handrails and manual ramp.		
		For 2,000 LB Capacity, Add	600.19	
		For 3,000 LB Capacity, Add	1,002.44	
		For 4,000 LB Capacity, Add	1,500.48	
		For Accordion Safety Skirt, Add	1,002.44	
		For Removable Handrails, Add	102.16	
		For Power Operated Ramp, Add	893.90	
14 42 16 00-0004	EA	70" Vertical Travel Wheelchair Platform Scissor Lift.....	12,986.16	1,132.69
		Note: 1000 LB capacity. Includes handrails and manual ramp.		
		For 2,000 LB Capacity, Add	600.19	
		For 3,000 LB Capacity, Add	1,002.44	
		For 4,000 LB Capacity, Add	1,500.48	
		For Accordion Safety Skirt, Add	1,002.44	
		For Removable Handrails, Add	102.16	
		For Power Operated Ramp, Add	893.90	
14 42 16 00-0005	EA	84" Vertical Travel Wheelchair Platform Scissor Lift.....	14,588.65	1,306.95
		Note: 1000 LB capacity. Includes handrails and manual ramp.		
		For 2,000 LB Capacity, Add	600.19	
		For 3,000 LB Capacity, Add	1,002.44	
		For 4,000 LB Capacity, Add	1,500.48	
		For Accordion Safety Skirt, Add	1,002.44	
		For Removable Handrails, Add	102.16	
		For Power Operated Ramp, Add	893.90	
14 42 16 00-0006	EA	18' Travel Wheelchair Incline Lift.....	15,125.36	622.36
		Note: 500 LB capacity, interior installation.		

14 90 Other Conveying Equipment (14)**14 91 Facility Chutes (14 90)****14 91 82 Trash Chutes (14 91)****14 91 82 00-0001 Trash Chutes (14 91 82)**

14 91 82 00-0002	LF	18" Diameter Galvanized Trash Chute, 18 Gauge, Duct With Supports.....	40.69	4.44
		For Aluminum, Add	3.22	
		For Stainless Steel, Add	11.28	
14 91 82 00-0003	LF	24" Diameter Galvanized Trash Chute, 18 Gauge, Duct With Supports.....	52.82	4.44
		For Aluminum, Add	4.36	
		For Stainless Steel, Add	15.26	
14 91 82 00-0004	LF	30" Diameter Galvanized Trash Chute, 18 Gauge, Duct With Supports.....	58.30	5.54
		For Aluminum, Add	4.83	
		For Stainless Steel, Add	16.92	
14 91 82 00-0005	LF	36" Diameter Galvanized Trash Chute, 18 Gauge, Duct With Supports.....	90.43	5.54
		For Aluminum, Add	7.96	
		For Stainless Steel, Add	27.87	
14 91 82 00-0006	EA	Trash Chutes, Hopper.....	769.44	31.03
		For Aluminum, Add	70.70	
		For Stainless Steel, Add	247.45	
14 91 82 00-0007	EA	Trash Chutes, Skylight.....	368.08	60.94
		For Aluminum, Add	24.59	
		For Stainless Steel, Add	86.07	
14 91 82 00-0008	EA	Trash Chutes, Sprinkler Unit At Top.....	248.08	66.48
		For Aluminum, Add	10.76	
		For Stainless Steel, Add	37.66	
14 91 82 00-0009	EA	Trash Chutes, Sprinkler Unit At Intake Hopper.....	65.27	23.27
		For Aluminum, Add	1.84	
		For Stainless Steel, Add	6.45	
14 91 82 00-0010	EA	Refuse Type Bottom Storage Hopper Unit.....	630.56	83.10
		For Aluminum, Add	45.49	
		For Stainless Steel, Add	159.23	
14 91 82 00-0011	EA	Hopper Doors.....	1,500.46	71.91

END OF SECTION 14



Fire Suppression	21	
Operation and Maintenance of Fire Suppression	21 01	
Operation and Maintenance of Water-Based Fire-Suppression Systems	21 01 10	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

21 Fire Suppression

21 01 Operation and Maintenance of Fire Suppression ⁽²¹⁾

21 01 10 Operation and Maintenance of Water-Based Fire-Suppression Systems ^(21 01)

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

21 01 10 91 Water-Based Fire-Suppression Systems Restoration ^(21 01 10)

21 01 10 91-0001	EA	Relocate Sprinkler Head And Branch Piping ^(21 01 10 91)	
See CSI section 21 13 13 00-0024 for new wet pipe sprinkler heads (when required).			
21 01 10 91-0002	EA	Relocate 1 Existing Sprinkler Head And Branch Piping.....	550.35
Note: To adjust or swing existing sprinkler heads to different ceiling grid configuration or location.			
21 01 10 91-0003	EA	Relocate 2 To 4 Existing Sprinkler Heads And Branch Piping.....	330.21
Note: To adjust or swing existing sprinkler heads to different ceiling grid configuration or location.			
21 01 10 91-0004	EA	Relocate >4 To 10 Existing Sprinkler Heads And Branch Piping.....	132.09
Note: To adjust or swing existing sprinkler heads to different ceiling grid configuration or location.			
21 01 10 91-0005	EA	Relocate >10 Existing Sprinkler Heads And Branch Piping.....	66.04
Note: To adjust or swing existing sprinkler heads to different ceiling grid configuration or location.			
21 01 10 91-0006	EA	Purge And Refill System Sprinkler Piping ^(21 01 10 91)	
Note: Includes shutting off valve, draining pipe and collection of liquid, refilling with liquid and bleeding of air from system.			
21 01 10 91-0007	EA	Up To 100', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	366.76
21 01 10 91-0008	EA	>100 To 250', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	523.80
21 01 10 91-0009	EA	>250 To 500', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	627.62
21 01 10 91-0010	EA	>500 To 1,000', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	784.52
21 01 10 91-0011	EA	>1,000 To 2,000', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	1,019.88
21 01 10 91-0012	LF	>2,000', Up To 1-1/2" Diameter Pipe, Purge Liquid System (For Sprinkler Upgrades).....	0.51
21 01 10 91-0013	EA	Up To 100', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	513.46
21 01 10 91-0014	EA	>100 To 250', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	733.33
21 01 10 91-0015	EA	>250 To 500', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	878.67
21 01 10 91-0016	EA	>500 To 1,000', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,098.33
21 01 10 91-0017	EA	>1,000 To 2,000', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,427.83
21 01 10 91-0018	LF	>2,000', >1-1/2" To 3" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	0.72
21 01 10 91-0019	EA	Up To 100', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	706.01
21 01 10 91-0020	EA	>100 To 250', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,008.33
21 01 10 91-0021	EA	>250 To 500', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,208.17
21 01 10 91-0022	EA	>500 To 1,000', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,510.21
21 01 10 91-0023	EA	>1,000 To 2,000', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,963.27
21 01 10 91-0024	LF	>2,000', >3" To 6" Diameter Branch Piping, Purge Liquid System (For Sprinkler Upgrades).....	0.98
21 01 10 91-0025	EA	Up To 100', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	953.11
21 01 10 91-0026	EA	>100 To 250', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,361.23
21 01 10 91-0027	EA	>250 To 500', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,445.16
21 01 10 91-0028	EA	>500 To 1,000', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	1,806.44
21 01 10 91-0029	EA	>1,000 To 2,000', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	2,348.38
21 01 10 91-0030	LF	>2,000', >6" To 10" Diameter Main Piping, Purge Liquid System (For Sprinkler Upgrades).....	1.17

21 01 30 Operation and Maintenance of Fire-Suppression Equipment ^(21 01)

21 01 30 91 Fire-Suppression Equipment Restoration ^(21 01 30)

21 01 30 91-0001	EA	Inspection And Recharge ^(21 01 30 91)	
21 01 30 91-0002	EA	Inspection, CO2, Carbon Dioxide.....	236.65
21 01 30 91-0003	LB	Refill/Recharge, CO2, Carbon Dioxide.....	2.91
21 01 30 91-0004	EA	Inspection, Halon 1301.....	236.65
21 01 30 91-0005	LB	Refill/Recharge, Halon 1301.....	69.86
21 01 30 91-0006	EA	Inspection, WC, Wet Chemical.....	143.09
21 01 30 91-0007	GAL	Refill/Recharge, WC, Wet Chemical.....	65.50
21 01 30 91-0008	EA	Inspection, DC, Dry Chemical.....	143.09
21 01 30 91-0009	LB	Refill/Recharge, DC, Dry Chemical.....	5.82
21 01 30 91-0010	EA	Hydrostatic Testing, All Sizes, All Agents.....	44.03
See CSI section 23 05 93 00-0046 for testing existing piping systems.			
21 01 30 91-0011	EA	Disarm/Arm System.....	77.05

21 05 Common Work Results for Fire Suppression ⁽²¹⁾

21 05 13 Common Motor Requirements for Fire-Suppression Equipment ^(21 05)

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

21 05 16 Expansion Fittings and Loops for Fire-Suppression Piping ^(21 05)

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

21 Fire Suppression**21 05 Common Work Results for Fire Suppression****21 05 17 Sleeves and Sleeve Seals for Fire-Suppression Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 05 17 Sleeves and Sleeve Seals for Fire-Suppression Piping ^(21 05)

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

21 05 19 Meters and Gages for Fire-Suppression Systems ^(21 05)

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

21 05 19 00-0001 Fire Sprinkler System Water Pressure Gauge ^(21 05 19)

21 05 19 00-0002	EA	2" Diameter Dial, 0-200 PSI, Water Pressure Gauge	48.24	12.72
		Note: For fire sprinkler systems		
21 05 19 00-0003	EA	2-1/2" Diameter Dial, 0-300 PSI, Water Pressure Gauge	50.11	12.72
		Note: For fire sprinkler systems		
21 05 19 00-0004	EA	3" Diameter Dial, 0-300 PSI, Water Pressure Gauge	58.85	12.72
		Note: For fire sprinkler systems		
21 05 19 00-0005	EA	3-1/2" Diameter Dial, 0-300 PSI, Water Pressure Gauge	62.44	12.72
		Note: For fire sprinkler systems		
21 05 19 00-0006	EA	4" Diameter Dial, 0-300 PSI, Water Pressure Gauge	66.03	12.72
		Note: For fire sprinkler systems		

21 05 19 00-0007 Fire Service Meter Cast Iron Housing ^(21 05 19)

21 05 19 00-0008	EA	3" Diameter, 0 - 600 GPM Fire Service Meter Flanged, With Cast Iron Housing	7,482.70	174.43
		For >10 To 25, Deduct	-374.14	
		For >25, Deduct	-1,100.57	
21 05 19 00-0009	EA	4" Diameter, 0 - 1,000 GPM Fire Service Meter Flanged, With Cast Iron Housing	15,290.49	292.42
		For >10 To 25, Deduct	-764.52	
		For >25, Deduct	-2,256.93	
21 05 19 00-0010	EA	6" Diameter, 0 - 2,000 GPM Fire Service Meter Flanged, With Cast Iron Housing	20,734.91	444.28
		For >10 To 25, Deduct	-1,036.75	
		For >25, Deduct	-3,054.50	
21 05 19 00-0011	EA	8" Diameter, 0 - 4,000 GPM Fire Service Meter Flanged, With Cast Iron Housing	27,049.64	567.68
		For >10 To 25, Deduct	-1,352.48	
		For >25, Deduct	-3,986.93	
21 05 19 00-0012	EA	10" Diameter, 0 - 6,200 GPM Fire Service Meter Flanged, With Cast Iron Housing	38,145.18	691.09
		For >10 To 25, Deduct	-1,907.26	
		For >25, Deduct	-5,635.39	

21 05 23 General-Duty Valves for Water-Based Fire-Suppression Piping

^(21 05)
See CSI section 22 05 23 00-0000 for additional valves, 23 05 23 00-0000 for additional valves.

21 05 23 00-0001 Globe Valves ^(21 05 23)**21 05 23 00-0002 Threaded, 125 LB, Bronze Body, Angle Globe Valves** ^(21 05 23 00-0001)

Note: Non-rising stem

21 05 23 00-0003	EA	1/2" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	61.81	11.14
21 05 23 00-0004	EA	3/4" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	78.64	11.70
21 05 23 00-0005	EA	1" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	108.61	11.70
21 05 23 00-0006	EA	1-1/4" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	164.07	14.82
21 05 23 00-0007	EA	1-1/2" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	193.16	17.16
21 05 23 00-0008	EA	2" Threaded, 125 LB, Bronze Body, Angle Globe Valve (Kennedy 98SD)	228.83	20.27

21 05 23 00-0009 Butterfly Valves ^(21 05 23)**21 05 23 00-0010 Grooved End Gear Operated Butterfly Valves** ^(21 05 23 00-0009)

21 05 23 00-0011	EA	2-1/2" Butterfly Valve, Grooved, With Standard Trim (Nibco GD-4765-8N)	508.80	18.16
21 05 23 00-0012	EA	3" Butterfly Valve, Grooved, With Standard Trim (Nibco GD-4765-8N)	558.78	21.76
21 05 23 00-0013	EA	4" Butterfly Valve, Grooved, With Standard Trim (Nibco GD-4765-8N)	585.60	28.63
21 05 23 00-0014	EA	6" Butterfly Valve, Grooved, With Standard Trim (Nibco GD-4765-8N)	831.30	46.89
21 05 23 00-0015	EA	8" Butterfly Valve, Grooved, With Standard Trim (Nibco GD-4765-8N)	1,196.77	65.97

21 05 23 00-0016 Grooved End, Wafer Type, Ductile Iron, Gear Operated Butterfly Valves ^(21 05 23 00-0009)

21 05 23 00-0017	EA	2" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	511.27	14.67
21 05 23 00-0018	EA	2-1/2" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	520.44	18.16
21 05 23 00-0019	EA	3" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	574.31	21.76
21 05 23 00-0020	EA	4" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	595.30	28.63
21 05 23 00-0021	EA	6" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	829.36	46.89
21 05 23 00-0022	EA	8" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	1,233.66	65.97
21 05 23 00-0023	EA	10" Butterfly Valve, Grooved, Wafer Type, With Standard Trim (Nibco WD-3510)	1,911.11	89.17

21 05 23 00-0024 Check Valves ^(21 05 23)**21 05 23 00-0025 Bronze Body, Threaded, 150 LB, Swing Check Valves** ^(21 05 23 00-0024)

21 05 23 00-0026	EA	1/2" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	221.40	11.14
21 05 23 00-0027	EA	3/4" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	261.31	11.70
21 05 23 00-0028	EA	1" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	357.71	11.70
21 05 23 00-0029	EA	1-1/4" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	476.52	14.82
21 05 23 00-0030	EA	1-1/2" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	625.08	17.16
21 05 23 00-0031	EA	2" Swing Check Valve, Bronze, Threaded, 150 LB (Nibco T-433-Y)	913.61	20.27



MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
21 05 23 00-0032	Flanged, Iron Body, Bronze Trim, Swing Check Valves (21 05 23 00-0024)			
21 05 23 00-0033	EA	2-1/2" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	967.05	148.78
21 05 23 00-0034	EA	3" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	1,098.14	174.43
21 05 23 00-0035	EA	4" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	1,533.28	292.42
21 05 23 00-0036	EA	6" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	2,321.54	364.23
21 05 23 00-0037	EA	8" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	3,683.52	465.40
21 05 23 00-0038	EA	10" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	5,829.13	566.57
21 05 23 00-0039	EA	12" Flanged, Iron Body, Bronze Trim, Swing Check Valves (Kennedy 126).....	8,138.89	687.97
21 05 23 00-0040	Iron Body Wafer Type Check Valve (21 05 23 00-0024)			
21 05 23 00-0041	EA	2-1/2" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	755.77	148.87
21 05 23 00-0042	EA	3" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	870.64	174.53
21 05 23 00-0043	EA	4" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	1,037.75	292.59
21 05 23 00-0044	EA	6" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	1,698.08	410.66
21 05 23 00-0045	EA	8" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	2,497.90	472.25
21 05 23 00-0046	EA	10" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	3,654.34	51.33
21 05 23 00-0047	EA	12" Check Valve, Twin Disc, Iron Body Wafer Type (Nibco KW-900-W).....	4,991.69	698.11
21 05 23 00-0048	Grooved End, Check Valves (21 05 23 00-0024)			
21 05 23 00-0049	EA	2-1/2" Check Valve, Grooved (Victaulic FireLock® 717).....	451.58	18.47
21 05 23 00-0050	EA	3" Check Valve, Grooved (Victaulic FireLock® 717).....	456.57	21.86
21 05 23 00-0051	EA	4" Check Valve, Grooved (Victaulic FireLock® 717).....	483.97	28.73
21 05 23 00-0052	EA	6" Check Valve, Grooved (Victaulic FireLock® 717).....	1,443.00	46.89
21 05 23 00-0053	EA	8" Check Valve, Grooved (Victaulic FireLock® 717).....	2,004.84	65.97
21 05 23 00-0054	Gate Valves (21 05 23)			
21 05 23 00-0055	Threaded, Bronze Gate Valves (21 05 23 00-0054)			
Note: Class 175				
21 05 23 00-0056	EA	1" Threaded, Bronze Gate Valve (Crane 459).....	692.25	13.93
21 05 23 00-0057	EA	1-1/4" Threaded, Bronze Gate Valve (Crane 459).....	846.23	14.82
21 05 23 00-0058	EA	1-1/2" Threaded, Bronze Gate Valve (Crane 459).....	1,006.92	17.16
21 05 23 00-0059	EA	2" Threaded, Bronze Gate Valve (Crane 459).....	1,256.61	20.27
21 05 23 00-0060	Flanged, Cast Iron Body, Bronze Trim Gate Valves (21 05 23 00-0054)			
Note: Class 175				
21 05 23 00-0061	EA	2-1/2" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	1,321.42	148.78
21 05 23 00-0062	EA	3" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	1,556.82	174.43
21 05 23 00-0063	EA	4" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	2,162.84	292.42
21 05 23 00-0064	EA	6" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	3,251.91	364.23
21 05 23 00-0065	EA	8" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	4,811.37	465.40
21 05 23 00-0066	EA	10" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	8,837.59	566.57
21 05 23 00-0067	EA	12" Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve (Crane 467).....	12,035.64	687.97
21 05 23 00-0068	Flanged, Resilient Wedge, Ductile Iron Body, Gate Valves (21 05 23 00-0054)			
Note: Class 175				
21 05 23 00-0069	EA	2-1/2" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	2,293.81	148.78
21 05 23 00-0070	EA	3" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	2,671.85	174.43
21 05 23 00-0071	EA	4" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	3,177.34	292.42
21 05 23 00-0072	EA	6" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	4,107.75	364.23
21 05 23 00-0073	EA	8" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	6,155.71	465.40
21 05 23 00-0074	EA	10" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	8,923.52	566.57
21 05 23 00-0075	EA	12" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6136).....	11,554.92	687.97
21 05 23 00-0076	Flanged, Resilient Wedge, Ductile Iron Body, Gate Valves (21 05 23 00-0054)			
Note: Class 250. Square operating nut actuation type.				
21 05 23 00-0077	EA	3" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100).....	2,146.88	174.43
21 05 23 00-0078	EA	4" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100).....	2,670.79	292.42
21 05 23 00-0079	EA	6" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100).....	3,440.95	364.23
21 05 23 00-0080	EA	8" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100).....	5,219.97	465.40
21 05 23 00-0081	EA	10" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100).....	7,923.31	566.57

21 Fire Suppression**21 05 Common Work Results for Fire Suppression****21 05 23 General-Duty Valves for Water-Based Fire-Suppression Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 05 23 00-0082	EA	12" Outside Stem And Yoke, Flanged, Resilient Wedge, Epoxy Coated, Ductile Iron Body, Gate Valve (Clow F-6100)	9,978.17	687.97
21 05 23 00-0083		Ball Valves ^(21 05 23)		
21 05 23 00-0084		Threaded, 125 LB, Full Port, Stainless Steel Trim, Brass Body, Ball Valves (Victaulic FireLock® 728) ^(21 05 23 00-0083)		
21 05 23 00-0085	EA	1" Threaded, 125 LB, Full Port, Stainless Steel Trim, Brass Body, Ball Valves (Victaulic FireLock® 728)	447.82	13.93
21 05 23 00-0086	EA	1-1/4" Threaded, 125 LB, Full Port, Stainless Steel Trim, Brass Body, Ball Valves (Victaulic FireLock® 728)	488.28	14.82
21 05 23 00-0087	EA	1-1/2" Threaded, 125 LB, Full Port, Stainless Steel Trim, Brass Body, Ball Valves (Victaulic FireLock® 728)	577.41	17.16
21 05 23 00-0088	EA	2" Threaded, 125 LB, Full Port, Stainless Steel Trim, Brass Body, Ball Valves (Victaulic FireLock® 728)	694.86	20.27
21 05 23 00-0089		TESTanDRAIN® Valve ^(21 05 23)		
21 05 23 00-0090	EA	1/4" 3-Way Globe Valve With 1/4" NPT Test Port (AGF 7600)	237.06	14.66
21 05 23 00-0091	EA	1" Threaded TESTanDRAIN® Valve (AGF 1000)	267.63	17.72
21 05 23 00-0092	EA	1-1/4" Threaded TESTanDRAIN® Valve (AGF 1000)	327.13	22.40
21 05 23 00-0093	EA	1-1/2" Threaded TESTanDRAIN® Valve (AGF 1000)	511.72	25.86
21 05 23 00-0094	EA	2" Threaded TESTanDRAIN® Valve (AGF 1000)	537.49	30.55
21 05 23 00-0095	EA	1" Threaded TESTanDRAIN® Valve With Relief Valve (AGF 1011)	377.05	17.72
21 05 23 00-0096	EA	1-1/4" Threaded TESTanDRAIN® Valve With Relief Valve (AGF 1011)	435.48	22.40
21 05 23 00-0097	EA	1-1/2" Threaded TESTanDRAIN® Valve With Relief Valve (AGF 1011)	623.37	25.86
21 05 23 00-0098	EA	2" Threaded TESTanDRAIN® Valve With Relief Valve (AGF 1011)	652.11	30.55
21 05 23 00-0099		Air Release Valves For Wet Fire Sprinkler Systems ^(21 05 23)		
21 05 23 00-0100	EA	1/2" NPT, Automatic Air Vent Assembly For Wet Fire Sprinkler Systems (Tyco TAV-W)	1,329.32	51.28
21 05 23 00-0101	EA	1/2" NPT, Automatic Air Vent For Wet Fire Sprinkler Systems (Potter PAV)	439.51	37.34
21 05 23 00-0102	EA	1/2" NPT, Automatic Float Type Air Release Valve With Shutoff Valve, Strainer, Unions, And Containment Pan (Potter PAAR-B)	1,267.86	50.16
21 05 23 00-0103	EA	1" NPT x Hose Automatic Air Venting Valve For Wet Fire Sprinkler Systems (AGF Manufacturing AGF7900AAV)	479.98	33.44
21 05 23 00-0104	EA	2" NPT, Separation Chamber and Air Scoop With M7900 Automatic Air Venting Valve For Wet Fire Sprinkler Systems (AGF Manufacturing AGF7950ILV-20)	973.05	55.18
21 05 23 00-0105	EA	2-1/2" NPT, Separation Chamber and Air Scoop With M7900 Automatic Air Venting Valve For Wet Fire Sprinkler Systems (AGF Manufacturing AGF7950ILV-25)	1,044.12	76.64
21 05 23 00-0106	EA	3" NPT, Separation Chamber and Air Scoop With M7900 Automatic Air Venting Valve For Wet Fire Sprinkler Systems (AGF Manufacturing AGF7950ILV-30)	1,094.88	85.83
21 05 23 00-0107	EA	4" NPT, Separation Chamber and Air Scoop With M7900 Automatic Air Venting Valve For Wet Fire Sprinkler Systems (AGF Manufacturing AGF7950ILV-40)	1,121.11	91.96
21 05 23 00-0108	EA	1/2" PURGEnVENT Manual Air Vent Valve For Wet Fire Sprinkler Systems (AGF Manufacturing 7910MAV)	104.95	37.34
21 05 29		Hangers and Supports for Fire-Suppression Piping and Equipment ^(21 05)		
		See CSI section 23 05 29 00-0000 for hangers and supports.		
21 05 33		Heat Tracing for Fire-Suppression Piping ^(21 05)		
		See CSI section 23 83 13 13-0000 for heat tracing cables.		
21 05 48		Vibration and Seismic Controls for Fire-Suppression Piping and Equipment ^(21 05)		
21 05 48 13		Vibration Controls for Fire-Suppression Piping and Equipment ^(21 05 48)		
		See CSI section 23 05 48 13-0000 for vibration and seismic control.		
21 05 53		Identification for Fire-Suppression Piping and Equipment ^(21 05)		
		See CSI section 23 05 53 00-0000 for identification.		
21 07		Fire-Suppression Systems Insulation ⁽²¹⁾		
21 07 16		Fire-Suppression Equipment Insulation ^(21 07)		
		See CSI section 23 07 16 00-0000 for fire-suppression equipment insulation.		
21 07 19		Fire-Suppression Piping Insulation ^(21 07)		
		See CSI section 22 07 19 00-0000 for fire-suppression piping insulation.		
21 10		Water-Based Fire-Suppression Systems ⁽²¹⁾		
		See CSI section 22 11 16 00-0368 for copper pipe, 22 11 16 00-0912 for CPVC pipe, 23 05 23 00-0037 for OS&Y gate valves, 23 21 13 23-0000 for black steel piping.		
21 11		Facility Fire-Suppression Water-Service Piping ^(21 10)		
21 11 19		Fire-Department Connections ^(21 11)		
21 11 19 00-0001		Fire Department Connections ^(21 11 19)		
21 11 19 00-0002	EA	4" x 2-1/2" x 2-1/2" Siamese Connection, Polished Brass	1,018.90	327.88
		For Polished Chrome, Add	65.27	
21 11 19 00-0003	EA	6" x 2-1/2" x 2-1/2" Siamese Connection, Polished Brass	1,420.48	409.85
		For Polished Chrome, Add	99.97	



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Facility Fire-Suppression Water-Service Piping			21 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 11 19 00-0004	EA		4" x 3" x 3" Siamese Connection, Polished Brass	1,509.32	327.88
			For Polished Chrome, Add	126.55	
21 11 19 00-0005	EA		6" x 3" x 3" Siamese Connection, Polished Brass	1,995.95	409.85
			For Polished Chrome, Add	171.84	
21 11 19 00-0006	EA		6" x 2-1/2" x 2-1/2" x 2-1/2" Siamese Connection, Three Way, Polished Brass.....	2,136.63	409.85
			For Polished Chrome, Add	189.43	
21 11 19 00-0007	EA		Sidewalk Type Connection With Plug And Chain, Polished Brass.....	1,825.66	433.77
			For Polished Chrome, Add	146.09	
21 11 19 00-0008	EA		Wall Type Connection With Plug And Chain, Polished Brass.....	1,167.29	327.88
			For Polished Chrome, Add	83.82	
21 11 19 00-0009			Fire Department Connection Wall Plate (21 11 19)		
21 11 19 00-0010	EA		2-1/2" IPS Brass Fire Department Connection Wall Plate	107.12	25.46
21 11 19 00-0011	EA		2-1/2" IPS Aluminum Brass Fire Department Connection Wall Plate	82.03	25.46
21 11 19 00-0012	EA		2-1/2" IPS Chrome Plated Brass Fire Department Connection Wall Plate.....	110.60	25.46
21 11 19 00-0013	EA		2-1/2" IPS Chrome Plated Aluminum Brass Fire Department Connection Wall Plate.....	78.13	25.46
21 11 19 00-0014	EA		4" IPS x 10" Outside Diameter Polished Brass Fire Department Connection Wall Plate.....	169.57	30.55
21 11 19 00-0015	EA		4" IPS x 10" Outside Diameter Chrome Plated Brass Fire Department Connection Wall Plate.....	224.22	30.55
21 11 19 00-0016			Wall Type Indicator Post, Wheel Operated (21 11 19)		
			See CSI section 33 14 19 00-0001 for adjustable indicator post accessory for ground valves.		
21 11 19 00-0017	EA		Wall Type Indicator Post With Wall Flange For Valve (Victaulic 773).....	2,315.67	292.42
21 11 19 00-0018			Upright Indicator Post, Wheel Operated (21 11 19)		
21 11 19 00-0019	EA		Upright Indicator Post With Flange For Valve (Victaulic 774)	6,869.29	292.42
21 12			Fire-Suppression Standpipes (21 10)		
			See CSI section 23 21 13 23-0000 for black steel pipe.		
21 12 13			Fire-Suppression Hoses and Nozzles (21 12)		
21 12 13 00-0001			Fire Hose (21 12 13)		
21 12 13 00-0002			Fire Hose Without Couplings (21 12 13 00-0001)		
21 12 13 00-0003	LF		1-1/2" Linen Fire Hose With 1-1/2" Rubber Lining Without Couplings	2.83	2.20
21 12 13 00-0004	LF		2-1/2" Linen Fire Hose With 1-1/2" Rubber Lining Without Couplings	3.28	2.20
21 12 13 00-0005	LF		2" Linen Fire Hose With 1-1/2" Rubber Lining Without Couplings	2.99	2.20
21 12 13 00-0006	LF		3" Linen Fire Hose With 1-1/2" Rubber Lining Without Couplings	3.49	2.20
21 12 13 00-0007	LF		1-1/2" Cotton Fire Hose, 300 LB Test With 1-1/2" Rubber Lining Without Couplings	3.16	2.20
21 12 13 00-0008	LF		2-1/2" Cotton Fire Hose, 300 LB Test With 1-1/2" Rubber Lining Without Couplings	3.88	2.20
21 12 13 00-0009	LF		1-1/2" Cotton Fire Hose, 400 LB Test With 1-1/2" Rubber Lining Without Couplings	3.25	2.20
21 12 13 00-0010	LF		2-1/2" Cotton Fire Hose, 400 LB Test With 1-1/2" Rubber Lining Without Couplings	4.09	2.20
21 12 13 00-0011			Fire Hose With Aluminum Couplings (21 12 13 00-0001)		
21 12 13 00-0012	LF		1-3/4" Polyester Fire Hose With Rubber Lining With Aluminum Couplings.....	7.98	1.21
21 12 13 00-0013	LF		2-1/2" Polyester Fire Hose With Rubber Lining With Aluminum Couplings.....	10.03	1.43
21 12 13 00-0014	LF		3-1/2" Polyester Fire Hose With Rubber Lining With Aluminum Couplings.....	17.37	1.43
21 12 13 00-0015			Fire Hose Accessories (21 12 13 00-0001)		
21 12 13 00-0016	EA		Hose Coupling With 1-1/2" Pin Lug.....	258.27	36.33
21 12 13 00-0017	EA		Hose Coupling With 2-1/2" Pin Lug.....	412.19	40.73
21 12 13 00-0018	EA		1-1/2" x 10" Brass Straight Nozzle.....	91.60	28.62
21 12 13 00-0019	EA		2-1/2" x 12" Brass Straight Nozzle.....	180.60	28.62
21 12 13 00-0020	EA		1-1/2" Brass Fog Type Nozzle	143.59	28.62
21 12 13 00-0021	EA		2-1/2" Brass Fog Type Nozzle	206.04	28.62
21 12 13 00-0022	EA		1-1/2" Brass 100' Hose Rack.....	316.20	121.07
21 12 13 00-0023	EA		2-1/2" Brass 100' Hose Rack.....	437.88	121.07
21 12 23			Fire-Suppression Hose Valves (21 12)		
21 12 23 00-0001			Standpipe Valves (21 12 23)		
21 12 23 00-0002	EA		2-1/2" Fire Department Valve, Polished Brass With Plug And Chain.....	794.16	216.89
			For Polished Chrome, Add	69.85	
21 12 23 00-0003	EA		2-1/2" x 2-1/2" x 4" Fire Department Valve, Flush, Polished Brass.....	1,345.41	216.79
			For Polished Chrome, Add	152.54	
21 12 23 00-0004	EA		2-1/2" x 2-1/2" x 6" Fire Department Valve, Flush, Polished Brass.....	1,758.00	234.50
			For Polished Chrome, Add	210.39	
21 12 23 00-0005	EA		3" x 3" x 4" Fire Department Valve, Flush, Polished Brass	2,139.77	216.79
			For Polished Chrome, Add	271.70	
21 12 23 00-0006	EA		3" x 3" x 6" Fire Department Valve, Flush, Polished Brass	2,523.58	234.50
			For Polished Chrome, Add	325.23	
21 12 23 00-0007	EA		2-1/2" x 2-1/2" x 4" Fire Department Valve, Projecting, Polished Brass.....	1,260.98	216.79
			For Polished Chrome, Add	139.88	
21 12 23 00-0008	EA		2-1/2" x 2-1/2" x 6" Fire Department Valve, Projecting, Polished Brass.....	1,890.39	234.50
			For Polished Chrome, Add	230.25	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 12 Fire-Suppression Standpipes**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 12 23 00-0009 EA 2-1/2" x 2-1/2" x 2-1/2" x 4" Fire Department Valve, Flush, Polished Brass.....	2,459.32	223.81
For Polished Chrome, Add	254.43	
21 12 23 00-0010 EA 2-1/2" x 2-1/2" x 2-1/2" x 6" Fire Department Valve, Flush, Polished Brass.....	3,557.12	248.66
For Polished Chrome, Add	381.64	
21 12 23 00-0011 EA 2-1/2" x 2-1/2" x 2-1/2" x 4" Fire Department Valve, Projecting, Polished Brass	2,649.28	223.81
For Polished Chrome, Add	277.22	
21 12 23 00-0012 EA 2-1/2" x 2-1/2" x 2-1/2" x 6" Fire Department Valve, Projecting, Polished Brass	3,843.32	248.66
For Polished Chrome, Add	415.98	
21 12 23 00-0013 EA 2-1/2" x 2-1/2" x 2-1/2" x 6" Fire Department Valve, Square, Flush, Polished Brass.....	12,733.46	298.35
For Polished Chrome, Add	1,228.13	

21 12 23 00-0014 Fire Hose Angle Valves (21 12 23)

21 12 23 00-0015 EA 1-1/2", 300 LB Rated, Cast Brass, Fire Hose Angle Valve	228.02	29.72
21 12 23 00-0016 EA 1-1/2", 300 LB Rated, Polished Brass, Fire Hose Angle Valve	273.07	29.72
21 12 23 00-0017 EA 1-1/2", 300 LB Rated, Rough Chrome Plated, Fire Hose Angle Valve	256.69	29.72
21 12 23 00-0018 EA 1-1/2", 300 LB Rated, Polished Chrome Plated, Fire Hose Angle Valve	301.74	29.72
21 12 23 00-0019 EA 2-1/2", 300 LB Rated, Cast Brass, Fire Hose Angle Valve	406.16	49.53
21 12 23 00-0020 EA 2-1/2", 300 LB Rated, Polished Brass, Fire Hose Angle Valve	471.69	49.53
21 12 23 00-0021 EA 2-1/2", 300 LB Rated, Rough Chrome Plated, Fire Hose Angle Valve	477.15	49.53
21 12 23 00-0022 EA 2-1/2", 300 LB Rated, Polished Chrome Plated, Fire Hose Angle Valve	542.69	49.53

21 12 23 00-0023 Fire Hose Valve Cap And Chain (21 12 23)

21 12 23 00-0024 EA 1-1/2" Cast Brass, Fire Hose Valve Cap And Chain	43.58	10.18
21 12 23 00-0025 EA 1-1/2" Polished Brass, Fire Hose Valve Cap And Chain	69.52	10.18
21 12 23 00-0026 EA 1-1/2" Rough Chrome Plated, Fire Hose Valve Cap And Chain	61.33	10.18
21 12 23 00-0027 EA 1-1/2" Polished Chrome Plated, Fire Hose Valve Cap And Chain	81.81	10.18
21 12 23 00-0028 EA 1-1/2" Aluminum Brass Fire Hose Valve Cap And Chain	29.57	10.18
21 12 23 00-0029 EA 2-1/2" Cast Brass, Fire Hose Valve Cap And Chain	69.15	12.72
21 12 23 00-0030 EA 2-1/2" Polished Brass, Fire Hose Valve Cap And Chain	92.36	12.72
21 12 23 00-0031 EA 2-1/2" Rough Chrome Plated, Fire Hose Valve Cap And Chain	88.26	12.72
21 12 23 00-0032 EA 2-1/2" Polished Chrome Plated, Fire Hose Valve Cap And Chain	111.47	12.72
21 12 23 00-0033 EA 2-1/2" Aluminum Brass Fire Hose Valve Cap And Chain	39.31	12.72
21 12 23 00-0034 EA 3" Cast Brass, Fire Hose Valve Cap And Chain	109.42	13.74
21 12 23 00-0035 EA 3" Polished Brass, Fire Hose Valve Cap And Chain	139.45	13.74
21 12 23 00-0036 EA 3" Rough Chrome Plated, Fire Hose Valve Cap And Chain	129.90	13.74
21 12 23 00-0037 EA 3" Polished Chrome Plated, Fire Hose Valve Cap And Chain	161.30	13.74

21 12 29 Fire-Suppression Fire Hose Equipment (21 12)**21 12 29 00-0001 Standpipe And Fire Hose Equipment (21 12 29)**

21 12 29 00-0002 EA 2-1/2" x 2-1/2" x 2-1/2" x 4" Manifold Roof Type, Vertical, Polished Brass	4,156.14	537.64
21 12 29 00-0003 EA Water Motor Gong	1,493.05	166.31
21 12 29 00-0004 EA Water Motor Gong With Retard Chamber Assembly	3,248.80	203.69
21 12 29 00-0005 EA Fire Riser Flow Switch (National Fire Protection Association 13)	1,447.50	19.35
21 12 29 00-0006 EA Water Flow Supervisory (Tamper) Switch Mounted On Valve	245.16	33.10
21 12 29 00-0007 EA Spare Sprinkler Head Box For 3 Heads	41.43	12.73
Note: Excludes spare sprinkler heads.		
21 12 29 00-0008 EA Spare Sprinkler Head Box For 6 Heads	41.67	12.73
Note: Excludes spare sprinkler heads.		
21 12 29 00-0009 EA Spare Sprinkler Head Box For 12 Heads	44.44	12.73
Note: Excludes spare sprinkler heads.		

21 12 29 00-0010 Water Flow Detector (21 12 29)**21 12 29 00-0011 Pressure-Type Water Flow Detector (21 12 29 00-0010)**

21 12 29 00-0012 EA Pressure-Type Water Flow Detector For Up To 2-1/2" Pipe	388.57	101.84
21 12 29 00-0013 EA Pressure-Type Water Flow Detector For >2-1/2" To 4" Pipe	564.38	134.95
21 12 29 00-0014 EA Pressure-Type Water Flow Detector For >4" To 8" Pipe	886.24	152.76

21 12 29 00-0015 Vane-Type Water Flow Detector (21 12 29 00-0010)

21 12 29 00-0016 EA Vane-Type Water Flow Detector For Up To 2-1/2" Pipe	488.61	101.84
21 12 29 00-0017 EA Vane-Type Water Flow Detector For >2-1/2" To 4" Pipe	686.94	134.95
21 12 29 00-0018 EA Vane-Type Water Flow Detector For >4" To 8" Pipe	1,080.54	152.76

21 13 Fire-Suppression Sprinkler Systems (21 10)**21 13 13 Wet-Pipe Sprinkler Systems (21 13)**



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

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0001	Complete Wet Pipe Sprinkler Systems Assemblies (21 13 13) Note: Includes all branch line piping (standard weight threaded black steel, less than 2-1/2" diameter pipe, fittings, branch valves, hangers, sprinkler heads, etc) from riser pipe and mains. The coverage of one sprinkler head varies from about 180 SF for light hazard occupancy, about 155 SF for ordinary, 90 to about 130 SF for extra hazard conditions. Excludes outside mains, inside vertical or horizontal pipe mains, greater than 2" diameter. Excludes special alarm valves, gate valves, check valves, flow control devices, water motor gong assembly, Siamese connections, standpipes and fittings, pipe mains and fittings, fire pumps and tanks. Not for use where detail is available. For sprinkler repairs or sprinkler head replacements use specific pipe, fittings, hangers, valves, and sprinkler head components. See CSI section 23 21 13 23-1456 for individual grooved pipe, 23 21 13 23-1529 for individual grooved pipe fittings.		
21 13 13 00-0002	Light Hazard, Complete Wet-Pipe Sprinkler System Assemblies (21 13 13 00-0001)		
21 13 13 00-0003	EA Exposed Piping, Light Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads.	943.47	
	For Copper Pipe, Add	123.88	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-171.05	
	For Up To 5, Add	412.68	
	For >5 To 10, Add	241.63	
	For >10 To 20, Add	147.28	
	For >20 To 40, Add	64.82	
	For >100 To 150, Deduct	-94.35	
	For >150, Deduct	-188.69	
21 13 13 00-0004	EA Concealed Piping, Light Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	1,158.51	
	For Copper Pipe, Add	147.79	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-205.72	
	For Up To 5, Add	515.37	
	For >5 To 10, Add	309.65	
	For >10 To 20, Add	193.80	
	For >20 To 40, Add	83.91	
	For >100 To 150, Deduct	-115.85	
	For >150, Deduct	-231.70	
	For Work In Restricted Working Space, Add	155.89	
21 13 13 00-0005	Ordinary Hazard, Complete Wet-Pipe Sprinkler System Assemblies (21 13 13 00-0001)		
21 13 13 00-0006	EA Exposed Piping, Ordinary Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads.	920.96	
	For Copper Pipe, Add	120.71	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-166.76	
	For Up To 5, Add	403.25	
	For >5 To 10, Add	236.49	
	For >10 To 20, Add	144.39	
	For >20 To 40, Add	63.48	
	For >100 To 150, Deduct	-92.10	
	For >150, Deduct	-184.19	
21 13 13 00-0007	EA Concealed Piping, Ordinary Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	1,126.54	
	For Copper Pipe, Add	143.34	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-199.67	
	For Up To 5, Add	501.90	
	For >5 To 10, Add	302.23	
	For >10 To 20, Add	189.57	
	For >20 To 40, Add	81.97	
	For >100 To 150, Deduct	-112.65	
	For >150, Deduct	-225.31	
	For Work In Restricted Working Space, Add	153.84	
21 13 13 00-0008	Extra Hazard, Complete Wet-Pipe Sprinkler System Assemblies (21 13 13 00-0001)		
21 13 13 00-0009	EA Exposed Piping, Extra Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads.	848.84	
	For Copper Pipe, Add	111.09	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-153.53	
	For Up To 5, Add	372.01	
	For >5 To 10, Add	218.47	
	For >10 To 20, Add	133.59	
	For >20 To 40, Add	58.68	
	For >100 To 150, Deduct	-84.88	
	For >150, Deduct	-169.77	
21 13 13 00-0010	EA Concealed Piping, Extra Hazard, Per Head, Complete Wet-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	1,040.72	
	For Copper Pipe, Add	132.22	
	For Polyvinyl Chloride (PVC) Pipe, Deduct	-184.26	
	For Up To 5, Add	464.06	
	For >5 To 10, Add	279.80	
	For >10 To 20, Add	175.73	
	For >20 To 40, Add	75.92	
	For >100 To 150, Deduct	-104.07	
	For >150, Deduct	-208.14	
	For Work In Restricted Working Space, Add	143.31	
21 13 13 00-0011	Wet Pipe Sprinkler Components (21 13 13) Note: Excludes hydraulic calculations.		

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0012			Wet Pipe Alarm Check Valves (21 13 13 00-0011) Note: Excludes trim package See CSI section 21 13 13 00-0018 for Wet Pipe Valve Trim.		
21 13 13 00-0013	EA		2-1/2" Wet Pipe Alarm Check Valve	1,975.86	140.04
21 13 13 00-0014	EA		3" Wet Pipe Alarm Check Valve	2,016.60	160.40
21 13 13 00-0015	EA		4" Wet Pipe Alarm Check Valve	2,240.66	272.44
21 13 13 00-0016	EA		6" Wet Pipe Alarm Check Valve	2,149.36	343.73
21 13 13 00-0017	EA		8" Wet Pipe Alarm Check Valve	3,869.70	435.39
21 13 13 00-0018			Wet Pipe Valve Trim (21 13 13 00-0011) Note: Vertical or Horizontal, closed drain, basic galvanized trim assembly package. Includes gauges, pressure switch, relief valve, drain line, and retard chamber.		
21 13 13 00-0019	EA		2-1/2" Wet Pipe Valve Trim	1,616.49	296.37
21 13 13 00-0020	EA		3" Wet Pipe Valve Trim	1,708.16	296.37
21 13 13 00-0021	EA		4" Wet Pipe Valve Trim	2,057.05	406.36
21 13 13 00-0022	EA		6" Wet Pipe Valve Trim	2,413.52	565.24
21 13 13 00-0023	EA		8" Wet Pipe Valve Trim	2,637.58	699.67
21 13 13 00-0024			Wet Pipe Sprinkler Heads (21 13 13 00-0011)		
21 13 13 00-0025			Upright Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
21 13 13 00-0026	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Upright Brass Wet Pipe Sprinkler Head	80.18	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.49	
			For >100 To 500, Deduct	-11.26	
			For >500 To 1,000, Deduct	-22.85	
			For >1,000, Deduct	-32.76	
21 13 13 00-0027	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Upright Chrome Wet Pipe Sprinkler Head	83.30	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.64	
			For >100 To 500, Deduct	-11.65	
			For >500 To 1,000, Deduct	-23.41	
			For >1,000, Deduct	-33.32	
21 13 13 00-0028	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Upright White Polyester Coated Wet Pipe Sprinkler Head	85.29	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.74	
			For >100 To 500, Deduct	-11.90	
			For >500 To 1,000, Deduct	-23.77	
			For >1,000, Deduct	-33.68	
21 13 13 00-0029	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Upright Brass Wet Pipe Sprinkler Head	81.75	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.56	
			For >100 To 500, Deduct	-11.46	
			For >500 To 1,000, Deduct	-23.14	
			For >1,000, Deduct	-33.04	
21 13 13 00-0030	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Upright Chrome Wet Pipe Sprinkler Head	84.99	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.73	
			For >100 To 500, Deduct	-11.86	
			For >500 To 1,000, Deduct	-23.72	
			For >1,000, Deduct	-33.62	
21 13 13 00-0031	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Upright White Polyester Coated Wet Pipe Sprinkler Head	87.07	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.83	
			For >100 To 500, Deduct	-12.12	
			For >500 To 1,000, Deduct	-24.09	
			For >1,000, Deduct	-34.00	
21 13 13 00-0032	EA		1/2" NPT Thread, 3/8" Orifice, Quick Response, Upright Brass Wet Pipe Sprinkler Head	102.19	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-7.59	
			For >100 To 500, Deduct	-14.01	
			For >500 To 1,000, Deduct	-26.81	
			For >1,000, Deduct	-36.72	
21 13 13 00-0033	EA		1/2" NPT Thread, 3/8" Orifice, Quick Response, Upright Chrome Wet Pipe Sprinkler Head	110.55	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-8.00	
			For >100 To 500, Deduct	-15.06	
			For >500 To 1,000, Deduct	-28.32	
			For >1,000, Deduct	-38.23	
21 13 13 00-0034	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Upright Brass Wet Pipe Sprinkler Head	102.19	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-7.59	
			For >100 To 500, Deduct	-14.01	
			For >500 To 1,000, Deduct	-26.81	
			For >1,000, Deduct	-36.72	
21 13 13 00-0035	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Upright Chrome Wet Pipe Sprinkler Head	110.55	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-8.00	
			For >100 To 500, Deduct	-15.06	
			For >500 To 1,000, Deduct	-28.32	
			For >1,000, Deduct	-38.23	



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

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
21 13 13 00-0036	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Upright Brass Wet Pipe Sprinkler Head	91.36	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.04	
		For >100 To 500, Deduct	-12.66	
		For >500 To 1,000, Deduct	-24.86	
		For >1,000, Deduct	-34.77	
21 13 13 00-0037	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Upright Chrome Wet Pipe Sprinkler Head	95.44	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.25	
		For >100 To 500, Deduct	-13.17	
		For >500 To 1,000, Deduct	-25.60	
		For >1,000, Deduct	-35.51	
21 13 13 00-0038	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Upright Brass Wet Pipe Sprinkler Head	92.32	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.37	
		For >100 To 500, Deduct	-12.92	
		For >500 To 1,000, Deduct	-25.97	
		For >1,000, Deduct	-36.98	
21 13 13 00-0039	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Upright Chrome Wet Pipe Sprinkler Head	97.09	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.61	
		For >100 To 500, Deduct	-13.51	
		For >500 To 1,000, Deduct	-26.83	
		For >1,000, Deduct	-37.84	
21 13 13 00-0040	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Upright White Polyester Coated Wet Pipe Sprinkler Head	98.06	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.66	
		For >100 To 500, Deduct	-13.63	
		For >500 To 1,000, Deduct	-27.01	
		For >1,000, Deduct	-38.02	
21 13 13 00-0041	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Upright Brass Wet Pipe Sprinkler Head	92.32	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.37	
		For >100 To 500, Deduct	-12.92	
		For >500 To 1,000, Deduct	-25.97	
		For >1,000, Deduct	-36.98	
21 13 13 00-0042	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Upright Chrome Wet Pipe Sprinkler Head	97.09	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.61	
		For >100 To 500, Deduct	-13.51	
		For >500 To 1,000, Deduct	-26.83	
		For >1,000, Deduct	-37.84	
21 13 13 00-0043	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Upright White Polyester Coated Wet Pipe Sprinkler Head	98.06	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.66	
		For >100 To 500, Deduct	-13.63	
		For >500 To 1,000, Deduct	-27.01	
		For >1,000, Deduct	-38.02	
21 13 13 00-0044	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Upright Brass Wet Pipe Sprinkler Head	89.20	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.94	
		For >100 To 500, Deduct	-12.39	
		For >500 To 1,000, Deduct	-24.48	
		For >1,000, Deduct	-34.38	
21 13 13 00-0045	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Upright Chrome Wet Pipe Sprinkler Head	92.32	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.09	
		For >100 To 500, Deduct	-12.78	
		For >500 To 1,000, Deduct	-25.04	
		For >1,000, Deduct	-34.94	
21 13 13 00-0046	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Upright White Polyester Coated Wet Pipe Sprinkler Head	92.92	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.12	
		For >100 To 500, Deduct	-12.85	
		For >500 To 1,000, Deduct	-25.15	
		For >1,000, Deduct	-35.05	
21 13 13 00-0047	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Upright Brass Wet Pipe Sprinkler Head	89.20	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.94	
		For >100 To 500, Deduct	-12.39	
		For >500 To 1,000, Deduct	-24.48	
		For >1,000, Deduct	-34.38	
21 13 13 00-0048	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Upright Chrome Wet Pipe Sprinkler Head	92.32	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.09	
		For >100 To 500, Deduct	-12.78	
		For >500 To 1,000, Deduct	-25.04	
		For >1,000, Deduct	-34.94	
21 13 13 00-0049	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Upright White Polyester Coated Wet Pipe Sprinkler Head	92.92	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.12	
		For >100 To 500, Deduct	-12.85	
		For >500 To 1,000, Deduct	-25.15	
		For >1,000, Deduct	-35.05	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0050	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Combustible Concealed Space, Upright Brass Wet Pipe Sprinkler Head	92.91	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-7.12	
		For>100 To 500, Deduct	-12.85	
		For>500 To 1,000, Deduct	-25.14	
		For>1,000, Deduct	-35.05	
21 13 13 00-0051	EA	3/4" NPT Thread, K=14.0, Extended Coverage, Upright Brass Wet Pipe Sprinkler Head	125.80	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-9.04	
		For>100 To 500, Deduct	-17.10	
		For>500 To 1,000, Deduct	-32.80	
		For>1,000, Deduct	-43.01	
21 13 13 00-0052	EA	3/4" NPT Thread, K=14.0, Extended Coverage, Upright Chrome Wet Pipe Sprinkler Head	129.39	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-9.22	
		For>100 To 500, Deduct	-17.55	
		For>500 To 1,000, Deduct	-32.65	
		For>1,000, Deduct	-43.66	
21 13 13 00-0053	EA	3/4" NPT Thread, K=14.0, Extended Coverage, Upright White Polyester Coated Wet Pipe Sprinkler Head	129.39	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-9.22	
		For>100 To 500, Deduct	-17.55	
		For>500 To 1,000, Deduct	-32.65	
		For>1,000, Deduct	-43.66	
21 13 13 00-0054	EA	3/4" NPT Thread, K=11.2, Extended Coverage, Upright Brass Wet Pipe Sprinkler Head	101.58	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-7.83	
		For>100 To 500, Deduct	-14.07	
		For>500 To 1,000, Deduct	-27.64	
		For>1,000, Deduct	-38.65	
21 13 13 00-0055	EA	3/4" NPT Thread, K=11.2, Extended Coverage, Upright Chrome Wet Pipe Sprinkler Head	104.04	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-7.95	
		For>100 To 500, Deduct	-14.38	
		For>500 To 1,000, Deduct	-28.08	
		For>1,000, Deduct	-39.09	
21 13 13 00-0056	EA	3/4" NPT Thread, K=11.2, Extended Coverage, Upright White Polyester Coated Wet Pipe Sprinkler Head	104.04	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-7.95	
		For>100 To 500, Deduct	-14.38	
		For>500 To 1,000, Deduct	-28.08	
		For>1,000, Deduct	-39.09	
21 13 13 00-0057	EA	1/2" NPT Thread, K=5.6, Quick Response, Upright Stainless Steel Wet Pipe Sprinkler Head	305.31	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-17.74	
		For>100 To 500, Deduct	-39.40	
		For>500 To 1,000, Deduct	-63.38	
		For>1,000, Deduct	-73.28	
21 13 13 00-0058	EA	3/4" NPT Thread, K=8.0, Quick Response, Upright Stainless Steel Wet Pipe Sprinkler Head	336.17	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-19.56	
		For>100 To 500, Deduct	-43.40	
		For>500 To 1,000, Deduct	-69.87	
		For>1,000, Deduct	-80.88	
21 13 13 00-0059	EA	1/2" NPT Thread, K=5.6, High Temperature (400 To 500 Degree), Upright Brass Wet Pipe Sprinkler Head	161.53	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-10.55	
		For>100 To 500, Deduct	-21.43	
		For>500 To 1,000, Deduct	-37.50	
		For>1,000, Deduct	-47.40	
21 13 13 00-0060	EA	1/2" NPT Thread, K=5.6, High Temperature (400 To 500 Degree), Upright Chrome Wet Pipe Sprinkler Head	198.99	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-12.43	
		For>100 To 500, Deduct	-26.11	
		For>500 To 1,000, Deduct	-44.24	
		For>1,000, Deduct	-54.14	
21 13 13 00-0061	EA	1/2" NPT Thread, K=5.6, High Temperature (650 Degree), Upright Brass Wet Pipe Sprinkler Head	355.64	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-20.26	
		For>100 To 500, Deduct	-45.69	
		For>500 To 1,000, Deduct	-72.44	
		For>1,000, Deduct	-82.34	
21 13 13 00-0062	EA	1/2" NPT Thread, K=5.6, High Temperature (650 Degree), Upright Chrome Wet Pipe Sprinkler Head	453.26	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-25.14	
		For>100 To 500, Deduct	-57.90	
		For>500 To 1,000, Deduct	-90.01	
		For>1,000, Deduct	-99.91	
21 13 13 00-0063	EA	3/4" NPT Thread, K=8.0, High Temperature (400 To 500 Degree), Upright Brass Wet Pipe Sprinkler Head	204.50	13.75
		For>25 To 50, Deduct	-2.75	
		For>50 To 100, Deduct	-12.98	
		For>100 To 500, Deduct	-26.94	
		For>500 To 1,000, Deduct	-46.17	
		For>1,000, Deduct	-57.17	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0064	EA		3/4" NPT Thread, K=8.0, High Temperature (400 To 500 Degree), Upright Chrome Wet Pipe Sprinkler Head	205.63	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-13.03	
			For >100 To 500, Deduct	-27.08	
			For >500 To 1,000, Deduct	-46.37	
			For >1,000, Deduct	-57.38	
21 13 13 00-0065			Conventional Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
21 13 13 00-0066	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Conventional Brass Wet Pipe Sprinkler Head	80.18	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.49	
			For >100 To 500, Deduct	-11.26	
			For >500 To 1,000, Deduct	-22.85	
			For >1,000, Deduct	-32.76	
21 13 13 00-0067	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Conventional Chrome Wet Pipe Sprinkler Head	83.30	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.64	
			For >100 To 500, Deduct	-11.65	
			For >500 To 1,000, Deduct	-23.41	
			For >1,000, Deduct	-33.32	
21 13 13 00-0068	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Conventional White Polyester Coated Wet Pipe Sprinkler Head	85.29	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.74	
			For >100 To 500, Deduct	-11.90	
			For >500 To 1,000, Deduct	-23.77	
			For >1,000, Deduct	-33.68	
21 13 13 00-0069	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Conventional Brass Wet Pipe Sprinkler Head	93.43	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.42	
			For >100 To 500, Deduct	-13.05	
			For >500 To 1,000, Deduct	-26.17	
			For >1,000, Deduct	-37.18	
21 13 13 00-0070	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Conventional Chrome Wet Pipe Sprinkler Head	97.09	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.61	
			For >100 To 500, Deduct	-13.51	
			For >500 To 1,000, Deduct	-26.83	
			For >1,000, Deduct	-37.84	
21 13 13 00-0071	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Conventional White Polyester Coated Wet Pipe Sprinkler Head	97.66	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.64	
			For >100 To 500, Deduct	-13.58	
			For >500 To 1,000, Deduct	-26.94	
			For >1,000, Deduct	-37.94	
21 13 13 00-0072	EA		1/2" NPT Thread, K=5.6, Quick Response, Conventional Stainless Steel Wet Pipe Sprinkler Head	305.31	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-17.74	
			For >100 To 500, Deduct	-39.40	
			For >500 To 1,000, Deduct	-63.38	
			For >1,000, Deduct	-73.28	
21 13 13 00-0073			Pendant Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
			See CSI section 21 13 13 00-0209 for escutcheon for recessed pendant sprinkler head.		
21 13 13 00-0074	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendant Brass Wet Pipe Sprinkler Head	80.18	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.49	
			For >100 To 500, Deduct	-11.26	
			For >500 To 1,000, Deduct	-22.85	
			For >1,000, Deduct	-32.76	
21 13 13 00-0075	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendant Chrome Wet Pipe Sprinkler Head	83.30	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.64	
			For >100 To 500, Deduct	-11.65	
			For >500 To 1,000, Deduct	-23.41	
			For >1,000, Deduct	-33.32	
21 13 13 00-0076	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendant White Polyester Coated Wet Pipe Sprinkler Head	85.29	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.74	
			For >100 To 500, Deduct	-11.90	
			For >500 To 1,000, Deduct	-23.77	
			For >1,000, Deduct	-33.68	
21 13 13 00-0077	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Pendant Brass Wet Pipe Sprinkler Head	92.32	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.37	
			For >100 To 500, Deduct	-12.92	
			For >500 To 1,000, Deduct	-25.97	
			For >1,000, Deduct	-36.98	
21 13 13 00-0078	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Pendant Chrome Wet Pipe Sprinkler Head	97.09	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.61	
			For >100 To 500, Deduct	-13.51	
			For >500 To 1,000, Deduct	-26.83	
			For >1,000, Deduct	-37.84	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0079	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	98.06	13.75
			For>25 To 50, Deduct	-2.75	
			For>50 To 100, Deduct	-7.66	
			For>100 To 500, Deduct	-13.63	
			For>500 To 1,000, Deduct	-27.01	
			For>1,000, Deduct	-38.02	
21 13 13 00-0080	EA		1/2" NPT Thread, 3/8" Orifice, K=2.8, Pendent Brass Wet Pipe Sprinkler Head.....	89.20	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.94	
			For>100 To 500, Deduct	-12.39	
			For>500 To 1,000, Deduct	-24.48	
			For>1,000, Deduct	-34.38	
21 13 13 00-0081	EA		1/2" NPT Thread, 3/8" Orifice, K=2.8, Pendent Chrome Wet Pipe Sprinkler Head.....	92.32	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.09	
			For>100 To 500, Deduct	-12.78	
			For>500 To 1,000, Deduct	-25.04	
			For>1,000, Deduct	-34.94	
21 13 13 00-0082	EA		1/2" NPT Thread, 3/8" Orifice, K=2.8, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	92.92	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.12	
			For>100 To 500, Deduct	-12.85	
			For>500 To 1,000, Deduct	-25.15	
			For>1,000, Deduct	-35.05	
21 13 13 00-0083	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent Brass Wet Pipe Sprinkler Head.....	89.20	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.94	
			For>100 To 500, Deduct	-12.39	
			For>500 To 1,000, Deduct	-24.48	
			For>1,000, Deduct	-34.38	
21 13 13 00-0084	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent Chrome Wet Pipe Sprinkler Head.....	92.32	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.09	
			For>100 To 500, Deduct	-12.78	
			For>500 To 1,000, Deduct	-25.04	
			For>1,000, Deduct	-34.94	
21 13 13 00-0085	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	92.92	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.12	
			For>100 To 500, Deduct	-12.85	
			For>500 To 1,000, Deduct	-25.15	
			For>1,000, Deduct	-35.05	
21 13 13 00-0086	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent Brass Wet Pipe Sprinkler Head, Low Lead.....	89.20	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.94	
			For>100 To 500, Deduct	-12.39	
			For>500 To 1,000, Deduct	-24.48	
			For>1,000, Deduct	-34.38	
21 13 13 00-0087	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent Chrome Wet Pipe Sprinkler Head, Low Lead.....	92.32	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.09	
			For>100 To 500, Deduct	-12.78	
			For>500 To 1,000, Deduct	-25.04	
			For>1,000, Deduct	-34.94	
21 13 13 00-0088	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Pendent White Polyester Coated Wet Pipe Sprinkler Head, Low Lead.....	92.92	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.12	
			For>100 To 500, Deduct	-12.85	
			For>500 To 1,000, Deduct	-25.15	
			For>1,000, Deduct	-35.05	
21 13 13 00-0089	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendent Brass Wet Pipe Sprinkler Head, Low Lead.....	80.18	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.49	
			For>100 To 500, Deduct	-11.26	
			For>500 To 1,000, Deduct	-22.85	
			For>1,000, Deduct	-32.76	
21 13 13 00-0090	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendent Chrome Wet Pipe Sprinkler Head, Low Lead.....	83.30	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.64	
			For>100 To 500, Deduct	-11.65	
			For>500 To 1,000, Deduct	-23.41	
			For>1,000, Deduct	-33.32	
21 13 13 00-0091	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Pendent White Polyester Coated Wet Pipe Sprinkler Head, Low Lead.....	85.29	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.74	
			For>100 To 500, Deduct	-11.90	
			For>500 To 1,000, Deduct	-23.77	
			For>1,000, Deduct	-33.68	
21 13 13 00-0092	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Pendent Brass Wet Pipe Sprinkler Head.....	81.75	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-6.56	
			For>100 To 500, Deduct	-11.46	
			For>500 To 1,000, Deduct	-23.14	
			For>1,000, Deduct	-33.04	



MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
21 13 13 00-0093	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Pendent Chrome Wet Pipe Sprinkler Head.....	83.96	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.67	
		For >100 To 500, Deduct	-11.73	
		For >500 To 1,000, Deduct	-23.53	
		For >1,000, Deduct	-33.44	
21 13 13 00-0094	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	85.98	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.78	
		For >100 To 500, Deduct	-11.99	
		For >500 To 1,000, Deduct	-23.90	
		For >1,000, Deduct	-33.80	
21 13 13 00-0095	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Pendent Brass Wet Pipe Sprinkler Head.....	95.27	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.52	
		For >100 To 500, Deduct	-13.28	
		For >500 To 1,000, Deduct	-26.51	
		For >1,000, Deduct	-37.51	
21 13 13 00-0096	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Pendent Chrome Wet Pipe Sprinkler Head.....	99.32	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.72	
		For >100 To 500, Deduct	-13.79	
		For >500 To 1,000, Deduct	-27.23	
		For >1,000, Deduct	-38.24	
21 13 13 00-0097	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	99.32	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.72	
		For >100 To 500, Deduct	-13.79	
		For >500 To 1,000, Deduct	-27.23	
		For >1,000, Deduct	-38.24	
21 13 13 00-0098	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Pendent Brass Wet Pipe Sprinkler Head	91.36	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.04	
		For >100 To 500, Deduct	-12.66	
		For >500 To 1,000, Deduct	-24.86	
		For >1,000, Deduct	-34.77	
21 13 13 00-0099	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Pendent Chrome Wet Pipe Sprinkler Head.....	95.44	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.25	
		For >100 To 500, Deduct	-13.17	
		For >500 To 1,000, Deduct	-25.60	
		For >1,000, Deduct	-35.51	
21 13 13 00-0100	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Pendent Brass Wet Pipe Sprinkler Head	101.56	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.55	
		For >100 To 500, Deduct	-13.93	
		For >500 To 1,000, Deduct	-26.70	
		For >1,000, Deduct	-36.61	
21 13 13 00-0101	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Pendent Chrome Wet Pipe Sprinkler Head.....	108.26	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.89	
		For >100 To 500, Deduct	-14.77	
		For >500 To 1,000, Deduct	-27.91	
		For >1,000, Deduct	-37.81	
21 13 13 00-0102	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Pendent Brass Wet Pipe Sprinkler Head	101.56	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.55	
		For >100 To 500, Deduct	-13.93	
		For >500 To 1,000, Deduct	-26.70	
		For >1,000, Deduct	-36.61	
21 13 13 00-0103	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Pendent Chrome Wet Pipe Sprinkler Head.....	108.26	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.89	
		For >100 To 500, Deduct	-14.77	
		For >500 To 1,000, Deduct	-27.91	
		For >1,000, Deduct	-37.81	
21 13 13 00-0104	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head.....	86.07	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.78	
		For >100 To 500, Deduct	-12.00	
		For >500 To 1,000, Deduct	-23.91	
		For >1,000, Deduct	-33.82	
21 13 13 00-0105	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head	89.59	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.96	
		For >100 To 500, Deduct	-12.44	
		For >500 To 1,000, Deduct	-24.55	
		For >1,000, Deduct	-34.45	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0106	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	91.42	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-7.05	
			For >100 To 500, Deduct.....	-12.67	
			For >500 To 1,000, Deduct.....	-24.88	
			For >1,000, Deduct.....	-34.78	
21 13 13 00-0107	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head.....	93.80	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.44	
			For >100 To 500, Deduct.....	-13.10	
			For >500 To 1,000, Deduct.....	-26.24	
			For >1,000, Deduct.....	-37.25	
21 13 13 00-0108	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head.....	97.27	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.62	
			For >100 To 500, Deduct.....	-13.53	
			For >500 To 1,000, Deduct.....	-26.87	
			For >1,000, Deduct.....	-37.87	
21 13 13 00-0109	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	100.63	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.78	
			For >100 To 500, Deduct.....	-13.95	
			For >500 To 1,000, Deduct.....	-27.47	
			For >1,000, Deduct.....	-38.48	
21 13 13 00-0110	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head.....	88.06	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-6.88	
			For >100 To 500, Deduct.....	-12.25	
			For >500 To 1,000, Deduct.....	-24.27	
			For >1,000, Deduct.....	-34.18	
21 13 13 00-0111	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head.....	91.50	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-7.05	
			For >100 To 500, Deduct.....	-12.68	
			For >500 To 1,000, Deduct.....	-24.89	
			For >1,000, Deduct.....	-34.80	
21 13 13 00-0112	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	93.38	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-7.15	
			For >100 To 500, Deduct.....	-12.91	
			For >500 To 1,000, Deduct.....	-25.23	
			For >1,000, Deduct.....	-35.13	
21 13 13 00-0113	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head.....	95.27	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.52	
			For >100 To 500, Deduct.....	-13.28	
			For >500 To 1,000, Deduct.....	-26.51	
			For >1,000, Deduct.....	-37.51	
21 13 13 00-0114	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head.....	98.89	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.70	
			For >100 To 500, Deduct.....	-13.74	
			For >500 To 1,000, Deduct.....	-27.16	
			For >1,000, Deduct.....	-38.17	
21 13 13 00-0115	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	102.38	13.75
			For >25 To 50, Deduct.....	-2.75	
			For >50 To 100, Deduct.....	-7.87	
			For >100 To 500, Deduct.....	-14.17	
			For >500 To 1,000, Deduct.....	-27.79	
			For >1,000, Deduct.....	-38.79	
21 13 13 00-0116	EA		1/2" NPT Thread, 1/2" Orifice, Decorative Pendent Chrome Wet Pipe Sprinkler Head.....	142.79	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-9.62	
			For >100 To 500, Deduct.....	-19.09	
			For >500 To 1,000, Deduct.....	-34.12	
			For >1,000, Deduct.....	-44.03	
21 13 13 00-0117	EA		1/2" NPT Thread, 1/2" Orifice, Decorative Pendent White Polyester Coated Wet Pipe Sprinkler Head.....	142.79	12.38
			For >25 To 50, Deduct.....	-2.48	
			For >50 To 100, Deduct.....	-9.62	
			For >100 To 500, Deduct.....	-19.09	
			For >500 To 1,000, Deduct.....	-34.12	
			For >1,000, Deduct.....	-44.03	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0118	EA		3/4" NPT Thread, K=14.0, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head	105.18	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-8.01	
			For >100 To 500, Deduct	-14.52	
			For >500 To 1,000, Deduct	-28.29	
			For >1,000, Deduct	-39.30	
21 13 13 00-0119	EA		3/4" NPT Thread, K=14.0, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head	107.82	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-8.14	
			For >100 To 500, Deduct	-14.85	
			For >500 To 1,000, Deduct	-28.76	
			For >1,000, Deduct	-39.77	
21 13 13 00-0120	EA		3/4" NPT Thread, K=14.0, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head	107.82	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-8.14	
			For >100 To 500, Deduct	-14.85	
			For >500 To 1,000, Deduct	-28.76	
			For >1,000, Deduct	-39.77	
21 13 13 00-0121	EA		3/4" NPT Thread, K=11.2, Extended Coverage, Pendent Brass Wet Pipe Sprinkler Head	101.58	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.83	
			For >100 To 500, Deduct	-14.07	
			For >500 To 1,000, Deduct	-27.64	
			For >1,000, Deduct	-38.65	
21 13 13 00-0122	EA		3/4" NPT Thread, K=11.2, Extended Coverage, Pendent Chrome Wet Pipe Sprinkler Head	104.04	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.95	
			For >100 To 500, Deduct	-14.38	
			For >500 To 1,000, Deduct	-28.08	
			For >1,000, Deduct	-39.09	
21 13 13 00-0123	EA		3/4" NPT Thread, K=11.2, Extended Coverage, Pendent White Polyester Coated Wet Pipe Sprinkler Head	104.04	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.95	
			For >100 To 500, Deduct	-14.38	
			For >500 To 1,000, Deduct	-28.08	
			For >1,000, Deduct	-39.09	
21 13 13 00-0124	EA		1/2" NPT Thread, K=5.6, Quick Response, Pendent Stainless Steel Wet Pipe Sprinkler Head	305.31	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-17.74	
			For >100 To 500, Deduct	-39.40	
			For >500 To 1,000, Deduct	-63.38	
			For >1,000, Deduct	-73.28	
21 13 13 00-0125	EA		3/4" NPT Thread, K=8.0, Quick Response, Pendent Stainless Steel Wet Pipe Sprinkler Head	336.17	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-19.56	
			For >100 To 500, Deduct	-43.40	
			For >500 To 1,000, Deduct	-69.87	
			For >1,000, Deduct	-80.88	
21 13 13 00-0126	EA		1/2" NPT Thread, K=5.6, High Temperature (400 To 500 Degree), Pendent Brass Wet Pipe Sprinkler Head	161.53	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-10.55	
			For >100 To 500, Deduct	-21.43	
			For >500 To 1,000, Deduct	-37.50	
			For >1,000, Deduct	-47.40	
21 13 13 00-0127	EA		1/2" NPT Thread, K=5.6, High Temperature (400 To 500 Degree), Pendent Chrome Wet Pipe Sprinkler Head	198.99	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-12.43	
			For >100 To 500, Deduct	-26.11	
			For >500 To 1,000, Deduct	-44.24	
			For >1,000, Deduct	-54.14	
21 13 13 00-0128	EA		1/2" NPT Thread, K=5.6, High Temperature (650 Degree), Pendent Brass Wet Pipe Sprinkler Head	355.64	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-20.26	
			For >100 To 500, Deduct	-45.69	
			For >500 To 1,000, Deduct	-72.44	
			For >1,000, Deduct	-82.34	
21 13 13 00-0129	EA		1/2" NPT Thread, K=5.6, High Temperature (650 Degree), Pendent Chrome Wet Pipe Sprinkler Head	453.26	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-25.14	
			For >100 To 500, Deduct	-57.90	
			For >500 To 1,000, Deduct	-90.01	
			For >1,000, Deduct	-99.91	
21 13 13 00-0130	EA		3/4" NPT Thread, K=8.0, High Temperature (400 To 500 Degree), Pendent Brass Wet Pipe Sprinkler Head	204.50	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-12.98	
			For >100 To 500, Deduct	-26.94	
			For >500 To 1,000, Deduct	-46.17	
			For >1,000, Deduct	-57.17	
21 13 13 00-0131	EA		3/4" NPT Thread, K=8.0, High Temperature (400 To 500 Degree), Pendent Chrome Wet Pipe Sprinkler Head	205.63	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-13.03	
			For >100 To 500, Deduct	-27.08	
			For >500 To 1,000, Deduct	-46.37	
			For >1,000, Deduct	-57.38	

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

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
21 13 13 00-0132	Sidewall Wet Pipe Sprinkler Heads (21 13 13 00-0024)			
21 13 13 00-0133	Horizontal Sidewall Wet-Pipe Sprinkler Heads (21 13 13 00-0132)			
21 13 13 00-0134	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	84.85		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-6.72		
	For >100 To 500, Deduct	-11.84		
	For >500 To 1,000, Deduct	-23.69		
	For >1,000, Deduct	-33.60		
21 13 13 00-0135	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	87.35		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-6.84		
	For >100 To 500, Deduct	-12.16		
	For >500 To 1,000, Deduct	-24.14		
	For >1,000, Deduct	-34.05		
21 13 13 00-0136	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, Horizontal Sidewall White Polyester Coated Wet Pipe Sprinkler Head	91.30		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.04		
	For >100 To 500, Deduct	-12.65		
	For >500 To 1,000, Deduct	-24.85		
	For >1,000, Deduct	-34.76		
21 13 13 00-0137	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	86.26		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-6.79		
	For >100 To 500, Deduct	-12.02		
	For >500 To 1,000, Deduct	-23.95		
	For >1,000, Deduct	-33.85		
21 13 13 00-0138	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	88.81		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-6.92		
	For >100 To 500, Deduct	-12.34		
	For >500 To 1,000, Deduct	-24.41		
	For >1,000, Deduct	-34.31		
21 13 13 00-0139	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Horizontal Sidewall White Wet Pipe Sprinkler Head	92.84		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.12		
	For >100 To 500, Deduct	-12.84		
	For >500 To 1,000, Deduct	-25.13		
	For >1,000, Deduct	-35.04		
21 13 13 00-0140	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	95.44		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.25		
	For >100 To 500, Deduct	-13.17		
	For >500 To 1,000, Deduct	-25.60		
	For >1,000, Deduct	-35.51		
21 13 13 00-0141	EA 1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	99.51		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.45		
	For >100 To 500, Deduct	-13.68		
	For >500 To 1,000, Deduct	-26.33		
	For >1,000, Deduct	-36.24		
21 13 13 00-0142	EA 3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	103.02		13.75
	For >25 To 50, Deduct	-2.75		
	For >50 To 100, Deduct	-7.90		
	For >100 To 500, Deduct	-14.25		
	For >500 To 1,000, Deduct	-27.90		
	For >1,000, Deduct	-38.91		
21 13 13 00-0143	EA 3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	109.12		13.75
	For >25 To 50, Deduct	-2.75		
	For >50 To 100, Deduct	-8.21		
	For >100 To 500, Deduct	-15.02		
	For >500 To 1,000, Deduct	-29.00		
	For >1,000, Deduct	-40.01		
21 13 13 00-0144	EA 1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	104.22		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.69		
	For >100 To 500, Deduct	-14.27		
	For >500 To 1,000, Deduct	-27.18		
	For >1,000, Deduct	-37.09		
21 13 13 00-0145	EA 1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	108.26		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.89		
	For >100 To 500, Deduct	-14.77		
	For >500 To 1,000, Deduct	-27.91		
	For >1,000, Deduct	-37.81		
21 13 13 00-0146	EA 1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Horizontal Sidewall Brass Wet Pipe Sprinkler Head	104.22		12.38
	For >25 To 50, Deduct	-2.48		
	For >50 To 100, Deduct	-7.69		
	For >100 To 500, Deduct	-14.27		
	For >500 To 1,000, Deduct	-27.18		
	For >1,000, Deduct	-37.09		



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

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
21 13 13 00-0147	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	108.26	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-7.69	
		For >100 To 500, Deduct	-14.77	
		For >500 To 1,000, Deduct	-27.91	
		For >1,000, Deduct	-37.81	
21 13 13 00-0148	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	82.72	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.61	
		For >100 To 500, Deduct	-11.58	
		For >500 To 1,000, Deduct	-23.31	
		For >1,000, Deduct	-33.22	
21 13 13 00-0149	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	84.79	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.72	
		For >100 To 500, Deduct	-11.84	
		For >500 To 1,000, Deduct	-23.68	
		For >1,000, Deduct	-33.59	
21 13 13 00-0150	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	87.36	12.38
		For >25 To 50, Deduct	-2.48	
		For >50 To 100, Deduct	-6.84	
		For >100 To 500, Deduct	-12.16	
		For >500 To 1,000, Deduct	-24.14	
		For >1,000, Deduct	-34.05	
21 13 13 00-0151	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	90.65	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.28	
		For >100 To 500, Deduct	-12.71	
		For >500 To 1,000, Deduct	-25.67	
		For >1,000, Deduct	-36.68	
21 13 13 00-0152	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	92.87	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.40	
		For >100 To 500, Deduct	-12.98	
		For >500 To 1,000, Deduct	-26.07	
		For >1,000, Deduct	-37.08	
21 13 13 00-0153	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	95.26	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.52	
		For >100 To 500, Deduct	-13.28	
		For >500 To 1,000, Deduct	-26.50	
		For >1,000, Deduct	-37.51	
21 13 13 00-0154	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	92.41	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.37	
		For >100 To 500, Deduct	-12.93	
		For >500 To 1,000, Deduct	-25.99	
		For >1,000, Deduct	-37.00	
21 13 13 00-0155	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	94.71	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.49	
		For >100 To 500, Deduct	-13.21	
		For >500 To 1,000, Deduct	-26.40	
		For >1,000, Deduct	-37.41	
21 13 13 00-0156	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	97.20	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.61	
		For >100 To 500, Deduct	-13.53	
		For >500 To 1,000, Deduct	-26.85	
		For >1,000, Deduct	-37.86	
21 13 13 00-0157	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	97.24	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.61	
		For >100 To 500, Deduct	-13.53	
		For >500 To 1,000, Deduct	-26.86	
		For >1,000, Deduct	-37.87	
21 13 13 00-0158	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	100.63	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.78	
		For >100 To 500, Deduct	-13.95	
		For >500 To 1,000, Deduct	-27.47	
		For >1,000, Deduct	-38.48	
21 13 13 00-0159	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	100.63	13.75
		For >25 To 50, Deduct	-2.75	
		For >50 To 100, Deduct	-7.78	
		For >100 To 500, Deduct	-13.95	
		For >500 To 1,000, Deduct	-27.47	
		For >1,000, Deduct	-38.48	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0160	EA	1/2" NPT Thread, 1/2" Orifice, Decorative Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	165.31	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-10.74	
		For>100 To 500, Deduct	-21.90	
		For>500 To 1,000, Deduct	-38.18	
		For>1,000, Deduct	-48.08	
21 13 13 00-0161	EA	1/2" NPT Thread, 1/2" Orifice, Decorative Horizontal Sidewall White Wet Pipe Sprinkler Head	165.31	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-10.74	
		For>100 To 500, Deduct	-21.90	
		For>500 To 1,000, Deduct	-38.18	
		For>1,000, Deduct	-48.08	
21 13 13 00-0162	EA	1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall Brass Wet Pipe Sprinkler Head	83.58	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-6.66	
		For>100 To 500, Deduct	-11.69	
		For>500 To 1,000, Deduct	-23.46	
		For>1,000, Deduct	-33.37	
21 13 13 00-0163	EA	1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall Chrome Wet Pipe Sprinkler Head	83.58	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-6.66	
		For>100 To 500, Deduct	-11.69	
		For>500 To 1,000, Deduct	-23.46	
		For>1,000, Deduct	-33.37	
21 13 13 00-0164	EA	1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall White Wet Pipe Sprinkler Head	83.58	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-6.66	
		For>100 To 500, Deduct	-11.69	
		For>500 To 1,000, Deduct	-23.46	
		For>1,000, Deduct	-33.37	
21 13 13 00-0165		Vertical Sidewall Wet-Pipe Sprinkler Heads (21 13 13 00-0133)		
21 13 13 00-0166	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall Brass Wet Pipe Sprinkler Head	88.09	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-6.88	
		For>100 To 500, Deduct	-12.25	
		For>500 To 1,000, Deduct	-24.28	
		For>1,000, Deduct	-34.18	
21 13 13 00-0167	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall Chrome Wet Pipe Sprinkler Head	91.21	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-7.04	
		For>100 To 500, Deduct	-12.64	
		For>500 To 1,000, Deduct	-24.84	
		For>1,000, Deduct	-34.74	
21 13 13 00-0168	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall White Wet Pipe Sprinkler Head	92.55	12.38
		For>25 To 50, Deduct	-2.48	
		For>50 To 100, Deduct	-7.10	
		For>100 To 500, Deduct	-12.81	
		For>500 To 1,000, Deduct	-25.08	
		For>1,000, Deduct	-34.99	
21 13 13 00-0169		Concealed Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
21 13 13 00-0170		Concealed Pendant Wet-Pipe Sprinkler Heads (21 13 13 00-0169)		
21 13 13 00-0171	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendant Brass Wet Pipe Sprinkler Head, Low Lead	127.37	16.51
		Note: Excludes coverplate		
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-9.67	
		For>100 To 500, Deduct	-17.57	
		For>500 To 1,000, Deduct	-34.15	
		For>1,000, Deduct	-47.36	
21 13 13 00-0172	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendant Brass Wet Pipe Sprinkler Head	90.76	16.51
		Note: Excludes coverplate		
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-7.84	
		For>100 To 500, Deduct	-13.00	
		For>500 To 1,000, Deduct	-27.56	
		For>1,000, Deduct	-40.77	
21 13 13 00-0173	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Concealed Pendant Brass Wet Pipe Sprinkler Head	92.10	16.51
		Note: Excludes coverplate		
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-7.91	
		For>100 To 500, Deduct	-13.16	
		For>500 To 1,000, Deduct	-27.80	
		For>1,000, Deduct	-41.01	
21 13 13 00-0174	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Concealed Pendant Brass Wet Pipe Sprinkler Head	115.76	17.89
		Note: Excludes coverplate		
		For>25 To 50, Deduct	-3.58	
		For>50 To 100, Deduct	-9.37	
		For>100 To 500, Deduct	-16.26	
		For>500 To 1,000, Deduct	-33.00	
		For>1,000, Deduct	-47.31	



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

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
21 13 13 00-0175	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.81	
		For >100 To 500, Deduct	-15.43	
		For >500 To 1,000, Deduct	-31.07	
		For >1,000, Deduct	-44.28	
21 13 13 00-0176	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.81	
		For >100 To 500, Deduct	-15.43	
		For >500 To 1,000, Deduct	-31.07	
		For >1,000, Deduct	-44.28	
21 13 13 00-0177	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	115.76	17.89
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.58	
		For >50 To 100, Deduct	-9.37	
		For >100 To 500, Deduct	-16.26	
		For >500 To 1,000, Deduct	-33.00	
		For >1,000, Deduct	-47.31	
21 13 13 00-0178	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	101.68	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.39	
		For >100 To 500, Deduct	-14.36	
		For >500 To 1,000, Deduct	-29.53	
		For >1,000, Deduct	-42.74	
21 13 13 00-0179	EA	1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.81	
		For >100 To 500, Deduct	-15.43	
		For >500 To 1,000, Deduct	-31.07	
		For >1,000, Deduct	-44.28	
21 13 13 00-0180	EA	1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.81	
		For >100 To 500, Deduct	-15.43	
		For >500 To 1,000, Deduct	-31.07	
		For >1,000, Deduct	-44.28	
21 13 13 00-0181	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	103.71	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.49	
		For >100 To 500, Deduct	-14.61	
		For >500 To 1,000, Deduct	-29.89	
		For >1,000, Deduct	-43.10	
21 13 13 00-0182	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Adjustable Concealed Pendent Brass Wet Pipe Sprinkler Head	172.30	19.27
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.85	
		For >50 To 100, Deduct	-12.47	
		For >100 To 500, Deduct	-23.46	
		For >500 To 1,000, Deduct	-44.11	
		For >1,000, Deduct	-59.52	
21 13 13 00-0183	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head	97.42	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.17	
		For >100 To 500, Deduct	-13.83	
		For >500 To 1,000, Deduct	-28.76	
		For >1,000, Deduct	-41.97	
21 13 13 00-0184	EA	3/4" NPT Thread, 17/32" Orifice, K=5.6, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head	102.37	17.89
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.58	
		For >50 To 100, Deduct	-8.70	
		For >100 To 500, Deduct	-14.59	
		For >500 To 1,000, Deduct	-30.59	
		For >1,000, Deduct	-44.90	
21 13 13 00-0185	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head	98.62	16.51
		Note: Excludes coverplate		
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-8.23	
		For >100 To 500, Deduct	-13.98	
		For >500 To 1,000, Deduct	-28.98	
		For >1,000, Deduct	-42.19	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0186	EA	3/4" NPT Thread, 17/32" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	104.13 -3.58 -8.78 -14.81 -30.91 -45.22	17.89
21 13 13 00-0187	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	116.32 -3.58 -9.39 -16.33 -33.10 -47.41	17.89
21 13 13 00-0188	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Non-Ferrous Sprinkler Head With Escutcheon And Adjustable Chrome Coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	200.08 -3.85 -13.86 -26.94 -49.11 -64.52	19.27
21 13 13 00-0189	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Non-Ferrous Sprinkler Head With Escutcheon And Adjustable White Coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	200.08 -3.85 -13.86 -26.94 -49.11 -64.52	19.27
21 13 13 00-0190 Concealed Horizontal Side Wall Wet-Pipe Sprinkler Heads (21 13 13 00-0169)				
21 13 13 00-0191	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	137.55 -3.30 -10.18 -18.84 -35.99 -49.19	16.51
21 13 13 00-0192	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	154.98 -3.58 -11.33 -21.16 -40.06 -54.37	17.89
21 13 13 00-0193	EA	1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Extended Coverage, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	107.78 -3.30 -8.69 -15.12 -30.63 -43.84	16.51
21 13 13 00-0194	EA	3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head Note: Excludes coverplate For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	108.76 -3.58 -9.02 -15.38 -31.74 -46.05	17.89
21 13 13 00-0195 Institutional Tamper Resistant Wet Pipe Sprinkler Heads (21 13 13 00-0024)				
21 13 13 00-0196	EA	1/2" NPT Thread, K=5.6, Institutional Tamper Resistant, Pendant Chrome Wet Pipe Sprinkler Head Note: Complete assembly including escutcheon, spacers, retaining flange, and centering grommet. For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	332.01 -2.75 -19.35 -42.88 -69.12 -80.13	13.75
21 13 13 00-0197	EA	1/2" NPT Thread, K=5.6, Institutional Tamper Resistant, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head Note: Complete assembly including escutcheon, spacers, retaining flange, and centering grommet. For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	324.01 -2.75 -18.95 -41.88 -67.68 -78.69	13.75



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0198	EA		1/2" NPT Thread, K=5.6, Quick Response, Institutional Tamper Resistant, Pendant Chrome Wet Pipe Sprinkler Head.....	139.73	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-9.74	
			For >100 To 500, Deduct	-18.84	
			For >500 To 1,000, Deduct	-34.51	
			For >1,000, Deduct	-45.52	
21 13 13 00-0199	EA		1/2" NPT Thread, K=5.6, Quick Response, Institutional Tamper Resistant, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	156.33	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-10.57	
			For >100 To 500, Deduct	-20.92	
			For >500 To 1,000, Deduct	-37.50	
			For >1,000, Deduct	-48.50	
21 13 13 00-0200			Wet Pipe Sprinkler Head Accessories (21 13 13 00-0011)		
21 13 13 00-0201			Sprinkler Adjustable Steel Drop Nipple (21 13 13 00-0200)		
21 13 13 00-0202	EA		1" Male NPT x 1/2" Female NPT x 4.125" Minimum Length To 5.125" Maximum Length, Adjustable Steel Drop Nipple (Anvil M1.150).....	55.39	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.94	
			For >100 To 500, Deduct	-7.51	
			For >500 To 1,000, Deduct	-13.95	
			For >1,000, Deduct	-18.64	
21 13 13 00-0203	EA		1" Male NPT x 1/2" Female NPT x 6.125" Minimum Length To 9.125" Maximum Length, Adjustable Steel Drop Nipple (Anvil M3.150).....	55.39	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.94	
			For >100 To 500, Deduct	-7.51	
			For >500 To 1,000, Deduct	-13.95	
			For >1,000, Deduct	-18.64	
21 13 13 00-0204	EA		1" Male NPT x 1/2" Female NPT x 7.875" Minimum Length To 10.875" Maximum Length, Adjustable Steel Drop Nipple (Anvil ME3.150).....	56.04	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.97	
			For >100 To 500, Deduct	-7.59	
			For >500 To 1,000, Deduct	-14.07	
			For >1,000, Deduct	-18.76	
21 13 13 00-0205	EA		1" Female NPT x 1/2" Female NPT x 3.5" Minimum Length To 4.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F1.150).....	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	
21 13 13 00-0206	EA		1" Female NPT x 1/2" Female NPT x 4.5" Minimum Length To 6.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F2.150).....	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	
21 13 13 00-0207	EA		1" Female NPT x 1/2" Female NPT x 5.5" Minimum Length To 8.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F3.150).....	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	
21 13 13 00-0208	EA		1" Female NPT x 3/4" Female NPT x 7.35" Minimum Length To 10.35" Maximum Length, Adjustable Steel Drop Nipple (Anvil F3.175).....	55.12	15.28
			For >25 To 50, Deduct	-1.27	
			For >50 To 100, Deduct	-4.03	
			For >100 To 500, Deduct	-7.53	
			For >500 To 1,000, Deduct	-14.25	
			For >1,000, Deduct	-19.35	
21 13 13 00-0209			Sprinkler Head Escutcheon (21 13 13 00-0200)		
21 13 13 00-0210	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Recessed Escutcheon.....	21.35	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.48	
			For >100 To 500, Deduct	-2.88	
			For >500 To 1,000, Deduct	-5.25	
			For >1,000, Deduct	-6.90	
21 13 13 00-0211	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0212	EA	2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, White Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0213	EA	2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Recessed Escutcheon	21.35	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.48	
		For>100 To 500, Deduct	-2.88	
		For>500 To 1,000, Deduct	-5.25	
		For>1,000, Deduct	-6.90	
21 13 13 00-0214	EA	2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0215	EA	2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, White Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0216	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Recessed Escutcheon	20.15	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.42	
		For>100 To 500, Deduct	-2.73	
		For>500 To 1,000, Deduct	-5.03	
		For>1,000, Deduct	-6.68	
21 13 13 00-0217	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0218	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, White Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0219	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Recessed Escutcheon	20.15	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.42	
		For>100 To 500, Deduct	-2.73	
		For>500 To 1,000, Deduct	-5.03	
		For>1,000, Deduct	-6.68	
21 13 13 00-0220	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0221	EA	2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, White Sprinkler Head Recessed Escutcheon	14.74	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.15	
		For>100 To 500, Deduct	-2.05	
		For>500 To 1,000, Deduct	-4.06	
		For>1,000, Deduct	-5.71	
21 13 13 00-0222	EA	3-7/32" Diameter x 15/16" Depth, Two Piece, 1/2" NPT, Push-On/Thread-Off Chrome Sprinkler Head Recessed Escutcheon	20.75	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.45	
		For>100 To 500, Deduct	-2.80	
		For>500 To 1,000, Deduct	-5.14	
		For>1,000, Deduct	-6.79	
21 13 13 00-0223	EA	3-7/32" Diameter x 15/16" Depth, Two Piece, 1/2" NPT, Push-On/Thread-Off White Sprinkler Head Recessed Escutcheon	20.75	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.45	
		For>100 To 500, Deduct	-2.80	
		For>500 To 1,000, Deduct	-5.14	
		For>1,000, Deduct	-6.79	
21 13 13 00-0224	EA	2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, Brass Sprinkler Head Escutcheon	8.15	3.63
		For>25 To 50, Deduct	-0.28	
		For>50 To 100, Deduct	-0.68	
		For>100 To 500, Deduct	-1.16	
		For>500 To 1,000, Deduct	-2.40	
		For>1,000, Deduct	-3.50	
21 13 13 00-0225	EA	2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, Chrome Sprinkler Head Escutcheon	7.32	3.63
		For>25 To 50, Deduct	-0.28	
		For>50 To 100, Deduct	-0.64	
		For>100 To 500, Deduct	-1.05	
		For>500 To 1,000, Deduct	-2.25	
		For>1,000, Deduct	-3.35	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0226	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, White Sprinkler Head Escutcheon.....	7.54	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.65	
			For >100 To 500, Deduct	-1.08	
			For >500 To 1,000, Deduct	-2.29	
			For >1,000, Deduct	-3.39	
21 13 13 00-0227	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, Brass Sprinkler Head Escutcheon.....	8.30	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.69	
			For >100 To 500, Deduct	-1.18	
			For >500 To 1,000, Deduct	-2.43	
			For >1,000, Deduct	-3.53	
21 13 13 00-0228	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, Chrome Sprinkler Head Escutcheon.....	7.47	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.65	
			For >100 To 500, Deduct	-1.07	
			For >500 To 1,000, Deduct	-2.28	
			For >1,000, Deduct	-3.38	
21 13 13 00-0229	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, White Sprinkler Head Escutcheon.....	7.47	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.65	
			For >100 To 500, Deduct	-1.07	
			For >500 To 1,000, Deduct	-2.28	
			For >1,000, Deduct	-3.38	
21 13 13 00-0230	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, Bright Brass Sprinkler Head Escutcheon.....	9.16	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.73	
			For >100 To 500, Deduct	-1.28	
			For >500 To 1,000, Deduct	-2.58	
			For >1,000, Deduct	-3.68	
21 13 13 00-0231	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, Chrome Sprinkler Head Escutcheon.....	7.44	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.65	
			For >100 To 500, Deduct	-1.07	
			For >500 To 1,000, Deduct	-2.27	
			For >1,000, Deduct	-3.37	
21 13 13 00-0232	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, White Sprinkler Head Escutcheon.....	7.44	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.65	
			For >100 To 500, Deduct	-1.07	
			For >500 To 1,000, Deduct	-2.27	
			For >1,000, Deduct	-3.37	
21 13 13 00-0233	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Telescoping Escutcheon.....	12.33	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-1.00	
			For >100 To 500, Deduct	-1.73	
			For >500 To 1,000, Deduct	-3.53	
			For >1,000, Deduct	-5.07	
21 13 13 00-0234	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Telescoping Escutcheon.....	11.87	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.98	
			For >100 To 500, Deduct	-1.68	
			For >500 To 1,000, Deduct	-3.45	
			For >1,000, Deduct	-4.99	
21 13 13 00-0235	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, White Sprinkler Head Telescoping Escutcheon.....	12.02	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.99	
			For >100 To 500, Deduct	-1.70	
			For >500 To 1,000, Deduct	-3.47	
			For >1,000, Deduct	-5.02	
21 13 13 00-0236	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Telescoping Escutcheon.....	12.48	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-1.01	
			For >100 To 500, Deduct	-1.75	
			For >500 To 1,000, Deduct	-3.56	
			For >1,000, Deduct	-5.10	
21 13 13 00-0237	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Telescoping Escutcheon.....	12.02	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.99	
			For >100 To 500, Deduct	-1.70	
			For >500 To 1,000, Deduct	-3.47	
			For >1,000, Deduct	-5.02	
21 13 13 00-0238	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, White Sprinkler Head Telescoping Escutcheon.....	12.33	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-1.00	
			For >100 To 500, Deduct	-1.73	
			For >500 To 1,000, Deduct	-3.53	
			For >1,000, Deduct	-5.07	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0239	EA	Flat Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0240	EA	Flat White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0241	EA	Conical Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0242	EA	Conical White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0243	EA	Chrome Sprinkler Head Escutcheon For Decorative Horizontal Sidewall Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0244	EA	White Sprinkler Head Escutcheon For Decorative Horizontal Sidewall Sprinkler Head	26.20	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.72	
		For>100 To 500, Deduct	-3.48	
		For>500 To 1,000, Deduct	-6.12	
		For>1,000, Deduct	-7.77	
21 13 13 00-0245	EA	2-Piece Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	30.30	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.93	
		For>100 To 500, Deduct	-3.99	
		For>500 To 1,000, Deduct	-6.86	
		For>1,000, Deduct	-8.51	
21 13 13 00-0246	EA	2-Piece White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	31.26	4.96
		For>25 To 50, Deduct	-0.41	
		For>50 To 100, Deduct	-1.98	
		For>100 To 500, Deduct	-4.11	
		For>500 To 1,000, Deduct	-7.03	
		For>1,000, Deduct	-8.68	
21 13 13 00-0247		Coverplate For Sprinkler Heads (21 13 13 00-0200)		
21 13 13 00-0248	EA	Chrome Coverplate For Concealed Pendent Sprinkler Head	62.71	5.61
		For>25 To 50, Deduct	-0.47	
		For>50 To 100, Deduct	-3.60	
		For>100 To 500, Deduct	-8.07	
		For>500 To 1,000, Deduct	-12.88	
		For>1,000, Deduct	-14.75	
21 13 13 00-0249	EA	White Coverplate For Concealed Pendent Sprinkler Head	30.15	5.61
		For>25 To 50, Deduct	-0.47	
		For>50 To 100, Deduct	-1.98	
		For>100 To 500, Deduct	-4.00	
		For>500 To 1,000, Deduct	-7.02	
		For>1,000, Deduct	-8.89	
21 13 13 00-0250	EA	Specialty Coverplate For Concealed Pendent Sprinkler Head	44.27	5.61
		For>25 To 50, Deduct	-0.47	
		For>50 To 100, Deduct	-2.68	
		For>100 To 500, Deduct	-5.77	
		For>500 To 1,000, Deduct	-9.56	
		For>1,000, Deduct	-11.43	
21 13 13 00-0251	EA	Brass Coverplate For Concealed Sidewall Sprinkler Head	40.60	5.61
		For>25 To 50, Deduct	-0.47	
		For>50 To 100, Deduct	-2.50	
		For>100 To 500, Deduct	-5.31	
		For>500 To 1,000, Deduct	-8.90	
		For>1,000, Deduct	-10.77	
21 13 13 00-0252	EA	Chrome Coverplate For Concealed Sidewall Sprinkler Head	32.29	5.61
		For>25 To 50, Deduct	-0.47	
		For>50 To 100, Deduct	-2.08	
		For>100 To 500, Deduct	-4.27	
		For>500 To 1,000, Deduct	-7.40	
		For>1,000, Deduct	-9.27	



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

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
21 13 13 00-0253	EA	White Coverplate For Concealed Sidewall Sprinkler Head.....	32.29	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.08	
		For >100 To 500, Deduct	-4.27	
		For >500 To 1,000, Deduct	-7.40	
		For >1,000, Deduct	-9.27	
21 13 13 00-0254	EA	Off-White Coverplate For Concealed Sidewall Sprinkler Head.....	40.60	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.50	
		For >100 To 500, Deduct	-5.31	
		For >500 To 1,000, Deduct	-8.90	
		For >1,000, Deduct	-10.77	
21 13 13 00-0255	EA	Black Painted Coverplate For Concealed Sidewall Sprinkler Head.....	40.60	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.50	
		For >100 To 500, Deduct	-5.31	
		For >500 To 1,000, Deduct	-8.90	
		For >1,000, Deduct	-10.77	
21 13 13 00-0256	EA	Black Plated Coverplate For Concealed Sidewall Sprinkler Head.....	47.19	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.83	
		For >100 To 500, Deduct	-6.13	
		For >500 To 1,000, Deduct	-10.08	
		For >1,000, Deduct	-11.95	
21 13 13 00-0257	EA	Bright Brass Coverplate For Concealed Sidewall Sprinkler Head.....	47.19	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.83	
		For >100 To 500, Deduct	-6.13	
		For >500 To 1,000, Deduct	-10.08	
		For >1,000, Deduct	-11.95	
21 13 13 00-0258	EA	Satin Chrome Coverplate For Concealed Sidewall Sprinkler Head.....	47.19	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.83	
		For >100 To 500, Deduct	-6.13	
		For >500 To 1,000, Deduct	-10.08	
		For >1,000, Deduct	-11.95	
21 13 13 00-0259	EA	Specialty Coverplate For Concealed Sidewall Sprinkler Head.....	40.64	5.61
		For >25 To 50, Deduct	-0.47	
		For >50 To 100, Deduct	-2.50	
		For >100 To 500, Deduct	-5.31	
		For >500 To 1,000, Deduct	-8.90	
		For >1,000, Deduct	-10.77	
21 13 13 00-0260	EA	White Coverplate For Quick Release Concealed Sidewall Sprinkler Head.....	69.69	6.60
		For >25 To 50, Deduct	-0.55	
		For >50 To 100, Deduct	-4.03	
		For >100 To 500, Deduct	-8.99	
		For >500 To 1,000, Deduct	-14.41	
		For >1,000, Deduct	-16.61	
21 13 13 00-0261		Sprinkler Escutcheon Extension Tube (21 13 13 00-0200)		
21 13 13 00-0262	EA	2.18" Diameter x 4" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube.....	15.82	3.31
		Note: For use with 2 piece escutcheons		
		For >25 To 50, Deduct	-0.28	
		For >50 To 100, Deduct	-1.07	
		For >100 To 500, Deduct	-2.12	
		For >500 To 1,000, Deduct	-3.78	
		For >1,000, Deduct	-4.88	
21 13 13 00-0263	EA	2.18" Diameter x 6" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube.....	20.68	3.47
		Note: For use with 2 piece escutcheons		
		For >25 To 50, Deduct	-0.29	
		For >50 To 100, Deduct	-1.32	
		For >100 To 500, Deduct	-2.73	
		For >500 To 1,000, Deduct	-4.70	
		For >1,000, Deduct	-5.86	
21 13 13 00-0264	EA	2.18" Diameter x 8" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube.....	26.13	3.63
		Note: For use with 2 piece escutcheons		
		For >25 To 50, Deduct	-0.30	
		For >50 To 100, Deduct	-1.61	
		For >100 To 500, Deduct	-3.42	
		For >500 To 1,000, Deduct	-5.73	
		For >1,000, Deduct	-6.95	
21 13 13 00-0265	EA	2.18" Diameter x 10" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube.....	30.98	3.80
		Note: For use with 2 piece escutcheons		
		For >25 To 50, Deduct	-0.32	
		For >50 To 100, Deduct	-1.87	
		For >100 To 500, Deduct	-4.03	
		For >500 To 1,000, Deduct	-6.65	
		For >1,000, Deduct	-7.92	
21 13 13 00-0266		Sprinkler Head Guards (21 13 13 00-0200)		

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0267	EA		Universal Sprinkler Head Guard, C-1	23.08	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-1.98	
			For>100 To 500, Deduct	-3.30	
			For>500 To 1,000, Deduct	-6.96	
			For>1,000, Deduct	-10.26	
21 13 13 00-0268	EA		Dry Pendent Sprinkler Head Guard, C-2.....	25.62	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.11	
			For>100 To 500, Deduct	-3.62	
			For>500 To 1,000, Deduct	-7.42	
			For>1,000, Deduct	-10.72	
21 13 13 00-0269	EA		Upright Sprinkler Head Guard With Water Shield, C-3	29.96	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.32	
			For>100 To 500, Deduct	-4.16	
			For>500 To 1,000, Deduct	-8.20	
			For>1,000, Deduct	-11.50	
21 13 13 00-0270	EA		Pendent Sprinkler Head Guard With Water Shield, C-5.....	35.31	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.59	
			For>100 To 500, Deduct	-4.83	
			For>500 To 1,000, Deduct	-9.16	
			For>1,000, Deduct	-12.46	
21 13 13 00-0271	EA		Universal Sprinkler Head Guard, D-1	25.52	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.10	
			For>100 To 500, Deduct	-3.60	
			For>500 To 1,000, Deduct	-7.40	
			For>1,000, Deduct	-10.70	
21 13 13 00-0272	EA		Upright Sprinkler Head Guard With Water Shield, D-3	27.17	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.18	
			For>100 To 500, Deduct	-3.81	
			For>500 To 1,000, Deduct	-7.70	
			For>1,000, Deduct	-11.00	
21 13 13 00-0273	EA		Pendent Sprinkler Head Guard With Large Water Shield, D-4	39.44	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.80	
			For>100 To 500, Deduct	-5.34	
			For>500 To 1,000, Deduct	-9.91	
			For>1,000, Deduct	-13.21	
21 13 13 00-0274	EA		Pendent Sprinkler Head Guard With Small Water Shield, D-5.....	36.98	9.91
			For>25 To 50, Deduct	-0.83	
			For>50 To 100, Deduct	-2.67	
			For>100 To 500, Deduct	-5.04	
			For>500 To 1,000, Deduct	-9.46	
			For>1,000, Deduct	-12.77	
21 13 13 00-0275			Replacement Sprinkler Escutcheon (21 13 13 00-0200)		
21 13 13 00-0276	EA		Push On, Brass Replacement Sprinkler Escutcheon.....	11.18	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.54	
			For>500 To 1,000, Deduct	-2.95	
			For>1,000, Deduct	-4.05	
21 13 13 00-0277	EA		Push On, Chrome Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0278	EA		Push On, White Replacement Sprinkler Escutcheon.....	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0279	EA		Flush, Brass Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0280	EA		Flush, Chrome Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0281	EA		Flush, White Replacement Sprinkler Escutcheon	13.60	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.96	
			For >100 To 500, Deduct	-1.84	
			For >500 To 1,000, Deduct	-3.38	
			For >1,000, Deduct	-4.48	
21 13 13 00-0282	EA		Deep, Brass Replacement Sprinkler Escutcheon	11.10	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.83	
			For >100 To 500, Deduct	-1.53	
			For >500 To 1,000, Deduct	-2.93	
			For >1,000, Deduct	-4.03	
21 13 13 00-0283	EA		Deep, Chrome Replacement Sprinkler Escutcheon	11.10	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.83	
			For >100 To 500, Deduct	-1.53	
			For >500 To 1,000, Deduct	-2.93	
			For >1,000, Deduct	-4.03	
21 13 13 00-0284	EA		Deep, White Replacement Sprinkler Escutcheon	11.10	3.63
			For >25 To 50, Deduct	-0.28	
			For >50 To 100, Deduct	-0.83	
			For >100 To 500, Deduct	-1.53	
			For >500 To 1,000, Deduct	-2.93	
			For >1,000, Deduct	-4.03	
21 13 13 00-0285			Pendent Shield And O-Ring Assembly (21 13 13 00-0200)		
21 13 13 00-0286	EA		Pendent Shield And O-Ring Assembly	17.74	7.27
			For >25 To 50, Deduct	-0.55	
			For >50 To 100, Deduct	-1.44	
			For >100 To 500, Deduct	-2.49	
			For >500 To 1,000, Deduct	-5.06	
			For >1,000, Deduct	-7.26	
21 13 13 00-0287			Replacement Insulating Sealing Assembly (21 13 13 00-0200)		
21 13 13 00-0288	EA		Insulating Sealing Assembly	73.51	16.51
			For >100 To 500, Deduct	-10.01	
			For >500 To 1,000, Deduct	-18.85	
21 13 13 00-0289			Flexible Sprinkler Piping (21 13 13 00-0011)		
			Note: 1" Diameter stainless steel flexible pipe with either 1/2" or 3/4" outlet.		
21 13 13 00-0290	EA		2' Long, 3/4" Stainless Steel Flexible Sprinkler Piping	75.98	17.06
			Note: Includes ceiling mounting bracket.		
			For >25 To 50, Deduct	-1.72	
			For >50 To 100, Deduct	-5.52	
			For >100 To 500, Deduct	-10.36	
			For >500 To 1,000, Deduct	-19.52	
			For >1,000, Deduct	-26.40	
21 13 13 00-0291	EA		3' Long, 3/4" Stainless Steel Flexible Sprinkler Piping	84.14	17.61
			Note: Includes ceiling mounting bracket.		
			For >25 To 50, Deduct	-1.81	
			For >50 To 100, Deduct	-6.02	
			For >100 To 500, Deduct	-11.42	
			For >500 To 1,000, Deduct	-21.30	
			For >1,000, Deduct	-28.54	
21 13 13 00-0292	EA		4' Long, 3/4" Stainless Steel Flexible Sprinkler Piping	92.46	18.71
			Note: Includes ceiling mounting bracket.		
			For >25 To 50, Deduct	-1.91	
			For >50 To 100, Deduct	-6.53	
			For >100 To 500, Deduct	-12.51	
			For >500 To 1,000, Deduct	-23.14	
			For >1,000, Deduct	-30.78	
21 13 13 00-0293	EA		5' Long, 3/4" Stainless Steel Flexible Sprinkler Piping	101.05	19.81
			Note: Includes ceiling mounting bracket.		
			For >25 To 50, Deduct	-2.02	
			For >50 To 100, Deduct	-7.08	
			For >100 To 500, Deduct	-13.64	
			For >500 To 1,000, Deduct	-25.07	
			For >1,000, Deduct	-33.16	
21 13 13 00-0294	EA		6' Long, 3/4" Stainless Steel Flexible Sprinkler Piping	109.90	22.02
			Note: Includes ceiling mounting bracket.		
			For >25 To 50, Deduct	-2.15	
			For >50 To 100, Deduct	-7.65	
			For >100 To 500, Deduct	-14.81	
			For >500 To 1,000, Deduct	-27.09	
			For >1,000, Deduct	-35.69	
21 13 13 00-0295			Sprinkler Emergency Cabinets (21 13 13 00-0011)		
21 13 13 00-0296	EA		3 Capacity Emergency Sprinkler Cabinet, A4	134.22	
21 13 13 00-0297	EA		6 Capacity Emergency Sprinkler Cabinet, A4	139.72	
21 13 13 00-0298	EA		12 Capacity Emergency Sprinkler Cabinet, A4	152.27	
21 13 13 00-0299	EA		12 Capacity Emergency Sprinkler Cabinet, A3	510.84	

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 13 13 00-0300	EA	Sprinkler Wrench, RC1	261.88
21 13 13 00-0301	EA	Sprinkler Wrench, FC.....	260.87
21 13 13 00-0302	EA	Sprinkler Wrench, W2.....	86.62

21 13 16 Dry-Pipe Sprinkler Systems (21 13)**21 13 16 00-0001 Complete Dry Pipe Sprinkler Systems Assembly (21 13 16)**

Note: Includes all branch line piping (standard weight threaded black steel, less than 2-1/2" diameter pipe, fittings, branch valves, hangers, sprinkler heads, etc. From riser pipe and mains. Excludes outside mains, inside vertical or horizontal pipe mains, greater than 2" diameter. The coverage of one sprinkler head varies from about 180 SF for light hazard occupancy, about 155 SF for ordinary, 90 to about 130 SF for extra hazard conditions. Excludes special alarm valves, gate valves, check valves, flow control devices, water motor gong assembly, Siamese connections, standpipes and fittings, pipe mains and fittings, fire pumps and tanks. Not for use where detail is available. For sprinkler repairs or sprinkler head replacements use specific pipe, fittings, hangers, valves, and sprinkler head components. See CSI section 23 21 13 23-1456 for individual grooved pipe, 23 21 13 23-1529 for individual grooved pipe fittings.

21 13 16 00-0002 Light Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)

21 13 16 00-0003	EA	Exposed Piping, Light Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	1,059.46
		Note: Includes branch pipe and fittings, supports and sprinkler heads.	
		For Up To 5, Add	462.42
		For >5 To 10, Add	202.53
		For >10 To 20, Add	163.90
		For >20 To 40, Add	72.29
		For >100 To 150, Deduct	-105.95
		For >150, Deduct	-211.89
		For Copper Pipe, Add	139.60
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-192.58
21 13 16 00-0004	EA	Concealed Piping, Light Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	1,247.60
		Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	
		For Up To 5, Add	551.45
		For >5 To 10, Add	255.78
		For >10 To 20, Add	203.37
		For >20 To 40, Add	88.58
		For >100 To 150, Deduct	-124.76
		For >150, Deduct	-249.52
		For Copper Pipe, Add	160.94
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-223.32
		For Work In Restricted Working Space, Add	157.22

21 13 16 00-0005 Ordinary Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)

21 13 16 00-0006	EA	Exposed Piping, Ordinary Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	1,022.61
		Note: Includes branch pipe and fittings, supports and sprinkler heads.	
		For Up To 5, Add	447.20
		For >5 To 10, Add	197.64
		For >10 To 20, Add	159.49
		For >20 To 40, Add	70.21
		For >100 To 150, Deduct	-102.26
		For >150, Deduct	-204.52
		For Copper Pipe, Add	134.32
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-185.45
21 13 16 00-0007	EA	Concealed Piping, Ordinary Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	1,206.89
		Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	
		For Up To 5, Add	534.53
		For >5 To 10, Add	250.13
		For >10 To 20, Add	198.35
		For >20 To 40, Add	86.23
		For >100 To 150, Deduct	-120.69
		For >150, Deduct	-241.38
		For Copper Pipe, Add	155.15
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-215.49
		For Work In Restricted Working Space, Add	155.33

21 13 16 00-0008 Extra Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)

21 13 16 00-0009	EA	Exposed Piping, Extra Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	962.97
		Note: Includes branch pipe and fittings, supports and sprinkler heads.	
		For Up To 5, Add	420.74
		For >5 To 10, Add	185.18
		For >10 To 20, Add	149.63
		For >20 To 40, Add	65.93
		For >100 To 150, Deduct	-96.30
		For >150, Deduct	-192.59
		For Copper Pipe, Add	126.67
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-174.82



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 16 00-0010	EA		Concealed Piping, Extra Hazard, Per Head, Dry-Pipe Sprinkler System Assembly	1,123.11	
			Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.		
			For Up To 5, Add	497.47	
			For >5 To 10, Add	232.87	
			For >10 To 20, Add	184.65	
			For >20 To 40, Add	80.27	
			For >100 To 150, Deduct	-112.31	
			For >150, Deduct	-224.62	
			For Copper Pipe, Add	144.35	
			For Polyvinyl Chloride (PVC) Pipe, Deduct	-200.51	
			For Work In Restricted Working Space, Add	144.67	
21 13 16 00-0011			Dry-Pipe Sprinkler System Compressors (21 13 16 00-0001)		
21 13 16 00-0012	EA		Dry System Air Compressor, 3/4 HP With Alarm Valve Flange With Gauge	2,562.71	312.61
21 13 16 00-0013	EA		Dry System Air Compressor, 1 HP With Alarm Valve Flange With Gauge	2,678.39	312.61
21 13 16 00-0014	EA		Dry System Air Compressor, 1-1/2 HP With Alarm Valve Flange With Gauge	2,775.99	312.61
21 13 16 00-0015	EA		Dry System Air Compressor, 2 HP With Alarm Valve Flange With Gauge	3,155.54	312.61
21 13 16 00-0016			Dry Pipe Sprinkler System Components (21 13 16)		
21 13 16 00-0017			Dry Pipe Valves (21 13 16 00-0016)		
			Note: Excludes trim package See CSI section 21 13 16 00-0022 for Dry Pipe Valve Trim.		
21 13 16 00-0018	EA		2-1/2" Dry Pipe Valve	4,181.40	140.04
21 13 16 00-0019	EA		3" Dry Pipe Valve	4,654.16	160.40
21 13 16 00-0020	EA		4" Dry Pipe Valve	5,163.88	272.44
21 13 16 00-0021	EA		6" Dry Pipe Valve	6,549.04	343.73
21 13 16 00-0022			Dry Pipe Valve Trim (21 13 16 00-0016)		
			Note: Includes gauges, pressure switch, air supply and drain lines.		
21 13 16 00-0023	EA		2-1/2" Dry Pipe Valve Trim	1,877.48	296.37
21 13 16 00-0024	EA		3" Dry Pipe Valve Trim	1,877.48	296.37
21 13 16 00-0025	EA		4" Dry Pipe Valve Trim	2,161.82	406.36
21 13 16 00-0026	EA		6" Dry Pipe Valve Trim	2,426.62	565.24
21 13 16 00-0027			Recessed Pendent Dry Pipe Sprinkler Heads, Quick Response (21 13 16 00-0016)		
21 13 16 00-0028	EA		3-1/2" To 5-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	239.87	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-15.30	
			For >100 To 500, Deduct	-31.63	
			For >500 To 1,000, Deduct	-54.40	
			For >1,000, Deduct	-67.61	
21 13 16 00-0029	EA		6" To 8-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	249.88	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-15.80	
			For >100 To 500, Deduct	-32.89	
			For >500 To 1,000, Deduct	-56.21	
			For >1,000, Deduct	-69.41	
21 13 16 00-0030	EA		9" To 11-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	259.90	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-16.30	
			For >100 To 500, Deduct	-34.14	
			For >500 To 1,000, Deduct	-58.01	
			For >1,000, Deduct	-71.22	
21 13 16 00-0031	EA		12" To 14-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	269.94	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-16.80	
			For >100 To 500, Deduct	-35.39	
			For >500 To 1,000, Deduct	-59.82	
			For >1,000, Deduct	-73.02	
21 13 16 00-0032	EA		15" To 17-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	279.96	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-17.30	
			For >100 To 500, Deduct	-36.65	
			For >500 To 1,000, Deduct	-61.62	
			For >1,000, Deduct	-74.83	
21 13 16 00-0033	EA		18" To 20-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	289.98	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-17.80	
			For >100 To 500, Deduct	-37.90	
			For >500 To 1,000, Deduct	-63.42	
			For >1,000, Deduct	-76.63	
21 13 16 00-0034	EA		21" To 23-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	299.99	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-18.30	
			For >100 To 500, Deduct	-39.15	
			For >500 To 1,000, Deduct	-65.23	
			For >1,000, Deduct	-78.43	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 16 00-0035	EA	24"	To 26-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	310.03	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-18.80	
			For>100 To 500, Deduct	-40.40	
			For>500 To 1,000, Deduct	-67.03	
			For>1,000, Deduct	-80.24	
21 13 16 00-0036	EA	27"	To 29-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	320.04	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-19.30	
			For>100 To 500, Deduct	-41.66	
			For>500 To 1,000, Deduct	-68.83	
			For>1,000, Deduct	-82.04	
21 13 16 00-0037	EA	30"	To 32-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	330.06	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-19.81	
			For>100 To 500, Deduct	-42.91	
			For>500 To 1,000, Deduct	-70.64	
			For>1,000, Deduct	-83.85	
21 13 16 00-0038	EA	33"	To 35-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	340.10	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-20.31	
			For>100 To 500, Deduct	-44.16	
			For>500 To 1,000, Deduct	-72.44	
			For>1,000, Deduct	-85.65	
21 13 16 00-0039	EA	36"	To 38-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	350.12	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-20.81	
			For>100 To 500, Deduct	-45.42	
			For>500 To 1,000, Deduct	-74.25	
			For>1,000, Deduct	-87.46	
21 13 16 00-0040	EA	39"	To 41-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	360.16	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-21.31	
			For>100 To 500, Deduct	-46.67	
			For>500 To 1,000, Deduct	-76.06	
			For>1,000, Deduct	-89.26	
21 13 16 00-0041	EA	42"	To 44-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	370.16	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-21.81	
			For>100 To 500, Deduct	-47.92	
			For>500 To 1,000, Deduct	-77.86	
			For>1,000, Deduct	-91.06	
21 13 16 00-0042	EA	45"	To 48" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	380.19	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-22.31	
			For>100 To 500, Deduct	-49.17	
			For>500 To 1,000, Deduct	-79.66	
			For>1,000, Deduct	-92.87	
21 13 16 00-0043			Sidewall Dry Pipe Sprinkler Heads, Quick Response (21 13 16 00-0016)		
21 13 16 00-0044	EA	3-1/2"	To 5-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	237.45	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-15.17	
			For>100 To 500, Deduct	-31.33	
			For>500 To 1,000, Deduct	-53.97	
			For>1,000, Deduct	-67.18	
21 13 16 00-0045	EA	6"	To 8-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	247.49	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-15.68	
			For>100 To 500, Deduct	-32.59	
			For>500 To 1,000, Deduct	-55.78	
			For>1,000, Deduct	-68.98	
21 13 16 00-0046	EA	9"	To 11-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	257.53	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-16.18	
			For>100 To 500, Deduct	-33.84	
			For>500 To 1,000, Deduct	-57.58	
			For>1,000, Deduct	-70.79	
21 13 16 00-0047	EA	12"	To 14-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head.....	267.52	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-16.68	
			For>100 To 500, Deduct	-35.09	
			For>500 To 1,000, Deduct	-59.38	
			For>1,000, Deduct	-72.59	
21 13 16 00-0048	EA	15"	To 17-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head.....	277.55	21.80
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-17.18	
			For>100 To 500, Deduct	-36.34	
			For>500 To 1,000, Deduct	-61.19	
			For>1,000, Deduct	-74.39	



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

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
21 13 16 00-0049	EA 18" To 20-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	287.56 -3.30 -17.68 -37.60 -62.99 -76.20		21.80
21 13 16 00-0050	EA 21" To 23-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	297.61 -3.30 -18.18 -38.85 -64.80 -78.00		21.80
21 13 16 00-0051	EA 24" To 26-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	307.63 -3.30 -18.68 -40.10 -66.60 -79.81		21.80
21 13 16 00-0052	EA 27" To 29-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	317.63 -3.30 -19.18 -41.35 -68.40 -81.61		21.80
21 13 16 00-0053	EA 30" To 32-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	327.65 -3.30 -19.68 -42.61 -70.20 -83.41		21.80
21 13 16 00-0054	EA 33" To 35-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	337.69 -3.30 -20.19 -43.86 -72.01 -85.22		21.80
21 13 16 00-0055	EA 36" To 38-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	347.70 -3.30 -20.69 -45.11 -73.81 -87.02		21.80
21 13 16 00-0056	EA 39" To 41-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	377.79 -3.30 -22.19 -48.87 -79.23 -92.44		21.80
21 13 16 00-0057	EA 42" To 44-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	387.81 -3.30 -22.69 -50.13 -81.03 -94.24		21.80
21 13 16 00-0058	EA 45" To 48" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	391.81 -3.30 -22.89 -50.63 -81.75 -94.96		21.80
21 13 16 00-0059	Pendent Dry Pipe Sprinkler Head, Early Suppression, Fast Response (21 13 16 00-0016)			
21 13 16 00-0060	EA 23" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11		21.80
21 13 16 00-0061	EA 30" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11		21.80
21 13 16 00-0062	EA 36" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11		21.80

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 13 16 00-0063	EA	36" Length, 1-1/4" ISO Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head.....	1,092.41	21.80
		For >25 To 50, Deduct	-3.58	
		For >50 To 100, Deduct	-58.20	
		For >100 To 500, Deduct	-138.34	
		For >500 To 1,000, Deduct	-208.80	
		For >1,000, Deduct	-223.11	

21 13 19 Preaction Sprinkler Systems (21 13)

21 13 19 00-0001 Complete Preaction Sprinkler Systems Assemblies (21 13 19)
Note: Includes all branch line piping (standard weight threaded black steel, less than 2-1/2" diameter pipe, fittings, branch valves, hangers, sprinkler heads, etc. From riser pipe and mains. Excludes outside mains, inside vertical or horizontal pipe mains, greater than 2" diameter. The coverage of one sprinkler head varies from about 180 SF for light hazard occupancy, about 155 SF for ordinary, 90 to about 130 SF for extra hazard conditions. Excludes special alarm valves, gate valves, check valves, flow control devices, water motor gong assembly, Siamese connections, standpipes and fittings, pipe mains and fittings, fire pumps and tanks. Not for use where detail is available. For sprinkler repairs or sprinkler head replacements use specific pipe, fittings, hangers, valves, and sprinkler head components. See CSI section 23 21 13 23-1456 for individual grooved pipe, 23 21 13 23-1529 for individual grooved pipe fittings.

21 13 19 00-0002		Ordinary Hazard, Preaction Sprinkler System Assemblies (21 13 19 00-0001)		
21 13 19 00-0003	EA	Exposed Piping, Ordinary Hazard, Per Head, Preaction Sprinkler System Assembly.....	933.23	
		Note: Includes branch pipe and fittings, supports and sprinkler heads.		
		For Up To 5, Add	411.45	
		For >5 To 10, Add	243.88	
		For >10 To 20, Add	150.55	
		For >20 To 40, Add	65.74	
		For >100 To 150, Deduct	-93.32	
		For >150, Deduct	-186.65	

21 13 19 00-0004 Extra Hazard, Preaction Sprinkler System Assemblies (21 13 19 00-0001)

21 13 19 00-0005	EA	Exposed Piping, Extra Hazard, Per Head, Preaction Sprinkler System Assembly.....	868.46	
		Note: Includes branch pipe and fittings, supports and sprinkler heads.		
		For Up To 5, Add	382.94	
		For >5 To 10, Add	227.02	
		For >10 To 20, Add	140.18	
		For >20 To 40, Add	61.20	
		For >100 To 150, Deduct	-86.85	
		For >150, Deduct	-173.69	

21 13 26 Deluge Fire-Suppression Sprinkler Systems (21 13)

21 13 26 00-0001 Deluge Fire-Suppression Sprinkler Systems Equipment (21 13 26)

21 13 26 00-0002 Deluge Valves With Required Trim And Release Equipment (21 13 26 00-0001)

21 13 26 00-0003	EA	3" Deluge Valve With Trim And Release Equipment.....	10,097.76	611.55
21 13 26 00-0004	EA	4" Deluge Valve With Trim And Release Equipment.....	11,593.00	687.93
21 13 26 00-0005	EA	6" Deluge Valve With Trim And Release Equipment.....	14,214.02	1,000.65

21 13 39 Foam-Water Systems (21 13)

21 13 39 00-0001 Foam Control Valves And Monitors (21 13 39)

21 13 39 00-0002 Control Valves (21 13 39 00-0001)

21 13 39 00-0003	EA	3" Foam Control Valve.....	4,443.04	611.55

21 13 39 00-0004 Supply Valves (21 13 39 00-0001)

21 13 39 00-0005	EA	2-1/2" Foam Supply Valve.....	3,880.35	687.93

21 13 39 00-0006 Proportioners (21 13 39 00-0001)

21 13 39 00-0007	EA	8" Foam Proportioner.....	2,801.92	1,000.65

21 13 39 00-0008 Monitors (21 13 39 00-0001)

21 13 39 00-0009	EA	Oscillating Foam Monitor.....	5,071.10	137.59

21 13 41 Fire-Suppression Sprinkler Piping (21 13)

See CSI section 23 21 13 23-0001 for threaded black steel piping, 23 21 13 23-0374 for welded black steel piping, 23 21 13 23-0858 for flanged black steel pipe fittings, 23 21 13 23-1456 for grooved pipe, 23 21 13 23-1529 for grooved pipe fittings, 33 14 13 13-0001 for ductile iron pipe and fittings.

21 13 41 00-0001 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe (21 13 41)
Note: SDR 13.5

21 13 41 00-0002 Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe (21 13 41 00-0001)



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

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST	UNIT COST	
21 13 41 00-0003	LF	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	5.86		1.76
		For Work In Restricted Working Space, Add	1.32		
21 13 41 00-0004	LF	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	6.98		1.87
		For Work In Restricted Working Space, Add	1.42		
21 13 41 00-0005	LF	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	8.69		2.10
		For Work In Restricted Working Space, Add	1.55		
21 13 41 00-0006	LF	1-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	10.60		2.31
		For Work In Restricted Working Space, Add	1.72		
21 13 41 00-0007	LF	2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	13.54		2.53
		For Work In Restricted Working Space, Add	1.92		
21 13 41 00-0008	LF	2-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	18.41		2.86
		For Work In Restricted Working Space, Add	2.18		
21 13 41 00-0009	LF	3" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe	25.56		3.42
		For Work In Restricted Working Space, Add	2.58		
21 13 41 00-0010 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbows, Fire Sprinkler Piping (21 13 41 00-0001)					
21 13 41 00-0011	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	28.32		10.57
		For Work In Restricted Working Space, Add	7.93		
21 13 41 00-0012	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	37.26		13.21
		For Work In Restricted Working Space, Add	9.94		
21 13 41 00-0013	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	46.61		16.51
		For Work In Restricted Working Space, Add	12.42		
21 13 41 00-0014	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	53.18		18.27
		For Work In Restricted Working Space, Add	13.74		
21 13 41 00-0015	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	60.28		20.48
		For Work In Restricted Working Space, Add	15.32		
21 13 41 00-0016	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	75.81		23.23
		For Work In Restricted Working Space, Add	17.43		
21 13 41 00-0017	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping	92.76		27.52
		For Work In Restricted Working Space, Add	20.60		
21 13 41 00-0018 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbows, Fire Sprinkler Piping (21 13 41 00-0001)					
21 13 41 00-0019	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	28.99		10.57
		For Work In Restricted Working Space, Add	7.93		
21 13 41 00-0020	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	36.19		13.21
		For Work In Restricted Working Space, Add	9.94		
21 13 41 00-0021	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	45.80		16.51
		For Work In Restricted Working Space, Add	12.42		
21 13 41 00-0022	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	51.89		18.27
		For Work In Restricted Working Space, Add	13.74		
21 13 41 00-0023	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	58.66		20.48
		For Work In Restricted Working Space, Add	15.32		
21 13 41 00-0024	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	71.74		23.23
		For Work In Restricted Working Space, Add	17.43		
21 13 41 00-0025	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping	88.28		27.52
		For Work In Restricted Working Space, Add	20.60		
21 13 41 00-0026 Chlorinated Polyvinyl Chloride (CPVC) Tees, Fire Sprinkler Piping (21 13 41 00-0001)					
21 13 41 00-0027	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	42.19		15.85
		For Work In Restricted Working Space, Add	11.89		
21 13 41 00-0028	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	54.83		19.92
		For Work In Restricted Working Space, Add	14.93		
21 13 41 00-0029	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	69.73		24.88
		For Work In Restricted Working Space, Add	18.62		
21 13 41 00-0030	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	79.94		27.52
		For Work In Restricted Working Space, Add	20.60		
21 13 41 00-0031	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	93.29		30.60
		For Work In Restricted Working Space, Add	22.98		
21 13 41 00-0032	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	114.29		34.90
		For Work In Restricted Working Space, Add	26.15		
21 13 41 00-0033	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	135.03		41.16
		For Work In Restricted Working Space, Add	30.91		
21 13 41 00-0034 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tees, Fire Sprinkler Piping (21 13 41 00-0001)					
21 13 41 00-0035	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	50.67		18.60
		For Work In Restricted Working Space, Add	13.90		
21 13 41 00-0036	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	65.84		23.23
		For Work In Restricted Working Space, Add	17.37		
21 13 41 00-0037	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	73.68		25.65
		For Work In Restricted Working Space, Add	19.22		
21 13 41 00-0038	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	86.88		28.62
		For Work In Restricted Working Space, Add	21.47		
21 13 41 00-0039	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	102.42		32.58
		For Work In Restricted Working Space, Add	24.40		

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 41 00-0040	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	120.54 28.86	38.41
21 13 41 00-0041		Chlorinated Polyvinyl Chloride (CPVC) Crosses, Fire Sprinkler Piping (21 13 41 00-0001)		
21 13 41 00-0042	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	56.90 15.85	21.13
21 13 41 00-0043	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	71.34 19.88	26.52
21 13 41 00-0044	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	89.82 24.83	33.13
21 13 41 00-0045	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	101.20 27.47	36.65
21 13 41 00-0046	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	118.01 30.65	40.83
21 13 41 00-0047	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	150.81 34.87	46.45
21 13 41 00-0048		Chlorinated Polyvinyl Chloride (CPVC) Couplings, Fire Sprinkler Piping (21 13 41 00-0001)		
21 13 41 00-0049	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	19.43 5.28	7.04
21 13 41 00-0050	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	26.03 7.10	9.46
21 13 41 00-0051	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	34.50 9.31	12.43
21 13 41 00-0052	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	39.28 10.30	13.75
21 13 41 00-0053	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	45.00 11.49	15.30
21 13 41 00-0054	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	53.84 13.08	17.39
21 13 41 00-0055	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	64.88 15.45	20.59
21 13 41 00-0056		Chlorinated Polyvinyl Chloride (CPVC) Caps, Fire Sprinkler Piping (21 13 41 00-0001)		
21 13 41 00-0057	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	9.90 2.64	3.53
21 13 41 00-0058	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	15.76 4.26	5.72
21 13 41 00-0059	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	18.03 4.66	6.17
21 13 41 00-0060	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	20.63 5.15	6.82
21 13 41 00-0061	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	24.38 5.75	7.71
21 13 41 00-0062	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	29.33 6.54	8.70
21 13 41 00-0063	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	37.97 7.73	10.35
21 13 41 00-0064		Chlorinated Polyvinyl Chloride (CPVC) Reducer Bushing, Fire Sprinkler Piping (21 13 41 00-0001)		
21 13 41 00-0065	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	27.51 7.83	10.46
21 13 41 00-0066	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	36.43 10.24	13.64
21 13 41 00-0067	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	40.27 11.33	15.07
21 13 41 00-0068	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	45.83 12.65	16.84
21 13 41 00-0069	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	54.29 14.40	19.16
21 13 41 00-0070	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	66.18 17.00	22.67
21 13 41 00-0071		Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip x Female Pipe Thread, Fire Sprinkler Piping (21 13 41 00-0001)		
21 13 41 00-0072	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip X Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	24.11 5.81	7.71
21 13 41 00-0073	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip X Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	31.11 7.83	10.46
21 13 41 00-0074		Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping (21 13 41 00-0001)		



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

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
21 13 41 00-0075	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	24.11		7.71
		For Work In Restricted Working Space, Add	5.81		
21 13 41 00-0076	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	31.11		10.46
		For Work In Restricted Working Space, Add	7.83		
21 13 41 00-0077		Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping			
21 13 41 00-0078	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	28.18		9.46
		For Work In Restricted Working Space, Add	7.13		
21 13 41 00-0079	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	36.01		11.89
		For Work In Restricted Working Space, Add	8.95		
21 13 41 00-0080	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 3/4" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	37.36		11.89
		For Work In Restricted Working Space, Add	8.95		
21 13 41 00-0081		Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping			
21 13 41 00-0082	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	46.32		15.85
		For Work In Restricted Working Space, Add	11.89		
21 13 41 00-0083	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	57.00		19.92
		For Work In Restricted Working Space, Add	14.93		
21 13 41 00-0084	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	74.15		24.88
		For Work In Restricted Working Space, Add	18.62		
21 13 41 00-0085	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	84.62		27.52
		For Work In Restricted Working Space, Add	20.60		
21 13 41 00-0086	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping	98.98		30.60
		For Work In Restricted Working Space, Add	22.98		
21 20		Fire-Extinguishing Systems			
21 21		Carbon-Dioxide Fire-Extinguishing Systems			
21 21 16		Carbon-Dioxide Fire-Extinguishing Equipment			
21 21 16 00-0001		Carbon Dioxide Cylinders			
21 21 16 00-0002	EA	Carbon Dioxide Simplex Cylinder, 75 LB	4,753.33		225.73
21 21 16 00-0003	EA	Carbon Dioxide Duplex Cylinder, 75 LB (Each)	9,506.67		451.46
21 21 16 00-0004	EA	Carbon Dioxide Cylinder, Heat/Ion Detector, With Bracket	522.12		130.58
21 21 16 00-0005	EA	Carbon Dioxide Cylinder, Dispersion Nozzle	251.61		41.24
21 21 16 00-0006	LF	Carbon Dioxide Cylinder, 1/2" Rubber Tubing	51.25		16.72
21 22		Clean-Agent Fire-Extinguishing Systems			
21 22 16		Clean-Agent Fire-Extinguishing Equipment			
21 22 16 00-0001		Ansul Fire Control Systems			
21 22 16 00-0002		Sapphire® Fire Suppression Systems			
		Note: ANSUL® SAPPHERE® fire suppression systems use 3M™ Novec™ 1230 fire protection fluid for total flooding applications.			
21 22 16 00-0003		Cylinders, Sapphire® Fire Suppression Systems			
21 22 16 00-0004	EA	20 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570635)	1,603.88		76.96
		Note: 10 to 21 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0005	EA	40 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570636)	1,829.93		76.96
		Note: 20 to 46 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0006	EA	80 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570637)	1,859.65		76.96
		Note: 41 to 80 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0007	EA	140 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570638)	2,640.46		102.60
		Note: 58 to 138 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0008	EA	280 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570639)	2,789.89		102.60
		Note: 116 to 280 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0009	EA	390 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570640)	2,980.03		128.26
		Note: 161 to 388 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0010	EA	450 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570641)	3,162.24		128.26
		Note: 194 to 459 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0011	EA	850 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570586)	4,774.38		153.91
		Note: 375 to 851 LB tank capacity. Excludes Sapphire agent.			
21 22 16 00-0012	LB	Sapphire Agent. Fire Protection Fluid, Factory Filled (Novec 1230)	40.37		153.91
		Note: Add to empty tank cost.			

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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 22 16 00-0013				Nozzles, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0014	EA	1/2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570515)	152.92		12.83		
21 22 16 00-0015	EA	3/4" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570516)	156.77		12.83		
21 22 16 00-0016	EA	1" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570517)	166.42		12.83		
21 22 16 00-0017	EA	1-1/4" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570518)	173.17		12.83		
21 22 16 00-0018	EA	1-1/2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570519)	182.81		12.83		
21 22 16 00-0019	EA	2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570520)	211.72		12.83		
21 22 16 00-0020	EA	1/2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570602)	152.92		12.83		
21 22 16 00-0021	EA	3/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570603)	156.77		12.83		
21 22 16 00-0022	EA	1" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570604)	166.42		12.83		
21 22 16 00-0023	EA	1-1/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570605)	173.17		12.83		
21 22 16 00-0024	EA	1-1/2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570606)	182.81		12.83		
21 22 16 00-0025	EA	2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570607)	211.72		12.83		
21 22 16 00-0026				Actuation Attachments, Sapphire® Fire Suppression System (21 22 16 00-0002)			
21 22 16 00-0027	EA	7/16-20 To 1/4" NPT, Male Actuation Elbow, Sapphire® Fire Suppression System (Ansul 31810)	13.65		3.85		
21 22 16 00-0028	EA	7/16-20 To 1/4" NPT, Male Actuation Tee, Sapphire® Fire Suppression System (Ansul 31811)	15.31		3.85		
21 22 16 00-0029	EA	1/4" NPT To 7/16-20, Male Actuation Connector, Sapphire® Fire Suppression System (Ansul 32338)	20.67		8.98		
21 22 16 00-0030	EA	16" Actuation Hose, Sapphire® Fire Suppression System (Ansul 73597)	49.17		11.49		
21 22 16 00-0031	EA	32" Actuation Hose, Sapphire® Fire Suppression System (Ansul 415142)	73.11		11.49		
21 22 16 00-0032	EA	42" Actuation Hose, Sapphire® Fire Suppression System (Ansul 430815)	88.37		11.49		
21 22 16 00-0033	EA	24", Stainless Steel, Swivel, Braided Actuation Hose, Sapphire® Fire Suppression System (Ansul 32336)	43.66		11.49		
21 22 16 00-0034	EA	Pneumatic Actuator Shipping Assembly, Sapphire® Fire Suppression System (Ansul 570537)	302.58		102.60		
21 22 16 00-0035	EA	Local Manual Actuator, Sapphire® Fire Suppression System (Ansul 570549)	292.73		76.96		
21 22 16 00-0036	EA	Electric Actuator Shipping Assembly, Sapphire® Fire Suppression System (Ansul 570537)	661.22		102.60		
21 22 16 00-0037				Nameplates, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0038	EA	Warning Plate For Use Outside Room, Sapphire® Fire Suppression Systems (Ansul 570580)	48.80		12.83		
21 22 16 00-0039	EA	Warning Plate for Use Inside Room, Sapphire® Fire Suppression Systems (Ansul 570581)	53.15		12.83		
21 22 16 00-0040				Cylinder Bracketing, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0041	EA	Tank Bracket Assembly For 20 LB, 40 LB, 50 LB, 80 LB And 90 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570085)	150.23		38.47		
21 22 16 00-0042	EA	Tank Bracket Assembly For 140 LB, 280 LB, 390 LB And 450 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570085)	158.91		38.47		
21 22 16 00-0043	EA	Tank Bracket Assembly For 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570336)	170.00		38.47		
21 22 16 00-0044				Check Valves, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0045	EA	1" Manifold Check Valve, Sapphire® Fire Suppression Systems (Ansul 570566)	409.16		40.84		
21 22 16 00-0046	EA	2" Manifold Check Valve, Sapphire® Fire Suppression Systems (Ansul 570568)	574.46		70.08		
21 22 16 00-0047				Discharge Hose, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0048	EA	1" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 570539)	127.46		25.66		
21 22 16 00-0049	EA	2" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 570538)	482.25		25.66		
21 22 16 00-0050	EA	3" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 69990)	406.08		25.66		
21 22 16 00-0051	EA	3" Discharge Hose And Check Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 69841)	1,774.73		102.60		
21 22 16 00-0052				Swivel Adaptors, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0053	EA	1" Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 570557)	45.53		17.96		
21 22 16 00-0054	EA	2" Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 570558)	81.57		17.96		
21 22 16 00-0055	EA	3" Flare To 3" Grooved, Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 69471)	228.12		12.83		
21 22 16 00-0056	EA	3" Flare To 3" NPT, Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 69470)	294.60		12.83		
21 22 16 00-0057				Pressure Switches, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0058	EA	Cylinder Low Pressure Switch, Sapphire® Fire Suppression Systems (Ansul 570585)	166.71		51.30		
21 22 16 00-0059	EA	Pressure Trip, Sapphire® Fire Suppression Systems (Ansul 5156)	169.40		21.54		
21 22 16 00-0060	EA	Weather Proof, DPST Pressure Switch, Sapphire® Fire Suppression Systems (Ansul 46250)	519.87		89.78		
21 22 16 00-0061				Level Indicators, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0062	EA	Liquid Level Indicator For 280 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570277)	612.42		17.96		
21 22 16 00-0063	EA	Liquid Level Indicator For 390 LB And 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570278)	641.36		17.96		
21 22 16 00-0064	EA	Liquid Level Indicator For 450 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570589)	686.62		25.66		
21 22 16 00-0065				Inspection/Maintenance Devices, Sapphire® Fire Suppression Systems (21 22 16 00-0002)			
21 22 16 00-0066	EA	Master Tank Pilot Port Male Adaptor, Sapphire® Fire Suppression Systems (Ansul 570342)	46.20		15.39		
21 22 16 00-0067	EA	Cylinder Valve Pressure Gauge, Sapphire® Fire Suppression Systems (Ansul 570642)	57.98		17.96		
21 22 16 00-0068	EA	Recharge Top Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570579)	192.66		76.96		



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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0069	EA	1" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570576)	225.73	76.96
21 22 16 00-0070	EA	2" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570592)	253.21	76.96
21 22 16 00-0071	EA	3" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 69891)	341.90	76.96
21 22 16 00-0072		Replacement Parts, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0073	EA	O-Ring Kit, Sapphire® Fire Suppression Systems (Ansul 570559)	54.91	20.52
21 22 16 00-0074	EA	Recoil Cap, Sapphire® Fire Suppression Systems (Ansul 570553)	91.69	12.83
21 22 16 00-0075	EA	Burst Disc Assembly, Sapphire® Fire Suppression Systems (Ansul 570053)	123.14	25.66
21 22 16 00-0076	EA	Bonnet Assembly, Sapphire® Fire Suppression Systems (Ansul 570543)	322.83	102.60
21 22 16 00-0077	EA	Piston Assembly, Sapphire® Fire Suppression Systems (Ansul 570551)	491.54	102.60
21 22 16 00-0078	EA	1" Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570535)	1,674.45	102.60
21 22 16 00-0079		Inergen® Fire Suppression System (21 22 16 00-0001)		
21 22 16 00-0080		Actuation Attachments, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0081	EA	Flexible Discharge Bend For CV90 And CV98 (200 Bar), Inergen® Fire Suppression System (Ansul 427082)	179.06	25.41
21 22 16 00-0082	EA	Metron Protractor Replacement Cartridges, Inergen® Fire Suppression System (Ansul 423958)	208.32	27.31
21 22 16 00-0083	EA	Electric Actuator, Lever, CV98, Inergen® Fire Suppression System (Ansul 423309)	372.70	49.43
21 22 16 00-0084	EA	Electric Actuator For CV90 Valve, Inergen® Fire Suppression System (Ansul 426876)	748.74	112.58
21 22 16 00-0085		Check Valves, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0086	EA	2" Bronze Check Valve, Weld Neck Flange, Inergen® Fire Suppression System (Ansul 840794)	1,814.20	148.59
21 22 16 00-0087		Components, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0088	EA	1/2" Manifold Relief Valve, Inergen® Fire Suppression System (Ansul 418378)	53.18	7.79
21 22 16 00-0089	EA	Pressure Operated Siren, Inergen® Fire Suppression System (Ansul 419700)	625.90	83.49
21 22 16 00-0090	EA	30 Second Pneumatic Time Delay, Inergen® Fire Suppression System (Ansul 54169)	1,948.33	261.22
21 22 16 00-0091	EA	60 Second Time Delay, Inergen® Fire Suppression System (Ansul 426170)	1,855.93	266.12
21 22 16 00-0092		Cylinders, Inergen® Fire Suppression System (21 22 16 00-0079)		
		Note: Includes CV98 valve. Factory filled with Inergen agent.		
21 22 16 00-0093	EA	200 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426147)	1,623.46	239.07
21 22 16 00-0094	EA	250 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426148)	1,841.62	270.86
21 22 16 00-0095	EA	350 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426620)	2,637.41	351.00
21 22 16 00-0096	EA	435 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426150)	2,637.36	428.92
21 22 16 00-0097	EA	250 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426257)	1,903.67	302.01
21 22 16 00-0098	EA	350 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426621)	2,699.92	382.27
21 22 16 00-0099	EA	435 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426259)	2,782.90	460.91
21 22 16 00-0100		Inspection/Maintenance Devices, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0101	EA	CV90 Fill Adaptor To CV98 Valve, Conversion Adapter, Inergen® Fire Suppression System (Ansul 423657)	61.30	8.69
21 22 16 00-0102	EA	CV98 To CV90 Conversion Adapter, Cylinder Test Gauge, Inergen® Fire Suppression System (Ansul 426181)	61.30	8.69
21 22 16 00-0103	EA	CV90 Pressure Test Assembly Venting Kit, Inergen® Fire Suppression System (Ansul 426954)	73.97	9.66
21 22 16 00-0104	EA	Pressure Test Gauge, Inergen® Fire Suppression System (Ansul 423923)	1,167.89	165.90
21 22 16 00-0105		Multiple Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0106	EA	13" Carriage Bolt With Nut, Multiple Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 418502)	19.68	2.54
		Note: For single row 435 cubic foot cylinders.		
21 22 16 00-0107	EA	27" Carriage Bolt With Nut, Multiple Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 418503)	27.94	3.63
		Note: For double row 435 cubic foot cylinders.		
21 22 16 00-0108		Nameplates, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0109	EA	Warning Plate, Nameplate, Inside Room With Alarm, Inergen® Fire Suppression System (Ansul 416265)	21.71	2.84
21 22 16 00-0110	EA	Warning Plate, Nameplate, Outside Room Without Alarm, Inergen® Fire Suppression System (Ansul 416266)	20.05	2.84
21 22 16 00-0111		Nozzle Deflector Shields, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0112	EA	1/2" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417708)	87.16	12.24
21 22 16 00-0113	EA	3/4" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417711)	91.44	12.82
21 22 16 00-0114	EA	1" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417714)	106.27	14.81
21 22 16 00-0115	EA	1-1/4" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417717)	118.43	16.72
21 22 16 00-0116	EA	1-1/2" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417720)	135.86	19.22
21 22 16 00-0117		Nozzles, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0118	EA	1/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417908)	133.47	18.95
21 22 16 00-0119	EA	3/8" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417723)	138.48	19.51
21 22 16 00-0120	EA	1/2" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417362)	127.73	18.06
21 22 16 00-0121	EA	3/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417363)	130.76	19.51
21 22 16 00-0122	EA	1" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417364)	151.86	21.46
21 22 16 00-0123	EA	1-1/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417365)	162.36	22.85

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



MINOR
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TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 22 16 00-0124	EA	1-1/2" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417366).....	174.78	24.52
21 22 16 00-0125	EA	2" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426155)	300.83	42.91
21 22 16 00-0126	EA	2-1/2" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426156)	397.75	56.29
21 22 16 00-0127	EA	3" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426137)	433.59	61.87
21 22 16 00-0128	EA	1/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426138).....	155.42	22.28
21 22 16 00-0129	EA	3/8" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426139).....	183.35	26.09
21 22 16 00-0130	EA	1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426140).....	150.88	21.46
21 22 16 00-0131	EA	3/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426141).....	161.18	22.74
21 22 16 00-0132	EA	1" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426142)	162.60	22.85
21 22 16 00-0133	EA	1-1/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426143)	196.27	27.76
21 22 16 00-0134	EA	1-1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426157)	211.53	30.09
21 22 16 00-0135	EA	2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426144)	324.71	46.18
21 22 16 00-0136	EA	2-1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426145)	379.12	54.06
21 22 16 00-0137	EA	3" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426146)	415.42	59.07

21 22 16 00-0138 Pressure Reducers, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0139	EA	1/2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416677)	174.78	24.52
21 22 16 00-0140	EA	3/4" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416678)	214.42	30.54
21 22 16 00-0141	EA	1" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416679)	230.63	32.88
21 22 16 00-0142	EA	1-1/4" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416680)	324.71	46.18
21 22 16 00-0143	EA	1-1/2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416681)	354.78	50.60
21 22 16 00-0144	EA	2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416682)	416.85	59.07
21 22 16 00-0145	EA	2-1/2" NPT, Orifice Nipple, Pressure Reducer, Inergen® Fire Suppression System (Ansul 417057)	484.64	69.27
21 22 16 00-0146	EA	3" NPT, Orifice Nipple, Pressure Reducer, Inergen® Fire Suppression System (Ansul 417058)	572.97	81.93
21 22 16 00-0147	EA	1-1/2" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426823)	730.98	161.63
21 22 16 00-0148	EA	3" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426824)	941.89	189.50
21 22 16 00-0149	EA	4" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426825)	1,202.13	317.68
21 22 16 00-0150	EA	2-1/2" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426847)	712.66	161.63
21 22 16 00-0151	EA	3" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426848)	788.80	112.89
21 22 16 00-0152	EA	4" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426849)	1,202.13	317.68
21 22 16 00-0153	EA	2-1/2" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426853)	728.08	161.63
21 22 16 00-0154	EA	3" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426854)	819.84	117.31
21 22 16 00-0155	EA	4" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426855)	1,178.99	317.68

21 22 16 00-0156 Pressure Switches, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0157	EA	3PST, Pressure Switch, Inergen® Fire Suppression System (Ansul 842344)	820.52	123.17

21 22 16 00-0158 Releasing Device Equipment, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0159	EA	12 Or 24 Volt DC, Assembly, Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 17728)	1,346.00	191.08
21 22 16 00-0160	EA	24 Volt DC, Explosion Proof Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 31492)	1,916.79	254.63
21 22 16 00-0161	EA	120 Volt AC, Explosion Proof Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 32525)	2,032.66	259.01
21 22 16 00-0162	EA	Cocking Lever For Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 26310)	95.04	13.17
21 22 16 00-0163	EA	LT-30-R Nitrogen Cartridge, Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 5373)	113.52	17.44
21 22 16 00-0164	EA	Remote Actuator Booster With N2 Cartridge, Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 28939)	1,088.89	136.33

21 22 16 00-0165 Replacement Orifice Plates, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0166	EA	1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418095)	119.17	12.94
21 22 16 00-0167	EA	3/4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418096)	124.90	13.63
21 22 16 00-0168	EA	1" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418097)	131.15	13.86
21 22 16 00-0169	EA	1-1/4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418098)	140.75	14.33
21 22 16 00-0170	EA	1-1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418099)	146.44	15.71
21 22 16 00-0171	EA	2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418100)	147.09	16.98
21 22 16 00-0172	EA	2-1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426984)	322.30	45.52
21 22 16 00-0173	EA	3" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426985)	325.17	45.98
21 22 16 00-0174	EA	4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426986)	416.85	58.92

21 22 16 00-0175 Single Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0176	EA	Strap For 435 CF Cylinder, Single Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 427704)	151.86	21.46
21 22 16 00-0177	EA	Channel For 435 CF Cylinder, Single Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 427705)	207.38	49.05

Note: Includes saddle, padding and fasteners.

21 22 16 00-0178 Single Mating Flanges, Flanged Manifold Orifices, Inergen® Fire Suppression System (21 22 16 00-0079)

21 22 16 00-0179	EA	2-1/2" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426856)	396.59	31.71
		Note: Includes gasket and fasteners.		
21 22 16 00-0180	EA	3" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426857)	332.82	47.35
		Note: Includes gasket and fasteners.		



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0181	EA		4" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426858).....	668.08	317.68
			Note: Includes gasket and fasteners.		
21 22 16 00-0182	EA		2-1/2" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426859).....	208.68	29.62
			Note: Includes gasket and fasteners.		
21 22 16 00-0183	EA		3" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426860).....	244.96	34.55
			Note: Includes gasket and fasteners.		
21 22 16 00-0184	EA		4" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426861).....	663.21	317.68
			Note: Includes gasket and fasteners.		
21 22 16 00-0185	EA		2-1/2" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426862).....	217.26	31.02
			Note: Includes gasket and fasteners.		
21 22 16 00-0186	EA		3" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426863).....	254.52	36.15
			Note: Includes gasket and fasteners.		
21 22 16 00-0187	EA		4" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426864).....	687.31	317.68
			Note: Includes gasket and fasteners.		
21 22 16 00-0188	EA		2-1/2" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426828).....	42.69	2.35
			Note: Includes a stainless steel inner ring and a carbon steel outer ring.		
21 22 16 00-0189	EA		3" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426829).....	43.15	2.59
			Note: Includes a stainless steel inner ring and a carbon steel outer ring.		
21 22 16 00-0190	EA		4" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426830).....	46.47	3.06
			Note: Includes a stainless steel inner ring and a carbon steel outer ring.		
21 22 16 00-0191			Upright And Feet, Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0192	EA		Center Upright Foot, Inergen® Fire Suppression System (Ansul 418508).....	26.60	3.77
21 22 16 00-0193	EA		Double Row, Back-To-Back Rows, Weigh Rail Support, Inergen® Fire Suppression System (Ansul 423027).....	218.84	28.66
21 22 16 00-0194	EA		85" High, Cylinder Bracketing For 425 CF And LC100 Cylinders, Inergen® Fire Suppression System (Ansul 426592).....	162.95	28.66
			Note: Includes upright, left, right and center.		
21 22 16 00-0195			Autopulse® Fire Detection And Control Equipment (21 22 16 00-0001)		
21 22 16 00-0196			Accessory Switches, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0197	EA		Abort, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76495).....	171.39	24.73
21 22 16 00-0198	EA		Abort, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76494).....	194.78	28.19
21 22 16 00-0199	EA		Main/Reserve, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76497).....	247.76	35.81
21 22 16 00-0200	EA		Main/Reserve, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76496).....	266.87	38.59
21 22 16 00-0201	EA		Maintenance, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76499).....	334.15	48.53
21 22 16 00-0202	EA		Maintenance, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76498).....	355.65	51.53
21 22 16 00-0203	EA		Explosion Proof, Abort Switch, Autopulse® Fire Detection And Control Equipment (Ansul 65956).....	681.68	99.36
21 22 16 00-0204	EA		Single Gang, Surface Mount Back Box For Accessory Switches, Autopulse® Fire Detection And Control Equipment (Ansul 76490).....	54.91	7.40
21 22 16 00-0205			Alarm Devices, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0206	EA		Selectable Candela Strobe, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429698).....	148.47	21.49
21 22 16 00-0207	EA		Sync Module, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429699).....	217.70	31.43
21 22 16 00-0208	EA		Back Box Extender Adapter, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429702).....	19.86	2.86
21 22 16 00-0209			Annunciators, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0210	EA		80 Character LCD, Annunciator, LCD-80, Autopulse® Fire Detection And Control Equipment (Ansul 417492).....	1,710.59	249.31
21 22 16 00-0211	EA		16 Zone Alarm/Trouble, Annunciator Control Module, ACM-16AT, Autopulse® Fire Detection And Control Equipment (Ansul 417496).....	1,433.98	208.87
21 22 16 00-0212	EA		16 Zone Alarm/Trouble, Annunciator Expander Module, AEM-16AT, Autopulse® Fire Detection And Control Equipment (Ansul 417497).....	1,113.18	162.20
21 22 16 00-0213	EA		32 Zone, Alarm Annunciator Expander Module, AEM-32A, Autopulse® Fire Detection And Control Equipment (Ansul 417500).....	969.53	141.17
21 22 16 00-0214	EA		Annunciator Lamp Driver Control Module, LDM-32, Autopulse® Fire Detection And Control Equipment (Ansul 417501).....	969.53	141.17
21 22 16 00-0215	EA		Annunciator Lamp Driver Expander Module, LDM-E32, Autopulse® Fire Detection And Control Equipment (Ansul 417502).....	776.67	112.99
21 22 16 00-0216	EA		Annunciator Lamp Driver Relay Module, LDM-R32, Autopulse® Fire Detection And Control Equipment (Ansul 417650).....	1,433.98	208.87
21 22 16 00-0217	EA		24", Annunciator Lamp Driver Cable, LDM-CBL24, Autopulse® Fire Detection And Control Equipment (Ansul 417651).....	291.67	42.28
21 22 16 00-0218	EA		48", Annunciator Lamp Driver Cable, LDM-CBL48, Autopulse® Fire Detection And Control Equipment (Ansul 417652).....	365.66	53.14
21 22 16 00-0219	EA		8 Relay, Annunciator Control Module, ACM-8R, Autopulse® Fire Detection And Control Equipment (Ansul 417653).....	733.22	106.74
21 22 16 00-0220	EA		Key Switch, AKS-1 Annunciator Accessory, Autopulse® Fire Detection And Control Equipment (Ansul 417660).....	123.89	17.90
21 22 16 00-0221	EA		Low Profile Annunciator Chassis, CHS-4L, Autopulse® Fire Detection And Control Equipment (Ansul 418576).....	168.49	24.73
			Note: For up to 4 LDM modules.		
21 22 16 00-0222	EA		Flush, Single Annunciator Back Box, ABF-1, Autopulse® Fire Detection And Control Equipment (Ansul 417657).....	291.68	42.28



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 22 16 00-0223				Autopulse IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment			
21 22 16 00-0224	EA	CHS-4 Chassis, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419586)	226.65		34.43		
21 22 16 00-0225	EA	REL 47K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419639)	14.01		2.36		
21 22 16 00-0226	EA	REL 4.7K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419640)	98.34		2.86		
21 22 16 00-0227	EA	REL 2.2K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 407765)	15.14		2.86		
21 22 16 00-0228				Autopulse IQ-396X Modules, Autopulse® Fire Detection And Control Equipment			
21 22 16 00-0229	EA	Indicating Circuit Expander, IQ-396X Modules, ICE-4, Autopulse® Fire Detection And Control Equipment (Ansul 419564)	503.83		77.17		
21 22 16 00-0230	EA	Control Relay Expander, IQ-396X Modules, CRE-4, Autopulse® Fire Detection And Control Equipment (Ansul 419566)	302.04		45.98		
21 22 16 00-0231				Batteries And Power Supplies, Autopulse® Fire Detection And Control Equipment			
21 22 16 00-0232	EA	7 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417692)	222.70		29.57		
21 22 16 00-0233	EA	12 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417693)	465.73		62.61		
21 22 16 00-0234	EA	18 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417694)	525.56		70.93		
21 22 16 00-0235	EA	25 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417695)	687.00		86.41		
21 22 16 00-0236	EA	55 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417997)	1,107.44		149.96		
21 22 16 00-0237	EA	BB-17, Red Battery Box, Autopulse® Fire Detection And Control Equipment (Ansul 418578)	165.67		23.80		
21 22 16 00-0238	EA	BB-25, Grey Cabinet, Autopulse® Fire Detection And Control Equipment (Ansul 428079)	295.97		42.97		
				Note: Holds six XP5 modules or 25AH battery pack.			
21 22 16 00-0239	EA	BB-55, Red Battery Box, Autopulse® Fire Detection And Control Equipment (Ansul 419410)	601.96		87.57		
				Note: For mounting in BB-55 battery box.			
21 22 16 00-0240	EA	Battery Charger, CHG-120, Autopulse® Fire Detection And Control Equipment (Ansul 426207)	1,749.97		255.08		
				Note: For mounting in BB-55 battery box.			
21 22 16 00-0241	EA	120 Volt AC, FCPS-24F, Red Remote Power Supply, Autopulse® Fire Detection And Control Equipment (Ansul 418563)	1,279.78		186.46		
21 22 16 00-0242				Intelligent Addressable Devices, Autopulse® Fire Detection And Control Equipment			
21 22 16 00-0243	EA	Monitor Module, Intelligent Addressable Devices, FMM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428097)	134.84		19.76		
21 22 16 00-0244	EA	Mini Monitor Module, Intelligent Addressable Devices, FMM-101, Autopulse® Fire Detection And Control Equipment (Ansul 428098)	125.93		19.64		
21 22 16 00-0245	EA	Isolator Module, Intelligent Addressable Devices, ISO-X, Autopulse® Fire Detection And Control Equipment (Ansul 417480)	170.67		28.19		
21 22 16 00-0246	EA	2-Wire Detector Monitor Module, Intelligent Addressable Devices, FZM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428100)	253.49		36.74		
21 22 16 00-0247	EA	NAC Control Module, Intelligent Addressable Devices, FCM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428101)	197.07		29.80		
21 22 16 00-0248	EA	Control Relay Module, Intelligent Addressable Devices, FRM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428102)	185.11		28.66		
21 22 16 00-0249	EA	Flangeless, Analog Addressable Detector Base, Intelligent Addressable Devices, B501, Autopulse® Fire Detection And Control Equipment (Ansul 417487)	29.49		4.57		
21 22 16 00-0250	EA	Analog Addressable Detector Base With Isolator, Intelligent Addressable Devices, B224BI, Autopulse® Fire Detection And Control Equipment (Ansul 426125)	108.82		16.17		
21 22 16 00-0251	EA	Harsh Detector, Analog Addressable Detector Base, Intelligent Addressable Devices, B710HD, Autopulse® Fire Detection And Control Equipment (Ansul 427066)	108.84		15.71		
21 22 16 00-0252	EA	HPX-751 Detector Filter Cover, Intelligent Addressable Devices, FR-FTX, Autopulse® Fire Detection And Control Equipment (Ansul 427067)	38.58		12.94		
21 22 16 00-0253	EA	Low Profile Trim Ring, Intelligent Addressable Devices, F110, Autopulse® Fire Detection And Control Equipment (Ansul 428138)	10.01		1.43		
				Note: Converts BX501 to low profile base.			
21 22 16 00-0254	EA	Relay Base, Intelligent Addressable Devices, B224RB, Autopulse® Fire Detection And Control Equipment (Ansul 423945)	104.77		15.13		
21 22 16 00-0255	EA	EOL Power Supervision Relay, Intelligent Addressable Devices, Autopulse® Fire Detection And Control Equipment (Ansul 417699)	61.38		8.92		
21 22 16 00-0256	EA	XP5 Modules Cabinet, Intelligent Addressable Devices, BB-XP, Autopulse® Fire Detection And Control Equipment (Ansul 428078)	166.15		23.57		
21 22 16 00-0257	EA	BB-25 Chassis, Intelligent Addressable Devices, CHS-6, Autopulse® Fire Detection And Control Equipment (Ansul 428080)	86.89		12.47		
21 22 16 00-0258				Manual Pull Stations, Autopulse® Fire Detection And Control Equipment			
21 22 16 00-0259	EA	Break Rod Package For Manual Pull Stations, Autopulse® Fire Detection And Control Equipment (Ansul 428661)	25.01		3.36		
21 22 16 00-0260	EA	Key Pull Station For Manual Pull Stations, Autopulse® Fire Detection And Control Equipment (Ansul 418336)	15.51		1.84		



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

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0261	Transmitter/Relay Modules, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0262	EA Transmitter Module, 4XTM, Autopulse® Fire Detection And Control Equipment (Ansul 417470) Note: Includes municipal box and remote station connection.	217.70	31.43
21 22 16 00-0263	EA Relay/Transmitter Module With 8 Form C Relay Contacts, RTM-8, Autopulse® Fire Detection And Control Equipment (Ansul 417471)	654.79	90.34
21 22 16 00-0264	EA Universal Digital Alarm COM/XMTR Module, UDACT, Autopulse® Fire Detection And Control Equipment (Ansul 419411)	1,249.73	182.07
21 22 16 00-0265	EA Ferrite Core For Transmitter/Relay Modules, Autopulse® Fire Detection And Control Equipment (Ansul 419635)	33.33	4.72
21 22 16 00-0266	Vesda® Aspirating Smoke Detection System (21 22 16 00-0001)		
21 22 16 00-0267	Batteries And Power Supplies, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0268	EA Transformer Only, VSP-TRAN-120, Vesda® Aspirating Smoke Detection System (Ansul 430482)	169.49	22.18
21 22 16 00-0269	EA Battery Cabinet, VBC-001, Vesda® Aspirating Smoke Detection System (Ansul 430379)	407.90	33.44
21 22 16 00-0270	EA 120 Volt AC, Single Zone Power Supply With Housing, VPS-100US-120, Vesda® Aspirating Smoke Detection System (Ansul 430374)	942.36	129.39
21 22 16 00-0271	EA 220 Volt AC, Single Zone Power Supply With Housing, VPS-100US-220, Vesda® Aspirating Smoke Detection System (Ansul 430375)	942.36	129.39
21 22 16 00-0272	EA 120 Volt AC, Multi Zone Power Supply, VPS-300US-120, Vesda® Aspirating Smoke Detection System (Ansul 430376)	1,415.92	194.09
	Note: Includes housing and battery cab.		
21 22 16 00-0273	EA 220 Volt AC, Multi Zone Power Supply, VPS-300US-220, Vesda® Aspirating Smoke Detection System (Ansul 430377)	1,415.92	194.09
	Note: Includes housing and battery cab.		
21 22 16 00-0274	EA 48 Volt DC, Multi Zone Power Supply With Housing, VPS-400US-48, Vesda® Aspirating Smoke Detection System (Ansul 430378)	2,069.96	247.23
21 22 16 00-0275	Blank Plates, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0276	EA Blank Plate Without VESDA Logo, VSP-300, Vesda® Aspirating Smoke Detection System (Ansul 430459)	30.39	4.16
21 22 16 00-0277	EA Blank Plate With VESDA Logo, VSP-000, Vesda® Aspirating Smoke Detection System (Ansul 430458)	45.91	4.16
21 22 16 00-0278	EA Blank Plate, EMC Painted Without Logo, VSP-200, Vesda® Aspirating Smoke Detection System (Ansul 430484)	66.57	7.86
21 22 16 00-0279	EA Single Blank Plate, VRE-001, Vesda® Aspirating Smoke Detection System (Ansul 430446)	103.83	8.78
21 22 16 00-0280	EA Double Blank Plate, VRE-002, Vesda® Aspirating Smoke Detection System (Ansul 430447)	130.30	17.56
21 22 16 00-0281	EA Blank Plate Without FOK LED's And Logo, VSP-100, Vesda® Aspirating Smoke Detection System (Ansul 430480)	241.80	22.18
21 22 16 00-0282	Detectors, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0283	EA LaserPLUS, Detector Only, Enclosure, VLP-000, Vesda® Aspirating Smoke Detection System (Ansul 430350)	7,112.39	1,085.96
	Note: Includes 3 blank plates.		
21 22 16 00-0284	EA LaserPLUS Detector, VLP-012, Vesda® Aspirating Smoke Detection System (Ansul 430354)	9,076.52	1,340.11
	Note: Includes centrally mounted LCD programmer module and standard display.		
21 22 16 00-0285	EA LaserPLUS Detector, VLP-010, Vesda® Aspirating Smoke Detection System (Ansul 430356)	8,206.68	1,224.58
	Note: Includes centrally mounted LCD programmer.		
21 22 16 00-0286	EA 7-Relay Version, LaserSCANNER Detector Only, VLS-200, Vesda® Aspirating Smoke Detection System (Ansul 430357)	11,414.82	1,617.38
21 22 16 00-0287	EA 12-Relay Version, LaserSCANNER Detector Only, VLS-300, Vesda® Aspirating Smoke Detection System (Ansul 430358)	12,017.60	1,709.81
21 22 16 00-0288	EA 7-Relay Version, LaserSCANNER Detector Only, VLS-600, Vesda® Aspirating Smoke Detection System (Ansul 430359)	11,540.19	1,640.48
	Note: Includes 1 fire alarm (any SCT) and OK/FOK LEDs.		
21 22 16 00-0289	EA 12-Relay Version, LaserSCANNER Detector Only, VLS-700, Vesda® Aspirating Smoke Detection System (Ansul 430360)	12,187.86	1,732.91
	Note: Includes 1 fire alarm (any SCT) and OK/FOK LED.		
21 22 16 00-0290	EA 7-Relay, LaserSCANNER Detector Only, VLS-204, Vesda® Aspirating Smoke Detection System (Ansul 430361)	12,535.30	1,802.22
	Note: Includes 2 blank plates and scan display module at far right.		
21 22 16 00-0291	EA 12-Relay, LaserSCANNER Detector, VLS-304, Vesda® Aspirating Smoke Detection System (Ansul 430363)	13,078.62	1,894.65
	Note: Includes 2 blank plates and scanner display.		
21 22 16 00-0292	EA 7-Relay, LaserSCANNER Detector, VLS-214, Vesda® Aspirating Smoke Detection System (Ansul 430365)	13,746.99	1,987.07
	Note: Includes centrally mounted programmer module.		
21 22 16 00-0293	EA 12-Relay, LaserSCANNER Detector, VLS-314, Vesda® Aspirating Smoke Detection System (Ansul 430367)	14,333.69	2,079.49
	Note: Includes centrally mounted LCD programmer module and scanner display module.		
21 22 16 00-0294	EA 12-Relay, LaserSCANNER Detector, VLS-310, Vesda® Aspirating Smoke Detection System (Ansul 430369)	13,473.26	1,894.65
	Note: Includes centrally mounted LCD programmer.		
21 22 16 00-0295	Displays, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0296	EA VRT-200 Display, Standard Version, Vesda® Aspirating Smoke Detection System (Ansul 430381)	2,166.59	254.16
	Note: Includes a remote termination card and 7 relays.		
21 22 16 00-0297	EA VRT-400 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430385)	2,177.21	254.16
	Note: Includes a remote termination card and 7 relays.		
21 22 16 00-0298	EA VRT-600 Display, Standard Version, Vesda® Aspirating Smoke Detection System (Ansul 430383)	1,962.09	231.06
	Note: Includes a remote termination card without relays.		
21 22 16 00-0299	EA VRT-700 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430387)	1,974.42	231.06
	Note: Includes a remote termination card.		
21 22 16 00-0300	EA VRT-800 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430389)	2,440.82	277.27
	Note: Includes a remote termination card and 12 relays.		
21 22 16 00-0301	EA VRT-K00 Display, Compact Version Without Relays, Vesda® Aspirating Smoke Detection System (Ansul 430391)	2,074.03	240.30

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

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0302	EA	VRT-J00 Display, Compact Version With 7 Relays, Vesda® Aspirating Smoke Detection System (Ansul 430393)	.....	2,270.08	269.87
21 22 16 00-0303 Intelligent Addressable Devices, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)					
21 22 16 00-0304	EA	LaserCOMPACT (VN), VESDAnet Version Plus Relay Output, VLC-505, Vesda® Aspirating Smoke Detection System (Ansul 430370)	.....	5,443.93	762.48
21 22 16 00-0305	EA	LaserCOMPACT (RO), Relay Only Version, VLC-500, Vesda® Aspirating Smoke Detection System (Ansul 430372)	.....	4,484.12	609.98
21 22 16 00-0306	EA	Programmer With Remote Termination Card, VRT-100, Vesda® Aspirating Smoke Detection System (Ansul 430380)	.....	1,584.90	231.06
21 22 16 00-0307	EA	VESDAnet Socket, VRT-300, Vesda® Aspirating Smoke Detection System (Ansul 430395)	.....	1,141.53	150.19
21 22 16 00-0308	EA	System Relay Module, VRT-S07, Vesda® Aspirating Smoke Detection System (Ansul 430399)	.....	1,590.67	202.40
21 22 16 00-0309	EA	PC-Link High-Level Interface, VHX-0200, Vesda® Aspirating Smoke Detection System (Ansul 430442)	.....	2,372.27	249.54
Note: Interface connects PC and LaserPLUS system.					
21 22 16 00-0310	EA	Modem Cable, PC-HLI To Modem Connection, VHX-00090, Vesda® Aspirating Smoke Detection System (Ansul 430443)	.....	300.07	37.43
21 22 16 00-0311	EA	Hand-Held Programmer, VHH-1000, Vesda® Aspirating Smoke Detection System (Ansul 430444)	.....	2,007.19	231.06
21 22 16 00-0312	EA	Programmer Module, VSP-001, Vesda® Aspirating Smoke Detection System (Ansul 430460)	.....	1,432.77	191.77
21 22 16 00-0313	EA	VESDAnet Socket Kit, VSP-003, Vesda® Aspirating Smoke Detection System (Ansul 430463)	.....	1,125.35	147.87
21 22 16 00-0314	EA	Standard Display Module, VSP-002, Vesda® Aspirating Smoke Detection System (Ansul 430461)	.....	1,435.08	191.77
21 22 16 00-0315	EA	Scanner Display Module, VSP-004, Vesda® Aspirating Smoke Detection System (Ansul 430464)	.....	1,432.77	191.77
21 22 16 00-0316	EA	Remote Display Module, Compact (VN), VSP-502, Vesda® Aspirating Smoke Detection System (Ansul 430487)	.....	1,417.01	180.23
21 22 16 00-0317	EA	Filter Cartridge, VSP-005, Vesda® Aspirating Smoke Detection System (Ansul 430466)	.....	168.82	16.17
21 22 16 00-0318	EA	Detector Chassis Assembly, VSP-006, Vesda® Aspirating Smoke Detection System (Ansul 430467)	.....	6,846.00	887.25
21 22 16 00-0319	EA	Scanner Chassis Assembly, VSP-009, Vesda® Aspirating Smoke Detection System (Ansul 430470)	.....	11,928.97	1,552.68
21 22 16 00-0320	EA	Aspirator For LaserPLUS And Laser Scanner, VSP-015, Vesda® Aspirating Smoke Detection System (Ansul 430475)	.....	932.37	115.53
21 22 16 00-0321	EA	Filter Cover, VSP-019, Vesda® Aspirating Smoke Detection System (Ansul 430477)	.....	21.23	2.31
21 22 16 00-0322	EA	Cover Screws, 17606, Vesda® Aspirating Smoke Detection System (Ansul 430478)	.....	12.01	0.46
21 22 16 00-0323	EA	US Power Supply Circuit Board Only, VSP-100, Vesda® Aspirating Smoke Detection System (Ansul 430481)	.....	513.53	67.00
21 22 16 00-0324	EA	Relay Processor Module (DRP), VSP-102, Vesda® Aspirating Smoke Detection System (Ansul 430483)	.....	622.15	81.33
21 22 16 00-0325	EA	Aspirator, LaserCOMPACT, VSP-501, Vesda® Aspirating Smoke Detection System (Ansul 430486)	.....	898.10	117.84
21 22 16 00-0326	EA	RO-Cable For LaserCOMPACT Relay Only, (RO) Version, VSP-509, Vesda® Aspirating Smoke Detection System (Ansul 430488)	.....	132.33	17.56
21 22 16 00-0327	EA	Miniature Sampling Point, E700-SP, Vesda® Aspirating Smoke Detection System (Ansul 430502)	.....	20.64	3.70
21 22 16 00-0328 Labels And Decals, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)					
21 22 16 00-0329	EA	Sampling Point Labels, Roll Of 35, E700-SP-DCL-PIPE, Vesda® Aspirating Smoke Detection System (Ansul 430509)	.....	18.77	2.77
21 22 16 00-0330	EA	Round Point Label, Roll Of 50, E700-SP-DCL-PNT, Vesda® Aspirating Smoke Detection System (Ansul 430505)	.....	19.70	3.23
21 22 16 00-0331	EA	Red, Round, Miniature Sampling Point Label, Sheet Of 12, E700-SPLR, Vesda® Aspirating Smoke Detection System (Ansul 430506)	.....	30.39	4.16
21 22 16 00-0332	EA	Grey, Round, Miniature Sampling Point Label, Sheet Of 12, E700-SPLG, Vesda® Aspirating Smoke Detection System (Ansul 430507)	.....	30.43	4.16
21 22 16 00-0333	EA	Sampling Point Decal, Wrap-Around Style, Roll Of 200, E700-SP-DCL, Vesda® Aspirating Smoke Detection System (Ansul 430508)	.....	110.31	15.71
21 22 16 00-0334 Mounting Hardware, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)					
21 22 16 00-0335	EA	Remote Mounting Single Box With Escutcheon Only, VKT-000, Vesda® Aspirating Smoke Detection System (Ansul 430456)	.....	272.57	33.27
21 22 16 00-0336	EA	Recessed Mounting Kit For Remote Single Boxes, VSP-012, Vesda® Aspirating Smoke Detection System (Ansul 430472)	.....	367.24	44.36
21 22 16 00-0337	EA	Recessed Mounting Kit For VLP Or VLS Detector, VSP-011, Vesda® Aspirating Smoke Detection System (Ansul 430471)	.....	375.64	48.53
21 22 16 00-0338	EA	Remote 19 Sub Rack With 4 Blank Plates, VSR-0000, Vesda® Aspirating Smoke Detection System (Ansul 430457)	.....	914.91	69.31
21 22 16 00-0339	EA	Sub Rack Enclosure, VRE-100, Vesda® Aspirating Smoke Detection System (Ansul 430445)	.....	1,345.31	152.50
21 22 16 00-0340 Pipe And Fittings, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)					
21 22 16 00-0341	LF	3/4" Orange Chlorinated Polyvinyl Chloride (CPVC) Pipe, Vesda® Aspirating Smoke Detection System (Ansul 430491)	.....	5.83	1.76
21 22 16 00-0342	EA	3/4", End Cap, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430497)	.....	10.00	3.53
21 22 16 00-0343	EA	3/4", 45 Degree Elbow, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430494)	.....	27.59	10.57
21 22 16 00-0344	EA	3/4", 90 Degree Elbow, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430493)	.....	28.46	10.57
21 22 16 00-0345	EA	3/4", Coupling, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430495)	.....	19.59	7.04
21 22 16 00-0346	EA	3/4", Union, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430496)	.....	31.49	10.57
21 22 16 00-0347	EA	3/4", Tee, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430498)	.....	42.34	15.85
21 22 16 00-0348	EA	3/4" x 1/2" FPT, Tee, Chlorinated Polyvinyl Chloride (CPVC), Vesda® Aspirating Smoke Detection System (Ansul 430499)	.....	52.84	18.60
21 22 16 00-0349	LF	1/2" OD x 3/8" ID, Black Polyethylene Tubing, Vesda® Aspirating Smoke Detection System (Ansul 430500)	.....	4.91	1.67
21 22 16 00-0350	EA	Pipe Adapters, Metric-To-Imperial, VSP-021, Vesda® Aspirating Smoke Detection System (Ansul 430479)	.....	19.65	5.08



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0351	EA		Capillary Kit, 1 Male 1/2" TH x 1/2" OD, 1 Female 1/2" OD, Plastic, E700-CAP KIT, Vesda® Aspirating Smoke Detection System (Ansul 430503)	24.03	3.70
21 22 16 00-0352	EA		Capillary Kit, 1 Male 1/2" TH x 1/2" OD, 1 Female 1/2" OD, Brass, Vesda® Aspirating Smoke Detection System (Ansul 430504)	34.47	5.08
21 22 16 00-0353			Remote Termination And Relay Cards, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0354	EA		VRT-500, Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430396)	1,573.83	177.45
			Note: Remote box includes 7 relays for VLP/VLC.		
21 22 16 00-0355	EA		VN, Compact Termination Card, VSP-515, Vesda® Aspirating Smoke Detection System (Ansul 430490)	1,603.84	204.26
21 22 16 00-0356	EA		12-Relay, Remote Termination Card, VSP-208, Vesda® Aspirating Smoke Detection System (Ansul 430485)	970.76	124.77
21 22 16 00-0357	EA		RO, Compact Termination Card, VSP-510, Vesda® Aspirating Smoke Detection System (Ansul 430489)	1,109.25	140.94
21 22 16 00-0358	EA		VRT-501, Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430397)	1,573.83	177.45
			Note: Remote box includes 7 relays for VLS.		
21 22 16 00-0359	EA		VRT-900 Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430398)	1,899.36	204.26
			Note: Remote box includes 12 relays for VLS.		
21 22 16 00-0360	EA		Remote Termination Card Without Relay, VSP-007, Vesda® Aspirating Smoke Detection System (Ansul 430468)	538.71	62.84
21 22 16 00-0361	EA		Remote Termination Card (RTC7), VSP-008, Vesda® Aspirating Smoke Detection System (Ansul 430469)	810.24	96.12
21 22 16 00-0362	EA		7-Relay, Head Termination Card, VSP-014, Vesda® Aspirating Smoke Detection System (Ansul 430474)	1,525.70	198.71
21 22 16 00-0363	EA		12-Relay, Head Termination Card, VSP-016, Vesda® Aspirating Smoke Detection System (Ansul 430476)	2,238.22	291.13
21 22 16 00-0364			Preferred® Low Pressure CO2 System (21 22 16 00-0001)		
21 22 16 00-0365			Manual Pull Stations, Preferred® Low Pressure CO2 System (21 22 16 00-0364)		
21 22 16 00-0366	EA		Addressable, DPST, Dual Action Pull Station, Preferred® Low Pressure CO2 System (Ansul 428658)	120.82	16.17
			Note: Excludes FMM-101.		
21 22 16 00-0367	EA		Weatherproof Backbox For Manual Pull Stations, Preferred® Low Pressure CO2 System (Ansul 428659)	90.37	12.01
21 22 16 00-0368			Industrial Fire Control System (21 22 16 00-0001)		
21 22 16 00-0369			Alarm Devices, Industrial Fire Control System (21 22 16 00-0368)		
21 22 16 00-0370	EA		Explosion Proof Alarm Horn, Alarm Devices, Industrial Fire Control System (Ansul 65947)	2,923.77	426.30
21 22 16 00-0371	EA		6", 115 Volt AC Alarm Bell For Release Systems, Alarm Devices, Industrial Fire Control System (Ansul 24751)	89.49	9.79
21 22 16 00-0372	EA		24 Volt AC, Multitone Horn, Alarm Devices, Industrial Fire Control System (Ansul 429697)	88.32	12.71
21 22 16 00-0373	EA		Weatherproof Surface Back Box For Horn And Strobe, Alarm Devices, Industrial Fire Control System (Ansul 429700)	52.61	7.63
21 22 16 00-0374	EA		Semi-Flush Plate, Alarm Devices, Industrial Fire Control System (Ansul 429701)	21.50	3.09
21 22 16 00-0375			Manual Pull Stations, Industrial Fire Control System (21 22 16 00-0368)		
21 22 16 00-0376	EA		SPST, Dual Action Pull Station, Industrial Fire Control System (Ansul 428655)	99.83	13.40
21 22 16 00-0377	EA		DPST, Dual Action Pull Station, Industrial Fire Control System (Ansul 428656)	140.76	18.94
21 22 16 00-0378	EA		Explosion Proof, DPDT, Dual Action Pull Station, Industrial Fire Control System (Ansul 428657)	1,098.96	148.80
21 22 16 00-0379	EA		Surface Mounted Backbox For Manual Pull Stations, Industrial Fire Control System (Ansul 428660)	31.95	4.30
21 22 16 00-0380	EA		Extra Pull Station Labels For Manual Pull Stations, Industrial Fire Control System (Ansul 428654)	14.32	1.91
21 22 16 00-0381			Marine Fire Control System (21 22 16 00-0001)		
21 22 16 00-0382			Alarm Devices, Marine Fire Control System (21 22 16 00-0381)		
21 22 16 00-0383	EA		Weatherproof Surface Mount Back Box For Alarm Accessories, Alarm Devices, Marine Fire Control System (Ansul 24747)	57.91	7.76
21 22 16 00-0384	EA		6", 24 Volt DC, Alarm Bell, Alarm Devices, Marine Fire Control System (Ansul 417805)	106.69	15.02
21 22 16 00-0385	EA		10", 24 Volt DC, Alarm Bell, Alarm Devices, Marine Fire Control System (Ansul 417806)	106.69	15.02
21 22 16 00-0386			FM200 System Equipment (21 22 16)		
21 22 16 00-0387	EA		26 LB Cylinder, Filled, For FM200 Fire Protection system	3,613.07	111.47
21 22 16 00-0388	EA		44 LB Cylinder, Filled, For FM200 Fire Protection system	5,186.34	127.63
21 22 16 00-0389	EA		63 LB Cylinder, Filled, For FM200 Fire Protection system	6,156.62	150.48
21 22 16 00-0390	EA		101 LB Cylinder, Filled, For FM200 Fire Protection system	8,164.25	178.34
21 22 16 00-0391	EA		196 LB Cylinder, Filled, For FM200 Fire Protection system	12,773.65	222.93
21 22 16 00-0392	EA		Electro/Mechanical Release, For FM200 Fire Protection system	754.06	222.93
21 22 16 00-0393	EA		Manual Pull Station, For FM200 Fire Protection system	263.80	74.13
21 22 16 00-0394	EA		Pneumatic Damper Release, For FM200 Fire Protection system	329.77	55.73
21 22 16 00-0395	LB		FM200 Gas	27.91	
21 22 16 00-0396	EA		Master Cylinder, For FM200 Fire Protection system	5,922.04	59.97
21 22 16 00-0397	EA		Shuttle Check Valve, For FM200 Fire Protection system	834.43	83.82
21 22 16 00-0398	EA		Flex Head Cylinder, For FM200 Fire Protection system	830.17	89.84
21 22 16 00-0399	EA		Nozzles, For FM200 Fire Protection system	204.81	31.77
21 22 16 00-0400	EA		Cylinder Support, For FM200 Fire Protection system	235.11	59.97
21 22 16 00-0401	EA		Solenoid Valve, For FM200 Fire Protection system	1,081.28	89.84
21 22 16 00-0402	EA		Battery Back-Up, For FM200 Fire Protection system	778.53	236.97
21 22 16 00-0403	EA		Control Panel, Single Zone, For FM200 Fire Protection system	4,229.07	445.19
21 22 16 00-0404	EA		Control Panel, Multi Zone, For FM200 Fire Protection system	6,816.72	891.39

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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

21 22 16 00-0405	EA	Smoke Or Heat Detector, For FM200 Fire Protection system.....	328.34	89.84
21 22 16 00-0406	EA	Annunciator, For FM200 Fire Protection system.....	3,429.78	337.41
21 22 16 00-0407	EA	Pressure Switch, For FM200 Fire Protection system.....	357.96	89.84
21 22 16 00-0408	EA	Alarm Horn, For FM200 Fire Protection system.....	325.48	89.84
21 22 16 00-0409	EA	Testing, For FM200 Fire Protection system.....	1,533.56	
21 22 16 00-0410	EA	Abort Switch, For FM200 Fire Protection system.....	229.30	41.79

21 23 Wet-Chemical Fire-Extinguishing Systems (21 20)

21 23 16 Wet-Chemical Fire-Extinguishing Equipment (21 23)

21 23 16 00-0001		Kidde Fire Systems (21 23 16) Note: Kidde or equal.		
21 23 16 00-0002		Cylinders And Hardware (21 23 16 00-0001)		
21 23 16 00-0003	EA	125 Cylinder And Valve Assembly With 1.25 Gallon Of Wet Agent.....	909.74	92.34
21 23 16 00-0004	EA	260 Cylinder And Valve Assembly With 2.6 Gallon Of Wet Agent.....	1,045.07	115.02
21 23 16 00-0005	EA	400S And M Cylinder And Valve Assembly With 4 Gallon Of Wet Agent.....	1,280.58	141.90
21 23 16 00-0006	EA	600 And L Cylinder And Valve Assembly With 6 Gallon Of Wet Agent.....	1,512.17	168.37
21 23 16 00-0007	EA	Discharge Adapter Kit (One Required Per Cylinder).....	50.99	4.83
21 23 16 00-0008	EA	System Valve Actuator.....	183.16	19.19
21 23 16 00-0009	EA	Vent Plug.....	34.35	3.90
21 23 16 00-0010	EA	Gauge Shield.....	93.03	10.26
21 23 16 00-0011	EA	125 Cylinder Wall Mounting Bracket.....	94.38	10.26
21 23 16 00-0012	EA	260 Cylinder Wall Mounting Bracket.....	100.05	10.87
21 23 16 00-0013	EA	400S And M Cylinder Wall Mounting Bracket.....	190.18	20.52
21 23 16 00-0014	EA	600 And 400M Cylinder Shelf Bracket.....	186.85	23.29
21 23 16 00-0015	EA	600 And 400M Cylinder Floor Mounting Kit.....	276.66	23.35
21 23 16 00-0016	EA	125 And 260 Cylinder Replacement Bracket Strap.....	37.19	
21 23 16 00-0017	EA	400 And 600 Cylinder Replacement Bracket Strap.....	39.27	

21 23 16 00-0018		Nozzles And Accessories (21 23 16 00-0001)		
21 23 16 00-0019	EA	ADP, F, GRW Or R Nozzle.....	84.64	9.44
21 23 16 00-0020	EA	LPF Or DM Nozzle.....	92.02	9.44
21 23 16 00-0021	EA	LPR Nozzle.....	107.23	9.44
21 23 16 00-0022	EA	3/8" Swivel Adapter For Nozzles.....	63.51	6.67
21 23 16 00-0023	EA	Removal And Replacement Of Nozzle Seals.....	10.01	
21 23 16 00-0024	EA	Chrome Nozzle Disc Cap.....	6.17	0.61
21 23 16 00-0025	EA	LPR Nozzle Disc Cap.....	35.34	9.39

21 23 16 00-0026		Control Systems (21 23 16 00-0001)		
21 23 16 00-0027	EA	XV Control System..... Note: Includes (1) SVA, (1) system cartridge, (1) test cartridge, (1) EMT connector kit, (1) SPDT microswitch kit, and (1) SPDT microswitch kit.	1,181.82	61.56
21 23 16 00-0028	EA	7-1/2" High Pressure Hose (Required for cylinder mounted XV Control System).....	99.25	10.26
21 23 16 00-0029	EA	24" High Pressure Hose.....	117.89	10.26
21 23 16 00-0030	EA	60" High Pressure Hose.....	159.33	10.26
21 23 16 00-0031	EA	XV Solenoid Kit (Electric Actuator), 24 Volt DC.....	229.57	20.52
21 23 16 00-0032	EA	XV Microswitch Kit, SPDT.....	75.23	9.64
21 23 16 00-0033	EA	XV Microswitch Kit, SPDT, Terminal Type, For Alarm/Release.....	81.44	9.64
21 23 16 00-0034	EA	EMT Connector Kit (EMT Connector And O-Ring).....	31.96	7.70
21 23 16 00-0035	EA	KRS-50 Control Box Assembly..... Note: Includes (1) SVA, (2) CO2 cartridges, (2) set screws, (1) grommet, (1) cover label, and (1) exhaust fan caution label.	663.76	39.76
21 23 16 00-0036	EA	SPDT Microswitch For KRS-50.....	88.67	9.64
21 23 16 00-0037	EA	DPDT Microswitch For KRS-50.....	160.46	16.73
21 23 16 00-0038	EA	SPDT Pressure Switch (Fire Department Tie-In).....	492.65	53.66

21 23 16 00-0039		Mechanical Actuation Components (21 23 16 00-0001)		
21 23 16 00-0040	EA	Universal Detector Link Housing Kit, Mechanical Actuation Systems..... Note: Includes (1) bracket (11-3/4"), (2) "S" hook, and (2) cable crimp sleeves.	55.88	15.39
21 23 16 00-0041	EA	XV Low Profile Link Detector Housing Kit..... Note: Includes (1) bracket, (2) 1/2" EMT connectors, (4) cable crimp sleeves, and (1) S hook.	84.65	15.39
21 23 16 00-0042	EA	XV Or KRS-50 Remote Manual Release, Combination Pull-To-Trip/Release-To-Trip.....	235.99	10.26
21 23 16 00-0043	EA	XV Remote Manual Release, Pull-To-Trip.....	180.05	10.26
21 23 16 00-0044	EA	Corner Pulley, Mechanical Actuation Systems.....	24.73	2.77
21 23 16 00-0045	EA	Double Tee Pulley, Mechanical Actuation Systems.....	342.41	16.93
21 23 16 00-0046	EA	In-Line Tee Pulley, Mechanical Actuation Systems.....	41.45	4.51
21 23 16 00-0047	EA	Corner Pulley / Quik-Seal Adapter Combination.....	95.20	5.13
21 23 16 00-0048	LF	1/16" Cable, Mechanical Actuation Systems.....	2.52	1.03
21 23 16 00-0049	EA	Cable Clamp.....	13.46	0.51
21 23 16 00-0050	EA	Cable Crimp Sleeve, Mechanical Actuation Systems.....	1.63	0.41
21 23 16 00-0051	EA	"S" Hook, Mechanical Actuation Systems.....	1.57	0.41
21 23 16 00-0052	EA	1/2" EMT x 3/8" NPT Adapter, Mechanical Actuation Systems.....	88.43	9.54

21 23 16 00-0053		Mechanical Detection Links (21 23 16 00-0001)		



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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 23 16 00-0054	EA	KGS Standard Response Link.....	18.82	5.13
21 23 16 00-0055	EA	KGS Rapid Response Link.....	27.39	5.13
21 23 16 00-0056	EA	KFA Type "A" Fusible Link.....	23.55	5.13
21 23 16 00-0057	EA	KML Type "ML" Fusible Link.....	24.76	5.13
21 23 16 00-0058	EA	500 Degree, KML Type "ML" Fusible Link.....	37.19	5.13
21 23 16 00-0059 Gas Valves (21 23 16 00-0001)				
21 23 16 00-0060	EA	3/4" NPT Mechanical Cable Operated Gas Shut-off Valve.....	400.16	22.16
21 23 16 00-0061	EA	1" NPT Mechanical Cable Operated Gas Shut-off Valve.....	435.57	27.30
21 23 16 00-0062	EA	1-1/4" NPT Mechanical Cable Operated Gas Shut-off Valve.....	500.20	34.47
21 23 16 00-0063	EA	1-1/2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	548.89	39.71
21 23 16 00-0064	EA	2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	592.84	46.89
21 23 16 00-0065	EA	2-1/2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	983.11	68.54
21 23 16 00-0066	EA	3" NPT Mechanical Cable Operated Gas Shut-off Valve.....	1,097.79	79.31
21 23 16 00-0067	EA	Pneumatic Release (Single Unit).....	454.56	25.04
21 23 16 00-0068	EA	Removal And Replacement Of Cable Block And Set Screw Assembly For Gas Valve.....	60.97	
21 23 16 00-0069	EA	1/2" Electric Solenoid Gas Shut-off Valve.....	417.74	20.63
21 23 16 00-0070	EA	3/4" Electric Solenoid Gas Shut-off Valve.....	420.83	22.16
21 23 16 00-0071	EA	1" Electric Solenoid Gas Shut-off Valve.....	649.68	27.30
21 23 16 00-0072	EA	1-1/4" Electric Solenoid Gas Shut-off Valve.....	687.73	34.47
21 23 16 00-0073	EA	1-1/2" Electric Solenoid Gas Shut-off Valve.....	789.57	39.71
21 23 16 00-0074	EA	2" Electric Solenoid Gas Shut-off Valve.....	1,015.15	46.89
21 23 16 00-0075	EA	2-1/2" Electric Solenoid Gas Shut-off Valve.....	1,678.59	68.54
21 23 16 00-0076	EA	3" Electric Solenoid Gas Shut-off Valve.....	2,109.26	79.31
21 23 16 00-0077	EA	Manual Reset Relay.....	568.04	103.11
21 23 16 00-0078 Liquid Tight Sealing Adapters (21 23 16 00-0001)				
21 23 16 00-0079	EA	3/8" Tubing, Compression Seal Adapter.....	45.53	4.31
21 23 16 00-0080	EA	1/2" Tubing, 1/4" Pipe, Compression Seal Adapter.....	44.81	4.72
21 23 16 00-0081	EA	5/8" Tubing, 3/8" Pipe, Compression Seal Adapter.....	52.60	5.64
21 23 16 00-0082	EA	3/4" Tubing, 1/2" Pipe, Compression Seal Adapter.....	60.75	6.06
21 23 16 00-0083	EA	1/2" Electrical Metallic Tubing (EMT), Compression Seal Adapter.....	52.60	5.64
21 23 16 00-0084	EA	3/8" NPT Female, Quik-Seal Adapter.....	44.81	4.72
21 23 16 00-0085	EA	1/2" NPT Female, Quik-Seal Adapter.....	44.81	4.72
21 23 16 00-0086	EA	3/4" NPT Female, Quik-Seal Adapter.....	73.56	8.00
21 23 16 00-0087	EA	1" NPT Female, Quik-Seal Adapter.....	97.94	10.57
21 23 16 00-0088	EA	Quik-Patch For Hole Patching Up To 1-1/8" Diameter.....	44.81	
21 23 16 00-0089 Pressure Operated Releasing Systems (21 23 16 00-0001)				
21 23 16 00-0090	EA	KRS-100 Nitrogen Cylinder.....	326.25	30.99
21 23 16 00-0091	EA	KRS-100 Actuator Assembly.....	292.05	31.60
21 23 16 00-0092	EA	KRS-100 Mounting Bracket.....	231.08	7.80
21 23 16 00-0093	EA	KRS-700S Nitrogen Cylinder.....	838.73	89.37
21 23 16 00-0094	EA	KRS-700 Mounting Bracket.....	178.53	19.09
21 23 16 00-0095	EA	KRS-700S Discharge Adapter Kit.....	271.37	19.09
21 23 16 00-0096	EA	Check Valve, Pressure Operated Releasing Systems.....	269.22	13.54
21 23 16 00-0097	EA	Vent Check, Pressure Operated Releasing Systems.....	82.30	8.62
21 23 16 00-0098	EA	Removal And Replacement Of Receiver Gasket For KRS-100 Actuator Assembly.....	10.87	
21 23 16 00-0099	EA	3 Pole, Double Throw Pressure Switch.....	672.26	71.83
21 23 16 00-0100 Pyro-Chem Kitchen Fire Suppression Systems (21 23 16)				
21 23 16 00-0101 Cylinders, Kitchen Fire Suppression Systems (21 23 16 00-0100)				
21 23 16 00-0102	EA	3.0 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551194).....	870.59	72.85
21 23 16 00-0103	EA	4.6 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551193).....	1,254.03	104.97
21 23 16 00-0104	EA	6.0 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551196).....	1,645.87	143.54
21 23 16 00-0105	EA	Cylinder Mounting Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550053).....	178.07	17.13
21 23 16 00-0106	EA	Enclosure With Mechanical Control Unit, Kitchen Fire Suppression Systems (Pyro-Chem 551208).....	1,172.43	112.04
21 23 16 00-0107	EA	Enclosure For Secondary Cylinders, Kitchen Fire Suppression Systems (Pyro-Chem 550966).....	715.84	68.34
21 23 16 00-0108 Fusible Links, Kitchen Fire Suppression Systems (21 23 16 00-0100)				
21 23 16 00-0109	EA	165 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551522).....	23.12	2.26
21 23 16 00-0110	EA	212 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551523).....	23.12	2.26
21 23 16 00-0111	EA	280 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551524).....	23.68	2.26
21 23 16 00-0112	EA	360 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551525).....	23.12	2.26
21 23 16 00-0113	EA	450 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551526).....	23.12	2.26
21 23 16 00-0114	EA	500 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551527).....	25.17	2.26
21 23 16 00-0115	EA	Fusible Link Kit With 10" Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550131).....	40.04	3.80
21 23 16 00-0116	EA	Fusible Link Kit With 8" Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550132).....	51.97	5.03
21 23 16 00-0117	EA	Fusible Link Hanger, Kitchen Fire Suppression Systems (Pyro-Chem 550876).....	60.62	25.96
21 23 16 00-0118	EA	225 To 600 Fahrenheit, Electrical Thermal Detector, Kitchen Fire Suppression Systems (Pyro-Chem 13970-6).....	498.55	57.77
21 23 16 00-0119 Gas Valves, Kitchen Fire Suppression Systems (21 23 16 00-0100)				
21 23 16 00-0120	EA	3/4" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550593).....	420.42	22.16

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 23 16 00-0121 EA 1" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550594).....	478.56	27.30
21 23 16 00-0122 EA 1-1/4" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550595).....	515.77	34.47
21 23 16 00-0123 EA 1-1/2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550596).....	567.10	39.60
21 23 16 00-0124 EA 2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 551049).....	652.17	46.79
21 23 16 00-0125 EA 2-1/2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550185).....	1,525.26	68.44
21 23 16 00-0126 EA 3" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550186).....	1,626.63	79.21
21 23 16 00-0127 EA 3/4" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550358).....	329.20	22.16
21 23 16 00-0128 EA 1" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550359).....	562.93	27.30
21 23 16 00-0129 EA 1-1/4" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550360).....	586.44	34.47
21 23 16 00-0130 EA 1-1/2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550361).....	667.41	39.60
21 23 16 00-0131 EA 2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550362).....	925.77	46.79
21 23 16 00-0132 EA 2-1/2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550363).....	1,794.27	68.44
21 23 16 00-0133 EA 3" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 17643).....	1,891.12	79.21
21 23 16 00-0134 Nozzles, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0135 EA Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem).....	82.92	7.60
21 23 16 00-0136 EA Swivel Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem).....	117.95	9.64
21 23 16 00-0137 EA Stainless Steel Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem).....	459.84	9.64
21 23 16 00-0138 Actuating Cylinders/Cartridges, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0139 EA Carbon Dioxide Actuation Cartridge, Kitchen Fire Suppression Systems (Pyro-Chem 551059).....	30.59	2.97
21 23 16 00-0140 EA PAC-10, Pneumatic Actuating Cylinder, Kitchen Fire Suppression Systems (Pyro-Chem 550104).....	1,002.13	96.34
21 23 16 00-0141 EA PAC-200, Pneumatic Actuating Cylinder, Kitchen Fire Suppression Systems (Pyro-Chem 550690).....	1,276.92	123.23
21 23 16 00-0142 Circuit Monitors, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0143 EA 24 Volt DC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550303).....	655.08	63.10
21 23 16 00-0144 EA 120 Volt AC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550302).....	790.44	76.03
21 23 16 00-0145 Control Heads, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0146 EA Mechanical Control Head, No Local Action, Kitchen Fire Suppression Systems (Pyro-Chem 551203).....	722.76	69.57
21 23 16 00-0147 EA Mechanical Control Head With Local Action, Kitchen Fire Suppression Systems (Pyro-Chem 551200).....	754.31	72.74
21 23 16 00-0148 EA 24 Volt DC, Electrical Control Head With Local Actuation, Kitchen Fire Suppression Systems (Pyro-Chem 551201).....	982.61	94.60
21 23 16 00-0149 EA 120 Volt AC Electrical Control Head With Local Actuation, Kitchen Fire Suppression Systems (Pyro-Chem 551202).....	1,127.17	108.76
21 23 16 00-0150 EA Control Head Mounting Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550853).....	91.55	8.83
21 23 16 00-0151 Corner Pulleys/Tees, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0152 EA Set Screw Type, Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 415670).....	23.02	1.44
21 23 16 00-0153 EA Compression Type, Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 423250).....	23.67	1.84
21 23 16 00-0154 EA Tee Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 550166).....	73.41	7.08
21 23 16 00-0155 EA Removal And Replacement Of Screw For Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 550272).....	0.92	
21 23 16 00-0156 Switches, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0157 EA SPDT Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550227).....	79.84	7.70
21 23 16 00-0158 EA DPDT Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550237).....	159.92	15.29
21 23 16 00-0159 EA Four Pole Double Throw Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550978).....	338.44	32.43
21 23 16 00-0160 Wire Rope/Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0161 LF 1/16" Diameter Stainless Steel Wire Rope, Kitchen Fire Suppression Systems (Pyro-Chem 15821).....	1.62	0.31
21 23 16 00-0162 EA Crimps For 1/16" Diameter Stainless Steel Wire Rope, Kitchen Fire Suppression Systems (Pyro-Chem 550122).....	0.94	0.31
21 23 16 00-0163 EA High Temperature Stainless Steel Crimps, Kitchen Fire Suppression Systems (Pyro-Chem 551551).....	3.98	0.41
21 23 16 00-0164 EA "S" Hooks, Kitchen Fire Suppression Systems (Pyro-Chem 550121).....	0.66	
21 23 16 00-0165 Replacement Parts, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0166 EA Wet Valve Rebuilding Kit, Kitchen Fire Suppression Systems (Pyro-Chem 550698).....	75.84	7.39
21 23 16 00-0167 EA Wet Valve Cap With Schrader Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550831).....	79.18	7.70
21 23 16 00-0168 EA Wet Spring, Kitchen Fire Suppression Systems (Pyro-Chem 550705).....	9.28	0.93
21 23 16 00-0169 EA 225 psi, Wet Gauge, Kitchen Fire Suppression Systems (Pyro-Chem 551236).....	108.98	10.06
21 23 16 00-0170 EA Wet Valve O-ring, Kitchen Fire Suppression Systems (Pyro-Chem 550716).....	15.26	1.44
21 23 16 00-0171 EA Wet Piston, Kitchen Fire Suppression Systems (Pyro-Chem 550707).....	21.24	2.06
21 23 16 00-0172 EA Wet Piston O-Ring, Kitchen Fire Suppression Systems (Pyro-Chem 550715).....	9.28	0.93
21 23 16 00-0173 EA Wet Nozzle Cap, Kitchen Fire Suppression Systems (Pyro-Chem 551528).....	13.07	1.23
21 23 16 00-0174 EA Wet Nozzle Strainer, Kitchen Fire Suppression Systems (Pyro-Chem 551529).....	12.78	1.23
21 23 16 00-0175 EA Wet Nozzle Cap O-Ring, Kitchen Fire Suppression Systems (Pyro-Chem 551530).....	3.65	0.31
21 23 16 00-0176 EA Removal And Replacement Of Teflon Washer For Control Head Actuator, Kitchen Fire Suppression Systems (Pyro-Chem 550257).....	6.19	
21 23 16 00-0177 EA O-Ring Lubrication, Kitchen Fire Suppression Systems (Pyro-Chem 550063).....	118.28	
21 23 16 00-0178 EA 3.0 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 551024).....	807.62	
21 23 16 00-0179 EA 4.6 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 550902).....	1,047.54	



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 23 16 00-0180 EA 6.0 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 550901)	1,209.41	
21 23 16 00-0181 Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0182 EA 3/8" Quickseal Adapter, Kitchen Fire Suppression Systems (Pyro-Chem 550857)	37.15	3.49
21 23 16 00-0183 EA 1/2" Quickseal Adapter, Kitchen Fire Suppression Systems (Pyro-Chem 550859)	38.48	3.70
21 23 16 00-0184 EA Wet Valve Tool, Kitchen Fire Suppression Systems (Pyro-Chem 550788)	74.11	7.08
21 23 16 00-0185 EA Recharge Adapter Kit, Kitchen Fire Suppression Systems (Pyro-Chem 551240)	104.86	
21 23 16 00-0186 EA 3.0 Gallon Of Wet Chemical For Recharge, Kitchen Fire Suppression Systems (Pyro-Chem 551186)	225.41	
21 23 16 00-0187 Pull Stations/Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0188 EA Mechanical, Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 551074)	149.70	14.47
21 23 16 00-0189 EA Electric, Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 551166)	159.23	20.31
21 23 16 00-0190 EA Trim Ring For Flush Mounting Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 550088)	40.04	3.80
21 23 16 00-0191 EA Glass Rods For Pull Stations, Kitchen Fire Suppression Systems (Pyro-Chem 428661)	5.23	1.33
21 23 16 00-0192 Asco Gas Valve Control Panels (21 23 16)		
21 23 16 00-0193 EA Relay Control Panel For AC Solenoid Valves (Asco 108D90C)	2,500.93	225.73
21 23 16 00-0194 EA Relay Control Panel For DC Solenoid Valves (Asco 108D10C)	2,586.01	225.73
21 23 16 00-0195 EA Master Control Station For Relay Control Panel For DC Solenoid Valves (Asco 216C89)	846.87	51.30
21 23 16 00-0196 EA Emergency Stop Station For Relay Control Panel (Asco 173A19)	791.29	51.30
21 24 Dry-Chemical Fire-Extinguishing Systems (21 20)		
21 24 16 Dry-Chemical Fire-Extinguishing Equipment (21 24)		
21 24 16 00-0001 Amerex KP Restaurant Fire Suppression Systems (21 24 16)		
Note: Amerex or equal.		
21 24 16 00-0002 EA 3.75 Gallon, Charged, Agent Cylinder Assembly With Discharge Valve	568.18	79.63
21 24 16 00-0003 EA 6 Gallon, Charged, Agent Cylinder Assembly With Discharge Valve	791.33	100.38
21 24 16 00-0004 EA Recharge - KP Liquid Agent (3.75 Gallon)	187.94	
21 24 16 00-0005 EA Recharge - KP Liquid Agent (6 Gallon)	330.38	
21 24 16 00-0006 EA 3.75 Gallon, Bracket Assembly Agent Cylinder With Distribution Hose Assembly And Distribution Outlet	131.56	16.71
21 24 16 00-0007 EA 6 Gallon, Bracket Assembly Agent Cylinder	76.64	9.69
21 24 16 00-0008 EA 6 Gallon, 3/4 NPT, Agent Cylinder Discharge Adapter Kit	33.24	
21 24 16 00-0009 EA 6 Gallon, Pneumatic Actuator, Agent Cylinder	131.56	16.71
21 24 16 00-0010 EA MRM Actuator (Less N2 Cylinder And Enclosure)	330.38	41.90
21 24 16 00-0011 EA Painted Steel, MRM Enclosure	176.07	22.29
21 24 16 00-0012 EA Stainless Steel, MRM Enclosure	214.46	22.29
21 24 16 00-0013 EA Stainless Steel, Single Cylinder System Cabinet	524.26	66.51
21 24 16 00-0014 EA N2 - 1/4" x 16" Actuation Hose	39.56	5.02
21 24 16 00-0015 EA 10 CU. Inch, Nitrogen Cylinder	176.08	22.29
Note: Use For 1-10 Agent Cylinders		
21 24 16 00-0016 EA Vent Check	31.66	4.01
21 24 16 00-0017 EA Detector	23.74	3.01
Note: Includes bracket, linkage and conduit fittings.		
21 24 16 00-0018 EA 280 To 450 Degree F, Fusible Link	8.90	1.12
21 24 16 00-0019 EA Test Link	2.92	
21 24 16 00-0020 EA Corner Pulley	12.26	1.56
21 24 16 00-0021 EA 1/16", 500 Foot Spool, Cable	197.82	25.07
21 24 16 00-0022 EA Pulley Tee	89.02	11.25
21 24 16 00-0023 EA Manual Pull Station (Standard)	79.12	10.03
21 24 16 00-0024 EA Manual Pull Station, Adapter Kit (Recess Standard Pull Station)	37.12	4.68
21 24 16 00-0025 EA Manual Pull Station (Oversized)	88.23	11.14
21 24 16 00-0026 EA Conduit Offset	17.60	2.23
21 24 16 00-0027 EA 3/8" Pipe Thread, Seal (Quick-Seal)	24.26	3.12
21 24 16 00-0028 EA 1/2" Pipe Thread, Seal (Quick-Seal)	19.79	2.56
21 24 16 00-0029 EA 3/8" Pipe Compression Seal	33.04	4.23
21 24 16 00-0030 EA 1/2" Pipe Compression Seal	33.04	4.23
21 24 16 00-0031 EA Cap, Nozzle Blow-Off (Standard)	9.46	2.90
21 24 16 00-0032 EA Cap, Nozzle Blow-Off (High Temperature)	22.01	2.90
21 24 16 00-0033 EA 2 Flow Points, Fryer/Griddle Nozzle	39.56	5.02
21 24 16 00-0034 EA 1 Flow Point Each, Appliance, Plenum Nozzle	39.56	5.02
21 24 16 00-0035 EA Nozzle - Solid Fuel Charbroiler - 1 To 1-1/2 Flow Points Each	39.56	5.02
21 24 16 00-0036 EA 1/2 Flow Points Each, Upright Charbroiler Nozzle	39.56	5.02
21 24 16 00-0037 EA 2 Flow Points Each, Duct (Only) Nozzle	39.56	5.02
21 24 16 00-0038 EA 2 Flow Points Each, Four Burner Range Nozzle	56.89	7.24
21 24 16 00-0039 EA 3/4" Or 1" Mechanical Gas Valve	314.50	29.53
21 24 16 00-0040 EA 1-1/4" Or 1-1/2" Mechanical Gas Valve	370.78	42.89
21 24 16 00-0041 EA 2" Mechanical Gas Valve	461.68	50.70
21 24 16 00-0042 EA Manual Reset Relay (Required With Every Electric Gas Valve)	498.52	63.18
21 24 16 00-0043 EA SPDT Microswitch With 18" Leads	26.23	3.34
21 24 16 00-0044 EA Kit Gas Valve Actuator For Use With ASCO Mechanical Gas Valve	42.34	5.35
21 24 16 00-0045 EA Gas Valve Trip Assembly	89.02	11.25
21 24 16 00-0046 Range Guard Fire Suppression Systems (21 24 16)		
Note: Range Guard or equal.		

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 24 16 00-0047	EA		1-1/4 Gallon Charged Cylinder With Valve	603.29	86.08
21 24 16 00-0048	EA		2-1/2 Gallon Charged Cylinder With Valve	753.07	107.43
21 24 16 00-0049	EA		4 Gallon Charged Cylinder With Valve	929.71	132.67
21 24 16 00-0050	EA		6 Gallon Charged Cylinder With Valve	1,104.29	157.50
21 24 16 00-0051	EA		Vent Plug	25.34	3.59
21 24 16 00-0052	EA		Discharge Adapter Kit	32.64	
21 24 16 00-0053	EA		1-1/4 Gallon Wall Bracket	67.15	9.54
21 24 16 00-0054	EA		2-1/2 Gallon Wall Bracket	71.07	10.16
21 24 16 00-0055	EA		4 Gallon Wall Bracket	134.22	19.19
21 24 16 00-0056	EA		6 Gallon Wall Bracket	148.76	21.24
21 24 16 00-0057	EA		Mechanical Control Head, No Microswitch	524.78	74.90
21 24 16 00-0058	EA		Mechanical Control Head, 1 Microswitch	547.50	78.08
21 24 16 00-0059	EA		Mechanical Control Head, 2 Microswitches	628.08	89.57
21 24 16 00-0060	EA		Tandem Control Head	477.25	68.13
21 24 16 00-0061	EA		Electric Control Head, 120 Volt AC / 24 Volt DC	807.82	115.23
21 24 16 00-0062	EA		Mechanical Control Box	359.49	51.30
21 24 16 00-0063	EA		Tandem Control Box	359.49	51.30
21 24 16 00-0064	EA		Mechanical Control Box Adapter	105.37	15.08
21 24 16 00-0065	EA		A+ Control head With 1 Pressure Operated Actuator	316.65	45.14
21 24 16 00-0066	EA		Pressure Operated Actuator	130.16	18.57
21 24 16 00-0067	EA		BMCS-1 Nitrogen Cylinder	210.74	30.06
21 24 16 00-0068	EA		BMCS-1 Actuator Assembly	214.87	30.68
21 24 16 00-0069	EA		BMCS-1 Mounting Bracket	52.68	7.49
21 24 16 00-0070	EA		BMCS-7 Nitrogen Cylinder	608.06	86.70
21 24 16 00-0071	EA		BMCS-7 Mounting Bracket	130.16	18.57
21 24 16 00-0072	EA		BMCS-7 Discharge Adapter Kit	130.16	18.57
21 24 16 00-0073	EA		Check Valve	109.73	22.06
21 24 16 00-0074	EA		Vent Check For Use With BMCS Systems	58.88	8.41
21 24 16 00-0075	EA		Check Valve, (Schrader Flare Fitting) For Pressure Operated Actuator	25.62	3.66
21 24 16 00-0076	EA		Removal And Replacement Of Receiver Gasket For BMCS-Actuator Assembly	6.74	
21 24 16 00-0077	EA		Pneumatic Control Head For Slave Cylinders	134.29	19.19
21 24 16 00-0078	EA		Nozzles; ADP, F, R And GRW	61.56	8.83
21 24 16 00-0079	EA		Nozzles; DM And LPF	68.59	9.74
21 24 16 00-0080	EA		Swivel Adapter	43.38	6.16
21 24 16 00-0081	EA		Corner Pulley	18.59	2.67
21 24 16 00-0082	LF		1/16" Stainless Steel Cable	0.83	0.31
21 24 16 00-0083	EA		Cable Crimp Sleeve	1.01	0.31
21 24 16 00-0084	EA		"S" Hook	0.78	0.20
21 24 16 00-0085	EA		Electrical Metallic Tubing (EMT) Adapter, 1/2" Electrical Metallic Tubing (EMT) x 3/8" NPT	64.02	9.13
21 24 16 00-0086	EA		Cable Clamp	5.71	0.82
21 24 16 00-0087	EA		Nico Sleeves - 1/16" Cable	0.79	0.20
21 24 16 00-0088	EA		3/8" Cable Anchor	67.66	9.64
21 24 16 00-0089	EA		1/2" Cable Anchor	67.66	9.64
21 24 16 00-0090	EA		Mechanical Remote Manual Release (Pull Cable)	109.44	15.60
21 24 16 00-0091	EA		Tee Pulley, Use For Mechanical Pull And Gas Valve	116.80	16.63
21 24 16 00-0092	EA		Surface Remote Manual Release, End-of-line	136.83	19.50
21 24 16 00-0093	EA		Surface Remote Manual Release, In line Conservation Kit	42.87	6.16
21 24 16 00-0094	EA		Surface Remote Manual Release, In line And End Of Line	179.65	25.54
21 24 16 00-0095	EA		Recessed Remote Manual Release, End-of-line	136.83	19.50
21 24 16 00-0096	EA		Recessed Remote Manual Release, In Line Kit	163.12	23.29
21 24 16 00-0097	EA		Pulley Tee, Remote In Line Only	29.32	4.20
21 24 16 00-0098	EA		Fusible Link Housing Kit With 1 - Bracket, 2 - 1/2" Electrical Metallic Tubing (EMT) Connector, 1 - "S" Hook, 8 - Cable Crimp Sleeves	32.55	4.62
21 24 16 00-0099	EA		Fusible Link 165F To 360F	10.66	1.54
21 24 16 00-0100	EA		Fusible Link 500F	16.79	1.54
21 24 16 00-0101	EA		Standard Detector With 1 - 360F link, 2 - "S" Hooks, 2 - Crimp Sleeves	32.55	4.62
21 24 16 00-0102	EA		Standard Detector Kit With 1 - Large Bracket, 2 - "S" Hooks, 2 - Cable Crimp Sleeve	24.06	4.62
21 24 16 00-0103	EA		Quartzoid Link 400 F	175.52	25.04
21 24 16 00-0104	EA		Quartzoid Link 500 F	175.52	25.04
21 24 16 00-0105	EA		SPDT Micro Switch For Use With A Plus Control Box	62.91	8.93
21 24 16 00-0106	EA		DPDT Micro Switch For Use With A Plus Control Box	109.44	15.60
21 24 16 00-0107	EA		SPDT Micro Switch For Use With A Mechanical Control Box	65.04	9.23
21 24 16 00-0108	EA		DPDT Micro Switch For Use With A Mechanical Control Box	112.73	16.11
21 24 16 00-0109	EA		SPDT Micro Switch For Use With PRCB	82.59	11.80
21 24 16 00-0110	EA		DPDT Micro Switch For Use With PRCB	119.15	16.93
21 24 16 00-0111	EA		Pressure Switch, SPDT (Fire Dept. Tie In)	348.98	49.76
21 24 16 00-0112	EA		Circuit Monitor 12 Or 24 Volt DC	156.93	22.37
21 24 16 00-0113	EA		Circuit Monitor 120 Volt AC	156.93	22.37
21 24 16 00-0114	EA		Electric Manual Pull Station	114.60	16.31
21 24 16 00-0115	EA		6", 24 Volt DC, Motor Bell	64.01	9.13
21 24 16 00-0116	EA		10", 115 Volt AC Motor Bell	90.86	12.93
21 24 16 00-0117	EA		Fuse, 1.2 For ECH	7.36	1.03
21 24 16 00-0118	EA		Indicator Lamp 12 Or 24 Volt DC	32.55	4.62
21 24 16 00-0119	EA		Indicator Lamp 120 Volt AC	32.55	4.62
21 24 16 00-0120	EA		B-10 Manual Station Dual Action, SPDT	119.76	17.03
21 24 16 00-0121	EA		B-11 Manual Station Dual Action, DPDT	132.16	18.88
21 24 16 00-0122	EA		Break Rods For B10/B11 Manual Pull Station	3.56	1.33
21 24 16 00-0123	EA		Spare Key For B10/B11 Manual Stations	16.52	2.36
21 24 16 00-0124	EA		MT-24-LSM-VAR Multitone Signal With 15/75cd Strobe, 24 Volt, Flush Grill	177.58	25.34
21 24 16 00-0125	EA		Suppression Abort Station	187.91	26.78
21 24 16 00-0126	EA		Suppression Abort Station With Surface Mount Back Box	218.88	31.19



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

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
21 24 16 00-0127	EA Surface Mount Back Box	72.28		10.26
21 24 16 00-0128	EA Single Hazard Control Unit, 120 Volt AC IP	1,342.19		191.15
21 24 16 00-0129	EA Single Hazard Control Unit, 240 Volt AC IP	1,342.19		191.15
21 24 16 00-0130	EA 1 Lead Acid Battery; 24 Volt DC, 1.2 A.H.	111.51		15.90
21 24 16 00-0131	EA Accessory Kit - End-of-line Resistors (10K Ohms, 1/2 W)	4.30		0.72
21 24 16 00-0132	EA Spare Scorpio Circuit Board	970.44		
21 24 16 00-0133	EA Extra Scorpio Key	16.52		
21 24 16 00-0134	EA Extra Scorpio Manual	10.32		
21 24 16 00-0135	EA Compression Seal Adapter 3/8" Pipe	28.08		4.00
21 24 16 00-0136	EA Compression Seal Adapter 1/2" Tubing/ 1/4" Pipe	30.49		4.31
21 24 16 00-0137	EA Compression Seal Adapter 5/8" Tubing/ 3/8" Pipe	36.68		5.23
21 24 16 00-0138	EA Compression Seal Adapter 3/4" Tubing/ 1/2" Pipe	39.23		5.54
21 24 16 00-0139	EA Quik Seal Adapter 3/8" NPT Female	30.49		4.31
21 24 16 00-0140	EA Quik Seal Adapter 1/2" NPT Female	30.49		4.31
21 24 16 00-0141	EA Quik Seal Adapter 3/4" NPT Female	52.16		7.49
21 24 16 00-0142	EA Quik Seal Adapter 1" NPT Female	69.17		9.85
21 24 16 00-0143	EA Quik Patch (Up To 1-1/8" Diameter)	30.49		4.31
21 24 16 00-0144	EA 1-1/4 Gallon Karbaloy Charge	67.86		
21 24 16 00-0145	EA 2-1/2 Gallon Karbaloy Charge	116.66		
21 24 16 00-0146	EA 4 Gallon Karbaloy Charge	176.33		
21 24 16 00-0147	EA 6 Gallon Karbaloy Charge	258.02		
21 24 16 00-0148	EA Inlet Flushing Adapter	50.59		7.18
21 24 16 00-0149	EA 1/2" Flushing Adapter (Outlet)	50.59		7.18
21 24 16 00-0150	EA 1/8" Flushing Adapter (Outlet)	50.59		7.18
21 24 16 00-0151	EA 1/4" Flushing Adapter (Outlet)	50.59		7.18
21 24 16 00-0152	EA 3/8" Flushing Adapter (Outlet)	50.59		7.18
21 24 16 00-0153	EA Recharge Adapter (Old Style Cylinder Valve Assembly Only)	70.20		
21 24 16 00-0154	EA Instruction Label (In Case Of Fire) - MCB	5.63		
21 24 16 00-0155	EA Caution Sign (Turn On Fan)	6.74		
21 24 16 00-0156	EA Inspection Label (Authorized installers only)	4.75		
21 24 16 00-0157	EA Label, Warning, A+ Control Box	3.42		
21 24 16 00-0158	EA Wet Chemical System Kits, RG-1 25G Kit; #23315	887.86		126.51
21 24 16 00-0159	EA Wet Chemical System Kits, RG-2 5G Kit; #23316	1,036.54		147.65
21 24 16 00-0160	EA Wet Chemical System Kits, RG-4GS Kit; #23317	1,290.54		183.87
21 24 16 00-0161	EA Wet Chemical System Kits, RG-4GT Kit; #23318	1,290.54		183.87
21 24 16 00-0162	EA Wet Chemical System Kits, RG-6G Kit; #23319	1,622.96		231.17
21 24 16 00-0163	EA Wet Chemical System Kits, RG Mechanical Control HD (MCH) Kit; #23320	769.14		109.58
21 24 16 00-0164	EA Wet Chemical System Kits, RG Mechanical Control Box (MCB) Kit; #23321	722.68		102.91
21 24 16 00-0165	EA Wet Chemical System Kits, A Plus Control Box Kit; #23322	584.34		83.21
21 24 16 00-0166	EA Wet Chemical System Kits, Valve Rebuild Kit; #23210	1,011.74		144.16
21 24 16 00-0167	EA Wet Chemical System Kits, BMCS-1 Package; #23208	927.08		132.05

21 30 Fire Pumps ⁽²¹⁾

21 31 Centrifugal Fire Pumps ^(21 30)

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

21 31 13 00-0001 Electric-Drive Fire Pumps ^(21 31 13)

Note: Includes fire pump, motor, motor starter, alarm panel, automatic transfer switch, and controller.

21 31 13 00-0002	EA 20 HP Electric Fire Pump	60,062.04	2,036.52
For Duplex Pumping System, Add		58,025.53	
21 31 13 00-0003	EA 30 HP Electric Fire Pump	70,143.69	2,291.08
For Duplex Pumping System, Add		68,022.32	
21 31 13 00-0004	EA 40 HP Electric Fire Pump	95,796.76	2,545.65
For Duplex Pumping System, Add		93,439.68	
21 31 13 00-0005	EA 50 HP Electric Fire Pump	118,470.61	2,978.41
For Duplex Pumping System, Add		115,492.21	
21 31 13 00-0006	EA 75 HP Electric Fire Pump	132,272.71	3,249.18
For Duplex Pumping System, Add		129,023.54	

21 31 16 Diesel-Drive, Centrifugal Fire Pumps ^(21 31)

21 31 16 00-0001 Diesel-Drive Fire Pumps ^(21 31 16)

Note: Pumps shall be stand alone units meeting NFPA-20 specs. Includes fire pump, motor, motor starter, alarm panel, and controller.

21 31 16 00-0002	EA 30 HP Diesel Driven Fire Pump, NFPA-20 Specific	88,877.10	2,436.88
21 31 16 00-0003	EA 40 HP Diesel Driven Fire Pump, NFPA-20 Specific	100,555.25	2,707.65
21 31 16 00-0004	EA 50 HP Diesel Driven Fire Pump, NFPA-20 Specific	105,612.23	2,978.41
21 31 16 00-0005	EA 75 HP Diesel Driven Fire Pump, NFPA-20 Specific	120,229.40	3,249.18
21 31 16 00-0006	EA 150 HP Diesel Driven Fire Pump, NFPA-20 Specific	127,505.81	3,790.71
21 31 16 00-0007	EA 175 HP Diesel Driven Fire Pump, NFPA-20 Specific	136,991.17	4,873.77
21 31 16 00-0008	EA 200 HP Diesel Driven Fire Pump, NFPA-20 Specific	148,659.10	5,415.29
21 31 16 00-0009	EA 250 HP Diesel Driven Fire Pump, NFPA-20 Specific	169,993.98	6,173.43
21 31 16 00-0010	EA 300 HP Diesel Driven Fire Pump, NFPA-20 Specific	203,849.40	6,660.81
21 31 16 00-0011	EA 350 HP Diesel Driven Fire Pump , NFPA-20 Specific	239,246.54	7,581.40
21 31 16 00-0012	EA 400 HP Diesel Driven Fire Pump , NFPA-20 Specific	284,245.77	8,122.93
21 31 16 00-0013	EA 500 HP Diesel Driven Fire Pump , NFPA-20 Specific	320,236.38	8,664.46

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



MINOR	TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION	UNIT COST	UNIT COST	UNIT COST

21 34 Fire Pump Accessories (21 30)			
21 34 13 Pressure Maintenance Pumps (21 34)			
21 34 13 00-0001 Jockey Pumps (21 34 13)			
Note: Includes pump and controller.			
21 34 13 00-0002	EA	Up To 3 HP, 1" Pipe Connection, Jockey Pump And Controller	6,153.55 541.53

END OF SECTION 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

22 Plumbing

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

22 01 Operation and Maintenance of Plumbing⁽²²⁾

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

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

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

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

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

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

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

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

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

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

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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

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

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

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

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

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

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

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

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

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

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

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

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

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



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 23 00-0005	EA	1/2"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	96.45	11.14
			For 150 LB Rating, Add	6.05	
			For 200 LB Rating, Add	9.08	
			For Work In Restricted Working Space, Add	10.79	
22 05 23 00-0006	EA	3/4"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	113.46	12.26
			For 150 LB Rating, Add	6.50	
			For 200 LB Rating, Add	9.75	
			For Work In Restricted Working Space, Add	14.53	
22 05 23 00-0007	EA	1"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	138.29	13.93
			For 150 LB Rating, Add	7.97	
			For 200 LB Rating, Add	11.95	
			For Work In Restricted Working Space, Add	17.59	
22 05 23 00-0008	EA	1-1/4"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	204.33	14.82
			For 150 LB Rating, Add	13.07	
			For 200 LB Rating, Add	19.57	
			For Work In Restricted Working Space, Add	22.28	
22 05 23 00-0009	EA	1-1/2"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	227.05	17.16
			For 150 LB Rating, Add	14.13	
			For 200 LB Rating, Add	21.20	
			For Work In Restricted Working Space, Add	25.71	
22 05 23 00-0010	EA	2"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	272.53	20.27
			For 150 LB Rating, Add	17.12	
			For 200 LB Rating, Add	25.69	
			For Work In Restricted Working Space, Add	30.39	
22 05 23 00-0011	EA	2-1/2"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	633.52	27.40
			For 150 LB Rating, Add	49.67	
			For 200 LB Rating, Add	74.51	
			For Work In Restricted Working Space, Add	41.04	
			For Chain Operated Type, Add	223.52	
22 05 23 00-0012	EA	3"	Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	743.97	31.81
			For 150 LB Rating, Add	58.61	
			For 200 LB Rating, Add	87.92	
			For Work In Restricted Working Space, Add	47.36	
22 05 23 00-0013			Class 125 Brazed Or Soldered Bronze Lead Free Gate Valves (22 05 23 00-0001)		
			Note: 125 psi steam, basic rating. 200 psi cold working pressure. (Milwaukee Valve UP105, Nibco T113-LF)		
22 05 23 00-0014	EA	1/4"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	112.63	11.14
			For 150 LB Rating, Add	8.02	
			For 200 LB Rating, Add	12.03	
			For Work In Restricted Working Space, Add	9.73	
22 05 23 00-0015	EA	3/8"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	114.17	11.14
			For 150 LB Rating, Add	8.00	
			For 200 LB Rating, Add	12.00	
			For Work In Restricted Working Space, Add	10.25	
22 05 23 00-0016	EA	1/2"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	133.49	11.14
			For 150 LB Rating, Add	9.75	
			For 200 LB Rating, Add	14.63	
			For Work In Restricted Working Space, Add	10.79	
22 05 23 00-0017	EA	3/4"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	150.50	12.26
			For 150 LB Rating, Add	10.21	
			For 200 LB Rating, Add	15.31	
			For Work In Restricted Working Space, Add	14.53	
22 05 23 00-0018	EA	1"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	180.55	13.93
			For 150 LB Rating, Add	12.19	
			For 200 LB Rating, Add	18.29	
			For Work In Restricted Working Space, Add	17.59	
22 05 23 00-0019	EA	1-1/4"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	262.13	14.82
			For 150 LB Rating, Add	18.79	
			For 200 LB Rating, Add	28.18	
			For Work In Restricted Working Space, Add	22.28	
22 05 23 00-0020	EA	1-1/2"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	299.75	17.16
			For 150 LB Rating, Add	21.40	
			For 200 LB Rating, Add	32.11	
			For Work In Restricted Working Space, Add	25.71	
22 05 23 00-0021	EA	2"	Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	384.86	20.27
			For 150 LB Rating, Add	28.36	
			For 200 LB Rating, Add	42.54	
			For Work In Restricted Working Space, Add	30.39	
22 05 23 00-0022			200 PSI, Non-Rising Stem, Crimped Bronze Gate Valves (22 05 23 00-0001)		
			Note: 200 psi cold working pressure.		
22 05 23 00-0023	EA	1/2"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	130.98	11.14
			For Work In Restricted Working Space, Add	7.52	
22 05 23 00-0024	EA	3/4"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	147.47	12.26
			For Work In Restricted Working Space, Add	8.57	
22 05 23 00-0025	EA	1"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	194.27	13.93
			For Work In Restricted Working Space, Add	10.24	
22 05 23 00-0026	EA	1-1/4"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	266.09	14.82
			For Work In Restricted Working Space, Add	11.28	
22 05 23 00-0027	EA	1-1/2"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	308.70	17.16
			For Work In Restricted Working Space, Add	12.53	
22 05 23 00-0028	EA	2"	Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	425.91	20.27
			For Work In Restricted Working Space, Add	15.04	

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

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



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

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

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



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

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 76 00-0051	EA		5" Cleanout Tee With Cast Bronze Screw Plug.....	930.55	82.45
22 05 76 00-0052	EA		6" Cleanout Tee With Cast Bronze Screw Plug.....	1,598.68	97.49
22 05 76 00-0053 Removable Cleanout Plug (22 05 76)					
22 05 76 00-0054 Threaded Bronze Plugs (22 05 76 00-0053)					
22 05 76 00-0055	EA		1-1/4", 1-1/2" Or 2" Threaded Bronze Plug.....	79.43	13.93
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0056	EA		2-1/2" Threaded Bronze Plug.....	95.70	15.16
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0057	EA		3" Threaded Bronze Plug.....	166.84	16.71
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0058	EA		3-1/2" Threaded Bronze Plug.....	186.47	19.50
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0059	EA		4" Threaded Bronze Plug.....	210.76	22.29
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0060	EA		5" Threaded Bronze Plug.....	298.22	25.07
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0061	EA		6" Threaded Bronze Plug.....	441.83	27.86
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0062	EA		8" Threaded Bronze Plug.....	751.46	30.64
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0063	EA		10" Threaded Bronze Plug.....	1,084.56	33.43
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0064 Threaded Brass Plugs (22 05 76 00-0053)					
22 05 76 00-0065	EA		1-1/2" Threaded Brass Plug, Raised Head.....	31.32	13.93
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0066	EA		2" Threaded Brass Plug, Raised Head.....	31.93	13.93
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0067	EA		2-1/2" Threaded Brass Plug, Raised Head.....	34.84	15.15
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0068	EA		3" Threaded Brass Plug, Raised Head.....	39.50	16.71
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0069	EA		3-1/2" Threaded Brass Plug, Raised Head.....	46.70	19.50
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0070	EA		4" Threaded Brass Plug, Raised Head.....	55.00	22.28
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0071	EA		4-1/2" Threaded Brass Plug, Raised Head.....	59.14	23.47
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0072	EA		5" Threaded Brass Plug, Raised Head.....	63.64	25.07
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0073	EA		6" Threaded Brass Plug, Raised Head.....	83.84	27.85
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0074	EA		1-1/2" Threaded Brass Plug, Countersunk Head.....	30.85	13.93
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0075	EA		2" Threaded Brass Plug, Countersunk Head.....	31.52	13.93
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0076	EA		2-1/2" Threaded Brass Plug, Countersunk Head.....	36.15	15.15
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0077	EA		3" Threaded Brass Plug, Countersunk Head.....	39.69	16.71
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0078	EA		3-1/2" Threaded Brass Plug, Countersunk Head.....	46.14	19.50
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0079	EA		4" Threaded Brass Plug, Countersunk Head.....	54.11	22.29
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0080	EA		5" Threaded Brass Plug, Countersunk Head.....	63.16	25.07
			For Plug Tapped For Center Screw, Add.....	9.50	
22 05 76 00-0081	EA		6" Threaded Brass Plug, Countersunk Head.....	75.99	27.86
			For Plug Tapped For Center Screw, Add.....	9.50	

22 07 Plumbing Insulation (22)**22 07 16 Plumbing Equipment Insulation (22 07)****22 07 16 00-0001 Lavatory Insulation (22 07 16)**

22 07 16 00-0002	EA		Neoprene Insulation Kit For Under Lavatories.....	359.40	24.20

22 07 19 Plumbing Piping Insulation (22 07)**22 07 19 00-0001 Fiberglass (Glass Fiber) Pipe Insulation (22 07 19)**

Note: Includes factory applied All Service Jacket (ASJ), Self Sealing Lap (SSL) longitudinal seam, butt strip seals, and adhesive. Excludes insulation for fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint.

22 07 19 00-0002 1/2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)



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

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

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



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

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

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



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

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

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



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

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0221	LF		2-1/2" Diameter Pipe, 3" Thick Foamglas Insulation	47.07	7.71
			<i>For Work In Restricted Working Space, Add</i>	7.00	
22 07 19 00-0222	LF		3" Diameter Pipe, 3" Thick Foamglas Insulation	53.56	7.97
			<i>For Work In Restricted Working Space, Add</i>	7.25	
22 07 19 00-0223	LF		4" Diameter Pipe, 3" Thick Foamglas Insulation	61.19	8.40
			<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0224	LF		6" Diameter Pipe, 3" Thick Foamglas Insulation	66.97	9.55
			<i>For Work In Restricted Working Space, Add</i>	8.68	
22 07 19 00-0225	LF		8" Diameter Pipe, 3" Thick Foamglas Insulation	75.66	10.85
			<i>For Work In Restricted Working Space, Add</i>	9.68	
22 07 19 00-0226	LF		10" Diameter Pipe, 3" Thick Foamglas Insulation	90.31	12.28
			<i>For Work In Restricted Working Space, Add</i>	11.16	
22 07 19 00-0227	LF		12" Diameter Pipe, 3" Thick Foamglas Insulation	104.79	15.26
			<i>For Work In Restricted Working Space, Add</i>	13.88	
22 07 19 00-0228	LF		14" Diameter Pipe, 3" Thick Foamglas Insulation	112.16	16.66
			<i>For Work In Restricted Working Space, Add</i>	15.15	
22 07 19 00-0229	LF		16" Diameter Pipe, 3" Thick Foamglas Insulation	133.75	21.30
			<i>For Work In Restricted Working Space, Add</i>	19.36	
22 07 19 00-0230	LF		18" Diameter Pipe, 3" Thick Foamglas Insulation	143.23	22.36
			<i>For Work In Restricted Working Space, Add</i>	20.33	
22 07 19 00-0231	LF		20" Diameter Pipe, 3" Thick Foamglas Insulation	167.93	25.56
			<i>For Work In Restricted Working Space, Add</i>	23.24	
22 07 19 00-0232	LF		24" Diameter Pipe, 3" Thick Foamglas Insulation	205.33	30.89
			<i>For Work In Restricted Working Space, Add</i>	28.07	
22 07 19 00-0233 3-1/2" Thick Foamglas Pipe Insulation (22 07 19 00-0145)					
22 07 19 00-0234	LF		1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	44.82	8.40
			<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0235	LF		3/4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	45.80	8.40
			<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0236	LF		1" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	46.95	8.45
			<i>For Work In Restricted Working Space, Add</i>	7.69	
22 07 19 00-0237	LF		1-1/4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	48.09	8.51
			<i>For Work In Restricted Working Space, Add</i>	7.74	
22 07 19 00-0238	LF		1-1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	49.40	8.61
			<i>For Work In Restricted Working Space, Add</i>	7.83	
22 07 19 00-0239	LF		2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	54.43	8.92
			<i>For Work In Restricted Working Space, Add</i>	8.10	
22 07 19 00-0240	LF		2-1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	59.50	9.23
			<i>For Work In Restricted Working Space, Add</i>	8.39	
22 07 19 00-0241	LF		3" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	62.87	9.55
			<i>For Work In Restricted Working Space, Add</i>	8.68	
22 07 19 00-0242	LF		4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	67.36	10.10
			<i>For Work In Restricted Working Space, Add</i>	9.18	
22 07 19 00-0243	LF		6" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	77.56	11.46
			<i>For Work In Restricted Working Space, Add</i>	10.42	
22 07 19 00-0244	LF		8" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	88.23	12.76
			<i>For Work In Restricted Working Space, Add</i>	11.61	
22 07 19 00-0245	LF		10" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	105.60	14.74
			<i>For Work In Restricted Working Space, Add</i>	13.40	
22 07 19 00-0246	LF		12" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	124.66	18.31
			<i>For Work In Restricted Working Space, Add</i>	16.65	
22 07 19 00-0247	LF		14" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	129.91	20.00
			<i>For Work In Restricted Working Space, Add</i>	18.18	
22 07 19 00-0248	LF		16" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	155.50	25.56
			<i>For Work In Restricted Working Space, Add</i>	23.24	
22 07 19 00-0249	LF		18" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	171.09	26.84
			<i>For Work In Restricted Working Space, Add</i>	24.40	
22 07 19 00-0250	LF		20" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	194.77	30.69
			<i>For Work In Restricted Working Space, Add</i>	27.90	
22 07 19 00-0251	LF		24" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	239.27	37.05
			<i>For Work In Restricted Working Space, Add</i>	33.69	
22 07 19 00-0252 4" Thick Foamglas Pipe Insulation (22 07 19 00-0145)					
22 07 19 00-0253	LF		1/2" Diameter Pipe, 4" Thick Foamglas Insulation	54.57	10.33
			<i>For Work In Restricted Working Space, Add</i>	9.38	
22 07 19 00-0254	LF		3/4" Diameter Pipe, 4" Thick Foamglas Insulation	55.83	10.33
			<i>For Work In Restricted Working Space, Add</i>	9.38	
22 07 19 00-0255	LF		1" Diameter Pipe, 4" Thick Foamglas Insulation	57.63	10.50
			<i>For Work In Restricted Working Space, Add</i>	9.55	
22 07 19 00-0256	LF		1-1/4" Diameter Pipe, 4" Thick Foamglas Insulation	59.27	10.63
			<i>For Work In Restricted Working Space, Add</i>	9.66	
22 07 19 00-0257	LF		1-1/2" Diameter Pipe, 4" Thick Foamglas Insulation	61.54	10.96
			<i>For Work In Restricted Working Space, Add</i>	9.96	
22 07 19 00-0258	LF		2" Diameter Pipe, 4" Thick Foamglas Insulation	66.57	11.29
			<i>For Work In Restricted Working Space, Add</i>	10.27	
22 07 19 00-0259	LF		2-1/2" Diameter Pipe, 4" Thick Foamglas Insulation	71.08	11.47
			<i>For Work In Restricted Working Space, Add</i>	10.43	
22 07 19 00-0260	LF		3" Diameter Pipe, 4" Thick Foamglas Insulation	74.65	11.90
			<i>For Work In Restricted Working Space, Add</i>	10.82	
22 07 19 00-0261	LF		4" Diameter Pipe, 4" Thick Foamglas Insulation	81.54	13.27
			<i>For Work In Restricted Working Space, Add</i>	12.06	



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

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

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



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

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

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



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



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



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

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

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



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

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

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



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

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

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



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

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

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



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

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

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



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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 07 19 00-0855	LF	23" ID, 0.040" Aluminum Insulation Jacketing	75.17	7.84
		<i>For Stucco Embossed, Add</i>	0.44	
		<i>For Corrugated, Add</i>	1.10	
22 07 19 00-0856	LF	24" ID, 0.040" Aluminum Insulation Jacketing	77.39	7.93
		<i>For Stucco Embossed, Add</i>	0.46	
		<i>For Corrugated, Add</i>	1.14	

22 07 19 00-0857 Aluminum Insulation Protective Jacketing For Fittings (22 07 19 00-0595)

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



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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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

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

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

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

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

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



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



MINOR
 CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
 UNIT COST UNIT COST

22 07 19 00-1156	LF	27" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	49.71	4.14
22 07 19 00-1157	LF	28" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	51.24	4.22
22 07 19 00-1158	LF	29" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	52.78	4.30
22 07 19 00-1159	LF	30" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	54.33	4.39

22 07 19 00-1160 Polyvinyl Chloride (PVC) Insulation Protective Jacketing For Fittings (22 07 19 00-

22 07 19 00-1161	EA	1-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	16.05	3.18
22 07 19 00-1162	EA	2" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	17.33	3.31
22 07 19 00-1163	EA	2-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	18.02	3.36
22 07 19 00-1164	EA	2-1/2" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	18.72	3.42
22 07 19 00-1165	EA	2-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	19.47	3.50
22 07 19 00-1166	EA	3" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	20.13	3.59
22 07 19 00-1167	EA	3-3/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	21.40	3.71
22 07 19 00-1168	EA	3-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	22.57	3.81
22 07 19 00-1169	EA	4-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	24.92	3.91
22 07 19 00-1170	EA	4-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	27.58	4.10
22 07 19 00-1171	EA	5-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	30.27	4.30
22 07 19 00-1172	EA	5-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	35.32	4.53
22 07 19 00-1173	EA	6-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	47.83	4.79
22 07 19 00-1174	EA	6-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	50.00	4.95
22 07 19 00-1175	EA	7-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	58.11	5.06
22 07 19 00-1176	EA	7-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	60.45	5.19
22 07 19 00-1177	EA	8-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	72.62	5.38
22 07 19 00-1178	EA	9-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	90.60	5.59
22 07 19 00-1179	EA	10-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	99.46	5.81
22 07 19 00-1180	EA	11-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	111.57	6.06
22 07 19 00-1181	EA	12-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	135.57	6.33
22 07 19 00-1182	EA	14-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	152.10	6.52
22 07 19 00-1183	EA	15-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	162.31	6.72
22 07 19 00-1184	EA	16-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	175.14	6.83
22 07 19 00-1185	EA	17-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	191.76	6.94
22 07 19 00-1186	EA	18-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	239.78	7.05
22 07 19 00-1187	EA	19-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	315.89	7.17
22 07 19 00-1188	EA	20-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	398.30	7.29
22 07 19 00-1189	EA	1-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	16.05	3.18
22 07 19 00-1190	EA	2" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	17.33	3.31
22 07 19 00-1191	EA	2-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	18.02	3.36
22 07 19 00-1192	EA	2-1/2" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	18.72	3.42
22 07 19 00-1193	EA	2-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	19.47	3.50
22 07 19 00-1194	EA	3" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	20.13	3.59
22 07 19 00-1195	EA	3-3/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	21.40	3.71
22 07 19 00-1196	EA	3-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	22.57	3.81
22 07 19 00-1197	EA	4-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	24.92	3.91
22 07 19 00-1198	EA	4-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	27.58	4.10
22 07 19 00-1199	EA	5-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	30.27	4.30
22 07 19 00-1200	EA	5-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	35.32	4.53
22 07 19 00-1201	EA	6-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	47.83	4.79
22 07 19 00-1202	EA	6-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	50.00	4.95
22 07 19 00-1203	EA	7-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	58.11	5.06
22 07 19 00-1204	EA	7-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	60.45	5.19
22 07 19 00-1205	EA	8-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	72.62	5.38
22 07 19 00-1206	EA	9-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	90.60	5.59
22 07 19 00-1207	EA	10-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	99.46	5.81
22 07 19 00-1208	EA	11-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	108.20	6.06
22 07 19 00-1209	EA	12-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	119.02	6.33
22 07 19 00-1210	EA	14-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	133.14	6.52
22 07 19 00-1211	EA	15-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	141.79	6.72
22 07 19 00-1212	EA	16-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	158.53	6.83
22 07 19 00-1213	EA	17-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	175.51	6.94
22 07 19 00-1214	EA	18-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	208.78	7.05
22 07 19 00-1215	EA	19-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	274.97	7.17
22 07 19 00-1216	EA	20-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	308.14	7.29
22 07 19 00-1217	EA	1-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	24.19	4.48
22 07 19 00-1218	EA	2" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	25.40	4.57
22 07 19 00-1219	EA	2-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	26.61	4.72
22 07 19 00-1220	EA	2-1/2" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	27.98	4.89
22 07 19 00-1221	EA	2-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	29.52	5.06
22 07 19 00-1222	EA	3" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	31.03	5.25
22 07 19 00-1223	EA	3-3/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	33.35	5.45
22 07 19 00-1224	EA	3-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	35.77	5.66
22 07 19 00-1225	EA	4-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	39.10	5.89
22 07 19 00-1226	EA	4-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	43.91	6.15
22 07 19 00-1227	EA	5-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	48.92	6.42
22 07 19 00-1228	EA	5-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	58.20	6.83
22 07 19 00-1229	EA	6-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	69.25	7.17
22 07 19 00-1230	EA	6-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	79.37	7.29
22 07 19 00-1231	EA	7-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	111.32	7.55
22 07 19 00-1232	EA	7-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	120.83	7.97
22 07 19 00-1233	EA	8-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	141.31	8.27
22 07 19 00-1234	EA	9-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	162.02	8.60



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-1235 EA 10-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	164.95	8.97
22 07 19 00-1236 EA 11-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	190.05	9.16
22 07 19 00-1237 EA 12-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	195.17	9.35
22 07 19 00-1238 EA 14-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	210.44	9.56
22 07 19 00-1239 EA 15-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	225.58	9.78
22 07 19 00-1240 EA 16-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	240.86	10.00
22 07 19 00-1241 EA 17-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	256.03	10.25
22 07 19 00-1242 EA 18-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	278.70	10.60
22 07 19 00-1243 EA 19-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	301.29	10.76
22 07 19 00-1244 EA 20-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	328.69	11.03
22 07 19 00-1245 EA 3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	38.47	3.07
22 07 19 00-1246 EA 1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	38.47	3.07
22 07 19 00-1247 EA 1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	45.90	3.18
22 07 19 00-1248 EA 1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	45.90	3.18
22 07 19 00-1249 EA 2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	65.54	3.31
22 07 19 00-1250 EA 2-1/2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	71.85	3.45
22 07 19 00-1251 EA 3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	79.41	3.59
22 07 19 00-1252 EA 3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	90.26	3.74
22 07 19 00-1253 EA 4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	99.55	3.91
22 07 19 00-1254 EA 5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	121.51	4.30
22 07 19 00-1255 EA 6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	173.20	4.79
22 07 19 00-1256 EA 8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	189.32	5.38
22 07 19 00-1257 EA 10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	237.64	5.73
22 07 19 00-1258 EA 12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	334.07	6.33
22 07 19 00-1259 EA 14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	335.78	6.62
22 07 19 00-1260 EA 16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	447.97	6.83
22 07 19 00-1261 EA 18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing	606.74	7.05
22 07 19 00-1262 EA 3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	35.58	3.07
22 07 19 00-1263 EA 1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	35.58	3.07
22 07 19 00-1264 EA 1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	42.41	3.18
22 07 19 00-1265 EA 1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	42.41	3.18
22 07 19 00-1266 EA 2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	59.82	3.31
22 07 19 00-1267 EA 2-1/2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	65.47	3.45
22 07 19 00-1268 EA 3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	72.43	3.59
22 07 19 00-1269 EA 3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	76.24	3.74
22 07 19 00-1270 EA 4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	90.28	3.91
22 07 19 00-1271 EA 5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	110.02	4.30
22 07 19 00-1272 EA 6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	156.29	4.79
22 07 19 00-1273 EA 8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	170.78	5.38
22 07 19 00-1274 EA 10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	214.04	5.73
22 07 19 00-1275 EA 12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	300.30	6.33
22 07 19 00-1276 EA 14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	384.17	6.62
22 07 19 00-1277 EA 16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	460.67	6.83
22 07 19 00-1278 EA 18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing	539.69	7.05
22 07 19 00-1279 EA 3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	52.64	4.62
22 07 19 00-1280 EA 1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	52.64	4.62
22 07 19 00-1281 EA 1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	62.21	4.79
22 07 19 00-1282 EA 1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	62.21	4.79
22 07 19 00-1283 EA 2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	87.74	4.95
22 07 19 00-1284 EA 2-1/2"ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	96.08	5.12
22 07 19 00-1285 EA 3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	106.08	5.38
22 07 19 00-1286 EA 3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	111.97	5.59
22 07 19 00-1287 EA 4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	132.99	5.89
22 07 19 00-1288 EA 5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	146.24	6.42
22 07 19 00-1289 EA 6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	207.01	7.17
22 07 19 00-1290 EA 8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	225.19	7.97
22 07 19 00-1291 EA 10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	313.57	8.60
22 07 19 00-1292 EA 12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	438.69	9.35
22 07 19 00-1293 EA 14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	524.71	10.00
22 07 19 00-1294 EA 16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	622.39	10.25
22 07 19 00-1295 EA 18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing	682.49	10.50

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

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

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

22 10 Plumbing Piping (22)

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

22 11 Facility Water Distribution (22 10)

22 11 16 Domestic Water Piping (22 11)

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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0038	LF	6" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	135.13	20.34
		For Schedule 80 Pipe, Add	53.29	
		For ASTM 120, Deduct	-15.70	
		For Work In Restricted Working Space, Add	9.14	
22 11 16 00-0039		Galvanized Malleable Iron 90 Degree Elbows (22 11 16 00-0013)		
22 11 16 00-0040	EA	1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	33.89	18.26
		For 300 LB Rating, Add	23.84	
		For ASTM 120, Deduct	-0.98	
		For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0041	EA	3/4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	38.65	20.42
		For 300 LB Rating, Add	29.11	
		For ASTM 120, Deduct	-1.20	
		For Work In Restricted Working Space, Add	9.19	
22 11 16 00-0042	EA	1", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	49.07	22.77
		For 300 LB Rating, Add	52.61	
		For ASTM 120, Deduct	-2.23	
		For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0043	EA	1-1/4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	62.20	25.86
		For 300 LB Rating, Add	82.19	
		For ASTM 120, Deduct	-3.52	
		For Work In Restricted Working Space, Add	11.61	
22 11 16 00-0044	EA	1-1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	74.32	29.14
		For 300 LB Rating, Add	106.86	
		For ASTM 120, Deduct	-4.60	
		For Work In Restricted Working Space, Add	13.10	
22 11 16 00-0045	EA	2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	105.68	37.04
		For 300 LB Rating, Add	174.08	
		For ASTM 120, Deduct	-7.53	
		For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0046	EA	2-1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	213.49	54.79
		For 300 LB Rating, Add	451.72	
		For ASTM 120, Deduct	-19.71	
		For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0047	EA	3", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	324.66	72.03
		For 300 LB Rating, Add	743.12	
		For ASTM 120, Deduct	-32.50	
		For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0048	EA	4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	500.17	78.71
		For 300 LB Rating, Add	1,306.36	
		For ASTM 120, Deduct	-57.32	
		For Work In Restricted Working Space, Add	35.41	
22 11 16 00-0049	EA	5", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,773.43	82.15
		For 300 LB Rating, Add	5,618.31	
		For ASTM 120, Deduct	-247.54	
		For Work In Restricted Working Space, Add	36.95	
22 11 16 00-0050	EA	6", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,650.14	85.89
		For 300 LB Rating, Add	5,180.38	
		For ASTM 120, Deduct	-228.21	
		For Work In Restricted Working Space, Add	38.63	
22 11 16 00-0051	EA	8", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,969.99	89.75
		For 300 LB Rating, Add	6,248.54	
		For ASTM 120, Deduct	-275.31	
		For Work In Restricted Working Space, Add	40.37	
22 11 16 00-0052		Galvanized Malleable Iron Reducing 90 Degree Elbows (22 11 16 00-0013)		
22 11 16 00-0053	EA	3/4" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	42.96	19.29
		For ASTM 120, Deduct	-2.09	
		For Work In Restricted Working Space, Add	8.70	
22 11 16 00-0054	EA	1" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	50.33	21.64
		For ASTM 120, Deduct	-2.69	
		For Work In Restricted Working Space, Add	9.73	
22 11 16 00-0055	EA	1" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	49.78	20.52
		For ASTM 120, Deduct	-2.85	
		For Work In Restricted Working Space, Add	9.23	
22 11 16 00-0056	EA	1-1/4" x 1", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	66.50	24.31
		For ASTM 120, Deduct	-4.51	
		For Work In Restricted Working Space, Add	10.94	
22 11 16 00-0057	EA	1-1/4" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	70.75	23.09
		For ASTM 120, Deduct	-5.41	
		For Work In Restricted Working Space, Add	10.40	
22 11 16 00-0058	EA	1-1/4" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	71.27	22.06
		For ASTM 120, Deduct	-5.73	
		For Work In Restricted Working Space, Add	9.91	
22 11 16 00-0059	EA	1-1/2" x 1-1/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	89.18	27.50
		For ASTM 120, Deduct	-7.20	
		For Work In Restricted Working Space, Add	12.35	
22 11 16 00-0060	EA	1-1/2" x 1", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	86.93	25.96
		For ASTM 120, Deduct	-7.20	
		For Work In Restricted Working Space, Add	11.68	
22 11 16 00-0061	EA	1-1/2" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	85.14	24.73
		For ASTM 120, Deduct	-7.20	
		For Work In Restricted Working Space, Add	11.14	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0062	EA	2" x 1-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	105.64	33.04	
		For ASTM 120, Deduct	-8.41		
		For Work In Restricted Working Space, Add	14.87		
22 11 16 00-0063	EA	2" x 1-1/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	111.38	31.40	
		For ASTM 120, Deduct	-9.64		
		For Work In Restricted Working Space, Add	14.13		
22 11 16 00-0064	EA	2" x 1", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	111.54	29.86	
		For ASTM 120, Deduct	-10.01		
		For Work In Restricted Working Space, Add	13.45		
22 11 16 00-0065	EA	2" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	93.65	28.73	
		For ASTM 120, Deduct	-7.59		
		For Work In Restricted Working Space, Add	12.92		
22 11 16 00-0066	EA	2-1/2" x 2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	258.85	45.87	
		For ASTM 120, Deduct	-28.51		
		For Work In Restricted Working Space, Add	20.63		
22 11 16 00-0067	EA	2-1/2" x 1-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	274.65	41.97	
		For ASTM 120, Deduct	-31.77		
		For Work In Restricted Working Space, Add	18.86		
22 11 16 00-0068	EA	3" x 2-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	440.51	63.41	
		For ASTM 120, Deduct	-51.82		
		For Work In Restricted Working Space, Add	28.51		
22 11 16 00-0069	EA	3" x 2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	381.79	54.48	
		For ASTM 120, Deduct	-45.01		
		For Work In Restricted Working Space, Add	24.52		
22 11 16 00-0070	EA	4" x 3", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	894.03	74.87	
		For ASTM 120, Deduct	-117.26		
		For Work In Restricted Working Space, Add	33.68		
22 11 16 00-0071	Galvanized Malleable Iron 45 Degree Elbow (22 11 16 00-0013)				
22 11 16 00-0072	EA	1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	36.28	18.26	
		For 300 LB Rating, Add	31.97		
		For ASTM 120, Deduct	-1.34		
		For Work In Restricted Working Space, Add	8.21		
22 11 16 00-0073	EA	3/4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	43.47	20.42	
		For 300 LB Rating, Add	45.49		
		For ASTM 120, Deduct	-1.93		
		For Work In Restricted Working Space, Add	9.19		
22 11 16 00-0074	EA	1", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	48.68	22.77	
		For 300 LB Rating, Add	51.28		
		For ASTM 120, Deduct	-2.17		
		For Work In Restricted Working Space, Add	10.26		
22 11 16 00-0075	EA	1-1/4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	65.78	25.86	
		For 300 LB Rating, Add	94.36		
		For ASTM 120, Deduct	-4.06		
		For Work In Restricted Working Space, Add	11.61		
22 11 16 00-0076	EA	1-1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	75.46	29.14	
		For 300 LB Rating, Add	110.74		
		For ASTM 120, Deduct	-4.77		
		For Work In Restricted Working Space, Add	13.10		
22 11 16 00-0077	EA	2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	102.51	37.04	
		For 300 LB Rating, Add	163.30		
		For ASTM 120, Deduct	-7.06		
		For Work In Restricted Working Space, Add	16.64		
22 11 16 00-0078	EA	2-1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	245.78	54.79	
		For 300 LB Rating, Add	561.50		
		For ASTM 120, Deduct	-24.56		
		For Work In Restricted Working Space, Add	24.62		
22 11 16 00-0079	EA	3", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	346.08	72.03	
		For 300 LB Rating, Add	815.95		
		For ASTM 120, Deduct	-35.71		
		For Work In Restricted Working Space, Add	32.40		
22 11 16 00-0080	EA	4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	517.17	78.71	
		For 300 LB Rating, Add	1,364.16		
		For ASTM 120, Deduct	-59.87		
		For Work In Restricted Working Space, Add	35.41		
22 11 16 00-0081	EA	5", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	1,736.02	82.15	
		For 300 LB Rating, Add	5,491.11		
		For ASTM 120, Deduct	-241.93		
		For Work In Restricted Working Space, Add	36.95		
22 11 16 00-0082	EA	6", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	2,073.50	85.89	
		For 300 LB Rating, Add	6,619.81		
		For ASTM 120, Deduct	-291.71		
		For Work In Restricted Working Space, Add	38.63		
22 11 16 00-0083	EA	8", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	2,477.40	89.75	
		For 300 LB Rating, Add	7,973.73		
		For ASTM 120, Deduct	-351.43		
		For Work In Restricted Working Space, Add	40.37		
22 11 16 00-0084	Galvanized Malleable Iron Tees (22 11 16 00-0013)				
22 11 16 00-0085	EA	1/2", 150 LB, Galvanized Malleable Iron Tee	42.66	22.77	
		For 300 LB Rating, Add	30.82		
		For ASTM 120, Deduct	-1.27		
		For Work In Restricted Working Space, Add	10.26		

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0246	EA	1-1/2" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	28.02	11.39
		For Schedule 80 Nipples, Add	.....	12.45	
		For ASTM 120, Deduct	.....	-7.64	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0247	EA	2" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	36.76	14.67
		For Schedule 80 Nipples, Add	.....	16.75	
		For ASTM 120, Deduct	.....	-2.20	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0248	EA	2-1/2" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	61.05	18.26
		For Schedule 80 Nipples, Add	.....	38.41	
		For ASTM 120, Deduct	.....	-5.05	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0249	EA	3" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	79.84	22.06
		For Schedule 80 Nipples, Add	.....	53.28	
		For ASTM 120, Deduct	.....	-7.07	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0250	EA	4" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	100.85	27.01
		For Schedule 80 Nipples, Add	.....	68.83	
		For ASTM 120, Deduct	.....	-9.06	
		For Work In Restricted Working Space, Add	.....	12.14	
22 11 16 00-0251	EA	3/8" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	22.50	9.74
		For Schedule 80 Nipples, Add	.....	8.94	
		For ASTM 120, Deduct	.....	-1.18	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0252	EA	1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	19.41	9.74
		For Schedule 80 Nipples, Add	.....	5.42	
		For ASTM 120, Deduct	.....	-0.71	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0253	EA	3/4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	20.83	9.74
		For Schedule 80 Nipples, Add	.....	7.03	
		For ASTM 120, Deduct	.....	-0.93	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0254	EA	1" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	23.89	10.57
		For Schedule 80 Nipples, Add	.....	9.23	
		For ASTM 120, Deduct	.....	-1.22	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0255	EA	1-1/4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	27.36	11.39
		For Schedule 80 Nipples, Add	.....	11.70	
		For ASTM 120, Deduct	.....	-1.54	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0256	EA	1-1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	29.39	11.39
		For Schedule 80 Nipples, Add	.....	14.01	
		For ASTM 120, Deduct	.....	-1.84	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0257	EA	2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	39.14	14.67
		For Schedule 80 Nipples, Add	.....	19.46	
		For ASTM 120, Deduct	.....	-2.56	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0258	EA	2-1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	64.38	18.26
		For Schedule 80 Nipples, Add	.....	42.20	
		For ASTM 120, Deduct	.....	-5.55	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0259	EA	3" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	82.54	22.06
		For Schedule 80 Nipples, Add	.....	56.36	
		For ASTM 120, Deduct	.....	-7.42	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0260	EA	4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	107.22	27.01
		For Schedule 80 Nipples, Add	.....	76.10	
		For ASTM 120, Deduct	.....	-10.01	
		For Work In Restricted Working Space, Add	.....	12.14	
22 11 16 00-0261	EA	3/8" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	45.98	9.74
		For Schedule 80 Nipples, Add	.....	35.70	
		For ASTM 120, Deduct	.....	-4.70	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0262	EA	1/2" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	23.03	9.74
		For Schedule 80 Nipples, Add	.....	9.54	
		For ASTM 120, Deduct	.....	-1.26	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0263	EA	3/4" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	25.36	9.74
		For Schedule 80 Nipples, Add	.....	12.20	
		For ASTM 120, Deduct	.....	-1.61	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0264	EA	1" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	29.35	10.57
		For Schedule 80 Nipples, Add	.....	15.46	
		For ASTM 120, Deduct	.....	-2.03	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0265	EA	1-1/4" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	33.73	11.39
		For Schedule 80 Nipples, Add	.....	18.96	
		For ASTM 120, Deduct	.....	-2.49	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0266	EA	1-1/2" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	36.17	11.39
		For Schedule 80 Nipples, Add	.....	21.74	
		For ASTM 120, Deduct	.....	-2.86	
		For Work In Restricted Working Space, Add	.....	5.13	

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

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



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

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

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



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

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

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



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

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

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

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



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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
22 11 16 00-0578	EA 1-1/4" Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	93.42	40.12	
22 11 16 00-0579	EA 1-1/2" Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	110.70	44.57	
22 11 16 00-0580	EA 2" Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	154.93	53.48	
22 11 16 00-0581	EA 2-1/2" Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	251.69	58.90	
22 11 16 00-0582	EA 3" Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	548.16	83.53	
22 11 16 00-0583	Cast Bronze, Solder X Female Threaded Union (22 11 16 00-0436)			
22 11 16 00-0584	EA 1/4" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	50.63	17.83	
22 11 16 00-0585	EA 3/8" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	57.03	21.50	
22 11 16 00-0586	EA 1/2" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	59.75	26.74	
22 11 16 00-0587	EA 3/4" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	72.44	30.53	
22 11 16 00-0588	EA 1" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	110.26	36.43	
22 11 16 00-0589	EA 1-1/4" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	163.90	40.12	
22 11 16 00-0590	EA 1-1/2" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	198.27	44.57	
22 11 16 00-0591	EA 2" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	302.66	53.48	
22 11 16 00-0592	EA 2-1/2" Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	509.91	58.90	
22 11 16 00-0593	Cast Bronze, Solder X Male Threaded Union (22 11 16 00-0436)			
22 11 16 00-0594	EA 1/4" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	44.94	17.83	
22 11 16 00-0595	EA 3/8" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	53.55	21.50	

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0631	EA		1-1/4" Cast Bronze Cross	239.49	72.54
			For Silver Solder Instead Of 95/5 Solder, Add	22.85	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-17.41	
			For Brazed Fittings Instead Of 95/5 Solder, Add	16.31	
			For Work In Restricted Working Space, Add	32.63	
22 11 16 00-0632	EA		1-1/2" Cast Bronze Cross	305.36	79.31
			For Silver Solder Instead Of 95/5 Solder, Add	27.17	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-21.22	
			For Brazed Fittings Instead Of 95/5 Solder, Add	17.85	
			For Work In Restricted Working Space, Add	35.71	
22 11 16 00-0633	EA		2" Cast Bronze Cross	465.49	88.96
			For Silver Solder Instead Of 95/5 Solder, Add	36.61	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-29.94	
			For Brazed Fittings Instead Of 95/5 Solder, Add	20.01	
			For Work In Restricted Working Space, Add	40.01	
22 11 16 00-0634	EA		2-1/2" Cast Bronze Cross	959.20	98.50
			For Silver Solder Instead Of 95/5 Solder, Add	62.74	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-65.35	
			For Brazed Fittings Instead Of 95/5 Solder, Add	22.16	
			For Work In Restricted Working Space, Add	44.33	
22 11 16 00-0635			Flexible Corrugated Copper Supply Line (22 11 16 00-0436)		
22 11 16 00-0636	EA		3/4" Threaded x 3/4" Solder x 18" Long, Flexible Corrugated Copper Supply Line	76.01	30.53
22 11 16 00-0637	EA		3/4" Threaded x 3/4" Solder x 24" Long, Flexible Corrugated Copper Supply Line	79.66	30.53
22 11 16 00-0638	EA		3/4" Threaded x 3/4" Threaded x 12" Long, Flexible Corrugated Copper Supply Line	69.45	30.53
22 11 16 00-0639	EA		3/4" Threaded x 3/4" Threaded x 15" Long, Flexible Corrugated Copper Supply Line	73.58	30.53
22 11 16 00-0640	EA		3/4" Threaded x 3/4" Threaded x 18" Long, Flexible Corrugated Copper Supply Line	77.23	30.53
22 11 16 00-0641	EA		3/4" Threaded x 3/4" Threaded x 24" Long, Flexible Corrugated Copper Supply Line	79.66	30.53
22 11 16 00-0642			Crimped Copper Fittings (22 11 16 00-0368)		
			Note: Viega ProPress type. Includes factory installed ethylene propylene diene monomer (EPDM) sealing elements.		
22 11 16 00-0643			Crimped Copper 90 Degree Elbows (22 11 16 00-0642)		
22 11 16 00-0644	EA		1/2" Crimped Copper 90 Degree Elbow	25.66	13.38
22 11 16 00-0645	EA		3/4" Crimped Copper 90 Degree Elbow	32.35	15.27
22 11 16 00-0646	EA		1" Crimped Copper 90 Degree Elbow	46.34	18.16
22 11 16 00-0647	EA		1-1/4" Crimped Copper 90 Degree Elbow	68.54	20.05
22 11 16 00-0648	EA		1-1/2" Crimped Copper 90 Degree Elbow	106.25	22.29
22 11 16 00-0649	EA		2" Crimped Copper 90 Degree Elbow	141.33	26.74
22 11 16 00-0650	EA		2-1/2" Crimped Copper 90 Degree Elbow	340.77	31.20
22 11 16 00-0651	EA		3" Crimped Copper 90 Degree Elbow	425.57	37.10
22 11 16 00-0652	EA		4" Crimped Copper 90 Degree Elbow	531.13	49.03
22 11 16 00-0653			Crimped Copper 45 Degree Elbows (22 11 16 00-0642)		
22 11 16 00-0654	EA		1/2" Crimped Copper 45 Degree Elbow	26.59	13.38
22 11 16 00-0655	EA		3/4" Crimped Copper 45 Degree Elbow	30.86	15.27
22 11 16 00-0656	EA		1" Crimped Copper 45 Degree Elbow	53.07	18.16
22 11 16 00-0657	EA		1-1/4" Crimped Copper 45 Degree Elbow	67.05	20.05
22 11 16 00-0658	EA		1-1/2" Crimped Copper 45 Degree Elbow	93.38	22.29
22 11 16 00-0659	EA		2" Crimped Copper 45 Degree Elbow	123.97	26.74
22 11 16 00-0660	EA		2-1/2" Crimped Copper 45 Degree Elbow	240.98	31.20
22 11 16 00-0661	EA		3" Crimped Copper 45 Degree Elbow	333.16	37.10
22 11 16 00-0662	EA		4" Crimped Copper 45 Degree Elbow	458.84	49.03
22 11 16 00-0663			Crimped Copper Straight Tees (22 11 16 00-0642)		
22 11 16 00-0664	EA		1/2" Crimped Copper Straight Tee	38.66	20.05
22 11 16 00-0665	EA		3/4" Crimped Copper Straight Tee	54.67	26.41
22 11 16 00-0666	EA		1" Crimped Copper Straight Tee	71.28	29.30
22 11 16 00-0667	EA		1-1/4" Crimped Copper Straight Tee	91.24	30.08
22 11 16 00-0668	EA		1-1/2" Crimped Copper Straight Tee	140.88	34.20
22 11 16 00-0669	EA		2" Crimped Copper Straight Tee	170.89	40.12
22 11 16 00-0670	EA		2-1/2" Crimped Copper Straight Tee	433.40	46.79
22 11 16 00-0671	EA		3" Crimped Copper Straight Tee	537.56	55.71
22 11 16 00-0672	EA		4" Crimped Copper Straight Tee	747.34	73.53
22 11 16 00-0673			Crimped Copper Reducing Tees (22 11 16 00-0642)		
22 11 16 00-0674	EA		3/4" Crimped Copper Reducing Tee	51.97	19.06
22 11 16 00-0675	EA		1" Crimped Copper Reducing Tee	79.01	25.07
22 11 16 00-0676	EA		1-1/4" Crimped Copper Reducing Tee	83.97	27.86
22 11 16 00-0677	EA		1-1/2" Crimped Copper Reducing Tee	122.44	28.63
22 11 16 00-0678	EA		2" Crimped Copper Reducing Tee	149.34	32.42
22 11 16 00-0679	EA		2-1/2" Crimped Copper Reducing Tee	482.38	36.77
22 11 16 00-0680	EA		3" Crimped Copper Reducing Tee	589.18	44.57
22 11 16 00-0681	EA		4" Crimped Copper Reducing Tee	683.38	59.38



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

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

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 16 00-0746**Field Installed FKM Seals** (22 11 16 00-0642)

Note: For vacuum systems. Includes removing factory installed ethylene propylene diene monomer (EPDM) seal and installing FKM seal.

22 11 16 00-0747	EA	1/2" Field Installed FKM Seal.....	8.19	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0748	EA	3/4" Field Installed FKM Seal.....	10.70	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0749	EA	1" Field Installed FKM Seal.....	12.30	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0750	EA	1-1/4" Field Installed FKM Seal.....	14.25	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0751	EA	1-1/2" Field Installed FKM Seal.....	21.34	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0752	EA	2" Field Installed FKM Seal.....	23.47	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0753	EA	2-1/2" Field Installed FKM Seal.....	37.28	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0754	EA	3" Field Installed FKM Seal.....	42.49	
		Note: To be used in conjunction with fittings.		
22 11 16 00-0755	EA	4" Field Installed FKM Seal.....	58.33	
		Note: To be used in conjunction with fittings.		

22 11 16 00-0756**Cut And Prepare Existing In-Place Copper Pipe** (22 11 16 00-0368)

22 11 16 00-0757	EA	Up To 1/2", Cut And Prepare Existing In Place Copper Pipe.....	11.14	
22 11 16 00-0758	EA	3/4", Cut And Prepare Existing In Place Copper Pipe.....	12.04	
22 11 16 00-0759	EA	1", Cut And Prepare Existing In Place Copper Pipe.....	13.54	
22 11 16 00-0760	EA	1-1/4", Cut And Prepare Existing In Place Copper Pipe.....	14.20	
22 11 16 00-0761	EA	1-1/2", Cut And Prepare Existing In Place Copper Pipe.....	15.04	
22 11 16 00-0762	EA	2", Cut And Prepare Existing In Place Copper Pipe.....	16.55	
22 11 16 00-0763	EA	2-1/2", Cut And Prepare Existing In Place Copper Pipe.....	17.83	
22 11 16 00-0764	EA	3", Cut And Prepare Existing In Place Copper Pipe.....	21.06	
22 11 16 00-0765	EA	4", Cut And Prepare Existing In Place Copper Pipe.....	28.41	
22 11 16 00-0766	EA	6", Cut And Prepare Existing In Place Copper Pipe.....	40.61	
22 11 16 00-0767	EA	8", Cut And Prepare Existing In Place Copper Pipe.....	54.14	

22 11 16 00-0768**Sweat Brass Companion Flanges** (22 11 16 00-0365)

Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.

22 11 16 00-0769	EA	1" Sweat Brass Companion Flange.....	89.00	17.13
22 11 16 00-0770	EA	1-1/4" Sweat Brass Companion Flange.....	96.99	18.88
22 11 16 00-0771	EA	1-1/2" Sweat Brass Companion Flange.....	145.45	20.52
22 11 16 00-0772	EA	2" Sweat Brass Companion Flange.....	199.60	22.77
22 11 16 00-0773	EA	2-1/2" Sweat Brass Companion Flange.....	241.84	27.40
22 11 16 00-0774	EA	3" Sweat Brass Companion Flange.....	261.68	35.91
22 11 16 00-0775	EA	4" Sweat Brass Companion Flange.....	354.10	42.79
22 11 16 00-0776	EA	5" Sweat Brass Companion Flange.....	667.50	52.41
22 11 16 00-0777	EA	6" Sweat Brass Companion Flange.....	749.95	76.15
22 11 16 00-0778	EA	8" Copper Companion Flange.....	1,816.36	108.63

22 11 16 00-0779**Brass Compression Fittings** (22 11 16 00-0368)**22 11 16 00-0780****Brass Compression Unions** (22 11 16 00-0779)

22 11 16 00-0781	EA	1/4" Brass Compression Union.....	19.14	12.04
22 11 16 00-0782	EA	3/8" Brass Compression Union.....	19.44	12.04
22 11 16 00-0783	EA	1/2" Brass Compression Union.....	20.35	12.04
22 11 16 00-0784	EA	5/8" Brass Compression Union.....	20.78	12.04
22 11 16 00-0785	EA	3/4" Brass Compression Union.....	29.39	12.04
22 11 16 00-0786	EA	3/8" x 1/4" Brass Compression Union.....	19.65	12.04
22 11 16 00-0787	EA	1/2" x 3/8" Brass Compression Union.....	20.42	12.04
22 11 16 00-0788	EA	5/8" x 3/8" Brass Compression Union.....	20.96	12.04
22 11 16 00-0789	EA	5/8" x 1/2" Brass Compression Union.....	21.82	12.04

22 11 16 00-0790**Brass Compression Union Elbows** (22 11 16 00-0779)

22 11 16 00-0791	EA	1/4" Brass Compression Union Elbow.....	20.35	12.04
22 11 16 00-0792	EA	3/8" Brass Compression Union Elbow.....	20.84	12.04
22 11 16 00-0793	EA	1/2" Brass Compression Union Elbow.....	21.92	12.04
22 11 16 00-0794	EA	5/8" Brass Compression Union Elbow.....	23.59	12.04
22 11 16 00-0795	EA	3/4" Brass Compression Union Elbow.....	30.12	12.04
22 11 16 00-0796	EA	3/8" x 1/4" Brass Compression Union Elbow.....	20.84	12.04
22 11 16 00-0797	EA	1/2" x 3/8" Brass Compression Union Elbow.....	21.92	12.04
22 11 16 00-0798	EA	5/8" x 3/8" Brass Compression Union Elbow.....	22.22	12.04
22 11 16 00-0799	EA	5/8" x 1/2" Brass Compression Union Elbow.....	27.12	12.04

22 11 16 00-0800**Brass Compression Union Tees** (22 11 16 00-0779)

22 11 16 00-0801	EA	1/4" Brass Compression Union Tee.....	20.72	12.04



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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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

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

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



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



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



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

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

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



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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



Plumbing		22
Plumbing Piping		22 10
Facility Water Distribution		22 11

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-1217	EA		1-1/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	18.04	
22 11 16 00-1218	EA		1-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	25.57	
22 11 16 00-1219	EA		2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	31.59	
22 11 16 00-1220	EA		2-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	79.64	
22 11 16 00-1221	EA		3" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	117.23	
22 11 16 00-1222	EA		4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	256.77	
22 11 16 00-1223			125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushings (22 11 16 00-1063)		
22 11 16 00-1224	EA		1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	10.54	
22 11 16 00-1225	EA		3/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	15.01	
22 11 16 00-1226	EA		1" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	26.16	
22 11 16 00-1227	EA		1-1/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	35.53	
22 11 16 00-1228	EA		1-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	44.42	
22 11 16 00-1229	EA		2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	55.96	
22 11 16 00-1230	EA		2-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	114.26	
22 11 16 00-1231	EA		3" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	180.78	
22 11 16 00-1232	EA		4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	379.90	
22 11 16 00-1233			1/2" Red Brass Pipe Nipples (22 11 16 00-1063)		
			Note: Threaded both ends.		
22 11 16 00-1234	EA		1/2" x Close, Red Brass Pipe Nipple	10.08	
22 11 16 00-1235	EA		1/2" x 1-1/2" Long, Red Brass Pipe Nipple	11.81	
22 11 16 00-1236	EA		1/2" x 2" Long, Red Brass Pipe Nipple	14.46	
22 11 16 00-1237	EA		1/2" x 2-1/2" Long, Red Brass Pipe Nipple	17.18	
22 11 16 00-1238	EA		1/2" x 3" Long, Red Brass Pipe Nipple	19.91	
22 11 16 00-1239	EA		1/2" x 3-1/2" Long, Red Brass Pipe Nipple	23.49	
22 11 16 00-1240	EA		1/2" x 4" Long, Red Brass Pipe Nipple	26.34	
22 11 16 00-1241	EA		1/2" x 4-1/2" Long, Red Brass Pipe Nipple	28.93	
22 11 16 00-1242	EA		1/2" x 5" Long, Red Brass Pipe Nipple	31.65	
22 11 16 00-1243	EA		1/2" x 5-1/2" Long, Red Brass Pipe Nipple	34.64	
22 11 16 00-1244	EA		1/2" x 6" Long, Red Brass Pipe Nipple	37.29	
22 11 16 00-1245			3/4" Red Brass Pipe Nipples (22 11 16 00-1063)		
			Note: Threaded both ends.		
22 11 16 00-1246	EA		3/4" x Close, Red Brass Pipe Nipple	14.73	
22 11 16 00-1247	EA		3/4" x 1-1/2" Long, Red Brass Pipe Nipple	15.53	
22 11 16 00-1248	EA		3/4" x 2" Long, Red Brass Pipe Nipple	18.78	
22 11 16 00-1249	EA		3/4" x 2-1/2" Long, Red Brass Pipe Nipple	22.10	
22 11 16 00-1250	EA		3/4" x 3" Long, Red Brass Pipe Nipple	25.08	
22 11 16 00-1251	EA		3/4" x 3-1/2" Long, Red Brass Pipe Nipple	28.80	
22 11 16 00-1252	EA		3/4" x 4" Long, Red Brass Pipe Nipple	32.38	
22 11 16 00-1253	EA		3/4" x 4-1/2" Long, Red Brass Pipe Nipple	36.36	
22 11 16 00-1254	EA		3/4" x 5" Long, Red Brass Pipe Nipple	39.68	
22 11 16 00-1255	EA		3/4" x 5-1/2" Long, Red Brass Pipe Nipple	45.72	
22 11 16 00-1256	EA		3/4" x 6" Long, Red Brass Pipe Nipple	48.04	
22 11 16 00-1257			1" Red Brass Pipe Nipples (22 11 16 00-1063)		
			Note: Threaded both ends.		
22 11 16 00-1258	EA		1" x Close, Red Brass Pipe Nipple	22.43	
22 11 16 00-1259	EA		1" x 1-1/2" Long, Red Brass Pipe Nipple	24.68	
22 11 16 00-1260	EA		1" x 2" Long, Red Brass Pipe Nipple	26.94	
22 11 16 00-1261	EA		1" x 2-1/2" Long, Red Brass Pipe Nipple	32.05	
22 11 16 00-1262	EA		1" x 3" Long, Red Brass Pipe Nipple	36.23	
22 11 16 00-1263	EA		1" x 3-1/2" Long, Red Brass Pipe Nipple	42.66	
22 11 16 00-1264	EA		1" x 4" Long, Red Brass Pipe Nipple	47.77	
22 11 16 00-1265	EA		1" x 4-1/2" Long, Red Brass Pipe Nipple	52.82	
22 11 16 00-1266	EA		1" x 5" Long, Red Brass Pipe Nipple	57.99	
22 11 16 00-1267	EA		1" x 5-1/2" Long, Red Brass Pipe Nipple	63.43	
22 11 16 00-1268	EA		1" x 6" Long, Red Brass Pipe Nipple	68.48	
22 11 16 00-1269			1-1/4" Red Brass Pipe Nipples (22 11 16 00-1063)		
			Note: Threaded both ends.		
22 11 16 00-1270	EA		1-1/4" x Close, Red Brass Pipe Nipple	33.18	
22 11 16 00-1271	EA		1-1/4" x 1-1/2" Long, Red Brass Pipe Nipple	35.35	
22 11 16 00-1272	EA		1-1/4" x 2" Long, Red Brass Pipe Nipple	38.02	
22 11 16 00-1273	EA		1-1/4" x 2-1/2" Long, Red Brass Pipe Nipple	45.78	
22 11 16 00-1274	EA		1-1/4" x 3" Long, Red Brass Pipe Nipple	53.48	
22 11 16 00-1275	EA		1-1/4" x 3-1/2" Long, Red Brass Pipe Nipple	62.77	
22 11 16 00-1276	EA		1-1/4" x 4" Long, Red Brass Pipe Nipple	70.47	
22 11 16 00-1277	EA		1-1/4" x 4-1/2" Long, Red Brass Pipe Nipple	78.16	
22 11 16 00-1278	EA		1-1/4" x 5" Long, Red Brass Pipe Nipple	85.93	
22 11 16 00-1279	EA		1-1/4" x 5-1/2" Long, Red Brass Pipe Nipple	94.02	
22 11 16 00-1280	EA		1-1/4" x 6" Long, Red Brass Pipe Nipple	101.72	

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

MINOR
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TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 16 00-1281		1-1/2" Red Brass Pipe Nipples (22 11 16 00-1063)	
		Note: Threaded both ends.	
22 11 16 00-1282	EA	1-1/2" x Close, Red Brass Pipe Nipple	41.27
22 11 16 00-1283	EA	1-1/2" x 1-1/2" Long, Red Brass Pipe Nipple	43.07
22 11 16 00-1284	EA	1-1/2" x 2" Long, Red Brass Pipe Nipple	44.85
22 11 16 00-1285	EA	1-1/2" x 2-1/2" Long, Red Brass Pipe Nipple	54.54
22 11 16 00-1286	EA	1-1/2" x 3" Long, Red Brass Pipe Nipple	61.84
22 11 16 00-1287	EA	1-1/2" x 3-1/2" Long, Red Brass Pipe Nipple	72.72
22 11 16 00-1288	EA	1-1/2" x 4" Long, Red Brass Pipe Nipple	81.88
22 11 16 00-1289	EA	1-1/2" x 4-1/2" Long, Red Brass Pipe Nipple	91.37
22 11 16 00-1290	EA	1-1/2" x 5" Long, Red Brass Pipe Nipple	100.52
22 11 16 00-1291	EA	1-1/2" x 5-1/2" Long, Red Brass Pipe Nipple	109.48
22 11 16 00-1292	EA	1-1/2" x 6" Long, Red Brass Pipe Nipple	118.44
22 11 16 00-1293		2" Red Brass Pipe Nipples (22 11 16 00-1063)	
		Note: Threaded both ends.	
22 11 16 00-1294	EA	2" x Close, Red Brass Pipe Nipple	63.43
22 11 16 00-1295	EA	2" x 1-1/2" Long, Red Brass Pipe Nipple	66.65
22 11 16 00-1296	EA	2" x 2" Long, Red Brass Pipe Nipple	67.85
22 11 16 00-1297	EA	2" x 2-1/2" Long, Red Brass Pipe Nipple	70.07
22 11 16 00-1298	EA	2" x 3" Long, Red Brass Pipe Nipple	79.36
22 11 16 00-1299	EA	2" x 3-1/2" Long, Red Brass Pipe Nipple	93.56
22 11 16 00-1300	EA	2" x 4" Long, Red Brass Pipe Nipple	105.10
22 11 16 00-1301	EA	2" x 4-1/2" Long, Red Brass Pipe Nipple	116.65
22 11 16 00-1302	EA	2" x 5" Long, Red Brass Pipe Nipple	127.06
22 11 16 00-1303	EA	2" x 5-1/2" Long, Red Brass Pipe Nipple	140.14
22 11 16 00-1304	EA	2" x 6" Long, Red Brass Pipe Nipple	151.61
22 11 16 00-1305		Cross-Linked Polyethylene Tubing, ASTM F877 (22 11 16)	
		Note: Aboveground, domestic water usage.	
22 11 16 00-1306		Cross-Linked Polyethylene Tubing (22 11 16 00-1305)	
22 11 16 00-1307	LF	3/8" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	5.34
		For Work In Restricted Working Space, Add	0.97
22 11 16 00-1308	LF	1/2" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	5.84
		For Work In Restricted Working Space, Add	1.04
22 11 16 00-1309	LF	3/4" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	8.08
		For Work In Restricted Working Space, Add	1.13
22 11 16 00-1310	LF	1" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	11.37
		For Work In Restricted Working Space, Add	1.19
22 11 16 00-1311		Cross-Linked Polyethylene Forged Brass PEX Fittings (22 11 16 00-1305)	
		Note: Aboveground, domestic water usage.	
22 11 16 00-1312		Male Adapters (22 11 16 00-1311)	
22 11 16 00-1313	EA	3/8" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	24.33
		For Work In Restricted Working Space, Add	5.01
22 11 16 00-1314	EA	1/2" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	26.35
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1315	EA	1/2" x 3/4", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	29.24
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1316	EA	3/4" x 3/4", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	30.35
		For Work In Restricted Working Space, Add	6.02
22 11 16 00-1317	EA	3/4" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	29.24
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1318	EA	1" x 1", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	40.43
		For Work In Restricted Working Space, Add	6.69
22 11 16 00-1319		Female Adapters (22 11 16 00-1311)	
22 11 16 00-1320	EA	1/2" x 1/2", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	27.24
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1321	EA	1/2" x 3/4", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	31.68
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1322	EA	3/4" x 3/4", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	32.79
		For Work In Restricted Working Space, Add	6.02
22 11 16 00-1323	EA	3/4" x 1/2", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	31.68
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1324	EA	1" x 1", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	41.55
		For Work In Restricted Working Space, Add	6.69
22 11 16 00-1325		Tube Adapters (22 11 16 00-1311)	
22 11 16 00-1326	EA	3/8" x 1/2" Forged Brass Tube Adapter For PEX Tubing	20.72
		For Work In Restricted Working Space, Add	5.01
22 11 16 00-1327	EA	1/2" Forged Brass Tube Adapter For PEX Tubing	21.84
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1328	EA	3/4" Forged Brass Tube Adapter For PEX Tubing	27.45
		For Work In Restricted Working Space, Add	6.02



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



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



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0056	EA		4" x 1/2" NPT, Cast Iron, Sewage Air Release Valve (Apco 400)..... <i>For Back Flush Attachment, Add</i>	1,478.24 650.00	85.83
22 11 19 00-0057			Cast Iron, Sewage Air Vacuum Valves (22 11 19 00-0052) Note: Stainless steel float.		
22 11 19 00-0058	EA		2" x 1" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 401)..... <i>For Back Flush Attachment, Add</i>	971.40 650.00	40.69
22 11 19 00-0059	EA		2" x 2" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 402)..... <i>For Back Flush Attachment, Add</i>	1,908.00 650.00	40.69
22 11 19 00-0060	EA		3" x 2" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 403)..... <i>For Back Flush Attachment, Add</i>	2,288.61 650.00	67.99
22 11 19 00-0061	EA		4" NPT x 4" With Hood, Cast Iron, Sewage Air Vacuum Valve (Apco 404)	3,390.25	85.83
22 11 19 00-0062			Cast Iron, Sewage Combination Air Valves (22 11 19 00-0052) Note: Stainless steel float.		
22 11 19 00-0063	EA		2" x 1" NPT, Sewage Combination Air Valve (Apco 443)	2,078.77	40.69
22 11 19 00-0064	EA		2" x 2" NPT, Sewage Combination Air Valve (Apco 445)	2,867.89	40.69
22 11 19 00-0065	EA		3" x 3" NPT, Sewage Combination Air Valve (Apco 447)	3,354.58	67.99
22 11 19 00-0066	EA		4" x 4" NPT, Sewage Combination Air Valve (Apco 449)	4,101.76	85.83
22 11 19 00-0067			Brass, Anti Siphon Vacuum Breakers (22 11 19) Note: Watts 288A		
22 11 19 00-0068	EA		1/2" Brass, Anti Siphon Vacuum Breaker	110.50	27.86
22 11 19 00-0069	EA		3/4" Brass, Anti Siphon Vacuum Breaker	127.31	31.20
22 11 19 00-0070	EA		1" Brass, Anti Siphon Vacuum Breaker	270.41	35.65
22 11 19 00-0071	EA		1-1/4" Brass, Anti Siphon Vacuum Breaker	435.34	41.22
22 11 19 00-0072	EA		1-1/2" Brass, Anti Siphon Vacuum Breaker	520.36	45.68
22 11 19 00-0073	EA		2" Brass, Anti Siphon Vacuum Breaker	765.67	55.71
22 11 19 00-0074	EA		2-1/2" Brass, Anti Siphon Vacuum Breaker	2,033.42	69.64
22 11 19 00-0075			Polyvinyl Chloride (PVC) Vacuum Breakers (22 11 19) Note: 100 psi maximum, 140 degree F maximum.		
22 11 19 00-0076	EA		1/2" Polyvinyl Chloride (PVC) Vacuum Breaker With Vitron Seal (Plast-O-Matic VBM050V-PV)	358.66	27.86
22 11 19 00-0077	EA		3/4" Polyvinyl Chloride (PVC) Vacuum Breaker With Vitron Seal (Plast-O-Matic VBM075V-PV)	391.98	31.20
22 11 19 00-0078	EA		1" Polyvinyl Chloride (PVC) Vacuum Breaker With Vitron Seal (Plast-O-Matic VBM100V-PV)	432.02	35.10
22 11 19 00-0079			Anti Siphon Pressure Vacuum Breakers (22 11 19) Note: Watts 800M4QT		
22 11 19 00-0080	EA		1/2" Anti Siphon Pressure Type Vacuum Breaker	342.58	27.86
22 11 19 00-0081	EA		3/4" Anti Siphon Pressure Type Vacuum Breaker	297.28	31.20
22 11 19 00-0082	EA		1" Anti Siphon Pressure Type Vacuum Breaker	428.26	35.65
22 11 19 00-0083	EA		1-1/4" Anti Siphon Pressure Type Vacuum Breaker	782.63	41.22
22 11 19 00-0084	EA		1-1/2" Anti Siphon Pressure Type Vacuum Breaker	953.75	45.68
22 11 19 00-0085	EA		2" Anti Siphon Pressure Type Vacuum Breaker	959.81	55.71
22 11 19 00-0086			Bellows Type Water Hammer Arrestors (22 11 19)		
22 11 19 00-0087	EA		Up To 11 Fixture Unit Capacity, 3/4" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5005)	165.71	13.32
22 11 19 00-0088	EA		>11 To 32 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5010)	315.72	16.12
22 11 19 00-0089	EA		>32 To 60 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5020)	455.55	16.12
22 11 19 00-0090	EA		>60 To 113 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5030)	1,093.88	16.12
22 11 19 00-0091	EA		>113 To 154 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5040)	1,227.06	16.12
22 11 19 00-0092	EA		>154 To 330 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5050)	1,500.87	16.12
22 11 19 00-0093			Piston Type Water Hammer Arrestors (22 11 19)		
22 11 19 00-0094			Threaded Piston Type Water Hammer Arrestors (22 11 19 00-0093)		
22 11 19 00-0095	EA		Up To 11 Fixture Unit Capacity, 1/2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-A)	192.30	7.43
22 11 19 00-0096	EA		>11 To 32 Fixture Unit Capacity, 3/4" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-B)	372.01	8.57
22 11 19 00-0097	EA		>32 To 60 Fixture Unit Capacity, 1" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-C)	554.48	9.29
22 11 19 00-0098	EA		>60 To 113 Fixture Unit Capacity, 1-1/4" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-D)	1,369.13	11.98
22 11 19 00-0099	EA		>113 To 154 Fixture Unit Capacity, 1-1/2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-E)	1,667.42	14.86
22 11 19 00-0100	EA		>154 To 330 Fixture Unit Capacity, 2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-F)	1,897.77	16.12

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 19 00-0101	Escutcheons (22 11 19)		
22 11 19 00-0102	Brass Escutcheons (22 11 19 00-0101)		
22 11 19 00-0103	Shallow Brass Escutcheons (22 11 19 00-0102)		
22 11 19 00-0104	EA 3/8" IPS, Antique Or Polished Brass Shallow Escutcheon.....	13.07	2.79
22 11 19 00-0105	EA 1/2" IPS, Antique Or Polished Brass Shallow Escutcheon.....	14.12	2.79
22 11 19 00-0106	Deep Bell Brass Escutcheons (22 11 19 00-0102)		
22 11 19 00-0107	EA 3/8" IPS, Antique Or Polished Deep Bell Brass Escutcheon.....	15.49	3.12
22 11 19 00-0108	EA 1/2" IPS, Antique Or Polished Deep Bell Brass Escutcheon.....	15.53	3.12
22 11 19 00-0109	Chrome Plated Brass Escutcheons With Setscrew (22 11 19 00-0102)		
22 11 19 00-0110	EA 3/8" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	22.84	2.79
22 11 19 00-0111	EA 1/2" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	23.08	2.79
22 11 19 00-0112	EA 5/8" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	23.45	2.79
22 11 19 00-0113	EA 3/4" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	24.78	2.79
22 11 19 00-0114	EA 7/8" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	25.14	3.34
22 11 19 00-0115	EA 1" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	26.44	3.34
22 11 19 00-0116	EA 1-1/4" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	27.36	3.68
22 11 19 00-0117	EA 1-1/2" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	28.58	3.90
22 11 19 00-0118	EA 2" IPS, Chrome Plated Brass Escutcheon With Setscrew.....	41.29	4.46
22 11 19 00-0119	Plastic Escutcheons (22 11 19 00-0101)		
22 11 19 00-0120	Split-Ring White Plastic Escutcheons (22 11 19 00-0119)		
22 11 19 00-0121	EA 3/8" IPS, Split-Ring White Plastic Escutcheon.....	6.97	2.77
22 11 19 00-0122	EA 1/2" IPS, Split-Ring White Plastic Escutcheon.....	6.97	2.77
22 11 19 00-0123	EA 3/4" IPS, Split-Ring White Plastic Escutcheon.....	8.18	3.10
22 11 19 00-0124	EA 1" IPS, Split-Ring White Plastic Escutcheon.....	8.86	3.33
22 11 19 00-0125	EA 1-1/4" IPS, Split-Ring White Plastic Escutcheon.....	9.53	3.66
22 11 19 00-0126	EA 1-1/2" IPS, Split-Ring White Plastic Escutcheon.....	10.18	3.88
22 11 19 00-0127	EA 2" IPS, Split-Ring White Plastic Escutcheon.....	11.44	4.43
22 11 19 00-0128	EA 2-1/2" IPS, Split-Ring White Plastic Escutcheon.....	14.98	4.76
22 11 19 00-0129	EA 3" IPS, Split-Ring White Plastic Escutcheon.....	18.51	4.98
22 11 19 00-0130	EA 4" IPS, Split-Ring White Plastic Escutcheon.....	22.58	5.55
22 11 19 00-0131	Chrome Plate Plastic Escutcheons (22 11 19 00-0119)		
22 11 19 00-0132	EA 1/2" IPS, Chrome Plate Plastic Escutcheon.....	9.41	2.77
22 11 19 00-0133	EA 3/4" IPS, Chrome Plate Plastic Escutcheon.....	10.27	3.10
22 11 19 00-0134	EA 1" IPS, Chrome Plate Plastic Escutcheon.....	11.55	3.33
22 11 19 00-0135	EA 1-1/4" IPS, Chrome Plate Plastic Escutcheon.....	12.83	3.66
22 11 19 00-0136	EA 1-1/2" IPS, Chrome Plate Plastic Escutcheon.....	13.49	3.88
22 11 19 00-0137	EA 2" IPS, Chrome Plate Plastic Escutcheon.....	17.09	4.43
22 11 19 00-0138	EA 2-1/2" IPS, Chrome Plate Plastic Escutcheon.....	25.16	4.76
22 11 19 00-0139	EA 3" IPS, Chrome Plate Plastic Escutcheon.....	26.03	4.98
22 11 19 00-0140	EA 4" IPS, Chrome Plate Plastic Escutcheon.....	27.75	5.55
22 11 19 00-0141	Stainless Steel Escutcheons (22 11 19 00-0101)		
22 11 19 00-0142	Shallow Stainless Steel Escutcheons (22 11 19 00-0141)		
22 11 19 00-0143	EA 3/8" IPS, Shallow Stainless Steel Escutcheon.....	18.28	2.79
22 11 19 00-0144	EA 1/2" IPS, Shallow Stainless Steel Escutcheon.....	18.28	2.79
22 11 19 00-0145	EA 3/4" IPS, Shallow Stainless Steel Escutcheon.....	26.26	3.12
22 11 19 00-0146	Chrome Plated Steel Escutcheons (22 11 19 00-0101)		
22 11 19 00-0147	Split-Ring Chrome Plated Steel Escutcheons (22 11 19 00-0146)		
22 11 19 00-0148	EA 1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	6.31	2.77
22 11 19 00-0149	EA 3/4" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	6.86	3.10
22 11 19 00-0150	EA 1" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	7.55	3.33
22 11 19 00-0151	EA 1-1/4" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	8.10	3.66
22 11 19 00-0152	EA 1-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	8.66	3.88
22 11 19 00-0153	EA 2" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	9.98	4.43
22 11 19 00-0154	EA 2-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	15.63	4.76
22 11 19 00-0155	EA 3" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	16.61	4.98
22 11 19 00-0156	EA 3-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	20.70	5.31
22 11 19 00-0157	EA 4" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	18.07	5.55
22 11 19 00-0158	EA 5" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	23.61	6.10
22 11 19 00-0159	EA 6" IPS, Split-Ring Chrome Plated Steel Escutcheon.....	27.68	6.65
22 11 19 00-0160	Split-Ring/Springs Chrome Plated Steel Escutcheons (22 11 19 00-0146)		
22 11 19 00-0161	EA 3/8" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon.....	10.57	2.77



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0162	EA	1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	10.57	2.77
22 11 19 00-0163	EA	3/4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	11.28	3.10
22 11 19 00-0164	EA	1" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	11.97	3.33
22 11 19 00-0165	EA	1-1/4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	13.49	3.66
22 11 19 00-0166	EA	1-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	14.26	3.88
22 11 19 00-0167	EA	2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	16.94	4.43
22 11 19 00-0168	EA	2-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	19.61	4.76
22 11 19 00-0169	EA	3" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	24.19	4.88
22 11 19 00-0170	EA	3-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	29.97	5.31
22 11 19 00-0171	EA	4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	30.36	5.55
22 11 19 00-0172	EA	5" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	51.01	6.10
22 11 19 00-0173	EA	6" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	53.18	6.65
22 11 19 00-0174 Deep Bell Chrome Plated Steel Escutcheons (22 11 19 00-0146)				
22 11 19 00-0175	EA	3/8" IPS, Deep Bell Chrome Plated Steel Escutcheon	7.78	3.12
22 11 19 00-0176	EA	1/2" IPS, Deep Bell Chrome Plated Steel Escutcheon	7.66	3.12
22 11 19 00-0177	EA	3/4" IPS, Deep Bell Chrome Plated Steel Escutcheon	7.40	3.12
22 11 19 00-0178	EA	1" IPS, Deep Bell Chrome Plated Steel Escutcheon	8.27	3.34
22 11 19 00-0179	EA	1-1/4" IPS, Deep Bell Chrome Plated Steel Escutcheon	8.98	3.68
22 11 19 00-0180	EA	1-1/2" IPS, Deep Bell Chrome Plated Steel Escutcheon	9.91	3.90
22 11 19 00-0181 Shallow Chrome Plated Steel Escutcheons (22 11 19 00-0146)				
22 11 19 00-0182	EA	3/8" IPS, Shallow Chrome Plated Steel Escutcheon	6.90	2.79
22 11 19 00-0183	EA	1/2" IPS, Shallow Chrome Plated Steel Escutcheon	6.90	2.79
22 11 19 00-0184	EA	3/4" IPS, Shallow Chrome Plated Steel Escutcheon	7.02	2.79
22 11 19 00-0185	EA	1" IPS, Shallow Chrome Plated Steel Escutcheon	7.53	3.34
22 11 19 00-0186	EA	1-1/4" IPS, Shallow Chrome Plated Steel Escutcheon	8.14	3.68
22 11 19 00-0187	EA	1-1/2" IPS, Shallow Chrome Plated Steel Escutcheon	9.05	3.90
22 11 19 00-0188	EA	2" IPS, Shallow Chrome Plated Steel Escutcheon	10.26	4.46
22 11 19 00-0189 Wall Hydrants (22 11 19)				
Note: Female inlet connection, 3/4" hose thread outlet.				
22 11 19 00-0190 Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrants (22 11 19 00-0189)				
Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.				
22 11 19 00-0191	EA	6" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant	1,095.41	27.86
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0192	EA	12" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant	1,148.23	33.43
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0193	EA	18" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant	1,171.04	40.23
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0194 Cast Bronze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrants (22 11 19 00-0189)				
Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.				
22 11 19 00-0195	EA	Cast Bronze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant	1,059.52	46.79
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0196 Cast Bronze Non-Freezing Wall Hydrant (22 11 19 00-0189)				
Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.				
22 11 19 00-0197	EA	3" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	553.69	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0198	EA	4" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0199	EA	6" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0200	EA	8" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0201	EA	10" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	735.06	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0202	EA	12" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	735.06	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0203	EA	18" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant	837.48	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0204 Stainless Steel Box Type Wall Hydrants (22 11 19 00-0189)				
Note: With 3/4" NPT female and 3/4" NPT male inlet connection.				
22 11 19 00-0205	EA	Recessed Stainless Steel Hose Box With Wall Flange Less Door (Acorn 8140)	524.49	27.86
22 11 19 00-0206	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange Less Door (Acorn 8141)	575.83	27.86
22 11 19 00-0207	EA	Recessed Stainless Steel Hose Box With Wall Flange And Door (Acorn 8150)	582.83	27.86
22 11 19 00-0208	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange And Door (Acorn 8151)	659.82	27.86



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0209	EA	Recessed Stainless Steel Hose Box With Wall Flange Less Door (Acorn 8145)..... Note: Includes hot and cold hose connections.	937.38	39.00
22 11 19 00-0210	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange Less Door (Acorn 8146)..... Note: Includes hot and cold hose connections.	967.71	39.00
22 11 19 00-0211	EA	Recessed Stainless Steel Hose Box With Wall Flange And Door (Acorn 8155)..... Note: Includes hot and cold hose connections.	967.71	39.00
22 11 19 00-0212	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange And Door (Acorn 8156)..... Note: Includes hot and cold hose connections.	1,040.04	39.00
22 11 19 00-0213		Washer Boxes And Dryer Outlets (22 11 19)		
22 11 19 00-0214		Dryer Vent Kit (22 11 19 00-0213) Note: Includes 4" flexible tubing plastic hood clamps and tailpipe.		
22 11 19 00-0215	EA	Dryer Vent Kit With Hood, 4" x 5' Flexible Vent And Clamps	79.15	14.48
22 11 19 00-0216		Washer Boxes And Dryer Vents (22 11 19 00-0213) Note: Includes 1/2" supply valves and mounting brackets.		
22 11 19 00-0217	EA	2" Washing Machine Outlet Box, Plastic, Two 1/2" Supply Valves	276.82	22.29
22 11 19 00-0218		Ice Maker Outlet Box (22 11 19) Note: Includes one 1/2" quarter turn ball valve and connections wall mount.		
22 11 19 00-0219	EA	Plastic Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve, Wall Mount	148.57	22.29
22 11 19 00-0220	EA	Plastic Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve With Water Hammer Arrestor, Wall Mount	151.52	22.29
22 11 19 00-0221	EA	Steel Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve, Wall Mount.....	228.42	22.29
22 11 19 00-0222		Tempering Controllers For Potable Hot Water (22 11 19)		
22 11 19 00-0223		Point-Of-Use Thermostatic Mixing Valves (Bradley) (22 11 19 00-0222) Note: Point-of-Use Water Tempering Valves: ASSE 1016, or 1070, with piston control mechanism, positive shutoff of hot water when cold water supply is lost, bronze body and cap with replaceable corrosion-resistant components, including stainless steel piston and liner.		
22 11 19 00-0224	EA	1/2" Inlets, 1/2" Outlet Sink/Faucet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-2007).....	571.51	26.97
22 11 19 00-0225	EA	1/2" Inlets, 1/2" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4004).....	138.36	26.97
22 11 19 00-0226	EA	1/2" Inlets, 1/2" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4008).....	319.89	26.97
22 11 19 00-0227	EA	3/4" Inlets, 3/4" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4016).....	364.69	36.33
22 11 19 00-0228		Thermostatic Mixing Valves (Bradley) (22 11 19 00-0222) Note: Standard Thermostatic, Water Mixing Valves: ASSE 1017, liquid-filled motor and piston control mechanism with positive shutoff of hot water when cold water supply is lost. Water flow is shut off in event of thermostat failure. Bronze valve body and cap with replaceable corrosion-resistant components, including stainless steel piston and liner. Equipped with integral check stops and removable strainers.		
22 11 19 00-0229	EA	3/4" Inlets, 3/4" Outlet, 25 GPM Thermostatic Mixing Valve (Bradley S59-2025).....	1,568.37	38.90
22 11 19 00-0230	EA	3/4" Inlets, 1" Outlet, 45 GPM Thermostatic Mixing Valve (Bradley S59-2045).....	1,758.38	47.91
22 11 19 00-0231	EA	1" Inlets, 1-1/4" Outlet, 80 GPM Thermostatic Mixing Valve (Bradley S59-2080).....	2,114.81	55.73
22 11 19 00-0232	EA	1-1/4" Inlets, 1-1/2" Outlet, 130 GPM Thermostatic Mixing Valve (Bradley S59-2130).....	2,747.93	58.57
22 11 19 00-0233	EA	2" Inlets, 2" Outlet, 220 GPM Thermostatic Mixing Valve (Bradley S59-2200).....	3,690.49	76.00
22 11 19 00-0234		High Low Temperature Thermostatic Mixing Valves (Bradley) (22 11 19 00-0222) Note: High Low Temperature Thermostatic Mixing Valves: ASSE 1017, liquid-filled thermal motor and piston control mechanism with positive shutoff of hot water when cold water supply is lost, and allowing restricted cold flow in event of loss or interruption of hot water supply. Flow is shut off in the event of thermostat failure. Equipped with integral check stops, thermometer, and removable strainers.		
22 11 19 00-0235	EA	3/4" Inlets, 1" Outlet, 45 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3045).....	4,016.94	59.91
22 11 19 00-0236	EA	1" Inlets, 1-1/4" Outlet, 80 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3080).....	5,232.22	69.66
22 11 19 00-0237	EA	1-1/4" Inlets, 1-1/2" Outlet, 130 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3130).....	6,105.89	73.22
22 11 19 00-0238	EA	2" Inlets, 2" Outlet, 220 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3200).....	6,757.81	94.99
22 11 19 00-0239		Thermostatic Mixing Valves (Leonard) (22 11 19 00-0222) Note: Thermostatic Water Mixing Valve with Integral combination checkstops with strainers, 125 PSI (8.6 BAR) maximum operating pressure, Copper encapsulated thermostatic assembly with Teflon coated brass shuttle, Locking temperature regulating handle, Top or bottom supply/outlet connections, Integral circulation port connection		
22 11 19 00-0240	EA	3/4" In x 3/4" Out Thermostatic Mixing Valve (Leonard LV-981-RF)..... Note: For hot water or two pipe low pressure steam.	1,133.84	38.90
22 11 19 00-0241	EA	1" In x 1-1/4" Out Thermostatic Mixing Valve (Leonard LV-982-RF)..... Note: For hot water or two pipe low pressure steam.	1,333.93	47.91
22 11 19 00-0242	EA	1-1/4" In x 1-1/4" Out Thermostatic Mixing Valve (Leonard LV-983-RF)..... Note: For hot water or two pipe low pressure steam.	1,640.89	55.73
22 11 19 00-0243	EA	1-1/4" In x 1-1/2" Out Thermostatic Mixing Valve (Leonard LV-984-RF)..... Note: For hot water or two pipe low pressure steam.	2,010.72	58.60
22 11 19 00-0244	EA	2" In x 2" Out Thermostatic Mixing Valve (Leonard LV-985-RF)..... Note: For hot water or two pipe low pressure steam.	2,992.34	76.00
22 11 19 00-0245		Water Mixing/Self Operating Temperature Regulator (22 11 19 00-0222) Note: Includes high rate spring, temperature adjustment screw, temperature dial and remote bulb with 8' capillary tube.		



Plumbing			22
Plumbing Piping			22 10
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MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0246	EA	3/4" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	3,245.65	55.71
22 11 19 00-0247	EA	1" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	3,433.76	70.19
22 11 19 00-0248	EA	1-1/4" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	3,778.29	84.68
22 11 19 00-0249	EA	1-1/2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	4,155.84	99.16
22 11 19 00-0250	EA	2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	4,948.52	130.36
22 11 19 00-0251	EA	2-1/2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator).....	5,852.00	148.67
22 11 19 00-0252 Thermostatic Mixing Valves (Holby) (22 11 19 00-0222)				
22 11 19 00-0253	EA	2-1/2" Thermostatic Mixing Valve (Holby HOLBY2500).....	5,355.82	76.02
22 11 19 00-0254 Backflow Preventer Valves (22 11 19)				
22 11 19 00-0255 Double Check Valve Backflow Preventer Assemblies (22 11 19 00-0254)				
22 11 19 00-0256 Threaded Double Check Valve Assemblies (22 11 19 00-0255)				
22 11 19 00-0257 Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0256)				
Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and two epoxy coated bronze body check valves (Watts 007 QT or 719 QT series).				
22 11 19 00-0258	EA	1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT series).....	470.88	29.86
For Work In Restricted Working Space, Add			22.40	
For Owner Furnished Material, Deduct			-396.23	
22 11 19 00-0259	EA	3/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	553.15	42.34
For Work In Restricted Working Space, Add			31.76	
For Owner Furnished Material, Deduct			-447.30	
22 11 19 00-0260	EA	1" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	636.75	51.70
For Work In Restricted Working Space, Add			38.78	
For Owner Furnished Material, Deduct			-507.50	
22 11 19 00-0261	EA	1-1/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	896.02	60.17
For Work In Restricted Working Space, Add			45.13	
For Owner Furnished Material, Deduct			-745.60	
22 11 19 00-0262	EA	1-1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	1,111.73	69.08
For Work In Restricted Working Space, Add			51.47	
For Owner Furnished Material, Deduct			-940.15	
22 11 19 00-0263	EA	2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	1,276.86	89.13
For Work In Restricted Working Space, Add			66.85	
For Owner Furnished Material, Deduct			-1,054.03	
22 11 19 00-0264 Double Check Valve Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0256)				
Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, two epoxy coated bronze body check valves, and bronze strainer (Watts 007 QT-S or 719 QT-S series).				
22 11 19 00-0265	EA	1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	584.26	29.86
For Work In Restricted Working Space, Add			22.40	
For Owner Furnished Material, Deduct			-509.61	
22 11 19 00-0266	EA	3/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	719.21	42.34
For Work In Restricted Working Space, Add			31.76	
For Owner Furnished Material, Deduct			-613.36	
22 11 19 00-0267	EA	1" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	840.33	51.70
For Work In Restricted Working Space, Add			38.78	
For Owner Furnished Material, Deduct			-711.08	
22 11 19 00-0268	EA	1-1/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,186.09	60.17
For Work In Restricted Working Space, Add			45.13	
For Owner Furnished Material, Deduct			-1,035.67	
22 11 19 00-0269	EA	1-1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,453.38	69.08
For Work In Restricted Working Space, Add			51.47	
For Owner Furnished Material, Deduct			-1,281.80	
22 11 19 00-0270	EA	2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,748.54	89.13
For Work In Restricted Working Space, Add			66.85	
For Owner Furnished Material, Deduct			-1,525.71	
22 11 19 00-0271 Flanged Double Check Valve Assemblies (22 11 19 00-0255)				
22 11 19 00-0272 Double Check Valve Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0271)				
Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF007 NRS series).				
22 11 19 00-0273	EA	2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF007 NRS)	6,460.84	246.25
For Work In Restricted Working Space, Add			98.50	
For Owner Furnished Material, Deduct			-6,132.50	
22 11 19 00-0274	EA	3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF007 NRS)	7,098.38	277.04
For Work In Restricted Working Space, Add			109.28	
For Owner Furnished Material, Deduct			-6,734.13	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0275			Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs ^(22 11 19 00-0271) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF007 OSY series).		
22 11 19 00-0276	EA		2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF007 OSY).....	7,084.17	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-6,755.83	
22 11 19 00-0277	EA		3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 007 OSY)	8,137.26	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-7,773.01	
22 11 19 00-0278			Double Check Valve Assemblies With Non-Rising Stem Shut-Offs ^(22 11 19 00-0271) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF709 NRS series).		
22 11 19 00-0279	EA		2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	6,505.79	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-6,177.47	
22 11 19 00-0280	EA		3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	4,943.64	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-4,579.38	
22 11 19 00-0281	EA		4" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	7,743.13	410.42
			For Work In Restricted Working Space, Add	164.08	
			For Owner Furnished Material, Deduct	-7,196.20	
22 11 19 00-0282	EA		6" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	11,767.69	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-10,634.56	
22 11 19 00-0283	EA		8" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	26,989.46	940.91
			For Work In Restricted Working Space, Add	509.99	
			For Owner Furnished Material, Deduct	-25,289.49	
22 11 19 00-0284	EA		10" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	34,684.27	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-32,660.82	
22 11 19 00-0285			Double Check Valve Assemblies With Non-Rising Stem Shut-Offs And Strainer ^(22 11 19 00-0271) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, two epoxy coated iron body check valves, and iron body strainer (Watts 709 NRS-S series).		
22 11 19 00-0286	EA		4" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	9,059.51	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-8,512.63	
22 11 19 00-0287	EA		6" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	15,075.86	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-13,942.73	
22 11 19 00-0288	EA		10" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	40,328.00	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-38,304.55	
22 11 19 00-0289			Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs ^(22 11 19 00-0271) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF709 OSY series).		
22 11 19 00-0290	EA		2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	6,913.59	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-6,585.27	
22 11 19 00-0291	EA		3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY series)	7,596.11	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-7,231.86	
22 11 19 00-0292	EA		4" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	8,220.65	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-7,673.77	
22 11 19 00-0293	EA		6" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series)	13,798.19	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-12,665.06	
22 11 19 00-0294	EA		8" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	28,675.48	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-26,975.78	
22 11 19 00-0295	EA		10" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	36,860.08	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-34,836.63	
22 11 19 00-0296			Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs ^(22 11 19 00-0271) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757 OSY series).		
22 11 19 00-0297	EA		2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	4,096.36	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-3,768.04	
22 11 19 00-0298	EA		3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	4,509.31	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-4,145.06	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
22 11 19 00-0299	EA 4" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	5,068.96		410.42
	For Work In Restricted Working Space, Add	164.06		
	For Owner Furnished Material, Deduct	-4,522.08		
22 11 19 00-0300	EA 6" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	8,204.04		627.27
	For Work In Restricted Working Space, Add	339.94		
	For Owner Furnished Material, Deduct	-7,070.91		
22 11 19 00-0301	EA 8" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	15,679.48		940.91
	For Work In Restricted Working Space, Add	509.91		
	For Owner Furnished Material, Deduct	-13,979.78		
22 11 19 00-0302	EA 10" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	16,982.31		1,112.89
	For Work In Restricted Working Space, Add	607.04		
	For Owner Furnished Material, Deduct	-14,959.36		
22 11 19 00-0303	N-Pattern Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0271)			
	Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757N OSY series).			
22 11 19 00-0304	EA 2-1/2" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series).....	5,433.34		246.25
	For Work In Restricted Working Space, Add	98.50		
	For Owner Furnished Material, Deduct	-5,105.02		
22 11 19 00-0305	EA 3" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series).....	5,846.29		277.04
	For Work In Restricted Working Space, Add	109.28		
	For Owner Furnished Material, Deduct	-5,482.04		
22 11 19 00-0306	EA 4" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757 OSY Series).....	7,303.10		410.42
	For Work In Restricted Working Space, Add	164.06		
	For Owner Furnished Material, Deduct	-6,756.22		
22 11 19 00-0307	EA 6" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series).....	11,944.09		627.27
	For Work In Restricted Working Space, Add	339.94		
	For Owner Furnished Material, Deduct	-10,810.96		
22 11 19 00-0308	EA 8" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series).....	21,222.62		940.91
	For Work In Restricted Working Space, Add	509.91		
	For Owner Furnished Material, Deduct	-19,522.92		
22 11 19 00-0309	EA 10" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series).....	25,254.55		1,112.89
	For Work In Restricted Working Space, Add	607.04		
	For Owner Furnished Material, Deduct	-23,231.10		
22 11 19 00-0310	Double Check Valve Assemblies With Non-Rising Stem Shut-Off Valves (22 11 19 00-0271)			
	Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757 NRS series).			
22 11 19 00-0311	EA 2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series).....	3,830.44		246.25
	For Work In Restricted Working Space, Add	98.50		
	For Owner Furnished Material, Deduct	-3,502.12		
22 11 19 00-0312	EA 3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series).....	4,255.48		277.04
	For Work In Restricted Working Space, Add	109.28		
	For Owner Furnished Material, Deduct	-3,891.23		
22 11 19 00-0313	EA 4" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series).....	4,827.07		410.42
	For Work In Restricted Working Space, Add	164.06		
	For Owner Furnished Material, Deduct	-4,280.19		
22 11 19 00-0314	EA 6" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series).....	8,014.02		627.27
	For Work In Restricted Working Space, Add	339.94		
	For Owner Furnished Material, Deduct	-6,880.89		
22 11 19 00-0315	EA 8" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS series).....	15,496.36		940.91
	For Work In Restricted Working Space, Add	509.91		
	For Owner Furnished Material, Deduct	-13,796.66		
22 11 19 00-0316	EA 10" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS series).....	17,494.11		1,112.89
	For Work In Restricted Working Space, Add	607.04		
	For Owner Furnished Material, Deduct	-15,470.66		
22 11 19 00-0317	N-Pattern Double Check Valve Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0271)			
	Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757N NRS series).			
22 11 19 00-0318	EA 2-1/2" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series).....	5,055.31		246.25
	For Work In Restricted Working Space, Add	98.50		
	For Owner Furnished Material, Deduct	-4,726.99		
22 11 19 00-0319	EA 3" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series).....	5,468.26		277.04
	For Work In Restricted Working Space, Add	109.28		
	For Owner Furnished Material, Deduct	-5,104.01		
22 11 19 00-0320	EA 4" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series).....	6,925.54		410.42
	For Work In Restricted Working Space, Add	164.06		
	For Owner Furnished Material, Deduct	-6,378.66		
22 11 19 00-0321	EA 6" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series).....	11,541.95		627.27
	For Work In Restricted Working Space, Add	339.94		
	For Owner Furnished Material, Deduct	-10,408.82		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0322	EA		8" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series)	20,613.94	940.91
			<i>For Work In Restricted Working Space, Add</i>	509.91	
			<i>For Owner Furnished Material, Deduct</i>	-18,914.24	
22 11 19 00-0323	EA		10" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series)	24,644.10	1,112.89
			<i>For Work In Restricted Working Space, Add</i>	607.04	
			<i>For Owner Furnished Material, Deduct</i>	-22,620.65	
22 11 19 00-0324			Double Check Valve Assemblies With Butterfly Shut-Off Valves (22 11 19 00-0271) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, and single stainless steel housing and sleeve for two check valves (Watts 757 BFG series).		
22 11 19 00-0325	EA		2-1/2" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	4,459.35	246.25
			<i>For Work In Restricted Working Space, Add</i>	98.50	
			<i>For Owner Furnished Material, Deduct</i>	-4,131.03	
22 11 19 00-0326	EA		3" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	4,872.30	277.04
			<i>For Work In Restricted Working Space, Add</i>	109.28	
			<i>For Owner Furnished Material, Deduct</i>	-4,508.05	
22 11 19 00-0327	EA		4" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	5,431.95	410.42
			<i>For Work In Restricted Working Space, Add</i>	164.06	
			<i>For Owner Furnished Material, Deduct</i>	-4,885.07	
22 11 19 00-0328	EA		6" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	8,576.18	627.27
			<i>For Work In Restricted Working Space, Add</i>	339.94	
			<i>For Owner Furnished Material, Deduct</i>	-7,443.05	
22 11 19 00-0329	EA		8" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	16,051.62	940.91
			<i>For Work In Restricted Working Space, Add</i>	509.91	
			<i>For Owner Furnished Material, Deduct</i>	-14,351.92	
22 11 19 00-0330			N-Pattern Double Check Valve Assemblies With Butterfly Shut-Offs (22 11 19 00-0271) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, and single stainless steel housing and sleeve for two check valves (Watts 757N BFG series).		
22 11 19 00-0331	EA		2-1/2" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	5,796.33	246.25
			<i>For Work In Restricted Working Space, Add</i>	98.50	
			<i>For Owner Furnished Material, Deduct</i>	-5,468.01	
22 11 19 00-0332	EA		3" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	6,209.28	277.04
			<i>For Work In Restricted Working Space, Add</i>	109.28	
			<i>For Owner Furnished Material, Deduct</i>	-5,845.03	
22 11 19 00-0333	EA		4" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	7,666.09	410.42
			<i>For Work In Restricted Working Space, Add</i>	164.06	
			<i>For Owner Furnished Material, Deduct</i>	-7,119.21	
22 11 19 00-0334	EA		6" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	12,316.31	627.27
			<i>For Work In Restricted Working Space, Add</i>	339.94	
			<i>For Owner Furnished Material, Deduct</i>	-11,183.18	
22 11 19 00-0335	EA		8" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	16,051.62	940.91
			<i>For Work In Restricted Working Space, Add</i>	509.91	
			<i>For Owner Furnished Material, Deduct</i>	-14,351.92	
22 11 19 00-0336			Grooved Double Check Valve Assemblies (22 11 19 00-0255)		
22 11 19 00-0337			Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0336) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and single stainless steel housing and sleeve for two check valves (Watts 757 QT series).		
22 11 19 00-0338	EA		2-1/2" Grooved Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 757 QT series)	3,830.44	131.34
			<i>For Work In Restricted Working Space, Add</i>	98.50	
			<i>For Owner Furnished Material, Deduct</i>	-3,502.12	
22 11 19 00-0339	EA		3" Grooved Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 757 QT series)	4,255.48	145.70
			<i>For Work In Restricted Working Space, Add</i>	109.28	
			<i>For Owner Furnished Material, Deduct</i>	-3,891.23	
22 11 19 00-0340			N-Patten Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0336) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and single stainless steel housing and sleeve for two check valves (Watts 757N QT series).		
22 11 19 00-0341	EA		2-1/2" N-Pattern Grooved Double Check Valve Assembly With QT Shutoffs (Watts 757 QT series)	5,055.31	131.34
			<i>For Work In Restricted Working Space, Add</i>	98.50	
			<i>For Owner Furnished Material, Deduct</i>	-4,726.99	
22 11 19 00-0342	EA		3" N-Pattern Grooved Double Check Valve Assembly With QT Shutoffs (Watts 757 QT series)	5,468.26	145.70
			<i>For Work In Restricted Working Space, Add</i>	109.28	
			<i>For Owner Furnished Material, Deduct</i>	-5,104.01	
22 11 19 00-0343			Reduced Pressure Zone Backflow Preventer Assemblies (22 11 19 00-0254)		
22 11 19 00-0344			Threaded Reduced Pressure Zone Assemblies (22 11 19 00-0343)		
22 11 19 00-0345			Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0344) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 009 QT series).		
22 11 19 00-0346	EA		1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series)	525.46	25.85
			<i>For Work In Restricted Working Space, Add</i>	19.39	
			<i>For Owner Furnished Material, Deduct</i>	-460.84	



Plumbing			22
Plumbing Piping			22 10
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MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 11 19 00-0347	EA 3/8" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series).....	554.53		28.52	
	For Work In Restricted Working Space, Add	21.39			
	For Owner Furnished Material, Deduct	-483.22			
22 11 19 00-0348	EA 1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series).....	647.07		29.86	
	For Work In Restricted Working Space, Add	22.40			
	For Owner Furnished Material, Deduct	-572.42			
22 11 19 00-0349	EA 3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M3 QT series).....	868.20		42.34	
	For Work In Restricted Working Space, Add	31.76			
	For Owner Furnished Material, Deduct	-762.35			
22 11 19 00-0350	EA 1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series).....	1,029.57		51.70	
	For Work In Restricted Working Space, Add	38.78			
	For Owner Furnished Material, Deduct	-900.32			
22 11 19 00-0351	EA 1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series).....	1,562.75		60.17	
	For Work In Restricted Working Space, Add	45.13			
	For Owner Furnished Material, Deduct	-1,412.33			
22 11 19 00-0352	EA 1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series).....	1,650.34		69.08	
	For Work In Restricted Working Space, Add	51.47			
	For Owner Furnished Material, Deduct	-1,478.76			
22 11 19 00-0353	EA 2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series).....	1,977.61		89.13	
	For Work In Restricted Working Space, Add	66.85			
	For Owner Furnished Material, Deduct	-1,754.78			
22 11 19 00-0354	Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0344) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts 009 QT-S series).				
22 11 19 00-0355	EA 1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	581.25		25.85	
	For Work In Restricted Working Space, Add	19.39			
	For Owner Furnished Material, Deduct	-516.63			
22 11 19 00-0356	EA 3/8" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	613.33		28.52	
	For Work In Restricted Working Space, Add	21.39			
	For Owner Furnished Material, Deduct	-542.02			
22 11 19 00-0357	EA 1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	727.64		42.34	
	For Work In Restricted Working Space, Add	22.40			
	For Owner Furnished Material, Deduct	-652.99			
22 11 19 00-0358	EA 3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	994.83		42.34	
	For Work In Restricted Working Space, Add	31.76			
	For Owner Furnished Material, Deduct	-888.98			
22 11 19 00-0359	EA 1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	1,187.90		51.70	
	For Work In Restricted Working Space, Add	38.78			
	For Owner Furnished Material, Deduct	-1,058.65			
22 11 19 00-0360	EA 1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	1,778.68		60.17	
	For Work In Restricted Working Space, Add	45.13			
	For Owner Furnished Material, Deduct	-1,628.26			
22 11 19 00-0361	EA 1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	1,955.06		69.08	
	For Work In Restricted Working Space, Add	51.47			
	For Owner Furnished Material, Deduct	-1,783.48			
22 11 19 00-0362	EA 2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series).....	2,351.46		89.13	
	For Work In Restricted Working Space, Add	66.85			
	For Owner Furnished Material, Deduct	-2,128.63			
22 11 19 00-0363	Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0344) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 919 QT series).				
22 11 19 00-0364	EA 3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series).....	868.20		42.34	
	For Work In Restricted Working Space, Add	31.76			
	For Owner Furnished Material, Deduct	-762.35			
22 11 19 00-0365	EA 1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series).....	1,029.57		51.70	
	For Work In Restricted Working Space, Add	38.78			
	For Owner Furnished Material, Deduct	-900.32			
22 11 19 00-0366	EA 1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series).....	1,562.75		60.17	
	For Work In Restricted Working Space, Add	45.13			
	For Owner Furnished Material, Deduct	-1,412.33			
22 11 19 00-0367	EA 1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series).....	1,650.34		69.08	
	For Work In Restricted Working Space, Add	51.47			
	For Owner Furnished Material, Deduct	-1,478.76			
22 11 19 00-0368	EA 2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series).....	1,977.61		89.13	
	For Work In Restricted Working Space, Add	66.85			
	For Owner Furnished Material, Deduct	-1,754.78			
22 11 19 00-0369	Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0344) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 909 QT series).				



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0370	EA		3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909QT).....	1,808.70	42.34
			<i>For Work In Restricted Working Space, Add</i>	31.76	
			<i>For Owner Furnished Material, Deduct</i>	-1,702.85	
22 11 19 00-0371	EA		1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909QT)	2,140.28	51.70
			<i>For Work In Restricted Working Space, Add</i>	38.78	
			<i>For Owner Furnished Material, Deduct</i>	-2,011.03	
22 11 19 00-0372	EA		1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909M1QT)	3,300.98	60.17
			<i>For Work In Restricted Working Space, Add</i>	45.13	
			<i>For Owner Furnished Material, Deduct</i>	-3,150.56	
22 11 19 00-0373	EA		1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909M1QT)	3,567.25	69.08
			<i>For Work In Restricted Working Space, Add</i>	51.47	
			<i>For Owner Furnished Material, Deduct</i>	-3,395.67	
22 11 19 00-0374	EA		2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 909M1QT).....	4,134.51	89.13
			<i>For Work In Restricted Working Space, Add</i>	66.85	
			<i>For Owner Furnished Material, Deduct</i>	-3,911.68	
22 11 19 00-0375 Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0344)					
Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts LF909 QT-S series).					
22 11 19 00-0376	EA		3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909QT-S)	2,441.68	42.34
			<i>For Work In Restricted Working Space, Add</i>	31.76	
			<i>For Owner Furnished Material, Deduct</i>	-2,335.83	
22 11 19 00-0377	EA		1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909QT-S)	2,901.97	51.70
			<i>For Work In Restricted Working Space, Add</i>	38.78	
			<i>For Owner Furnished Material, Deduct</i>	-2,772.72	
22 11 19 00-0378	EA		1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S).....	4,431.62	60.17
			<i>For Work In Restricted Working Space, Add</i>	45.13	
			<i>For Owner Furnished Material, Deduct</i>	-4,281.20	
22 11 19 00-0379	EA		1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S).....	4,839.80	69.08
			<i>For Work In Restricted Working Space, Add</i>	51.47	
			<i>For Owner Furnished Material, Deduct</i>	-4,668.22	
22 11 19 00-0380	EA		2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S).....	5,745.91	89.13
			<i>For Work In Restricted Working Space, Add</i>	66.85	
			<i>For Owner Furnished Material, Deduct</i>	-5,523.08	
22 11 19 00-0381 Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0344)					
Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts 919 QT-S series).					
22 11 19 00-0382	EA		3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series).....	994.83	42.34
			<i>For Work In Restricted Working Space, Add</i>	31.76	
			<i>For Owner Furnished Material, Deduct</i>	-888.98	
22 11 19 00-0383	EA		1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series).....	1,187.90	51.70
			<i>For Work In Restricted Working Space, Add</i>	38.78	
			<i>For Owner Furnished Material, Deduct</i>	-1,058.65	
22 11 19 00-0384	EA		1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series).....	1,778.68	60.17
			<i>For Work In Restricted Working Space, Add</i>	45.13	
			<i>For Owner Furnished Material, Deduct</i>	-1,628.26	
22 11 19 00-0385	EA		1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series).....	1,955.06	69.08
			<i>For Work In Restricted Working Space, Add</i>	51.47	
			<i>For Owner Furnished Material, Deduct</i>	-1,783.48	
22 11 19 00-0386	EA		2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series).....	2,351.46	89.13
			<i>For Work In Restricted Working Space, Add</i>	66.85	
			<i>For Owner Furnished Material, Deduct</i>	-2,128.63	
22 11 19 00-0387 Flanged Reduced Pressure Zone Assemblies (22 11 19 00-0343)					
22 11 19 00-0388 Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0387)					
Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and captured spring assemblies (Watts LF009 NRS series).					
22 11 19 00-0389	EA		2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF009 NRS series).....	5,938.30	246.25
			<i>For Work In Restricted Working Space, Add</i>	98.50	
			<i>For Owner Furnished Material, Deduct</i>	-5,609.96	
22 11 19 00-0390	EA		3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF009 NRS series).....	6,692.13	277.04
			<i>For Work In Restricted Working Space, Add</i>	109.28	
			<i>For Owner Furnished Material, Deduct</i>	-6,327.88	
22 11 19 00-0391 Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Off And Strainer (22 11 19 00-0387)					
Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, iron body strainer, and captured spring assemblies (Watts LF009 NRS-S-FDA series).					



Plumbing			22
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MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
22 11 19 00-0392	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF009 NRS-S-FDA series).....		7,088.83		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-6,760.49		
22 11 19 00-0393	EA 3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF009 NRS-S-FDA series).....		8,028.72		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-7,664.47		
22 11 19 00-0394	Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0387) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies (Watts LF009 OSY series).				
22 11 19 00-0395	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF009 OSY series).....		6,378.66		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-6,050.32		
22 11 19 00-0396	EA 3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF009 OSY series).....		7,424.00		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-7,059.75		
22 11 19 00-0397	Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs And Strainer (22 11 19 00-0387) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies. (Watts LF009 OSY-S-FDA Series)				
22 11 19 00-0398	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs And Strainer (Watts LF009 OSY-S-FDA series).....		7,088.83		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-6,760.49		
22 11 19 00-0399	EA 3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs And Strainer (Watts LF009 OSY-S-FDA series).....		8,028.72		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-7,664.47		
22 11 19 00-0400	Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0387) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and captured spring assemblies (Watts LF009 QT-FDA series).				
22 11 19 00-0401	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With QT Shut-offs (Watts LF009 QT-FDA series).....		7,874.96		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-7,546.62		
22 11 19 00-0402	EA 3" Flanged Reduced Pressure Zone Assembly With QT Shut-offs (Watts LF009 QT-FDA series).....		9,115.67		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-8,751.42		
22 11 19 00-0403	Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0387) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and captured spring assemblies (Watts LF909 NRS series).				
22 11 19 00-0404	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....		10,234.91		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-9,906.59		
22 11 19 00-0405	EA 3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....		11,629.15		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-11,264.89		
22 11 19 00-0406	EA 4" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....		14,629.21		410.42
	For Work In Restricted Working Space, Add		164.08		
	For Owner Furnished Material, Deduct		-14,082.28		
22 11 19 00-0407	EA 6" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....		22,047.58		627.27
	For Work In Restricted Working Space, Add		475.95		
	For Owner Furnished Material, Deduct		-20,461.09		
22 11 19 00-0408	EA 8" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909M1 NRS series).....		36,598.10		940.91
	For Work In Restricted Working Space, Add		713.92		
	For Owner Furnished Material, Deduct		-34,218.37		
22 11 19 00-0409	EA 10" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909M1 NRS series).....		47,344.91		1,112.89
	For Work In Restricted Working Space, Add		607.04		
	For Owner Furnished Material, Deduct		-45,321.46		
22 11 19 00-0410	Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Off And Epoxy Coated Strainer (22 11 19 00-0387) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, iron body strainer, and captured spring assemblies (Watts LF909 NRS-S-FDA series).				
22 11 19 00-0411	EA 2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....		11,033.46		246.25
	For Work In Restricted Working Space, Add		98.50		
	For Owner Furnished Material, Deduct		-10,705.14		
22 11 19 00-0412	EA 3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....		12,469.55		277.04
	For Work In Restricted Working Space, Add		109.28		
	For Owner Furnished Material, Deduct		-12,105.30		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0413	EA		4" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	15,917.68	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-15,370.80	
22 11 19 00-0414	EA		6" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	24,019.54	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-22,886.41	
22 11 19 00-0415	EA		8" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	38,912.37	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-37,212.67	
22 11 19 00-0416	EA		10" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	52,842.42	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-50,818.97	
22 11 19 00-0417			Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0387)		
			Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies (Watts LF909 OSY series).		
22 11 19 00-0418	EA		2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	10,892.35	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-10,564.03	
22 11 19 00-0419	EA		3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	12,382.73	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-12,018.47	
22 11 19 00-0420	EA		4" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	15,565.75	410.42
			For Work In Restricted Working Space, Add	164.08	
			For Owner Furnished Material, Deduct	-15,018.82	
22 11 19 00-0421	EA		6" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	22,959.47	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-21,826.34	
22 11 19 00-0422	EA		8" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909M1 OSY series).....	38,200.35	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-36,500.65	
22 11 19 00-0423	EA		10" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909M1 OSY series).....	50,364.64	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-48,341.19	
22 11 19 00-0424			Double Check Detector Assemblies (22 11 19 00-0254)		
22 11 19 00-0425			Flanged Double Check Detector Assemblies With Meter (22 11 19 00-0424)		
22 11 19 00-0426			Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs And Meter (22 11 19 00-0425)		
			Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, two epoxy coated iron body check valves, and meter (Watts 709 DCDA OSY series).		
22 11 19 00-0427	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	8,152.84	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-7,788.59	
22 11 19 00-0428	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	8,516.19	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-7,969.31	
22 11 19 00-0429	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	11,481.56	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-10,348.43	
22 11 19 00-0430	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	20,405.08	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-18,705.38	
22 11 19 00-0431	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	27,587.39	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-25,563.94	
22 11 19 00-0432			Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs And Meter (22 11 19 00-0425)		
			Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 757 DCDA OSY series).		
22 11 19 00-0433	EA		2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	6,098.40	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-5,770.06	



Plumbing			22
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Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0434	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	6,510.94	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-6,146.69	
22 11 19 00-0435	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	7,079.51	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-6,532.63	
22 11 19 00-0436	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	9,615.68	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-8,482.55	
22 11 19 00-0437	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	17,032.67	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-15,332.97	
22 11 19 00-0438	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	20,083.64	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-18,060.19	
22 11 19 00-0439			Double Check Detector Assembly With Butterfly Valves And Meter (22 11 19 00-0425) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 757 DCDA BFG series).		
22 11 19 00-0440	EA		2-1/2" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	6,461.46	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-6,133.12	
22 11 19 00-0441	EA		3" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	6,874.01	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-6,509.76	
22 11 19 00-0442	EA		4" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	7,442.50	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-6,895.62	
22 11 19 00-0443	EA		6" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	9,987.81	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-8,854.68	
22 11 19 00-0444	EA		8" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	16,586.18	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-14,886.48	
22 11 19 00-0445			Flanged Double Check Detector Assemblies Without Meter (22 11 19 00-0424)		
22 11 19 00-0446			Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs Less Meter (22 11 19 00-0445) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves (Watts 757 DCDA OSY LM series).		
22 11 19 00-0447	EA		2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	5,983.76	246.25
			For Work In Restricted Working Space, Add	98.50	
22 11 19 00-0448	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	6,396.35	277.04
			For Work In Restricted Working Space, Add	109.28	
22 11 19 00-0449	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	6,964.92	410.42
			For Work In Restricted Working Space, Add	164.06	
22 11 19 00-0450	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	9,501.09	627.27
			For Work In Restricted Working Space, Add	339.94	
22 11 19 00-0451	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	16,918.16	940.91
			For Work In Restricted Working Space, Add	509.91	
22 11 19 00-0452	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	19,968.97	1,112.89
			For Work In Restricted Working Space, Add	607.04	
22 11 19 00-0453			Double Check Detector Assembly With Butterfly Valves Less Meter (22 11 19 00-0445) Note: Includes ball type test cocks, two butterfly resilient seated iron body butterfly valves, single stainless steel housing and sleeve for two check valves (Watts 757 DCDA BFG LM series).		
22 11 19 00-0454	EA		2-1/2" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	6,346.80	246.25
			For Work In Restricted Working Space, Add	98.50	
22 11 19 00-0455	EA		3" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	6,759.34	277.04
			For Work In Restricted Working Space, Add	109.28	
22 11 19 00-0456	EA		4" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	7,327.91	410.42
			For Work In Restricted Working Space, Add	164.06	
22 11 19 00-0457	EA		6" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	9,873.15	627.27
			For Work In Restricted Working Space, Add	339.94	
22 11 19 00-0458	EA		8" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	17,290.29	940.91
			For Work In Restricted Working Space, Add	509.91	

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MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 19 00-0459	Flanged Double Check Detector Assemblies (22 11 19 00-0424)				
22 11 19 00-0460	Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs (22 11 19 00-0459) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 774 DCDA OSY series).				
22 11 19 00-0461	EA	2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	5,776.35	246.25	
		For Work In Restricted Working Space, Add	98.50		
		For Owner Furnished Material, Deduct	-5,448.01		
22 11 19 00-0462	EA	3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	6,996.27	277.04	
		For Work In Restricted Working Space, Add	109.28		
		For Owner Furnished Material, Deduct	-6,632.02		
22 11 19 00-0463	EA	4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	7,741.99	410.42	
		For Work In Restricted Working Space, Add	164.06		
		For Owner Furnished Material, Deduct	-7,195.11		
22 11 19 00-0464	EA	6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	9,744.69	627.27	
		For Work In Restricted Working Space, Add	339.94		
		For Owner Furnished Material, Deduct	-8,611.56		
22 11 19 00-0465	EA	8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	17,265.95	940.91	
		For Work In Restricted Working Space, Add	509.91		
		For Owner Furnished Material, Deduct	-15,566.25		
22 11 19 00-0466	EA	10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	23,297.12	1,112.89	
		For Work In Restricted Working Space, Add	607.04		
		For Owner Furnished Material, Deduct	-21,273.67		
22 11 19 00-0467	EA	12" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	31,114.23	1,335.47	
		For Work In Restricted Working Space, Add	728.44		
		For Owner Furnished Material, Deduct	-28,686.09		
22 11 19 00-0468	Backflow Preventer Accessories (22 11 19 00-0254)				
22 11 19 00-0469	Air Gap (22 11 19 00-0468)				
22 11 19 00-0470	EA	Up To 1" Diameter Air Gap For Backflow Preventer.....	133.30	13.93	
22 11 19 00-0471	EA	1-1/4" To 2" Diameter Air Gap For Backflow Preventer.....	164.15	16.71	
22 11 19 00-0472	EA	2-1/2" To 3" Diameter Air Gap For Backflow Preventer.....	310.66	22.29	
22 11 19 00-0473	EA	4" To 6" Diameter Air Gap For Backflow Preventer.....	615.85	39.00	
22 11 19 00-0474	EA	8" To 10" Diameter Air Gap For Backflow Preventer.....	649.28	55.71	
22 11 19 00-0475	Brass Test Cocks (22 11 19 00-0468)				
22 11 19 00-0476	EA	1/8" Or 1/4" Brass Test Cock.....	54.28	5.57	
22 11 19 00-0477	Backflow Valve Enclosures (22 11 19 00-0254)				
22 11 19 00-0478	Flip-Top, Insulated Fiberglass Valve Enclosures (22 11 19 00-0477) Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.				
22 11 19 00-0479	EA	19" Length x 11" Width x 22" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	1,370.00	100.27	
		For Heated Enclosure, Add	167.90		
22 11 19 00-0480	EA	27" Length x 13" Width x 23" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	1,683.19	100.27	
		For Heated Enclosure, Add	214.88		
22 11 19 00-0481	EA	27" Length x 13" Width x 35" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,131.78	92.34	
		For Heated Enclosure, Add	285.14		
22 11 19 00-0482	EA	33" Length x 21" Width x 25" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,216.90	123.13	
		For Heated Enclosure, Add	286.36		
22 11 19 00-0483	EA	39" Length x 13" Width x 28" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,323.11	123.13	
		For Heated Enclosure, Add	302.30		
22 11 19 00-0484	EA	47" Length x 13" Width x 28" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,737.07	123.13	
		For Heated Enclosure, Add	364.39		
22 11 19 00-0485	EA	39" Length x 13" Width x 36" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,747.96	123.13	
		For Heated Enclosure, Add	366.02		
22 11 19 00-0486	EA	47" Length x 13" Width x 36" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	3,453.31	123.13	
		For Heated Enclosure, Add	471.83		
22 11 19 00-0487	EA	70" Length x 26" Width x 45" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	7,948.29	184.68	
		For Heated Enclosure, Add	1,122.99		
22 11 19 00-0488	EA	83" Length x 26" Width x 45" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	11,507.75	184.68	
		For Heated Enclosure, Add	1,656.90		
22 11 19 00-0489	EA	70" Length x 26" Width x 55" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	10,935.84	184.68	
		For Heated Enclosure, Add	1,571.12		
22 11 19 00-0490	EA	83" Length x 26" Width x 55" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	13,166.99	215.47	
		For Heated Enclosure, Add	1,894.25		
22 11 19 00-0491	One-Piece Drop Over, Insulated Fiberglass Valve Enclosures (22 11 19 00-0477) Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.				
22 11 19 00-0492	EA	20" Length x 6-1/2" Width x 22" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	725.41	26.74	
		For Heated Enclosure, Add	136.17		



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0493	EA		27" Length x 14" Width x 26" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,014.09	26.74
			For Heated Enclosure, Add	193.90	
22 11 19 00-0494	EA		38-1/2" Length x 12" Width x 28" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,277.45	24.63
			For Heated Enclosure, Add	247.28	
22 11 19 00-0495	EA		47" Length x 13" Width x 28" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,936.51	24.63
			For Heated Enclosure, Add	379.09	
22 11 19 00-0496	EA		70" Length x 26" Width x 45" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	5,022.62	46.17
			For Heated Enclosure, Add	989.13	
22 11 19 00-0497	EA		83" Length x 26" Width x 45" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	6,866.35	46.17
			For Heated Enclosure, Add	1,357.88	
22 11 19 00-0498	EA		45" Length x 35" Width x 35" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	4,565.09	46.17
			For Heated Enclosure, Add	897.63	
22 11 19 00-0499	EA		53" Length x 44" Width x 44" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	5,169.68	46.17
			For Heated Enclosure, Add	1,018.34	
22 11 19 00-0500	EA		61" Length x 52" Width x 50" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	8,102.76	46.17
			For Heated Enclosure, Add	1,605.16	
22 11 19 00-0501			Lift-Off Lightweight Backflow Valve Enclosures With Recessed Locksheild Brackets (22 11 19 00-0477) Note: 1-1/2", 0.095" wall tubular steel framework with 1" x 1" x 1/8" angle iron, 1/2" #13 gauge diamond pattern rolled expanded metal, all welded construction. Excludes concrete pad.		
22 11 19 00-0502	EA		22" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures.....	874.82	100.27
			Note: BP-1		
22 11 19 00-0503	EA		30" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures.....	980.70	123.13
			Note: BP-2		
22 11 19 00-0504	EA		40" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures.....	1,058.71	123.13
			Note: BP-3		
22 11 19 00-0505	EA		46" Length x 10" Width x 30" Height, Backflow Preventer Caged Enclosures.....	1,281.06	123.13
			Note: BP-4		
22 11 19 00-0506			Sectional, Insulated Aluminum Valve Enclosures (22 11 19 00-0477) Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.		
22 11 19 00-0507	EA		70" Length x 26" Width x 55" Height, Sectional, Insulated Aluminum Valve Enclosure.....	10,298.57	184.68
			For Heated Enclosure, Add	1,475.53	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0508	EA		83" Length x 26" Width x 55" Height, Sectional, Insulated Aluminum Valve Enclosure.....	11,352.52	184.68
			For Heated Enclosure, Add	1,633.62	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0509	EA		53" Length x 33" Width x 44" Height, Sectional, Insulated Aluminum Valve Enclosure.....	8,076.29	184.68
			For Heated Enclosure, Add	1,142.19	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0510	EA		53" Length x 44" Width x 44" Height, Sectional, Insulated Aluminum Valve Enclosure.....	8,855.18	184.68
			For Heated Enclosure, Add	1,259.02	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0511	EA		90" Length x 32" Width x 50-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure.....	10,308.14	246.25
			For Heated Enclosure, Add	1,453.88	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0512	EA		102" Length x 32" Width x 50-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure.....	11,555.45	246.25
			For Heated Enclosure, Add	1,640.97	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0513	EA		90" Length x 32" Width x 57-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure.....	11,555.45	246.25
			For Heated Enclosure, Add	1,640.97	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0514	EA		102" Length x 32" Width x 57-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure.....	12,764.63	246.25
			For Heated Enclosure, Add	1,822.35	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0515	EA		62" Length x 39" Width x 46" Height, Sectional, Insulated Aluminum Valve Enclosure.....	9,588.47	215.47
			For Heated Enclosure, Add	1,357.47	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0516	EA		62" Length x 53" Width x 46" Height, Sectional, Insulated Aluminum Valve Enclosure.....	11,225.92	246.25
			For Heated Enclosure, Add	1,591.54	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0517	EA		105" Length x 36" Width x 53" Height, Sectional, Insulated Aluminum Valve Enclosure.....	13,113.22	246.25
			For Heated Enclosure, Add	1,874.64	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0518	EA		125" Length x 36" Width x 53" Height, Sectional, Insulated Aluminum Valve Enclosure.....	14,393.56	261.64
			For Heated Enclosure, Add	2,060.92	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0519	EA		105" Length x 36" Width x 64" Height, Sectional, Insulated Aluminum Valve Enclosure	14,706.75	261.64
			For Heated Enclosure, Add	2,107.90	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0520	EA		125" Length x 36" Width x 64" Height, Sectional, Insulated Aluminum Valve Enclosure	16,302.99	277.04
			For Heated Enclosure, Add	2,341.56	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0521	EA		105" Length x 36" Width x 80" Height, Sectional, Insulated Aluminum Valve Enclosure	16,926.65	277.04
			For Heated Enclosure, Add	2,435.11	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0522	EA		72" Length x 45" Width x 52" Height, Sectional, Insulated Aluminum Valve Enclosure	12,296.21	246.25
			For Heated Enclosure, Add	1,752.09	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0523	EA		72" Length x 45" Width x 60" Height, Sectional, Insulated Aluminum Valve Enclosure	13,105.05	246.25
			For Heated Enclosure, Add	1,873.41	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0524	EA		72" Length x 65" Width x 52" Height, Sectional, Insulated Aluminum Valve Enclosure	14,826.58	261.64
			For Heated Enclosure, Add	2,125.87	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0525	EA		72" Length x 65" Width x 60" Height, Sectional, Insulated Aluminum Valve Enclosure	17,964.26	277.04
			For Heated Enclosure, Add	2,590.75	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0526	EA		118" Length x 40" Width x 58" Height, Sectional, Insulated Aluminum Valve Enclosure	15,679.34	277.04
			For Heated Enclosure, Add	2,248.01	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0527	EA		142" Length x 40" Width x 58" Height, Sectional, Insulated Aluminum Valve Enclosure	18,836.09	292.42
			For Heated Enclosure, Add	2,715.75	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0528	EA		118" Length x 40" Width x 74" Height, Sectional, Insulated Aluminum Valve Enclosure	18,212.44	292.42
			For Heated Enclosure, Add	2,622.21	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0529	EA		142" Length x 40" Width x 74" Height, Sectional, Insulated Aluminum Valve Enclosure	21,091.39	307.81
			For Heated Enclosure, Add	3,048.28	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0530	EA		142" Length x 42" Width x 65" Height, Sectional, Insulated Aluminum Valve Enclosure	19,498.21	307.81
			For Heated Enclosure, Add	2,809.30	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0531	EA		172" Length x 42" Width x 65" Height, Sectional, Insulated Aluminum Valve Enclosure	22,747.57	323.21
			For Heated Enclosure, Add	3,290.93	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0532	EA		142" Length x 42" Width x 85" Height, Sectional, Insulated Aluminum Valve Enclosure	22,786.04	338.60
			For Heated Enclosure, Add	3,290.93	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0533	EA		172" Length x 42" Width x 85" Height, Sectional, Insulated Aluminum Valve Enclosure	27,004.91	353.98
			For Heated Enclosure, Add	3,917.99	
			For One 24" Fluorescent Light Fixture, Add	826.65	
			For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0534			Faucets (Hose Bibbs) (22 11 19)		
22 11 19 00-0535			Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends (22 11 19 00-0534)		
22 11 19 00-0536	EA		1/2", 125 LB Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends	61.63	11.14
22 11 19 00-0537	EA		3/4", 125 LB Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends	71.01	12.26
22 11 19 00-0538	EA		3/4" Screwed Ends Vacuum Breaker (Mueller 108-904NL)	18.62	8.36
22 11 19 00-0539			Chrome Plated Brass Hose Valves, Screwed Ends (22 11 19 00-0534)		
22 11 19 00-0540	EA		3/4" Hose Valve With Screwed Ends (Chicago Faucets #387-CP)	217.51	34.09
22 11 19 00-0541			Antisiphon Freezeless Wall Faucet (Woodford 19CP) (22 11 19 00-0534)		
22 11 19 00-0542	EA		4" Long, 1/2" Antisiphon Freezeless Wall Faucet	134.21	27.86
22 11 19 00-0543	EA		6" Long, 1/2" Antisiphon Freezeless Wall Faucet	145.42	30.86
22 11 19 00-0544	EA		8" Long, 1/2" Antisiphon Freezeless Wall Faucet	153.84	32.64
22 11 19 00-0545	EA		10" Long, 1/2" Antisiphon Freezeless Wall Faucet	162.25	34.99
22 11 19 00-0546	EA		12" Long, 1/2" Antisiphon Freezeless Wall Faucet	170.78	37.10
22 11 19 00-0547			Keyed, Recessed Valve Boxes (22 11 19)		
22 11 19 00-0548	EA		8" x 8" x 4" Painted Steel, Keyed, Recessed Valve Box	350.39	33.24



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0549	EA	8" x 8" x 6" Painted Steel, Keyed, Recessed Valve Box.....	390.96	33.24
22 11 19 00-0550	EA	8" x 8" x 8" Painted Steel, Keyed, Recessed Valve Box.....	451.80	33.24
22 11 19 00-0551	EA	12" x 12" x 4" Painted Steel, Keyed, Recessed Valve Box.....	433.40	44.32
22 11 19 00-0552	EA	12" x 12" x 6" Painted Steel, Keyed, Recessed Valve Box.....	494.24	44.32
22 11 19 00-0553	EA	12" x 12" x 8" Painted Steel, Keyed, Recessed Valve Box.....	512.49	44.32
22 11 19 00-0554	EA	8" x 8" x 4" Stainless Steel, Keyed, Recessed Valve Box.....	415.29	33.24
22 11 19 00-0555	EA	8" x 8" x 6" Stainless Steel, Keyed, Recessed Valve Box.....	504.53	33.24
22 11 19 00-0556	EA	8" x 8" x 8" Stainless Steel, Keyed, Recessed Valve Box.....	583.63	33.24
22 11 19 00-0557	EA	12" x 12" x 4" Stainless Steel, Keyed, Recessed Valve Box.....	546.97	44.32
22 11 19 00-0558	EA	12" x 12" x 6" Stainless Steel, Keyed, Recessed Valve Box.....	626.07	44.32
22 11 19 00-0559	EA	12" x 12" x 8" Stainless Steel, Keyed, Recessed Valve Box.....	656.49	44.32
22 11 23 Domestic Water Pumps (22 11)				
22 11 23 13 Domestic Water Packaged Booster Pumps (22 11 23)				
Note: Includes motor starter and controls.				
22 11 23 13-0001 Simplex Domestic Water Packaged Booster Pumps And Tank (22 11 23 13)				
22 11 23 13-0002	EA	1 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	15,375.99	328.34
22 11 23 13-0003	EA	1.5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	15,880.36	441.20
22 11 23 13-0004	EA	2 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	16,495.86	554.06
22 11 23 13-0005	EA	3 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	17,055.79	666.93
22 11 23 13-0006	EA	5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	18,837.91	779.80
22 11 23 13-0007	EA	7.5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	20,897.80	892.66
22 11 23 13-0008	EA	10 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	22,291.04	1,005.53
22 11 23 13-0009 Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator (22 11 23 13)				
22 11 23 13-0010	EA	100 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	40,942.67	1,332.49
22 11 23 13-0011	EA	200 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	49,508.97	1,415.77
22 11 23 13-0012	EA	300 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	58,110.68	1,499.05
22 11 23 13-0013 Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator (22 11 23 13)				
22 11 23 13-0014	EA	200 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	54,244.94	1,415.77
22 11 23 13-0015	EA	300 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	67,809.72	1,499.05
22 11 23 13-0016	EA	500 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	84,486.78	1,665.61
22 11 23 13-0017	EA	750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	107,321.29	1,832.17
22 11 23 13-0018	EA	1,000 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	130,155.83	1,998.73
22 11 23 13-0019	EA	1,750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	151,711.09	2,248.58
22 11 23 13-0020	EA	2,500 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	173,266.35	2,498.42
22 11 23 13-0021	EA	3,750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	194,821.63	2,748.25
22 11 23 13-0022	EA	5,000 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	216,585.10	3,081.38
22 11 23 13-0023 Variable Speed Duplex Domestic Water Pressure Booster Skid (22 11 23 13)				
Note: AB1953 compliant, UL listed and labeled. Includes stainless steel headers with check, isolation, thermal relief valves, and start up support. The standard control package is integrated in a NEMA 1 enclosure and is outfitted with an individual VFD's which are controlled through a HOA and internally programmed PID logic for system control.				
22 11 23 13-0024	EA	40 GPM At 40 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-1).....	41,639.58	1,506.45
22 11 23 13-0025	EA	40 GPM At 80 To 120 PSI, 80 GPM At 50 To 90 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-2).....	43,583.81	1,506.45
22 11 23 13-0026	EA	80 GPM At 80 PSI, 120 GPM At 40 To 90 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-3).....	46,361.89	1,506.45
22 11 23 13-0027	EA	80 GPM At 130 To 150 PSI, 120 GPM At 100 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-4).....	50,366.45	1,506.45
22 11 23 13-0028	EA	160 GPM At 40 To 50 PSI, 200 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-5).....	47,448.01	1,600.60
22 11 23 13-0029	EA	160 GPM At 60 To 80 PSI, 200 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-6).....	50,943.83	1,600.60
22 11 23 13-0030	EA	160 GPM At 90 To 110 PSI, 200 GPM At 80 To 100 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-7).....	55,691.47	1,600.60
22 11 23 13-0031	EA	160 To 200 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-8).....	59,550.37	1,600.60
22 11 23 13-0032	EA	240 To 280 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-9).....	51,873.73	1,694.76
22 11 23 13-0033	EA	280 To 320 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-10).....	55,325.21	1,694.76
22 11 23 13-0034	EA	240 To 320 GPM At 90 To 120 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-11).....	63,043.03	1,694.76
22 11 23 13-0035	EA	240 To 320 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-12).....	75,996.12	1,694.76
22 11 23 13-0036	EA	360 To 400 GPM At 40 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-13).....	54,839.68	1,694.76
22 11 23 13-0037	EA	360 To 400 GPM At 50 To 80 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-14).....	61,879.87	1,694.76
22 11 23 13-0038	EA	360 To 400 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-15).....	77,376.72	1,694.76



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 23 13-0039	EA	360 To 400 GPM At 120 To 140 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-16).....	76,929.18	1,694.76
22 11 23 13-0040	EA	440 To 480 GPM At 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-17).....	91,826.52	1,883.06
22 11 23 13-0041	EA	440 To 480 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-18).....	62,800.27	1,883.06
22 11 23 13-0042	EA	440 To 480 GPM At 60 To 90 PSI, 520 To 600 GPM At 40 To 80 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-19).....	76,912.30	1,883.06
22 11 23 13-0043	EA	440 To 480 GPM At 100 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-20).....	76,466.88	1,883.06
22 11 23 13-0044	EA	440 To 600 GPM At 100 To 120 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-21).....	92,518.93	1,883.06
22 11 23 13-0045	EA	440 To 600 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-22).....	112,153.34	1,883.06
22 11 23 13-0046	EA	60 GPM At 40 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-1).....	52,853.21	1,506.45
22 11 23 13-0047 Variable Speed Triplex Domestic Water Pressure Booster Skid (22 11 23 13)				
Note: AB1953 compliant, UL listed and labeled. Includes stainless steel headers with check, isolation, thermal relief valves, and start up support. The standard control package is integrated in a NEMA 1 enclosure and is outfitted with an individual VFD's which are controlled through a HOA and internally programmed PID logic for system control.				
22 11 23 13-0048	EA	60 GPM At 80 To 130 PSI, 120 GPM At 50 To 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-2).....	52,853.21	1,506.45
22 11 23 13-0049	EA	120 GPM At 100 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-3).....	59,224.21	1,506.45
22 11 23 13-0050	EA	60 GPM At 140 To 150 PSI, 120 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-4).....	64,721.25	1,506.45
22 11 23 13-0051	EA	180 GPM At 40 To 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-5).....	59,459.60	1,600.60
22 11 23 13-0052	EA	180 GPM At 100 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-6).....	64,918.65	1,600.60
22 11 23 13-0053	EA	240 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-7).....	60,734.64	1,600.60
22 11 23 13-0054	EA	240 GPM At 60 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-8).....	65,427.40	1,600.60
22 11 23 13-0055	EA	240 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-9).....	71,880.72	1,600.60
22 11 23 13-0056	EA	240 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-10).....	77,230.00	1,600.60
22 11 23 13-0057	EA	300 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-11).....	61,278.23	1,694.76
22 11 23 13-0058	EA	300 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-12).....	65,970.98	1,694.76
22 11 23 13-0059	EA	300 GPM At 80 To 100 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-13).....	72,422.20	1,694.76
22 11 23 13-0060	EA	300 GPM At 110 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-14).....	77,771.47	1,694.76
22 11 23 13-0061	EA	360 GPM At 40 To 60 PSI, 420 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-15).....	66,555.73	1,694.76
22 11 23 13-0062	EA	360 GPM At 70 To 80 PSI, 420 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-16).....	71,062.72	1,694.76
22 11 23 13-0063	EA	360 GPM At 90 To 130 PSI, 420 GPM At 80 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-17).....	82,198.24	1,694.76
22 11 23 13-0064	EA	360 GPM At 140 To 150 PSI, 420 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-18).....	100,369.73	1,694.76
22 11 23 13-0065	EA	480 GPM At 40 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-19).....	67,946.89	1,883.06
22 11 23 13-0066	EA	480 GPM At 50 To 70 PSI, 520 To 600 GPM At 40 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-20).....	72,455.98	1,883.06
22 11 23 13-0067	EA	480 GPM At 80 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-21).....	83,591.51	1,883.06
22 11 23 13-0068	EA	480 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-22).....	101,760.88	1,883.06
22 11 23 13-0069	EA	540 GPM At 40 PSI, 600 GPM At 40 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-23).....	71,725.58	1,883.06
22 11 23 13-0070	EA	540 GPM At 50 To 90 PSI, 600 GPM At 50 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-24).....	81,845.71	1,883.06
22 11 23 13-0071	EA	540 GPM At 100 To 110 PSI, 600 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-25).....	103,829.66	1,883.06
22 11 23 13-0072	EA	540 GPM At 120 To 130 PSI, 600 GPM At 120 To 130 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-26).....	105,959.66	1,883.06
22 11 23 13-0073	EA	540 GPM At 140 To 150 PSI, 600 GPM At 140 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-27).....	131,479.54	1,883.06
22 11 23 13-0074	EA	660 GPM At 40 To 50 PSI, 720 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-28).....	81,227.21	2,259.67
22 11 23 13-0075	EA	660 GPM At 60 To 90 PSI, 720,780,840,900 GPM At 60 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-29).....	97,906.22	2,259.67
22 11 23 13-0076	EA	660, 720, 780 GPM At 100 PSI, 840 To 900 GPM At 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-30).....	104,230.78	2,259.67
22 11 23 13-0077	EA	660, 720, 780, 840, 900 GPM At 110 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-31).....	125,925.53	2,259.67



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 23 13-0078	EA	660, 720, 780, 840, 900 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-32).....	156,293.82	2,259.67
22 11 23 23 Domestic-Water In-Line Pumps (22 11 23)				
22 11 23 23-0001 Bronze In-Line Centrifugal Domestic Water Booster Pumps (22 11 23 23)				
Note: ODP motor.				
22 11 23 23-0002	EA	1/12 HP, 3/4" To 1-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL30B).....	1,108.67	184.68
22 11 23 23-0003	EA	1/6 HP, 3/4" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL36B).....	1,139.76	184.68
22 11 23 23-0004	EA	1/6 HP, 1" To 1-1/4" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL45B).....	1,194.36	188.28
22 11 23 23-0005	EA	1/6 HP, 1-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL50B).....	1,319.81	195.97
22 11 23 23-0006	EA	1/6 HP, 2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL75B).....	2,411.67	203.27
22 11 23 23-0007	EA	1/6 HP, 2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G 2AB).....	2,576.80	203.27
22 11 23 23-0008	EA	1/4 HP, 2-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G 2-1/2AB).....	3,876.07	223.81
22 11 23 23-0009	EA	1/4 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G LD3 AB).....	4,038.10	245.88
22 11 23 23-0010	EA	1/3 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G HD3 AB).....	4,897.37	270.52
22 11 23 23-0011	EA	1/2 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB35S).....	4,998.88	297.72
22 11 23 23-0012	EA	3/4 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB37S).....	5,466.33	326.98
22 11 23 23-0013	EA	1 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB38S).....	7,867.42	359.83
22 11 23 23-0014	EA	1-1/2 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB40S).....	9,074.41	377.28
22 11 23 23-0015 Cast Iron In-Line Centrifugal Domestic Water Booster Pumps (22 11 23 23)				
Note: ODP motor.				
22 11 23 23-0016	EA	1/12 HP, 3/4" To 1-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL30).....	1,157.08	184.68
22 11 23 23-0017	EA	1/6 HP, 3/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL36).....	1,974.41	184.68
22 11 23 23-0018	EA	1/6 HP, 1" To 1-1/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL45).....	1,981.83	188.28
22 11 23 23-0019	EA	1/6 HP, 1-1/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL45).....	2,015.85	192.38
22 11 23 23-0020	EA	1/6 HP, 1-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL50).....	2,023.02	195.97
22 11 23 23-0021	EA	1/6 HP, 2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL75).....	2,060.06	203.27
22 11 23 23-0022	EA	1/4 HP, 2-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 2-1/2).....	2,525.81	223.81
22 11 23 23-0023	EA	1/3 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G HD30).....	3,264.47	270.52
22 11 23 23-0024	EA	1/2 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD35S).....	3,435.33	297.72
22 11 23 23-0025	EA	3/4 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD37S).....	4,016.39	326.98
22 11 23 23-0026	EA	1 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD38S).....	5,445.99	359.83
22 11 23 23-0027	EA	1-1/2 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD40S).....	6,380.62	377.28
22 11 23 23-0028	EA	2 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF).....	5,710.18	396.28
22 11 23 23-0029	EA	3 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF).....	6,135.23	435.60
22 11 23 23-0030	EA	5 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF).....	6,740.33	461.98
22 11 23 23-0031	EA	7-1/2 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	8,568.80	513.31
22 11 23 23-0032	EA	10 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	9,066.40	616.08
22 11 23 23-0033	EA	15 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	11,586.20	718.95
22 12 Facility Potable-Water Storage Tanks (22 10)				
22 12 19 Facility Ground-Mounted, Potable-Water Storage Tanks (22 12)				
22 12 19 00-0001 Steel, Horizontal, Ground-Mounted Water Tanks (22 12 19)				
22 12 19 00-0002	EA	5,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	42,217.92	9,725.16
22 12 19 00-0003	EA	10,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	48,017.22	9,725.16
22 12 19 00-0004	EA	20,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	86,720.15	15,007.98
22 12 19 00-0005	EA	35,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	111,928.80	19,450.31
22 12 19 00-0006 Galvanized Steel, Flat Bottom, Vertical Storage Tanks (22 12 19)				
22 12 19 00-0007	EA	5,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	50,809.47	9,725.16
22 12 19 00-0008	EA	10,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	70,999.62	9,725.16
22 12 19 00-0009	EA	20,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	105,781.97	15,007.98
22 12 19 00-0010	EA	35,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	152,445.31	19,450.31
22 12 23 Facility Indoor Potable-Water Storage Tanks (22 12)				
22 12 23 13 Facility Steel, Indoor Potable-Water Storage Pressure Tanks (22 12 23)				
22 12 23 13-0001 Insulated Glass Lined Storage Tank (A.O. Smith TJ, TJV And TJH) (22 12 23 13)				
22 12 23 13-0002	EA	80 Gallon ASME Rated Tank, 150PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJ-80A).....	2,646.63	410.42
22 12 23 13-0003	EA	119 Gallon 150 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-120M).....	3,277.41	513.02
22 12 23 13-0004	EA	140 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-140A).....	6,165.10	564.32
22 12 23 13-0005	EA	200 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-200A).....	6,820.47	615.63
22 12 23 13-0006	EA	250 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-250A).....	13,716.78	666.93
22 12 23 13-0007	EA	350 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-350A).....	11,775.78	718.23
22 12 23 13-0008	EA	400 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-400A).....	20,354.71	769.53
22 12 23 13-0009	EA	500 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-500A).....	18,723.68	820.84

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 12 23 13-0010 EA 750 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-750A).....	20,346.40	872.14
22 12 23 13-0011 EA 1,000 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-1000A).....	24,277.57	923.44
22 12 23 13-0012 Uninsulated Glass Lined Storage Tank (A.O. Smith T) (22 12 23 13)		
22 12 23 13-0013 EA 80 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-80S).....	2,246.95	410.42
22 12 23 13-0014 EA 120 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-120S).....	4,403.14	513.02
22 12 23 13-0015 EA 140 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-140A).....	5,529.44	564.32
22 12 23 13-0016 EA 200 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-200S).....	6,859.81	615.63
22 12 23 13-0017 EA 200 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-200A).....	5,797.80	615.63
22 12 23 13-0018 EA 250 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-250A).....	9,053.05	666.93
22 12 23 13-0019 EA 325 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-325A).....	9,798.93	718.23
22 12 23 13-0020 EA 350 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-350S).....	9,316.47	718.23
22 12 23 13-0021 EA 350 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-350A).....	8,481.91	718.23
22 12 23 13-0022 EA 400 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-400A).....	11,670.53	769.53
22 12 23 13-0023 EA 500 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-500A).....	12,664.57	820.84
22 12 23 13-0024 EA 750 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-750A).....	14,728.03	872.14
22 12 23 13-0025 EA 1,000 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-1000A).....	27,851.08	923.44

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

Note: Excludes excavation and backfill.

22 12 23 26-0002 EA 100 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	711.92	230.86
For Saddle Assembly, Add	798.64	
22 12 23 26-0003 EA 150 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	834.13	269.34
For Saddle Assembly, Add	798.64	
22 12 23 26-0004 EA 200 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	991.78	307.81
For Saddle Assembly, Add	919.17	
22 12 23 26-0005 EA 300 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	1,213.24	346.29
For Saddle Assembly, Add	1,389.48	
22 12 23 26-0006 EA 335 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	1,460.70	384.77
For Two Tie Down Bands, Add	455.20	
22 12 23 26-0007 EA 535 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	1,900.26	537.35
For Two Tie Down Bands, Add	488.28	
22 12 23 26-0008 EA 1,035 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	2,864.03	626.91
For Three Tie Down Bands, Add	838.77	
22 12 23 26-0009 EA 1,335 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	4,157.59	716.46
For Three Tie Down Bands, Add	845.86	
22 12 23 26-0010 EA 1,635 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	5,201.07	806.02
For Four Tie Down Bands, Add	1,146.73	
22 12 23 26-0011 EA 2,035 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	6,099.10	895.57
For Four Tie Down Bands, Add	1,628.85	
22 12 23 26-0012 EA 2,635 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	8,758.04	985.13
For Four Tie Down Bands, Add	2,158.24	
22 12 23 26-0013 EA 3,135 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	10,153.66	1,074.68
For Four Tie Down Bands, Add	2,337.86	
22 12 23 26-0014 EA 4,035 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	14,599.58	1,432.92
For Four Tie Down Bands, Add	2,649.82	
22 12 23 26-0015 EA 5,025 Gallon Horizontal Non-Pressurized Polyethylene Tank.....	18,943.20	1,432.92
For Five Tie Down Bands, Add	4,174.89	

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

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

22 13 Facility Sanitary Sewerage (22 10)**22 13 13 Facility Sanitary Sewers (22 13)**



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0001 Fixture Rough-In (22 13 13) Note: Excludes fixture. Not for use when individual component details are available, on remodeling work where partial pipe and fittings are installed or on residential projects. For use on commercial restrooms with multiple toilets, urinals and lavatories. Includes waste and vent pipe and fittings and domestic water supply pipe and fittings. Waste piping is included from fixture outlet tee to floor, vent piping is included from outlet tee within the wall to the ceiling and domestic water supply from ceiling to fixture and stub out with caps. Based on vertical floor to floor of 12'. Use detailed tasks (i.e. individual pipe and fittings, insulation, hangers, etc.) instead of rough-in assembly where possible.		
22 13 13 00-0002 Single Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001) Note: Single fixtures have one fixture to one pipe riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0003 EA Floor Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	1,171.73	
22 13 13 00-0004 EA Wall Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	1,631.83	
22 13 13 00-0005 EA Tank Type Floor Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,052.70	
22 13 13 00-0006 EA Wall Mounted Urinal, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	697.11	
22 13 13 00-0007 EA Wall Mounted Lavatory, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	822.95	
22 13 13 00-0008 EA Countertop Kitchen Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,029.82	
22 13 13 00-0009 EA Bathtub, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,112.32	
22 13 13 00-0010 EA Free Standing Water Cooler, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	669.29	
22 13 13 00-0011 EA Floor Mounted Service Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,052.70	
22 13 13 00-0012 EA Wall Mounted Service Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,072.00	
22 13 13 00-0013 EA Shower, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	1,020.68	
22 13 13 00-0014 EA Bidet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,171.73	
22 13 13 00-0015 EA Floor Mounted Circular Wash Fountain, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,843.77	
22 13 13 00-0016 EA Bathtub/Shower, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	1,138.00	
22 13 13 00-0017 Double Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001) Note: Double fixtures have two "back-to-back" waste connections to one riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0018 EA Floor Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	1,553.02	
22 13 13 00-0019 EA Wall Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	2,186.74	
22 13 13 00-0020 EA Tank Type Floor Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,338.46	
22 13 13 00-0021 EA Wall Mounted Urinal, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	850.23	
22 13 13 00-0022 EA Wall Mounted Lavatory, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,113.67	
22 13 13 00-0023 EA Countertop Kitchen Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,184.77	
22 13 13 00-0024 EA Free Standing Water Cooler, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	797.54	
22 13 13 00-0025 EA Floor Mounted Service Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,348.70	
22 13 13 00-0026 EA Wall Mounted Service Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,138.71	
22 13 13 00-0027 EA Shower, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower heads and faucets.	1,113.09	
22 13 13 00-0028 EA Bidet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucets.	1,553.02	
22 13 13 00-0029 Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001) Note: Gang fixtures include multiple fixtures to one pipe riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0030 EA Floor Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	776.04	
22 13 13 00-0031 EA Wall Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture, carrier and flush valve.	1,093.37	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0032	EA	Tank Type Floor Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 669.74 Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture.	669.74	
22 13 13 00-0033	EA	Wall Mounted Urinal, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 425.64 Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture, carrier and flush valve.	425.64	
22 13 13 00-0034	EA	Wall Mounted Lavatory, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 556.85 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	556.85	
22 13 13 00-0035	EA	Countertop Kitchen Sink, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 592.37 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	592.37	
22 13 13 00-0036	EA	Free Standing Water Cooler, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 424.41 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	424.41	
22 13 13 00-0037	EA	Rough-in Service Sink, Floor Mounted, Gang Mounted Fixture Including Cast Iron Waste Pipe And Vent And Copper Domestic Supply, Not Including Fixture Or Faucet 673.85 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	673.85	
22 13 13 00-0038	EA	Wall Mounted Service Sink, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 569.35 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	569.35	
22 13 13 00-0039	EA	Shower, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 557.03 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower heads and faucets.	557.03	
22 13 13 00-0040	EA	Bidet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe 768.83 Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	768.83	
22 13 13 00-0041		Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe ^(22 13 13 00-0001) Note: Single fixtures have one fixture to one pipe riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0042	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Floor Mounted, Water Closet 655.26 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	655.26	
22 13 13 00-0043	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Water Closet 777.01 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	777.01	
22 13 13 00-0044	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Tank Type, Floor Mounted, Water Closet 612.58 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	612.58	
22 13 13 00-0045	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Urinal 379.24 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	379.24	
22 13 13 00-0046	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Lavatory 445.45 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	445.45	
22 13 13 00-0047	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Countertop, Kitchen Sink 591.13 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	591.13	
22 13 13 00-0048	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Bathtub 610.00 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	610.00	
22 13 13 00-0049	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Free Standing, Water Cooler 371.98 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	371.98	
22 13 13 00-0050	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Floor Mounted, Service Sink 612.58 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	612.58	
22 13 13 00-0051	EA	Wall Mounted Service Sink, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 643.42 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	643.42	
22 13 13 00-0052	EA	Shower, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 598.42 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	598.42	
22 13 13 00-0053	EA	Bidet, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 655.13 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	655.13	
22 13 13 00-0054	EA	Floor Mounted Circular Wash Fountain, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 1,017.27 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	1,017.27	
22 13 13 00-0055	EA	Bathtub/Shower, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 632.44 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	632.44	
22 13 13 00-0056		Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe ^(22 13 13 00-0001) Note: Double fixtures have two "back-to-back" waste connections to one riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0057	EA	Floor Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 817.93 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	817.93	
22 13 13 00-0058	EA	Wall Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 1,021.43 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	1,021.43	
22 13 13 00-0059	EA	Tank Type Floor Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 709.25 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures.	709.25	
22 13 13 00-0060	EA	Wall Mounted Urinal, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe 433.97 Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	433.97	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

22

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0061	EA	Wall Mounted Lavatory, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures, carrier and faucets.	615.69	
22 13 13 00-0062	EA	Countertop Kitchen Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures and faucets.	646.50	
22 13 13 00-0063	EA	Free Standing Water Cooler, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures.	417.81	
22 13 13 00-0064	EA	Floor Mounted Service Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	718.37	
22 13 13 00-0065	EA	Wall Mounted Service Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	667.26	
22 13 13 00-0066	EA	Shower, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	644.36	
22 13 13 00-0067	EA	Bidet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	817.93	
22 13 13 00-0068		Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe (22 13 13 00-0001) Note: Gang fixtures include multiple fixtures to one pipe riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0069	EA	Floor Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	408.54	
22 13 13 00-0070	EA	Wall Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	510.22	
22 13 13 00-0071	EA	Tank Type Floor Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	354.93	
22 13 13 00-0072	EA	Wall Mounted Urinal, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	217.04	
22 13 13 00-0073	EA	Wall Mounted Lavatory, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	307.82	
22 13 13 00-0074	EA	Countertop Kitchen Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	323.00	
22 13 13 00-0075	EA	Free Standing Water Cooler, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	208.90	
22 13 13 00-0076	EA	Floor Mounted Service Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	359.09	
22 13 13 00-0077	EA	Wall Mounted Service Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	333.67	
22 13 13 00-0078	EA	Shower, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	322.63	
22 13 13 00-0079	EA	Bidet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	401.74	
22 13 16		Sanitary Waste and Vent Piping (22 13)		
22 13 16 00-0001		Cast Iron Soil Pipe Assemblies (22 13 16)		
22 13 16 00-0002		Underground Bell And Spigot Cast Iron Soil Pipe Assemblies (22 13 16 00-0001) Note: Includes fittings and gaskets. Fittings are assumed every 10'. Excludes excavation, backfill and compaction. Not for use where detail is available.		
22 13 16 00-0003	LF	2" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	38.00	6.46
		<i>For Work In Restricted Working Space, Add</i>	4.74	
22 13 16 00-0004	LF	3" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	54.67	9.74
		<i>For Work In Restricted Working Space, Add</i>	6.43	
22 13 16 00-0005	LF	4" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	71.02	12.41
		<i>For Work In Restricted Working Space, Add</i>	8.27	
22 13 16 00-0006	LF	5" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	85.59	15.78
		<i>For Work In Restricted Working Space, Add</i>	8.88	
22 13 16 00-0007	LF	6" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	101.06	17.20
		<i>For Work In Restricted Working Space, Add</i>	9.86	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0008	LF	8" Underground Bell And Spigot Cast Iron Soil Pipe Assembly Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	161.82	24.35
		<i>For Work In Restricted Working Space, Add</i>	13.79	
22 13 16 00-0009	LF	10" Underground Bell And Spigot Cast Iron Soil Pipe Assembly Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	242.08	24.35
		<i>For Work In Restricted Working Space, Add</i>	15.61	
22 13 16 00-0010		Aboveground No Hub Cast Iron Soil Pipe Assemblies (22 13 16 00-0001) Note: Includes fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.		
22 13 16 00-0011	LF	1-1/2" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	33.77	6.16
		<i>For Work In Restricted Working Space, Add</i>	5.41	
22 13 16 00-0012	LF	2" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	35.67	6.57
		<i>For Work In Restricted Working Space, Add</i>	5.81	
22 13 16 00-0013	LF	3" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	46.00	9.54
		<i>For Work In Restricted Working Space, Add</i>	7.12	
22 13 16 00-0014	LF	4" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	54.92	12.41
		<i>For Work In Restricted Working Space, Add</i>	8.52	
22 13 16 00-0015	LF	5" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	73.62	15.48
		<i>For Work In Restricted Working Space, Add</i>	10.51	
22 13 16 00-0016	LF	6" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	83.97	16.90
		<i>For Work In Restricted Working Space, Add</i>	11.45	
22 13 16 00-0017	LF	8" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	133.06	24.15
		<i>For Work In Restricted Working Space, Add</i>	15.72	
22 13 16 00-0018	LF	10" Aboveground No Hub Cast Iron Soil Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 20'. Not for use where detail is available.	191.44	27.44
		<i>For Work In Restricted Working Space, Add</i>	18.27	
22 13 16 00-0019		Bell And Spigot Cast Iron Soil Pipe And Fittings (22 13 16) Note: Service weight. ASTM A74 and CISPI 301 (Fitting Requirements).		
22 13 16 00-0020		Bell And Spigot Cast Iron Pipe (22 13 16 00-0019) Note: Excludes excavation, hangers, gaskets, and fittings.		
22 13 16 00-0021	LF	2" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	27.54 7.46 0.49 2.93	6.46
22 13 16 00-0022	LF	3" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	40.13 10.70 0.73 4.40	9.74
22 13 16 00-0023	LF	4" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	51.76 13.91 0.93 5.60	12.41
22 13 16 00-0024	LF	5" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	70.34 19.63 1.18 7.08	15.78
22 13 16 00-0025	LF	6" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	82.66 23.90 1.29 7.73	17.20
22 13 16 00-0026	LF	8" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	125.05 37.17 1.83 10.96	24.35
22 13 16 00-0027	LF	10" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	188.47 61.89 2.06 12.33	27.44
22 13 16 00-0028	LF	12" Bell And Spigot Cast Iron Pipe <i>For Extra Heavy Pipe, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	268.87 89.91 2.74 16.44	36.58



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0029	LF		15" Bell And Spigot Cast Iron Pipe	378.64	43.88
			For Extra Heavy Fittings, Add	131.40	
			For Above Ground Cast Iron Pipe Installation, Add	3.29	
			For Work In Restricted Working Space, Add	19.73	
22 13 16 00-0030			Bell And Spigot Cast Iron Fittings (22 13 16 00-0019)		
22 13 16 00-0031			Bell And Spigot Cast Iron Long Sweeps (22 13 16 00-0030)		
22 13 16 00-0032	EA		2" Bell And Spigot Cast Iron Long Sweep.....	109.74	29.44
			For Extra Heavy Fittings, Add	22.96	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0033	EA		3" Bell And Spigot Cast Iron Long Sweep.....	188.58	37.04
			For Extra Heavy Fittings, Add	46.59	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0034	EA		4" Bell And Spigot Cast Iron Long Sweep.....	251.26	49.25
			For Extra Heavy Fittings, Add	62.10	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0035	EA		6" Bell And Spigot Cast Iron Long Sweep.....	398.83	66.77
			For Extra Heavy Fittings, Add	104.56	
			For Above Ground Cast Iron Pipe Installation, Add	5.00	
			For Work In Restricted Working Space, Add	30.02	
22 13 16 00-0036	EA		8" Bell And Spigot Cast Iron Long Sweep.....	794.78	85.71
			For Extra Heavy Fittings, Add	233.21	
			For Above Ground Cast Iron Pipe Installation, Add	6.42	
			For Work In Restricted Working Space, Add	38.54	
22 13 16 00-0037	EA		10" Bell And Spigot Cast Iron Long Sweep.....	1,088.77	105.44
			For Extra Heavy Fittings, Add	325.73	
			For Above Ground Cast Iron Pipe Installation, Add	7.91	
			For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0038	EA		12" Bell And Spigot Cast Iron Long Sweep.....	1,671.64	147.17
			For Extra Heavy Fittings, Add	507.84	
			For Above Ground Cast Iron Pipe Installation, Add	11.03	
			For Work In Restricted Working Space, Add	66.20	
22 13 16 00-0039	EA		15" Bell And Spigot Cast Iron Long Sweep.....	3,113.58	204.93
			For Extra Heavy Fittings, Add	982.22	
			For Above Ground Cast Iron Pipe Installation, Add	15.36	
			For Work In Restricted Working Space, Add	92.17	
22 13 16 00-0040			Bell And Spigot Cast Iron Short Sweeps (22 13 16 00-0030)		
22 13 16 00-0041	EA		2" Bell And Spigot Cast Iron Short Sweep.....	92.42	29.44
			For Extra Heavy Fittings, Add	16.90	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0042	EA		3" Bell And Spigot Cast Iron Short Sweep.....	159.51	37.04
			For Extra Heavy Fittings, Add	36.42	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0043	EA		4" Bell And Spigot Cast Iron Short Sweep.....	218.57	49.25
			For Extra Heavy Fittings, Add	50.66	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0044	EA		5" Bell And Spigot Cast Iron Short Sweep.....	335.34	56.76
			For Extra Heavy Fittings, Add	87.60	
			For Above Ground Cast Iron Pipe Installation, Add	4.25	
			For Work In Restricted Working Space, Add	25.52	
22 13 16 00-0045	EA		6" Bell And Spigot Cast Iron Short Sweep.....	405.06	66.77
			For Extra Heavy Fittings, Add	106.74	
			For Above Ground Cast Iron Pipe Installation, Add	5.00	
			For Work In Restricted Working Space, Add	30.02	
22 13 16 00-0046	EA		8" Bell And Spigot Cast Iron Short Sweep.....	669.49	85.71
			For Extra Heavy Fittings, Add	189.36	
			For Above Ground Cast Iron Pipe Installation, Add	6.42	
			For Work In Restricted Working Space, Add	38.54	
22 13 16 00-0047	EA		10" Bell And Spigot Cast Iron Short Sweep.....	981.87	105.44
			For Extra Heavy Fittings, Add	288.32	
			For Above Ground Cast Iron Pipe Installation, Add	7.91	
			For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0048	EA		12" Bell And Spigot Cast Iron Short Sweep.....	1,631.78	147.17
			For Extra Heavy Fittings, Add	493.89	
			For Above Ground Cast Iron Pipe Installation, Add	11.03	
			For Work In Restricted Working Space, Add	66.20	
22 13 16 00-0049			Bell And Spigot Cast Iron 1/4 Bends (22 13 16 00-0030)		
22 13 16 00-0050	EA		2" Bell And Spigot Cast Iron 1/4 Bend	82.60	29.34
			For Extra Heavy Fittings, Add	13.50	
			For Above Ground Cast Iron Pipe Installation, Add	2.20	
			For Work In Restricted Working Space, Add	13.21	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0051	EA		3" Bell And Spigot Cast Iron 1/4 Bend	126.63	33.04
			For Extra Heavy Fittings, Add	26.97	
			For Above Ground Cast Iron Pipe Installation, Add	2.48	
			For Work In Restricted Working Space, Add	14.87	
22 13 16 00-0052	EA		4" Bell And Spigot Cast Iron 1/4 Bend	181.65	44.01
			For Extra Heavy Fittings, Add	40.49	
			For Above Ground Cast Iron Pipe Installation, Add	3.30	
			For Work In Restricted Working Space, Add	19.79	
22 13 16 00-0053	EA		5" Bell And Spigot Cast Iron 1/4 Bend	231.31	50.69
			For Extra Heavy Fittings, Add	54.38	
			For Above Ground Cast Iron Pipe Installation, Add	3.80	
			For Work In Restricted Working Space, Add	22.78	
22 13 16 00-0054	EA		6" Bell And Spigot Cast Iron 1/4 Bend	278.24	60.70
			For Extra Heavy Fittings, Add	65.51	
			For Above Ground Cast Iron Pipe Installation, Add	4.55	
			For Work In Restricted Working Space, Add	27.32	
22 13 16 00-0055	EA		8" Bell And Spigot Cast Iron 1/4 Bend	582.74	78.92
			For Extra Heavy Fittings, Add	162.55	
			For Above Ground Cast Iron Pipe Installation, Add	5.92	
			For Work In Restricted Working Space, Add	35.49	
22 13 16 00-0056	EA		10" Bell And Spigot Cast Iron 1/4 Bend	862.16	95.78
			For Extra Heavy Fittings, Add	251.50	
			For Above Ground Cast Iron Pipe Installation, Add	7.18	
			For Work In Restricted Working Space, Add	43.07	
22 13 16 00-0057	EA		12" Bell And Spigot Cast Iron 1/4 Bend	1,138.44	113.05
			For Extra Heavy Fittings, Add	339.12	
			For Above Ground Cast Iron Pipe Installation, Add	8.48	
			For Work In Restricted Working Space, Add	50.86	
22 13 16 00-0058	EA		15" Bell And Spigot Cast Iron 1/4 Bend	2,924.02	178.31
			For Extra Heavy Fittings, Add	929.86	
			For Above Ground Cast Iron Pipe Installation, Add	13.36	
			For Work In Restricted Working Space, Add	80.19	
22 13 16 00-0059 Bell And Spigot Cast Iron 1/8 Bends (22 13 16 00-0030)					
22 13 16 00-0060	EA		2" Bell And Spigot Cast Iron 1/8 Bend	74.92	29.44
			For Extra Heavy Fittings, Add	10.78	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0061	EA		3" Bell And Spigot Cast Iron 1/8 Bend	119.00	37.04
			For Extra Heavy Fittings, Add	22.24	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0062	EA		4" Bell And Spigot Cast Iron 1/8 Bend	170.22	49.25
			For Extra Heavy Fittings, Add	33.74	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0063	EA		5" Bell And Spigot Cast Iron 1/8 Bend	216.61	63.44
			For Extra Heavy Fittings, Add	42.54	
			For Above Ground Cast Iron Pipe Installation, Add	4.75	
			For Work In Restricted Working Space, Add	28.52	
22 13 16 00-0064	EA		6" Bell And Spigot Cast Iron 1/8 Bend	250.83	70.72
			For Extra Heavy Fittings, Add	50.66	
			For Above Ground Cast Iron Pipe Installation, Add	5.30	
			For Work In Restricted Working Space, Add	31.82	
22 13 16 00-0065	EA		8" Bell And Spigot Cast Iron 1/8 Bend	503.93	94.55
			For Extra Heavy Fittings, Add	126.76	
			For Above Ground Cast Iron Pipe Installation, Add	7.09	
			For Work In Restricted Working Space, Add	42.53	
22 13 16 00-0066	EA		10" Bell And Spigot Cast Iron 1/8 Bend	706.88	116.65
			For Extra Heavy Fittings, Add	186.18	
			For Above Ground Cast Iron Pipe Installation, Add	8.75	
			For Work In Restricted Working Space, Add	52.48	
22 13 16 00-0067	EA		12" Bell And Spigot Cast Iron 1/8 Bend	1,147.20	151.27
			For Extra Heavy Fittings, Add	322.16	
			For Above Ground Cast Iron Pipe Installation, Add	11.34	
			For Work In Restricted Working Space, Add	68.02	
22 13 16 00-0068	EA		15" Bell And Spigot Cast Iron 1/8 Bend	2,213.39	178.31
			For Extra Heavy Fittings, Add	681.14	
			For Above Ground Cast Iron Pipe Installation, Add	13.36	
			For Work In Restricted Working Space, Add	80.19	
22 13 16 00-0069 Bell And Spigot Cast Iron Wyes (22 13 16 00-0030)					
22 13 16 00-0070	EA		2" Bell And Spigot Cast Iron Wye	128.28	65.77
			For Extra Heavy Fittings, Add	10.37	
			For Above Ground Cast Iron Pipe Installation, Add	4.93	
			For Work In Restricted Working Space, Add	29.60	
22 13 16 00-0071	EA		3" Bell And Spigot Cast Iron Wye	163.48	72.03
			For Extra Heavy Fittings, Add	19.42	
			For Above Ground Cast Iron Pipe Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0072	EA	4" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	215.32 25.84 7.07 42.45	94.40
22 13 16 00-0073	EA	5" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	286.74 43.06 8.19 49.11	109.17
22 13 16 00-0074	EA	6" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	360.72 58.34 9.70 58.21	129.39
22 13 16 00-0075	EA	8" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	667.62 143.06 72.94 77.66	172.65
22 13 16 00-0076	EA	10" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	942.41 227.07 14.68 88.09	195.88
22 13 16 00-0077	EA	12" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,401.20 365.31 17.87 107.24	238.43
22 13 16 00-0078	EA	15" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,188.28 625.53 20.05 120.32	267.51
22 13 16 00-0079		Bell And Spigot Cast Iron Reducing Wyes (22 13 16 00-0030)		
22 13 16 00-0080	EA	3" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	209.63 37.29 5.16 30.93	68.74
22 13 16 00-0081	EA	4" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	254.90 44.61 6.37 38.23	84.96
22 13 16 00-0082	EA	4" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	285.85 54.31 6.53 39.20	87.11
22 13 16 00-0083	EA	6" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	432.38 90.52 8.69 52.13	115.94
22 13 16 00-0084	EA	6" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	443.68 93.32 8.85 53.12	118.07
22 13 16 00-0085	EA	6" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	464.11 96.34 9.44 56.66	125.96
22 13 16 00-0086	EA	8" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	687.84 167.89 10.41 62.45	138.84
22 13 16 00-0087	EA	8" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	719.52 177.59 10.61 63.64	141.51
22 13 16 00-0088	EA	8" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	736.37 179.96 11.11 66.66	148.20
22 13 16 00-0089	EA	8" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	871.59 218.54 12.36 74.16	164.85
22 13 16 00-0090	EA	10" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,081.98 297.63 11.58 69.48	154.46
22 13 16 00-0091	EA	10" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,125.45 309.27 12.09 72.54	161.25
22 13 16 00-0092	EA	10" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,230.98 337.29 13.36 80.19	178.31

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0093	EA		10" x 8" Bell And Spigot Cast Iron Reducing Wye	1,634.52	189.10
			For Extra Heavy Fittings, Add	472.85	
			For Above Ground Cast Iron Pipe Installation, Add	14.18	
			For Work In Restricted Working Space, Add	85.05	
22 13 16 00-0094	EA		12" x 4" Bell And Spigot Cast Iron Reducing Wye	1,683.17	189.10
			For Extra Heavy Fittings, Add	489.88	
			For Above Ground Cast Iron Pipe Installation, Add	14.18	
			For Work In Restricted Working Space, Add	85.05	
22 13 16 00-0095	EA		12" x 6" Bell And Spigot Cast Iron Reducing Wye	1,750.62	204.93
			For Extra Heavy Fittings, Add	505.18	
			For Above Ground Cast Iron Pipe Installation, Add	15.36	
			For Work In Restricted Working Space, Add	92.17	
22 13 16 00-0096	EA		12" x 8" Bell And Spigot Cast Iron Reducing Wye	2,059.53	215.10
			For Extra Heavy Fittings, Add	607.99	
			For Above Ground Cast Iron Pipe Installation, Add	16.12	
			For Work In Restricted Working Space, Add	96.73	
22 13 16 00-0097	EA		12" x 10" Bell And Spigot Cast Iron Reducing Wye	2,509.43	221.47
			For Extra Heavy Fittings, Add	762.08	
			For Above Ground Cast Iron Pipe Installation, Add	16.60	
			For Work In Restricted Working Space, Add	99.62	
22 13 16 00-0098	EA		15" x 4" Bell And Spigot Cast Iron Reducing Wye	4,172.77	208.83
			For Extra Heavy Fittings, Add	1,350.89	
			For Above Ground Cast Iron Pipe Installation, Add	15.65	
			For Work In Restricted Working Space, Add	93.93	
22 13 16 00-0099	EA		15" x 6" Bell And Spigot Cast Iron Reducing Wye	4,353.75	225.99
			For Extra Heavy Fittings, Add	1,405.20	
			For Above Ground Cast Iron Pipe Installation, Add	16.95	
			For Work In Restricted Working Space, Add	101.67	
22 13 16 00-0100	EA		15" x 8" Bell And Spigot Cast Iron Reducing Wye	4,442.22	235.75
			For Extra Heavy Fittings, Add	1,431.06	
			For Above Ground Cast Iron Pipe Installation, Add	17.67	
			For Work In Restricted Working Space, Add	106.04	
22 13 16 00-0101	EA		15" x 10" Bell And Spigot Cast Iron Reducing Wye	4,545.29	243.77
			For Extra Heavy Fittings, Add	1,462.96	
			For Above Ground Cast Iron Pipe Installation, Add	18.27	
			For Work In Restricted Working Space, Add	109.62	
22 13 16 00-0102	EA		15" x 12" Bell And Spigot Cast Iron Reducing Wye	4,658.97	257.96
			For Extra Heavy Fittings, Add	1,495.29	
			For Above Ground Cast Iron Pipe Installation, Add	19.34	
			For Work In Restricted Working Space, Add	116.02	
22 13 16 00-0103			Bell And Spigot Cast Iron Combination Wye And 1/8 Bends (22 13 16 00-0030)		
22 13 16 00-0104	EA		2" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	140.96	65.77
			For Extra Heavy Fittings, Add	14.81	
			For Above Ground Cast Iron Pipe Installation, Add	4.93	
			For Work In Restricted Working Space, Add	29.60	
22 13 16 00-0105	EA		3" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	171.30	72.03
			For Extra Heavy Fittings, Add	22.16	
			For Above Ground Cast Iron Pipe Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0106	EA		4" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	228.93	94.40
			For Extra Heavy Fittings, Add	30.60	
			For Above Ground Cast Iron Pipe Installation, Add	7.07	
			For Work In Restricted Working Space, Add	42.45	
22 13 16 00-0107	EA		5" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	330.09	114.53
			For Extra Heavy Fittings, Add	55.45	
			For Above Ground Cast Iron Pipe Installation, Add	8.58	
			For Work In Restricted Working Space, Add	51.50	
22 13 16 00-0108	EA		6" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	413.55	142.05
			For Extra Heavy Fittings, Add	70.22	
			For Above Ground Cast Iron Pipe Installation, Add	10.65	
			For Work In Restricted Working Space, Add	63.88	
22 13 16 00-0109	EA		8" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	767.07	185.91
			For Extra Heavy Fittings, Add	170.93	
			For Above Ground Cast Iron Pipe Installation, Add	13.94	
			For Work In Restricted Working Space, Add	83.61	
22 13 16 00-0110	EA		10" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	1,110.50	243.77
			For Extra Heavy Fittings, Add	260.78	
			For Above Ground Cast Iron Pipe Installation, Add	18.27	
			For Work In Restricted Working Space, Add	109.62	
22 13 16 00-0111	EA		12" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend.....	1,490.85	313.35
			For Extra Heavy Fittings, Add	357.37	
			For Above Ground Cast Iron Pipe Installation, Add	23.49	
			For Work In Restricted Working Space, Add	140.94	
22 13 16 00-0112			Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bends (22 13 16 00-0030)		
22 13 16 00-0113	EA		3" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend.....	150.58	68.74
			For Extra Heavy Fittings, Add	16.62	
			For Above Ground Cast Iron Pipe Installation, Add	5.16	
			For Work In Restricted Working Space, Add	30.93	



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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0114	EA	4" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	214.63	84.96
		For Extra Heavy Fittings, Add	30.52	
		For Above Ground Cast Iron Pipe Installation, Add	6.37	
		For Work In Restricted Working Space, Add	38.23	
22 13 16 00-0115	EA	4" x 3" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	232.71	87.11
		For Extra Heavy Fittings, Add	35.71	
		For Above Ground Cast Iron Pipe Installation, Add	6.53	
		For Work In Restricted Working Space, Add	39.20	
22 13 16 00-0116	EA	6" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	356.17	115.94
		For Extra Heavy Fittings, Add	63.85	
		For Above Ground Cast Iron Pipe Installation, Add	8.69	
		For Work In Restricted Working Space, Add	52.13	
22 13 16 00-0117	EA	6" x 3" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	371.33	118.07
		For Extra Heavy Fittings, Add	68.00	
		For Above Ground Cast Iron Pipe Installation, Add	8.85	
		For Work In Restricted Working Space, Add	53.12	
22 13 16 00-0118	EA	6" x 4" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	393.52	125.96
		For Extra Heavy Fittings, Add	71.63	
		For Above Ground Cast Iron Pipe Installation, Add	9.44	
		For Work In Restricted Working Space, Add	56.66	
22 13 16 00-0119	EA	8" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	546.29	138.84
		For Extra Heavy Fittings, Add	118.35	
		For Above Ground Cast Iron Pipe Installation, Add	10.41	
		For Work In Restricted Working Space, Add	62.45	
22 13 16 00-0120	EA	8" x 4" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	560.34	148.20
		For Extra Heavy Fittings, Add	118.35	
		For Above Ground Cast Iron Pipe Installation, Add	11.11	
		For Work In Restricted Working Space, Add	66.66	
22 13 16 00-0121	EA	8" x 6" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	711.39	164.85
		For Extra Heavy Fittings, Add	162.47	
		For Above Ground Cast Iron Pipe Installation, Add	12.36	
		For Work In Restricted Working Space, Add	74.16	
22 13 16 00-0122		Bell And Spigot Cast Iron Double Wyes (22 13 16 00-0030)		
22 13 16 00-0123	EA	2" Bell And Spigot Cast Iron Double Wye	234.94	78.70
		For Extra Heavy Fittings, Add	40.95	
		For Above Ground Cast Iron Pipe Installation, Add	5.90	
		For Work In Restricted Working Space, Add	35.38	
22 13 16 00-0124	EA	3" Bell And Spigot Cast Iron Double Wye	345.13	99.21
		For Extra Heavy Fittings, Add	68.75	
		For Above Ground Cast Iron Pipe Installation, Add	7.44	
		For Work In Restricted Working Space, Add	44.61	
22 13 16 00-0125	EA	4" Bell And Spigot Cast Iron Double Wye	470.22	125.48
		For Extra Heavy Fittings, Add	98.71	
		For Above Ground Cast Iron Pipe Installation, Add	9.41	
		For Work In Restricted Working Space, Add	56.46	
22 13 16 00-0126	EA	6" Bell And Spigot Cast Iron Double Wye	923.70	198.80
		For Extra Heavy Fittings, Add	218.97	
		For Above Ground Cast Iron Pipe Installation, Add	14.90	
		For Work In Restricted Working Space, Add	89.42	
22 13 16 00-0127	EA	8" Bell And Spigot Cast Iron Double Wye	1,872.68	233.39
		For Extra Heavy Fittings, Add	532.99	
		For Above Ground Cast Iron Pipe Installation, Add	17.49	
		For Work In Restricted Working Space, Add	104.96	
22 13 16 00-0128	EA	10" Bell And Spigot Cast Iron Double Wye	2,489.46	261.14
		For Extra Heavy Fittings, Add	734.28	
		For Above Ground Cast Iron Pipe Installation, Add	19.58	
		For Work In Restricted Working Space, Add	117.45	
22 13 16 00-0129	EA	12" Bell And Spigot Cast Iron Double Wye	1,704.86	313.35
		For Extra Heavy Fittings, Add	432.27	
		For Above Ground Cast Iron Pipe Installation, Add	23.49	
		For Work In Restricted Working Space, Add	140.94	
22 13 16 00-0130	EA	15" Bell And Spigot Cast Iron Double Wye	4,896.64	328.87
		For Extra Heavy Fittings, Add	1,541.16	
		For Above Ground Cast Iron Pipe Installation, Add	24.67	
		For Work In Restricted Working Space, Add	148.00	
22 13 16 00-0131		Bell And Spigot Cast Iron Reducing Double Wyes (22 13 16 00-0030)		
22 13 16 00-0132	EA	3" x 2" Bell And Spigot Cast Iron Reducing Double Wye	208.59	93.06
		For Extra Heavy Fittings, Add	24.16	
		For Above Ground Cast Iron Pipe Installation, Add	6.98	
		For Work In Restricted Working Space, Add	41.87	
22 13 16 00-0133	EA	4" x 2" Bell And Spigot Cast Iron Reducing Double Wye	242.65	106.91
		For Extra Heavy Fittings, Add	28.82	
		For Above Ground Cast Iron Pipe Installation, Add	8.02	
		For Work In Restricted Working Space, Add	48.10	
22 13 16 00-0134	EA	4" x 3" Bell And Spigot Cast Iron Reducing Double Wye	263.59	112.14
		For Extra Heavy Fittings, Add	33.38	
		For Above Ground Cast Iron Pipe Installation, Add	8.41	
		For Work In Restricted Working Space, Add	50.46	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0135	EA		6" x 2" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	349.09 49.83 10.34 62.02	137.90
22 13 16 00-0136	EA		6" x 3" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	370.52 54.57 10.73 64.38	143.16
22 13 16 00-0137	EA		6" x 4" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	427.64 67.76 11.70 70.21	156.11
22 13 16 00-0138	EA		8" x 4" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	699.43 150.45 13.48 80.87	179.85
22 13 16 00-0139	EA		8" x 6" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	759.08 153.97 15.96 95.75	212.83
22 13 16 00-0140	EA		10" x 4" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	744.95 159.76 14.42 86.54	192.38
22 13 16 00-0141	EA		10" x 6" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	867.91 185.15 16.95 101.67	225.99
22 13 16 00-0142	EA		10" x 8" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,074.71 246.88 18.47 110.80	246.34
22 13 16 00-0143	EA		12" x 6" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,097.67 251.94 18.89 113.35	251.99
22 13 16 00-0144	EA		12" x 8" Bell And Spigot Cast Iron Reducing Double Wye <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,410.92 349.94 20.55 123.33	274.19
22 13 16 00-0145			Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bends (22 13 16 00- 0030)		
22 13 16 00-0146	EA		2" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	193.00 26.27 5.90 35.38	78.70
22 13 16 00-0147	EA		3" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	260.07 35.78 7.89 47.36	105.27
22 13 16 00-0148	EA		4" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	341.16 50.34 9.87 59.20	131.64
22 13 16 00-0149	EA		6" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	779.06 156.08 16.66 99.94	222.18
22 13 16 00-0150			Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0030)		
22 13 16 00-0151	EA		3" x 2" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	260.14 41.53 7.07 42.45	94.40
22 13 16 00-0152	EA		4" x 2" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	309.81 52.32 8.02 48.10	106.91
22 13 16 00-0153	EA		4" x 3" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	348.04 59.38 8.92 53.51	119.03
22 13 16 00-0154	EA		6" x 4" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	724.56 166.62 12.42 74.55	165.72
22 13 16 00-0155			Bell And Spigot Cast Iron Sanitary Tees (22 13 16 00-0030)		



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0156	EA		2" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	157.24 20.48 4.94 29.62	65.87
22 13 16 00-0157	EA		3" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	179.43 25.00 5.40 32.40	72.03
22 13 16 00-0158	EA		4" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	234.92 56.90 6.62 39.71	88.24
22 13 16 00-0159	EA		5" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	440.87 101.29 7.57 45.44	100.97
22 13 16 00-0160	EA		6" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	528.89 121.56 9.08 54.48	121.11
22 13 16 00-0161	EA		8" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,150.95 320.05 11.83 70.96	157.76
22 13 16 00-0162	EA		10" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,736.78 506.91 14.42 86.54	192.38
22 13 16 00-0163	EA		12" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,601.26 791.83 16.95 101.67	225.99
22 13 16 00-0164 Bell And Spigot Cast Iron Reducing Sanitary Tees (22 13 16 00-0030)					
22 13 16 00-0165	EA		3" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	215.17 39.22 5.16 30.93	68.74
22 13 16 00-0166	EA		4" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	254.95 46.98 6.04 36.21	80.54
22 13 16 00-0167	EA		4" x 3" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	267.88 51.51 6.04 36.21	80.54
22 13 16 00-0168	EA		6" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	415.13 84.48 8.69 52.13	115.94
22 13 16 00-0169	EA		6" x 3" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	432.60 89.44 8.85 53.12	118.07
22 13 16 00-0170	EA		6" x 4" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	469.65 98.28 9.44 56.66	125.96
22 13 16 00-0171	EA		8" x 4" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	809.65 205.61 11.11 66.66	148.20
22 13 16 00-0172	EA		8" x 6" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,019.99 270.48 12.36 74.16	164.85
22 13 16 00-0173 Bell And Spigot Cast Iron Vent Tees (22 13 16 00-0030)					
22 13 16 00-0174	EA		2" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	132.84 11.96 4.93 29.60	65.77
22 13 16 00-0175	EA		3" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	167.48 20.82 5.40 32.40	72.03
22 13 16 00-0176	EA		4" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	222.09 28.21 7.07 42.45	94.40

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0177	EA		5" Bell And Spigot Cast Iron Vent Tee.....	291.91	114.53
			For Extra Heavy Fittings, Add	42.09	
			For Above Ground Cast Iron Pipe Installation, Add	8.58	
			For Work In Restricted Working Space, Add	51.50	
22 13 16 00-0178	EA		6" Bell And Spigot Cast Iron Vent Tee.....	367.86	142.05
			For Extra Heavy Fittings, Add	54.23	
			For Above Ground Cast Iron Pipe Installation, Add	10.65	
			For Work In Restricted Working Space, Add	63.88	
22 13 16 00-0179	EA		8" Bell And Spigot Cast Iron Vent Tee.....	639.24	185.91
			For Extra Heavy Fittings, Add	126.19	
			For Above Ground Cast Iron Pipe Installation, Add	13.94	
			For Work In Restricted Working Space, Add	83.61	
22 13 16 00-0180 Bell And Spigot Cast Iron Tapped Sanitary Tees (22 13 16 00-0030)					
22 13 16 00-0181	EA		2" Bell And Spigot Cast Iron Tapped Sanitary Tee.....	136.84	65.77
			For Extra Heavy Fittings, Add	13.36	
			For Above Ground Cast Iron Pipe Installation, Add	4.93	
			For Work In Restricted Working Space, Add	29.60	
22 13 16 00-0182	EA		3" Bell And Spigot Cast Iron Tapped Sanitary Tee.....	151.17	72.03
			For Extra Heavy Fittings, Add	15.11	
			For Above Ground Cast Iron Pipe Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0183	EA		4" Bell And Spigot Cast Iron Tapped Sanitary Tee.....	194.69	94.40
			For Extra Heavy Fittings, Add	18.62	
			For Above Ground Cast Iron Pipe Installation, Add	7.07	
			For Work In Restricted Working Space, Add	42.45	
22 13 16 00-0184 Bell And Spigot Cast Iron Tapped Sanitary Crosses (22 13 16 00-0030)					
22 13 16 00-0185	EA		2" Bell And Spigot Cast Iron Tapped Sanitary Cross.....	139.36	65.77
			For Extra Heavy Fittings, Add	14.25	
			For Above Ground Cast Iron Pipe Installation, Add	4.93	
			For Work In Restricted Working Space, Add	29.60	
22 13 16 00-0186	EA		3" Bell And Spigot Cast Iron Tapped Sanitary Cross.....	155.97	72.03
			For Extra Heavy Fittings, Add	16.79	
			For Above Ground Cast Iron Pipe Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0187	EA		4" Bell And Spigot Cast Iron Tapped Sanitary Cross.....	206.76	94.40
			For Extra Heavy Fittings, Add	22.84	
			For Above Ground Cast Iron Pipe Installation, Add	7.07	
			For Work In Restricted Working Space, Add	42.45	
22 13 16 00-0188 Bell And Spigot Cast Iron Reducers (22 13 16 00-0030)					
22 13 16 00-0189	EA		3" x 2" Bell And Spigot Cast Iron Reducer.....	77.07	37.04
			For Extra Heavy Fittings, Add	7.56	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0190	EA		4" x 2" Bell And Spigot Cast Iron Reducer.....	95.89	48.84
			For Extra Heavy Fittings, Add	7.91	
			For Above Ground Cast Iron Pipe Installation, Add	3.66	
			For Work In Restricted Working Space, Add	21.99	
22 13 16 00-0191	EA		4" x 3" Bell And Spigot Cast Iron Reducer.....	103.19	49.25
			For Extra Heavy Fittings, Add	10.28	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0192	EA		6" x 2" Bell And Spigot Cast Iron Reducer.....	134.64	61.31
			For Extra Heavy Fittings, Add	14.93	
			For Above Ground Cast Iron Pipe Installation, Add	4.60	
			For Work In Restricted Working Space, Add	27.59	
22 13 16 00-0193	EA		6" x 3" Bell And Spigot Cast Iron Reducer.....	141.15	62.12
			For Extra Heavy Fittings, Add	16.79	
			For Above Ground Cast Iron Pipe Installation, Add	4.66	
			For Work In Restricted Working Space, Add	27.95	
22 13 16 00-0194	EA		6" x 4" Bell And Spigot Cast Iron Reducer.....	145.80	63.44
			For Extra Heavy Fittings, Add	17.76	
			For Above Ground Cast Iron Pipe Installation, Add	4.75	
			For Work In Restricted Working Space, Add	28.52	
22 13 16 00-0195	EA		8" x 2" Bell And Spigot Cast Iron Reducer.....	191.66	65.35
			For Extra Heavy Fittings, Add	32.78	
			For Above Ground Cast Iron Pipe Installation, Add	4.90	
			For Work In Restricted Working Space, Add	29.40	
22 13 16 00-0196	EA		8" x 3" Bell And Spigot Cast Iron Reducer.....	214.66	80.05
			For Extra Heavy Fittings, Add	33.12	
			For Above Ground Cast Iron Pipe Installation, Add	6.00	
			For Work In Restricted Working Space, Add	36.01	
22 13 16 00-0197	EA		8" x 4" Bell And Spigot Cast Iron Reducer.....	220.32	82.11
			For Extra Heavy Fittings, Add	34.01	
			For Above Ground Cast Iron Pipe Installation, Add	6.16	
			For Work In Restricted Working Space, Add	36.95	
22 13 16 00-0198	EA		8" x 6" Bell And Spigot Cast Iron Reducer.....	227.42	85.71
			For Extra Heavy Fittings, Add	34.64	
			For Above Ground Cast Iron Pipe Installation, Add	6.42	
			For Work In Restricted Working Space, Add	38.54	



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0199	EA		10" x 4" Bell And Spigot Cast Iron Reducer.....	285.87	96.20
			For Extra Heavy Fittings, Add	49.57	
			For Above Ground Cast Iron Pipe Installation, Add	7.21	
			For Work In Restricted Working Space, Add	43.27	
22 13 16 00-0200	EA		10" x 6" Bell And Spigot Cast Iron Reducer.....	301.47	101.03
			For Extra Heavy Fittings, Add	52.48	
			For Above Ground Cast Iron Pipe Installation, Add	7.58	
			For Work In Restricted Working Space, Add	45.46	
22 13 16 00-0201	EA		10" x 8" Bell And Spigot Cast Iron Reducer.....	321.60	105.44
			For Extra Heavy Fittings, Add	57.22	
			For Above Ground Cast Iron Pipe Installation, Add	7.91	
			For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0202	EA		12" x 4" Bell And Spigot Cast Iron Reducer.....	402.50	114.28
			For Extra Heavy Fittings, Add	80.93	
			For Above Ground Cast Iron Pipe Installation, Add	8.56	
			For Work In Restricted Working Space, Add	51.38	
22 13 16 00-0203	EA		12" x 6" Bell And Spigot Cast Iron Reducer.....	447.82	133.71
			For Extra Heavy Fittings, Add	86.55	
			For Above Ground Cast Iron Pipe Installation, Add	10.03	
			For Work In Restricted Working Space, Add	60.16	
22 13 16 00-0204	EA		12" x 8" Bell And Spigot Cast Iron Reducer.....	483.00	152.30
			For Extra Heavy Fittings, Add	89.12	
			For Above Ground Cast Iron Pipe Installation, Add	11.42	
			For Work In Restricted Working Space, Add	68.51	
22 13 16 00-0205	EA		12" x 10" Bell And Spigot Cast Iron Reducer.....	527.67	175.43
			For Extra Heavy Fittings, Add	92.63	
			For Above Ground Cast Iron Pipe Installation, Add	13.15	
			For Work In Restricted Working Space, Add	78.90	
22 13 16 00-0206	EA		15" x 6" Bell And Spigot Cast Iron Reducer.....	698.92	175.43
			For Extra Heavy Fittings, Add	152.57	
			For Above Ground Cast Iron Pipe Installation, Add	13.15	
			For Work In Restricted Working Space, Add	78.90	
22 13 16 00-0207	EA		15" x 8" Bell And Spigot Cast Iron Reducer.....	743.25	189.10
			For Extra Heavy Fittings, Add	160.91	
			For Above Ground Cast Iron Pipe Installation, Add	14.18	
			For Work In Restricted Working Space, Add	85.05	
22 13 16 00-0208	EA		15" x 10" Bell And Spigot Cast Iron Reducer.....	773.49	199.37
			For Extra Heavy Fittings, Add	166.08	
			For Above Ground Cast Iron Pipe Installation, Add	14.95	
			For Work In Restricted Working Space, Add	89.69	
22 13 16 00-0209	EA		15" x 12" Bell And Spigot Cast Iron Reducer.....	814.56	212.83
			For Extra Heavy Fittings, Add	173.39	
			For Above Ground Cast Iron Pipe Installation, Add	15.96	
			For Work In Restricted Working Space, Add	95.75	
22 13 16 00-0210 Bell And Spigot Cast Iron P-Traps (22 13 16 00-0030)					
22 13 16 00-0211	EA		2" Bell And Spigot Cast Iron P-Trap.....	81.08	29.44
			For Extra Heavy Fittings, Add	12.93	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0212	EA		3" Bell And Spigot Cast Iron P-Trap.....	109.22	37.04
			For Extra Heavy Fittings, Add	18.82	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0213	EA		4" Bell And Spigot Cast Iron P-Trap.....	149.13	49.25
			For Extra Heavy Fittings, Add	26.36	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0214	EA		5" Bell And Spigot Cast Iron P-Trap.....	246.52	56.76
			For Extra Heavy Fittings, Add	56.51	
			For Above Ground Cast Iron Pipe Installation, Add	4.25	
			For Work In Restricted Working Space, Add	25.52	
22 13 16 00-0215	EA		6" Bell And Spigot Cast Iron P-Trap.....	332.60	66.77
			For Extra Heavy Fittings, Add	81.38	
			For Above Ground Cast Iron Pipe Installation, Add	5.00	
			For Work In Restricted Working Space, Add	30.02	
22 13 16 00-0216	EA		8" Bell And Spigot Cast Iron P-Trap.....	749.16	85.71
			For Extra Heavy Fittings, Add	217.25	
			For Above Ground Cast Iron Pipe Installation, Add	6.42	
			For Work In Restricted Working Space, Add	38.54	
22 13 16 00-0217	EA		10" Bell And Spigot Cast Iron P-Trap.....	828.69	105.44
			For Extra Heavy Fittings, Add	234.70	
			For Above Ground Cast Iron Pipe Installation, Add	7.91	
			For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0218 Bell And Spigot Cast Iron Deep Seal P-Traps (22 13 16 00-0030)					
22 13 16 00-0219	EA		2" Bell And Spigot Cast Iron Deep Seal P-Trap.....	95.12	29.44
			For Extra Heavy Fittings, Add	17.85	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0220	EA	3" Bell And Spigot Cast Iron Deep Seal P-Trap..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	136.80 28.47 2.77 16.64	37.04
22 13 16 00-0221	EA	4" Bell And Spigot Cast Iron Deep Seal P-Trap..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	200.42 44.31 3.69 22.15	49.25
22 13 16 00-0222	EA	5" Bell And Spigot Cast Iron Deep Seal P-Trap..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	337.61 84.89 4.75 28.52	63.44
22 13 16 00-0223	EA	6" Bell And Spigot Cast Iron Deep Seal P-Trap..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	357.69 88.06 5.30 31.82	70.72
22 13 16 00-0224 Bell And Spigot Cast Iron Running Traps With Single Vent (22 13 16 00-0030)				
22 13 16 00-0225	EA	3" x 3" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	218.36 5.40 32.40	71.10
22 13 16 00-0226	EA	4" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	291.71 7.07 42.45	93.47
22 13 16 00-0227	EA	5" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	405.74 8.33 49.97	110.18
22 13 16 00-0228	EA	6" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	832.72 9.44 56.66	124.85
22 13 16 00-0229	EA	8" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2,778.35 11.11 66.66	146.55
22 13 16 00-0230	EA	8" x 6" Bell And Spigot Cast Iron Running Trap With Single Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	3,007.44 12.36 74.16	163.51
22 13 16 00-0231 Bell And Spigot Cast Running Traps With Double Vent (22 13 16 00-0030)				
22 13 16 00-0232	EA	3" x 3" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	277.64 7.44 44.61	98.20
22 13 16 00-0233	EA	4" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	381.61 9.41 56.46	123.94
22 13 16 00-0234	EA	6" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	925.45 11.70 70.21	154.29
22 13 16 00-0235	EA	6" x 6" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,072.01 14.15 84.90	186.76
22 13 16 00-0236	EA	8" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2,988.70 13.48 80.87	177.69
22 13 16 00-0237	EA	8" x 6" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	3,276.67 15.96 95.75	210.99
22 13 16 00-0238	EA	10" x 8" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	4,364.99 18.47 110.80	243.47
22 13 16 00-0239	EA	12" x 10" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	6,052.19 21.32 127.93	281.49
22 13 16 00-0240	EA	15" x 12" Bell And Spigot Cast Iron Running Trap With Double Vent..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	11,823.93 24.68 148.05	325.58
22 13 16 00-0241 Bell And Spigot Cast Iron Scission Joint Fittings (22 13 16 00-0030)				
22 13 16 00-0242	EA	2" Bell And Spigot Cast Iron Scission Joint Fitting..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	175.90 2.20 13.21	
22 13 16 00-0243	EA	3" Bell And Spigot Cast Iron Scission Joint Fitting..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	244.57 2.47 14.84	
22 13 16 00-0244	EA	4" Bell And Spigot Cast Iron Scission Joint Fitting..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	280.83 3.31 19.87	
22 13 16 00-0245	EA	5" Bell And Spigot Cast Iron Scission Joint Fitting..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	347.65 3.85 23.09	
22 13 16 00-0246	EA	6" Bell And Spigot Cast Iron Scission Joint Fitting..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	422.27 4.65 27.89	



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0247	EA		8" Bell And Spigot Cast Iron Scission Joint Fitting.....	810.02	
			For Above Ground Cast Iron Pipe Installation, Add	5.87	
			For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0248			Cut And Prepare Existing In-Place Cast Iron Pipe (22 13 16 00-0019)		
			Note: For use when connecting pipe to an existing in-place system.		
22 13 16 00-0249	EA		2", Cut And Prepare Existing In-Place Cast Iron Pipe.....	12.26	
			For Above Ground Cast Iron Pipe Installation, Add	0.61	
			For Work In Restricted Working Space, Add	3.68	
22 13 16 00-0250	EA		3", Cut And Prepare Existing In-Place Cast Iron Pipe.....	13.38	
			For Above Ground Cast Iron Pipe Installation, Add	0.67	
			For Work In Restricted Working Space, Add	4.01	
22 13 16 00-0251	EA		4", Cut And Prepare Existing In-Place Cast Iron Pipe.....	16.71	
			For Above Ground Cast Iron Pipe Installation, Add	0.84	
			For Work In Restricted Working Space, Add	5.01	
22 13 16 00-0252	EA		6", Cut And Prepare Existing In-Place Cast Iron Pipe.....	20.05	
			For Above Ground Cast Iron Pipe Installation, Add	1.00	
			For Work In Restricted Working Space, Add	6.02	
22 13 16 00-0253	EA		8", Cut And Prepare Existing In-Place Cast Iron Pipe.....	26.74	
			For Above Ground Cast Iron Pipe Installation, Add	1.34	
			For Work In Restricted Working Space, Add	8.02	
22 13 16 00-0254	EA		10", Cut And Prepare Existing In-Place Cast Iron Pipe.....	31.20	
			For Above Ground Cast Iron Pipe Installation, Add	1.56	
			For Work In Restricted Working Space, Add	9.36	
22 13 16 00-0255	EA		12", Cut And Prepare Existing In-Place Cast Iron Pipe.....	36.77	
			For Above Ground Cast Iron Pipe Installation, Add	1.84	
			For Work In Restricted Working Space, Add	11.03	
22 13 16 00-0256	EA		15", Cut And Prepare Existing In-Place Cast Iron Pipe.....	42.34	
			For Above Ground Cast Iron Pipe Installation, Add	2.12	
			For Work In Restricted Working Space, Add	12.70	
22 13 16 00-0257			Joint Material (22 13 16 00-0019)		
			Note: Labor costs are included in the installation costs for fittings.		
22 13 16 00-0258	LB		Lead (1 LB/Diameter Inch) Joint Material.....	7.74	
22 13 16 00-0259	LB		Oakum (1/8 LB/Diameter Inch) Joint Material.....	15.65	
22 13 16 00-0260	EA		2" Dual Tite Rubber Gasket.....	3.17	
22 13 16 00-0261	EA		3" Dual Tite Rubber Gasket.....	4.34	
22 13 16 00-0262	EA		4" Dual Tite Rubber Gasket.....	5.40	
22 13 16 00-0263	EA		6" Dual Tite Rubber Gasket.....	8.95	
22 13 16 00-0264	EA		8" Dual Tite Rubber Gasket.....	19.74	
22 13 16 00-0265	EA		10" Dual Tite Rubber Gasket.....	30.28	
22 13 16 00-0266	EA		12" Dual Tite Rubber Gasket.....	38.57	
22 13 16 00-0267	EA		15" Dual Tite Rubber Gasket.....	45.81	
22 13 16 00-0268			No Hub Cast Iron Soil Pipe And Fittings (22 13 16)		
			Note: Service Weight. Excludes hangers.		
22 13 16 00-0269			No Hub Cast Iron Pipe (22 13 16 00-0268)		
			Note: Excludes couplings.		
22 13 16 00-0270	LF		1-1/2" No Hub Cast Iron Pipe.....	18.82	6.16
			For Below Ground Installation, Add	0.46	
			For Work In Restricted Working Space, Add	2.77	
22 13 16 00-0271	LF		2" No Hub Cast Iron Pipe.....	19.98	6.57
			For Below Ground Installation, Add	0.50	
			For Work In Restricted Working Space, Add	2.98	
22 13 16 00-0272	LF		3" No Hub Cast Iron Pipe.....	28.27	9.54
			For Below Ground Installation, Add	0.72	
			For Work In Restricted Working Space, Add	4.31	
22 13 16 00-0273	LF		4" No Hub Cast Iron Pipe.....	36.68	12.41
			For Below Ground Installation, Add	0.93	
			For Work In Restricted Working Space, Add	5.60	
22 13 16 00-0274	LF		5" No Hub Cast Iron Pipe.....	48.33	15.48
			For Below Ground Installation, Add	1.16	
			For Work In Restricted Working Space, Add	6.97	
22 13 16 00-0275	LF		6" No Hub Cast Iron Pipe.....	56.35	16.90
			For Below Ground Installation, Add	1.26	
			For Work In Restricted Working Space, Add	7.59	
22 13 16 00-0276	LF		8" No Hub Cast Iron Pipe.....	85.88	24.15
			For Below Ground Installation, Add	1.81	
			For Work In Restricted Working Space, Add	10.84	
22 13 16 00-0277	LF		10" No Hub Cast Iron Pipe.....	123.58	27.44
			For Below Ground Installation, Add	2.06	
			For Work In Restricted Working Space, Add	12.33	
22 13 16 00-0278			No Hub Cast Iron Fittings (22 13 16 00-0268)		
22 13 16 00-0279			No Hub Cast Iron Long Sweeps (22 13 16 00-0278)		
22 13 16 00-0280	EA		1-1/2" No Hub Cast Iron Long Sweep.....	67.98	27.91
			For Below Ground Installation, Add	2.09	
			For Work In Restricted Working Space, Add	12.56	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0281	EA		2" No Hub Cast Iron Long Sweep.....	70.42	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0282	EA		3" No Hub Cast Iron Long Sweep.....	83.58	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0283	EA		4" No Hub Cast Iron Long Sweep.....	116.17	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0284	EA		5" No Hub Cast Iron Long Sweep.....	168.59	51.09
			For Below Ground Installation, Add	3.83	
			For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0285	EA		6" No Hub Cast Iron Long Sweep.....	199.84	60.91
			For Below Ground Installation, Add	4.57	
			For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0286	EA		8" No Hub Cast Iron Long Sweep.....	414.00	78.31
			For Below Ground Installation, Add	5.87	
			For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0287 No Hub Cast Iron Reducing Long Sweeps (22 13 16 00-0278)					
22 13 16 00-0288	EA		3" x 2" No Hub Cast Iron Reducing Long Sweep.....	111.21	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0289	EA		4" x 3" No Hub Cast Iron Reducing Long Sweep.....	168.81	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0290 No Hub Cast Iron Short Sweeps (22 13 16 00-0278)					
22 13 16 00-0291	EA		2" No Hub Cast Iron Short Sweep.....	64.86	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0292	EA		3" No Hub Cast Iron Short Sweep.....	79.18	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0293	EA		4" No Hub Cast Iron Short Sweep.....	113.86	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0294	EA		5" No Hub Cast Iron Short Sweep.....	169.46	51.09
			For Below Ground Installation, Add	3.83	
			For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0295	EA		6" No Hub Cast Iron Short Sweep.....	186.36	60.91
			For Below Ground Installation, Add	4.57	
			For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0296	EA		8" No Hub Cast Iron Short Sweep.....	373.25	78.31
			For Below Ground Installation, Add	5.87	
			For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0297	EA		10" No Hub Cast Iron Short Sweep.....	614.37	109.66
			For Below Ground Installation, Add	8.22	
			For Work In Restricted Working Space, Add	49.33	
22 13 16 00-0298 No Hub Cast Iron 1/4 Bends (22 13 16 00-0278)					
22 13 16 00-0299	EA		1-1/2" No Hub Cast Iron 1/4 Bend.....	58.32	27.91
			For Below Ground Installation, Add	2.09	
			For Work In Restricted Working Space, Add	12.56	
22 13 16 00-0300	EA		2" No Hub Cast Iron 1/4 Bend.....	61.04	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0301	EA		3" No Hub Cast Iron 1/4 Bend.....	72.98	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0302	EA		4" No Hub Cast Iron 1/4 Bend.....	100.16	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0303	EA		5" No Hub Cast Iron 1/4 Bend.....	152.44	51.09
			For Below Ground Installation, Add	3.83	
			For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0304	EA		6" No Hub Cast Iron 1/4 Bend.....	175.47	60.91
			For Below Ground Installation, Add	4.57	
			For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0305	EA		8" No Hub Cast Iron 1/4 Bend.....	341.52	78.31
			For Below Ground Installation, Add	5.87	
			For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0306 No Hub Cast Iron 1/8 Bends (22 13 16 00-0278)					
22 13 16 00-0307	EA		1-1/2" No Hub Cast Iron 1/8 Bend.....	54.79	27.91
			For Below Ground Installation, Add	2.09	
			For Work In Restricted Working Space, Add	12.56	
22 13 16 00-0308	EA		2" No Hub Cast Iron 1/8 Bend.....	56.86	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0309	EA		3" No Hub Cast Iron 1/8 Bend	68.87	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0310	EA		4" No Hub Cast Iron 1/8 Bend	90.93	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0311	EA		6" No Hub Cast Iron 1/8 Bend	154.19	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0312	EA		8" No Hub Cast Iron 1/8 Bend	278.55	85.57
			For Below Ground Installation, Add	6.41	
			For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0313	EA		10" No Hub Cast Iron 1/8 Bend	441.34	105.27
			For Below Ground Installation, Add	7.89	
			For Work In Restricted Working Space, Add	47.36	
22 13 16 00-0314 No Hub Cast Iron Wyes (22 13 16 00-0278)					
22 13 16 00-0315	EA		1-1/2" No Hub Cast Iron Wye	88.70	43.91
			For Below Ground Installation, Add	3.29	
			For Work In Restricted Working Space, Add	19.73	
22 13 16 00-0316	EA		2" No Hub Cast Iron Wye	112.44	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0317	EA		3" No Hub Cast Iron Wye	129.45	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0318	EA		4" No Hub Cast Iron Wye	179.75	85.57
			For Below Ground Installation, Add	6.41	
			For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0319	EA		5" No Hub Cast Iron Wye	260.52	99.46
			For Below Ground Installation, Add	7.46	
			For Work In Restricted Working Space, Add	44.73	
22 13 16 00-0320	EA		6" No Hub Cast Iron Wye	309.10	118.07
			For Below Ground Installation, Add	8.85	
			For Work In Restricted Working Space, Add	53.12	
22 13 16 00-0321	EA		8" No Hub Cast Iron Wye	545.16	156.73
			For Below Ground Installation, Add	11.75	
			For Work In Restricted Working Space, Add	70.47	
22 13 16 00-0322	EA		10" No Hub Cast Iron Wye	932.77	174.09
			For Below Ground Installation, Add	13.05	
			For Work In Restricted Working Space, Add	78.30	
22 13 16 00-0323 No Hub Cast Iron Reducing Wyes (22 13 16 00-0278)					
22 13 16 00-0324	EA		3" x 1-1/2" No Hub Cast Iron Reducing Wye	110.17	56.84
			For Below Ground Installation, Add	4.26	
			For Work In Restricted Working Space, Add	25.55	
22 13 16 00-0325	EA		3" x 2" No Hub Cast Iron Reducing Wye	122.74	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0326	EA		4" x 2" No Hub Cast Iron Reducing Wye	140.02	72.03
			For Below Ground Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0327	EA		4" x 3" No Hub Cast Iron Reducing Wye	162.91	80.03
			For Below Ground Installation, Add	6.00	
			For Work In Restricted Working Space, Add	36.00	
22 13 16 00-0328	EA		6" x 2" No Hub Cast Iron Reducing Wye	221.86	100.46
			For Below Ground Installation, Add	7.53	
			For Work In Restricted Working Space, Add	45.20	
22 13 16 00-0329	EA		6" x 3" No Hub Cast Iron Reducing Wye	237.65	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0330	EA		6" x 4" No Hub Cast Iron Reducing Wye	271.86	122.72
			For Below Ground Installation, Add	9.20	
			For Work In Restricted Working Space, Add	55.19	
22 13 16 00-0331	EA		8" x 4" No Hub Cast Iron Reducing Wye	362.38	123.22
			For Below Ground Installation, Add	9.24	
			For Work In Restricted Working Space, Add	55.43	
22 13 16 00-0332	EA		8" x 6" No Hub Cast Iron Reducing Wye	422.38	135.45
			For Below Ground Installation, Add	10.15	
			For Work In Restricted Working Space, Add	60.90	
22 13 16 00-0333	EA		10" x 4" No Hub Cast Iron Reducing Wye	680.94	144.29
			For Below Ground Installation, Add	10.82	
			For Work In Restricted Working Space, Add	64.91	
22 13 16 00-0334	EA		10" x 6" No Hub Cast Iron Reducing Wye	717.67	154.46
			For Below Ground Installation, Add	11.58	
			For Work In Restricted Working Space, Add	69.48	
22 13 16 00-0335	EA		10" x 8" No Hub Cast Iron Reducing Wye	830.99	164.95
			For Below Ground Installation, Add	12.36	
			For Work In Restricted Working Space, Add	74.18	
22 13 16 00-0336 No Hub Cast Iron Combination Wye And 1/8 Bends (22 13 16 00-0278)					

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0337 EA 1-1/2" No Hub Cast Iron Combination Wye And 1/8 Bend.....	99.79	51.10
For Below Ground Installation, Add	3.83	
For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0338 EA 2" No Hub Cast Iron Combination Wye And 1/8 Bend.....	113.38	59.51
For Below Ground Installation, Add	4.46	
For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0339 EA 3" No Hub Cast Iron Combination Wye And 1/8 Bend.....	136.52	65.16
For Below Ground Installation, Add	4.89	
For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0340 EA 4" No Hub Cast Iron Combination Wye And 1/8 Bend.....	199.73	85.57
For Below Ground Installation, Add	6.41	
For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0341 EA 6" No Hub Cast Iron Combination Wye And 1/8 Bend.....	377.25	131.64
For Below Ground Installation, Add	9.87	
For Work In Restricted Working Space, Add	59.20	
22 13 16 00-0342 EA 8" No Hub Cast Iron Combination Wye And 1/8 Bend.....	704.67	168.88
For Below Ground Installation, Add	12.66	
For Work In Restricted Working Space, Add	75.97	
22 13 16 00-0343 EA 10" No Hub Cast Iron Combination Wye And 1/8 Bend.....	824.48	204.18
For Below Ground Installation, Add	15.31	
For Work In Restricted Working Space, Add	91.83	
22 13 16 00-0344 No Hub Cast Iron Reducing Combination Wye And 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0345 EA 2" x 1-1/2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	114.53	59.51
For Below Ground Installation, Add	4.46	
For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0346 EA 3" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	126.28	65.16
For Below Ground Installation, Add	4.89	
For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0347 EA 4" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	147.09	72.03
For Below Ground Installation, Add	5.40	
For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0348 EA 4" x 3" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	169.76	80.03
For Below Ground Installation, Add	6.00	
For Work In Restricted Working Space, Add	36.00	
22 13 16 00-0349 EA 6" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	242.41	100.46
For Below Ground Installation, Add	7.53	
For Work In Restricted Working Space, Add	45.20	
22 13 16 00-0350 EA 6" x 3" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	273.56	105.01
For Below Ground Installation, Add	7.87	
For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0351 EA 6" x 4" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	303.30	122.72
For Below Ground Installation, Add	9.20	
For Work In Restricted Working Space, Add	55.19	
22 13 16 00-0352 EA 8" x 4" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	421.15	123.22
For Below Ground Installation, Add	9.24	
For Work In Restricted Working Space, Add	55.43	
22 13 16 00-0353 EA 8" x 6" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend.....	556.74	135.45
For Below Ground Installation, Add	10.15	
For Work In Restricted Working Space, Add	60.90	
22 13 16 00-0354 No Hub Cast Iron Double Wyes (22 13 16 00-0278)		
22 13 16 00-0355 EA 2" No Hub Cast Iron Double Wye.....	143.30	73.98
For Below Ground Installation, Add	5.55	
For Work In Restricted Working Space, Add	33.28	
22 13 16 00-0356 EA 3" No Hub Cast Iron Double Wye.....	194.72	90.09
For Below Ground Installation, Add	6.75	
For Work In Restricted Working Space, Add	40.50	
22 13 16 00-0357 EA 4" No Hub Cast Iron Double Wye.....	270.52	98.50
For Below Ground Installation, Add	7.38	
For Work In Restricted Working Space, Add	44.29	
22 13 16 00-0358 EA 6" No Hub Cast Iron Double Wye.....	434.79	148.83
For Below Ground Installation, Add	11.15	
For Work In Restricted Working Space, Add	66.92	
22 13 16 00-0359 EA 8" No Hub Cast Iron Double Wye.....	872.38	199.37
For Below Ground Installation, Add	14.95	
For Work In Restricted Working Space, Add	89.69	
22 13 16 00-0360 No Hub Cast Iron Reducing Double Wyes (22 13 16 00-0278)		
22 13 16 00-0361 EA 3" x 2" No Hub Cast Iron Double Wye.....	174.08	81.98
For Below Ground Installation, Add	6.14	
For Work In Restricted Working Space, Add	36.86	
22 13 16 00-0362 EA 4" x 2" No Hub Cast Iron Double Wye.....	210.33	94.40
For Below Ground Installation, Add	7.08	
For Work In Restricted Working Space, Add	42.46	
22 13 16 00-0363 EA 4" x 3" No Hub Cast Iron Double Wye.....	231.89	102.91
For Below Ground Installation, Add	7.71	
For Work In Restricted Working Space, Add	46.29	
22 13 16 00-0364 EA 6" x 4" No Hub Cast Iron Double Wye.....	368.43	131.22
For Below Ground Installation, Add	9.84	
For Work In Restricted Working Space, Add	59.02	



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Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0365			No Hub Cast Iron Double Combination Wye And 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0366	EA		2" No Hub Cast Iron Double Combination Wye And 1/8 Bend.....	190.01	88.86
			For Below Ground Installation, Add	6.66	
			For Work In Restricted Working Space, Add	39.98	
22 13 16 00-0367	EA		3" No Hub Cast Iron Double Combination Wye And 1/8 Bend.....	235.54	98.50
			For Below Ground Installation, Add	7.38	
			For Work In Restricted Working Space, Add	44.29	
22 13 16 00-0368	EA		4" No Hub Cast Iron Double Combination Wye And 1/8 Bend.....	363.33	130.41
			For Below Ground Installation, Add	9.77	
			For Work In Restricted Working Space, Add	58.63	
22 13 16 00-0369	EA		6" No Hub Cast Iron Double Combination Wye And 1/8 Bend.....	497.79	201.31
			For Below Ground Installation, Add	15.09	
			For Work In Restricted Working Space, Add	90.53	
22 13 16 00-0370			No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0371	EA		3" x 2" No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend.....	180.48	76.44
			For Below Ground Installation, Add	5.73	
			For Work In Restricted Working Space, Add	34.39	
22 13 16 00-0372	EA		4" x 2" No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend.....	209.12	88.86
			For Below Ground Installation, Add	6.66	
			For Work In Restricted Working Space, Add	39.98	
22 13 16 00-0373	EA		4" x 3" No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend.....	255.81	97.07
			For Below Ground Installation, Add	7.28	
			For Work In Restricted Working Space, Add	43.66	
22 13 16 00-0374			No Hub Cast Iron Sanitary Tees (22 13 16 00-0278)		
22 13 16 00-0375	EA		1-1/2" No Hub Cast Iron Sanitary Tee.....	86.31	42.99
			For Below Ground Installation, Add	3.23	
			For Work In Restricted Working Space, Add	19.36	
22 13 16 00-0376	EA		2" No Hub Cast Iron Sanitary Tee.....	113.60	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0377	EA		3" No Hub Cast Iron Sanitary Tee.....	126.85	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0378	EA		4" No Hub Cast Iron Sanitary Tee.....	173.84	85.57
			For Below Ground Installation, Add	6.41	
			For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0379	EA		5" No Hub Cast Iron Sanitary Tee.....	261.75	99.46
			For Below Ground Installation, Add	7.46	
			For Work In Restricted Working Space, Add	44.73	
22 13 16 00-0380	EA		6" No Hub Cast Iron Sanitary Tee.....	308.23	118.07
			For Below Ground Installation, Add	8.85	
			For Work In Restricted Working Space, Add	53.12	
22 13 16 00-0381	EA		8" No Hub Cast Iron Sanitary Tee.....	618.07	156.73
			For Below Ground Installation, Add	11.75	
			For Work In Restricted Working Space, Add	70.47	
22 13 16 00-0382			No Hub Cast Iron Reducing Sanitary Tees (22 13 16 00-0278)		
22 13 16 00-0383	EA		2" x 1-1/2" No Hub Cast Iron Reducing Sanitary Tee.....	97.15	48.53
			For Below Ground Installation, Add	3.64	
			For Work In Restricted Working Space, Add	21.83	
22 13 16 00-0384	EA		3" x 1-1/2" No Hub Cast Iron Reducing Sanitary Tee.....	112.19	56.84
			For Below Ground Installation, Add	4.26	
			For Work In Restricted Working Space, Add	25.55	
22 13 16 00-0385	EA		3" x 2" No Hub Cast Iron Reducing Sanitary Tee.....	116.26	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0386	EA		3" x 4" No Hub Cast Iron Reducing Sanitary Tee.....	144.17	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0387	EA		4" x 2" No Hub Cast Iron Reducing Sanitary Tee.....	155.40	80.54
			For Below Ground Installation, Add	6.04	
			For Work In Restricted Working Space, Add	36.21	
22 13 16 00-0388	EA		4" x 3" No Hub Cast Iron Reducing Sanitary Tee.....	162.18	80.54
			For Below Ground Installation, Add	6.04	
			For Work In Restricted Working Space, Add	36.21	
22 13 16 00-0389	EA		5" x 2" No Hub Cast Iron Reducing Sanitary Tee.....	222.20	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0390	EA		5" x 3" No Hub Cast Iron Reducing Sanitary Tee.....	231.64	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0391	EA		5" x 4" No Hub Cast Iron Reducing Sanitary Tee.....	232.80	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0392	EA		6" x 4" No Hub Cast Iron Reducing Sanitary Tee.....	241.38	98.44
			For Below Ground Installation, Add	7.38	
			For Work In Restricted Working Space, Add	44.27	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0393	EA		8" x 6" No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	483.62 9.91 59.43	132.17
22 13 16 00-0394 No Hub Cast Iron Sanitary Tapped Tees (22 13 16 00-0278)					
22 13 16 00-0395	EA		2" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	68.11 2.18 13.10	29.14
22 13 16 00-0396	EA		3" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	79.40 2.50 15.02	33.34
22 13 16 00-0397	EA		4" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	96.19 3.31 19.86	44.12
22 13 16 00-0398 No Hub Cast Iron Cleanout Tees (22 13 16 00-0278)					
22 13 16 00-0399	EA		2" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	63.85 2.18 13.10	29.14
22 13 16 00-0400	EA		3" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	82.50 2.50 15.02	33.34
22 13 16 00-0401	EA		4" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	123.23 3.31 19.86	44.12
22 13 16 00-0402	EA		6" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	209.00 4.89 29.32	65.16
22 13 16 00-0403 No Hub Cast Iron Two-Way Cleanout Tees (22 13 16 00-0278)					
22 13 16 00-0404	EA		4" No Hub Cast Iron Single Two-Way Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	291.15 6.41 38.48	85.57
22 13 16 00-0405	EA		4" No Hub Cast Iron Double Two-Way Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	346.19 9.75 58.48	130.00
22 13 16 00-0406 No Hub Cast Iron Cleanout Plugs (22 13 16 00-0278)					
22 13 16 00-0407	EA		2" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	52.24 2.18 13.10	29.14
22 13 16 00-0408	EA		3" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	63.54 2.50 15.02	33.34
22 13 16 00-0409	EA		4" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	91.79 3.31 19.86	44.12
22 13 16 00-0410	EA		6" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	145.53 4.89 29.32	65.16
22 13 16 00-0411	EA		8" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	193.96 6.41 38.48	85.57
22 13 16 00-0412 No Hub Cast Iron Sanitary Crosses (22 13 16 00-0278)					
22 13 16 00-0413	EA		1-1/2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	115.65 4.31 25.87	57.46
22 13 16 00-0414	EA		2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	126.00 4.46 26.77	59.51
22 13 16 00-0415	EA		3" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	155.63 4.89 29.32	65.16
22 13 16 00-0416	EA		4" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	237.08 6.41 38.48	85.57
22 13 16 00-0417 No Hub Cast Iron Reducing Sanitary Crosses (22 13 16 00-0278)					
22 13 16 00-0418	EA		3" x 2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	166.68 5.73 34.38	76.44
22 13 16 00-0419	EA		4" x 2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	191.55 5.90 35.40	78.70



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Plumbing Piping			22 10	
Facility Sanitary Sewerage			22 13	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0420	EA		4" x 3" No Hub Cast Iron Sanitary Cross	211.93	82.19
			For Below Ground Installation, Add	6.16	
			For Work In Restricted Working Space, Add	36.95	
22 13 16 00-0421 No Hub Cast Iron Reducers (22 13 16 00-0278)					
22 13 16 00-0422	EA		3" x 2" No Hub Cast Iron Reducer	101.55	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0423	EA		4" x 2" No Hub Cast Iron Reducer	139.53	80.54
			For Below Ground Installation, Add	6.04	
			For Work In Restricted Working Space, Add	36.21	
22 13 16 00-0424	EA		4" x 3" No Hub Cast Iron Reducer	140.11	80.54
			For Below Ground Installation, Add	6.04	
			For Work In Restricted Working Space, Add	36.21	
22 13 16 00-0425	EA		5" x 2" No Hub Cast Iron Reducer	169.26	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0426	EA		5" x 3" No Hub Cast Iron Reducer	173.08	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0427	EA		5" x 4" No Hub Cast Iron Reducer	174.60	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0428	EA		6" x 3" No Hub Cast Iron Reducer	205.05	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0429	EA		6" x 4" No Hub Cast Iron Reducer	205.63	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0430	EA		6" x 5" No Hub Cast Iron Reducer	207.36	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0431	EA		8" x 2" No Hub Cast Iron Reducer	282.79	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0432	EA		8" x 3" No Hub Cast Iron Reducer	287.18	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0433	EA		8" x 4" No Hub Cast Iron Reducer	294.25	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0434	EA		8" x 5" No Hub Cast Iron Reducer	301.61	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0435	EA		8" x 6" No Hub Cast Iron Reducer	302.47	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0436	EA		10" x 4" No Hub Cast Iron Reducer	367.68	154.26
			For Below Ground Installation, Add	11.56	
			For Work In Restricted Working Space, Add	69.37	
22 13 16 00-0437	EA		10" x 6" No Hub Cast Iron Reducer	394.40	161.04
			For Below Ground Installation, Add	12.08	
			For Work In Restricted Working Space, Add	72.45	
22 13 16 00-0438	EA		10" x 8" No Hub Cast Iron Reducer	445.25	174.81
			For Below Ground Installation, Add	13.10	
			For Work In Restricted Working Space, Add	78.62	
22 13 16 00-0439 No Hub Cast Iron Blind Plugs (22 13 16 00-0278)					
22 13 16 00-0440	EA		1-1/2" No Hub Cast Iron Blind Plug	28.01	13.97
			For Below Ground Installation, Add	1.05	
			For Work In Restricted Working Space, Add	6.28	
22 13 16 00-0441	EA		2" No Hub Cast Iron Blind Plug	28.62	14.57
			For Below Ground Installation, Add	1.09	
			For Work In Restricted Working Space, Add	6.55	
22 13 16 00-0442	EA		3" No Hub Cast Iron Blind Plug	37.07	16.73
			For Below Ground Installation, Add	1.25	
			For Work In Restricted Working Space, Add	7.51	
22 13 16 00-0443	EA		4" No Hub Cast Iron Blind Plug	49.22	22.06
			For Below Ground Installation, Add	1.65	
			For Work In Restricted Working Space, Add	9.92	
22 13 16 00-0444	EA		5" No Hub Cast Iron Blind Plug	68.95	26.01
			For Below Ground Installation, Add	1.95	
			For Work In Restricted Working Space, Add	11.69	
22 13 16 00-0445	EA		6" No Hub Cast Iron Blind Plug	76.02	30.45
			For Below Ground Installation, Add	2.29	
			For Work In Restricted Working Space, Add	13.72	
22 13 16 00-0446	EA		8" No Hub Cast Iron Blind Plug	154.25	39.15
			For Below Ground Installation, Add	2.93	
			For Work In Restricted Working Space, Add	17.61	
22 13 16 00-0447	EA		10" No Hub Cast Iron Blind Plug	200.58	42.14
			For Below Ground Installation, Add	3.16	
			For Work In Restricted Working Space, Add	18.96	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0448			No Hub Cast Iron P-Traps (22 13 16 00-0278)		
22 13 16 00-0449	EA		2" No Hub Cast Iron P-Trap	68.68	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0450	EA		3" No Hub Cast Iron P-Trap	107.09	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0451	EA		4" No Hub Cast Iron P-Trap	165.28	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0452	EA		5" No Hub Cast Iron P-Trap	303.90	51.50
			For Below Ground Installation, Add	3.86	
			For Work In Restricted Working Space, Add	23.15	
22 13 16 00-0453	EA		6" No Hub Cast Iron P-Trap	319.02	61.41
			For Below Ground Installation, Add	4.60	
			For Work In Restricted Working Space, Add	27.62	
22 13 16 00-0454			No Hub Cast Iron Deep Seal P-Traps (22 13 16 00-0278)		
22 13 16 00-0455	EA		2" No Hub Cast Iron Deep Seal P-Trap	115.17	37.04
			For Below Ground Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0456	EA		3" No Hub Cast Iron Deep Seal P-Trap	169.09	49.25
			For Below Ground Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0457	EA		4" No Hub Cast Iron Deep Seal P-Trap	250.36	65.05
			For Below Ground Installation, Add	4.87	
			For Work In Restricted Working Space, Add	29.24	
22 13 16 00-0458			No Hub Cast Iron Closet Flanges (22 13 16 00-0278)		
22 13 16 00-0459	EA		4" No Hub Cast Iron Closet Flange	105.85	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0460	EA		4" x 2-1/2" No Hub Cast Iron Offset Closet Flange	114.09	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0461			No Hub Cast Iron Closet Bends (22 13 16 00-0278)		
22 13 16 00-0462	EA		4" x 16" No Hub Cast Iron Closet Bend	221.46	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0463			No Hub Cast Iron Threaded Adapter (22 13 16 00-0278)		
22 13 16 00-0464	EA		1-1/4" No Hub Cast Iron Threaded Adapter	76.95	37.04
			For Below Ground Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0465	EA		1-1/2" No Hub Cast Iron Threaded Adapter	83.59	37.04
			For Below Ground Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0466			No Hub Couplings (22 13 16 00-0278)		
			Note: Includes stainless steel shield/clamps assembly with elastomeric gasket, ASTM C 564. (Fernco NH). Labor costs are included in the installation costs for fittings.		
22 13 16 00-0467	EA		1-1/2" No Hub Coupling	10.35	
			For Medium Duty (Fernco MD-2000), Add	1.35	
			For Heavy Duty (Fernco HD-4000), Add	2.79	
22 13 16 00-0468	EA		2" No Hub Coupling	10.35	
			For Medium Duty (Fernco MD-2000), Add	1.35	
			For Heavy Duty (Fernco HD-4000), Add	2.79	
22 13 16 00-0469	EA		3" No Hub Coupling	12.29	
			For Medium Duty (Fernco MD-2000), Add	1.60	
			For Heavy Duty (Fernco HD-4000), Add	3.32	
22 13 16 00-0470	EA		4" No Hub Coupling	14.59	
			For Medium Duty (Fernco MD-2000), Add	1.90	
			For Heavy Duty (Fernco HD-4000), Add	3.94	
22 13 16 00-0471	EA		5" No Hub Coupling	33.73	
			For Medium Duty (Fernco MD-2000), Add	4.38	
			For Heavy Duty (Fernco HD-4000), Add	9.11	
22 13 16 00-0472	EA		6" No Hub Coupling	37.07	
			For Medium Duty (Fernco MD-2000), Add	4.82	
			For Heavy Duty (Fernco HD-4000), Add	10.01	
22 13 16 00-0473	EA		8" No Hub Coupling	69.83	
			For Medium Duty (Fernco MD-2000), Add	9.08	
			For Heavy Duty (Fernco HD-4000), Add	18.85	
22 13 16 00-0474	EA		10" No Hub Coupling	96.20	
			For Medium Duty (Fernco MD-2000), Add	12.51	
			For Heavy Duty (Fernco HD-4000), Add	25.97	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0475	EA		2" x 1-1/2" No Hub Reducing Coupling.....	12.29	
22 13 16 00-0476	EA		3" x 2" No Hub Reducing Coupling.....	19.06	
22 13 16 00-0477	EA		4" x 2" No Hub Reducing Coupling.....	26.59	
22 13 16 00-0478	EA		4" x 3" No Hub Reducing Coupling.....	22.65	
22 13 16 00-0479			Cast Iron Mechanical Joint Couplings With Neoprene Gasket And Bolts (22 13 16 00-0278) Note: For underground connections. Labor costs are included in the installation costs for fittings. See CSI section 22 13 16 00-0870 for additional FERNCO couplings.		
22 13 16 00-0480	EA		1-1/2" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	47.51	
22 13 16 00-0481	EA		2" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	49.04	
22 13 16 00-0482	EA		3" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	51.49	
22 13 16 00-0483	EA		4" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	60.07	
22 13 16 00-0484	EA		5" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	113.40	
22 13 16 00-0485	EA		6" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	155.70	
22 13 16 00-0486	EA		8" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	272.78	
22 13 16 00-0487	EA		10" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	416.84	
22 13 16 00-0488			Cut And Prepare Existing Pipe In-Place (22 13 16 00-0269) Note: For use when connecting pipe to an existing in-place system.		
22 13 16 00-0489	EA		Cut And Prepare 1-1/2" Cast Iron Pipe, No Hub.....	10.02	
			For Work In Restricted Working Space, Add	3.01	
22 13 16 00-0490	EA		Cut And Prepare 2" Cast Iron Pipe, No Hub.....	12.26	
			For Work In Restricted Working Space, Add	3.68	
22 13 16 00-0491	EA		Cut And Prepare 3" Cast Iron Pipe, No Hub.....	13.37	
			For Work In Restricted Working Space, Add	4.01	
22 13 16 00-0492	EA		Cut And Prepare 4" Cast Iron Pipe, No Hub.....	16.71	
			For Work In Restricted Working Space, Add	5.01	
22 13 16 00-0493	EA		Cut And Prepare 6" Cast Iron Pipe, No Hub.....	20.05	
			For Work In Restricted Working Space, Add	6.02	
22 13 16 00-0494	EA		Cut And Prepare 8" Cast Iron Pipe, No Hub.....	26.74	
			For Work In Restricted Working Space, Add	8.02	
22 13 16 00-0495	EA		Cut And Prepare 10" Cast Iron Pipe, No Hub.....	31.20	
			For Work In Restricted Working Space, Add	9.36	
22 13 16 00-0496			Copper Drain-Waste-Vent (DWV) Pipe (22 13 16 00-0436) See CSI section 22 11 16 00-0436 for copper and brass fittings.		
22 13 16 00-0497	LF		1-1/4" Hard Drawn DWV Copper Tube/Pipe.....	16.45	4.82
22 13 16 00-0498	LF		1-1/2" Hard Drawn DWV Copper Tube/Pipe.....	19.65	5.38
22 13 16 00-0499	LF		2" Hard Drawn DWV Copper Tube/Pipe.....	25.31	6.64
22 13 16 00-0500	LF		3" Hard Drawn DWV Copper Tube/Pipe.....	54.34	9.20
22 13 16 00-0501	LF		4" Hard Drawn DWV Copper Tube/Pipe.....	76.10	10.38
22 13 16 00-0502	LF		5" Hard Drawn DWV Copper Tube/Pipe.....	150.19	11.92
22 13 16 00-0503	LF		6" Hard Drawn DWV Copper Tube/Pipe.....	214.11	18.48
22 13 16 00-0504			Polyvinyl Chloride (PVC) Drain-Waste-Vent (DWV) Pipe And Fittings (22 13 16 00-0504) Note: Aboveground installation. See CSI section 33 31 11 00-0002 for underground installation.		
22 13 16 00-0505			Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies (22 13 16 00-0505) Note: Includes all fittings. Fittings are assumed every 20'. Excludes excavation, backfill and compaction. Not for use where detail is available.		
22 13 16 00-0506			Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies (22 13 16 00-0506) Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
22 13 16 00-0507	LF		1-1/2" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	12.99	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	2.40	
22 13 16 00-0508	LF		2" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	15.65	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	2.92	
22 13 16 00-0509	LF		3" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	26.29	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	4.14	
22 13 16 00-0510	LF		4" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	34.39	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	4.56	
22 13 16 00-0511	LF		6" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	62.82	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	5.87	
22 13 16 00-0512	LF		8" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	90.46	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	7.84	



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 16 00-0513 LF 10" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....132.01
Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.
For Work In Restricted Working Space, Add 10.46

22 13 16 00-0514 Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies

(22 13 16 00-0505)

Note: Includes all hangers and couplings, elbow, tee and reducer fittings. All hangers are complete assemblies installed in accordance with uniform plumbing code. Not for use where detail is available.

22 13 16 00-0515 LF 1-1/2" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....26.47 4.31
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 4.94

22 13 16 00-0516 LF 2" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....29.72 5.13
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 5.49

22 13 16 00-0517 LF 3" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....43.14 7.39
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 6.83

22 13 16 00-0518 LF 4" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....54.73 8.00
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 7.45

22 13 16 00-0519 LF 6" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....86.22 10.26
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 9.55

22 13 16 00-0520 LF 8" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....115.22 13.64
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 10.94

22 13 16 00-0521 LF 10" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....162.22 18.26
Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.

For Work In Restricted Working Space, Add 14.26

22 13 16 00-0522 Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe (22 13 16 00-0504)

Note: Excludes fittings or hangers.

22 13 16 00-0523 Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe (ASTM D-2665) (22 13 16 00-0522)

Note: Excludes fittings or hangers.

22 13 16 00-0524 LF 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....10.02 4.31
For Work In Restricted Working Space, Add 1.92

22 13 16 00-0525 LF 2" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....12.42 5.13
For Work In Restricted Working Space, Add 2.31

22 13 16 00-0526 LF 3" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....20.51 7.39
For Work In Restricted Working Space, Add 3.31

22 13 16 00-0527 LF 4" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....25.35 8.00
For Work In Restricted Working Space, Add 3.59

22 13 16 00-0528 LF 6" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....39.00 10.11
For Work In Restricted Working Space, Add 4.55

22 13 16 00-0529 LF 8" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....56.42 13.45
For Work In Restricted Working Space, Add 6.07

22 13 16 00-0530 LF 10" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe.....82.41 18.01
For Work In Restricted Working Space, Add 8.09

22 13 16 00-0531 Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe (ASTM F-891) (22 13 16 00-0522)

Note: Excludes fittings or hangers.

22 13 16 00-0532 LF 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....8.94 4.31
For Work In Restricted Working Space, Add 1.92

22 13 16 00-0533 LF 2" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....11.14 5.13
For Work In Restricted Working Space, Add 2.31

22 13 16 00-0534 LF 3" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....18.09 7.39
For Work In Restricted Working Space, Add 3.31

22 13 16 00-0535 LF 4" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....22.14 8.00
For Work In Restricted Working Space, Add 3.59

22 13 16 00-0536 LF 6" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....33.02 10.11
For Work In Restricted Working Space, Add 4.55

22 13 16 00-0537 LF 8" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....48.02 13.45
For Work In Restricted Working Space, Add 6.07

22 13 16 00-0538 LF 10" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe.....73.27 18.01
For Work In Restricted Working Space, Add 8.09

22 13 16 00-0539 Polyvinyl Chloride (PVC) DWV Fittings (ASTM D-2665) (22 13 16 00-0504)

22 13 16 00-0540 Polyvinyl Chloride (PVC) DWV 1/4 Bends (22 13 16 00-0539)

22 13 16 00-0541 EA 1-1/2" Polyvinyl Chloride (PVC) DWV 1/4 Bends.....33.27 17.13
For Work In Restricted Working Space, Add 7.70



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0542 EA 2" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	42.49 9.85	21.86
22 13 16 00-0543 EA 3" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	74.13 13.24	29.34
22 13 16 00-0544 EA 4" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	114.99 15.39	34.17
22 13 16 00-0545 EA 6" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	454.24 20.01	44.43
22 13 16 00-0546 EA 8" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	753.61 26.93	59.82
22 13 16 00-0547 EA 10" Polyvinyl Chloride (PVC) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	994.91 35.91	79.73
22 13 16 00-0548 Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends (22 13 16 00-0539)		
22 13 16 00-0549 EA 1-1/2" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	54.65 7.70	17.13
22 13 16 00-0550 EA 2" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	54.79 9.85	21.86
22 13 16 00-0551 EA 3" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	105.76 13.24	29.34
22 13 16 00-0552 EA 4" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	172.97 15.39	34.17
22 13 16 00-0553 EA 6" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	342.25 20.01	44.43
22 13 16 00-0554 EA 8" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	606.43 26.93	59.82
22 13 16 00-0555 EA 10" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	992.27 35.91	79.73
22 13 16 00-0556 Polyvinyl Chloride (PVC) DWV 1/8 Bends (22 13 16 00-0539)		
22 13 16 00-0557 EA 1-1/2" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	35.03 7.70	17.13
22 13 16 00-0558 EA 2" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	42.35 9.85	21.86
22 13 16 00-0559 EA 3" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	71.50 13.24	29.34
22 13 16 00-0560 EA 4" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	102.10 15.39	34.17
22 13 16 00-0561 EA 6" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	421.44 20.01	44.43
22 13 16 00-0562 EA 8" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	677.38 26.93	59.82
22 13 16 00-0563 EA 10" Polyvinyl Chloride (PVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	770.68 35.91	79.73
22 13 16 00-0564 Polyvinyl Chloride (PVC) DWV Sanitary Tees (22 13 16 00-0539)		
22 13 16 00-0565 EA 1-1/2" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	52.09 11.54	25.66
22 13 16 00-0566 EA 2" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	68.72 14.78	32.83
22 13 16 00-0567 EA 3" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	118.01 19.85	44.12
22 13 16 00-0568 EA 4" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	175.79 23.09	51.30
22 13 16 00-0569 EA 6" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	674.87 30.01	66.59
22 13 16 00-0570 EA 8" Polyvinyl Chloride (PVC) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	877.77 40.40	89.67
22 13 16 00-0571 Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees (22 13 16 00-0539)		
22 13 16 00-0572 EA 2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	66.67 12.62	28.01
22 13 16 00-0573 EA 2" x 1-1/2" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	79.63 13.70	30.37
22 13 16 00-0574 EA 2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	65.13 13.70	30.37
22 13 16 00-0575 EA 3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	96.62 17.08	37.97
22 13 16 00-0576 EA 3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	98.31 18.16	40.33
22 13 16 00-0577 EA 4" x 4" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	117.42 19.24	42.68
22 13 16 00-0578 EA 4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	201.68 20.32	45.14
22 13 16 00-0579 EA 4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	255.49 22.01	48.84
22 13 16 00-0580 EA 6" x 6" x 4" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	648.25 27.70	61.46



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0581	EA		8" x 8" x 4" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	2,050.49 34.63	76.85
22 13 16 00-0582	EA		8" x 8" x 6" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	2,120.59 36.94	81.98
22 13 16 00-0583 Polyvinyl Chloride (PVC) DWV Double Sanitary Tees (22 13 16 00-0539)					
22 13 16 00-0584	EA		1-1/2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	92.29 15.39	34.17
22 13 16 00-0585	EA		2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	425.70 19.70	43.71
22 13 16 00-0586	EA		3" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	256.61 26.47	58.80
22 13 16 00-0587	EA		4" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	373.31 30.75	68.34
22 13 16 00-0588 Polyvinyl Chloride (PVC) DWV Reducing Double Sanitary Tees (22 13 16 00-0539)					
22 13 16 00-0589	EA		2" x 2" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	112.74 17.54	38.99
22 13 16 00-0590	EA		3" x 3" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	197.21 20.93	46.48
22 13 16 00-0591	EA		3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	227.97 23.09	51.30
22 13 16 00-0592	EA		4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	416.69 25.24	56.03
22 13 16 00-0593	EA		4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	437.11 28.63	63.51
22 13 16 00-0594 Polyvinyl Chloride (PVC) DWV Reducers (22 13 16 00-0539)					
22 13 16 00-0595	EA		2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	44.47 8.77	19.50
22 13 16 00-0596	EA		3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	83.50 10.47	23.19
22 13 16 00-0597	EA		3" x 2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	79.17 11.54	25.66
22 13 16 00-0598	EA		4" x 2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	122.59 12.62	28.01
22 13 16 00-0599	EA		4" x 3" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	131.89 14.31	31.81
22 13 16 00-0600	EA		6" x 3" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	480.72 16.62	36.94
22 13 16 00-0601	EA		6" x 4" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	400.57 17.70	39.30
22 13 16 00-0602	EA		8" x 4" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	1,007.79 21.16	47.00
22 13 16 00-0603	EA		8" x 6" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	849.38 23.47	52.13
22 13 16 00-0604	EA		10" x 6" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	1,142.79 27.96	62.07
22 13 16 00-0605	EA		10" x 8" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	892.14 31.42	69.77
22 13 16 00-0606 Polyvinyl Chloride (PVC) DWV P-Traps (22 13 16 00-0539)					
22 13 16 00-0607	EA		1-1/2" Polyvinyl Chloride (PVC) DWV P-Traps <i>For Work In Restricted Working Space, Add</i>	65.12 11.54	25.66
22 13 16 00-0608	EA		2" Polyvinyl Chloride (PVC) DWV P-Traps <i>For Work In Restricted Working Space, Add</i>	85.56 14.78	32.83
22 13 16 00-0609	EA		3" Polyvinyl Chloride (PVC) DWV P-Traps <i>For Work In Restricted Working Space, Add</i>	246.99 19.85	44.12
22 13 16 00-0610	EA		4" Polyvinyl Chloride (PVC) DWV P-Traps <i>For Work In Restricted Working Space, Add</i>	507.54 23.09	51.30
22 13 16 00-0611	EA		6" Polyvinyl Chloride (PVC) DWV P-Traps <i>For Work In Restricted Working Space, Add</i>	861.36 30.01	66.59
22 13 16 00-0612 Polyvinyl Chloride (PVC) DWV Closet Flanges (22 13 16 00-0539)					
22 13 16 00-0613	EA		4" Polyvinyl Chloride (PVC) DWV Closet Flanges <i>For Work In Restricted Working Space, Add</i>	102.40 15.39	34.17
22 13 16 00-0614	EA		4" x 3" Polyvinyl Chloride (PVC) DWV Closet Flanges <i>For Work In Restricted Working Space, Add</i>	83.43 14.31	31.81
22 13 16 00-0615 Polyvinyl Chloride (PVC) DWV Wyes (22 13 16 00-0539)					
22 13 16 00-0616	EA		1-1/2" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	65.70 11.54	25.66
22 13 16 00-0617	EA		2" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	76.63 14.78	32.83
22 13 16 00-0618	EA		3" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	128.11 19.85	44.12



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
22 13 16 00-0619	EA	4" Polyvinyl Chloride (PVC) DWV Wyes..... For Work In Restricted Working Space, Add	192.33 23.09	51.30
22 13 16 00-0620	EA	6" Polyvinyl Chloride (PVC) DWV Wyes..... For Work In Restricted Working Space, Add	612.79 30.01	66.59
22 13 16 00-0621	EA	8" Polyvinyl Chloride (PVC) DWV Wyes..... For Work In Restricted Working Space, Add	759.85 40.40	89.67
22 13 16 00-0622	EA	10" Polyvinyl Chloride (PVC) DWV Wyes..... For Work In Restricted Working Space, Add	999.92 53.87	119.54
22 13 16 00-0623 Polyvinyl Chloride (PVC) DWV Reducing Wyes (22 13 16 00-0539)				
22 13 16 00-0624	EA	2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	90.68 12.62	28.01
22 13 16 00-0625	EA	2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	93.83 13.70	30.37
22 13 16 00-0626	EA	3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	132.61 17.03	37.97
22 13 16 00-0627	EA	3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	108.42 18.16	40.33
22 13 16 00-0628	EA	4" x 4" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	184.27 19.24	42.68
22 13 16 00-0629	EA	4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	160.40 20.32	45.14
22 13 16 00-0630	EA	4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	181.55 22.01	48.84
22 13 16 00-0631	EA	6" x 6" x 3" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	553.90 26.63	59.10
22 13 16 00-0632	EA	6" x 6" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	687.25 27.70	61.46
22 13 16 00-0633	EA	8" x 8" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	651.26 34.63	76.85
22 13 16 00-0634	EA	8" x 8" x 6" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	824.24 36.94	81.98
22 13 16 00-0635	EA	10" x 10" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	749.05 43.61	96.76
22 13 16 00-0636	EA	10" x 10" x 6" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	936.29 45.91	101.89
22 13 16 00-0637	EA	10" x 10" x 8" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... For Work In Restricted Working Space, Add	1,091.22 49.38	109.58
22 13 16 00-0638 Polyvinyl Chloride (PVC) DWV Double Wyes (22 13 16 00-0539)				
22 13 16 00-0639	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	109.28 15.39	34.17
22 13 16 00-0640	EA	2" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	140.19 19.70	43.71
22 13 16 00-0641	EA	3" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	280.77 26.47	58.80
22 13 16 00-0642	EA	4" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	492.92 30.78	68.34
22 13 16 00-0643	EA	6" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	1,017.36 40.01	88.86
22 13 16 00-0644	EA	8" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	1,177.21 53.87	119.64
22 13 16 00-0645	EA	10" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	1,829.13 71.82	159.45
22 13 16 00-0646 Polyvinyl Chloride (PVC) DWV Reducing Double Wyes (22 13 16 00-0539)				
22 13 16 00-0647	EA	2" x 2" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	126.56 17.54	38.99
22 13 16 00-0648	EA	3" x 3" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	238.70 20.93	46.48
22 13 16 00-0649	EA	3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	220.29 23.09	51.30
22 13 16 00-0650	EA	4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	318.12 25.24	56.03
22 13 16 00-0651	EA	4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	404.50 28.63	63.51
22 13 16 00-0652	EA	6" x 6" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	625.62 35.40	78.60
22 13 16 00-0653	EA	8" x 8" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	732.17 42.32	93.98
22 13 16 00-0654	EA	8" x 8" x 6" x 6" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	933.58 46.94	104.24
22 13 16 00-0655	EA	10" x 10" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	985.95 51.30	113.90
22 13 16 00-0656	EA	10" x 10" x 6" x 6" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	1,282.78 55.92	124.15
22 13 16 00-0657	EA	10" x 10" x 8" x 8" Polyvinyl Chloride (PVC) DWV Double Wyes..... For Work In Restricted Working Space, Add	1,552.45 62.84	139.54



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 16 00-0658 Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends (22 13 16 00-0539)			
22 13 16 00-0659	EA 1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	82.69	25.66
	For Work In Restricted Working Space, Add	11.54	
22 13 16 00-0660	EA 2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	103.13	32.88
	For Work In Restricted Working Space, Add	14.78	
22 13 16 00-0661	EA 3" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	207.75	44.12
	For Work In Restricted Working Space, Add	19.85	
22 13 16 00-0662	EA 4" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	370.94	51.30
	For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0663 Polyvinyl Chloride (PVC) DWV Reducing Combination Wye And 1/8 Bends (22 13 16 00-0539)			
22 13 16 00-0664	EA 2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	157.22	30.37
	For Work In Restricted Working Space, Add	13.70	
22 13 16 00-0665	EA 3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	250.76	37.97
	For Work In Restricted Working Space, Add	17.08	
22 13 16 00-0666	EA 3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	181.68	40.33
	For Work In Restricted Working Space, Add	18.16	
22 13 16 00-0667	EA 4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	337.21	45.14
	For Work In Restricted Working Space, Add	20.32	
22 13 16 00-0668	EA 4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends	365.25	48.84
	For Work In Restricted Working Space, Add	22.01	
22 13 16 00-0669 Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends (22 13 16 00-0539)			
22 13 16 00-0670	EA 1-1/2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	122.45	34.17
	For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0671	EA 2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	141.66	43.71
	For Work In Restricted Working Space, Add	19.70	
22 13 16 00-0672	EA 3" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	220.30	58.80
	For Work In Restricted Working Space, Add	26.47	
22 13 16 00-0673	EA 4" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	798.33	68.34
	For Work In Restricted Working Space, Add	30.78	
22 13 16 00-0674	EA 6" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	2,659.23	88.86
	For Work In Restricted Working Space, Add	40.01	
22 13 16 00-0675 Polyvinyl Chloride (PVC) DWV Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0539)			
22 13 16 00-0676	EA 2" x 2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	291.30	38.99
	For Work In Restricted Working Space, Add	17.54	
22 13 16 00-0677	EA 3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	471.41	51.30
	For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0678	EA 4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	819.27	56.03
	For Work In Restricted Working Space, Add	25.24	
22 13 16 00-0679	EA 4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	738.79	63.51
	For Work In Restricted Working Space, Add	28.63	
22 13 16 00-0680	EA 6" x 6" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends	1,768.14	78.60
	For Work In Restricted Working Space, Add	35.40	
22 13 16 00-0681 Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug (22 13 16 00-0539)			
22 13 16 00-0682	EA 2" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	178.85	32.83
	For Work In Restricted Working Space, Add	14.78	
22 13 16 00-0683	EA 3" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	313.77	44.12
	For Work In Restricted Working Space, Add	19.85	
22 13 16 00-0684	EA 4" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	507.62	51.30
	For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0685	EA 6" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	1,351.42	66.59
	For Work In Restricted Working Space, Add	30.01	
22 13 16 00-0686	EA 8" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	1,692.70	89.67
	For Work In Restricted Working Space, Add	40.40	
22 13 16 00-0687	EA 10" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug	2,246.15	119.54
	For Work In Restricted Working Space, Add	53.87	
22 13 16 00-0688 Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug (22 13 16 00-0539)			
22 13 16 00-0689	EA 1-1/2" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	48.06	17.13
	For Work In Restricted Working Space, Add	7.70	
22 13 16 00-0690	EA 2" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	68.99	21.86
	For Work In Restricted Working Space, Add	9.85	
22 13 16 00-0691	EA 3" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	99.76	29.34
	For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0692	EA 4" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	182.04	34.17
	For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0693	EA 6" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	425.55	44.43
	For Work In Restricted Working Space, Add	20.01	
22 13 16 00-0694	EA 8" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	964.80	59.82
	For Work In Restricted Working Space, Add	26.93	
22 13 16 00-0695	EA 10" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug	1,784.21	79.73
	For Work In Restricted Working Space, Add	35.89	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

22

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
22 13 16 00-0696	Polyvinyl Chloride (PVC) Couplings (22 13 16 00-0539)			
22 13 16 00-0697	EA 1-1/2" Polyvinyl Chloride (PVC) Couplings	32.30		17.13
	For Work In Restricted Working Space, Add	7.70		
22 13 16 00-0698	EA 2" Polyvinyl Chloride (PVC) Couplings	40.30		21.86
	For Work In Restricted Working Space, Add	9.85		
22 13 16 00-0699	EA 3" Polyvinyl Chloride (PVC) Couplings	63.20		29.34
	For Work In Restricted Working Space, Add	13.24		
22 13 16 00-0700	EA 4" Polyvinyl Chloride (PVC) Couplings	82.66		34.17
	For Work In Restricted Working Space, Add	15.39		
22 13 16 00-0701	EA 6" Polyvinyl Chloride (PVC) Couplings	239.78		44.43
	For Work In Restricted Working Space, Add	20.01		
22 13 16 00-0702	EA 8" Polyvinyl Chloride (PVC) Couplings	589.77		59.82
	For Work In Restricted Working Space, Add	26.93		
22 13 16 00-0703	EA 10" Polyvinyl Chloride (PVC) Couplings	894.50		79.73
	For Work In Restricted Working Space, Add	35.97		
22 13 16 00-0704	Polyvinyl Chloride (PVC) Male Adapters (22 13 16 00-0539)			
22 13 16 00-0705	EA 1-1/2" Polyvinyl Chloride (PVC) Male Adapters	19.55		8.51
22 13 16 00-0706	EA 2" Polyvinyl Chloride (PVC) Male Adapters	32.94		10.98
22 13 16 00-0707	EA 3" Polyvinyl Chloride (PVC) Male Adapters	67.89		14.67
22 13 16 00-0708	EA 4" Polyvinyl Chloride (PVC) Male Adapters	130.70		17.13
22 13 16 00-0709	Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe (22 13 16 00-0504)			
	Note: In place piping.			
22 13 16 00-0710	EA 1-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	7.52		
22 13 16 00-0711	EA 2", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	8.28		
22 13 16 00-0712	EA 3", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	10.52		
22 13 16 00-0713	EA 4", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	14.20		
22 13 16 00-0714	EA 6", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	20.30		
22 13 16 00-0715	EA 8", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	27.07		
22 13 16 00-0716	EA 10", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe	33.10		
22 13 16 00-0717	Acrylonitrile Butadiene Styrene (ABS) Drain-Waste-Vent (DWV) Pipe And Fittings (22 13 16)			
	Note: Aboveground installation.			
22 13 16 00-0718	Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assemblies (22 13 16 00-0717)			
	Note: Includes all hangers and couplings, elbow, tee and reducer fittings. All hangers are complete assemblies installed in accordance with uniform plumbing code. Not for use where detail is available.			
22 13 16 00-0719	LF 1-1/2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly	27.24		4.31
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	For Work In Restricted Working Space, Add	5.90		
22 13 16 00-0720	LF 2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly	30.30		5.13
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	For Work In Restricted Working Space, Add	6.54		
22 13 16 00-0721	LF 3" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly	42.49		7.39
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	For Work In Restricted Working Space, Add	8.12		
22 13 16 00-0722	LF 4" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly	49.41		8.00
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	For Work In Restricted Working Space, Add	9.02		
22 13 16 00-0723	LF 6" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly	86.61		10.26
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	For Work In Restricted Working Space, Add	11.99		
22 13 16 00-0724	Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe (ASTM F-628) (22 13 16 00-0717)			
	Note: Excludes fittings or hangers.			
22 13 16 00-0725	LF 1-1/2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe	9.60		4.31
	For Work In Restricted Working Space, Add	1.92		
22 13 16 00-0726	LF 2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe	11.98		5.13
	For Work In Restricted Working Space, Add	2.31		
22 13 16 00-0727	LF 3" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe	19.89		7.39
	For Work In Restricted Working Space, Add	3.31		
22 13 16 00-0728	LF 4" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe	24.63		8.00
	For Work In Restricted Working Space, Add	3.59		
22 13 16 00-0729	LF 6" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe	40.96		10.11
	For Work In Restricted Working Space, Add	4.55		



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22 13 16 00-0730	Acrylonitrile Butadiene Styrene (ABS) DWV Fittings (ASTM D-2661) (22 13 16 00-0717)		
22 13 16 00-0731	Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends (22 13 16 00-0730)		
22 13 16 00-0732	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	39.23 7.70	17.13
22 13 16 00-0733	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	52.18 9.85	21.86
22 13 16 00-0734	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	103.82 13.24	29.34
22 13 16 00-0735	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	168.28 15.39	34.17
22 13 16 00-0736	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... For Work In Restricted Working Space, Add	503.32 20.01	44.43
22 13 16 00-0737	Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends (22 13 16 00-0730)		
22 13 16 00-0738	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	57.98 7.70	17.13
22 13 16 00-0739	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	70.51 9.85	21.86
22 13 16 00-0740	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	149.34 13.24	29.34
22 13 16 00-0741	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	258.84 15.39	34.17
22 13 16 00-0742	Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends (22 13 16 00-0730)		
22 13 16 00-0743	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	41.76 7.70	17.13
22 13 16 00-0744	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	50.40 9.85	21.86
22 13 16 00-0745	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	94.49 13.24	29.34
22 13 16 00-0746	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	151.05 15.39	34.17
22 13 16 00-0747	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	521.49 20.01	44.43
22 13 16 00-0748	Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees (22 13 16 00-0730)		
22 13 16 00-0749	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	61.57 11.54	25.66
22 13 16 00-0750	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	83.97 14.78	32.83
22 13 16 00-0751	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	154.65 19.85	44.12
22 13 16 00-0752	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	246.94 23.09	51.30
22 13 16 00-0753	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees..... For Work In Restricted Working Space, Add	1,021.41 30.01	66.59
22 13 16 00-0754	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees (22 13 16 00-0730)		
22 13 16 00-0755	EA 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	78.90 12.62	28.01
22 13 16 00-0756	EA 2" x 1-1/2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	97.38 13.70	30.37
22 13 16 00-0757	EA 2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	78.94 13.70	30.37
22 13 16 00-0758	EA 3" x 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	124.51 17.08	37.97
22 13 16 00-0759	EA 3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	128.73 18.16	40.33
22 13 16 00-0760	EA 4" x 4" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	309.12 19.24	42.68
22 13 16 00-0761	EA 4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	296.41 20.32	45.14
22 13 16 00-0762	EA 4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	341.54 22.01	48.84
22 13 16 00-0763	EA 6" x 6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees..... For Work In Restricted Working Space, Add	1,122.49 27.70	61.46
22 13 16 00-0764	Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees (22 13 16 00-0730)		
22 13 16 00-0765	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees..... For Work In Restricted Working Space, Add	121.47 15.39	34.17
22 13 16 00-0766	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees..... For Work In Restricted Working Space, Add	168.04 19.70	43.71
22 13 16 00-0767	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees..... For Work In Restricted Working Space, Add	375.82 26.47	58.80



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Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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22 13 16 00-0768	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees For Work In Restricted Working Space, Add	563.51	68.34		
		30.78			
22 13 16 00-0769	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Sanitary Tees (22 13 16 00-0730)				
22 13 16 00-0770	EA 2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees For Work In Restricted Working Space, Add	138.07	38.99		
		17.54			
22 13 16 00-0771	EA 3" x 3" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees For Work In Restricted Working Space, Add	216.34	46.48		
		20.93			
22 13 16 00-0772	EA 3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees For Work In Restricted Working Space, Add	250.38	51.30		
		23.09			
22 13 16 00-0773	EA 4" x 4" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	464.91	55.24		
		24.69			
22 13 16 00-0774	EA 4" x 4" x 3" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees For Work In Restricted Working Space, Add	436.58	62.63		
		28.23			
22 13 16 00-0775	Acrylonitrile Butadiene Styrene (ABS) DWV Wyes (22 13 16 00-0730)				
22 13 16 00-0776	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes For Work In Restricted Working Space, Add	84.98	25.66		
		11.54			
22 13 16 00-0777	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes For Work In Restricted Working Space, Add	97.00	32.83		
		14.78			
22 13 16 00-0778	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes For Work In Restricted Working Space, Add	171.85	44.12		
		19.85			
22 13 16 00-0779	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes For Work In Restricted Working Space, Add	273.84	51.30		
		23.09			
22 13 16 00-0780	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes For Work In Restricted Working Space, Add	822.47	66.59		
		30.01			
22 13 16 00-0781	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes (22 13 16 00-0730)				
22 13 16 00-0782	EA 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	125.04	28.01		
		12.62			
22 13 16 00-0783	EA 2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	127.79	30.37		
		13.70			
22 13 16 00-0784	EA 3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	142.67	40.33		
		18.16			
22 13 16 00-0785	EA 4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	225.91	45.14		
		20.32			
22 13 16 00-0786	EA 4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	258.17	48.84		
		22.01			
22 13 16 00-0787	EA 6" x 6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes For Work In Restricted Working Space, Add	689.22	61.46		
		27.70			
22 13 16 00-0788	Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes (22 13 16 00-0730)				
22 13 16 00-0789	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	150.21	34.17		
		15.39			
22 13 16 00-0790	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	192.89	43.71		
		19.70			
22 13 16 00-0791	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	417.14	58.80		
		26.47			
22 13 16 00-0792	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	768.85	68.34		
		30.78			
22 13 16 00-0793	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Wyes (22 13 16 00-0730)				
22 13 16 00-0794	EA 2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	174.67	38.99		
		17.54			
22 13 16 00-0795	EA 3" x 3" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	301.76	46.48		
		20.93			
22 13 16 00-0796	EA 3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	321.14	51.30		
		23.09			
22 13 16 00-0797	EA 4" x 4" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	483.60	56.03		
		25.24			
22 13 16 00-0798	EA 4" x 4" x 3" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes For Work In Restricted Working Space, Add	623.07	63.51		
		28.63			
22 13 16 00-0799	Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bend (22 13 16 00-0730)				
22 13 16 00-0800	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	112.76	25.66		
		11.54			
22 13 16 00-0801	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	145.79	32.83		
		14.78			
22 13 16 00-0802	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	225.24	44.12		
		19.85			
22 13 16 00-0803	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	388.14	50.59		
		22.76			



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22 13 16 00-0804	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Combination Wye And 1/8 Bend (22 13 16 00-0730)			
22 13 16 00-0805	EA	2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends	123.84	30.37
		<i>For Work In Restricted Working Space, Add</i>	13.70	
22 13 16 00-0806	EA	3" x 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends	242.06	37.97
		<i>For Work In Restricted Working Space, Add</i>	17.08	
22 13 16 00-0807	EA	3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends	176.23	40.33
		<i>For Work In Restricted Working Space, Add</i>	18.16	
22 13 16 00-0808	EA	4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends	325.41	45.14
		<i>For Work In Restricted Working Space, Add</i>	20.32	
22 13 16 00-0809	EA	4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends	352.39	48.84
		<i>For Work In Restricted Working Space, Add</i>	22.01	
22 13 16 00-0810	Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bend (22 13 16 00-0730)			
22 13 16 00-0811	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends	240.44	43.71
		<i>For Work In Restricted Working Space, Add</i>	19.70	
22 13 16 00-0812	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends	491.34	58.80
		<i>For Work In Restricted Working Space, Add</i>	26.47	
22 13 16 00-0813	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Combination Wye And 1/8 Bend (22 13 16 00-0730)			
22 13 16 00-0814	EA	2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends	199.13	38.99
		<i>For Work In Restricted Working Space, Add</i>	17.54	
22 13 16 00-0815	EA	3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends	473.18	51.30
		<i>For Work In Restricted Working Space, Add</i>	23.09	
22 13 16 00-0816	Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug (22 13 16 00-0730)			
22 13 16 00-0817	EA	1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug	125.84	25.66
		<i>For Work In Restricted Working Space, Add</i>	11.54	
22 13 16 00-0818	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug	158.87	32.83
		<i>For Work In Restricted Working Space, Add</i>	14.78	
22 13 16 00-0819	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug	254.49	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.85	
22 13 16 00-0820	EA	4" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug	428.95	51.30
		<i>For Work In Restricted Working Space, Add</i>	23.09	
22 13 16 00-0821	Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug (22 13 16 00-0730)			
22 13 16 00-0822	EA	1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug	55.61	17.13
		<i>For Work In Restricted Working Space, Add</i>	7.70	
22 13 16 00-0823	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug	81.17	21.86
		<i>For Work In Restricted Working Space, Add</i>	9.85	
22 13 16 00-0824	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug	118.41	29.34
		<i>For Work In Restricted Working Space, Add</i>	13.24	
22 13 16 00-0825	EA	4" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug	226.18	34.17
		<i>For Work In Restricted Working Space, Add</i>	15.39	
22 13 16 00-0826	EA	6" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug	546.82	44.43
		<i>For Work In Restricted Working Space, Add</i>	20.01	
22 13 16 00-0827	Acrylonitrile Butadiene Styrene (ABS) DWV Couplings (22 13 16 00-0730)			
22 13 16 00-0828	EA	1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings	35.98	17.13
		<i>For Work In Restricted Working Space, Add</i>	7.70	
22 13 16 00-0829	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings	43.72	21.86
		<i>For Work In Restricted Working Space, Add</i>	9.85	
22 13 16 00-0830	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings	73.73	29.34
		<i>For Work In Restricted Working Space, Add</i>	13.24	
22 13 16 00-0831	EA	4" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings	100.12	34.17
		<i>For Work In Restricted Working Space, Add</i>	15.39	
22 13 16 00-0832	EA	6" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings	308.00	44.43
		<i>For Work In Restricted Working Space, Add</i>	20.01	
22 13 16 00-0833	Acrylonitrile Butadiene Styrene (ABS) DWV Reducers (22 13 16 00-0730)			
22 13 16 00-0834	EA	2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers	55.41	19.50
		<i>For Work In Restricted Working Space, Add</i>	8.77	
22 13 16 00-0835	EA	3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers	117.86	23.19
		<i>For Work In Restricted Working Space, Add</i>	10.47	
22 13 16 00-0836	EA	3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers	108.05	25.66
		<i>For Work In Restricted Working Space, Add</i>	11.54	
22 13 16 00-0837	EA	4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers	179.30	28.01
		<i>For Work In Restricted Working Space, Add</i>	12.62	
22 13 16 00-0838	EA	4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers	191.29	31.81
		<i>For Work In Restricted Working Space, Add</i>	14.31	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0839 Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps (22 13 16 00-0730)		
22 13 16 00-0840 EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps..... For Work In Restricted Working Space, Add	89.21 11.54	25.66
22 13 16 00-0841 EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps..... For Work In Restricted Working Space, Add	131.38 14.78	32.83
22 13 16 00-0842 EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps..... For Work In Restricted Working Space, Add	442.34 19.85	44.12
22 13 16 00-0843 EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps..... For Work In Restricted Working Space, Add	847.62 23.09	51.30
22 13 16 00-0844 Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges (22 13 16 00-0730)		
22 13 16 00-0845 EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges..... For Work In Restricted Working Space, Add	122.14 15.39	34.17
22 13 16 00-0846 EA 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges..... For Work In Restricted Working Space, Add	114.15 14.31	31.81
22 13 16 00-0847 Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters (22 13 16 00-0730)		
22 13 16 00-0848 EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters..... For Work In Restricted Working Space, Add	26.00 3.85	8.51
22 13 16 00-0849 EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters..... For Work In Restricted Working Space, Add	39.76 4.92	10.98
22 13 16 00-0850 EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters..... For Work In Restricted Working Space, Add	90.08 6.62	14.67
22 13 16 00-0851 EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters..... For Work In Restricted Working Space, Add	176.15 7.70	17.13
22 13 16 00-0852 Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushings (22 13 16 00-0730)		
22 13 16 00-0853 EA 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	40.13 8.77	19.50
22 13 16 00-0854 EA 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	93.61 10.47	23.19
22 13 16 00-0855 EA 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	75.78 11.54	25.66
22 13 16 00-0856 EA 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	177.41 12.62	28.01
22 13 16 00-0857 EA 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	126.14 14.31	31.81
22 13 16 00-0858 EA 6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing..... For Work In Restricted Working Space, Add	365.72 17.45	38.75
22 13 16 00-0859 Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Couplings (22 13 16 00-0730)		
22 13 16 00-0860 EA 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling..... For Work In Restricted Working Space, Add	135.47 7.70	17.13
22 13 16 00-0861 EA 2" x 2" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling..... For Work In Restricted Working Space, Add	149.96 9.85	21.86
22 13 16 00-0862 EA 3" x 3" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling..... For Work In Restricted Working Space, Add	168.57 13.24	29.34
22 13 16 00-0863 EA 4" x 4" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling..... For Work In Restricted Working Space, Add	183.07 15.39	34.17
22 13 16 00-0864 Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe (22 13 16 00-0717) Note: In place piping.		
22 13 16 00-0865 EA 1-1/2", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe.....	7.52	
22 13 16 00-0866 EA 2", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe.....	8.28	
22 13 16 00-0867 EA 3", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe.....	10.52	
22 13 16 00-0868 EA 4", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe.....	14.20	
22 13 16 00-0869 EA 6", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe.....	20.30	
22 13 16 00-0870 Elastomeric Flexible Pipe Couplings (22 13 16)		
22 13 16 00-0871 Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Couplings (22 13 16 00-0870) Note: For cast iron or plastic to cast iron or plastic pipe (Cast Iron/Plastic To Cast Iron/Plastic). Includes stainless steel clamps.		
22 13 16 00-0872 EA 1-1/4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-125).....	13.11	4.46
22 13 16 00-0873 EA 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-150).....	14.13	4.73
22 13 16 00-0874 EA 2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-22).....	14.86	5.02
22 13 16 00-0875 EA 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-33).....	17.12	5.29
22 13 16 00-0876 EA 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-44).....	19.31	5.57
22 13 16 00-0877 EA 5" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-55).....	24.51	5.85
22 13 16 00-0878 EA 6" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-66).....	29.74	6.12
22 13 16 00-0879 EA 8" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-88).....	40.27	6.69
22 13 16 00-0880 EA 10" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-1010).....	52.98	7.80



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 16 00-0881		Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Couplings (22 13 16 00-0870)	
		Note: For cast iron or plastic to cast iron or plastic pipe (Cast Iron/Plastic To Cast Iron/Plastic). Includes stainless steel clamps.	
22 13 16 00-0882	EA	1-1/2" x 1-1/4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-150/125)	13.96 4.73
22 13 16 00-0883	EA	2" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-215)	15.14 5.02
22 13 16 00-0884	EA	3" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-315)	18.47 5.29
22 13 16 00-0885	EA	3" x 2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-32)	16.63 5.29
22 13 16 00-0886	EA	4" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-415)	22.63 5.57
22 13 16 00-0887	EA	4" x 2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-42)	21.69 5.57
22 13 16 00-0888	EA	4" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-43)	19.94 5.57
22 13 16 00-0889	EA	5" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-53)	28.61 5.85
22 13 16 00-0890	EA	5" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-54)	25.94 5.85
22 13 16 00-0891	EA	6" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-63)	35.26 6.12
22 13 16 00-0892	EA	6" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-64)	31.26 6.12
22 13 16 00-0893	EA	6" x 5" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-65)	32.38 6.12
22 13 16 00-0894	EA	8" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-84)	63.44 11.14
22 13 16 00-0895	EA	8" x 6" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-86)	52.35 11.14
22 13 16 00-0896	EA	10" x 8" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-10-8)	66.01 12.54
22 13 16 00-0897		Elastomeric Flexible Expansion Joint Couplings (Fernco XJ) (22 13 16)	
		Note: Includes stainless steel clamps.	
22 13 16 00-0898	EA	1-1/2" Elastomeric Flexible Expansion Joint Coupling (Fernco XJ-150)	27.95 4.73
22 13 16 00-0899	EA	2" Elastomeric Flexible Expansion Joint Coupling (Fernco XJ-2)	31.06 5.02
22 13 16 00-0900	EA	3" Elastomeric Flexible Expansion Joint Coupling (Fernco XJ-3)	33.33 5.29
22 13 16 00-0901	EA	4" Elastomeric Flexible Expansion Joint Coupling (Fernco XJ-4)	39.75 5.57
22 13 16 00-0902		Elastomeric Flexible Pipe Caps (Fernco QC) (22 13 16)	
		Note: For cast iron, steel, copper or plastic pipe. Includes stainless steel clamp.	
22 13 16 00-0903	EA	1-1/2" Elastomeric Flexible Pipe Cap (Fernco QC-101)	49.03 30.08
22 13 16 00-0904	EA	2" Elastomeric Flexible Pipe Cap (Fernco QC-102)	52.58 31.98
22 13 16 00-0905	EA	3" Elastomeric Flexible Pipe Cap (Fernco QC-103)	60.87 36.66
22 13 16 00-0906	EA	4" Elastomeric Flexible Pipe Cap (Fernco QC-104)	80.31 48.46
22 13 16 00-0907	EA	5" Elastomeric Flexible Pipe Cap (Fernco QC-105)	96.26 57.94
22 13 16 00-0908	EA	6" Elastomeric Flexible Pipe Cap (Fernco QC-106)	111.01 66.86
22 13 16 00-0909	EA	8" Elastomeric Flexible Pipe Cap (Fernco QC-108)	148.72 84.68
22 13 16 00-0910	EA	10" Elastomeric Flexible Pipe Cap (Fernco QC-110)	182.47 94.70
22 13 16 00-0911	EA	12" Elastomeric Flexible Pipe Cap (Fernco QC-112)	230.32 105.29
22 13 16 00-0912		Seamless Pipe Vent Flashing For Multiple Pipe (22 13 16)	
		Note: Elmdor/Stoneman #910.	
22 13 16 00-0913	EA	Multi Flash Assembly (Elmdor/Stoneman #910-6 STD - 4 LB)	505.53 116.99
22 13 16 00-0914	EA	Multi Flash Assembly (Elmdor/Stoneman #910-6 STD - 6 LB)	528.43 116.99
22 13 16 00-0915	EA	Multi Flash Assembly (Elmdor/Stoneman #910-8 SK - 4 LB)	565.28 136.49
22 13 16 00-0916	EA	Multi Flash Assembly (Elmdor/Stoneman #910-8 SK - 6 LB)	597.42 136.49
22 13 16 00-0917	EA	Multi Flash Assembly (Elmdor/Stoneman #910-10 SK - 4 LB)	639.73 158.77
22 13 16 00-0918	EA	Multi Flash Assembly (Elmdor/Stoneman #910-10 SK - 6 LB)	683.51 158.77
22 13 16 00-0919		Cast Iron Vent Stack Flashing Sleeves With Caulking Recess (Josam 26450 Series) (22 13 16)	
22 13 16 00-0920	EA	1-1/2" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	95.99 23.09
22 13 16 00-0921	EA	2" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	101.12 25.66
22 13 16 00-0922	EA	3" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	152.11 33.34
22 13 16 00-0923	EA	4" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	178.39 38.47
22 13 16 00-0924	EA	5" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	208.20 43.61
22 13 16 00-0925	EA	6" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	353.69 48.74
22 13 16 00-0926		Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess (Josam 26440 Series) (22 13 16)	
22 13 16 00-0927	EA	1-1/2" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	201.68 23.09
22 13 16 00-0928	EA	2" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	206.81 25.66
22 13 16 00-0929	EA	3" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	245.46 33.34
22 13 16 00-0930	EA	4" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	307.54 38.47
22 13 16 00-0931	EA	5" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	421.47 43.61
22 13 16 00-0932	EA	6" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	431.73 48.74
22 13 16 00-0933		Cast Iron Vandal Proof Hooded Vent Cap (Josam 26700 Series) (22 13 16)	
		Note: Includes counterflashing collar, deep protective hood and recessed securing screws.	
22 13 16 00-0934	EA	1-1/2" Cast Iron Vandal Proof Hooded Vent Cap	387.55 23.09
22 13 16 00-0935	EA	2" Cast Iron Vandal Proof Hooded Vent Cap	392.68 25.66
22 13 16 00-0936	EA	3" Cast Iron Vandal Proof Hooded Vent Cap	450.75 33.34
22 13 16 00-0937	EA	4" Cast Iron Vandal Proof Hooded Vent Cap	507.24 38.47
22 13 16 00-0938	EA	5" Cast Iron Vandal Proof Hooded Vent Cap	592.18 43.61



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0939	EA		6" Cast Iron Vandal Proof Hooded Vent Cap.....	646.89	48.74
22 13 19 Sanitary Waste Piping Specialties (22 13)					
22 13 19 13 Sanitary Drains (22 13 19)					
22 13 19 13-0001 Round Top Floor Drains (22 13 19 13)					
22 13 19 13-0002	EA		Bronze Top, 6" Round Top Floor Drain With 1-1/2" Outlet	794.04	110.30
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0003	EA		Bronze Top, 6" Round Top Floor Drain With 2" Outlet.....	871.99	123.64
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0004	EA		Bronze Top, 6" Round Top Floor Drain With 3" Outlet.....	847.09	136.77
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0005	EA		Bronze Top, 6" Round Top Floor Drain With 4" Outlet.....	875.26	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0006	EA		Cast Iron Top, 9" Round Top Floor Drain With 2" Outlet	794.29	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0007	EA		Cast Iron Top, 9" Round Top Floor Drain With 3" Outlet	820.66	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0008	EA		Cast Iron Top, 9" Round Top Floor Drain With 4" Outlet	848.83	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0009	EA		Nikaloy Top, 9" Round Top Floor Drain With 2" Outlet	1,338.70	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0010	EA		Nikaloy Top, 9" Round Top Floor Drain With 3" Outlet	1,365.07	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0011	EA		Nikaloy Top, 9" Round Top Floor Drain With 4" Outlet	1,393.24	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0012	EA		Bronze Top, 9" Round Top Floor Drain With 2" Outlet.....	1,259.41	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0013	EA		Bronze Top, 9" Round Top Floor Drain With 3" Outlet.....	1,285.64	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0014	EA		Bronze Top, 9" Round Top Floor Drain With 4" Outlet.....	1,313.95	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0015	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 2" Outlet	1,386.15	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0016	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 3" Outlet	1,412.50	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0017	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 4" Outlet	1,440.81	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0018	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 2" Outlet	2,200.11	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0019	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 3" Outlet	2,226.46	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0020	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 4" Outlet	2,254.77	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

22

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0021	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 2" Outlet	2,091.76	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0022	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 3" Outlet	2,118.11	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0023	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 4" Outlet	2,146.42	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0024			Square Or Rectangular Top Drains (22 13 19 13)		
22 13 19 13-0025	EA		5" x 5" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	944.81	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0026	EA		5" x 5" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	971.45	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0027	EA		5" x 5" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	999.47	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0028	EA		6" x 6" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	1,024.09	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0029	EA		6" x 6" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	1,050.73	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0030	EA		6" x 6" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	1,078.75	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0031	EA		8" x 8" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	1,372.93	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0032	EA		8" x 8" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	1,399.57	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0033	EA		8" x 8" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	1,427.59	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0034	EA		5" x 5" Floor Drain With 2" Bottom Outlet, Bronze Top.....	886.67	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0035	EA		5" x 5" Floor Drain With 3" Bottom Outlet, Bronze Top.....	913.31	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0036	EA		5" x 5" Floor Drain With 4" Bottom Outlet, Bronze Top.....	941.33	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0037	EA	6" x 6" Floor Drain With 2" Bottom Outlet, Bronze Top.....	987.09	123.54
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0038	EA	6" x 6" Floor Drain With 3" Bottom Outlet, Bronze Top.....	1,013.73	136.87
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0039	EA	6" x 6" Floor Drain With 4" Bottom Outlet, Bronze Top.....	1,041.75	150.93
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0040	EA	8" x 8" Floor Drain With 2" Bottom Outlet, Bronze Top.....	1,269.86	123.54
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0041	EA	8" x 8" Floor Drain With 3" Bottom Outlet, Bronze Top.....	1,296.50	136.87
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0042	EA	8" x 8" Floor Drain With 4" Bottom Outlet, Bronze Top.....	1,324.52	150.93
		For Sediment Bucket, Add	22.50	
		For Galvanized Cast Iron Parts, Add	105.00	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0043	EA	12" x 12" Can Wash Drain With 3" Bottom Outlet, Cast Iron Top.....	3,336.71	136.87
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0044	EA	12" x 12" Can Wash Drain With 4" Bottom Outlet, Cast Iron Top.....	3,364.73	150.93
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0045	EA	12" x 12" Can Wash Drain With 3" Bottom Outlet, Nikaloy Top.....	4,198.24	136.87
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0046	EA	12" x 12" Can Wash Drain With 4" Bottom Outlet, Nikaloy Top.....	4,226.26	150.93
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0047	EA	12" x 12" Can Wash Drain With 3" Bottom Outlet, Bronze Top.....	4,095.18	136.87
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0048	EA	12" x 12" Can Wash Drain With 4" Bottom Outlet, Bronze Top.....	4,123.20	150.93
		For Galvanized Cast Iron Parts, Add	318.00	
		For No-Hub Side Outlet, Add	76.00	
		For Chained Grate, Add	48.50	
22 13 19 13-0049	EA	5" x 9" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	1,394.07	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0050	EA	5" x 9" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	1,420.71	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0051	EA	5" x 9" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	1,448.73	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0052	EA	5" x 13" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	1,803.70	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0053	EA	5" x 13" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	1,830.34	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0054	EA	5" x 13" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	1,858.36	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0055	EA	5" x 16-3/4" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	1,898.84	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0056	EA	5" x 16-5/8" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	1,925.48	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0057	EA	5" x 16-3/4" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	1,953.50	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
22 13 19 13-0058	EA	5" x 21" Floor Drain With 2" Bottom Outlet, Nikaloy Top.....	2,636.17	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0059	EA	5" x 21" Floor Drain With 3" Bottom Outlet, Nikaloy Top.....	2,662.81	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0060	EA	5" x 21" Floor Drain With 4" Bottom Outlet, Nikaloy Top.....	2,690.83	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0061	EA	5" x 9" Floor Drain With 2" Bottom Outlet, Bronze Top.....	1,309.51	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0062	EA	5" x 9" Floor Drain With 3" Bottom Outlet, Bronze Top.....	1,336.15	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0063	EA	5" x 9" Floor Drain With 4" Bottom Outlet, Bronze Top.....	1,364.17	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0064	EA	5" x 13" Floor Drain With 2" Bottom Outlet, Bronze Top.....	1,658.35	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0065	EA	5" x 13" Floor Drain With 3" Bottom Outlet, Bronze Top.....	1,684.99	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0066	EA	5" x 13" Floor Drain With 4" Bottom Outlet, Bronze Top.....	1,713.01	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0067	EA	5" x 16-3/4" Floor Drain With 2" Bottom Outlet, Bronze Top.....	1,753.49	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0068	EA	5" x 16-5/8" Floor Drain With 3" Bottom Outlet, Bronze Top.....	1,780.13	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0069	EA	5" x 16-3/4" Floor Drain With 4" Bottom Outlet, Bronze Top.....	1,808.15	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0070	EA	5" x 21" Floor Drain With 2" Bottom Outlet, Bronze Top.....	2,353.39	123.54
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0071	EA	5" x 21" Floor Drain With 3" Bottom Outlet, Bronze Top.....	2,380.03	136.87
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0072	EA	5" x 21" Floor Drain With 4" Bottom Outlet, Bronze Top.....	2,408.05	150.93
		For Sediment Bucket, Add	22.50	
		For Vandal Proof Screws, Add	11.00	
		For Rough Bronze Body, Add	120.94	
22 13 19 13-0073		Funnel Type Floor Drains (22 13 19 13)		
22 13 19 13-0074	EA	7" Diameter Floor Drain With 4" Round Funnel With 1-1/2" Outlet, Bronze Top.....	1,317.40	110.30
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0075	EA	7" Diameter Floor Drain With 4" Round Funnel With 2" Outlet, Bronze Top.....	1,343.86	123.54
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0076	EA	7" Diameter Floor Drain With 4" Round Funnel With 3" Outlet, Bronze Top.....	1,370.21	136.77
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0077	EA	7" Diameter Floor Drain With 4" Round Funnel With 4" Outlet, Bronze Top.....	1,398.52	150.93
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0078	EA	7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 2" Outlet, Nikaloy Top.....	1,938.48	123.54
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0079	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 3" Outlet, Nikaloy Top.....	1,964.83	136.77
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0080	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 4" Outlet, Nikaloy Top.....	1,993.14	150.93
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0081	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 2" Outlet, Bronze Top.....	1,835.41	123.54
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0082	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 3" Outlet, Bronze Top.....	1,861.76	136.77
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0083	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 4" Outlet, Bronze Top.....	1,890.07	150.93
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0084 Floor Drain With Sediment Bucket Bottom Outlet					
22 13 19 13-0085	EA		12-5/8" Round Floor Drain With Sediment Bucket, 2" Bottom Outlet, Satin Bronze Top, Without Trap.....	2,828.95	110.30
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
			For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0086	EA		12-5/8" Round Floor Drain With Sediment Bucket, 3" Bottom Outlet, Satin Bronze Top, Without Trap.....	2,855.51	123.54
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
			For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0087	EA		12-5/8" Round Floor Drain With Sediment Bucket, 4" Bottom Outlet, Satin Bronze Top, Without Trap.....	2,881.86	136.77
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
			For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0088	EA		12-5/8" Round Floor Drain With Sediment Bucket, 5" Bottom Outlet, Satin Bronze Top, Without Trap.....	2,910.17	150.93
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
			For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0089	EA		12-5/8" Round Floor Drain With Sediment Bucket, 6" Bottom Outlet, Satin Bronze Top, Without Trap.....	2,939.38	165.50
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
			For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0090	EA		12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate.....	3,056.36	123.54
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0091	EA		12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate.....	3,083.00	136.87
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0092	EA		12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate.....	3,111.02	150.93
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0093	EA		12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate.....	3,140.23	165.50
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0094	EA		12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate.....	1,864.48	123.54
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0095	EA		12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate.....	1,891.12	136.87
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0096	EA		12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate.....	1,919.14	150.93
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0097	EA		12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate	1,948.35	165.50
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0098	EA		12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate	2,850.23	123.54
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0099	EA		12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate	2,876.87	136.87
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0100	EA		12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate	2,904.89	150.93
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0101	EA		12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate	2,934.10	165.50
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	31.00	
			For Aluminum Bucket, Add	77.50	
			For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0102			Other Drains (22 13 19 13)		
22 13 19 13-0103			Shower Drains (22 13 19 13-0102)		
22 13 19 13-0104	EA		4-1/4" Stainless Steel Shower Drain Strainer	50.74	11.14
			Note: Includes two 2-5/8" screws.		
22 13 19 13-0105	EA		4-1/4" Brass Shower Drain Strainer	56.69	11.14
			Note: Includes two 2-5/8" screws.		
22 13 19 13-0106	EA		4" Brass Shower Drain For Polyvinyl Chloride (PVC) Pipe	116.14	22.29
			Note: Fits over 2" polyvinyl chloride (PVC) pipe or inside 3" polyvinyl chloride (PVC) pipe.		
22 13 19 13-0107	EA		4" Chrome Finish, Threaded Brass Shower Drain And Gasket	150.33	22.29
			Note: For 2" pipe. Kohler K-9132.		
22 13 19 13-0108			Acid Resistant Floor Drains (22 13 19 13-0102)		
22 13 19 13-0109	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Acid Resistant Top	1,327.87	110.30
			For Galvanized Cast Iron Parts, Add	87.50	
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
22 13 19 13-0110	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Acid Resistant Top	1,354.43	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
22 13 19 13-0111	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Acid Resistant Top	1,380.78	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Primer Tap, Add	33.50	
			For Vandal Proof Screws, Add	30.50	
22 13 19 13-0112			Rotary And Lever Drains (22 13 19 13-0102)		
22 13 19 13-0113	EA		Lever Drain, 1-1/2" Drain, 3" Sink Opening	258.83	74.39
22 13 19 13-0114	EA		Lever Drain, 2" Drain, 3" Sink Opening	274.22	82.08
22 13 19 13-0115	EA		Lever Drain, 1-1/2" Drain, 3-1/2" Sink Opening	258.83	74.39
22 13 19 13-0116	EA		Lever Drain, 2" Drain, 3-1/2" Sink Opening	274.22	82.08
22 13 19 13-0117	EA		Twist Drain, 1-1/2" Drain, 3" Sink Opening	258.83	74.39
22 13 19 13-0118	EA		Twist Drain, 2" Drain, 3" Sink Opening	274.22	82.08
22 13 19 13-0119	EA		Twist Drain, 1-1/2" Drain, 3-1/2" Sink Opening	258.83	74.39
22 13 19 13-0120	EA		Twist Drain, 2" Drain, 3-1/2" Sink Opening	274.22	82.08
22 13 19 13-0121	EA		Rotary Twist Drain, 1-1/2" To 2" Drain, 3-1/2" Sink Opening (Fisher 16100)	359.12	82.08
22 13 19 13-0122			Floor Receptor (22 13 19 13)		
22 13 19 13-0123			9" Diameter Round Shallow Receptor (22 13 19 13-0122)		
			Note: With slotted medium duty grate, aluminum secondary strainer and white acid resisting coated interior and top.		
22 13 19 13-0124	EA		9" Diameter x 3" Shallow Cast Iron Floor Receptor, 2" Drain Connection	1,632.09	123.64
			For Flange With Seepage Holes, Add	58.50	
			For Flange With Seepage Holes And Clamp Collar, Add	97.00	
			For Trap Primer Connection, Add	38.00	
			For Full Grate With 2" (50 mm) Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	33.50	
			For White Acid Resistant Bucket, Add	47.00	
			For Stainless Steel Liner For Bucket, Add	62.50	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0125	EA	9" Diameter x 3" Shallow Cast Iron Floor Receptor, 3" Drain Connection For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" (50 mm) Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	1,658.85 58.50 97.00 38.00 36.00 33.50 47.00 62.50	136.98
22 13 19 13-0126	EA	9" Diameter x 3" Shallow Cast Iron Floor Receptor, 4" Drain Connection For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" (50 mm) Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	1,686.58 58.50 97.00 38.00 36.00 33.50 47.00 62.50	150.93
22 13 19 13-0127		Square Top Floor Receptors (22 13 19 13-0122) Note: With acid resistant coating.		
22 13 19 13-0128	EA	8" x 8" Floor Drain With 1-1/2" Bottom Outlet, Acid Resistant Top For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	1,933.16 37.50 69.00 39.50 36.00 15.50 88.00 97.00	110.30
22 13 19 13-0129	EA	8" x 8" Floor Drain With 2" Bottom Outlet, Acid Resistant Top For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	1,959.74 37.50 69.00 39.50 36.00 15.50 88.00 97.00	123.64
22 13 19 13-0130	EA	8" x 8" Floor Drain With 3" Bottom Outlet, Acid Resistant Top For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	1,985.97 37.50 69.00 39.50 36.00 15.50 88.00 97.00	136.77
22 13 19 13-0131	EA	8" x 8" Floor Drain With 4" Bottom Outlet, Acid Resistant Top For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add	2,014.28 37.50 69.00 39.50 36.00 15.50 88.00 97.00	150.93
22 13 19 13-0132		Floor Drain Accessories (22 13 19 13)		
22 13 19 13-0133	EA	3" Trap Guard Floor Drain Insert (ProVent TG3H) Note: Prevents emission of sewer gases.	110.10	12.83
22 13 19 13-0134	EA	2" Trap Guard Drain Insert For Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG22) Note: Prevents emission of sewer gases.	88.99	12.83
22 13 19 13-0135	EA	3" Trap Guard Drain Insert For Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG33) Note: Prevents emission of sewer gases.	97.43	12.83
22 13 19 13-0136	EA	3" Trap Guard Drain Insert For 4" Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG34IP) Note: Prevents emission of sewer gases.	118.54	12.83
22 13 19 13-0137	EA	3" Trap Guard Drain Insert For 4" Hub (ProVent TG34TP) Note: Prevents emission of sewer gases.	105.88	12.83
22 13 19 13-0138	EA	2" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-02) Note: Prevents emission of sewer gases.	152.56	12.83
22 13 19 13-0139	EA	3" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-03) Note: Prevents emission of sewer gases.	169.55	12.83
22 13 19 13-0140	EA	4" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-04) Note: Prevents emission of sewer gases.	211.71	12.83
22 13 19 26		Grease Removal Devices (22 13 19)		
22 13 19 26-0001		Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26) Note: Includes internal air relief, visible double wall trap, removable baffle, gasketed non-skid cover bearing PDI seal of approval and flow control fitting.		
22 13 19 26-0002		Standard Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001) Note: Josam 60100H/60210A, Smith 8100/8400, Wade 5100, or Zurn Z1173/Z1170 series.		
22 13 19 26-0003	EA	7 GPM, 14 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60102H. For Steel Enclosure Cabinet With Non-Skid Cover, Add	1,292.76 1,312.31	76.96



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 26-0004	EA		10 GPM, 20 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60103H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	1,508.78 375.59 1,386.59	173.15
22 13 19 26-0005	EA		15 GPM, 30 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60104H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	2,148.59 388.42 1,514.30	192.38
22 13 19 26-0006	EA		20 GPM, 40 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60105H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	2,598.04 401.25 1,636.59	211.62
22 13 19 26-0007	EA		25 GPM, 50 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60106H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	2,909.61 444.47 1,704.14	230.86
22 13 19 26-0008	EA		35 GPM, 70 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60107H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	3,575.08 481.32 1,875.10	269.34
22 13 19 26-0009	EA		50 GPM, 100 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60108H. For Flange And Clamp Device, Add For Steel Enclosure Cabinet With Non-Skid Cover, Add	4,669.43 547.93 1,999.02	307.81
22 13 19 26-0010	EA		75 GPM, 150 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60109H. For Flange And Clamp Device, Add	9,214.62 774.86	346.29
22 13 19 26-0011	EA		100 GPM, 200 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60110H. For Flange And Clamp Device, Add	10,435.47 902.23	441.34
22 13 19 26-0012	EA		150 GPM, 300 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60213A. For Flange And Clamp Device, Add	12,859.33 1,238.77	706.15
22 13 19 26-0013	EA		200 GPM, 400 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60214A. For Flange And Clamp Device, Add	18,466.07 1,485.74	882.69
22 13 19 26-0014	EA		250 GPM, 500 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60215A. For Flange And Clamp Device, Add	21,538.13 1,916.39	1,059.22
22 13 19 26-0015	EA		350 GPM, 700 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60216A. For Flange And Clamp Device, Add	27,999.73 2,271.84	1,235.76
22 13 19 26-0016	EA		500 GPM, 1,000 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60217A. For Flange And Clamp Device, Add	36,243.28 2,662.81	1,412.30
22 13 19 26-0017			Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001) Note: Josam 60110A, Smith 8100, Wade 5100LR, or Zurn Z1171 series.		
22 13 19 26-0018	EA		20 GPM, 40 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60115A.	3,753.42	211.62
22 13 19 26-0019	EA		35 GPM, 70 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60117A.	4,828.93	269.34
22 13 19 26-0020	EA		50 GPM, 100 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor..... Note: Smith 8150.	7,983.86	307.81
22 13 19 26-0021			Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001) Note: Includes internal air relief, visible double wall trap, removable baffle, gasketed non-skid cover bearing PDI seal of approval, grease recovery cone, flexible hose, grease draw off valve and flow control fitting.		
22 13 19 26-0022			Standard Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001) Note: Josam 60100-SA, Smith 8300GTX, Wade 5100JCX, or Zurn Z1173-TD series.		
22 13 19 26-0023	EA		7 GPM, 14 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60102-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	3,303.01 1,312.31	76.96
22 13 19 26-0024	EA		10 GPM, 20 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60103-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	3,885.19 1,386.59	173.15
22 13 19 26-0025	EA		15 GPM, 30 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60104-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	4,150.09 1,514.30	192.38
22 13 19 26-0026	EA		20 GPM, 40 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60105-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	5,067.82 1,636.59	211.62
22 13 19 26-0027	EA		25 GPM, 50 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60106-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	6,112.44 1,704.14	230.86
22 13 19 26-0028	EA		35 GPM, 70 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60107-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	6,316.20 1,875.10	269.34
22 13 19 26-0029	EA		50 GPM, 100 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60108-SA. For Steel Enclosure Cabinet With Non-Skid Cover, Add	7,209.96 1,999.02	307.81

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 19 26-0030		Low Profile Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0021) Note: Josam 60115A-SA, Smith 8100GTX, or Zurn Z1171-TD series.		
22 13 19 26-0031	EA	35 GPM, 70 LB Capacity Low Profile Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60115A-SA.	8,498.58	269.34
22 13 19 26-0032		Automatic Cleaning Stainless Steel Grease Interceptor (22 13 19 26)		
22 13 19 26-0033	EA	20 GPM, 69 LB Capacity Automatic Cleaning Stainless Steel Grease Interceptor Note: Includes stainless steel screen basket, plastic grease container with lid and control box with digital timer (Lowe Engineering 20 Greasestopper).	7,220.93	211.62
22 13 19 26-0034	EA	25 GPM, 91 LB Capacity Automatic Cleaning Stainless Steel Grease Interceptor Note: Includes stainless steel screen basket, plastic grease container with lid and control box with digital timer (Lowe Engineering 25 Greasestopper).	8,404.10	230.86
22 13 19 26-0035	EA	35 GPM, 70 LB Capacity, 110 Volt, Automatic Cleaning Stainless Steel Grease Trap/Removal Device (Guardian GGX35)	7,191.67	269.34
22 13 19 26-0036		Precast Concrete Grease Interceptor (22 13 19 26) Note: Includes two access manholes, cast iron non-skid surface, lift hole, frame and cover for heavy-traffic.		
22 13 19 26-0037	EA	1,000 Gallon Pre-Cast Grease Interceptor.....	4,443.20	406.20
22 13 19 26-0038	EA	1,250 Gallon Pre-Cast Grease Interceptor.....	5,070.85	406.20
22 13 19 26-0039	EA	1,500 Gallon Pre-Cast Grease Interceptor.....	5,756.01	464.37
22 13 19 26-0040	EA	2,000 Gallon Pre-Cast Grease Interceptor.....	6,577.98	655.82
22 13 19 26-0041	EA	2,500 Gallon Pre-Cast Grease Interceptor.....	7,437.74	882.35
22 13 19 26-0042	EA	4,000 Gallon Pre-Cast Grease Interceptor.....	11,120.36	1,160.89
22 13 19 26-0043	EA	5,000 Gallon Pre-Cast Grease Interceptor.....	14,366.87	1,903.67
22 13 19 26-0044		Coated Steel Manual Oil Interceptor (22 13 19 26) Note: Includes internal air relief, and flow control fitting.		
22 13 19 26-0045	EA	10 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	10,064.93	293.03
22 13 19 26-0046	EA	15 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	13,700.32	348.19
22 13 19 26-0047	EA	20 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	16,572.73	428.41
22 13 19 26-0048	EA	25 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	17,997.73	464.06
22 13 19 26-0049	EA	35 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	21,766.42	506.40
22 13 19 26-0050	EA	50 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	29,026.57	557.09
22 13 19 26-0051	EA	75 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	49,624.64	641.28
22 13 19 26-0052	EA	100 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	53,991.75	789.03
22 13 19 26-0053	EA	150 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	66,631.93	855.22
22 13 19 26-0054	EA	200 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	93,776.58	1,026.04
22 13 19 26-0055	EA	250 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	108,419.72	1,103.00
22 13 19 26-0056	EA	350 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	136,854.86	1,315.40
22 13 19 26-0057	EA	400 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	166,796.32	1,077.87
22 13 19 26-0058	EA	500 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	197,570.96	1,282.56
22 13 19 33		Backwater Valves (22 13 19)		
22 13 19 33-0001		Cast Iron Body Terminal Backwater Valves (22 13 19 33)		
22 13 19 33-0002	EA	2" Cast Iron Body Terminal Backwater Valve	585.19	29.44
22 13 19 33-0003	EA	3" Cast Iron Body Terminal Backwater Valve	596.48	37.04
22 13 19 33-0004	EA	4" Cast Iron Body Terminal Backwater Valve	862.58	49.25
22 13 19 33-0005	EA	6" Cast Iron Body Terminal Backwater Valve	2,360.08	70.72
22 13 19 33-0006	EA	8" Cast Iron Body Terminal Backwater Valve	2,882.87	93.08
22 13 19 33-0007	EA	10" Cast Iron Body Terminal Backwater Valve	8,417.42	114.83
22 13 19 33-0008	EA	12" Cast Iron Body Terminal Backwater Valve	9,526.24	148.93
22 13 19 33-0009		Cast Iron Backwater Sewer Line Valve (22 13 19 33) Note: Offset type with bronze swing check assembly, threaded bronze cover, and bell and spigot connections.		
22 13 19 33-0010	EA	2" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	1,437.23	70.19
22 13 19 33-0011	EA	3" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	2,204.58	85.16
22 13 19 33-0012	EA	4" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	2,723.87	109.79
22 13 19 33-0013	EA	6" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	3,853.52	128.49
22 13 19 33-0014	EA	8" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	5,358.13	152.26
22 13 19 33-0015		Cast Iron, Straight Through Shear Gate, Swing Check Backwater Valve (22 13 19 33) Note: Offset type with bronze, manually operated shear gate, non-rising stem, and bell and spigot connections.		
22 13 19 33-0016	EA	3" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	3,979.01	111.13
22 13 19 33-0017	EA	4" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	4,034.00	147.75
22 13 19 33-0018	EA	5" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	5,899.45	190.30
22 13 19 33-0019	EA	6" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	5,932.52	212.16
22 13 19 33-0020		Polyvinyl Chloride (PVC) Backwater Sewer Line Valve (22 13 19 33) Note: Oatey.		
22 13 19 33-0021	EA	3" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43900).....	138.10	37.04



Plumbing			22
Plumbing Piping			22 10
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 33-0022	EA		4" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43904).....	164.91	49.25
22 13 19 33-0023	EA		6" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43908).....	494.20	70.72
22 13 19 33-0024			Polyvinyl Chloride (PVC) Extendable Backwater Valves (22 13 19 33)		
22 13 19 33-0025	EA		3" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	326.94	74.08
22 13 19 33-0026	EA		4" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	435.36	98.50
22 13 19 33-0027	EA		6" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	762.76	141.43
22 13 19 36			Air-Admittance Valves (22 13 19)		
22 13 19 36-0001			Acrylonitrile Butadiene Styrene (ABS) And Polyvinyl Chloride (PVC) Automatic Drain Vent (22 13 19 36)		
22 13 19 36-0002	EA		1-1/4", 1-1/2" And 2" Acrylonitrile Butadiene Styrene (ABS) Or Polyvinyl Chloride (PVC) Automatic Drain Vent, Mini Vent	253.89	14.37
22 13 19 36-0003	EA		2", 3" And 4" Acrylonitrile Butadiene Styrene (ABS) Or Polyvinyl Chloride (PVC) Automatic Drain Vent, Maxi Vent	304.29	14.37
22 13 23			Sanitary Waste Interceptors (22 13)		
22 13 23 00-0001			Sediment Bucket Solids Interceptors (22 13 23)		
22 13 23 00-0002	EA		1-1/2" Or 2" Top Access, 15 GPM, Composite With Removable PVC Sediment Bucket Solids Interceptor (Zum 1180)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,275.92	145.29
22 13 23 00-0003	EA		1-1/2" Or 2" Bottom Access, 15 GPM, Composite With Removable PVC Sediment Bucket Solids Interceptor (Zum 1184)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,277.53	145.29
22 13 23 00-0004	EA		1-1/2" Or 2" Top Access, Acid Resistant Coated Steel (Inside And Outside), Aluminum Cover, Removable Stainless Steel Sediment Bucket Solids Interceptor (Jay R. Smith 8714 ARI0)..... Note: On floor mount. Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,800.69	145.29
22 13 23 00-0005	EA		1-1/2" Or 2" Bottom Access, 15 GPM, Acid Resistant Coated Cast Iron, Aluminum Strainer, Removable Stainless Steel Screens, Sediment Bucket Solids Interceptor (Jay R. Smith 8730-ARIO)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,800.69	145.29
22 13 23 00-0006	EA		1-1/2" Or 2" Top Access, Acid Resistant Coated Cast Aluminum (Inside And Outside) Removable Stainless Steel Screen, Sediment Bucket Solids Interceptor (Josam 61030)	1,919.12	145.29
			Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.		
22 13 23 00-0007			Drum Trap, Solids Interceptors (22 13 23)		
22 13 23 00-0008			Extra Heavy Duty Cast Iron Drum Trap (22 13 23 00-0007)		
22 13 23 00-0009	EA		8-1/2" Diameter x 12-3/4" High Solids Interceptor, 1-1/2" Inlet/Outlet, Extra Heavy Cast Iron..... For Acid Coating Inside Or Outside, Add For Acid Coating Inside And Outside, Add	1,794.79 886.08 1,066.57	143.64
22 13 23 00-0010	EA		8-1/2" Diameter x 12-3/4" High Solids Interceptor, 2" Inlet/Outlet, Extra Heavy Cast Iron..... For Acid Coating Inside Or Outside, Add For Acid Coating Inside And Outside, Add	1,820.44 886.08 1,066.57	164.17
22 13 23 00-0011			Aluminum, Solid Interceptor, Drum Trap (22 13 23 00-0007)		
22 13 23 00-0012	EA		8-1/2" Diameter x 12-3/4" High Solids Interceptor, 1-1/2" Inlet/Outlet, Aluminum.....	2,460.37	143.64
22 13 23 00-0013	EA		8-1/2" Diameter x 12-3/4" High Solids Interceptor, 2" Inlet/Outlet, Aluminum.....	2,486.02	164.17
22 13 23 00-0014			Solid Interceptors, Cast Iron With Internal Deep Seal Trap (22 13 23)		
22 13 23 00-0015	EA		1-1/2" Inlet Cast Iron Solid Interceptor, Painted Enamel..... For Stainless Steel Bucket, Add	321.92 175.00	49.69
22 13 23 00-0016	EA		2" Inlet Cast Iron Solid Interceptor, Painted Enamel..... For Stainless Steel Bucket, Add	328.28 175.00	52.93
22 13 23 00-0017			Sediment Strainers (22 13 23)		
22 13 23 00-0018	EA		2" Strainer, Pump Suction Side	171.67	67.70
22 13 29			Sanitary Sewerage Pumps (22 13)		
			Note: Includes extra set of gaskets, bearings and seals.		
22 13 29 13			Wet-Pit-Mounted, Vertical Sewerage Pumps (22 13 29)		
22 13 29 13-0001			Vertical Column, Flanged Discharge, Non-Clog Sump Or Drainage Pumps (Crane-DeMing Series 4500) (22 13 29 13)		
			Note: Mounted on steel support plate. Excludes float and float switch, and sump cover See CSI section 22 13 29 13-0030 for float and float switch, 22 13 29 13-0034 for sump cover.		



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 29 13-0002	1-1/2" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0003	EA 1/2 HP, Up To 75 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,352.67	1,230.85
22 13 29 13-0004	EA 3/4 HP, Up To 125 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,653.29	1,230.85
22 13 29 13-0005	EA 1 HP, Up To 150 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,953.92	1,230.85
22 13 29 13-0006	EA 1-1/2 HP, Up To 150 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	8,240.67	1,230.85
22 13 29 13-0007	2" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0008	EA 3/4 HP, Up To 75 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,185.17	1,230.85
22 13 29 13-0009	EA 1 HP, Up To 100 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,300.79	1,230.85
22 13 29 13-0010	EA 2 HP, Up To 200 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,381.73	1,230.85
22 13 29 13-0011	EA 3 HP, Up To 300 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,936.73	1,230.85
22 13 29 13-0012	EA 5 HP, Up To 400 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	9,480.17	1,230.85
22 13 29 13-0013	EA 7-1/2 HP, Up To 500 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	10,312.67	1,230.85
22 13 29 13-0014	EA 10 HP, Up To 600 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	11,145.17	1,230.85
22 13 29 13-0015	EA 15 HP, Up To 600 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	12,791.96	1,637.98
22 13 29 13-0016	3" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0017	EA 2 HP, Up To 300 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,764.52	1,230.85
22 13 29 13-0018	EA 3 HP, Up To 400 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,764.52	1,230.85
22 13 29 13-0019	EA 5 HP, Up To 500 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,964.85	1,230.85
22 13 29 13-0020	EA 7-1/2 HP, Up To 700 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	10,519.21	1,230.85
22 13 29 13-0021	EA 10 HP, Up To 800 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	10,791.88	1,230.85
22 13 29 13-0022	EA 15 HP, Up To 900 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	12,887.87	1,637.98
22 13 29 13-0023	EA 20 HP, Up To 900 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	13,581.62	1,637.98
22 13 29 13-0024	Extra Column Assemblies Addition, 5' Or Less (22 13 29 13-0001)		
22 13 29 13-0025	EA 2-1/2" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps	544.22	
22 13 29 13-0026	EA 3" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps	653.44	
22 13 29 13-0027	EA 4" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps	730.37	
22 13 29 13-0028	EA 5" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps	743.67	
22 13 29 13-0029	EA 6" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps	834.84	
22 13 29 13-0030	Float Switches (22 13 29 13-0001)		
	Note: Copper coated floats, brass rods and stops and switch brackets.		
22 13 29 13-0031	EA Float Switch Copper Coated Float, Add, General Purpose For vertical sewage pumps	489.13	
22 13 29 13-0032	EA Float Switch Copper Coated Float, Add, Weather Proof For vertical sewage pumps	513.82	
22 13 29 13-0033	EA Float Switch Copper Coated Float, Add, Explosion Proof For vertical sewage pumps	525.22	
22 13 29 13-0034	Square Or Round Steel Sump Covers (22 13 29 13-0001)		
22 13 29 13-0035	EA 24" Steel Sump Covers, Square Or Round	961.25	41.04
22 13 29 13-0036	EA 30" Steel Sump Covers, Square Or Round	1,063.93	46.17
22 13 29 13-0037	EA 36" Steel Sump Covers, Square Or Round	1,478.03	61.56
22 13 29 13-0038	EA 40" Steel Sump Covers, Square Or Round	2,156.83	71.83
22 13 29 13-0039	EA 42" Steel Sump Covers, Square Or Round	2,314.15	74.39
22 13 29 13-0040	EA 48" Steel Sump Covers, Square Or Round	2,476.05	76.96
22 13 29 13-0041	EA 54" Steel Sump Covers, Square Or Round	3,158.01	92.34
22 13 29 13-0042	EA 60" Steel Sump Covers, Square Or Round	4,293.48	102.60
22 13 29 13-0043	EA 72" Steel Sump Covers, Square Or Round	5,444.91	128.26
22 13 29 13-0044	EA 84" Steel Sump Covers, Square Or Round	6,936.39	141.08
22 13 29 13-0045	Sludge Pumps (22 13 29 13)		
22 13 29 13-0046	Vortex Type Sludge Pumps (22 13 29 13-0045)		
	Note: 1750 RPM motor, 230/460V, cast iron casing, cast iron impeller, and single stage.		
22 13 29 13-0047	EA 15HP Vortex Type Sludge Pump, 4" Flange Connections (Wemco C)	46,072.07	1,547.62
	For Explosion Proof Motor, Add	375.00	
22 13 29 13-0048	EA 30HP Vortex Type Sludge Pump, 6" Flange Connections (Wemco C)	64,639.99	1,989.79
	For Explosion Proof Motor, Add	750.00	
22 13 29 13-0049	EA 75HP Vortex Type Sludge Pump, 8" Flange Connections (Wemco C)	82,994.29	3,039.97
	For Explosion Proof Motor, Add	1,125.00	
22 13 29 13-0050	EA 20 HP Vortex Type Sludge Pump, 8" Intake And 6" Discharge Flange Connections (Wemco E)	34,983.64	1,768.71
	For Explosion Proof Motor, Add	500.00	
22 13 29 13-0051	EA 50HP Vortex Type Sludge Pump, 6" Intake And 11" Discharge Flange Connections (Wemco E)	55,892.43	2,431.97
	For Explosion Proof Motor, Add	1,250.00	
22 13 29 13-0052	Polymer Feed Sludge Pumps (22 13 29 13-0045)		
	Note: 230/460 volt		
22 13 29 13-0053	EA 115 GPM/100 RPM At 0 PSI, Polymer Feed Sludge Pump, 25 HP, 400 RPM Motor, 8" Flange connections (Moyno 1H115G1CDQAAA)	37,250.15	1,913.53
	Note: Single stage, cast iron casing, alloy steel rotor, and nitrile stator.		
	For 75 HP Motor, Add	17,750.00	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
22 13 29 13-0054	EA	22 GPM/100 RPM At 0 PSI Polymer Feed Sludge Pump, 5 HP, 500 RPM Motor, 6" Flange Connections (Moyno 1E022G1SSFCAA).....	27,379.06		615.12
Note: Single stage, 316 stainless steel casing and rotor, and fluoro-elastomer stator.					
For 7-1/2 HP Motor, Add			2,676.00		
22 13 29 13-0055	EA	12 GPM/100 RPM At 0 PSI Polymer Feed Sludge Pump, 3 HP, 900 RPM Motor, 4" Flange Connections (Moyno 2E012G1SSFCAA).....	25,364.05		615.12
Note: Two stage. 316 stainless steel casing and rotor, and fluoro-elastomer stator.					
22 13 29 13-0056	EA	8 GPM/100 RPM At 0 PSI Polymer Feed Sludge Pump, 3 HP, 900 RPM Motor, 4" Flange Connections (Moyno 1E008G1CSFDA).....	16,329.32		615.12
Note: Single stage, cast iron body, 316 stainless steel rotor, and fluoro-elastomer stator.					
For 7-1/2 HP Motor, Add			2,676.00		
22 13 29 13-0057 Centrifuge Pilot Pumps (22 13 29 13-0045)					
22 13 29 13-0058	EA	Centrifuge Pilot Pump, 325 GPM/100 RPM At 0 PSI, Two Stage, 10" Flange Connections (Moyno 2K345G1CDQAAA).....	85,789.97		1,823.98
Note: 25HP, 900 RPM Motor, 230/460 volt, cast iron body, alloy steel rotor, and nitrile stator.					
For 75 HP Motor, Add			15,864.00		
22 13 29 13-0059	EA	620 GPM/100 RPM At 0 PSI Centrifuge Pilot Pump, Single Stage, 10" Flange Connections (Moyno 1K620G1CDQAAA).....	90,615.95		1,823.98
Note: 25HP, 900 RPM Motor, 230/460 volt, cast iron body, alloy steel rotor, and nitrile stator.					
For 75 HP Motor, Add			15,864.00		
22 13 29 16 Submersible Sewerage Pumps (22 13 29)					
22 13 29 16-0001 Submersible Sewage Pumps With Vortex Impeller (22 13 29 16)					
22 13 29 16-0002 Submersible Single Seal Sewage Pumps With Cast Iron Vortex Impeller (22 13 29 16-0001)					
Note: Includes 25' cord.					
22 13 29 16-0003	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,526.83		74.65
22 13 29 16-0004	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,629.67		74.65
22 13 29 16-0005	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,598.03		74.65
22 13 29 16-0006	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,749.65		74.65
22 13 29 16-0007	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,749.65		74.65
22 13 29 16-0008	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,844.93		93.31
22 13 29 16-0009	EA	1 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,979.41		93.31
22 13 29 16-0010	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,996.56		93.31
22 13 29 16-0011 Submersible Single Seal Sewage Pumps With Bronze Vortex Impeller (22 13 29 16-0001)					
Note: Includes 20' cord.					
22 13 29 16-0012	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,555.83		74.65
22 13 29 16-0013	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,703.51		74.65
22 13 29 16-0014	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,633.63		74.65
22 13 29 16-0015	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,776.02		74.65
22 13 29 16-0016	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,903.92		74.65
22 13 29 16-0017	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,763.18		93.31
22 13 29 16-0018	EA	1 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,916.13		93.31
22 13 29 16-0019	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,914.81		93.31
22 13 29 16-0020	EA	1-1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,176.87		150.42
22 13 29 16-0021	EA	1-1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,306.08		150.42
22 13 29 16-0022	EA	1-1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,328.50		150.42
22 13 29 16-0023	EA	2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,318.61		183.84
22 13 29 16-0024	EA	2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,466.28		183.84
22 13 29 16-0025	EA	2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,470.23		183.84
22 13 29 16-0026 Submersible Double Seal Sewage Pumps With Bronze Vortex Impeller (22 13 29 16-0001)					
Note: Includes 20' cord.					



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 16-0027	EA	1/2 HP Manual Submersible Double Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,851.18	74.65
22 13 29 16-0028	EA	1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,101.69	74.65
22 13 29 16-0029	EA	1 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron And Bronze Impeller	2,044.02	93.31
22 13 29 16-0030	EA	1 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron And Bronze Impeller	2,195.65	93.31
22 13 29 16-0031	EA	1-1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,478.81	150.42
22 13 29 16-0032	EA	1-1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,630.43	150.42
22 13 29 16-0033	EA	2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,621.86	183.84
22 13 29 16-0034	EA	2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,773.49	183.84
22 13 29 16-0035 Submersible Sewage Pumps With Semi-Open Impeller (22 13 29 16)				
Note: Includes 25' of cord with pump.				
22 13 29 16-0036	EA	1 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	4,548.32	93.31
22 13 29 16-0037	EA	1.5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	4,864.03	161.45
22 13 29 16-0038	EA	2 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	5,203.45	197.33
22 13 29 16-0039	EA	3 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	5,436.54	239.19
22 13 29 16-0040	EA	5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	6,098.51	281.05
22 13 29 16-0041	EA	7.5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	6,810.67	322.91
22 13 29 16-0042 Submersible Sewage Pumps, Explosion Proof (22 13 29 16)				
Note: Includes 25' of cord with pump.				
22 13 29 16-0043	EA	1 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,152.80	334.40
22 13 29 16-0044	EA	1 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	6,593.43	334.40
22 13 29 16-0045	EA	1 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	6,593.43	334.40
22 13 29 16-0046	EA	1.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,482.94	445.86
22 13 29 16-0047	EA	1.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	6,923.57	445.86
22 13 29 16-0048	EA	1.5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	6,923.57	445.86
22 13 29 16-0049	EA	2 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,928.45	557.32
22 13 29 16-0050	EA	2 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,369.08	557.32
22 13 29 16-0051	EA	2 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,369.08	557.32
22 13 29 16-0052	EA	3 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	8,265.59	668.79
22 13 29 16-0053	EA	3 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,706.22	668.79
22 13 29 16-0054	EA	3 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	7,706.22	668.79
22 13 29 16-0055	EA	5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	9,123.63	780.26
22 13 29 16-0056	EA	5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	8,564.26	780.26
22 13 29 16-0057	EA	5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	8,564.26	780.26
22 13 29 16-0058	EA	7.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	9,435.13	891.72
22 13 29 16-0059	EA	7.5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller	9,435.13	891.72
22 13 29 16-0060 Submersible Sewage Pump Accessories (22 13 29 16)				
22 13 29 16-0061	EA	Simplex Plug In Pump Control Panel with Alarm Float Only, 115 Volt, 1 Phase, 0-15 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump	755.15	92.24
Note: Includes alarm horn, warning light and alarm float switch.				
22 13 29 16-0062	EA	Simplex Plug In Pump Control Panel with Alarm Float Only, 230 Volt, 1 Phase, 0-15 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump	780.35	92.24
Note: Includes alarm horn, warning light, and alarm float switch.				
22 13 29 16-0063	EA	Simplex Control Panel With 3 Floats, 115/208/230 Volt, 1 Phase, 0-20 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump	1,546.03	122.99
Note: Includes alarm horn, warning light, HOA switch and three 20' control float switches.				



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

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

22 13 29 33 Sewerage Pump Basins and Pits (22 13 29)

22 13 29 33-0001 Sewage Sump Pump Basin (22 13 29 33)

22 13 29 33-0002 High Density Polyethylene (HDPE) Basin (22 13 29 33-0001)

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

22 13 29 33-0009 Fiberglass Basin (22 13 29 33-0001)

22 13 29 33-0010	EA	18" Diameter x 30" High Fiberglass Basin And Lid With Inlet And Hub	393.12
22 13 29 33-0011	EA	24" Diameter x 30" High Fiberglass Basin And Lid With Inlet And Hub	808.10
22 13 29 33-0012	EA	30" Diameter x 36" High Fiberglass Basin And Lid With Inlet And Hub	1,457.55
22 13 29 33-0013	EA	36" Diameter x 36" High Fiberglass Basin And Lid With Inlet And Hub	1,965.23
22 13 29 33-0014	EA	36" Diameter x 48" High Fiberglass Basin And Lid With Inlet And Hub	2,265.55
22 13 29 33-0015	EA	36" Diameter x 60" High Fiberglass Basin And Lid With Inlet And Hub	2,392.66
22 13 29 33-0016	EA	36" Diameter x 72" High Fiberglass Basin And Lid With Inlet And Hub	2,812.52

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 29 33-0017 EA 48" Diameter x 48" High Fiberglass Basin And Lid With Inlet And Hub 3,266.79

22 13 29 36 Explosion Proof Submersible Sewerage Pumps (22 13 29)

22 13 29 36-0001 Wet Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 Pole, 1,750 RPM (Ebara) (22 13 29 36)

22 13 29 36-0002 Ebara 3" Model DLFU Wet Pit Submersible Sewerage Pump, 2HP - 30HP (22 13 29 36-0001)

22 13 29 36-0003	EA	2 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU61.5	3,181.51	205.21
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	284.75	
22 13 29 36-0004	EA	2 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU61.5	3,181.51	205.21
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	284.75	
22 13 29 36-0005	EA	3 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU62.2	4,163.83	246.25
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0006	EA	3 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU62.2	4,046.39	246.25
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0007	EA	5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU63.7	4,675.69	328.34
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0008	EA	5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU63.7	4,795.31	328.34
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0009	EA	7.5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU65.5	6,461.98	410.42
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0010	EA	7.5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU65.5	6,516.35	410.42
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0011	EA	10 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU67.5	7,540.38	492.51
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0012	EA	10 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLCMFU67.5	7,507.76	492.51
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	589.90	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0013	EA	15 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU611	8,691.64	574.59
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0014	EA	15 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLCMFU611	8,657.93	574.59
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	589.90	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0015	EA	20 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU615	9,936.41	656.68
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0016	EA	25 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU618	12,235.96	738.76
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
22 13 29 36-0017	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU622	13,622.09	820.84
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0018 Ebara 4" Model DLFU Wet Pit Submersible Sewage Pump, 2HP - 30HP (22 13 29 36-0001)				
22 13 29 36-0019	EA	2 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU61.5	3,847.00	205.21
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0020	EA	3 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU62.2	4,337.82	246.25
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	284.75	
22 13 29 36-0021	EA	3 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU62.2	4,163.83	246.25
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0022	EA	5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU63.7	4,908.40	328.34
		For 3" x 3" Discharge Elbow, Add	152.15	
		For 3" x 4" Discharge Elbow, Add	184.45	
		For Guide Rail System, Add	381.65	
		For 20' Stainless Steel Chain, Add	284.75	
22 13 29 36-0023	EA	5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU63.7	4,675.69	328.34
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0024	EA	7.5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU65.5	7,332.99	410.42
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0025	EA	7.5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU65.5	6,461.98	410.42
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0026	EA	10 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU67.5	8,040.59	492.51
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0027	EA	10 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU67.5	7,540.38	492.51
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0028	EA	15 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU611	9,147.26	574.59
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0029	EA	15 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU611	8,691.64	574.59
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0030	EA	20 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU615	10,424.65	656.68
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0031	EA	20 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU615	9,936.41	656.68
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0032	EA	25 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU618	12,561.09	738.76
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
		For 20' Stainless Steel Chain, Add	423.30	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0033	EA	25 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU618	12,235.96	738.76
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0034	EA	30 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU622	13,936.35	820.84
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0035	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU622	13,622.09	820.84
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0036	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU630	20,873.99	820.84
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0037	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU637	25,916.29	820.84
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0038	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU645	27,408.21	820.84
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0039		Ebara 6" Model DLFU Wet Pit Submersible Sewage Pump, 10 HP - 60 HP		
		(22 13 29 36-0001)		
22 13 29 36-0040	EA	10 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU67.5	8,365.72	492.51
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0041	EA	15 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU611	9,476.74	574.59
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0042	EA	20 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU615	10,722.60	656.68
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0043	EA	25 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU618	12,411.03	738.76
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0044	EA	30 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU622	14,542.03	820.84
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0045	EA	40 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU630	21,546.79	902.92
		For Guide Rail System, Add	2,537.25	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0046	EA	50 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU637	26,449.59	985.00
		For Guide Rail System, Add	2,537.25	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0047	EA	60 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU645	28,148.88	1,067.09
		For Guide Rail System, Add	2,537.25	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0048		Ebara 8" Model DLFU Wet Pit Submersible Sewage Pump, 10 HP - 60 HP		
		(22 13 29 36-0001)		
22 13 29 36-0049	EA	10 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU675	8,860.49	492.51
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	
22 13 29 36-0050	EA	15 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU611	9,558.30	574.59
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
		For 20' Stainless Steel Chain, Add	423.30	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 13 29 36-0051	EA 20 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU61 For 6" x 6" Discharge Elbow, Add For 6" x 8" Discharge Elbow, Add For Guide Rail System, Add For 20' Stainless Steel Chain, Add	10,732.39	656.68		
22 13 29 36-0052	EA 25 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU618 For 6" x 6" Discharge Elbow, Add For 6" x 8" Discharge Elbow, Add For Guide Rail System, Add For 20' Stainless Steel Chain, Add	12,411.03	738.76		
22 13 29 36-0053	EA 30 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU622 For 6" x 6" Discharge Elbow, Add For 6" x 8" Discharge Elbow, Add For Guide Rail System, Add For 20' Stainless Steel Chain, Add	14,542.03	820.84		
22 13 29 36-0054	EA 40 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU630 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	21,203.17	902.92		
22 13 29 36-0055	EA 50 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU637 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	26,612.70	985.00		
22 13 29 36-0056	EA 60 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU645 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	28,319.60	1,067.09		
22 13 29 36-0057	Ebara 10" Model DLFU Wet Pit Submersible Sewage Pump, 15 HP - 60 HP (22 13 29 36-0001)				
22 13 29 36-0058	EA 15 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU611 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	10,981.71	574.59		
22 13 29 36-0059	EA 20 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU615 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	12,014.44	656.68		
22 13 29 36-0060	EA 20 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFCU615 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	12,775.62	656.68		
22 13 29 36-0061	EA 25 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU618 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	14,563.00	738.76		
22 13 29 36-0062	EA 30 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU622 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	15,825.17	820.84		
22 13 29 36-0063	EA 40 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU630 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	22,672.25	902.92		
22 13 29 36-0064	EA 50 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU637 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	28,323.19	985.00		
22 13 29 36-0065	EA 60 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU645 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	30,031.18	1,067.09		
22 13 29 36-0066	Ebara 12" Model DLFU Wet Pit Submersible Sewage Pump, 25HP - 60HP (22 13 29 36-0001)				
22 13 29 36-0067	EA 25 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU618 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	15,232.85	738.76		
22 13 29 36-0068	EA 30 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU622 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	16,470.00	820.84		
22 13 29 36-0069	EA 40 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU630 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	23,356.23	902.92		
22 13 29 36-0070	EA 50 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU637 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	28,952.79	985.00		
22 13 29 36-0071	EA 60 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU645 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	30,652.09	1,067.09		
22 13 29 36-0072	Wet Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 And 6 Pole, 1,750 And 1,180 RPM (Ebara) (22 13 29 36)				
22 13 29 36-0073	Ebara 6", 8", 10", 12" Model DSC Submersible Sewage Pumps, 75 HP - 245 HP (22 13 29 36-0072)				
22 13 29 36-0074	EA 75 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G0852 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	88,887.75	1,149.17		
22 13 29 36-0075	EA 75 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1052 For Guide Rail System, Add For 20' Stainless Steel Chain, Add	97,205.31	1,149.17		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0076 EA 100 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G0932..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	100,178.36 4,420.00 423.30	1,272.30
22 13 29 36-0077 EA 100 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1052..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	102,515.20 4,420.00 590.75	1,272.30
22 13 29 36-0078 EA 100 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, Ebara DSC C1203..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	90,294.94 5,695.00 590.75	1,272.30
22 13 29 36-0079 EA 120 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G1012..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	116,817.92 5,270.00 590.75	1,395.42
22 13 29 36-0080 EA 120 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1152..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	104,394.32 5,270.00 590.75	1,395.42
22 13 29 36-0081 EA 145 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G1012..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	104,479.60 6,375.00 590.75	1,559.59
22 13 29 36-0082 EA 145 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC F1102..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	124,051.81 6,375.00 590.75	1,559.59
22 13 29 36-0083 EA 200 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC F1102..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	141,213.69 6,970.00 845.75	1,723.76
22 13 29 36-0084 EA 200 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, Ebara DSC G1102..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	141,213.69 6,970.00 845.75	1,723.76
22 13 29 36-0085 EA 245 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC G1102..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	146,354.32 9,180.00 845.75	1,887.93
22 13 29 36-0086 EA 245 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, Ebara DSC E1262..... For Guide Rail System, Add For 20' Stainless Steel Chain, Add	148,420.39 9,180.00 845.75	1,887.93
22 13 29 36-0087 Dry Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 Pole, 1,750 RPM (Ebara) (22 13 29 36)		
22 13 29 36-0088 Ebara Model DLFU Dry Pit Submersible Sewage Pump, 15 HP - 60 HP (22 13 29 36-0087)		
22 13 29 36-0089 EA 3" x 4" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU611.....	13,816.58	574.59
22 13 29 36-0090 EA 3" x 4" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU615.....	15,522.40	656.68
22 13 29 36-0091 EA 3" x 4" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU618.....	16,982.48	738.76
22 13 29 36-0092 EA 3" x 4" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU622.....	18,054.35	820.84
22 13 29 36-0093 EA 4" x 6" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU611.....	14,280.90	574.59
22 13 29 36-0094 EA 4" x 6" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU615.....	15,588.74	656.68
22 13 29 36-0095 EA 4" x 6" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU618.....	17,445.71	738.76
22 13 29 36-0096 EA 4" x 6" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU622.....	18,763.34	820.84
22 13 29 36-0097 EA 4" x 6" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU61130.....	26,439.02	902.92
22 13 29 36-0098 EA 4" x 6" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU637.....	31,016.69	985.00
22 13 29 36-0099 EA 4" x 6" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU645.....	32,240.79	1,067.09
22 13 29 36-0100 EA 8" x 10" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU611.....	14,747.39	574.59
22 13 29 36-0101 EA 8" x 10" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU615.....	15,870.37	656.68
22 13 29 36-0102 EA 8" x 10" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU618.....	17,567.50	738.76
22 13 29 36-0103 EA 8" x 10" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU622.....	19,198.30	820.84
22 13 29 36-0104 EA 8" x 10" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU630.....	27,228.48	902.92
22 13 29 36-0105 EA 8" x 10" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU637.....	33,640.60	985.00
22 13 29 36-0106 EA 8" x 10" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU645.....	34,012.17	1,067.09
22 13 29 36-0107 EA 8" X 8" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU630.....	28,196.58	820.84
22 13 29 36-0108 EA 8" X 8" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU637.....	33,741.72	985.00
22 13 29 36-0109 EA 8" X 8" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU645.....	34,272.06	1,067.09
22 13 29 36-0110 EA 10" x 10" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU630.....	33,536.51	902.92
22 13 29 36-0111 EA 10" x 10" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU637.....	33,741.72	985.00
22 13 29 36-0112 EA 10" x 10" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU645.....	34,293.81	1,067.09
22 13 29 36-0113 EA 12" X 12" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU630.....	28,832.40	902.92
22 13 29 36-0114 EA 12" X 12" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU637.....	33,907.01	985.00
22 13 29 36-0115 EA 12" X 12" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU645.....	34,357.96	1,067.09
22 13 29 36-0116 Dry Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 And 6 Pole, 1,750 And 1,180 RPM (Ebara) (22 13 29 36)		
22 13 29 36-0117 Ebara Model DSC Dry Pit Submersible Sewage Pump, 75 HP - 245 HP (22 13 29 36-0116)		
22 13 29 36-0118 EA 10" x 6" 75 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G0852.....	90,975.51	1,149.17
22 13 29 36-0119 EA 10" x 8" 75 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1052.....	99,308.69	1,149.17
22 13 29 36-0120 EA 10" x 6" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G0932.....	102,780.92	1,272.30
22 13 29 36-0121 EA 10" x 8" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1052.....	104,849.05	1,272.30
22 13 29 36-0122 EA 16" x 12" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC C1203.....	91,477.70	1,272.30
22 13 29 36-0123 EA 10" x 6" 120 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1012.....	119,689.79	1,395.42
22 13 29 36-0124 EA 10" x 8" 120 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1152.....	105,156.87	1,395.42
22 13 29 36-0125 EA 10" x 6" 145 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1012.....	105,567.29	1,559.59
22 13 29 36-0126 EA 10" x 8" 145 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC F1102.....	124,944.01	1,559.59
22 13 29 36-0127 EA 12" x 8" 200 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC F1102.....	148,931.17	1,723.76



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0128	EA	14" x 10" 200 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1102	.....	145,507.08	1,662.20
22 13 29 36-0129	EA	12" x 8" 245 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1102	.....	148,760.02	1,887.93
22 13 29 36-0130	EA	14" x 10" 245 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1262	.....	148,760.02	1,887.93
22 13 33 Packaged, Submersible Sewerage Pump Units (22 13)					
22 13 33 00-0001		Submersible Pumps (Flygt) (22 13 33)			
22 13 33 00-0002		Wet Pit Submersible Pumps (Flygt) (22 13 33 00-0001)			
22 13 33 00-0003		Wet Pit Submersible Explosion Proof Pumps (Flygt) (22 13 33 00-0002)			
22 13 33 00-0004	EA	3 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3085) Note: FLS and 50' electrical cable	.....	14,765.78	246.25
22 13 33 00-0005	EA	4 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3085) Note: FLS and 50' electrical cable	.....	15,414.49	287.30
22 13 33 00-0006	EA	5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3102) Note: FLS and 50' electrical cable	.....	18,442.70	328.34
22 13 33 00-0007	EA	7 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3102) Note: FLS and 50' electrical cable	.....	17,399.65	410.42
22 13 33 00-0008	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3127) Note: FLS and 50' electrical cable	.....	24,506.15	451.46
22 13 33 00-0009	EA	10 To 12 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3127) Note: FLS and 50' electrical cable	.....	28,575.87	492.51
22 13 33 00-0010	EA	12 To 14 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153) Note: FLS and 50' electrical cable	.....	43,130.94	533.55
22 13 33 00-0011	EA	15 To 17 HP, 3" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153) Note: FLS and 50' electrical cable	.....	45,310.72	574.59
22 13 33 00-0012	EA	20 To 23 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153) Note: FLS and 50' electrical cable	.....	49,282.15	656.68
22 13 33 00-0013	EA	18 To 25 HP, 4" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171) Note: FLS and 50' electrical cable	.....	62,200.07	738.76
22 13 33 00-0014	EA	30 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171) Note: FLS and 50' electrical cable	.....	68,375.45	820.84
22 13 33 00-0015	EA	34 To 35 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171) Note: FLS and 50' electrical cable	.....	82,175.71	861.88
22 13 33 00-0016	EA	34 To 45 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202) Note: FLS and 50' electrical cable	.....	113,710.97	902.92
22 13 33 00-0017	EA	50 To 60 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202) Note: FLS and 50' electrical cable	.....	127,616.20	1,067.09
22 13 33 00-0018	EA	67 To 72 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202) Note: FLS and 50' electrical cable	.....	123,279.69	1,108.13
22 13 33 00-0019	EA	60 To 70 HP, 10" To 14" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301) Note: FLS and 50' electrical cable	.....	157,498.69	1,149.17
22 13 33 00-0020	EA	85 HP, 6" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301) Note: FLS and 50' electrical cable	.....	174,122.37	1,231.26
22 13 33 00-0021	EA	105 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301) Note: FLS and 50' electrical cable	.....	177,231.73	1,313.34
22 13 33 00-0022	EA	70 To 90 HP, 14" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315) Note: FLS and 50' electrical cable	.....	155,799.89	1,149.17
22 13 33 00-0023	EA	110 To 140 HP, 10" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315) Note: FLS and 50' electrical cable	.....	182,839.55	1,395.42
22 13 33 00-0024	EA	130 To 160 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315) Note: FLS and 50' electrical cable	.....	178,957.14	1,559.59
22 13 33 00-0025	EA	3 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3085) Note: FLS and 50' electrical cable	.....	15,692.22	246.25
22 13 33 00-0026	EA	4 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3085) Note: FLS and 50' electrical cable	.....	16,340.93	287.30
22 13 33 00-0027	EA	5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3102) Note: FLS and 50' electrical cable	.....	20,003.02	328.34
22 13 33 00-0028	EA	7 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3102) Note: FLS and 50' electrical cable	.....	18,959.97	410.42
22 13 33 00-0029	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3127) Note: FLS and 50' electrical cable	.....	26,076.23	451.46
22 13 33 00-0030	EA	10 To 12 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3127) Note: FLS and 50' electrical cable	.....	30,145.94	492.51
22 13 33 00-0031	EA	12 To 14 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153) Note: FLS and 50' electrical cable	.....	44,769.28	533.55
22 13 33 00-0032	EA	15 To 17 HP, 3" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153) Note: FLS and 50' electrical cable	.....	46,949.05	574.59
22 13 33 00-0033	EA	20 To 23 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153) Note: FLS and 50' electrical cable	.....	50,920.49	656.68
22 13 33 00-0034	EA	18 To 25 HP, 4" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	.....	64,969.64	738.76
22 13 33 00-0035	EA	30 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	.....	71,145.02	820.84



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0036	EA	34 To 35 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	84,945.28	861.88
22 13 33 00-0037	EA	34 To 45 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	116,480.54	902.92
22 13 33 00-0038	EA	50 To 60 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	130,385.76	1,067.09
22 13 33 00-0039	EA	67 To 72 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	127,375.53	1,108.13
22 13 33 00-0040	EA	60 To 70 HP, 10" To 14" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	161,594.53	1,149.17
22 13 33 00-0041	EA	85 HP, 6" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	178,218.21	1,231.26
22 13 33 00-0042	EA	105 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	181,327.57	1,313.34
22 13 33 00-0043	EA	70 To 90 HP, 14" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3315) Note: FLS and 50' electrical cable	159,895.73	1,149.17
22 13 33 00-0044	EA	130 To 160 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3315) Note: FLS and 50' electrical cable	183,248.02	1,559.59
22 13 33 00-0045		Dry Pit Submersible Vertical Pumps (Flygt) (22 13 33 00-0001)		
22 13 33 00-0046		Dry Pit Submersible Vertical Non-Explosion Proof Pumps (Flygt) (22 13 33 00-0045)		
22 13 33 00-0047	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	14,362.05	246.25
22 13 33 00-0048	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	15,020.51	287.30
22 13 33 00-0049	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3102) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	17,102.78	328.34
22 13 33 00-0050	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3102) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	17,200.71	410.42
22 13 33 00-0051	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3127) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	25,645.19	451.46
22 13 33 00-0052	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3127) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	28,458.84	492.51
22 13 33 00-0053	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable	42,732.29	574.59
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	1,946.50	
22 13 33 00-0054	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable	46,465.77	656.68
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	1,375.03	
22 13 33 00-0055	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	58,451.40	738.76
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	3,194.76	
22 13 33 00-0056	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	62,931.89	820.84
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	1,989.41	
22 13 33 00-0057	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	78,329.52	861.88
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	1,989.41	
22 13 33 00-0058	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable	105,312.55	902.92
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	4,575.64	
22 13 33 00-0059	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable	130,155.62	1,067.09
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	4,575.64	
22 13 33 00-0060	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable	124,524.05	1,108.13
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	2,057.67	
22 13 33 00-0061	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3301) Note: FLS and 50' electrical cable	138,515.87	1,231.26
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	4,641.95	
22 13 33 00-0062	EA	105 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3301) Note: FLS and 50' electrical cable	143,066.58	1,313.34
		For Inlet Elbow, Add	4,349.39	
		For Stand, Add	4,286.98	



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0063	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	141,249.91 7,877.67 4,641.95	1,149.17
22 13 33 00-0064	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	179,722.81 7,877.67 4,641.95	1,395.42
22 13 33 00-0065	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	15,288.49	246.25
22 13 33 00-0066	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	15,946.95	287.30
22 13 33 00-0067	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	18,672.85	328.34
22 13 33 00-0068	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	18,770.78	410.42
22 13 33 00-0069	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3127)..... Note: FLS and 50' electrical cable	27,215.26	451.46
22 13 33 00-0070	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3127)..... Note: FLS and 50' electrical cable	30,028.92	492.51
22 13 33 00-0071	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	40,150.73 2,451.65 1,375.03	533.55
22 13 33 00-0072	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	44,390.13 2,451.65 1,946.50	574.59
22 13 33 00-0073	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	48,123.61 3,311.78 1,375.03	656.68
22 13 33 00-0074	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	61,211.21 2,451.65 3,194.76	738.76
22 13 33 00-0075	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	65,691.70 2,451.65 1,989.41	820.84
22 13 33 00-0076	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	81,089.34 3,311.78 1,989.41	861.88
22 13 33 00-0077	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	108,072.36 3,311.78 4,575.64	902.92
22 13 33 00-0078	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	132,915.43 3,311.78 4,575.64	1,067.09
22 13 33 00-0079	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	128,619.89 3,311.78 2,057.67	1,108.13
22 13 33 00-0080	EA	60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	128,859.02 3,311.78 4,641.95	1,149.17
22 13 33 00-0081	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	142,611.71 3,311.78 4,641.95	1,231.26
22 13 33 00-0082	EA	105 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	147,162.42 4,349.39 4,286.98	1,313.34

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0083	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	145,345.75	1,149.17
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	
22 13 33 00-0084	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	183,818.65	1,395.42
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	
22 13 33 00-0085	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	167,635.07	1,559.59
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,286.98	
22 13 33 00-0086 Dry Pit Submersible Vertical Explosion Proof Pumps (Flygt) (22 13 33 00-0045)					
22 13 33 00-0087	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3085).....	16,111.56	246.25
			Note: FLS and 50' electrical cable. Includes stand and inlet elbow.		
22 13 33 00-0088	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3085).....	16,770.02	287.30
			Note: FLS and 50' electrical cable. Includes stand and inlet elbow.		
22 13 33 00-0089	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3102).....	18,950.22	410.42
			Note: FLS and 50' electrical cable. Includes stand and inlet elbow.		
22 13 33 00-0090	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3127).....	27,800.38	451.46
			Note: FLS and 50' electrical cable. Includes stand and inlet elbow.		
22 13 33 00-0091	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153).....	40,862.63	533.55
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	1,375.03	
22 13 33 00-0092	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153).....	45,102.03	574.59
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	1,946.50	
22 13 33 00-0093	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153).....	48,835.51	656.68
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	1,375.03	
22 13 33 00-0094	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3171).....	61,626.65	738.76
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	3,194.76	
22 13 33 00-0095	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3171).....	81,504.77	861.88
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	1,989.41	
22 13 33 00-0096	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202).....	108,487.80	902.92
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,575.64	
22 13 33 00-0097	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202).....	133,330.87	1,067.09
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,575.64	
22 13 33 00-0098	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202).....	127,699.30	1,108.13
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	2,057.67	
22 13 33 00-0099	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301).....	131,642.24	1,149.17
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,641.95	
22 13 33 00-0100	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301).....	145,394.93	1,231.26
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,641.95	
22 13 33 00-0101	EA		105 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301).....	149,945.64	1,313.34
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	4,349.39	
			For Stand, Add	4,286.98	
22 13 33 00-0102	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315).....	148,324.01	1,149.17
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	
22 13 33 00-0103	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315).....	186,796.91	1,395.42
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	
22 13 33 00-0104	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315).....	170,408.54	1,559.59
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,286.98	
22 13 33 00-0105	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3085).....	17,038.00	246.25
			Note: FLS and 50' electrical cable		



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0106	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3085).....	17,696.46	287.30
			Note: FLS and 50' electrical cable		
22 13 33 00-0107	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3102).....	20,422.36	328.34
			Note: FLS and 50' electrical cable		
22 13 33 00-0108	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3102).....	20,520.29	410.42
			Note: FLS and 50' electrical cable		
22 13 33 00-0109	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3127).....	29,370.45	451.46
			Note: FLS and 50' electrical cable		
22 13 33 00-0110	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3127).....	32,184.11	492.51
			Note: FLS and 50' electrical cable		
22 13 33 00-0111	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153).....	42,520.47	533.55
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	1,375.03	
22 13 33 00-0112	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153).....	46,759.87	574.59
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	1,946.50	
22 13 33 00-0113	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153).....	50,493.35	656.68
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	1,375.03	
22 13 33 00-0114	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171).....	64,386.47	738.76
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	3,194.76	
22 13 33 00-0115	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171).....	68,866.95	820.84
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	2,451.65	
			For Stand, Add	1,989.41	
22 13 33 00-0116	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171).....	84,264.59	861.88
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	1,989.41	
22 13 33 00-0117	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202).....	111,247.61	902.92
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,575.64	
22 13 33 00-0118	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202).....	136,090.68	1,067.09
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,575.64	
22 13 33 00-0119	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202).....	131,795.14	1,108.13
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	2,057.67	
22 13 33 00-0120	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301).....	135,738.08	1,149.17
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,641.95	
22 13 33 00-0121	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301).....	149,490.77	1,231.26
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	3,311.78	
			For Stand, Add	4,641.95	
22 13 33 00-0122	EA		105 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301).....	154,041.48	1,313.34
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	4,349.39	
			For Stand, Add	4,286.98	
22 13 33 00-0123	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	152,419.85	1,149.17
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	
22 13 33 00-0124	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	190,892.75	1,395.42
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,641.95	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0125	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315).....	174,709.17	1,559.59
			Note: FLS and 50' electrical cable		
			For Inlet Elbow, Add	7,877.67	
			For Stand, Add	4,286.98	
22 13 33 00-0126			Dry Pit Submersible Horizontal Pumps (Flygt) (22 13 33 00-0001)		
22 13 33 00-0127			Dry Pit Submersible Horizontal Non-Explosion Proof Pumps (Flygt) (22 13 33 00-0126)		
22 13 33 00-0128	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3085).....	12,932.41	246.25
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0129	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3085).....	11,369.36	287.30
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0130	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3102).....	15,292.81	328.34
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0131	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3102).....	14,856.33	410.42
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0132	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3127)	22,813.21	451.46
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0133	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3127)	25,455.23	492.51
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0134	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3153)	42,730.34	574.59
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0135	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3153)	46,465.77	656.68
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0136	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171)	58,451.40	738.76
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0137	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171).....	62,931.89	820.84
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0138	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171)	78,333.42	861.88
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0139	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202)	105,310.59	902.92
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0140	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202)	130,155.62	1,067.09
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0141	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202)	124,524.05	1,108.13
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0142	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301)	124,763.18	1,149.17
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0143	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301).....	132,662.72	1,231.26
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0144	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301)	141,116.18	1,313.34
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0145	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315).....	141,249.91	1,149.17
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0146	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315)	179,722.81	1,395.42
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0147	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315).....	163,334.44	1,559.59
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0148	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)..... Note: FLS and 50' electrical cable	13,858.85	246.25
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0149	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)..... Note: FLS and 50' electrical cable	12,295.80	287.30
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0150	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)..... Note: FLS and 50' electrical cable	16,862.88	328.34
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0151	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)..... Note: FLS and 50' electrical cable	16,426.40	410.42
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0152	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)..... Note: FLS and 50' electrical cable	24,383.28	451.46
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0153	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)..... Note: FLS and 50' electrical cable	27,025.30	492.51
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0154	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)..... Note: FLS and 50' electrical cable	40,150.73	533.55
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0155	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)..... Note: FLS and 50' electrical cable	44,388.18	574.59
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0156	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)..... Note: FLS and 50' electrical cable	48,123.61	656.68
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0157	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)..... Note: FLS and 50' electrical cable	61,211.21	738.76
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0158	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)..... Note: FLS and 50' electrical cable	65,691.70	820.84
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0159	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)..... Note: FLS and 50' electrical cable	81,093.24	861.88
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0160	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)..... Note: FLS and 50' electrical cable	108,070.41	902.92
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0161	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)..... Note: FLS and 50' electrical cable	132,915.43	1,067.09
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0162	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable	128,619.89	1,108.13
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0163	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable	128,859.02	1,149.17
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0164	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable	136,758.56	1,231.26
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0165	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable	145,212.02	1,313.34
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0166	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	145,345.75 13,311.48 13,555.28	1,149.17
22 13 33 00-0167	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	183,818.65 13,311.48 13,555.28	1,395.42
22 13 33 00-0168	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	167,635.07 13,311.48 13,555.28	1,559.59
22 13 33 00-0169 Dry Pit Submersible Horizontal Explosion Proof Pumps (Flygt) (22 13 33 00-0126)					
22 13 33 00-0170	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3085) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	14,681.91 3,461.96	246.25
22 13 33 00-0171	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3085) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	13,118.87 3,461.96	287.30
22 13 33 00-0172	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3102) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	17,042.32 3,344.94	328.34
22 13 33 00-0173	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3102) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	16,605.84 3,344.94	410.42
22 13 33 00-0174	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3127) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	24,968.40 3,705.76	451.46
22 13 33 00-0175	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3127) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	27,610.42 3,705.76	492.51
22 13 33 00-0176	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	40,862.63 6,943.42 6,914.17	533.55
22 13 33 00-0177	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	45,100.07 6,943.42 6,914.17	574.59
22 13 33 00-0178	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	48,835.51 6,943.42 6,914.17	656.68
22 13 33 00-0179	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	61,626.65 5,714.67 9,219.54	738.76
22 13 33 00-0180	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	66,107.14 5,714.67 9,219.54	820.84
22 13 33 00-0181	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	81,508.67 5,714.67 9,219.54	861.88
22 13 33 00-0182	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	108,485.85 8,035.65 10,532.16	902.92
22 13 33 00-0183	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	133,330.87 8,035.65 10,532.16	1,067.09
22 13 33 00-0184	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	127,699.30 8,035.65 10,532.16	1,108.13
22 13 33 00-0185	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	131,642.24 10,863.73 13,555.28	1,149.17
22 13 33 00-0186	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	139,541.78 10,863.73 13,555.28	1,231.26
22 13 33 00-0187	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	147,995.24 10,863.73 13,555.28	1,313.34



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0188	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	148,324.01	1,149.17	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	13,311.48		
		For Horizontal Service Car, Add	13,555.28		
22 13 33 00-0189	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	186,796.91	1,395.42	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	13,311.48		
		For Horizontal Service Car, Add	13,555.28		
22 13 33 00-0190	EA	130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	170,408.54	1,559.59	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	13,311.48		
		For Horizontal Service Car, Add	13,555.28		
22 13 33 00-0191	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)	15,608.35	246.25	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,461.96		
22 13 33 00-0192	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)	14,045.31	287.30	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,461.96		
22 13 33 00-0193	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)	18,612.39	328.34	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,344.94		
22 13 33 00-0194	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)	18,175.91	410.42	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,344.94		
22 13 33 00-0195	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	26,538.47	451.46	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,705.76		
22 13 33 00-0196	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	29,180.49	492.51	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	3,705.76		
22 13 33 00-0197	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	42,520.47	533.55	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	6,943.42		
		For Horizontal Service Car, Add	6,914.17		
22 13 33 00-0198	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	46,757.91	574.59	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	6,943.42		
		For Horizontal Service Car, Add	6,914.17		
22 13 33 00-0199	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	50,493.35	656.68	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	6,943.42		
		For Horizontal Service Car, Add	6,914.17		
22 13 33 00-0200	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	64,386.47	738.76	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	5,714.67		
		For Horizontal Service Car, Add	9,219.54		
22 13 33 00-0201	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	68,866.95	820.84	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	5,714.67		
		For Horizontal Service Car, Add	9,219.54		
22 13 33 00-0202	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	84,268.49	861.88	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	5,714.67		
		For Horizontal Service Car, Add	9,219.54		
22 13 33 00-0203	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	111,245.66	902.92	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	8,035.65		
		For Horizontal Service Car, Add	10,532.16		
22 13 33 00-0204	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	136,090.68	1,067.09	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	8,035.65		
		For Horizontal Service Car, Add	10,532.16		
22 13 33 00-0205	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	131,795.14	1,108.13	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	8,035.65		
		For Horizontal Service Car, Add	10,532.16		
22 13 33 00-0206	EA	60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)	135,738.08	1,149.17	
		Note: FLS and 50' electrical cable			
		For Steel Z Stand Kit, Add	10,863.73		
		For Horizontal Service Car, Add	13,555.28		

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0207	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	143,637.62 10,863.73 13,555.28	1,231.26
22 13 33 00-0208	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301)..... Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	152,091.08 10,863.73 13,555.28	1,313.34
22 13 33 00-0209	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315)..... Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	152,419.85 13,311.48 13,555.28	1,149.17
22 13 33 00-0210	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315)..... Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	190,892.75 13,311.48 13,555.28	1,395.42
22 13 33 00-0211	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315)..... Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	174,709.17 13,311.48 13,555.28	1,559.59
22 13 33 00-0212			Submersible Pump Add-On Accessories (Flygt) (22 13 33 00-0201)		
22 13 33 00-0213	EA		3" Stainless Steel Discharge Connection Package for 2" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,095.84	
22 13 33 00-0214	EA		4" Stainless Steel Discharge Connection Package for 2" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,485.92	
22 13 33 00-0215	EA		6" Stainless Steel Discharge Connection Package for 2" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,876.00	
22 13 33 00-0216	EA		8" Stainless Steel Discharge Connection Package for 2" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	6,143.76	
22 13 33 00-0217	EA		6" Stainless Steel Discharge Connection Package for 3" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	12,287.52	
22 13 33 00-0218	EA		8" Stainless Steel Discharge Connection Package for 3" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	12,287.52	
22 13 33 00-0219	EA		10" Stainless Steel Discharge Connection Package for 3" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	13,555.28	
22 13 33 00-0220	EA		12" Stainless Steel Discharge Connection Package for 3" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	17,651.12	
22 13 33 00-0221	EA		14" Stainless Steel Discharge Connection Package for 3" Guide Rails..... Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	20,479.20	
22 13 33 00-0222	EA		Mini CAS Unit: Thermal and Seal Protection Relay Unit Price.....	1,004.46	
22 13 33 00-0223			Submersible Pumps (Vaughan) (22 13 33)		
22 13 33 00-0224			Electric Submersible Pumps (Vaughan) (22 13 33 00-0223)		
22 13 33 00-0225	EA		5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3F/3G).....	18,052.62	328.34
22 13 33 00-0226	EA		7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3F/3G).....	20,340.85	410.42
22 13 33 00-0227	EA		5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M).....	20,135.65	328.34
22 13 33 00-0228	EA		7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M).....	22,189.83	410.42
22 13 33 00-0229	EA		10 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M).....	24,245.98	492.51
22 13 33 00-0230	EA		15 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M).....	26,649.29	574.59
22 13 33 00-0231	EA		7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P).....	23,346.42	410.42
22 13 33 00-0232	EA		10 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P).....	25,287.49	492.51
22 13 33 00-0233	EA		15 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P).....	27,573.78	574.59
22 13 33 00-0234	EA		20 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P).....	28,935.58	656.68
22 13 33 00-0235	EA		15 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W).....	28,268.12	574.59
22 13 33 00-0236	EA		20 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W).....	29,629.92	656.68
22 13 33 00-0237	EA		25 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W).....	33,767.14	738.76
22 13 33 00-0238	EA		30 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W).....	35,591.18	820.84
22 13 33 00-0239	EA		5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	28,461.91	328.34
22 13 33 00-0240	EA		5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	24,182.73	328.34
22 13 33 00-0241	EA		5 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	21,695.97	328.34
22 13 33 00-0242	EA		7.5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	30,401.01	410.42
22 13 33 00-0243	EA		7.5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	26,121.84	410.42
22 13 33 00-0244	EA		7.5 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	23,808.66	410.42
22 13 33 00-0245	EA		10 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	27,715.74	492.51
22 13 33 00-0246	EA		10 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	25,749.74	492.51
22 13 33 00-0247	EA		15 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	28,036.03	574.59



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR			TOTAL DIRECT	DEMOLITION
CSI UOM DESCRIPTION			UNIT COST	UNIT COST
22 13 33 00-0248	EA	20 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	29,514.85	656.68
22 13 33 00-0249	EA	25 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L).....	33,072.79	738.76
22 13 33 00-0250	EA	5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	26,033.66	328.34
22 13 33 00-0251	EA	7.5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	32,251.94	410.42
22 13 33 00-0252	EA	7.5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	27,972.77	410.42
22 13 33 00-0253	EA	10 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	33,036.43	492.51
22 13 33 00-0254	EA	10 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	29,566.67	492.51
22 13 33 00-0255	EA	15 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	33,471.79	574.59
22 13 33 00-0256	EA	15 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	29,886.95	574.59
22 13 33 00-0257	EA	20 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	35,180.76	656.68
22 13 33 00-0258	EA	20 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	30,786.51	656.68
22 13 33 00-0259	EA	25 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	39,087.83	738.76
22 13 33 00-0260	EA	25 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	34,461.48	738.76
22 13 33 00-0261	EA	30 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	38,598.70	820.84
22 13 33 00-0262	EA	5 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	36,558.02	328.34
22 13 33 00-0263	EA	7.5 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	38,959.37	410.42
22 13 33 00-0264	EA	7.5 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	34,680.19	410.42
22 13 33 00-0265	EA	10 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	39,628.78	492.51
22 13 33 00-0266	EA	10 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	36,159.02	492.51
22 13 33 00-0267	EA	15 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	47,580.98	574.59
22 13 33 00-0268	EA	15 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	40,064.14	574.59
22 13 33 00-0269	EA	20 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	41,658.04	656.68
22 13 33 00-0270	EA	25 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	45,563.16	738.76
22 13 33 00-0271	EA	25 HP, 1750 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	40,936.81	738.76
22 13 33 00-0272	EA	30 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	47,619.30	820.84
22 13 33 00-0273	EA	30 HP, 1750 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X).....	45,074.02	820.84
22 13 33 00-0274	EA	10 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	42,634.35	492.51
22 13 33 00-0275	EA	15 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	50,588.50	574.59
22 13 33 00-0276	EA	15 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	42,956.59	574.59
22 13 33 00-0277	EA	20 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	59,699.24	656.68
22 13 33 00-0278	EA	20 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	44,663.60	656.68
22 13 33 00-0279	EA	25 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	60,366.69	738.76
22 13 33 00-0280	EA	25 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	48,570.67	738.76
22 13 33 00-0281	EA	30 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	63,347.32	820.84
22 13 33 00-0282	EA	30 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	50,509.79	820.84
22 13 33 00-0283	EA	30 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8P)	50,509.79	820.84
22 13 33 00-0284	EA	25 HP, 870 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	69,157.14	738.76
22 13 33 00-0285	EA	30 HP, 870 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	72,137.77	820.84
22 13 33 00-0286	EA	30 HP, 1170 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	59,647.41	820.84
22 13 33 00-0287 Horizontal Chopper Pumps (Vaughan) (22 13 33 00-0223)				
22 13 33 00-0288	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3F6/HE3G6)	18,489.92	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0289	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3L6/HE3M6)	19,414.41	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0290	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3P6)	19,876.66	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0291	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3V6/HE3W6)	19,876.66	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0292	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE4K6/HE4L6)	20,546.07	615.63
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0293	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE4S6/HE4T6)	21,470.56	615.63
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0294	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE6U8)	23,629.31	769.53
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0295	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE6W8/6X)	23,629.31	769.53
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0296	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3F6/HE3G6)	18,952.17	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0297	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3L6/HE3M6).....	19,876.66	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0298	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3P6).....	20,340.85	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0299	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3V6/HE3W6).....	20,340.85	513.02
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0300	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE4K6/HE4L6).....	21,008.32	615.63
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0301	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE4S6/HE4T6).....	21,932.81	615.63
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0302	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE6U8).....	24,091.56	769.53
		For Stool, Deduct	-682.64	
		For Coupling, Deduct	-195.04	
		For Base, Deduct	-1,072.72	
22 13 33 00-0303	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3F6/STHE3G6).....	26,238.86	513.02
22 13 33 00-0304	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3L6/STHE3M6).....	27,395.45	513.02
22 13 33 00-0305	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3P6).....	28,552.04	513.02
22 13 33 00-0306	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3V6/STHE3W6).....	28,552.04	513.02
22 13 33 00-0307	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE4K6/STHE4L6).....	29,219.50	615.63
22 13 33 00-0308	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE4S6/STHE4T6).....	35,694.83	615.63
22 13 33 00-0309	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE6U8).....	43,636.51	769.53
22 13 33 00-0310	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE6W8/6X).....	43,636.51	769.53
22 13 33 00-0311	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3F6/STHE3G6).....	26,701.11	513.02
22 13 33 00-0312	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3L6/STHE3M6).....	27,857.69	513.02
22 13 33 00-0313	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3P6).....	29,014.28	513.02
22 13 33 00-0314	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3V6/STHE3W6).....	29,014.28	513.02
22 13 33 00-0315	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE4K6/STHE4L6).....	29,681.74	615.63
22 13 33 00-0316	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE4S6/STHE4T6).....	36,159.02	615.63
22 13 33 00-0317	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE6U8).....	44,098.76	769.53
22 13 33 00-0318	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE6W8/6X).....	44,098.76	769.53
22 13 33 00-0319 Horizontal End Suction Pumps (Vaughan) (22 13 33 00-0223)				
22 13 33 00-0320	EA	8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HES).....	37,931.24	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0321	EA	8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HET).....	40,244.41	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0322	EA	8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HE).....	46,951.84	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0323	EA	8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HER).....	46,951.84	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0324	EA	8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HES).....	49,265.01	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0325	EA	8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8N-HE).....	46,951.84	923.44
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-1,950.40	
		For Coupling, Deduct	-390.08	
22 13 33 00-0326	EA	8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HE).....	63,784.63	1,128.66
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-2,145.44	
		For Coupling, Deduct	-390.08	
22 13 33 00-0327	EA	8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HER).....	63,784.63	1,128.66
		For Stool, Deduct	-975.20	
		For No Base, Deduct	-2,145.44	
		For Coupling, Deduct	-390.08	



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0328 EA 8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HE) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	75,760.91 -975.20 -2,340.48 -390.08	1,333.87
22 13 33 00-0329 EA 8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HER) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	75,760.91 -975.20 -2,340.48 -390.08	1,333.87
22 13 33 00-0330 EA 8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HES) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	62,449.72 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0331 EA 8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HET) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	64,762.89 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0332 EA 8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HE) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	80,028.67 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0333 EA 8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HER) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	80,028.67 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0334 EA 8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HES) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	82,341.85 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0335 EA 8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8N-HE) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	80,028.67 -975.20 -1,950.40 -390.08	923.44
22 13 33 00-0336 EA 8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HE) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	104,725.47 -975.20 -2,145.44 -390.08	1,128.66
22 13 33 00-0337 EA 8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HER) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	104,725.47 -975.20 -2,145.44 -390.08	1,128.66
22 13 33 00-0338 EA 8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HE) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	122,714.84 -975.20 -2,340.48 -390.08	1,333.87
22 13 33 00-0339 EA 8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HER) For Stool, Deduct For No Base, Deduct For Coupling, Deduct	122,714.84 -975.20 -2,340.48 -390.08	1,333.87
22 13 33 00-0340 Vertical Pedestal Chopper Pumps (Vaughan) (22 13 33 00-0223)		
22 13 33 00-0341 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3F6/PE3G6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	18,489.92 -1,072.72 -682.64 -195.04	513.02
22 13 33 00-0342 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3L6/PE3M6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	19,414.41 -1,072.72 -682.64 -195.04	513.02
22 13 33 00-0343 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3P6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	19,876.66 -1,072.72 -682.64 -195.04	513.02
22 13 33 00-0344 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3V6/PE3W6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	19,876.66 -1,072.72 -682.64 -195.04	513.02
22 13 33 00-0345 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE4K6/PE4L6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	20,546.07 -1,222.06 -682.64 -195.04	615.63
22 13 33 00-0346 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE4S6/PE4T6) For Pedestal, Deduct For Stool, Deduct For Coupling, Deduct	21,470.56 -1,222.06 -682.64 -195.04	615.63
22 13 33 00-0347 EA 3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE6U8) For pedestal, Deduct For Stool, Deduct For Coupling, Deduct	24,091.56 -1,560.32 -682.64 -195.04	769.53

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0348	EA		Ductile Iron And Stainless Steel, Upgraded Roller Thrust And Radial Bearing, Vertical Dry Pit Pedestal (Vaughan 8K-PES).....	38,623.63	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33 00-0349	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3F6/PE3G6).....	18,952.17	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0350	EA		Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 8P-PE).....	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
			For Stool, Deduct	-975.20	
22 13 33 00-0351	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3L6/PE3M6).....	19,876.66	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0352	EA		Ductile Iron And Stainless Steel, Standard Roller Thrust And Radial Bearing, Vertical Dry Pit Pedestal (Vaughan 8P-PER).....	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33 00-0353	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3P6).....	20,340.85	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0354	EA		Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 8N-PE).....	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33 00-0355	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3V6/PE3W6).....	20,340.85	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0356	EA		Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 10R-PE).....	65,403.46	1,128.66
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,535.52	
22 13 33 00-0357	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE4K6/PE4L6).....	21,008.32	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0358	EA		Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 12W-PE).....	77,379.74	1,333.87
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,730.56	
22 13 33 00-0359	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE4S6/PE4T6).....	21,932.81	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0360	EA		3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE6W8/6X).....	24,553.80	769.53
			For pedestal, Deduct	-1,560.32	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0361			Submersible Pump Accessories (Vaughan) (22 13 33)		
22 13 33 00-0362	EA		Guide Rail Adapter Bracket For 3" Submersible Pump.....	1,156.59	
22 13 33 00-0363	EA		Discharge Elbow Base For 3" Submersible Pump.....	1,707.07	58.90
22 13 33 00-0364	EA		Top Guide Rail And Lift Chain Bracket For 3" Submersible Pump.....	484.17	10.83
22 13 33 00-0365	EA		Intermediate Guide Rail Support Bracket (Every 10') For 3" Submersible Pump.....	462.24	
22 13 33 00-0366	EA		Class 1, Guide Rail Adapter Bracket For 3" Submersible Pump.....	3,007.52	
22 13 33 00-0367	EA		Class 1, Discharge Elbow Base For 3" Submersible Pump.....	1,618.83	
22 13 33 00-0368	EA		Class 1, Top Guide Rail And Lift Chain Bracket For 3" Submersible Pump.....	484.17	10.83
22 13 33 00-0369	EA		Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 3" Submersible Pump.....	462.24	
22 13 33 00-0370	EA		25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 3" Submersible Pump.....	809.42	
22 13 33 00-0371	EA		25', Galvanized, Safety Chain With Hook For 3" Submersible Pump.....	694.34	
22 13 33 00-0372	EA		25', 316 Stainless Steel, Safety Chain With Clevis For 3" Submersible Pump.....	1,618.83	
22 13 33 00-0373	LF		Galvanized Pipe, Guide Rails For 3" Submersible Pump.....	92.14	10.83
22 13 33 00-0374	LF		316 Stainless Steel Pipe, Guide Rails For 3" Submersible Pump.....	172.11	10.83
22 13 33 00-0375	EA		Stainless Steel, Cable Holder Bracket For 3" Submersible Pump.....	577.32	
22 13 33 00-0376	EA		Guide Rail Adapter Bracket For 4" Submersible Pump.....	1,388.68	
22 13 33 00-0377	EA		Discharge Elbow Base For 4" Submersible Pump.....	1,953.53	68.44
22 13 33 00-0378	EA		Top Guide Rail And Lift Chain Bracket For 4" Submersible Pump.....	484.17	10.83
22 13 33 00-0379	EA		Intermediate Guide Rail Support Bracket (Every 10') For 4" Submersible Pump.....	485.65	
22 13 33 00-0380	EA		Class 1, Guide Rail Adapter Bracket For 4" Submersible Pump.....	3,237.66	
22 13 33 00-0381	EA		Class 1, Discharge Elbow Base For 4" Submersible Pump.....	1,850.93	
22 13 33 00-0382	EA		Class 1, Top Guide Rail And Lift Chain Bracket For 4" Submersible Pump.....	484.17	10.83
22 13 33 00-0383	EA		Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 4" Submersible Pump.....	485.65	
22 13 33 00-0384	EA		25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 4" Submersible Pump.....	809.42	
22 13 33 00-0385	EA		25', Galvanized, Safety Chain With Hook For 4" Submersible Pump.....	694.34	
22 13 33 00-0386	EA		25', 316 Stainless Steel, Safety Chain With Clevis For 4" Submersible Pump.....	1,618.83	
22 13 33 00-0387	EA		Galvanized Pipe, Guide Rails For 4" Submersible Pump.....	70.21	



Plumbing			22
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Facility Sanitary Sewerage			22 13

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0388 EA 316 Stainless Steel Pipe, Guide Rails For 4" Submersible Pump.....	172.11	10.83
22 13 33 00-0389 EA Stainless Steel, Cable Holder Bracket For 4" Submersible Pump	577.32	
22 13 33 00-0390 EA Portable Stand For 4" Submersible Pump	924.49	
22 13 33 00-0391 EA Guide Rail Adapter Bracket For 6" Submersible Pump.....	1,618.83	
22 13 33 00-0392 EA Discharge Elbow Base For 6" Submersible Pump.....	2,446.55	88.96
22 13 33 00-0393 EA Top Guide Rail And Lift Chain Bracket For 6" Submersible Pump	484.17	10.83
22 13 33 00-0394 EA Intermediate Guide Rail Support Bracket (Every 10') For 6" Submersible Pump.....	509.05	
22 13 33 00-0395 EA Class 1, Guide Rail Adapter Bracket For 6" Submersible Pump.....	3,469.76	
22 13 33 00-0396 EA Class 1, Discharge Elbow Base For 6" Submersible Pump	2,313.17	
22 13 33 00-0397 EA Class 1, Top Guide Rail And Lift Chain Bracket For 6" Submersible Pump.....	484.17	10.83
22 13 33 00-0398 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 6" Submersible Pump.....	509.05	
22 13 33 00-0399 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 6" Submersible Pump	809.42	
22 13 33 00-0400 EA 25', Galvanized, Safety Chain With Hook For 6" Submersible Pump	694.34	
22 13 33 00-0401 EA 25', 316 Stainless Steel, Safety Chain With Clevis For 6" Submersible Pump.....	1,618.83	
22 13 33 00-0402 EA Galvanized Pipe, Guide Rails For 6" Submersible Pump	70.21	
22 13 33 00-0403 EA 316 Stainless Steel Pipe, Guide Rails For 6" Submersible Pump	172.11	10.83
22 13 33 00-0404 EA Stainless Steel, Cable Holder Bracket For 6" Submersible Pump	577.32	
22 13 33 00-0405 EA Portable Stand For 6" Submersible Pump	924.49	
22 13 33 00-0406 EA Guide Rail Adapter Bracket For 8" Submersible Pump.....	2,081.08	
22 13 33 00-0407 EA Discharge Elbow Base For 8" Submersible Pump.....	3,617.51	98.50
22 13 33 00-0408 EA Intermediate Guide Rail Support Bracket (Every 10') For 8" Submersible Pump.....	809.42	
22 13 33 00-0409 EA Class 1, Guide Rail Adapter Bracket For 8" Submersible Pump.....	3,932.01	
22 13 33 00-0410 EA Class 1, Discharge Elbow Base For 8" Submersible Pump.....	3,469.76	
22 13 33 00-0411 EA Class 1, Top Guide Rail And Lift Chain Bracket For 8" Submersible Pump.....	716.27	10.83
22 13 33 00-0412 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 8" Submersible Pump	809.42	
22 13 33 00-0413 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 8" Submersible Pump.....	1,733.91	
22 13 33 00-0414 EA 25', Galvanized, Safety Chain With Hook For 8" Submersible Pump	1,388.68	
22 13 33 00-0415 EA 25', 316 Stainless Steel, Safety Chain With Clevis For 8" Submersible Pump.....	3,932.01	
22 13 33 00-0416 EA Galvanized Pipe, Guide Rails For 8" Submersible Pump	115.07	
22 13 33 00-0417 EA 316 Stainless Steel Pipe, Guide Rails For 8" Submersible Pump.....	254.03	10.83
22 13 33 00-0418 EA Stainless Steel, Cable Holder Bracket For 8" Submersible Pump	577.32	
22 13 33 00-0419 EA Portable Stand For 8" Submersible Pump	2,081.08	
22 13 33 00-0420 EA Guide Rail Adapter Bracket For 10" Submersible Pump.....	2,545.27	
22 13 33 00-0421 EA Discharge Elbow Base For 10" Submersible Pump	4,094.12	107.74
22 13 33 00-0422 EA Straight Thru Discharge Base For 10" Submersible Pump	3,932.01	
22 13 33 00-0423 EA Top Guide Rail And Lift Chain Bracket For 10" Submersible Pump	716.27	10.94
22 13 33 00-0424 EA Intermediate Guide Rail Support Bracket (Every 10') For 10" Submersible Pump.....	1,542.77	
22 13 33 00-0425 EA Class 1, Guide Rail Adapter Bracket For 10" Submersible Pump.....	5,320.69	
22 13 33 00-0426 EA Class 1, Discharge Elbow Base For 10" Submersible Pump.....	3,932.01	
22 13 33 00-0427 EA Class 1, Straight Thru Discharge Base For 10" Submersible Pump	3,932.01	
22 13 33 00-0428 EA Class 1, Top Guide Rail And Lift Chain Bracket For 10" Submersible Pump.....	716.27	10.94
22 13 33 00-0429 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 10" Submersible Pump.....	1,156.59	
22 13 33 00-0430 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 10" Submersible Pump	1,733.91	
22 13 33 00-0431 EA 25', Galvanized, Safety Chain With Hook For 10" Submersible Pump	1,388.68	
22 13 33 00-0432 EA 25', 316 Stainless Steel, Safety Chain With Clevis For 10" Submersible Pump.....	3,932.01	
22 13 33 00-0433 EA Galvanized Pipe, Guide Rails For 10" Submersible Pump	137.00	10.94
22 13 33 00-0434 EA 316 Stainless Steel Pipe, Guide Rails For 10" Submersible Pump.....	254.03	10.94
22 13 33 00-0435 EA Stainless Steel, Cable Holder Bracket For 10" Submersible Pump	577.32	
22 13 33 00-0436 EA Portable Stand For 10" Submersible Pump	2,081.08	
22 13 33 00-0437 EA 5 - 15 HP, 3" - 6" Pump Belt Drive	2,775.42	
22 13 33 00-0438 EA 20 - 30 HP, 3" - 6" Pump Belt Drive	3,007.52	
22 13 33 00-0439 EA 40 - 50 HP, 3" - 6" Pump Belt Drive	3,237.66	
22 13 33 00-0440 EA 60 - 75 HP, 3" - 6" Pump Belt Drive	3,469.76	
22 13 33 00-0441 EA 100 HP, 3" - 6" Pump Belt Drive	3,701.86	
22 13 33 00-0442 EA 5 - 15 HP, 8" - 12" Pump Belt Drive	4,164.10	
22 13 33 00-0443 EA 20 - 30 HP, 8" - 12" Pump Belt Drive	4,394.25	
22 13 33 00-0444 EA 40 - 50 HP, 8" - 12" Pump Belt Drive	4,626.35	
22 13 33 00-0445 EA 60 - 75 HP, 8" - 12" Pump Belt Drive	4,856.50	
22 13 33 00-0446 EA 100 HP, 8" - 12" Pump Belt Drive	5,320.69	
22 13 33 00-0447 EA 125 HP, 8" - 12" Pump Belt Drive	6,245.18	
22 13 33 00-0448 EA 150 - 200 HP, 8" - 12" Pump Belt Drive	6,477.28	
22 13 33 00-0449 Submersible Pumps (Zoeller) (22 13 33)		
22 13 33 00-0450 EA .5 HP, 2" Discharge, 1750 RPM, Vortex Impeller With 25' Cord (Zoeller 6282).....	3,213.38	287.30
For Moisture Probe, Add	257.45	
For 3 Phase Adder, Add	160.91	
For Silicone Carbide / Silicone Carbide Seal	182.36	
For Certified Test, Add	429.09	
For 50' Cord Adder, Add	268.18	
22 13 33 00-0451 EA 1 HP, 2" Discharge, 1750 RPM, Vortex Impeller With 25' Cord (Zoeller 6284).....	3,494.84	328.34
For Moisture Probe, Add	257.45	
For 3 Phase Adder, Add	160.91	
For Silicone Carbide / Silicone Carbide Seal	182.36	
For Certified Test, Add	429.09	
For 50' Cord Adder, Add	268.18	
22 13 33 00-0452 EA 1 HP, 2" Discharge, 3450 RPM, Vortex Impeller With 25' Cord (Zoeller 6292).....	3,384.64	328.34
For Moisture Probe, Add	257.45	
For 3 Phase Adder, Add	160.91	
For Silicone Carbide / Silicone Carbide Seal	182.36	
For Certified Test, Add	429.09	
For 50' Cord Adder, Add	268.18	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0453	EA		.5 HP, 2" Discharge, 1750 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6282)	5,878.01	287.30
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0454	EA		1 HP, 2" Discharge, 1750 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6284)	6,521.27	328.34
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0455	EA		1 HP, 2" Discharge, 3450 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6292)	6,285.86	328.34
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0456	EA		1 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6120)	7,188.51	328.34
22 13 33 00-0457	EA		1.5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6121)	7,715.25	441.20
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0458	EA		2 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6122)	7,864.40	554.06
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0459	EA		3 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6123)	8,645.86	666.93
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0460	EA		5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6124)	9,698.43	779.80
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0461	EA		7.5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6125)	12,036.32	892.66
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0462	EA		1 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6120)	8,816.89	328.34
22 13 33 00-0463	EA		1.5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6121)	9,176.29	441.20
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0464	EA		2 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6122)	9,703.04	554.06
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0465	EA		3 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6123)	10,420.73	666.93
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0466	EA		5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller Engineered Products X6124)	11,475.24	779.80
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For 50' Cord Adder, Add	536.36	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
22 13 33 00-0467	EA	7.5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6125) <i>For Silicone Carbide / Silicone Carbide Seal</i> <i>For Certified Test, Add</i> <i>For 1 Phase Adder, Add</i> <i>For 3" Solids Capacity, Add</i> <i>For Impeller Trim, Add</i> <i>For 50' Cord Adder, Add</i>	12,036.32 182.36 429.09 236.00 600.72 321.82 536.36		892.66
22 13 33 00-0468	EA	115 V/230 V, Variable Level Control Switch With 25' Cord (Zoeller 10-1877)	158.57		25.66
22 13 33 00-0469	EA	115 V/230 V, Variable Level Control Switch With 50' Cord (Zoeller 10-1879)	214.35		25.66
22 13 33 00-0470	EA	30 Volt DC / 125 Volt AC, Intrinsically Safe Variable Control Switch With 25' Cord (Zoeller 10-2066)	197.19		25.66
22 13 33 00-0471	EA	30 Volt DC / 125 Volt AC, Intrinsically Safe Variable Control Switch With 50' Cord (Zoeller 10-2068)	252.97		25.66
22 13 33 00-0472	EA	Stainless Steel, 4 Float Bracket (Zoeller 10-0253)	364.26		64.64
22 13 33 00-0473	EA	2" Z Rail Base Elbow And Disconnect (Zoeller 39-0128)	1,453.49		48.23
22 13 33 00-0474	EA	2" Z Rail Base Elbow And Disconnect With Stainless Steel Upper Rail Bracket (Zoeller 39-0129)	1,895.45		48.23
22 13 33 00-0475	EA	3" Base Elbow And Disconnect (Zoeller 39-0094)	2,484.70		58.48
22 13 33 00-0476	EA	4" Base Elbow And Disconnect (Zoeller 39-0016)	3,334.41		68.74
22 13 33 00-0477 Mounted Motors (Vaughan) (22 13 33)					
22 13 33 00-0478 C-FACE Mounted Motors (Vaughan) (22 13 33 00-0477)					
22 13 33 00-0479	EA	5 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,502.19		245.99
22 13 33 00-0480	EA	5 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,675.78		245.99
22 13 33 00-0481	EA	5 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 184TC)	2,230.53		245.99
22 13 33 00-0482	EA	5 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 184TC)	2,427.52		245.99
22 13 33 00-0483	EA	7.5 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,720.43		245.99
22 13 33 00-0484	EA	7.5 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	5,611.76		245.99
22 13 33 00-0485	EA	7.5 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 213TC)	3,043.08		245.99
22 13 33 00-0486	EA	7.5 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 213TC)	3,333.69		245.99
22 13 33 00-0487	EA	10 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	5,879.35		430.47
22 13 33 00-0488	EA	10 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,838.95		430.47
22 13 33 00-0489	EA	10 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,486.21		430.47
22 13 33 00-0490	EA	10 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,866.54		430.47
22 13 33 00-0491	EA	15 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,807.91		430.47
22 13 33 00-0492	EA	15 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	8,410.58		430.47
22 13 33 00-0493	EA	15 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,917.42		430.47
22 13 33 00-0494	EA	15 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	5,367.96		430.47
22 13 33 00-0495	EA	15 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,894.01		430.47
22 13 33 00-0496	EA	20 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,663.70		614.96
22 13 33 00-0497	EA	20 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	11,073.84		614.96
22 13 33 00-0498	EA	20 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,067.16		614.96
22 13 33 00-0499	EA	20 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,264.15		614.96
22 13 33 00-0500	EA	20 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	5,961.84		614.96
22 13 33 00-0501	EA	25 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	11,430.81		614.96
22 13 33 00-0502	EA	25 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	12,402.11		614.96
22 13 33 00-0503	EA	25 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,428.59		614.96
22 13 33 00-0504	EA	25 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,728.95		614.96
22 13 33 00-0505	EA	25 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TSC)	7,255.00		614.96
22 13 33 00-0506	EA	30 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	13,377.54		614.96
22 13 33 00-0507	EA	30 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	14,118.69		614.96
22 13 33 00-0508	EA	30 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,098.36		614.96
22 13 33 00-0509	EA	30 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,412.38		614.96
22 13 33 00-0510	EA	40 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 364TC)	15,981.84		922.44
22 13 33 00-0511	EA	40 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 364TC)	20,261.02		922.44
22 13 33 00-0512	EA	40 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	11,876.25		922.44
22 13 33 00-0513	EA	50 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 365TC)	21,805.64		922.44
22 13 33 00-0514	EA	50 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 365TC)	22,788.65		922.44
22 13 33 00-0515	EA	50 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	12,346.20		922.44
22 13 33 00-0516	EA	50 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	13,535.95		922.44
22 13 33 00-0517 Foot Mounted Motors (Vaughan) (22 13 33 00-0477)					
22 13 33 00-0518	EA	5 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,236.94		245.99
22 13 33 00-0519	EA	5 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,584.11		245.99
22 13 33 00-0520	EA	5 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 184T)	2,113.51		245.99
22 13 33 00-0521	EA	5 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 184T)	2,392.41		245.99
22 13 33 00-0522	EA	7.5 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	4,304.99		245.99
22 13 33 00-0523	EA	7.5 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	5,241.18		245.99
22 13 33 00-0524	EA	7.5 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 213T)	2,580.84		245.99
22 13 33 00-0525	EA	7.5 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 213T)	3,275.18		245.99
22 13 33 00-0526	EA	10 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	5,417.11		430.47
22 13 33 00-0527	EA	10 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	6,480.08		430.47
22 13 33 00-0528	EA	10 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,207.31		430.47
22 13 33 00-0529	EA	10 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,809.98		430.47
22 13 33 00-0530	EA	15 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	7,195.48		430.47
22 13 33 00-0531	EA	15 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	7,924.93		430.47
22 13 33 00-0532	EA	15 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	4,234.78		430.47
22 13 33 00-0533	EA	15 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	5,147.56		430.47
22 13 33 00-0534	EA	20 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	9,051.28		614.96
22 13 33 00-0535	EA	20 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	10,576.49		614.96
22 13 33 00-0536	EA	20 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	5,257.75		614.96
22 13 33 00-0537	EA	20 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	6,147.13		614.96



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0538 EA 25 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 324T).....	10,656.50	614.96
22 13 33 00-0539 EA 25 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 324T).....	11,742.87	614.96
22 13 33 00-0540 EA 25 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 284T).....	6,422.18	614.96
22 13 33 00-0541 EA 25 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 284T).....	7,625.58	614.96
22 13 33 00-0542 EA 30 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 326T).....	12,429.65	614.96
22 13 33 00-0543 EA 30 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 326T).....	13,459.46	614.96
22 13 33 00-0544 EA 30 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 286T).....	7,629.71	614.96
22 13 33 00-0545 EA 30 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 286T).....	9,030.10	614.96
22 13 33 00-0546 EA 40 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 364T).....	15,631.66	922.44
22 13 33 00-0547 EA 40 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 364T).....	18,283.31	922.44
22 13 33 00-0548 EA 40 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 324T).....	10,048.72	922.44
22 13 33 00-0549 EA 40 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 324T).....	10,984.92	922.44
22 13 33 00-0550 EA 50 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 365T).....	20,660.76	922.44
22 13 33 00-0551 EA 50 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 365T).....	21,423.37	922.44
22 13 33 00-0552 EA 50 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 326T).....	12,022.44	922.44
22 13 33 00-0553 EA 50 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 326T).....	12,785.04	922.44
22 13 33 00-0554 Submersible Pumps (Hayward Gordon) (22 13 33)		
22 13 33 00-0555 Chopper Pumps (Hayward Gordon) (22 13 33 00-0554)		
22 13 33 00-0556 EA 5 HP, 460 Volt, 60 Hertz, 28' Total Dynamic Head, 180 GPM, 1510 RPM, 3 Phase, Submersible Chopper Pump (Hayward Gordon).....	32,417.32	328.34
22 13 33 00-0557 EA 20 HP, 460 Volt, 60 Hertz, 60' Total Dynamic Head, 600 GPM, 1570 RPM, 3 Phase Submersible Chopper Pump (Hayward Gordon 20-60-600-1570SP).....	54,985.12	656.68
22 13 33 00-0558 EA 75 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 5500 GPM, 790 RPM, 3 Phase Submersible Chopper Pump (Hayward Gordon 75-29-5500-790SP).....	103,440.23	1,108.13
22 13 33 00-0559 Recessed Impeller Centrifugal Pumps (Hayward Gordon) (22 13 33 00-0554)		
22 13 33 00-0560 EA 40 HP, 460 Volt, 60 Hertz, 65' Total Dynamic Head, 450 GPM, 1460 RPM, 3 Phase, Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon).....	46,726.43	902.92
22 13 33 00-0561 EA 50 HP, 460 Volt, 60 Hertz, 65' Total Dynamic Head, 1,000 GPM, 1550 RPM, 3 Phase, Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon).....	52,061.60	1,067.09
22 13 33 00-0562 EA 100 HP, 460 Volt, 60 Hertz, 130' Total Dynamic Head, 900 GPM, 1430 RPM, 3 Phase Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon 100-130-900-1430SP).....	85,756.02	1,313.34
22 13 33 00-0563 EA 100 HP, 460 Volt, 60 Hertz, 53' To 132' Total Dynamic Head, 952 GPM, 1450 RPM, 3 Phase Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon).....	85,756.02	1,313.34
22 13 33 00-0564 Screw Centrifugal Pumps (Hayward Gordon) (22 13 33 00-0554)		
22 13 33 00-0565 EA 25 HP, 460 Volt, 60 Hertz, 67' Total Dynamic Head, 900 GPM, 1700 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon).....	44,268.09	738.76
22 13 33 00-0566 EA 60 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 1500 GPM, 1460 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon).....	63,529.95	1,067.09
22 13 33 00-0567 EA 75 HP, 460 Volt, 60 Hertz, 67' Total Dynamic Head, 1440 GPM, 1510 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon).....	72,038.79	1,108.13
22 13 33 00-0568 EA 75 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 5500 GPM, 970 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon 75-29-5500-970SP).....	98,388.69	1,108.13
22 13 33 00-0569 EA 100 HP, 460 Volt, 60 Hertz, 44' Total Dynamic Head, 4514 GPM, 1030 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon).....	97,731.48	1,313.34
22 13 33 00-0570 EA 100 HP, 460 Volt, 60 Hertz, 132' Total Dynamic Head, 900 GPM, 1690 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon).....	73,819.58	1,313.34
22 13 36 Packaged, Wastewater Pump Units (22 13)		
22 13 36 00-0001 Dri-Prime Pumps With Diesel Engine; Godwin Pumps, CD Series With PrimeGuard (22 13 36)		
22 13 36 00-0002 EA 4" Trailer Mounted Trash Pump (Godwin Pumps CD100M).....	35,576.62	
22 13 36 00-0003 EA 4" Skid Mounted Trash Pump (Godwin Pumps CD100M).....	34,329.40	
22 13 36 00-0004 EA 6" Trailer Mounted Trash Pump (Godwin Pumps CD150M).....	45,943.32	
22 13 36 00-0005 EA 6" Skid Mounted Trash Pump (Godwin Pumps CD150M).....	44,307.18	
22 13 36 00-0006 EA 8" Trailer Mounted Trash Pump (Godwin Pumps CD225M).....	64,926.60	
22 13 36 00-0007 EA 8" Skid Mounted Trash Pump (Godwin Pumps CD225M).....	62,351.68	
22 13 36 00-0008 Dri-Prime Pumps Critically Silenced With Diesel Engine; Godwin Pumps, CD Series With PrimeGuard (22 13 36)		
22 13 36 00-0009 EA 4" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD100M).....	53,842.40	
22 13 36 00-0010 EA 4" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD100M).....	48,793.16	
22 13 36 00-0011 EA 6" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD150M).....	64,544.38	
22 13 36 00-0012 EA 6" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD150M).....	59,535.37	
22 13 36 00-0013 EA 8" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD225M).....	81,609.88	
22 13 36 00-0014 EA 8" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD225M).....	74,535.58	
22 13 36 00-0015 Heidra Hydraulic Submersible Pumps With Diesel Engine; Godwin Pumps, HS Series With PrimeGuard (22 13 36)		
Note: Includes pump, pumpend, and hoses.		



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 36 00-0016 EA 4" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS100MR) Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.	39,044.03	
22 13 36 00-0017 EA 4" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS100MR) Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.	37,915.42	
22 13 36 00-0018 EA 6" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS150MR) Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.	52,594.36	
22 13 36 00-0019 EA 6" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS150MR) Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.	50,883.92	
22 13 36 00-0020 EA 8" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS200MR) Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.	96,995.70	
22 13 36 00-0021 EA 8" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS200MR) Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.	91,394.71	
22 13 36 00-0022 Heidra Hydraulic Submersible Pumps Critically Silenced With Diesel Engine; Godwin Pumps, HS Series With PrimeGuard (22 13 36) Note: Includes pump, pumpend, and hoses.		
22 13 36 00-0023 EA 4" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS100MR) Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.	61,574.17	
22 13 36 00-0024 EA 4" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS100MR) Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.	56,674.18	
22 13 36 00-0025 EA 6" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS150MR) Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.	77,262.55	
22 13 36 00-0026 EA 6" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS150MR) Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.	69,867.00	
22 13 36 00-0027 EA 8" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS200MR) Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.	121,180.20	
22 13 36 00-0028 EA 8" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS200MR) Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.	111,962.05	
22 13 36 00-0029 Auto Start Controls Accessories (22 13 36)		
22 13 36 00-0030 EA Two Float Assembly for Godwin PrimeGuard Controller	478.77	
22 13 36 00-0031 EA Level Transducer for Godwin PrimeGuard Controller	2,403.25	
22 13 36 00-0032 EA Pressure Transducer for Godwin PrimeGuard Controller	838.19	
22 13 36 00-0033 EA 3016D/4045D Auto Throttle for Godwin PrimeGuard Controller	1,401.45	
22 14 Facility Storm Drainage (22 10)		
22 14 13 Facility Storm Drainage Piping (22 14) See CSI section 22 13 16 00-0000 for storm drainage piping.		
22 14 26 Facility Storm Drains (22 14)		
22 14 26 13 Roof Drains (22 14 26)		
22 14 26 13-0001 Cast Iron Roof Drains (22 14 26 13)		
22 14 26 13-0002 Cast Iron Roof Drains With Large Polypropylene Dome (22 14 26 13-0001) Note: Dome free area is 124 square inches.		
22 14 26 13-0003 EA 15" Diameter Cast Iron Roof Drain With 2" Outlet, 124 Square Inch Free Area Polypropylene Dome For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Bronze Dome, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	951.84 518.00 130.00 448.80 147.00 357.00	171.04
22 14 26 13-0004 EA 15" Diameter Cast Iron Roof Drain With 3" Outlet, 124 Square Inch Free Area Polypropylene Dome For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Bronze Dome, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,037.35 518.00 130.00 448.80 147.00 357.00	205.21
22 14 26 13-0005 EA 15" Diameter Cast Iron Roof Drain With 4" Outlet, 124 Square Inch Free Area Polypropylene Dome For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Bronze Dome, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,122.85 518.00 130.00 448.80 147.00 357.00	256.51
22 14 26 13-0006 EA 15" Diameter Cast Iron Roof Drain With 5" Outlet, 124 Square Inch Free Area Polypropylene Dome For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Bronze Dome, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,513.07 518.00 130.00 448.80 147.00 357.00	307.81
22 14 26 13-0007 EA 15" Diameter Cast Iron Roof Drain With 6" Outlet, 124 Square Inch Free Area Polypropylene Dome For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Bronze Dome, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,555.82 518.00 130.00 448.80 147.00 357.00	341.98



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 13-0008	EA	15" Diameter Cast Iron Roof Drain With 8" Outlet, 124 Square Inch Free Area Polypropylene Dome	1,849.97	359.12
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Bronze Dome, Add	448.80	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0009	EA	15" Diameter Cast Iron Roof Drain With 10" Outlet, 124 Square Inch Free Area Polypropylene Dome	2,529.44	371.94
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Bronze Dome, Add	448.80	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0010 Cast Iron Roof Drains With Expansion Joint (22 14 26 13-0001)				
Note: With polypropylene dome. Dome free area is 124 square inches.				
22 14 26 13-0011	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 2" Outlet, Polypropylene Dome	1,495.18	171.04
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0012	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 3" Outlet, Polypropylene Dome	1,618.64	205.21
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0013	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 4" Outlet, Polypropylene Dome	1,778.05	256.51
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0014	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 5" Outlet, Polypropylene Dome	2,465.90	307.81
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0015	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 6" Outlet, Polypropylene Dome	2,646.48	341.98
		For Galvanized Iron Parts, Add	518.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0016 Cast Iron Roof Drains With Flat Bronze Promenade Top (22 14 26 13-0001)				
22 14 26 13-0017	EA	14" x 14" Cast Iron Roof Drain With 2" Outlet, Bronze Promenade Top	2,083.50	171.04
		For Galvanized Iron Parts, Add	480.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0018	EA	14" x 14" Cast Iron Roof Drain With 3" Outlet, Bronze Promenade Top	2,169.01	205.21
		For Galvanized Iron Parts, Add	480.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0019	EA	14" x 14" Cast Iron Roof Drain With 4" Outlet, Bronze Promenade Top	2,254.51	256.51
		For Galvanized Iron Parts, Add	480.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0020	EA	14" x 14" Cast Iron Roof Drain With 5" Outlet, Bronze Promenade Top	2,627.96	307.81
		For Galvanized Iron Parts, Add	480.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0021	EA	14" x 14" Cast Iron Roof Drain With 6" Outlet, Bronze Promenade Top	2,670.71	341.98
		For Galvanized Iron Parts, Add	480.00	
		For Deck Clamp Assembly, Add	130.00	
		For Drain Receiver, Add	147.00	
		For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0022 Cast Iron Scupper Drain With L-Shaped Bronze Grate (22 14 26 13-0001)				
22 14 26 13-0023	EA	Cast Iron Scupper Drain With 2" Outlet, L-Shaped Bronze Grate	1,356.48	68.44
		For Vandal Proof Grate, Add	33.00	
		For Galvanized Cast Iron Parts, Add	128.00	
22 14 26 13-0024	EA	Cast Iron Scupper Drain With 3" Outlet, L-Shaped Bronze Grate	1,390.68	85.47
		For Vandal Proof Grate, Add	33.00	
		For Galvanized Cast Iron Parts, Add	128.00	
22 14 26 13-0025	EA	Cast Iron Scupper Drain With 4" Outlet, L-Shaped Bronze Grate	1,406.23	93.27
		For Vandal Proof Grate, Add	33.00	
		For Galvanized Cast Iron Parts, Add	128.00	
		For Galvanized Iron Parts, Add	258.00	
22 14 26 13-0026	EA	Cast Iron Scupper Drain With 5" Outlet, L-Shaped Bronze Grate	1,980.34	123.64
		For Vandal Proof Grate, Add	33.00	
		For Galvanized Iron Parts, Add	258.00	



Plumbing			22
Plumbing Piping			22 10
Facility Storm Drainage			22 14

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 13-0027	EA		Cast Iron Scupper Drain With 6" Outlet, L-Shaped Bronze Grate..... For Vandal Proof Grate, Add For Galvanized Iron Parts, Add	2,034.88 33.00 258.00	150.93
22 14 26 13-0028			Cast Iron Roof Drain With Flat Cast Iron Grate (22 14 26 13-0001) Note: Grate free area is 27 square inches.		
22 14 26 13-0029	EA		9" x 9" Cast Iron Roof Drain With 2" Outlet, Cast Iron Promenade Top..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,048.24 144.00 80.40 93.60	171.04
22 14 26 13-0030	EA		9" x 9" Cast Iron Roof Drain With 3" Outlet, Cast Iron Promenade Top..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,133.75 144.00 80.40 93.60	205.21
22 14 26 13-0031	EA		9" x 9" Cast Iron Roof Drain With 4" Outlet, Cast Iron Promenade Top..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,219.25 144.00 80.40 93.60	256.51
22 14 26 13-0032			Cast Iron Roof Drains With Large Cast Iron Dome (22 14 26 13-0001)		
22 14 26 13-0033	EA		15" Diameter Cast Iron Roof Drain With 2" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,132.07 518.00 130.00 147.00 357.00	171.04
22 14 26 13-0034	EA		15" Diameter Cast Iron Roof Drain With 3" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,217.58 518.00 130.00 147.00 357.00	205.21
22 14 26 13-0035	EA		15" Diameter Cast Iron Roof Drain With 4" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,303.08 518.00 130.00 147.00 357.00	256.51
22 14 26 13-0036	EA		15" Diameter Cast Iron Roof Drain With 5" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,693.30 518.00 130.00 147.00 357.00	307.81
22 14 26 13-0037	EA		15" Diameter Cast Iron Roof Drain With 6" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,736.05 518.00 130.00 147.00 357.00	341.98
22 14 26 13-0038	EA		15" Diameter Cast Iron Roof Drain With 8" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	2,030.20 518.00 130.00 147.00 357.00	359.12
22 14 26 13-0039	EA		15" Diameter Cast Iron Roof Drain With 10" Outlet, Cast Iron Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	2,709.67 518.00 130.00 147.00 357.00	371.94
22 14 26 13-0040			Aluminum Roof Drains (22 14 26 13)		
22 14 26 13-0041			Aluminum Dome Roof Drains (22 14 26 13-0040)		
22 14 26 13-0042	EA		15" Diameter Roof Drain With 2" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,163.50 518.00 130.00 147.00 357.00	171.04
22 14 26 13-0043	EA		15" Diameter Roof Drain With 3" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,249.01 518.00 130.00 147.00 357.00	205.21
22 14 26 13-0044	EA		15" Diameter Roof Drain With 4" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,334.51 518.00 130.00 147.00 357.00	256.51
22 14 26 13-0045	EA		15" Diameter Roof Drain With 6" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,767.48 518.00 130.00 147.00 357.00	341.68



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 13-0046	EA	15" Diameter Roof Drain With 8" Outlet, Aluminum Dome..... <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,061.84 518.00 130.00 147.00 357.00	359.12
22 14 26 13-0047	EA	15" Diameter Roof Drain With 10" Outlet, Aluminum Dome..... <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,741.10 518.00 130.00 147.00 357.00	371.94
22 14 26 13-0048		Retrofit Roof Drains (22 14 26 13)		
22 14 26 13-0049		Retrofit Copolymer Roof Drains With Copolymer Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0050	EA	Copolymer Retrofit 3" Roof Drains, With Copolymer Dome.....	819.74	205.21
22 14 26 13-0051	EA	Copolymer Retrofit 4" Roof Drains, With Copolymer Dome.....	919.29	256.51
22 14 26 13-0052	EA	Copolymer Retrofit 5" Roof Drains, With Copolymer Dome.....	1,107.74	307.81
22 14 26 13-0053	EA	Copolymer Retrofit 6" Roof Drains, With Copolymer Dome.....	1,210.67	341.68
22 14 26 13-0054		Retrofit Copolymer Roof Drains With Cast Aluminum Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0055	EA	Copolymer Retrofit Drain, 3", With Cast Aluminum Dome	954.16	205.21
22 14 26 13-0056	EA	Copolymer Retrofit Drain, 4", With Cast Aluminum Dome	1,048.69	256.51
22 14 26 13-0057	EA	Copolymer Retrofit Drain, 5", With Cast Aluminum Dome	1,246.17	307.81
22 14 26 13-0058	EA	Copolymer Retrofit Drain, 6", With Cast Aluminum Dome	1,306.98	341.68
22 14 26 13-0059		Retrofit Roof Aluminum Drains With Cast Aluminum Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0060	EA	Aluminum Retrofit 3" Roof Drains, With Cast Aluminum Dome	824.76	205.21
		<i>For Copolymer Strainer Dome, Deduct</i>	-24.00	
22 14 26 13-0061	EA	Aluminum Retrofit 4" Roof Drains, With Cast Aluminum Dome	925.31	256.51
		<i>For Copolymer Strainer Dome, Deduct</i>	-24.00	
22 14 26 13-0062	EA	Aluminum Retrofit 5" Roof Drains, With Cast Aluminum Dome	1,113.76	307.81
		<i>For Copolymer Strainer Dome, Deduct</i>	-24.00	
22 14 26 13-0063	EA	Aluminum Retrofit 6" Roof Drains, With Cast Aluminum Dome	1,168.54	341.68
		<i>For Copolymer Strainer Dome, Deduct</i>	-24.00	
22 14 26 13-0064		Bronze Downspout Nozzles (22 14 26 13)		
22 14 26 13-0065	EA	2" Outlet, Bronze Roof Drain Downspout Nozzle	499.59	102.60
22 14 26 13-0066	EA	3" Outlet, Bronze Roof Drain Downspout Nozzle	499.59	102.60
22 14 26 13-0067	EA	4" Outlet, Bronze Roof Drain Downspout Nozzle	499.59	102.60
22 14 26 13-0068	EA	5" Outlet, Bronze Roof Drain Downspout Nozzle	786.53	128.26
22 14 26 13-0069	EA	6" Outlet, Bronze Roof Drain Downspout Nozzle	786.53	128.26
22 14 26 13-0070	EA	8" Outlet, Bronze Roof Drain Downspout Nozzle	1,033.29	128.26
22 14 26 16		Facility Area Drains (22 14 26)		
22 14 26 16-0001		Area Drain (22 14 26 16)		
22 14 26 16-0002	EA	12" x 12" Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Gate And Secondary Strainer..... <i>For Ductile Iron Gate, Add</i> <i>For Vandal Proof Screws, Add</i> <i>For Primer Tap, Add</i> <i>For Galvanized Cast Iron Parts, Add</i>	3,056.36 123.50 29.50 36.00 152.25	123.54
22 14 26 16-0003	EA	12" x 12" Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Gate And Secondary Strainer..... <i>For Ductile Iron Gate, Add</i> <i>For Vandal Proof Screws, Add</i> <i>For Primer Tap, Add</i> <i>For Galvanized Cast Iron Parts, Add</i>	3,083.00 123.50 29.50 36.00 152.25	136.87
22 14 26 16-0004	EA	12" x 12" Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Gate And Secondary Strainer..... <i>For Ductile Iron Gate, Add</i> <i>For Vandal Proof Screws, Add</i> <i>For Primer Tap, Add</i> <i>For Galvanized Cast Iron Parts, Add</i>	3,111.02 123.50 29.50 36.00 152.25	150.93
22 14 26 16-0005	EA	12" x 12" Floor Drain With 6" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Gate And Secondary Strainer..... <i>For Ductile Iron Gate, Add</i> <i>For Vandal Proof Screws, Add</i> <i>For Primer Tap, Add</i> <i>For Galvanized Cast Iron Parts, Add</i>	3,140.23 123.50 29.50 36.00 152.25	165.50
22 14 26 16-0006	EA	12" x 12" Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Gate And Secondary Strainer..... <i>For Ductile Iron Gate, Add</i> <i>For Vandal Proof Screws, Add</i> <i>For Primer Tap, Add</i> <i>For Galvanized Cast Iron Parts, Add</i>	1,864.48 123.50 29.50 36.00 152.25	123.54



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0007	EA		12" x 12" Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,891.12	136.87
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0008	EA		12" x 12" Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,919.14	150.93
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0009	EA		12" x 12" Floor Drain With 6" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,948.35	165.50
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0010	EA		12" x 12" Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,850.23	123.54
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0011	EA		12" x 12" Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,876.87	136.87
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0012	EA		12" x 12" Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,904.89	150.93
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0013	EA		12" x 12" Floor Drain With 6" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,934.10	165.50
			For Ductile Iron Grate, Add	123.50	
			For Vandal Proof Screws, Add	29.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	152.25	
22 14 26 16-0014	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,206.52	123.54
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0015	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,233.16	136.87
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0016	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,261.18	150.93
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0017	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,290.39	165.50
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0018	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,008.79	123.54
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0019	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,035.43	136.87
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0020	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,063.45	150.93
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0021	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,092.66	165.50
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0022	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	5,881.46	123.54
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0023	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer	5,908.10	136.87
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0024	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer	5,936.12	150.93
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0025	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer	5,965.33	165.50
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0026	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,338.58	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0027	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,365.22	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0028	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,393.24	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0029	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	794.17	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0030	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	820.81	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0031	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	848.83	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0032	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,259.29	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0033	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,285.93	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0034	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots	1,313.95	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0035	EA		12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	4,121.39	123.54
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0036	EA		12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	4,148.03	136.87
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0037	EA		12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	4,176.05	150.93
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0038	EA		12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,665.24	123.54
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0039	EA		12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,691.88	136.87
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0040	EA		12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,719.90	150.93
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0041	EA		12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,867.69	123.54
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0042	EA		12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,894.33	136.87
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0043	EA		12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,922.35	150.93
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 19 Facility Trench Drains (22 14 26)					
22 14 26 19-0001			Trench Drain (22 14 26 19) Note: Each section is 39.4" in length.		
22 14 26 19-0002	EA		6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,096.36	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0003	EA		6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,123.00	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0004	EA		6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,151.02	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0005	EA		6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	657.76	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0006	EA		6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	684.40	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0007	EA		6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	712.42	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0008	EA		6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,036.60	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0009	EA		6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,063.24	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0010	EA		6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,091.26	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0011	EA		6" Wide Trench Drain x 15" Extension Section, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	972.29	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0012	EA		6" Wide Trench Drain x 15" Extension Section, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	533.69	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0013	EA		6" Wide Trench Drain x 15" Extension Section, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	912.53	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0014	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,752.81	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 19-0015	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,779.45	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0016	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,807.47	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0017	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,210.11	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0018	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,236.75	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0019	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,264.77	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0020	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,678.59	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0021	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,705.23	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0022	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,733.25	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0023	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,463.62	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0024	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,490.26	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 19-0025	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,518.28	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0026	EA		12" Wide Trench Drain x 15" Extension Section, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,628.72	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0027	EA		12" Wide Trench Drain x 15" Extension Section, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,086.02	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0028	EA		12" Wide Trench Drain x 15" Extension Section, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,554.50	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0029	EA		12" Wide Trench Drain x 15" Extension Section, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,339.53	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 29 Sump Pumps (22 14)					
See CSI section 22 11 16 00-0000 for pipe extensions into well.					
22 14 29 13 Wet-Pit-Mounted, Vertical Sump Pumps (22 14 29)					
22 14 29 13-0001 Vertical Mounted Sump Pumps (22 14 29 13)					
Note: Supplied with 1750 RPM premium efficient motor with drip cover, float switch assembly, steel support mounting plate and 5' column sections.					
22 14 29 13-0002	EA		1 HP Vertical Mounted Cast Iron Sump Pump, 1-1/2" Discharge, Single Stage, 25 GPM 40' Head	6,268.71	297.72
			For Explosion Proof Motor, Add	295.95	
22 14 29 13-0003	EA		1-1/2 HP Vertical Mounted Cast Iron Sump Pump, 2" Discharge, Single Stage, 75 GPM 40' Head	6,611.39	360.34
			For Explosion Proof Motor, Add	329.01	
22 14 29 13-0004	EA		2 HP Vertical Mounted Cast Iron Sump Pump, 2-1/2" Discharge, Single Stage, 100 GPM 40' Head	7,546.73	428.11
			For Explosion Proof Motor, Add	425.03	
22 14 29 13-0005	EA		3 HP Vertical Mounted Cast Iron Sump Pump, 3" Discharge, Single Stage, 150 GPM 40' Head	8,025.77	526.66
			For Explosion Proof Motor, Add	481.71	
22 14 29 13-0006	EA		5 HP Vertical Mounted Cast Iron Sump Pump, 3" Discharge, Single Stage, 200 GPM 40' Head	8,469.44	570.80
			For Explosion Proof Motor, Add	703.67	
22 14 29 13-0007	EA		10 HP Vertical Mounted Cast Iron Sump Pump, 4" Discharge, Single Stage, 300 GPM 70' Head	10,040.45	684.76
			For Explosion Proof Motor, Add	798.12	
22 14 29 13-0008	EA		15 HP Vertical Mounted Cast Iron Sump Pump, 5" Discharge, Single Stage, 500 GPM 70' Head	11,780.38	709.11
			For Explosion Proof Motor, Add	1,308.16	
22 14 29 13-0009	EA		20 HP Vertical Mounted Cast Iron Sump Pump, 6" Discharge, Single Stage, 800 GPM 70' Head	14,334.85	904.41
			For Explosion Proof Motor, Add	1,736.34	
22 14 29 13-0010	EA		30 HP Vertical Mounted Cast Iron Sump Pump, 6" Discharge, Single Stage, 1,000 GPM 70' Head	15,457.64	1,054.76
			For Explosion Proof Motor, Add	2,251.11	
22 14 29 13-0011	EA		50 HP Vertical Mounted Cast Iron Sump Pump, 8" Discharge, Single Stage, 1,600 GPM 70' Head	20,793.87	1,266.17
			For Explosion Proof Motor, Add	2,932.73	
22 14 29 13-0012	EA		60 HP Vertical Mounted Cast Iron Sump Pump, 8" Discharge, Single Stage, 2,000 GPM 70' Head	28,907.32	1,406.35
			For Explosion Proof Motor, Add	4,648.61	
22 14 29 13-0013 Extra Column Assemblies (22 14 29 13)					
22 14 29 13-0014	EA		1-1/2" Diameter x 5' Long Extra Column Assembly	1,001.74	
22 14 29 13-0015	EA		2" Diameter x 5' Long Extra Column Assembly	1,096.13	
22 14 29 13-0016	EA		2-1/2" Diameter x 5' Long Extra Column Assembly	1,199.43	
22 14 29 13-0017	EA		3" Diameter x 5' Long Extra Column Assembly	1,440.15	
22 14 29 13-0018	EA		4" Diameter x 5' Long Extra Column Assembly	1,609.70	
22 14 29 13-0019	EA		5" Diameter x 5' Long Extra Column Assembly	1,639.01	
22 14 29 13-0020	EA		6" Diameter x 5' Long Extra Column Assembly	1,839.96	
22 14 29 13-0021	EA		8" Diameter x 5' Long Extra Column Assembly	2,013.34	
22 14 29 13-0022 Support Plate (22 14 29 13)					
22 14 29 13-0023	EA		24" Steel Support Plate, Round Or Square	961.25	41.04
22 14 29 13-0024	EA		30" Steel Support Plate, Round Or Square	1,063.93	46.17
22 14 29 13-0025	EA		36" Steel Support Plate, Round Or Square	1,478.03	61.56
22 14 29 13-0026	EA		40" Steel Support Plate, Round Or Square	2,156.83	71.83
22 14 29 13-0027	EA		42" Steel Support Plate, Round Or Square	2,314.15	74.39
22 14 29 13-0028	EA		48" Steel Support Plate, Round Or Square	2,475.95	76.96
22 14 29 13-0029	EA		54" Steel Support Plate, Round Or Square	3,158.01	92.34
22 14 29 13-0030	EA		60" Steel Support Plate, Round Or Square	4,293.48	102.60
22 14 29 13-0031	EA		72" Steel Support Plate, Round Or Square	5,737.22	128.26
22 14 29 13-0032	EA		84" Steel Support Plate, Round Or Square	6,936.39	141.08



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 14 29 16 Submersible Sump Pumps (22 14 29)

22 14 29 16-0001 Submersible Sump/Effluent Pumps (22 14 29 16)

22 14 29 16-0002 Wet Pit Submersible Pumps, (KSB) Series KRT K (22 14 29 16-0001)

Note: Includes 33' (10m) of cord with pump.

22 14 29 16-0003 4 Pole / 1,750 RPM (22 14 29 16-0002)

22 14 29 16-0004	EA	To 10 HP, 600 GPM At 32' Head, Wet Pit Submersible Pump	8,154.50	358.79
22 14 29 16-0005	EA	11-20 HP, 900 GPM At 60' Head, Wet Pit Submersible Pump	9,613.35	597.98
22 14 29 16-0006	EA	21-36 HP, 1,000 GPM At 105' Head, Wet Pit Submersible Pump	16,443.24	837.16
22 14 29 16-0007	EA	51-83 HP, 2,500 GPM At 115' Head, Wet Pit Submersible Pump	39,461.74	1,076.35
22 14 29 16-0008	EA	83-110 HP, 2,600 GPM At 140' Head, Wet Pit Submersible Pump	42,802.38	1,315.55
22 14 29 16-0009	EA	83-110 HP, 3,000 GPM At 100' Head, Wet Pit Submersible Pump	46,441.29	1,315.55
22 14 29 16-0010	EA	83-110 HP, 3,500 GPM At 80' Head, Wet Pit Submersible Pump	47,320.44	1,315.55
22 14 29 16-0011	EA	110-160 HP, 3,000 GPM At 180' Head, Wet Pit Submersible Pump	55,084.16	1,554.74
22 14 29 16-0012	EA	110-160 HP, 3,500 GPM At 140' Head, Wet Pit Submersible Pump	56,643.20	1,554.74
22 14 29 16-0013	EA	110-160 HP, 4,500 GPM At 110' Head, Wet Pit Submersible Pump	58,597.24	1,554.74
22 14 29 16-0014	EA	160-210 HP, 3,800 GPM At 150' Head, Wet Pit Submersible Pump	62,326.89	1,793.93
22 14 29 16-0015	EA	160-210 HP, 5,000 GPM At 130' Head, Wet Pit Submersible Pump	66,486.66	1,793.93

22 14 29 16-0016 6 Pole / 1160 RPM (22 14 29 16-0002)

22 14 29 16-0017	EA	To 10 HP, 1,100 GPM At 26' Head, Wet Pit Submersible Pump	11,321.51	358.79
22 14 29 16-0018	EA	To 10 HP, 1,800 GPM At 16' Head, Wet Pit Submersible Pump	12,258.33	358.79
22 14 29 16-0019	EA	11-24 HP, 1,400 GPM At 47' Head, Wet Pit Submersible Pump	15,964.86	597.98
22 14 29 16-0020	EA	11-24 HP, 2,400 GPM At 30' Head, Wet Pit Submersible Pump	17,392.81	597.98
22 14 29 16-0021	EA	21-50 HP, 2,100 GPM At 75' Head, Wet Pit Submersible Pump	25,147.28	837.16
22 14 29 16-0022	EA	21-50 HP, 2,400 GPM At 60' Head, Wet Pit Submersible Pump	26,662.63	837.16
22 14 29 16-0023	EA	21-50 HP, 3,200 GPM At 50' Head, Wet Pit Submersible Pump	32,222.38	837.16
22 14 29 16-0024	EA	21-50 HP, 5,000 GPM At 29' Head, Wet Pit Submersible Pump	38,469.02	837.16
22 14 29 16-0025	EA	51-80 HP, 2,800 GPM At 80' Head, Wet Pit Submersible Pump	39,201.32	1,076.35
22 14 29 16-0026	EA	51-80 HP, 4,000 GPM At 60' Head, Wet Pit Submersible Pump	44,810.01	1,076.35
22 14 29 16-0027	EA	51-80 HP, 5,500 GPM At 43' Head, Wet Pit Submersible Pump	45,166.56	1,076.35
22 14 29 16-0028	EA	76-112 HP, 2,200 GPM At 105' Head, Wet Pit Submersible Pump	53,040.99	1,315.55
22 14 29 16-0029	EA	76-112 HP, 4,100 GPM At 70' Head, Wet Pit Submersible Pump	57,060.93	1,315.55
22 14 29 16-0030	EA	76-112 HP, 6,500 GPM At 50' Head, Wet Pit Submersible Pump	65,792.94	1,315.55
22 14 29 16-0031	EA	112-143 HP, 2,500 GPM At 120' Head, Wet Pit Submersible Pump	71,730.21	1,554.74
22 14 29 16-0032	EA	112-143 HP, 6,500 GPM At 65' Head, Wet Pit Submersible Pump	72,252.80	1,554.74
22 14 29 16-0033	EA	155-200 HP, 3,000 GPM At 150' Head, Wet Pit Submersible Pump	88,945.89	1,793.93
22 14 29 16-0034	EA	155-200 HP, 6,000 GPM At 110' Head, Wet Pit Submersible Pump	98,574.52	1,793.93
22 14 29 16-0035	EA	201-280 HP, 6,500 GPM At 130' Head, Wet Pit Submersible Pump	108,159.38	2,033.11
22 14 29 16-0036	EA	281-450 HP, 12,000 GPM At 110' Head, Wet Pit Submersible Pump	154,883.95	2,272.31

22 14 29 16-0037 8 Pole / 875 RPM (22 14 29 16-0002)

22 14 29 16-0038	EA	To 20 HP, 2,300 GPM At 25' Head, Wet Pit Submersible Pump	10,897.99	597.98
22 14 29 16-0039	EA	21-30 HP, 2,500 GPM At 31' Head, Wet Pit Submersible Pump	12,507.19	837.16
22 14 29 16-0040	EA	31-50 HP, 4,700 GPM At 29' Head, Wet Pit Submersible Pump	17,923.60	1,076.35
22 14 29 16-0041	EA	51-117 HP, 6,500 GPM At 45' Head, Wet Pit Submersible Pump	34,315.06	1,315.55
22 14 29 16-0042	EA	118-175 HP, 9,000 GPM At 60' Head, Wet Pit Submersible Pump	43,393.12	1,554.74
22 14 29 16-0043	EA	176-210 HP, 1,400 GPM At 50' Head, Wet Pit Submersible Pump	59,161.63	1,793.93
22 14 29 16-0044	EA	211-250 HP, 14,000 GPM At 60' Head, Wet Pit Submersible Pump	63,155.28	2,033.11

22 14 29 16-0045 10 Pole / 700 RPM (22 14 29 16-0002)

22 14 29 16-0046	EA	To 55 HP, 6,500 GPM At 25' Head Wet Pit Submersible Pump	29,754.48	837.16
22 14 29 16-0047	EA	56-76 HP, 7,000 GPM At 36' Head Wet Pit Submersible Pump	33,837.32	1,076.35
22 14 29 16-0048	EA	76-117 HP, 10,000 GPM At 30' Head Wet Pit Submersible Pump	50,854.49	1,315.55
22 14 29 16-0049	EA	118-150 HP, 11,500 GPM At 40' Head Wet Pit Submersible Pump	59,929.06	1,554.74

22 14 29 16-0050 Dry Pit Submersible Pumps, (KSB) Series KRT K-D (22 14 29 16-0001)

Note: Includes 33' (10m) of cord with pump.

22 14 29 16-0051 4 Pole / 1,750 RPM (22 14 29 16-0050)

22 14 29 16-0052	EA	To 35 HP, 800 GPM At 90' Head Dry Pit Submersible Pump	25,968.75	837.16
22 14 29 16-0053	EA	To 35 HP, 1,700 GPM At 50' Head Dry Pit Submersible Pump	28,677.84	837.16
22 14 29 16-0054	EA	36-50 HP, 1,300 GPM At 80' Head Dry Pit Submersible Pump	29,682.14	956.76
22 14 29 16-0055	EA	36-50 HP, 2,000 GPM At 66' Head Dry Pit Submersible Pump	34,362.74	956.76
22 14 29 16-0056	EA	51-75 HP, 1,600 GPM At 110' Head Dry Pit Submersible Pump	51,265.27	1,076.35
22 14 29 16-0057	EA	51-75 HP, 2,400 GPM At 80' Head Dry Pit Submersible Pump	52,216.07	1,076.35
22 14 29 16-0058	EA	76-110 HP, 1,900 GPM At 125' Head Dry Pit Submersible Pump	56,381.03	1,315.55
22 14 29 16-0059	EA	76-110 HP, 2,600 GPM At 110' Head Dry Pit Submersible Pump	56,604.75	1,315.55
22 14 29 16-0060	EA	110-150 HP, 3,000 GPM At 160' Head Dry Pit Submersible Pump	80,184.31	1,554.74
22 14 29 16-0061	EA	110-150 HP, 4,000 GPM At 100' Head Dry Pit Submersible Pump	92,868.10	1,554.74

22 14 29 16-0062 6 Pole / 1160 RPM (22 14 29 16-0050)

22 14 29 16-0063	EA	To 35 HP, 1,300 GPM At 55' Head Dry Pit Submersible Pump	32,428.62	837.16



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 29 16-0064 EA To 35 HP, 1,800 GPM At 45' Head Dry Pit Submersible Pump	35,550.19	837.16
22 14 29 16-0065 EA To 35 HP, 2,800 GPM At 35' Head Dry Pit Submersible Pump	43,904.67	837.16
22 14 29 16-0066 EA 36-50 HP, 2,000 GPM At 55' Head Dry Pit Submersible Pump	47,829.54	956.76
22 14 29 16-0067 EA 36-50 HP, 3,200 GPM At 50' Head Dry Pit Submersible Pump	54,866.19	956.76
22 14 29 16-0068 EA 51-75 HP, 2,500 GPM At 88' Head Dry Pit Submersible Pump	60,350.33	1,076.35
22 14 29 16-0069 EA 51-75 HP, 5,500 GPM At 45' Head Dry Pit Submersible Pump	73,745.47	1,076.35
22 14 29 16-0070 EA 76-112 HP, 3,100 GPM At 100' Head Dry Pit Submersible Pump	83,180.05	1,315.55
22 14 29 16-0071 EA 76-112 HP, 8,400 GPM At 55' Head Dry Pit Submersible Pump	91,581.73	1,315.55
22 14 29 16-0072 EA 112-154 HP, 3,300 GPM At 130' Head Dry Pit Submersible Pump	112,029.23	1,554.74
22 14 29 16-0073 EA 112-154 HP, 5,000 GPM At 80' Head Dry Pit Submersible Pump	135,477.72	1,554.74
22 14 29 16-0074 EA 154-200 HP, 3,700 GPM At 140' Head Dry Pit Submersible Pump	139,974.66	1,793.93
22 14 29 16-0075 EA 154-200 HP, 5,700 GPM At 100' Head Dry Pit Submersible Pump	143,994.60	1,793.93
22 14 29 16-0076 EA 201-300 HP, 6,500 GPM At 130' Head Dry Pit Submersible Pump	211,851.11	2,033.11
22 14 29 16-0077 8 Pole / 875 RPM (22 14 29 16-0050)		
22 14 29 16-0078 EA To 35 HP, 2,000 GPM At 45' Head, Dry Pit Submersible Pump	46,444.23	837.16
22 14 29 16-0079 EA To 35 HP, 2,400 GPM At 32' Head, Dry Pit Submersible Pump	58,526.77	837.16
22 14 29 16-0080 EA 36-50 HP, 4,600 GPM At 30' Head, Dry Pit Submersible Pump	65,604.67	956.76
22 14 29 16-0081 EA 51-75 HP, 4,250 GPM At 51' Head, Dry Pit Submersible Pump	81,549.40	1,076.35
22 14 29 16-0082 EA 76-110 HP, 4,600 GPM At 70' Head, Dry Pit Submersible Pump	103,110.21	1,315.55
22 14 29 16-0083 EA 76-110 HP, 8,500 GPM At 40' Head, Dry Pit Submersible Pump	109,989.56	1,315.55
22 14 29 16-0084 EA 110-154 HP, 5,000 GPM At 75' Head, Dry Pit Submersible Pump	121,275.09	1,554.74
22 14 29 16-0085 EA 110-154 HP, 9,000 GPM At 55' Head, Dry Pit Submersible Pump	135,538.89	1,554.74
22 14 29 16-0086 EA 110-154 HP, 12,000 GPM At 32' Head, Dry Pit Submersible Pump	176,411.19	1,554.74
22 14 29 16-0087 EA 154-214 HP, 13,000 GPM At 50' Head, Dry Pit Submersible Pump	231,510.44	1,793.93
22 14 29 16-0088 EA 215-244 HP, 14,000 GPM At 55' Head, Dry Pit Submersible Pump	251,195.84	2,033.11
22 14 29 16-0089 10 Pole / 700 RPM (22 14 29 16-0050)		
22 14 29 16-0090 EA To 55 HP, 3,600 GPM At 40' Head Dry Pit Submersible Pump	98,881.03	956.76
22 14 29 16-0091 EA To 55 HP, 6,250 GPM At 28' Head Dry Pit Submersible Pump	105,533.16	956.76
22 14 29 16-0092 EA 56-75 HP, 4,000 GPM At 47' Head Dry Pit Submersible Pump	110,387.23	1,076.35
22 14 29 16-0093 EA 55-82 HP, 9,000 GPM At 37' Head Dry Pit Submersible Pump	115,002.29	1,076.35
22 14 29 16-0094 EA 76-110 HP, 10,500 GPM At 30' Head Dry Pit Submersible Pump	172,819.47	1,315.55
22 14 29 16-0095 EA 110-154 HP, 11,500 GPM At 40' Head Dry Pit Submersible Pump	190,197.84	1,554.74
22 14 29 16-0096 EA 154-214 HP, 13,000 GPM At 55' Head Dry Pit Submersible Pump	244,921.31	1,793.93
22 14 29 16-0097 Submersible Sump Pump, Ebara (22 14 29 16-0001)		
22 14 29 16-0098 Submersible Sump Pump, 2", 3", 4" Ebara Model DSU (22 14 29 16-0097)		
22 14 29 16-0099 EA 3 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSU62.2	3,570.11	246.25
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	274.55	
22 14 29 16-0100 EA 5 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSU63.7	4,059.13	328.34
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	274.55	
22 14 29 16-0101 EA 3 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSU62.2	3,771.28	246.25
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	381.65	
22 14 29 16-0102 EA 5 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSU63.7	4,150.47	328.34
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	381.65	
22 14 29 16-0103 EA 7.5 HP Submersible Sump Pump, 4" Discharge, 3 Phase, Ebara 100DSU65.5	5,562.69	410.42
For 20' Stainless Steel Chain, Add	423.30	
For Guide Rail System, Add	754.80	
22 14 29 16-0104 EA 10 HP Submersible Sump Pump, 4" Discharge, 3 Phase, Ebara 100DSU67.5	6,247.46	492.51
For 20' Stainless Steel Chain, Add	423.30	
For Guide Rail System, Add	754.80	
22 14 29 16-0105 Submersible Sump Pump, 2", 3", Ebara Model DSHU, Rated 176 Degrees		
F (22 14 29 16-0097)		
22 14 29 16-0106 EA 1/2 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU6.4	1,593.83	82.08
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	220.15	
22 14 29 16-0107 EA 1 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU6.75	1,769.28	123.13
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	220.15	
22 14 29 16-0108 EA 2 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU61.5	2,618.24	205.21
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	220.15	
22 14 29 16-0109 EA 3 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU62.2	4,312.81	246.25
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	274.55	
22 14 29 16-0110 EA 5 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU63.7	4,598.48	328.34
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	274.55	
22 14 29 16-0111 EA 3 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSHU62.2	4,637.94	246.25
For 20' Stainless Steel Chain, Add	284.75	
For Guide Rail System, Add	381.65	



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 14 29 16-0112	EA	5 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSHU63.5	5,024.75	328.34
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	381.65	

22 14 29 16-0113 Submersible Sump Pump With Vortex Impeller (22 14 29 16)

22 14 29 16-0114 Submersible Sump Pump With Cast Iron Vortex Impeller (22 14 29 16-0113)

22 14 29 16-0115	EA	1/3 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	509.33	66.86
22 14 29 16-0116	EA	1/3 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	567.38	66.86
22 14 29 16-0117	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	906.43	70.75
22 14 29 16-0118	EA	1/2 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	998.29	70.75

22 14 29 16-0119 Submersible Sump Pump With Bronze Vortex Impeller (22 14 29 16-0113)

Note: Includes 20' of cord with pump.

22 14 29 16-0120	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,546.93	70.75
22 14 29 16-0121	EA	1/2 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,685.36	70.75
22 14 29 16-0122	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,768.89	77.99
22 14 29 16-0123	EA	1 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,916.89	77.99
22 14 29 16-0124	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,969.45	89.13
22 14 29 16-0125	EA	1-1/2 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,114.90	89.13
22 14 29 16-0126	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,112.26	105.85
22 14 29 16-0127	EA	2 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,238.58	105.85

22 14 29 16-0128 Submersible Sump Pump With Semi-Open Impeller (22 14 29 16)

Note: Includes 20' of cord with pump.

22 14 29 16-0129	EA	1/3 HP Manual Submersible Sump Pump, 115 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,230.34	66.86
22 14 29 16-0130	EA	1/3 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,271.04	66.86
22 14 29 16-0131	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,591.34	70.75
22 14 29 16-0132	EA	1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,619.94	70.75
22 14 29 16-0133	EA	3/4 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,946.83	74.65
22 14 29 16-0134	EA	3/4 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,946.83	74.65
22 14 29 16-0135	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,059.20	77.99
22 14 29 16-0136	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,059.20	77.99
22 14 29 16-0137	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,350.06	89.13
22 14 29 16-0138	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,350.06	89.13
22 14 29 16-0139	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,733.49	105.85
22 14 29 16-0140	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,683.98	105.85

22 14 29 19 Sump Pump Basins and Pits (22 14 29)

See CSI section 22 13 29 33-0000 for basins and pits.

22 15 General Service Compressed-Air Systems (22 10)

22 15 13 General Service Compressed-Air Piping (22 15)

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

22 15 13 00-0001 Quick Disconnect, Air-Service (22 15 13)

22 15 13 00-0002 Combination Steel And Brass (22 15 13 00-0001)

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

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

Note: 120 Voltage, 1 Phase

22 15 13 00-0006	EA	3 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	794.65	88.88



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

22

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 13 00-0007 EA 5 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	911.38	91.36
22 15 13 00-0008 EA 7.5 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	1,077.22	93.83
22 15 13 00-0009 EA 10 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	1,214.28	98.76
22 15 13 00-0010 EA 15 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	1,586.30	111.11
22 15 13 00-0011 EA 20 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	1,793.49	126.42
22 15 13 00-0012 EA 25 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	2,011.51	143.21
22 15 13 00-0013 EA 30 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	2,366.34	160.49
22 15 13 00-0014 EA 40 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	2,742.64	187.65
22 15 13 00-0015 EA 50 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	3,093.50	200.49
22 15 13 00-0016 EA 60 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	3,638.75	222.21
22 15 13 00-0017 EA 75 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	4,188.04	246.90
For 230 Voltage, Add	1,108.27	
22 15 13 00-0018 EA 85 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	4,525.50	271.60
For 230 Voltage, Add	1,194.63	
22 15 13 00-0019 EA 100 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	4,871.56	301.23
For 230 Voltage, Add	1,281.12	
22 15 13 00-0020 EA 125 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	5,268.21	320.98
For 230 Voltage, Add	1,387.88	
22 15 13 00-0021 EA 175 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	5,572.51	333.33
For 230 Voltage, Add	1,471.76	
22 15 13 00-0022 EA 200 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	9,715.07	345.67
For 230 Voltage, Add	2,707.12	
22 15 13 00-0023 EA 250 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	10,443.02	358.02
For 230 Voltage, Add	2,918.10	
22 15 13 00-0024 EA 300 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	11,150.65	370.36
For 230 Voltage, Add	3,122.98	
22 15 13 00-0025 EA 400 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	13,258.97	395.05
For 230 Voltage, Add	3,740.66	
22 15 13 00-0026 EA 500 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	15,027.39	493.81
For 230 Voltage, Add	4,211.93	
22 15 13 00-0027 EA 600 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	21,401.73	592.57
For 230 Voltage, Add	6,064.97	
22 15 13 00-0028 EA 800 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	29,089.39	691.33
For 230 Voltage, Add	8,312.01	
22 15 13 00-0029 EA 1,000 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters.....	32,565.96	790.10
For 230 Voltage, Add	9,295.73	
22 15 13 00-0030 Oil And Water Separator For Air Compressor (22 15 13)		
22 15 13 00-0031 EA 0-60 SCFM Oil/Water Separator.....	722.08	35.67
22 15 13 00-0032 EA 85 SCFM Oil/Water Separator.....	968.18	41.79
22 15 13 00-0033 EA 190 SCFM Oil/Water Separator.....	1,131.84	47.38
22 15 13 00-0034 EA 245 SCFM Oil/Water Separator.....	1,421.40	55.73
22 15 13 00-0035 EA 320 SCFM Oil/Water Separator.....	1,689.40	66.88
22 15 13 00-0036 EA 700 SCFM Oil/Water Separator.....	3,405.21	139.33
22 15 13 00-0037 Heavy Duty Industrial Pressure Regulator (22 15 13)		
22 15 13 00-0038 EA 3/8" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	121.96	29.62
22 15 13 00-0039 EA 1/2" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	170.52	39.50
22 15 13 00-0040 EA 3/4" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	293.30	49.38
22 15 13 00-0041 EA 1" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	366.40	74.07
22 15 13 00-0042 EA 1-1/4" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	514.02	86.42
22 15 13 00-0043 EA 1-1/2" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output.....	538.71	98.76
22 15 13 00-0044 Combination Air System; Filter Regulator Lubricator (22 15 13)		
22 15 13 00-0045 EA 3/8" Filter Regulator Lubricator, Max 150 PSI Input, 150 CFM, 40 Micron Filter.....	465.85	88.88
22 15 13 00-0046 EA 1/2" Filter Regulator Lubricator, Max 150 PSI Input, 150 CFM, 40 Micron Filter.....	575.93	118.52
22 15 13 00-0047 Heatless Desiccant Air Dryers (22 15 13)		
22 15 13 00-0048 EA 5 SCFM Heatless Desiccant Air Dryer.....	2,792.04	88.88
22 15 13 00-0049 EA 10 SCFM Heatless Desiccant Air Dryer.....	3,357.95	98.76
22 15 13 00-0050 EA 15 SCFM Heatless Desiccant Air Dryer.....	3,389.57	108.64
22 15 13 00-0051 EA 20 SCFM Heatless Desiccant Air Dryer.....	3,871.71	123.45
22 15 13 00-0052 EA 30 SCFM Heatless Desiccant Air Dryer.....	5,336.03	148.14
22 15 13 00-0053 EA 50 SCFM Heatless Desiccant Air Dryer.....	5,263.64	197.52
22 15 13 00-0054 EA 85 SCFM Heatless Desiccant Air Dryer.....	7,072.25	246.90
22 15 13 00-0055 EA 100 SCFM Heatless Desiccant Air Dryer.....	7,501.12	296.29
22 15 13 00-0056 EA 125 SCFM Heatless Desiccant Air Dryer.....	8,586.81	345.67
22 15 13 00-0057 EA 175 SCFM Heatless Desiccant Air Dryer.....	9,860.45	395.05
22 15 13 00-0058 EA 200 SCFM Heatless Desiccant Air Dryer.....	10,593.84	444.43
22 15 13 00-0059 EA 300 SCFM Heatless Desiccant Air Dryer.....	12,959.98	493.81
22 15 13 00-0060 EA 400 SCFM Heatless Desiccant Air Dryer.....	14,391.17	592.57
22 15 13 00-0061 EA 500 SCFM Heatless Desiccant Air Dryer.....	16,632.39	691.33
22 15 13 00-0062 EA 600 SCFM Heatless Desiccant Air Dryer.....	19,192.18	790.10
22 15 13 00-0063 Air Cooled Aftercoolers (22 15 13)		
22 15 13 00-0064 EA 20 SCFM Air-Cooled Aftercooler.....	699.64	61.73

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 13 00-0065	EA	35 SCFM Air-Cooled Aftercooler	946.30	74.07
22 15 13 00-0066	EA	43 SCFM Air-Cooled Aftercooler	1,038.77	86.42
22 15 13 00-0067	EA	70 SCFM Air-Cooled Aftercooler	1,270.20	98.76
22 15 13 00-0068	EA	125 SCFM Air-Cooled Aftercooler	1,772.77	111.11
22 15 13 00-0069	EA	185 SCFM Air-Cooled Aftercooler	1,990.64	123.45
22 15 13 00-0070	EA	260 SCFM Air-Cooled Aftercooler	3,865.80	148.14
22 15 13 00-0071	EA	365 SCFM Air-Cooled Aftercooler	4,039.22	172.83
22 15 13 00-0072	EA	560 SCFM Air-Cooled Aftercooler	4,211.29	197.52
22 15 13 00-0073	EA	650 SCFM Air-Cooled Aftercooler	4,939.86	222.21
22 15 13 00-0074	EA	750 SCFM Air-Cooled Aftercooler	5,400.02	246.90
22 15 13 00-0075	EA	900 SCFM Air-Cooled Aftercooler	6,193.66	271.60
22 15 13 00-0076	EA	1,100 SCFM Air-Cooled Aftercooler	7,957.98	296.29
22 15 13 00-0077	EA	1,460 SCFM Air-Cooled Aftercooler	9,104.78	320.98
22 15 13 00-0078	EA	1,800 SCFM Air-Cooled Aftercooler	9,399.88	345.67
22 15 13 00-0079	EA	2,500 SCFM Air-Cooled Aftercooler	10,079.66	370.36
22 15 13 00-0080 Compressed Air Coalescing Filters (22 15 13)				
22 15 13 00-0081 1.0 Micron Filter Rated Compressed Air Coalescing Filters (22 15 13 00-0080)				
22 15 13 00-0082	EA	10 SCFM, 3/8", Coalescing Filter, 1.0 Micron Filter Rating	241.92	36.22
22 15 13 00-0083	EA	20 SCFM, 3/8", Coalescing Filter, 1.0 Micron Filter Rating	289.37	36.22
22 15 13 00-0084	EA	50 SCFM, 1/2", Coalescing Filter, 1.0 Micron Filter Rating	315.76	41.79
22 15 13 00-0085	EA	75 SCFM, 3/4", Coalescing Filter, 1.0 Micron Filter Rating	363.61	47.93
22 15 13 00-0086	EA	100 SCFM, 3/4", Coalescing Filter, 1.0 Micron Filter Rating	424.47	52.95
22 15 13 00-0087	EA	140 SCFM, 1", Coalescing Filter, 1.0 Micron Filter Rating	480.66	64.09
22 15 13 00-0088	EA	175 SCFM, 1-1/4" Coalescing Filter, 1.0 Micron Filter Rating	520.77	69.66
22 15 13 00-0089	EA	250 SCFM, 1-1/2" Coalescing Filter, 1.0 Micron Filter Rating	628.13	83.60
22 15 13 00-0090	EA	280 SCFM, 2" Coalescing Filter, 1.0 Micron Filter Rating	805.87	111.47
22 15 13 00-0091	EA	350 SCFM, 2" Coalescing Filter, 1.0 Micron Filter Rating	921.86	125.39
22 15 13 00-0092 0.01 Micron Filter Rated Compressed Air Coalescing Filters (22 15 13 00-0080)				
22 15 13 00-0093	EA	16 SCFM, 3/8" Coalescing Filter, 0.01 Micron Filter Rating	296.15	36.22
22 15 13 00-0094	EA	30 SCFM, 1/2" Coalescing Filter, 0.01 Micron Filter Rating	320.82	41.79
22 15 13 00-0095	EA	60 SCFM, 3/4" Coalescing Filter, 0.01 Micron Filter Rating	368.35	47.93
22 15 13 00-0096	EA	100 SCFM, 1" Coalescing Filter, 0.01 Micron Filter Rating	433.97	47.38
22 15 13 00-0097	EA	140 SCFM, 1-1/4" Coalescing Filter, 0.01 Micron Filter Rating	491.50	64.09
22 15 13 00-0098	EA	180 SCFM, 1-1/4" Coalescing Filter, 0.01 Micron Filter Rating	557.90	69.66
22 15 13 00-0099	EA	250 SCFM, 1-1/2" Coalescing Filter, 0.01 Micron Filter Rating	640.33	83.60
22 15 13 00-0100	EA	280 SCFM, 2" Coalescing Filter, 0.01 Micron Filter Rating	826.21	111.47
22 15 13 00-0101	EA	350 SCFM, 2" Coalescing Filter, 0.01 Micron Filter Rating	948.98	125.39
22 15 13 00-0102 Compressed Air Storage Tanks (22 15 13)				
22 15 13 00-0103 Horizontal Compressed Air Storage Tanks (22 15 13 00-0102)				
22 15 13 00-0104	EA	12 Gallon Horizontal Compressed Air Storage Tank, ASME	395.26	79.01
22 15 13 00-0105	EA	15 Gallon Horizontal Compressed Air Storage Tank, ASME	730.03	86.42
22 15 13 00-0106	EA	20 Gallon Horizontal Compressed Air Storage Tank, ASME	773.74	90.86
22 15 13 00-0107	EA	30 Gallon Horizontal Compressed Air Storage Tank, ASME	883.92	98.76
22 15 13 00-0108	EA	60 Gallon Horizontal Compressed Air Storage Tank, ASME	1,152.26	133.33
22 15 13 00-0109	EA	80 Gallon Horizontal Compressed Air Storage Tank, ASME	1,395.71	148.14
22 15 13 00-0110	EA	120 Gallon Horizontal Compressed Air Storage Tank, ASME	2,111.65	172.83
22 15 13 00-0111	EA	200 Gallon Horizontal Compressed Air Storage Tank, ASME	3,170.95	197.52
22 15 13 00-0112	EA	240 Gallon Horizontal Compressed Air Storage Tank, ASME	3,539.04	209.87
22 15 13 00-0113	EA	325 Gallon Horizontal Compressed Air Storage Tank, ASME	5,145.80	222.21
22 15 13 00-0114	EA	400 Gallon Horizontal Compressed Air Storage Tank, ASME	6,791.86	259.26
22 15 13 00-0115	EA	660 Gallon Horizontal Compressed Air Storage Tank, ASME	9,793.65	308.64
22 15 13 00-0116 Vertical Compressed Air Storage Tanks (22 15 13 00-0102)				
22 15 13 00-0117	EA	10 Gallon Vertical Compressed Air Storage Tank, ASME	680.40	79.01
22 15 13 00-0118	EA	15 Gallon Vertical Compressed Air Storage Tank, ASME	712.62	86.42
22 15 13 00-0119	EA	20 Gallon Vertical Compressed Air Storage Tank, ASME	773.74	90.86
22 15 13 00-0120	EA	30 Gallon Vertical Compressed Air Storage Tank, ASME	918.40	98.76
22 15 13 00-0121	EA	60 Gallon Vertical Compressed Air Storage Tank, ASME	1,255.69	133.33
22 15 13 00-0122	EA	80 Gallon Vertical Compressed Air Storage Tank, ASME	1,445.51	148.14
22 15 13 00-0123	EA	120 Gallon Vertical Compressed Air Storage Tank, ASME	2,003.34	172.83
22 15 13 00-0124	EA	200 Gallon Vertical Compressed Air Storage Tank, ASME	2,947.72	197.52
22 15 13 00-0125	EA	240 Gallon Vertical Compressed Air Storage Tank, ASME	3,254.50	209.87
22 15 13 00-0126	EA	325 Gallon Vertical Compressed Air Storage Tank, ASME	4,449.31	222.21
22 15 13 00-0127	EA	400 Gallon Vertical Compressed Air Storage Tank, ASME	5,710.91	259.26
22 15 13 00-0128	EA	500 Gallon Vertical Compressed Air Storage Tank, ASME	7,466.71	283.95
22 15 13 00-0129	EA	660 Gallon Vertical Compressed Air Storage Tank, ASME	12,465.04	320.98

22 15 19 General Service Packaged Air Compressors and Receivers (22 15)

Note: Includes V-belt drive, receiver, motor, starter mounted and wired. Excludes piping, pressure reducing valve station, or air dryer.



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 19 13 General Service Packaged Reciprocating Air Compressors (22 15 19)		
22 15 19 13-0001 Single Stage Compressor (22 15 19 13)		
Note: Includes receiver, reciprocating air cooled, 140 PSIG working pressure, splash lubricated, tank mounted.		
22 15 19 13-0002 EA 1/2 HP 1-Stage Air Compressor, 1.5 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	2,937.91	350.41
22 15 19 13-0003 EA 3/4 HP 1-Stage Air Compressor, 2.0 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,066.45	404.43
22 15 19 13-0004 EA 1 HP 1-Stage Air Compressor, 2.5 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,497.99	477.62
22 15 19 13-0005 EA 2 HP 1-Stage Air Compressor, Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,986.53	527.00
22 15 19 13-0006 EA 3 HP 1-Stage Air Compressor, Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	4,883.53	556.63
22 15 19 13-0007 EA 3 HP 1-Stage Air Compressor, Air Cooled With 60 Gallon Receiver, 140 PSIG Working Pressure	5,219.36	576.38
22 15 19 13-0008 EA 5 HP 1-Stage Air Compressor, Air Cooled With 60 Gallon Receiver, 140 PSIG Working Pressure	5,860.15	658.74
22 15 19 13-0009 EA 5 HP 1-Stage Air Compressor, Air Cooled With 80 Gallon Receiver, 140 PSIG Working Pressure	6,286.26	698.26
22 15 19 13-0010 EA 7.5 HP 1-Stage Air Compressor, Air Cooled With 80 Gallon Receiver, 140 PSIG Working Pressure	7,546.21	790.50
22 15 19 13-0011 Two Stage Compressor (22 15 19 13)		
Note: With receiver, reciprocating air cooled, discharge pressure 80-200 PSIG, receiver capacity as noted, splash lubricated, tank mounted.		
22 15 19 13-0012 EA 1-1/2 HP 2-Stage Air Compressor, 60 Gallon Receiver, 5.0 ACFM, 80-200 PSIG Discharge Pressure	5,621.82	615.88
22 15 19 13-0013 EA 2 HP 2-Stage Air Compressor, 60 Gallon Receiver, 7.0 ACFM, 80-200 PSIG Discharge Pressure	6,030.11	724.62
22 15 19 13-0014 EA 3 HP 2-Stage Air Compressor, 60 Gallon Receiver, 12 ACFM, 80-200 PSIG Discharge Pressure	6,300.36	790.50
22 15 19 13-0015 EA 5 HP 2-Stage Air Compressor, 80 Gallon Receiver, 15 ACFM, 80-200 PSIG Discharge Pressure	7,181.59	1,053.99
22 15 19 13-0016 EA 5 HP 2-Stage Air Compressor, 120 Gallon Receiver, 16.5 ACFM, 80-200 PSI Max Discharge Pressure	7,749.08	1,053.99
22 15 19 13-0017 EA 7.5 HP 2-Stage Air Compressor, 80 Gallon Receiver, 19.8 ACFM, 80-200 PSIG Discharge Pressure	8,304.77	1,317.50
22 15 19 13-0018 EA 7.5 HP 2-Stage Air Compressor, 120 Gallon Receiver, 25.6 ACFM, 80-200 PSI Max Discharge Pressure	8,819.47	1,317.50
22 15 19 13-0019 EA 10 HP 2-Stage Air Compressor, 80 Gallon Receiver, 35.0 ACFM, 80-200 PSI Max Discharge Pressure	11,311.39	1,629.58
22 15 19 13-0020 EA 10 HP 2-Stage Air Compressor, 120 Gallon Receiver, 38 ACFM, 80-200 PSIG Discharge Pressure	12,131.65	1,678.96
22 15 19 13-0021 EA 15 HP 2-Stage Air Compressor, 120 Gallon Receiver, 50 ACFM, 80-200 PSIG Discharge Pressure	13,106.57	1,962.21
22 15 19 13-0022 EA 20 HP 2-Stage Air Compressor, 120 Gallon Receiver, 70 ACFM, 80-200 PSIG Discharge Pressure	19,819.11	2,221.18
22 15 19 13-0023 EA 25 HP 2-Stage Air Compressor, 120 Gallon Receiver, 84.4 ACFM, 175 PSI Max Discharge Pressure	21,279.54	2,509.85
22 15 19 13-0024 EA 30 HP 2-Stage Air Compressor, 120 Gallon Receiver, 97.2 ACFM, 175 PSI Max Discharge Pressure	23,720.65	2,773.94
22 15 19 13-0025 EA 30 HP 2-Stage Air Compressor, 250 Gallon Receiver, 101 ACFM, 175 PSI Max Discharge Pressure	25,803.45	3,040.11
22 15 19 19 General Service Packaged Rotary-Screw Air Compressors (22 15 19)		
22 15 19 19-0001 Rotary Screw Air Compressor, Base Mounted Without Receiver (22 15 19 19)		
Note: Oil flooded.		
22 15 19 19-0002 EA 3 HP, 8.5 SCFM, Rotary Screw Air Compressor With Enclosure, 150 PSIG Max Discharge Pressure, Lubricated	9,620.32	889.49
22 15 19 19-0003 EA 5 HP, 16.6 SCFM, Rotary Screw Air Compressor With Enclosure, 150 PSIG Max Discharge Pressure, Lubricated	10,712.87	1,185.99
22 15 19 19-0004 EA 7.5 HP, 27 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	13,740.16	1,486.95
22 15 19 19-0005 EA 10 HP, 37 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	15,868.59	1,894.91
22 15 19 19-0006 EA 15 HP, 56 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	18,154.16	2,229.30
22 15 19 19-0007 EA 20 HP, 79 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	22,049.85	2,507.97
22 15 19 19-0008 EA 25 HP, 114 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	24,158.59	2,786.63
22 15 19 19-0009 EA 30 HP, 137 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	29,088.99	3,121.02
22 15 19 19-0010 EA 40 HP, 183 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	31,986.30	3,343.95
22 15 19 19-0011 EA 50 HP, 214 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	35,924.01	3,603.67
22 15 19 19-0012 EA 60 HP, 256 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	46,811.49	3,901.29
22 15 19 19-0013 EA 75 HP, 320 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	51,965.58	4,124.21
22 15 19 19-0014 EA 100 HP, 494 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	83,676.96	4,458.61
22 15 19 19-0015 EA 125 HP, 592 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	104,489.61	4,820.87
22 15 19 19-0016 EA 150 HP, 695 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	121,430.47	5,188.70
22 15 19 19-0017 EA 220 HP, 996 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	158,152.40	5,573.26
22 15 19 19-0018 EA 250 HP, 1,000 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	179,735.10	5,929.95
22 15 19 19-0019 Rotary Screw Air Compressor, Base Mounted With Receiver (22 15 19 19)		
Note: Includes receiver, motor, starter mounted and wired. Excludes piping, pressure reducing valve station, or air dryer.		
22 15 19 19-0020 EA 5 HP, 18.5 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 150 PSIG Max Discharge Pressure, Lubricated	11,998.30	1,185.99
22 15 19 19-0021 EA 5 HP, 18.5 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 150 PSIG Max Discharge Pressure, Lubricated	12,758.48	1,185.99
22 15 19 19-0022 EA 7.5 HP, 28 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	14,344.60	1,486.95
22 15 19 19-0023 EA 7.5 HP, 28 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	15,176.05	1,486.95
22 15 19 19-0024 EA 10 HP, 38 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	16,201.17	1,894.91
22 15 19 19-0025 EA 10 HP, 38 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	17,080.12	1,894.91
22 15 19 19-0026 EA 15 HP, 55 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	18,428.67	2,229.30
22 15 19 19-0027 EA 15 HP, 55 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	19,378.89	2,229.30
22 15 19 19-0028 EA 20 HP, 75 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated	32,058.83	2,507.97

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 15 19 19-0029	EA	25 HP, 102 SCFM, 120 gallon receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	34,523.90	2,786.63
22 15 19 19-0030	EA	30 HP, 125 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	36,751.45	3,121.02

22 30 Plumbing Equipment ⁽²²⁾**22 31 Domestic Water Softeners** ^(22 30)**22 31 13 Residential Domestic Water Softeners** ^(22 31)

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

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

22 31 16 00-0001		Commercial Water Softeners (Watts Pure Water) ^(22 31 16)		
22 31 16 00-0002		Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0001)		
22 31 16 00-0003		1" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)		
		Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0004	EA	30,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111A11).....	5,103.80	282.17
22 31 16 00-0005	EA	45,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111B11).....	5,334.80	294.99
22 31 16 00-0006	EA	60,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111C11).....	5,764.50	307.81
22 31 16 00-0007	EA	90,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111D11).....	6,655.65	320.64
22 31 16 00-0008	EA	120,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111E11).....	7,098.60	333.47
22 31 16 00-0009		1-1/2" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)		
		Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0010	EA	60,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121C11).....	7,714.09	307.81
22 31 16 00-0011	EA	90,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121D11).....	8,115.09	320.64
22 31 16 00-0012	EA	120,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121E11).....	8,560.24	333.47
22 31 16 00-0013	EA	150,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121F11).....	10,202.10	346.29
22 31 16 00-0014	EA	210,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121G11).....	11,355.99	359.12
22 31 16 00-0015	EA	300,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121H11).....	13,865.56	371.94
22 31 16 00-0016		2" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)		
		Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0017	EA	90,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131D11).....	11,802.32	320.64
22 31 16 00-0018	EA	120,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131E11).....	12,232.01	333.47
22 31 16 00-0019	EA	150,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131F11).....	13,878.29	346.29
22 31 16 00-0020	EA	210,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131G11).....	15,032.18	359.12
22 31 16 00-0021	EA	300,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131H11).....	17,678.64	371.94
22 31 16 00-0022	EA	450,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131I11).....	23,380.84	384.77
22 31 16 00-0023	EA	600,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131J11).....	27,382.96	397.59
22 31 16 00-0024		3" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)		
		Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0025	EA	300,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151H11).....	28,771.23	371.94
22 31 16 00-0026	EA	450,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151I11).....	33,265.70	384.77
22 31 16 00-0027	EA	600,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151J11).....	37,214.83	397.59
22 31 16 00-0028	EA	900,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151K11).....	46,908.96	410.42



Plumbing			22
Plumbing Equipment			22 30
Domestic Water Softeners			22 31

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 31 16 00-0029	EA	1050,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151L11).....	51,959.84	423.25
22 31 16 00-0030		Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0001)		
22 31 16 00-0031		2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0030) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and two fully automatic metered demand control valves.		
22 31 16 00-0032	EA	90,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131D21).....	19,398.05	480.96
22 31 16 00-0033	EA	120,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131E21).....	20,260.09	500.19
22 31 16 00-0034	EA	150,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131F21).....	23,100.41	519.44
22 31 16 00-0035	EA	210,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131G21).....	25,273.96	538.68
22 31 16 00-0036	EA	300,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131H21).....	30,911.71	557.91
22 31 16 00-0037	EA	450,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131I21).....	41,049.22	577.15
22 31 16 00-0038	EA	600,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131J21).....	48,364.99	596.39
22 31 16 00-0039		3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0030) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and two fully automatic metered demand control valves.		
22 31 16 00-0040	EA	300,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151H21).....	52,911.43	557.91
22 31 16 00-0041	EA	450,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151I21).....	60,823.35	577.15
22 31 16 00-0042	EA	600,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151J21).....	68,384.20	596.39
22 31 16 00-0043	EA	900,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151K21).....	87,099.48	615.63
22 31 16 00-0044	EA	1,050,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151L21).....	97,278.93	634.87
22 31 16 00-0045		Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0001)		
22 31 16 00-0046		1" Pipe Connection, Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0045) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0047	EA	30,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161A21).....	6,679.81	423.25
22 31 16 00-0048	EA	45,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161B21).....	7,128.97	442.49
22 31 16 00-0049	EA	60,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161C21).....	7,787.86	461.72
22 31 16 00-0050	EA	90,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161D21).....	9,389.55	480.96
22 31 16 00-0051	EA	120,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21).....	10,403.93	500.19
22 31 16 00-0052		1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0045) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0053	EA	60,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161A21).....	13,292.21	461.72
22 31 16 00-0054	EA	90,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161B21).....	14,019.56	480.96
22 31 16 00-0055	EA	120,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161C21).....	15,100.18	500.19
22 31 16 00-0056	EA	150,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161D21).....	17,315.66	519.44
22 31 16 00-0057	EA	210,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21).....	19,564.27	538.68
22 31 16 00-0058	EA	300,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21).....	24,563.94	557.91

22 32 Domestic Water Filtration Equipment (22 30)

22 32 16 Domestic-Water Freestanding Cartridge Filters (22 32)

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

**SAN BERNARDINO
COUNTY**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 32 16 00-0001	Commercial Water Filters Housings (22 32 16)		
22 32 16 00-0002	Commercial Multi-Cartridge Stainless Steel Water Filter Housings (22 32 16 00-0001)		
22 32 16 00-0003	Commercial Multi-Cartridge Stainless Steel Water Filter Housings (22 32 16 00-0002)		
22 32 16 00-0004	EA 25 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X1)	2,625.39	181.13
22 32 16 00-0005	EA 30 GPM Max Flow Rate, 5 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS5X1)	2,673.12	195.07
22 32 16 00-0006	EA 60 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X2)	2,844.50	208.99
22 32 16 00-0007	EA 90 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X3)	3,152.77	222.93
22 32 16 00-0008	EA 120 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X4)	3,244.66	236.86
22 32 16 00-0009	EA 150 GPM Max Flow Rate, 5 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS5X4)	3,948.15	250.80
22 32 16 00-0010	EA 250 GPM Max Flow Rate, 12 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS12X3)	11,275.41	264.73
22 32 16 00-0011	EA 300 GPM Max Flow Rate, 12 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS12X4)	13,129.22	278.67
22 32 16 00-0012	EA 500 GPM Max Flow Rate, 22 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS22X3)	16,694.17	292.59
22 32 16 00-0013	EA 600 GPM Max Flow Rate, 22 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS22X4)	18,525.92	306.53
22 32 16 00-0014	Commercial Water Filter Cartridges (22 32 16 00-0002)		
22 32 16 00-0015	(Depth) Water Filter Cartridges (22 32 16 00-0014)		
22 32 16 00-0016	EA 50 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M50)	12.74	2.23
22 32 16 00-0017	EA 20 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M20)	12.74	2.23
22 32 16 00-0018	EA 10 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M10)	12.74	2.23
22 32 16 00-0019	EA 5 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M5)	10.53	2.23
22 32 16 00-0020	EA 1 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M1)	13.29	2.23
22 32 16 00-0021	EA 50 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M50)	13.29	2.23
22 32 16 00-0022	EA 20 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M20)	14.40	2.23
22 32 16 00-0023	EA 5 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Big Pure Water PWMB20M5)	18.26	2.23
22 32 16 00-0024	EA 1 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M1)	14.40	2.23
22 32 16 00-0025	EA 50 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M50)	17.16	2.23
22 32 16 00-0026	EA 20 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M20)	17.16	2.23
22 32 16 00-0027	EA 5 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M5)	17.16	2.23
22 32 16 00-0028	EA 1 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M1)	18.81	2.23
22 32 16 00-0029	EA 50 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M50)	24.88	2.23
22 32 16 00-0030	EA 20 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M20)	22.68	2.23
22 32 16 00-0031	EA 5 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M5)	22.68	2.23
22 32 16 00-0032	EA 1 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M1)	24.88	2.23
22 32 16 00-0033	Pleated Water Filter Cartridges (22 32 16 00-0014)		
22 32 16 00-0034	EA 50 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M50)	23.23	2.23
22 32 16 00-0035	EA 20 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M20)	23.23	2.23
22 32 16 00-0036	EA 5 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M5)	23.78	2.23
22 32 16 00-0037	EA 1 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M1)	25.44	2.23
22 32 16 00-0038	EA 1 Micron Absolute, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M1AB)	38.68	2.23
22 32 16 00-0039	EA 50 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M50)	37.03	2.23
22 32 16 00-0040	EA 20 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M20)	37.03	2.23
22 32 16 00-0041	EA 5 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Big Pure Water PWPL20M5)	37.03	2.23
22 32 16 00-0042	EA 1 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M1)	49.17	2.23
22 32 16 00-0043	EA 1 Micron Absolute, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M1AB)	70.15	2.23
22 32 16 00-0044	EA 50 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M50)	58.55	2.23
22 32 16 00-0045	EA 20 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M20)	81.74	2.23
22 32 16 00-0046	EA 5 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M5)	85.05	2.23
22 32 16 00-0047	EA 1 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M1)	96.09	2.23
22 32 16 00-0048	Commercial Non-Metallic Water Filter Housings (22 32 16 00-0001)		
22 32 16 00-0049	Commercial Non-Metallic Water Filter Housings (22 32 16 00-0048)		
22 32 16 00-0050	EA 150 GPM Max Flow Rate, 1 Cartridge, Commercial Non-Metallic Water Filter Housing (Watts Big Bubba® PWWJCHSG)	2,057.68	167.20
22 32 16 00-0051	Commercial Water Filter Cartridges (22 32 16 00-0048)		
22 32 16 00-0052	Carbon Water Filter Cartridges (22 32 16 00-0051)		
22 32 16 00-0053	EA Activated 26-1/4" Length, Carbon Water Filter Cartridge (Watts Big Bubba® PWWJCAC5)	692.23	2.23
22 32 16 00-0054	(Depth) Water Filter Cartridges (22 32 16 00-0051)		
22 32 16 00-0055	EA 50 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB50)	143.01	2.23
22 32 16 00-0056	EA 20 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB20)	141.90	2.23



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

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 32 16 00-0057	EA	5 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB5).....	141.90	2.23	
22 32 16 00-0058	EA	1 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB1).....	162.88	2.23	
22 32 16 00-0059 Pleated Water Filter Cartridges (22 32 16 00-0051)					
22 32 16 00-0060	EA	150 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCM150)	379.81	2.23	
22 32 16 00-0061	EA	50 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP50).....	356.62	2.23	
22 32 16 00-0062	EA	20 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP20).....	388.64	2.23	
22 32 16 00-0063	EA	5 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP5).....	407.41	2.23	
22 32 16 00-0064	EA	1 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP1).....	433.90	2.23	
22 32 16 00-0065	EA	1 Absolute, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP1AB).....	470.33	2.23	
22 33 Electric Domestic Water Heaters (22 30)					
22 33 13 Instantaneous Electric Domestic Water Heaters (22 33)					
22 33 13 13 Flow-Control, Instantaneous Electric Domestic Water Heaters (22 33 13)					
22 33 13 13-0001 Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heaters (22 33 13 13)					
22 33 13 13-0002	EA	2.4 KW Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax SP2412)	491.41	55.71	
22 33 13 13-0003	EA	3 To 10 KW Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax EX3012, EX48, EX65, EX75, EX95).....	531.04	55.71	
22 33 13 13-0004	EA	7.2 KW, 0.75 GPM, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch RP7P).....	607.35	55.71	
22 33 13 16 Thermostat-Control, Instantaneous Electric Domestic Water Heaters (22 33 13)					
22 33 13 16-0001 Thermostat Controlled, Instantaneous, Tankless, Electric Domestic Water Heaters (22 33 13 16)					
Note: Temperature rise decreases with increased flow rate.					
22 33 13 16-0002	EA	3 To 10 KW Thermostat-Control, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax EX3012T, EX48T, EX65T, EX75T, EX95T, EX012240T).....	703.06	83.56	
22 33 13 16-0003	EA	12 KW, 2.0 GPM, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE12)	760.48	111.42	
22 33 13 16-0004	EA	17.25 KW, 2.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE115).....	1,286.30	194.99	
22 33 13 16-0005	EA	26.85 KW, 4.0 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE125).....	1,969.40	222.83	
22 33 13 16-0006	EA	12 KW, 1.6 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 12 Plus).....	1,437.45	111.42	
22 33 13 16-0007	EA	14.4 KW, 2.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 15 Plus).....	1,960.77	167.13	
22 33 13 16-0008	EA	19.2 KW, 2.8 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 20 Plus).....	2,151.76	222.83	
22 33 13 16-0009	EA	24 KW, 3.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 24 Plus).....	2,236.01	222.83	
22 33 13 16-0010	EA	28.8 KW, 4.5 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 29 Plus).....	2,315.58	222.83	
22 33 13 16-0011	EA	36 KW, 4.5 GPM At 55 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Tempra 36 Plus).....	2,432.59	222.83	
22 33 30 Residential, Electric Domestic Water Heaters (22 33)					
22 33 30 13 Residential, Small-Capacity Electric Domestic Water Heaters (22 33 30)					
22 33 30 13-0001 Small-Capacity, Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 13)					
Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.					
22 33 30 13-0002	EA	2 Gallon, Small-Capacity, Electric Domestic Water Heater	968.68	175.49	
22 33 30 13-0003	EA	10 Gallon, Small-Capacity, Electric Domestic Water Heater	1,196.91	186.63	
22 33 30 13-0004	EA	20 Gallon, Small-Capacity, Electric Domestic Water Heater	1,419.56	194.99	
22 33 30 16 Residential, Storage Electric Domestic Water Heaters (22 33 30)					
22 33 30 16-0001 Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 16)					
Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.					
22 33 30 16-0002	EA	30 Gallon, Electric Domestic Water Heater	1,520.22	194.99	
22 33 30 16-0003	EA	40 Gallon, Electric Domestic Water Heater	1,425.56	200.56	
22 33 30 16-0004	EA	50 Gallon, Electric Domestic Water Heater	1,400.66	206.13	
22 33 30 16-0005	EA	55 Gallon, Electric Domestic Water Heater	1,569.06	208.91	
22 33 30 16-0006	EA	66 Gallon, Electric Domestic Water Heater	2,302.94	214.48	
22 33 30 16-0007	EA	80 Gallon, Electric Domestic Water Heater	2,345.41	222.83	
22 33 30 16-0008	EA	120 Gallon, Electric Domestic Water Heater	3,135.64	236.76	
22 33 30 16-0009 Low-Boy, Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 16)					
Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.					



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 33 30 16-0010	EA	30 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,635.81	194.99
22 33 30 16-0011	EA	40 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,554.28	200.56
22 33 30 16-0012	EA	50 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,647.80	206.13
22 33 30 16-0013 High Efficiency, Electric Domestic Water Heaters (A.O. Smith Conservationist) (22 33 30 16)				
Note: Includes .95 energy factor glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 16-0014	EA	40 Gallon, High Efficiency, Electric Domestic Water Heater.....	1,689.30	200.56
22 33 30 16-0015	EA	50 Gallon, High Efficiency, Electric Domestic Water Heater.....	1,848.60	206.13
22 33 30 16-0016	EA	66 Gallon, High Efficiency, Electric Domestic Water Heater.....	2,284.79	214.48
22 33 30 16-0017	EA	80 Gallon, High Efficiency, Electric Domestic Water Heater.....	2,486.67	222.83
22 33 30 16-0018 Water Heater Accessories (22 33 30 16)				
22 33 30 16-0019	EA	2 Gallon, Expansion Pressure Tank For Water Heaters.....	130.54	11.14
22 33 30 16-0020	EA	4.4 Gallon, Expansion Pressure Tank For Water Heaters.....	154.69	11.14
22 33 30 16-0021	EA	7.6 Gallon, Expansion Pressure Tank For Water Heaters.....	303.90	11.14
22 33 30 16-0022	EA	14 Gallon, Expansion Pressure Tank For Water Heaters.....	408.90	11.14
22 33 30 16-0023	EA	20" Diameter, 3" Deep, Aluminum Water Heater Drain Pan.....	74.53	8.36
22 33 30 16-0024	EA	22" Diameter, 2-1/2" Deep, Aluminum Water Heater Drain Pan.....	81.50	8.36
22 33 30 16-0025	EA	24" Diameter, 3" Deep, Aluminum Water Heater Drain Pan.....	86.14	8.36
22 33 30 16-0026	EA	26" Diameter, 2-1/2" Deep, Aluminum Water Heater Drain Pan.....	102.40	8.36
22 33 30 16-0027	EA	22" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan.....	39.58	8.36
22 33 30 16-0028	EA	24" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan.....	43.30	8.36
22 33 30 16-0029	EA	26" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan.....	48.52	8.36
22 33 30 16-0030	EA	28" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan.....	55.24	8.36
22 33 30 23 Residential, Collector-To-Tank, Solar-Electric Domestic Water Heaters (22 33 30)				
22 33 30 23-0001 Solar Electric Domestic Water Heaters (A.O. Smith CIRREX) (22 33 30 23)				
Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 23-0002	EA	80 Gallon, Solar Electric Domestic Water Heater.....	3,890.60	222.83
22 33 30 23-0003	EA	120 Gallon, Solar Electric Domestic Water Heater.....	4,671.09	236.76
22 33 33 Light-Commercial Electric Domestic Water Heaters (22 33)				
22 33 33 00-0001 Standard Duty Electric Commercial Water Heaters (A.O. Smith DEL And DEN) (22 33 33)				
Note: Includes glass lined tank, drain valve, and temperature and pressure relief valve.				
22 33 33 00-0002	EA	Up To 2.5 KW, 6 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-6S).....	2,031.98	194.99
22 33 33 00-0003	EA	Up To 6 KW, 10 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-10S).....	2,198.84	194.99
22 33 33 00-0004	EA	Up To 6 KW, 20 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-20S).....	2,379.04	222.83
22 33 33 00-0005	EA	Up To 12 KW, 30 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-30D).....	4,286.05	222.83
22 33 33 00-0006	EA	Up To 12 KW, 40 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-40D).....	4,927.19	278.55
22 33 33 00-0007	EA	Up To 12 KW, 50 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-50D).....	5,435.90	334.26
22 33 33 00-0008	EA	Up To 12 KW, 80 Gallon, Dual Element Standard Upright Electric Commercial Water Heater (DEN-80D).....	6,400.54	501.38
22 33 33 00-0009 Heavy Duty Electric Commercial Water Heaters (A.O. Smith DSE) (22 33 33)				
Note: Includes glass lined tank, ASME tank construction, drain valve, and temperature and pressure relief valve.				
22 33 33 00-0010	EA	3 KW, 5 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-5-3).....	7,938.41	194.99
22 33 33 00-0011	EA	3 KW, 10 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-10-3).....	8,256.24	194.99
22 33 33 00-0012	EA	6 KW, 10 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-10-6).....	8,600.57	194.99
22 33 33 00-0013	EA	3 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-3).....	8,656.29	222.83
22 33 33 00-0014	EA	6 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-6).....	9,053.58	222.83
22 33 33 00-0015	EA	9 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-9).....	9,689.25	222.83
22 33 33 00-0016	EA	12 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-12).....	10,113.03	222.83
22 33 33 00-0017	EA	15 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-15).....	10,457.35	222.83
22 33 33 00-0018	EA	18 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-18).....	10,828.16	222.83
22 33 33 00-0019	EA	6 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-6).....	9,450.87	222.83
22 33 33 00-0020	EA	9 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-9).....	9,821.68	222.83
22 33 33 00-0021	EA	12 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-12).....	10,245.46	222.83
22 33 33 00-0022	EA	15 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-15).....	10,589.78	222.83
22 33 33 00-0023	EA	18 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-18).....	10,960.59	222.83
22 33 33 00-0024	EA	24 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-24).....	13,688.67	222.83
22 33 33 00-0025	EA	9 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-9).....	10,277.41	278.55
22 33 33 00-0026	EA	12 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-12).....	10,621.73	278.55
22 33 33 00-0027	EA	15 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-15).....	11,045.51	278.55
22 33 33 00-0028	EA	18 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-18).....	11,416.32	278.55
22 33 33 00-0029	EA	24 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-24).....	14,170.89	278.55
22 33 33 00-0030	EA	30 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-30).....	15,442.23	278.55
22 33 33 00-0031	EA	36 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-36).....	16,687.08	278.55
22 33 33 00-0032	EA	9 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-9).....	11,872.06	334.26
22 33 33 00-0033	EA	12 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-12).....	12,216.38	334.26
22 33 33 00-0034	EA	15 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-15).....	12,560.70	334.26
22 33 33 00-0035	EA	18 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-18).....	12,931.51	334.26



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 33 33 00-0036 EA 24 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-24).....	15,765.54	334.26
22 33 33 00-0037 EA 30 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-30).....	17,036.88	334.26
22 33 33 00-0038 EA 36 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-36).....	18,281.73	334.26
22 33 33 00-0039 EA 45 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-45).....	20,533.07	334.26
22 33 33 00-0040 EA 54 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-54).....	21,539.54	334.26
22 33 33 00-0041 EA 60 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-60).....	25,035.73	334.26
22 33 33 00-0042 EA 75 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-75).....	29,538.39	334.26
22 33 33 00-0043 EA 90 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-90).....	37,113.46	334.26
22 33 33 00-0044 EA 9 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-9).....	13,313.27	445.68
22 33 33 00-0045 EA 12 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-12).....	13,710.56	445.68
22 33 33 00-0046 EA 15 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-15).....	14,081.37	445.68
22 33 33 00-0047 EA 18 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-18).....	14,390.21	445.68
22 33 33 00-0048 EA 24 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-24).....	17,206.75	445.68
22 33 33 00-0049 EA 30 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-30).....	18,478.09	445.68
22 33 33 00-0050 EA 36 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-36).....	19,696.46	445.68
22 33 33 00-0051 EA 45 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-45).....	22,000.76	445.68
22 33 33 00-0052 EA 54 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-54).....	22,980.75	445.68
22 33 33 00-0053 EA 60 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-60).....	26,503.42	445.68
22 33 33 00-0054 EA 75 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-75).....	31,032.57	445.68
22 33 33 00-0055 EA 90 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-90).....	38,581.15	445.68
22 33 33 00-0056 EA 12 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-12).....	14,881.43	501.38
22 33 33 00-0057 EA 15 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-15).....	15,252.24	501.38
22 33 33 00-0058 EA 18 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-18).....	15,570.08	501.38
22 33 33 00-0059 EA 24 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-24).....	18,404.10	501.38
22 33 33 00-0060 EA 30 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-30).....	19,543.01	501.38
22 33 33 00-0061 EA 36 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-36).....	20,867.33	501.38
22 33 33 00-0062 EA 45 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-45).....	23,171.63	501.38
22 33 33 00-0063 EA 54 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-54).....	24,178.11	501.38
22 33 33 00-0064 EA 60 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-60).....	27,488.89	501.38
22 33 33 00-0065 EA 75 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-75).....	32,203.44	501.38
22 33 33 00-0066 EA 90 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-90).....	39,752.02	501.38
22 33 33 00-0067 EA 15 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-15).....	16,740.94	557.09
22 33 33 00-0068 EA 18 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-18).....	17,164.72	557.09
22 33 33 00-0069 EA 24 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-24).....	19,919.29	557.09
22 33 33 00-0070 EA 30 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-30).....	21,190.63	557.09
22 33 33 00-0071 EA 36 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-36).....	22,435.48	557.09
22 33 33 00-0072 EA 45 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-45).....	24,686.81	557.09
22 33 33 00-0073 EA 54 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-54).....	25,719.77	557.09
22 33 33 00-0074 EA 60 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-60).....	29,189.47	557.09
22 33 33 00-0075 EA 75 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-75).....	33,692.14	557.09
22 33 33 00-0076 EA 90 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-90).....	41,293.69	557.09
22 33 33 00-0077 EA 15 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-15).....	17,917.29	668.51
22 33 33 00-0078 EA 18 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-18).....	18,288.10	668.51
22 33 33 00-0079 EA 24 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-24).....	21,042.67	668.51
22 33 33 00-0080 EA 30 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-30).....	22,261.04	668.51
22 33 33 00-0081 EA 36 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-36).....	23,558.86	668.51
22 33 33 00-0082 EA 45 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-45).....	25,810.19	668.51
22 33 33 00-0083 EA 54 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-54).....	26,763.70	668.51
22 33 33 00-0084 EA 60 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-60).....	30,339.34	668.51
22 33 33 00-0085 EA 75 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-75).....	34,868.49	668.51
22 33 33 00-0086 EA 90 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-90).....	42,390.59	668.51
22 33 33 00-0087 Water Heater Accessories (22 33 33)		
22 33 33 00-0088 EA Up To 80 Gallon Water Heater Strap.....	48.38	
Note: Includes (4) Straps (4) J-Clips (4) Lag Bolts (2) 3/8" Carriage Bolts (2) 3/8" Hex Nuts		
22 33 33 00-0089 EA >80 To 120 Gallon Water Heater Strap.....	71.11	
Note: Includes (4) Straps (4) J-Clips (4) Lag Bolts (2) 3/8" Carriage Bolts (2) 3/8" Hex Nuts		
22 33 33 00-0090 Removal And Reinstallation Of Water Heater (22 33 33)		
Note: Includes storage and cleaning.		
22 33 33 00-0091 EA Removal And Reinstallation Of Water Heater Electric, Up To 82 Gallon.....	371.39	
22 33 33 00-0092 EA Removal And Reinstallation Of Water Heater Electric, 83 Gallon To 200 Gallon.....	1,114.18	
22 34 Fuel-Fired Domestic Water Heaters (22 30)		
22 34 13 Instantaneous, Tankless, Gas Domestic Water Heaters (22 34)		
22 34 13 00-0001 Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13)		
22 34 13 00-0002 Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13)		
00-0001		
Note: Includes vent connection. Excludes vent.		
22 34 13 00-0003 EA 4.2 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-42PVN).....	2,148.60	222.83
22 34 13 00-0004 EA 5.3 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53PVN).....	2,332.57	225.62
22 34 13 00-0005 EA 5.3 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53DVN).....	2,570.77	231.19
22 34 13 00-0006 EA 6.6 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-66DVN).....	3,019.54	236.76
22 34 13 00-0007 EA 7.4 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74PVN).....	3,683.41	250.69

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

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 13 00-0008	EA	7.4 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74DVN).....	3,764.50	250.69	
22 34 13 00-0009		Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13 00-0001)			
22 34 13 00-0010	EA	5.3 GPM, Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53XN).....	2,327.00	222.83	
22 34 13 00-0011	EA	7.4 GPM, Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74XN).....	3,683.41	250.69	
22 34 13 00-0012		Indoor Mount, Instantaneous, Tankless, Natural Gas Domestic Water Heaters (22 34 13 00-0001)			
Note: Includes vent connection. Excludes vent.					
22 34 13 00-0013	EA	11 GPM, 15 MBTU Minimum To 199 MBTU Maximum, Indoor Mount, Instantaneous, Tankless, Natural Gas Domestic Water Heater (Rinnai CU199IN)	3,277.11	334.26	
22 34 30 Residential Gas Domestic Water Heaters (22 34)					
22 34 30 13 Residential, Atmospheric, Gas Domestic Water Heaters (22 34 30)					
22 34 30 13-0001		Atmospheric, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 13)			
Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 30 13-0002	EA	30 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-30)	1,587.28	214.48	
22 34 30 13-0003	EA	40 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-40)	1,554.66	220.05	
22 34 30 13-0004	EA	50 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCVX-50).....	2,098.69	225.62	
22 34 30 13-0005	EA	65 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-65).....	2,277.29	231.19	
22 34 30 13-0006	EA	75 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith FCG-75).....	2,494.25	236.76	
22 34 30 13-0007	EA	100 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith FCG-100).....	3,734.74	250.69	
22 34 30 13-0008		Atmospheric, Gas Domestic Water Heaters (22 34 30 13)			
Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 30 13-0009	EA	40 Gallon, 40 MBH, Tall, 67% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GCF-40).....	2,350.97	220.05	
22 34 30 13-0010	EA	50 Gallon, 40 MBH, Tall, 67% Efficient, Energy Star, Gas Fired Domestic Water Heater (A. O. Smith GCF-50)	2,574.45	225.62	
22 34 30 13-0011	EA	40 Gallon, 40 MBH, Short, 67% Efficient, Energy Star, Gas Fired Domestic Water Heater (A. O. Smith GCFL-40)	2,287.27	220.05	
22 34 30 13-0012	EA	40 Gallon, 40 MBH, 70% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GAHH-40).....	2,393.44	220.05	
22 34 30 13-0013	EA	50 Gallon, 40 MBH, 70% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GAHH-50).....	2,404.59	225.62	
22 34 30 13-0014	EA	100 Gallon, 100 MBH, 96% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GDHE-50).....	4,848.31	167.13	
22 34 30 16 Residential, Direct-Vent, Gas Domestic Water Heaters (22 34 30)					
22 34 30 16-0001		Direct-Vent, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 16)			
Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 30 16-0002	EA	40 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-40)	2,982.51	220.05	
22 34 30 16-0003	EA	50 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-50)	3,411.60	225.62	
22 34 30 16-0004	EA	75 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-75)	4,465.99	231.19	
22 34 30 19 Residential, Power-Vent, Gas Domestic Water Heaters (22 34 30)					
22 34 30 19-0001		Power-Vent, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 19)			
Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 30 19-0002	EA	40 Gallon, Power-Vent, Gas Domestic Water Heater (A. O. Smith GPVH-40).....	2,700.23	220.05	
22 34 30 19-0003	EA	50 Gallon, Power-Vent, Gas Domestic Water Heater (A. O. Smith GPVH-50)	2,814.36	225.62	
22 34 36 Commercial Gas Domestic Water Heaters (22 34)					
22 34 36 13 Commercial, Atmospheric, Gas Domestic Water Heaters (22 34 36)					
22 34 36 13-0001		Gas Fired Commercial Water Heaters (A.O. Smith BTR) (22 34 36 13)			
Note: Includes automatic flue damper, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 36 13-0002	EA	120 MBH Input, 71 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-120)	6,763.43	334.26	
22 34 36 13-0003	EA	154 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-154)	7,212.64	389.96	
22 34 36 13-0004	EA	180 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-180)	8,932.17	445.68	
22 34 36 13-0005	EA	199 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-199)	7,713.23	445.68	
22 34 36 13-0006	EA	199 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-200)	8,882.38	445.68	
22 34 36 13-0007	EA	199 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-200A).....	11,867.78	490.25	
22 34 36 13-0008	EA	250 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-250)	8,586.87	501.38	
22 34 36 13-0009	EA	250 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-250A).....	12,778.35	551.52	
22 34 36 13-0010	EA	251 MBH Input, 65 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-251)	8,721.95	501.38	
22 34 36 13-0011	EA	251 MBH Input, 65 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-251A).....	12,183.32	551.52	
22 34 36 13-0012	EA	275 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-275)	9,652.38	612.81	



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

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 36 13-0013 EA 275 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-275A).....	13,312.95	674.08
22 34 36 13-0014 EA 305 MBH Input, 65 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-305).....	10,874.60	612.81
22 34 36 13-0015 EA 305 MBH Input, 65 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-305A).....	13,393.36	674.08
22 34 36 13-0016 EA 365 MBH Input, 85 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-365).....	10,503.64	668.51
22 34 36 13-0017 EA 365 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-365A).....	14,786.38	735.36
22 34 36 13-0018 EA 390 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-400).....	13,382.22	668.51
22 34 36 13-0019 EA 390 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-400A).....	17,552.45	735.36
22 34 36 13-0020 EA 500 MBH Input, 85 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-500).....	17,481.91	724.22
22 34 36 13-0021 EA 150 MBH Input, 32 Gallon, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-151).....	8,724.27	389.96
22 34 36 13-0022 EA 150 MBH Input, 32 Gallon, ASME Rated Tank, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-151A).....	10,474.76	428.96
22 34 36 13-0023 EA 199 MBH Input, 32 Gallon, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-201).....	9,060.82	445.68
22 34 36 13-0024 EA 199 MBH Input, 32 Gallon, ASME Rated Tank, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-201A).....	10,870.71	490.25
22 34 36 13-0025 EA Sidewall Power Vent System For BTR-120 through BTR-200.....	2,165.19	278.55
22 34 36 13-0026 EA Sidewall Power Vent System For BTR-250 through BTR-500.....	2,374.25	278.55
22 34 36 13-0027 Removal And Reinstallation Of Water Heater (22 34 36 13) Note: Includes storage and cleaning.		
22 34 36 13-0028 EA Removal And Reinstallation Of Water Heater Gas Fired, Up To 86 Gallon.....	506.45	
22 34 36 13-0029 EA Removal And Reinstallation Of Water Heater Gas Fired, 87 Gallon To 200 Gallon.....	1,339.17	
22 34 36 19 Commercial, Power-Vent, Gas Domestic Water Heaters (22 34 36) 22 34 36 19-0001 Induced Draft Blower Gas Fired Commercial Water Heaters (A.O. Smith BTN) (22 34 36 19) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 36 19-0002 EA 90 MBH Input, 98 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-100).....	5,492.97	334.26
22 34 36 19-0003 EA 120 MBH Input, 71 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-120).....	7,889.16	334.26
22 34 36 19-0004 EA 154 MBH Input, 81 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-154).....	9,624.85	389.96
22 34 36 19-0005 EA 180 MBH Input, 99 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-180).....	10,009.65	445.68
22 34 36 19-0006 EA 199 MBH Input, 99 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-199).....	10,057.90	445.68
22 34 36 19-0007 EA 199 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-200).....	10,283.04	445.68
22 34 36 19-0008 EA 199 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-200A).....	12,076.84	490.25
22 34 36 19-0009 EA 250 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-250).....	11,343.29	501.38
22 34 36 19-0010 EA 250 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-250A).....	13,968.40	551.52
22 34 36 19-0011 EA 275 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-275).....	11,871.67	612.81
22 34 36 19-0012 EA 275 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-275A).....	14,567.33	674.08
22 34 36 19-0013 EA 310 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-310).....	12,128.98	612.81
22 34 36 19-0014 EA 310 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-310A).....	14,728.15	674.08
22 34 36 19-0015 EA 366 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-366).....	13,607.36	668.51
22 34 36 19-0016 EA 366 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-366A).....	16,008.60	735.36
22 34 36 19-0017 EA 390 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-400).....	16,518.17	668.51
22 34 36 19-0018 EA 390 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-400A).....	19,064.14	735.36
22 34 36 19-0019 Condensing Gas Fired Commercial Water Heaters (A.O. Smith BTX And BTH) (22 34 36 19) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 36 19-0020 EA 76 MBH Input, 50 Gallon, 90% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTX-80).....	4,238.59	334.26
22 34 36 19-0021 EA 100 MBH Input, 50 Gallon, 90% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTX-100).....	5,718.11	334.26
22 34 36 19-0022 EA 120 MBH Input, 60 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-120).....	6,940.33	334.26
22 34 36 19-0023 EA 120 MBH Input, 60 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-120A).....	10,030.56	367.68
22 34 36 19-0024 EA 150 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-150).....	10,268.12	389.96
22 34 36 19-0025 EA 150 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-150A).....	12,967.44	428.96
22 34 36 19-0026 EA 199 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-199).....	10,411.70	445.68

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 36 19-0027	EA	199 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-199A)	13,347.30	490.25
22 34 36 19-0028	EA	250 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-250)	12,034.80	501.38
22 34 36 19-0029	EA	250 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-250A)	14,659.92	551.52
22 34 36 19-0030	EA	300 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-300A)	19,198.89	674.08
22 34 36 19-0031	EA	399.9 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-400A)	20,173.78	735.36
22 34 36 19-0032	EA	499.9 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-500A)	23,223.23	796.64
22 34 36 23 Commercial, High-Efficiency, Gas Domestic Water Heaters (22 34 36)				
22 34 36 23-0001		Gas Fired Domestic Hot Water Skid Package (Laars Mighty Therm) (22 34 36 23) Note: Includes (2) Laars Mighty Therm boilers, (2) B&G boiler primary pumps (one per boiler), T&P valve, circuit setter, storage tank (sized for 10 minutes buffer based on 50 degree city water supply, and operating set point for the tank at 130 degrees storage), and all necessary accessories for system monitoring such as gauges and thermometers. UL listed and labeled. Excludes piping insulation or seismic calculations.		
22 34 36 23-0002	EA	400 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-400)	94,912.78	1,506.45
22 34 36 23-0003	EA	1,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-1000)	114,888.13	1,600.60
22 34 36 23-0004	EA	2,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-2000)	139,741.99	1,694.76
22 34 36 23-0005	EA	3,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-3000)	167,194.49	1,788.91
22 34 36 23-0006	EA	4,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-4000)	175,242.68	1,883.06
22 34 36 23-0007		Gas Fired Volume Water Heater (Laars Mighty Therm) (22 34 36 23)		
22 34 36 23-0008	EA	200 MBH Gas Fired Volume Water Heater (Laars MT2V0200)	11,606.53	821.31
22 34 36 23-0009	EA	300 MBH Gas Fired Volume Water Heater (Laars MT2V0300)	12,580.26	923.97
22 34 36 23-0010	EA	400 MBH Gas Fired Volume Water Heater (Laars MT2V0400)	14,544.61	1,129.30
22 34 36 23-0011	EA	500 MBH Gas Fired Volume Water Heater (Laars MT2V0500)	21,348.93	1,231.96
22 34 36 23-0012	EA	750 MBH Gas Fired Volume Water Heater (Laars MT2V0750)	23,450.49	1,437.28
22 34 36 23-0013	EA	1,000 MBH Gas Fired Volume Water Heater (Laars MT2V1000)	26,824.98	1,642.61
22 34 36 23-0014	EA	1,250 MBH Gas Fired Volume Water Heater (Laars MT2V1250)	29,621.07	1,847.94
22 34 36 23-0015	EA	1,500 MBH Gas Fired Volume Water Heater (Laars MT2V1500)	35,471.77	2,053.27
22 34 36 23-0016	EA	1,750 MBH Gas Fired Volume Water Heater (Laars MT2V1750)	36,798.03	2,155.92
22 34 36 23-0017	EA	2,000 MBH Gas Fired Volume Water Heater (Laars MT2V2000)	39,496.45	2,258.59
22 34 36 26 Commercial, Coil-Type, Finned-Tube, Gas Domestic Water Heaters (22 34 36)				
22 34 36 26-0001		Laars Rheos+ 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heaters (22 34 36 26)		
22 34 36 26-0002	EA	1,200 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	36,285.95	1,560.48
22 34 36 26-0003	EA	1,600 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	51,380.69	1,724.74
22 34 36 26-0004	EA	2,000 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	55,770.13	1,806.87
22 34 36 26-0005	EA	2,400 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	60,401.43	1,971.13
22 34 36 26-0006		Laars Rheos 86% Efficient Gas Fired, Copper Fin Tube LoNox Water Heaters (22 34 36 26)		
22 34 36 26-0007	EA	1,200 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	32,132.02	1,560.48
22 34 36 26-0008	EA	1,600 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	35,497.28	1,724.74
22 34 36 26-0009	EA	2,000 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	38,827.19	1,806.87
22 34 36 26-0010	EA	2,400 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	42,182.92	1,971.13
22 34 36 26-0011		Laars Pennant 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heaters (22 34 36 26)		
22 34 36 26-0012	EA	200 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	8,162.23	739.18
22 34 36 26-0013	EA	300 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	8,977.54	821.31
22 34 36 26-0014	EA	400 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	10,538.27	985.56
22 34 36 26-0015	EA	500 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	14,956.88	1,026.63
22 34 36 26-0016	EA	750 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	16,451.88	1,231.96
22 34 36 26-0017	EA	1,000 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	20,300.47	1,478.35
22 34 36 26-0018	EA	1,250 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	23,107.75	1,560.48
22 34 36 26-0019	EA	1,500 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	25,625.35	1,683.68
22 34 36 26-0020	EA	1,750 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	27,991.04	1,765.81
22 34 36 26-0021	EA	2,000 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	30,065.03	1,806.87
22 34 36 26-0022		Patterson Kelley Thermific Sealed Combustion, Gas Fired, Copper Fin Tube Water Heaters (22 34 36 26)		
22 34 36 26-0023	EA	700 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermific)	23,419.68	1,231.96
22 34 36 26-0024	EA	1,000 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermific)	25,801.76	1,478.35
22 34 36 26-0025	EA	1,500 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermific)	30,904.33	1,683.68



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

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 36 26-0026	EA		1,700 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermific).....	31,850.69	1,765.81
22 34 36 26-0027	EA		2,000 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermific).....	33,324.63	1,806.87
22 34 36 26-0028 Patterson Kelley Modufire Forced Draft, Water, Gas Fired, Copper Fin Tube Water Heaters (22 34 36 26)					
22 34 36 26-0029	EA		1,000 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire).....	28,167.68	1,478.35
22 34 36 26-0030	EA		1,500 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire).....	34,043.76	1,688.68
22 34 36 26-0031	EA		2,000 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire).....	36,133.41	1,806.87
22 34 46 Oil-Fired Domestic Water Heaters (22 34)					
22 34 46 11 Standard-capacity, Oil-Fired Domestic Water Heaters (22 34 46)					
22 34 46 11-0001 Oil-Fired Domestic Water Heaters (Bock) (22 34 46 11)					
Note: Includes burner, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 46 11-0002	EA		60 MBH, 20 Gallon, Oil-Fired Domestic Water Heater (Bock 20E).....	2,218.93	171.58
22 34 46 11-0003	EA		104 MBH, 32 Gallon, Oil-Fired Domestic Water Heater (Bock 32E).....	2,187.49	171.58
22 34 46 11-0004	EA		104 MBH, 33 Gallon, Oil-Fired Domestic Water Heater (Bock 33ES).....	2,288.50	171.58
22 34 46 11-0005	EA		125 MBH, 40 Gallon, Oil-Fired Domestic Water Heater (Bock 40E).....	2,420.01	176.04
22 34 46 11-0006	EA		140 MBH, 50 Gallon, Oil-Fired Domestic Water Heater (Bock 50ES).....	3,107.74	180.49
22 34 46 11-0007	EA		152 MBH, 50 Gallon, Oil-Fired Domestic Water Heater (Bock 51E).....	2,608.25	180.49
22 34 46 11-0008 Oil Fired Commercial Water Heaters (22 34 46 11)					
Note: Includes burner, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.					
22 34 46 11-0009	EA		173 MBH, 68 Gallon, Oil-Fired Commercial Water Heater (Bock 71E).....	3,603.49	267.40
22 34 46 11-0010	EA		199 MBH, 67 Gallon, Oil-Fired Commercial Water Heater (Bock 72E).....	4,261.09	267.40
22 34 46 11-0011	EA		242 MBH, 67 Gallon, Oil-Fired Commercial Water Heater (Bock 73E).....	4,286.38	267.40
22 34 46 11-0012	EA		190 MBH, 113 Gallon, Oil-Fired Commercial Water Heater (Bock 120E).....	6,191.67	356.53
22 34 46 11-0013	EA		415 MBH, 91 Gallon, Oil-Fired Commercial Water Heater (Bock 361E).....	8,520.72	445.68
22 34 46 11-0014	EA		623 MBH, 83 Gallon, Oil-Fired Commercial Water Heater (Bock 541E).....	10,769.97	490.25
22 35 Domestic Water Heat Exchangers (22 35)					
22 35 23 Circulating, Domestic Water Heat Exchangers (22 35)					
22 35 23 13 Circulating, Compact Domestic Water Heat Exchangers (22 35 23)					
22 35 23 13-0001 Steam Driven Water Heaters (22 35 23 13)					
22 35 23 13-0002 Constant Flow (22 35 23 13-0001)					
22 35 23 13-0003	EA		30 GPM, 700 LB/Hour Steam Water Heater, Constant Flow.....	6,234.68	557.09
22 35 23 13-0004	EA		90 GPM, 1,250 LB/Hour Steam Water Heater, Constant Flow.....	7,786.82	682.66
22 35 23 13-0005	EA		140 GPM, 2,500 LB/Hour Steam Water Heater, Constant Flow.....	9,978.36	892.80
22 35 23 13-0006	EA		230 GPM, 5,000 LB/Hour Steam Water Heater, Constant Flow.....	13,503.02	1,243.54
22 35 23 13-0007	EA		500 GPM, 7,500 LB/Hour Steam Water Heater, Constant Flow.....	19,928.32	2,048.10
22 35 23 13-0008	EA		900 GPM, 10,000 LB/Hour Steam Water Heater, Constant Flow.....	21,720.02	2,321.18
22 35 23 13-0009	EA		1,400 GPM, 15,000 LB/Hour Steam Water Heater, Constant Flow.....	28,495.80	2,678.28
22 35 23 13-0010	EA		2,400 GPM, 20,000 LB/Hour Steam Water Heater, Constant Flow.....	34,285.80	3,165.29
22 35 23 13-0011 Variable Flow (22 35 23 13-0001)					
22 35 23 13-0012	EA		30 GPM, 700 LB/Hour Steam Water Heater, Variable Flow.....	9,396.81	1,086.33
22 35 23 13-0013	EA		90 GPM, 1,250 LB/Hour Steam Water Heater, Variable Flow.....	10,651.88	1,326.44
22 35 23 13-0014	EA		140 GPM, 2,500 LB/Hour Steam Water Heater, Variable Flow.....	13,588.35	1,715.17
22 35 23 13-0015	EA		230 GPM, 5,000 LB/Hour Steam Water Heater, Variable Flow.....	17,822.56	2,393.05
22 35 23 13-0016	EA		500 GPM, 7,500 LB/Hour Steam Water Heater, Variable Flow.....	26,604.10	4,002.15
22 35 23 13-0017	EA		900 GPM, 10,000 LB/Hour Steam Water Heater, Variable Flow.....	32,369.08	4,407.39
22 35 23 13-0018	EA		1,400 GPM, 15,000 LB/Hour Steam Water Heater, Variable Flow.....	37,496.73	5,158.23
22 35 23 13-0019	EA		2,400 GPM, 20,000 LB/Hour Steam Water Heater, Variable Flow.....	47,476.64	6,162.56
22 40 Plumbing Fixtures (22)					
Note: The following Energy Policy Act Flow Rates Requirements superseded flow rates standards listed in section. Plumbing fixtures and trim should not exceed the maximum flow rates set forth in The Energy Policy Act 92. lavatory faucets - 2.5 gal/min, lavatory replacement aerators - 2.5 gal/min, kitchen faucets - 2.5 gal/min, kitchen replacement aerators - 2.5 gal/min, metering faucets - 0.25 gal/cycle, gravity tank-type toilets - 1.6 gal/flush, flushometer tank toilets - 1.6 gal/flush, electromechanical hydraulic toilets - 1.6 gal/flush, blowdown toilets - 3.5 gal/flush, urinals - 1.0 gal/flush.					
22 41 Residential Plumbing Fixtures (22 40)					
22 41 26 Residential Disposers (22 41)					
22 41 26 00-0001 Disposals (22 41 26)					
22 41 26 00-0002	EA		1/3 HP Insulated Garbage Disposal.....	285.39	72.92

22 Plumbing**22 40 Plumbing Fixtures****22 41 Residential Plumbing Fixtures**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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

22 41 39 Residential Faucets, Supplies, and Trim (22 41)**22 41 39 00-0001 Residential Kitchen Faucets (22 41 39)**

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

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

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

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

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

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

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

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

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

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

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

22 42 Commercial Plumbing Fixtures (22 40)

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

22 42 13 Commercial Water Closets, Urinals, and Bidets (22 42)**22 42 13 13 Commercial Water Closets (22 42 13)****22 42 13 13-0001 Vitreous China Water Closets (22 42 13 13)**

Note: With a 2" ball pass.

22 42 13 13-0002 Floor Mounted Elongated Vitreous China Water Closets (22 42 13 13-0001)

Note: Includes wax seal and toilet seat. Excludes flush valve.

22 42 13 13-0003	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Madera™)	640.89	106.71
22 42 13 13-0004	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Elongated Vitreous China Water Closet (American Standard Priolo™)	756.15	106.71
22 42 13 13-0005	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Wall Outlet, Elongated Vitreous China Water Closet (American Standard Yorkville™)	966.14	106.71
22 42 13 13-0006	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Cadet®)	868.76	106.71
22 42 13 13-0007	EA	1 Piece Tank Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Compact Cadet®)	813.78	106.71
22 42 13 13-0008	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet With Concealed Trapway (American Standard Cadet® 3 FloWise® RIGHT HEIGHT®)	817.56	106.71
22 42 13 13-0009	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (Kohler® Wellcomme™)	632.45	106.71



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 13-0010 EA 1.28 GPF Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (Toto® CT705E).....	674.89	106.71
22 42 13 13-0011 Wall Hung Elongated Vitreous China Water Closets (22 42 13 13-0001) Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0012 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard AFWall®).....	738.67	131.34
22 42 13 13-0013 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard AFWall® ADA Retrofit).....	906.48	131.34
22 42 13 13-0014 EA 2 Piece Tank Type, Pressure Assisted, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Glenwall™).....	1,134.35	131.34
22 42 13 13-0015 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Kingston™).....	741.59	131.34
22 42 13 13-0016 EA Flush Valve Type, Blow Out, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Stratton™).....	1,103.35	131.34
22 42 13 13-0017 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Toto® CT708E Or CT708EV).....	815.53	131.34
22 42 13 13-0018 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Zurn Z5615-BWL).....	700.44	131.34
22 42 13 13-0019 EA Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Sloan ST-2459).....	733.79	131.34
22 42 13 13-0020 Floor Mounted Elongated Handicapped Water Closets (22 42 13 13-0001) Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0021 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Madera™ ADA).....	649.19	106.71
22 42 13 13-0022 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Colorado Right Height®).....	663.77	106.71
22 42 13 13-0023 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Right Width™ Right Height®).....	728.02	106.71
22 42 13 13-0024 EA Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Huron).....	807.51	106.71
22 42 13 13-0025 EA Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Pridlo® ADA).....	804.20	106.71
22 42 13 13-0026 EA 2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Back Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Yorkville™ ADA).....	1,057.90	106.71
22 42 13 13-0027 EA 2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Cadet Right Height™ ADA).....	898.92	106.71
22 42 13 13-0028 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Toto® CT705ELN).....	714.65	106.71
22 42 13 13-0029 EA 2 Piece Tank Type, High Efficiency Water Closet Floor Mounted, Elongated, (Sterling 402077) With Open-Front Seat (Kohler® K-4650).....	817.31	106.71
22 42 13 13-0030 EA 2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler Highline™ ADA K-3519).....	918.89	106.71
22 42 13 13-0031 EA 2 Piece Tank Type, Dual-Flush 1.1 And 1.6 GPF, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Vortens Vienna ELX-DF 3113-3436).....	725.95	106.71
22 42 13 13-0032 EA 2 Piece Tank Type, High Efficiency Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Niagara Stealth™).....	708.08	106.71
22 42 13 13-0033 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Zurn HET Z5667-BWL).....	681.21	106.71
22 42 13 13-0034 Floor Mounted, 10" High Bowl, Children's Height Vitreous China Water Closets (22 42 13 13-0001) Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0035 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Elongated Vitreous China Water Closet (Kohler® Primary™).....	722.86	106.71
22 42 13 13-0036 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Round Front Vitreous China Water Closet (American Standard Baby Devoro™).....	656.47	106.71
22 42 13 13-0037 EA 2 Piece Tank Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Round Front Vitreous China Water Closet (American Standard Baby Devoro™).....	759.82	106.71
22 42 13 13-0038 Floor Mounted Round Bowl Vitreous China Water Closets (22 42 13 13-0001)		
22 42 13 13-0039 EA 2 Piece Tank Type, Floor Mounted, Floor Outlet, Round Vitreous China Water Closet (Toto® CST715) With SoftClose® Seat (Toto® SS113).....	683.57	106.71
22 42 13 13-0040 EA 2 Piece Tank Type, Dual Flush, Floor Mounted, Floor Outlet, Round Vitreous China Water Closet (Vortens 3208-3412).....	714.17	106.71
22 42 13 13-0041 Stainless Steel Water Closets (22 42 13 13)		
22 42 13 13-0042 EA Wall Hung Water Closet, Stainless Steel With Hinged Seat, Siphon Jet (Acorn 2105-T-1-HS).....	3,143.37	230.86
22 42 13 13-0043 EA Floor Mounted Water Closet, Stainless Steel With Hinged Seat, Siphon Jet (Acorn 2120-T-3-HS).....	3,309.57	230.86
22 42 13 13-0044 Water Closet Carriers (22 42 13 13)		
22 42 13 13-0045 Pipe Grip Adaptor Type, Water Closet Carriers (22 42 13 13-0044) Note: Includes coated cast iron construction, plated hardware and adjustable feet. Excludes waste piping and fittings.		
22 42 13 13-0046 EA Pipe Grip Adaptor Type, Water Closet Carrier.....	573.25	54.17

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 13-0047			No-Hub, Water Closet Carriers (22 42 13 13-0044) Note: Includes coated cast iron construction, ABS extension with integral test cap, plated hardware and neoprene fixture gasket. Includes buttress feet or pylon feet and anchor foot.		
22 42 13 13-0048	EA		Vertical Close With Offset, No-Hub, Single Water Closet Carrier	892.34	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-78.30	
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For Auxiliary Inlet, Add	218.68	
			For Special Duty 500 LB Carrier, Add	371.68	
22 42 13 13-0049	EA		Vertical Close On Stack, No-Hub, Single Water Closet Carrier	892.34	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-78.30	
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For Auxiliary Inlet, Add	218.68	
			For Special Duty 500 LB Carrier, Add	371.68	
22 42 13 13-0050	EA		Horizontal Adjustable, No-Hub, Single Water Closet Carrier	975.32	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-78.30	
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For Auxiliary Inlet, Add	218.68	
			For Horizontal No Hub Cast Long Barrel, Add	225.64	
			For Carrier For Wide Chase Installations, Add	295.87	
			For Special Duty 1,000 LB Carrier, Add	371.69	
22 42 13 13-0051	EA		Vertical Adjustable On Stack, No-Hub, Single Water Closet Carrier	1,081.68	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-78.30	
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For 4" Branch, Add	173.05	
			For Auxiliary Inlet, Add	218.68	
			For Carrier For Wide Chase Installations, Add	295.87	
			For Double 4" Branches, Add	347.24	
			For Special Duty 1,000 LB Carrier, Add	371.69	
22 42 13 13-0052	EA		Vertical Close With Offset, No-Hub, Double Water Closet (Back To Back) Carrier	1,487.06	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
			For Positioning Frame, Add	108.27	
			For Supply Pipe Support, Add	110.61	
			For Vandal Proof Trim, Add	133.26	
			For Auxiliary Inlet, Add	234.07	
			For Special Duty 500 LB Carrier, Add	743.35	
22 42 13 13-0053	EA		Vertical Close On Stack, No-Hub, Double Water Closet (Back To Back) Carrier	1,529.15	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
			For Positioning Frame, Add	108.27	
			For Supply Pipe Support, Add	110.61	
			For Vandal Proof Trim, Add	133.26	
			For Auxiliary Inlet, Add	234.07	
			For Special Duty 500 LB Carrier, Add	743.35	
22 42 13 13-0054	EA		Vertical Adjustable On Stack, No-Hub, Double Water Closet (Back To Back) Carrier	1,864.59	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
			For Positioning Frame, Add	108.27	
			For Supply Pipe Support, Add	110.61	
			For Vandal Proof Trim, Add	133.26	
			For 4" Branch, Add	180.74	
			For Auxiliary Inlet, Add	234.07	
			For Double 4" Branches, Add	362.63	
			For Carrier For Wide Chase Installations, Add	637.92	
			For Special Duty 1,000 LB Carrier, Add	743.37	
22 42 13 13-0055	EA		Horizontal Adjustable, No-Hub, Double Water Closet (Back To Back) Carrier	1,754.72	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
			For Positioning Frame, Add	108.27	
			For Supply Pipe Support, Add	110.61	
			For Vandal Proof Trim, Add	133.26	
			For Horizontal No Hub Cast Long Barrel, Add	233.33	
			For Carrier For Wide Chase Installations, Add	637.92	
			For Special Duty 1,000 LB Carrier, Add	743.37	
22 42 13 13-0056			Hub And Spigot, Water Closet Carriers (22 42 13 13-0044) Note: Includes coated cast iron construction, ABS extension with integral test cap, plated hardware and neoprene fixture gasket. Includes buttress feet or pylon feet and anchor foot.		
22 42 13 13-0057	EA		Vertical Close With Offset, Hub And Spigot, Single Water Closet Carrier	1,038.47	54.17
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For Hanger Type Closet Adapter, Add	167.14	
			For Auxiliary Inlet, Add	218.68	
22 42 13 13-0058	EA		Vertical Close On Stack, Hub And Spigot, Single Water Closet Carrier	892.34	54.17
			For Positioning Frame, Add	50.29	
			For Supply Pipe Support, Add	51.46	
			For Vandal Proof Trim, Add	66.63	
			For Auxiliary Inlet, Add	218.68	
			For Special Duty 500 LB Carrier, Add	371.68	



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 13-0059 EA Vertical Adjustable On Stack, Hub And Spigot, Single Water Closet Carrier.....	1,121.42	54.17
For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-78.30	
For Positioning Frame, Add	50.29	
For Supply Pipe Support, Add	51.46	
For Vandal Proof Trim, Add	66.63	
For 4" Branch, Add	173.05	
For Auxiliary Inlet, Add	218.68	
For Carrier For Wide Chase Installations, Add	295.87	
For Double 4" Branches, Add	347.24	
For Special Duty 1,000 LB Carrier, Add	371.69	
22 42 13 13-0060 EA Vertical Close With Offset, Hub And Spigot, Double Water Closet (Back To Back) Carrier.....	1,737.10	79.51
For Positioning Frame, Add	108.27	
For Supply Pipe Support, Add	110.61	
For Vandal Proof Trim, Add	133.26	
For Auxiliary Inlet, Add	234.07	
For Hanger Type Closet Adapter, Add	334.28	
22 42 13 13-0061 EA Vertical Adjustable On Stack, Hub And Spigot, Double Water Closet (Back To Back) Carrier.....	1,904.33	79.51
For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
For Positioning Frame, Add	108.27	
For Supply Pipe Support, Add	110.61	
For Vandal Proof Trim, Add	133.26	
For 4" Branch, Add	180.74	
For Auxiliary Inlet, Add	234.07	
For Double 4" Branches, Add	362.63	
For Carrier For Wide Chase Installations, Add	637.92	
For Special Duty 1,000 LB Carrier, Add	743.37	
22 42 13 13-0062 Floor Mount Polyvinyl Chloride (PVC) Adaptor Type, Water Closet Carriers		
(22 42 13 13-0044)		
Note: Includes coated cast iron construction, plastic fitting adaptor with extension and plated hardware.		
22 42 13 13-0063 EA Vertical On Stack, Floor Mount Polyvinyl Chloride (PVC) Adaptor Type, Single Water Closet Carrier.....	687.79	54.17
For Positioning Frame, Add	50.29	
For Supply Pipe Support, Add	51.46	
For Vandal Proof Trim, Add	66.63	
For Hanger Type Closet Adapter, Add	167.14	
22 42 13 13-0064 Institutional Water Closet Carriers		
(22 42 13 13-0044)		
Note: Includes coated cast iron construction, ABS extension with integral test cap, buttress feet, plated hardware and neoprene fixture gasket.		
22 42 13 13-0065 EA Vertical On Stack, No-Hub, 90 Degree Institutional, Double Waste Fitting With Vent And Carrier, Water Closet Carrier.....	2,446.66	79.51
For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct	-156.59	
For Positioning Frame, Add	108.27	
For Supply Pipe Support, Add	110.61	
For Vandal Proof Trim, Add	133.26	
For Auxiliary Inlet, Add	234.07	
22 42 13 13-0066 Removal And Reinstallation Of Fixtures And Trim		
(22 42 13 13)		
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 13 13-0067 EA Removal And Reinstallation Of Wall Hung Water Closet With Tank.....	468.98	
22 42 13 13-0068 EA Removal And Reinstallation Of Wall Hung Water Closet With Flush Valve.....	468.98	
22 42 13 13-0069 EA Removal And Reinstallation Of Floor Mount Water Closet With Tank.....	360.67	
22 42 13 13-0070 EA Removal And Reinstallation Of Floor Mount Water Closet With Flush Valve.....	360.67	
22 42 13 16 Commercial Urinals		
(22 42 13)		
22 42 13 16-0001 Vitreous China Urinals		
(22 42 13 16)		
Note: Excludes flush valve unless indicated otherwise.		
22 42 13 16-0002 Wall Hung Urinals		
(22 42 13 16-0001)		
22 42 13 16-0003 EA Wall Hung Washout, Vitreous China Urinal (American Standard Maybrook™).....	571.86	109.79
22 42 13 16-0004 EA Wall Hung, Washout, Vitreous China Urinal With Top Spud (American Standard Washbrook®).....	697.55	109.79
22 42 13 16-0005 EA Wall Hung, Washout, Vitreous China Urinal With Back Spud (American Standard Washbrook®).....	723.83	109.79
22 42 13 16-0006 EA Wall Hung, Blowout, Vitreous China Urinal (American Standard Lynbrook™).....	762.44	109.79
22 42 13 16-0007 EA Wall Hung Siphon Jet, Vitreous China Urinal (American Standard Trimbrook™).....	695.50	109.79
22 42 13 16-0008 EA Wall Hung, Siphon Jet, Vitreous China Urinal (American Standard Allbrook™).....	589.38	109.79
22 42 13 16-0009 EA Wall Hung, Washout, Vitreous China Urinal (Toto® UT447E Or UT447EV).....	713.96	109.79
22 42 13 16-0010 EA Wall Hung, Washout, Vitreous China Urinal (Toto® UT104E Or UT104EV).....	612.39	109.79
22 42 13 16-0011 EA Wall Hung, Washout, Vitreous China Urinal (Zurn Z5798).....	661.75	109.79
22 42 13 16-0012 EA Wall Hung, Washout, 0.125 To 0.5 GPF, HEU, Vitreous China Urinal (Sloan SU-1009-A).....	605.13	109.79
22 42 13 16-0013 EA Wall Hung, Washout, 1.0 GPF, HEU, Vitreous China Urinal (Sloan SU-1006-A).....	602.98	109.79
22 42 13 16-0014 Floor Mounted Urinals		
(22 42 13 16-0001)		
22 42 13 16-0015 EA Washout, Floor Mounted, Vitreous China Urinal (American Standard Stallbrook™).....	964.06	138.51
22 42 13 16-0016 EA Washout, Floor Mounted, Vitreous China Urinal (Kohler® Branham™).....	1,074.50	138.51
22 42 13 16-0017 EA Floor Mounted Urinal Seam Cover For 21" Centers (Kohler® K-4931).....	309.11	25.66
22 42 13 16-0018 EA Floor Mounted Urinal Seam Cover For 24" Centers (Kohler® K-4932).....	351.08	25.66

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 16-0019		Waterfree Urinals (22 42 13 16-0001)		
22 42 13 16-0020	EA	Waterfree, Wall Hung, Vitreous China Urinal (American Standard Large FloWise® Flush-Free).....	634.24	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-43.06	
22 42 13 16-0021	EA	Waterfree, Wall Hung, Vitreous China Urinal (SLOAN WES-1000).....	1,204.64	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-108.09	
22 42 13 16-0022	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-2000).....	1,036.25	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-88.89	
22 42 13 16-0023	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-4000).....	792.64	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-61.12	
22 42 13 16-0024	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-5000).....	792.64	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-61.12	
22 42 13 16-0025	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-7000).....	984.21	76.96
		For Colored Fixtures, Add	66.90	
		For >1, Deduct	-82.96	
22 42 13 16-0026	EA	Waterfree, Wall Hung, Stainless Steel Urinal (Falcon F-9000).....	1,496.03	76.96
		For >1, Deduct	-141.31	
22 42 13 16-0027		Stainless Steel Urinals (22 42 13 16)		
22 42 13 16-0028	EA	Wall Hung Urinal, Stainless Steel, Blowout Jet (Acorn 2160-T-1).....	3,236.86	230.86
22 42 13 16-0029	EA	5' Wall Hung Trough Urinal, Stainless Steel With Strainer And Washdown Pipe (Elkay EU6014C).....	4,193.03	282.17
22 42 13 16-0030		Urinal Carriers (22 42 13 16)		
22 42 13 16-0031		Floor Mounted, Urinal Carriers (22 42 13 16-0030)		
		Note: Includes adjustable supporting rods, structural uprights and welded feet.		
22 42 13 16-0032	EA	Floor Mounted Hanger Plate Type, Single Urinal Carrier.....	577.93	38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54	
22 42 13 16-0033	EA	Floor Mounted Bearing Plate Type, Single Urinal Carrier.....	545.64	38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54	
22 42 13 16-0034		Wall Mounted, Urinal Carriers (22 42 13 16-0030)		
		Note: Includes wall plate and adjustable supporting rods.		
22 42 13 16-0035	EA	Wall Mounted Hanger Plate Type, Single Urinal Carrier.....	224.22	38.99
		For Up To 6-1/2" Extension Sleeves And Hardware, Add	24.54	
22 42 13 16-0036		Removal And Reinstallation Of Fixtures And Trim (22 42 13 16)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 13 16-0037	EA	Removal And Reinstallation Of Wall Hung Urinal With Flush Valve.....	467.43	
22 42 16		Commercial Lavatories and Sinks (22 42)		
22 42 16 13		Commercial Lavatories (22 42 16)		
22 42 16 13-0001		Lavatories (22 42 16 13)		
		Note: Includes trap, drain and supply valves. Excludes faucets.		
22 42 16 13-0002		Wall Hung Lavatories (22 42 16 13-0001)		
22 42 16 13-0003	EA	19" x 17" Porcelain Enameled Cast Iron Wall Hung Lavatory (American Standard Regalyn™).....	596.42	68.74
22 42 16 13-0004	EA	20" x 18" Porcelain Enameled Cast Iron Wall Hung Lavatory (American Standard Regalyn™).....	623.22	68.74
22 42 16 13-0005	EA	22" x 19" Porcelain Enameled Cast Iron Wall Hung Lavatory (Kohler® Hampton™).....	773.36	68.74
22 42 16 13-0006	EA	18" x 16" Vitreous China Wall Hung Lavatory (American Standard Penlyn™).....	547.54	68.74
22 42 16 13-0007	EA	19" x 17" Vitreous China Wall Hung Lavatory (American Standard Declyn™).....	472.65	68.74
22 42 16 13-0008	EA	20" x 18" Vitreous China Wall Hung Lavatory (Kohler® Soho®).....	595.98	68.74
22 42 16 13-0009	EA	27" x 20" Wheelchair Accessible, Vitreous China Wall Hung Lavatory (American Standard Wheel Chair Users).....	701.27	68.74
22 42 16 13-0010	EA	20" x 18" Vitreous China Wall Hung Lavatory (American Standard Roxalyn™).....	560.15	68.74
22 42 16 13-0011	EA	20" x 18" Vitreous China Wall Hung Lavatory (American Standard Lucerne™).....	494.72	68.74
22 42 16 13-0012		Countertop Lavatories (22 42 16 13-0001)		
22 42 16 13-0013	EA	20" x 18" Oval Vitreous China Countertop Lavatory (Kohler® Pennington®).....	562.56	83.11
22 42 16 13-0014	EA	21" x 18" Vitreous China Countertop Lavatory (American Standard Cadet™ Oval).....	574.83	83.11
22 42 16 13-0015	EA	19" x 16" Enameled Cast Iron Countertop Lavatory (Kohler® Farmington™).....	608.94	83.11
22 42 16 13-0016	EA	19" x 16" Enameled Cast Iron Countertop Lavatory (Kohler® Ellington™).....	645.35	83.11
22 42 16 13-0017	EA	24" x 18" Enameled Cast Iron Countertop Lavatory (Kohler® Thoreau®).....	844.02	89.78
22 42 16 13-0018		Undermount Lavatories (22 42 16 13-0001)		
22 42 16 13-0019	EA	15" x 12" Vitreous China Undermount Lavatory (American Standard Ovalyn™).....	524.23	83.11
22 42 16 13-0020	EA	21" x 14" Vitreous China Undermount Lavatory (American Standard Ovalyn™).....	496.95	83.11
22 42 16 13-0021	EA	19" x 16" Vitreous China Undermount Lavatory (American Standard Ovalyn™).....	496.95	83.11
22 42 16 13-0022	EA	21" x 17" Vitreous China Undermount Lavatory (American Standard Ovalyn™).....	530.10	83.11
22 42 16 13-0023	EA	15" x 12" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®).....	512.23	83.11



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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 13-0024	EA	17" x 14" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®).....	507.21	83.11
22 42 16 13-0025	EA	19" x 15" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®).....	512.33	83.11
22 42 16 13-0026	EA	18" x 12" Rectangular Vitreous China Undermount Lavatory (Kohler® Ladena®).....	625.25	83.11
22 42 16 13-0027	EA	21" x 14" Rectangular Vitreous China Undermount Lavatory (Kohler® Ladena®).....	625.25	83.11
22 42 16 13-0028		Pedestal Lavatories (22 42 16 13-0001)		
22 42 16 13-0029	EA	19" x 24" x 35" High Vitreous China Pedestal Sink (American Standard Cadet™).....	679.49	197.51
22 42 16 13-0030		Cultured Marble Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.				
22 42 16 13-0031	EA	25" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	399.00	76.96
22 42 16 13-0032	EA	31" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	448.59	82.08
22 42 16 13-0033	EA	37" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	538.04	87.21
22 42 16 13-0034	EA	49" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	733.65	92.34
22 42 16 13-0035	EA	25" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	427.98	76.96
22 42 16 13-0036	EA	31" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	456.75	82.08
22 42 16 13-0037	EA	37" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	586.25	87.21
22 42 16 13-0038	EA	43" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	637.80	89.78
22 42 16 13-0039	EA	49" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink.....	713.26	92.34
22 42 16 13-0040		Quartz Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.				
22 42 16 13-0041	EA	25" x 22" Quartz Vanity Top With Integrated Backsplash And Sink.....	838.16	76.96
22 42 16 13-0042	EA	31" x 22" Quartz Vanity Top With Integrated Backsplash And Sink.....	873.21	82.08
22 42 16 13-0043	EA	37" x 22" Quartz Vanity Top With Integrated Backsplash And Sink.....	1,001.36	87.21
22 42 16 13-0044	EA	43" x 22" Quartz Vanity Top With Integrated Backsplash And Sink.....	1,008.19	89.78
22 42 16 13-0045	EA	49" x 22" Quartz Vanity Top With Integrated Backsplash And Sink.....	1,098.97	92.34
22 42 16 13-0046	EA	61" x 22" Quartz Vanity Top With Integrated Backsplash And Two Sinks.....	1,467.74	97.47
22 42 16 13-0047	EA	73" x 22" Quartz Vanity Top With Integrated Backsplash And Two Sinks.....	1,730.37	102.59
22 42 16 13-0048	EA	22" End Splash For Quartz Vanity Tops.....	46.70	
22 42 16 13-0049		Solid Surface Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.				
22 42 16 13-0050	EA	25" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	704.64	76.96
22 42 16 13-0051	EA	31" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	789.08	82.08
22 42 16 13-0052	EA	37" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	884.96	87.21
22 42 16 13-0053	EA	43" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	972.86	89.78
22 42 16 13-0054	EA	49" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	1,053.17	92.34
22 42 16 13-0055	EA	55" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	1,159.16	94.91
22 42 16 13-0056	EA	61" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink.....	1,289.30	97.47
22 42 16 13-0057	EA	61" x 22" Solid Surface Vanity Top With Integrated Backsplash And Two Sinks.....	1,321.72	97.47
22 42 16 13-0058	EA	73" x 22" Solid Surface Vanity Top With Integrated Backsplash And Two Sinks.....	1,425.20	102.59
22 42 16 13-0059	EA	22" End Splash For Solid Surface Vanity Tops.....	69.46	
22 42 16 13-0060		Solid Surface Multi-Station Lavatory Systems (22 42 16 13-0001)		
Note: ADA compliant. Includes integral faucets.				
22 42 16 13-0061	EA	2 Station, Solid Surface Multi-Station Lavatory System With Integral Sprayheads And Infrared Controls (Bradley MG-2).....	6,779.72	149.66
For Integral Liquid Soap Dispenser, Add			171.00	
For Integral Photovoltaic Power Panels, Add			563.00	
22 42 16 13-0062	EA	3 Station, Solid Surface Multi-Station Lavatory System With Integral Sprayheads And Infrared Controls (Bradley MG-3).....	9,960.51	149.66
For Integral Liquid Soap Dispenser, Add			171.00	
For Integral Photovoltaic Power Panels, Add			657.00	
22 42 16 13-0063	EA	12" Length, Solid Surface Countertop Extension (Bradley MG-EXT-12).....	451.01	49.89
22 42 16 13-0064	EA	18" Length, Solid Surface Countertop Extension (Bradley MG-EXT-18).....	562.06	49.89
22 42 16 13-0065	EA	36" Length, Solid Surface Countertop Extension (Bradley MG-EXT-36).....	1,127.65	49.89
22 42 16 13-0066		Stainless Steel Lavatories (22 42 16 13-0001)		
22 42 16 13-0067	EA	18" x 15" Wall Mounted Lavatory, Stainless Steel (Acorn 1950-1).....	1,687.50	179.56
22 42 16 13-0068		Lavatory Carriers (22 42 16 13)		
22 42 16 13-0069		Floor Mounted, Lavatory Carriers (22 42 16 13-0068)		
22 42 16 13-0070		Floor Mounted Plate Type, Lavatory Carriers (22 42 16 13-0069)		
Note: Includes adjustable supporting rods, structural uprights and welded feet.				
22 42 16 13-0071	EA	Floor Mounted Hanger Plate Type, Single Lavatory Carrier.....	577.93	38.99
For Up To 4" Extension Sleeves And Hardware, Add			24.54	
For Valve Plate For Attaching To Upright, Add			86.70	
For Corner Carrier, Add			168.74	
22 42 16 13-0072	EA	Floor Mounted Bearing Plate Type, Single Lavatory Carrier.....	545.64	38.99
For Up To 4" Extension Sleeves And Hardware, Add			24.54	
For Valve Plate For Attaching To Upright, Add			86.70	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 13-0073	EA		Floor Mounted Hanger Plate Type, Double Lavatory (Back To Back) Carrier..... <i>For Up To 4" Extension Sleeves And Hardware, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i>	623.95 49.08 173.40	38.99
22 42 16 13-0074	EA		Floor Mounted Bearing Plate Type, Double Lavatory (Back To Back) Carrier..... <i>For Up To 4" Extension Sleeves And Hardware, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i>	713.95 49.08 173.40	38.99
22 42 16 13-0075 Floor Mounted, Lavatory Carriers With Arms (22 42 16 13-0069) Note: Includes leveling and securing screws, structural uprights and welded feet.					
22 42 16 13-0076	EA		Floor Mounted, Single Lavatory Carrier With Concealed Arms..... <i>For Up To 6-1/2" Extension Sleeves And Hardware, Add</i> <i>For Concealed Arm Carrier For Wheelchair Lavatory, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i> <i>For 2" Chrome Plated Escutcheons, Add</i> <i>For 4" Or 6" Chrome Plated Escutcheons, Add</i>	745.79 24.54 33.90 88.75 82.98 150.77	46.17
22 42 16 13-0077	EA		Floor Mounted, Single Lavatory Carrier With Exposed Acid Resistant White Coated Arms..... <i>For Up To 4-1/2" Extension Sleeves And Hardware, Add</i> <i>For Vandal Proof Trim, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i> <i>For Heavy Duty Carrier, Add</i>	859.52 24.54 66.63 88.75 85.32	46.17
22 42 16 13-0078	EA		Floor Mounted, Double Lavatory (Back To Back) Carrier With Concealed Arms..... <i>For Up To 6-1/2" Extension Sleeves And Hardware, Add</i> <i>For Concealed Arm Carrier For Wheelchair Lavatory, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i> <i>For 2" Chrome Plated Escutcheons, Add</i> <i>For 4" Or 6" Chrome Plated Escutcheons, Add</i>	1,002.60 49.08 67.80 177.50 165.97 301.55	46.17
22 42 16 13-0079	EA		Floor Mounted, Double Lavatory (Back To Back) Carrier With Exposed Acid Resistant White Coated Arms..... <i>For Up To 4-1/2" Extension Sleeves And Hardware, Add</i> <i>For Vandal Proof Trim, Add</i> <i>For Valve Plate For Attaching To Upright, Add</i> <i>For Heavy Duty Carrier, Add</i>	1,269.78 49.08 133.26 177.50 170.64	46.17
22 42 16 13-0080 Wall Mounted, Lavatory Carriers (22 42 16 13-0068)					
22 42 16 13-0081 Wall Mounted Plate Type, Lavatory Carriers (22 42 16 13-0080) Note: Includes wall plate and adjustable supporting rods.					
22 42 16 13-0082	EA		Wall Mounted Hanger Plate Type, Single Lavatory Carrier..... <i>For Double Plate Carrier, Add</i>	224.22 66.93	38.99
22 42 16 13-0083 Wall Mounted Plate Type, Lavatory Carriers With Arms (22 42 16 13-0080) Note: Includes wall plate and leveling and securing screws.					
22 42 16 13-0084	EA		Wall Mounted Fixed Steel Plate Type, Single Lavatory Carrier With Concealed Arms..... <i>For Up To 4" Extension Sleeves And Hardware, Add</i> <i>For 2" Chrome Plated Escutcheons, Add</i>	372.14 24.54 82.98	46.17
22 42 16 13-0085	EA		Wall Mounted Adjustable Plate Type, Single Lavatory Carrier With Concealed Arms..... <i>For Movable Mounting Brackets, Deduct</i> <i>For Up To 4" Extension Sleeves And Hardware, Add</i> <i>For 2" Chrome Plated Escutcheons, Add</i> <i>For 4" Or 6" Chrome Plated Escutcheons, Add</i>	437.59 -63.12 24.54 82.98 150.77	46.17
22 42 16 13-0086	EA		Wall Mounted Adjustable Plate Type, Single Lavatory Carrier With Exposed Acid Resistant White Coated Arms..... <i>For Up To 4-1/2" Extension Sleeves And Hardware, Add</i> <i>For Vandal Proof Trim, Add</i>	639.79 24.54 66.63	46.17
22 42 16 13-0087 Removal And Reinstallation Of Lavatory And Trim (22 42 16 13) Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.					
22 42 16 13-0088	EA		Removal And Reinstallation Of Wall Hung Lavatory With Faucet.....	301.78	
22 42 16 16 Commercial Sinks (22 42 16)					
22 42 16 16-0001 Sinks (22 42 16 16) Note: Includes drain, trap and supply valves. Excludes faucets.					
22 42 16 16-0002 Kitchen Sinks (22 42 16 16-0001)					
22 42 16 16-0003	EA		25" x 22" x 8-3/4" Enameled Cast Iron Kitchen Sink, Single Bowl (Kohler® Mayfield®).....	725.39	96.44
22 42 16 16-0004	EA		22" x 33" x 9-5/8" Enameled Cast Iron Kitchen Sink, Double Bowl (Kohler® Brookfield®).....	933.94	109.79
22 42 16 16-0005	EA		15" x 17" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR1517).....	902.05	94.40
22 42 16 16-0006	EA		<i>For 18 Gauge, Add</i> 17" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR1722).....	258.64 924.79	94.40
22 42 16 16-0007	EA		<i>For 18 Gauge, Add</i> 22" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR2222).....	270.01 975.96	94.40
22 42 16 16-0008	EA		<i>For 18 Gauge, Add</i> 25" x 22" x 7-1/2" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR2522).....	295.60 1,022.38	96.44
22 42 16 16-0009	EA		<i>For 18 Gauge, Add</i> 31" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR3122).....	312.65 1,285.15	109.79
22 42 16 16-0010	EA		<i>For 18 Gauge, Add</i> 33" x 21" x 7-1/2" Stainless Steel Kitchen Sink, Double Bowl, 20 Gauge (Elkay PSR3321).....	424.45 1,312.59	109.79
22 42 16 16-0011	EA		<i>For 18 Gauge, Add</i> 15" x 17" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR151710).....	437.99 1,270.62	94.40
22 42 16 16-0012	EA		17" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR172210).....	1,296.20	94.40
22 42 16 16-0013	EA		22" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR222210).....	1,360.63	94.40



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 16-0014	EA	25" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR252210)	1,447.79	96.44
22 42 16 16-0015	EA	31" x 22" x 11-1/2" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR312210)	1,748.46	109.79
22 42 16 16-0016	EA	33" x 22" x 8" Stainless Steel Kitchen Sink, Double Bowl, 18 Gauge (Elkay LR3322).....	1,675.47	109.79
22 42 16 16-0017 Undermount Kitchen Sinks (22 42 16 16-0001)				
22 42 16 16-0018	EA	21" x 15" x 7-1/2" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELU2115) With Strainer (Elkay LK99).....	1,134.11	94.40
22 42 16 16-0019	EA	21" x 15" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELU211510) With Strainer (Elkay LK99).....	1,131.34	94.40
22 42 16 16-0020	EA	21" x 15" x 7-1/2" Stainless Steel Kitchen Sink With Cutting Board, Single Bowl, 18 Gauge (Elkay ELUH2115) With Strainer (Elkay LK99)	1,143.58	94.40
22 42 16 16-0021	EA	21" x 15" x 10" Stainless Steel Kitchen Sink With Cutting Board, Single Bowl, 18 Gauge (Elkay ELUH211510) With Strainer (Elkay LK99)	1,208.01	94.40
22 42 16 16-0022	EA	21" x 15-3/4" x 4-3/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHAD2115) With Strainer (Elkay LK99).....	1,167.27	94.40
Note: Available in 4-1/2", 5, or 5-1/2" depths.				
22 42 16 16-0023	EA	25" x 20-1/2" x 7-7/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHF2520) With Strainer (Elkay LK99).....	1,332.40	94.40
22 42 16 16-0024	EA	32" x 20-1/2" x 7-7/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHF3320) With Strainer (Elkay LK99).....	1,579.29	94.40
22 42 16 16-0025	EA	21" x 18" x 5-1/2" Deep, Single Compartment Stainless Steel Sink, Undermount, 18 Gauge (Just Manufacturing Co. US-ADA-1821-A)	928.80	94.40
22 42 16 16-0026	EA	32" x 18" x 5-1/2" Deep, Two Compartment Stainless Steel Sink, Undermount, 18 Gauge (Just Manufacturing Co. UD-ADA-1832-A).....	1,206.02	94.40
22 42 16 16-0027 Multi-Station Wash Sink, Wall Mounted (22 42 16 16-0001)				
Note: Includes concealed wall hanger, soap dish(s), strainer, supply lines and P-Trap. Excludes faucets.				
22 42 16 16-0028	EA	36" Wide, 2 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™)	1,923.66	166.73
Note: Excludes faucets.				
22 42 16 16-0029	EA	48" Wide, 2 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™)	2,545.94	179.56
Note: Excludes faucets.				
22 42 16 16-0030	EA	60" Wide, 3 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™)	2,917.27	192.38
Note: Excludes faucets.				
22 42 16 16-0031	EA	48" Wide, 2 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951)	2,327.71	128.26
Note: Excludes faucets.				
22 42 16 16-0032	EA	62" Wide, 3 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951)	2,581.79	141.08
Note: Excludes faucets.				
22 42 16 16-0033	EA	80" Wide, 4 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951)	2,830.80	153.91
Note: Excludes faucets.				
22 42 16 16-0034	EA	102" Wide, 5 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951)	3,138.55	173.15
Note: Excludes faucets.				
22 42 16 16-0035	EA	27" Diameter, 2 Person, Stainless Steel, Sensor Operated Compact Wash Fountain	3,003.62	282.17
Note: Includes sensor operated spray heads.				
22 42 16 16-0036 Utility Or Laundry Sinks (22 42 16 16-0001)				
22 42 16 16-0037	EA	23" x 21" Molded Stone Single Laundry Sink, Floor Mounted With Enamel Steel Legs (Fiat Products FL-1).....	665.65	109.79
22 42 16 16-0038	EA	40" x 24" Molded Stone Double Laundry Sink, Floor Mounted With Enamel Steel Legs (Fiat Products FLTD-II).....	763.33	109.79
22 42 16 16-0039	EA	22" x 17" Molded Stone Single Laundry Sink, Drop-In (Fiat Products DL1).....	663.73	109.79
22 42 16 16-0040	EA	24" x 21" Enameled Cast Iron Single Laundry Sink, Floor Mounted With Metal Stand (Eljer 222-2210)	1,008.95	109.79
22 42 16 16-0041	EA	48" x 21" Enameled Cast Iron Double Laundry Sink, Floor Mounted With Metal Stand (Eljer 222-2220).....	1,425.52	123.13
22 42 16 16-0042 Refinish Sink/Lavatory (22 42 16 16-0001)				
22 42 16 16-0043	EA	Refinish Sink/Lavatory.....	237.96	
22 42 16 16-0044 Service Sinks (22 42 16 16-0001)				
22 42 16 16-0045	EA	22" x 18" Enameled Cast Iron Wall Mount Service Sink With Stainless Steel Rim Guard, Trap Standard (American Standard Lakewell™)	1,067.91	165.20
22 42 16 16-0046	EA	24" x 20" Enameled Cast Iron Wall Mount Service Sink With Stainless Steel Rim Guard, Trap Standard (American Standard Akron™).....	1,121.19	165.20
22 42 16 16-0047	EA	28" x 28" Enameled Cast Iron Floor Type Corner Service Sink With Removable Vinyl Coated Rim Guard (American Standard Florwell™).....	1,379.89	218.55
22 42 16 16-0048	EA	12" x 12" x 10" Cast Iron Floor Sink With Dome Strainer And Full Grate (Zurn FD2377-PO3-F)	579.77	153.91
22 42 16 16-0049	EA	24" x 24" x 10" Plastic Composite Mop Service Sink With Combination Dome Strainer And Stainless Steel Lint Basket (Fiat Products MSB2424)	664.83	153.91
22 42 16 16-0050	EA	36" x 24" x 10" Plastic Composite Mop Service Sink With Combination Dome Strainer And Stainless Steel Lint Basket (Fiat Products MSB3624)	731.18	184.68
22 42 16 16-0051	EA	24" x 24" x 10" Molded Stone Mop Service Sink With Strainer (Swanstone MS-2424-010)	598.28	153.91
22 42 16 16-0052	EA	36" x 24" x 10" Molded Stone Mop Service Sink With Strainer (Swanstone MS-2436-010)	679.95	184.68
22 42 16 16-0053	EA	24" x 24" x 12" Terrazzo Mop Service Sink With Strainer (Acorn TSH-24)	968.98	153.91
22 42 16 16-0054	EA	36" x 24" x 12" Terrazzo Mop Service Sink With Strainer (Acorn TSH-3624)	1,197.06	184.68
22 42 16 16-0055	EA	33" x 33" x 10", Type 304 Stainless Steel, ADA Mop Sink (IMC Teddy FS-ADA).....	2,050.10	68.44
22 42 16 16-0056 Soapstone Sinks (22 42 16 16-0001)				
22 42 16 16-0057	EA	26-1/2" x 18-1/2" x 7-3/4" Single Bowl Soapstone Sink	1,071.36	94.40
22 42 16 16-0058	SF	Soapstone Sink Backsplash	171.53	
22 42 16 16-0059	EA	30" x 18-1/2" x 10" Single Bowl Soapstone Sink	1,366.44	109.79

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 16-0060	EA	36" x 18-1/2" x 10" Double Bowl Soapstone Sink	1,600.80	109.79
22 42 16 16-0061		Stainless Steel Sink And Drainboard (22 42 16 16-0001)		
22 42 16 16-0062	EA	Stainless Steel Sink With One 24" x 24" x 14" Depth Compartment And Drainboard, 14 Gauge Stainless Steel With Tubular Adjustable Legs (Advance Tabco 94-41-24-24L)	4,417.88	256.51
22 42 16 16-0063		Classroom Sinks (22 42 16 16-0001)		
		Note: Includes drain, trap and supply valves.		
22 42 16 16-0064	EA	25" x 17" x 6-1/2", 20 Gauge Stainless Steel, Top Mounting Type, 15-34" x 14" x 6-3/8" Deep Single Bowl, Drop- In Classroom ADA Sink (Elkay CDKAD2517654)	864.42	94.40
		Note: Includes single manual handle faucet, gooseneck faucet and basket strainer (LKD208513LC, LK1141A, LK35)		
22 42 16 16-0065		Sink Carriers (22 42 16 16)		
22 42 16 16-0066		Floor Mounted, Sink Carriers (22 42 16 16-0065)		
		Note: With support plates, adjustable coupling with 4" piping connection, mounting studs, structural uprights, welded feet and chrome plated trim.		
22 42 16 16-0067	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With 4" Adjustable Coupling	851.58	38.99
		For Vandal Proof Trim, Add	66.63	
		For Valve Plate For Attaching To Upright, Add	86.70	
22 42 16 16-0068	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With 4" Adjustable Coupling And 4" x 2" Waste Fitting	1,130.04	38.99
		For Vandal Proof Trim, Add	66.63	
		For Auxiliary Vent, Add	197.75	
22 42 16 16-0069	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With Exposed Acid Resistant White Coated Arms	1,415.24	38.99
		For Up To 4" Extension Sleeves And Hardware, Add	50.26	
		For Vandal Proof Trim, Add	66.63	
22 42 16 16-0070		Removal And Reinstallation Of Sink And Trim (22 42 16 16)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 16 16-0071	EA	Removal And Reinstallation Of Wall Hung Service Sink With Faucet	413.73	
22 42 19 Commercial Bathtubs (22 42)				
22 42 19 00-0001		Recessed Alcove Bathtubs (22 42 19)		
22 42 19 00-0002		Porcelain Enameled Cast Iron, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0003	EA	54" x 30-1/4" x 14", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Seaforth™)	1,482.03	285.24
22 42 19 00-0004	EA	60" x 32" x 16-1/4", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Mendota®)	1,272.23	285.24
22 42 19 00-0005	EA	60" x 32" x 16-1/4", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Dynametric®)	1,487.30	285.24
22 42 19 00-0006	EA	66" x 32" x 17", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Bellwether®)	1,909.25	285.24
22 42 19 00-0007		Porcelain Enameled Steel, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0008	EA	60" x 30" x 14-1/4", Porcelain Enameled Steel, Recessed Alcove Bathtub (American Standard New Salem®)	666.13	285.24
22 42 19 00-0009	EA	60" x 30" x 16-5/8", Porcelain Enameled Steel, Recessed Alcove Bathtub (American Standard New Solar®)	681.15	285.24
22 42 19 00-0010		Porcelain Finished Metal Alloy, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0011	EA	60" x 32" x 17-3/4", Porcelain Finished Metal Alloy, Recessed Alcove Bathtub (American Standard Cambridge™)	976.92	285.24
22 42 19 00-0012		Acrylic, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0013	EA	60" x 32" x 19", Acrylic, Recessed Alcove Bathtub (Kohler® Archer®)	1,005.33	285.24
22 42 19 00-0014	EA	60" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,186.97	285.24
22 42 19 00-0015	EA	66" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,210.43	285.24
22 42 19 00-0016	EA	72" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,196.01	285.24
22 42 19 00-0017	EA	72" x 42" x 21", Acrylic, Recessed Alcove Bathtub (Kohler® Windward®)	1,247.88	285.24
22 42 19 00-0018		Bathtub Refinishing (22 42 19 00-0001)		
22 42 19 00-0019	EA	Refinish Porcelain Finished Bathtub With Acrylic Urethane Enamel	615.60	
22 42 19 00-0020		Tub And Shower Combinations (22 42 19)		
22 42 19 00-0021		Acrylic Tub And Shower Combination (22 42 19 00-0020)		
22 42 19 00-0022	EA	1 Piece, 60" x 32" x 72" Acrylic Tub And Shower (Delta 226032)	1,273.29	107.75
		For 2 Piece Enclosure, Deduct	-276.28	
22 42 19 00-0023		Fiberglass Tub And Shower Combination (22 42 19 00-0020)		
22 42 19 00-0024	EA	1 Piece 60" x 32" x 72" Fiberglass Tub And Shower (Aquatic 2603-SG)	845.71	107.75
22 42 19 00-0025	EA	2 Piece 60" x 30" x 72" Fiberglass Tub And Shower (Aquatic 2603-2P)	668.55	71.84
22 42 19 00-0026	EA	4 Piece 60" x 32" x 75-1/2" Fiberglass Tub And Shower (Aquatic 26030-4P)	1,338.52	162.64



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 19 00-0027	EA	3 Piece Tub/Shower Surrounds, 32" x 72" Side Walls, 48" x 72" Back, (Swanstone SK-324872)..... <i>For 2 Piece Enclosure, Deduct</i>	3,438.42 -712.27	324.51
22 42 23 Commercial Showers (22 42)				
22 42 23 00-0001		Shower Enclosures (22 42 23) Note: Includes precast concrete receptors. Excludes plumbing hook-up and door or curtain.		
22 42 23 00-0002		Powder Coated Or Baked Enamel Steel Shower Enclosure (22 42 23 00-0001)		
22 42 23 00-0003	EA	32" x 32" x 82" Baked Enamel Steel Shower Enclosure (General Partitions).....	1,717.53	165.49
22 42 23 00-0004	EA	36" x 36" x 82" Baked Enamel Steel Shower Enclosure (General Partitions).....	1,717.53	165.49
22 42 23 00-0005	EA	40" x 40" x 82" Baked Enamel Steel Shower Enclosure (General Partitions).....	2,604.92	165.49
22 42 23 00-0006	EA	40" x 48" x 82" Handicapped, Baked Enamel Steel Shower Enclosure (General Partitions).....	2,868.36	165.49
22 42 23 00-0007		Solid Plastic Core High Density Polymer (HDP) Shower Enclosure (22 42 23 00-0001)		
22 42 23 00-0008	EA	32" x 32" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions).....	2,840.63	165.49
22 42 23 00-0009	EA	36" x 36" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions).....	2,840.63	165.49
22 42 23 00-0010	EA	40" x 40" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions).....	4,088.51	165.49
22 42 23 00-0011	EA	40" x 48" x 82" Handicapped, Solid Plastic Shower Enclosure (General Partitions).....	4,573.80	165.49
22 42 23 00-0012		Composite Fiberglass Shower Enclosure, 4 Piece Knock-Down (22 42 23 00-0001)		
22 42 23 00-0013	EA	32" x 32" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 3232CS).....	1,434.82	165.49
22 42 23 00-0014	EA	36" x 36" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 3636CS).....	1,475.78	165.49
22 42 23 00-0015	EA	34" x 48" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 4834CS).....	1,516.74	165.49
22 42 23 00-0016	EA	30" x 60" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 6030CSL).....	1,598.65	165.49
22 42 23 00-0017	EA	34" x 60" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 6034CS).....	1,707.19	165.49
22 42 23 00-0018		1 Piece Shower Units (22 42 23)		
22 42 23 00-0019	EA	1 Piece, 32" x 32" x 73" Fiberglass Shower With Drain (Swanstone FS03232).....	1,233.23	107.75
22 42 23 00-0020	EA	1 Piece, 36" x 36" x 73" Fiberglass Shower With Drain (Swanstone FS03636).....	1,383.62	107.75
22 42 23 00-0021		Personnel Type Shower Receptors (22 42 23)		
22 42 23 00-0022		Acrylic Shower Receptors (22 42 23 00-0021)		
22 42 23 00-0023	EA	36" x 36" Acrylic Shower Receptor.....	455.91	41.78
22 42 23 00-0024	EA	42" x 42" Acrylic Shower Receptor.....	482.32	41.78
22 42 23 00-0025	EA	48" x 48" Acrylic Shower Receptor.....	535.05	41.78
22 42 23 00-0026	EA	60" x 60" Acrylic Shower Receptor.....	650.83	50.14
22 42 23 00-0027	EA	48" x 32" Acrylic Shower Receptor.....	457.15	41.78
22 42 23 00-0028	EA	48" x 36" Acrylic Shower Receptor.....	491.88	41.78
22 42 23 00-0029	EA	48" x 42" Acrylic Shower Receptor.....	556.49	41.78
22 42 23 00-0030	EA	60" x 32" Acrylic Shower Receptor.....	617.96	50.14
22 42 23 00-0031	EA	60" x 36" Acrylic Shower Receptor.....	622.43	50.14
22 42 23 00-0032	EA	60" x 42" Acrylic Shower Receptor.....	626.53	50.14
22 42 23 00-0033	EA	60" x 48" Acrylic Shower Receptor.....	690.73	50.14
22 42 23 00-0034	EA	36" x 36" Acrylic Corner Shower Receptor.....	667.58	41.78
22 42 23 00-0035	EA	42" x 42" Acrylic Corner Shower Receptor.....	767.25	41.78
22 42 23 00-0036		Molded Stone Shower Receptors (22 42 23 00-0021)		
22 42 23 00-0037	EA	32" x 32" Molded Stone Shower Receptor (Fiat 32WL).....	302.35	41.78
22 42 23 00-0038	EA	34" x 34" Molded Stone Shower Receptor (Fiat 34WL).....	317.25	41.78
22 42 23 00-0039	EA	36" x 36" Molded Stone Shower Receptor (Fiat 36WL).....	318.91	41.78
22 42 23 00-0040	EA	42" x 42" Molded Stone Shower Receptor (Fiat 4242WL).....	392.58	41.78
22 42 23 00-0041	EA	42" x 34" Molded Stone Shower Receptor (Fiat 42WL).....	347.88	41.78
22 42 23 00-0042	EA	48" x 32" Molded Stone Shower Receptor (Fiat 4832WL).....	368.58	41.78
22 42 23 00-0043	EA	48" x 34" Molded Stone Shower Receptor (Fiat 48WL).....	371.06	41.78
22 42 23 00-0044	EA	54" x 34" Molded Stone Shower Receptor (Fiat 54WL).....	429.55	50.14
22 42 23 00-0045	EA	60" x 34" Molded Stone Shower Receptor (Fiat 60WL).....	445.28	50.14
22 42 23 00-0046	EA	36" x 36" Molded Stone Corner Shower Receptor (Fiat 36WLC).....	352.02	41.78
22 42 23 00-0047	EA	38" x 38" Molded Stone Corner Shower Receptor (Fiat 38WLC).....	361.13	41.78
22 42 23 00-0048		Precast Terrazzo Shower Receptors (22 42 23 00-0021)		
22 42 23 00-0049	EA	30" x 30" Precast Terrazzo Shower Receptor.....	572.22	41.78
22 42 23 00-0050	EA	32" x 32" Precast Terrazzo Shower Receptor.....	594.57	41.78
22 42 23 00-0051	EA	34" x 34" Precast Terrazzo Shower Receptor.....	615.27	41.78
22 42 23 00-0052	EA	36" x 36" Precast Terrazzo Shower Receptor.....	617.75	41.78
22 42 23 00-0053	EA	40" x 40" Precast Terrazzo Shower Receptor.....	676.53	41.78
22 42 23 00-0054	EA	42" x 42" Precast Terrazzo Shower Receptor.....	706.33	41.78
22 42 23 00-0055	EA	48" x 48" Precast Terrazzo Shower Receptor.....	994.41	41.78
22 42 23 00-0056	EA	36" x 32" Precast Terrazzo Shower Receptor.....	610.30	41.78
22 42 23 00-0057	EA	42" x 32" Precast Terrazzo Shower Receptor.....	622.17	41.78
22 42 23 00-0058	EA	42" x 34" Precast Terrazzo Shower Receptor.....	643.41	41.78
22 42 23 00-0059	EA	42" x 36" Precast Terrazzo Shower Receptor.....	669.90	41.78
22 42 23 00-0060	EA	32" x 48" Precast Terrazzo Shower Receptor.....	672.39	41.78

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 23 00-0061 EA 48" x 34" Precast Terrazzo Shower Receptor.....	706.33	41.78
22 42 23 00-0062 EA 54" x 32" Precast Terrazzo Shower Receptor.....	740.27	41.78
22 42 23 00-0063 EA 60" x 30" Precast Terrazzo Shower Receptor.....	1,001.27	50.14
22 42 23 00-0064 EA 60" x 32" Precast Terrazzo Shower Receptor.....	1,095.20	50.14
22 42 23 00-0065 EA 60" x 34" Precast Terrazzo Shower Receptor.....	1,099.81	50.14
22 42 23 00-0066 EA 60" x 36" Precast Terrazzo Shower Receptor.....	1,104.39	50.14
22 42 23 00-0067 EA 32" x 32" Precast Terrazzo Corner Shower Receptor.....	621.06	41.78
22 42 23 00-0068 EA 34" x 34" Precast Terrazzo Corner Shower Receptor.....	622.17	41.78
22 42 23 00-0069 EA 36" x 36" Precast Terrazzo Corner Shower Receptor.....	624.37	41.78
22 42 23 00-0070 EA 40" x 40" Precast Terrazzo Corner Shower Receptor.....	749.37	41.78
22 42 23 00-0071 EA 36" x 36", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor.....	1,366.10	41.78
22 42 23 00-0072 EA 60" x 30", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor.....	1,520.62	50.14
22 42 23 00-0073 EA 60" x 36", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor.....	1,585.19	50.14
22 42 23 00-0074 Shower Receptors Accessories (22 42 23 00-0021)		
22 42 23 00-0075 SF Polyvinyl Chloride (PVC) Shower Pan Liner.....	3.77	
22 42 23 00-0076 Removal And Reinstallation Of Fixtures And Trim (22 42 23)		
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 23 00-0077 EA Removal And Reinstallation Of Shower Head.....	50.14	
22 42 23 00-0078 Removal Of Tile Shower Floor With Lead Liner Pan (22 42 23)		
See CSI section 01 74 19 00-0031 for landfill dump fee.		
22 42 23 00-0079 SF Removal Of Tile Shower Floor With Lead Liner Pan.....	0.00	4.06
22 42 26 Commercial Disposers (22 42)		
See CSI section 22 41 26 00-0001 for disposals.		
22 42 33 Wash Fountains (22 42)		
22 42 33 00-0001 Circular Wash Fountain, Deep Bowl (22 42 33)		
Note: Includes trim and trap. 2" IPS waste outlets foot control/hand control operated.		
22 42 33 00-0002 EA 36" Stainless Steel Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2705F-A-LSD).....	8,706.45	174.61
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0003 EA 36" Bradstone® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2805F-A-LSD).....	4,969.10	174.61
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0004 EA 36" Terreon® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3105AIRLSDE).....	8,598.54	174.61
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0005 EA 54" Stainless Steel Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2708F-A-LSD).....	11,095.00	199.55
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0006 EA 54" Bradstone® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2808F-A-LSD).....	5,733.16	199.55
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0007 EA 54" Terreon® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3108AIRLSDE).....	10,301.44	199.55
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0008 Semi-Circular Wash Fountain, Deep Bowl (22 42 33)		
Note: Includes trim and trap. 2" IPS waste outlets foot control/hand control operated.		
22 42 33 00-0009 EA 36" Stainless Steel Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2703F-A-LSD).....	7,596.09	149.66
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0010 EA 36" Bradstone® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2803F-A-LSD).....	4,535.48	149.66
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0011 EA 36" Terreon® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3103AIRLSDE).....	6,521.83	149.66
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0012 EA 54" Stainless Steel Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2704F-A-LSD).....	9,320.19	174.61
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00
22 42 33 00-0013 EA 54" Bradstone® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2804F-A-LSD).....	5,471.97	174.61
For Metal Soap Dispenser, Add		100.00
For Stainless Steel Pedestal Panels, Add		100.00



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR			TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION			UNIT COST		UNIT COST	
22 42 33 00-0014	EA	54" Terreon® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3104AIRLSDE).....	7,757.79		174.61	
		For Metal Soap Dispenser, Add	100.00			
		For Stainless Steel Pedestal Panels, Add	100.00			
22 42 39 Commercial Faucets, Supplies, and Trim (22 42)						
22 42 39 00-0001 Kitchen Faucets (22 42 39)						
22 42 39 00-0002	EA	Top Cast Kitchen Faucet, Single Handle, Chrome Finish (Delta 140-DST).....	216.63		51.30	
22 42 39 00-0003	EA	Top Cast Kitchen Faucet With Spray, Single Handle, Chrome Finish (Delta 440-DST).....	245.82		51.30	
22 42 39 00-0004	EA	Top Cast Kitchen Faucet, Single Handle, Stainless Steel Finish (Delta 140-SS-DST).....	203.50		51.30	
22 42 39 00-0005	EA	Top Cast Kitchen Faucet With Spray, Single Handle, Stainless Steel Finish (Delta 440-SS-DST).....	230.04		51.30	
22 42 39 00-0006	EA	Top Cast Kitchen Faucet, Two Handle, Chrome Finish, 8" Center, Lever Handles (Delta 2102LF-LHP+H24).....	201.20		51.30	
22 42 39 00-0007	EA	Top Cast Kitchen Faucet With Spray, Two Handle, Chrome Finish, 8" Center, Lever Handles (Delta 2402LF-LHP+H24).....	221.76		51.30	
22 42 39 00-0008	EA	Top Cast Kitchen Faucet, Two Handle, Chrome Finish, Center Gooseneck Faucet, Lever Handles (Delta 21987LF).....	291.09		51.30	
22 42 39 00-0009	EA	Top Cast Kitchen Faucet With Spray, Two Handle, Chrome Finish, Center Gooseneck Faucet, Lever Handles (Delta 21996LF).....	204.10		51.30	
22 42 39 00-0010	EA	Bottom Mount Kitchen Faucet, Single Handle, Chrome Finish (Delta 101LF-WF).....	196.31		51.30	
22 42 39 00-0011	EA	Bottom Mount Kitchen Faucet With Spray, Single Handle, Chrome Finish (Delta 175LF-WF).....	234.37		51.30	
22 42 39 00-0012	EA	Bottom Mount Kitchen Faucet, Two Handle, Chrome Finish, Gooseneck Faucet, Lever Handles (Delta 2274-LHP+H24).....	410.68		51.30	
22 42 39 00-0013	EA	Bottom Mount Kitchen Faucet With Spray, Two Handle, Chrome Finish, Gooseneck Faucet, Lever Handles (Delta 2276-LHP+H24).....	451.55		51.30	
22 42 39 00-0014	EA	Deck Mount Sink Faucet, 8" Center Set, Lever Handles (Chicago Faucet 1100 ABCP).....	423.87		55.71	
22 42 39 00-0015	EA	Deck Mount Sink Faucet, 8" Center Set, 4" Wristblade Handles (Chicago Faucet 1100-GN2AE3-317CP).....	421.88		55.71	
22 42 39 00-0016	EA	Deck Mount Gooseneck Sink Faucet, 4" Center Set, Blade Handles (Chicago Faucet 802-317CP).....	311.89		55.71	
22 42 39 00-0017	EA	Chrome Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041CR).....	736.90		51.30	
22 42 39 00-0018	EA	Brushed Nickel Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041NK).....	935.25		51.30	
22 42 39 00-0019	EA	Oil Rubbed Bronze Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041RB).....	1,001.37		51.30	
22 42 39 00-0020	EA	Chrome Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKFGT1041CR).....	736.90		51.30	
22 42 39 00-0021	EA	Brushed Nickel Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKFGT1041NK).....	935.25		51.30	
22 42 39 00-0022	EA	Oil Rubbed Bronze Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKFGT1041RB).....	1,001.37		51.30	
22 42 39 00-0023 Lavatory Faucets (22 42 39)						
22 42 39 00-0024	EA	Single Handle Centerset Lavatory Faucet, Polished Chrome Finish (Delta Lahara 538-MPU-DST).....	268.42		36.94	
22 42 39 00-0025	EA	4" Centerset Lavatory Faucet With Chrome Lever Handle (Delta 501LF-WF).....	183.97		36.94	
22 42 39 00-0026	EA	4" Classic Style Centerset Lavatory Faucet With Chrome Lever Handles (Delta 2523LF-MPU).....	230.17		36.94	
22 42 39 00-0027	EA	4" Centerset Lavatory Faucet With Chrome Lever Handles (Delta 2529LF-HDM).....	253.20		36.94	
22 42 39 00-0028	EA	Classic Style Widespread Lavatory Faucet With Chrome Lever Handles (Delta 3530LF-MPU).....	312.70		36.94	
22 42 39 00-0029	EA	Widespread Lavatory Gooseneck Faucet With Chrome Lever Handles (Delta 3579LF-WFHDF).....	365.54		36.94	
22 42 39 00-0030	EA	Self Closing/Metered Faucet, Brass, Single Hole, Push Handle (Delta 86T104).....	220.23		36.94	
22 42 39 00-0031	EA	Self Closing/Metered Faucet, Double Hole, Push Handles (American Standard 1340.225.002).....	339.17		36.94	
22 42 39 00-0032	EA	Single Inlet, Push Handle Metering Faucet, ADA (Chicago Faucet 333-665).....	242.33		36.94	
22 42 39 00-0033	EA	3" Reach, 4-Arm Handle Single Basin Faucet (T&S Brass 0710).....	248.12		36.94	
22 42 39 00-0034	EA	3" Reach, Push Handle Self-Closing Valve, Single Basin Metering Faucet (T&S Brass 0712).....	301.19		36.94	
22 42 39 00-0035	EA	4" Reach, Push Handle Self-Closing Valve, Single Basin Metering Faucet (T&S Brass 0805).....	294.91		36.94	
22 42 39 00-0036	EA	4" Classic Style Centerset Lavatory Faucet With Chrome Lever Handles (Zurn Z81104).....	239.56		36.94	
22 42 39 00-0037	EA	8" Widespread, Chrome, Two Wrist Blade Handle Bar/Pantry Gooseneck Lavatory Faucet (Moen 8248).....	415.50		36.94	
22 42 39 00-0038	EA	4", Chrome, Two Wrist Blade Handle Bar Gooseneck Lavatory Faucet (Moen 8938).....	242.98		36.94	
22 42 39 00-0039	EA	Two Hole, Chrome, Single Handle Lavatory Faucet (Moen 8420).....	290.61		36.94	
22 42 39 00-0040	EA	Single Hole, Chrome, Single Handle Lavatory Faucet (Moen 8417).....	389.69		36.94	
22 42 39 00-0041	EA	8" Widespread, Chrome, Two Wrist Blade Handle Lavatory Gooseneck Lavatory Faucet With Drain Assembly (Moen 8246).....	499.13		36.94	
22 42 39 00-0042 Bath And Shower Faucets (22 42 39)						
22 42 39 00-0043 Bath And Shower Faucets With Valve Body (22 42 39 00-0042)						
22 42 39 00-0044	EA	Single Lever Handle, Chrome Tub Filler, Pressure-Balance (American Standard T480.500).....	246.57		44.53	
22 42 39 00-0045	EA	Single Lever Handle, Chrome Shower Only, Pressure-Balance (American Standard T480.501).....	290.14		44.53	
22 42 39 00-0046	EA	Single Lever Handle, Chrome Shower And Tub Filler, Pressure-Balance (American Standard T480.502).....	318.07		44.53	
22 42 39 00-0047	EA	Two Lever Handle, Chrome Tub Filler (American Standard Colony Soft 3275.505).....	227.57		44.53	
		For Faucet With Metal Cross Handles, Add	45.75			
22 42 39 00-0048	EA	Two Lever Handle, Chrome Shower Only (American Standard Colony Soft 3275.501).....	238.75		44.53	
		For Faucet With Metal Cross Handles, Add	45.75			
22 42 39 00-0049	EA	Two Lever Handle, Chrome Shower And Tub Filler (American Standard Colony Soft 3275.502).....	271.14		44.53	
		For Faucet With Metal Cross Handles, Add	45.75			
22 42 39 00-0050	EA	Three Lever Handle, Chrome Shower And Tub Filler (American Standard Colony Soft 3375.502).....	308.01		44.53	
		For Faucet With Metal Cross Handles, Add	45.75			
22 42 39 00-0051 Shower Valves And Trim (22 42 39)						
		See CSI section 22 41 39 00-0011 for residential shower valves and heads.				
22 42 39 00-0052	EA	Removable Hand Held Shower With Hose Wall Hook And Inline Vacuum Breaker (Powers 141-318 with 141-319).....	394.28		69.26	
22 42 39 00-0053	EA	Concealed Thermostatic/Pressure Balancing Control Valve With Chrome Plated Shower Head (Chicago Faucet 2502-600CP).....	905.61		69.26	
22 42 39 00-0054	EA	Concealed Pressure Balancing Control Valve With Chrome Plated Shower Head (Chicago Faucet 1762-ISCP).....	623.93		69.26	

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 39 00-0055 EA Senior Institutional Shower Head (Symmons® 4-150).....	239.58	44.53
22 42 39 00-0056 EA Universal Institutional Shower Head (Symmons® 4-151).....	405.93	44.53
22 42 39 00-0057 EA Fre-Flo Institutional Shower Head (Symmons® 4-295).....	283.38	44.53
22 42 39 00-0058 EA Fre-Flo Institutional Shower Head With Short Arm (Symmons® 4-385).....	211.65	44.53
22 42 39 00-0059 EA Wall Mounted Shower Valve And Slide Bar, Single Lever Concealed Mixer (Symmons® 96-300-B30-V-X).....	908.53	66.70
22 42 39 00-0060 EA Wall Mounted Shower Valve, Tub Faucet, And Slide Bar, Single Lever Concealed Mixer (Symmons® 96-400-B30-V-X).....	740.34	76.96
22 42 39 00-0061 EA Wall Mounted Shower Valve, Slide Bar And Head, Single Lever Concealed Mixer (Symmons® 96-500-B30-V-X).....	983.10	76.96
22 42 39 00-0062 EA Wall Mounted Shower Valve, Tub Faucet, Slide Bar And Head, Single Lever Concealed Mixer (Symmons® 96-600-B30-V-X).....	1,390.16	82.08
22 42 39 00-0063 EA Stainless Steel Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Soap Dish, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-801S/1-802S).....	1,262.68	69.26
For Hand Spray, Hose And Wall Hooks, Add	106.44	
For Recessed Soap Dish, Add	108.12	
For Hand Spray, Hose And 30" Slide Bar, Add	165.51	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0064 EA Stainless Steel Corner Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Soap Dish, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-807).....	1,505.11	69.26
For Hand Spray, Hose And Wall Hooks, Add	106.44	
For Recessed Soap Dish, Add	108.12	
For Hand Spray, Hose And 30" Slide Bar, Add	165.51	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0065 EA Stainless Steel Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S).....	1,018.30	69.26
For Hand Spray, Hose And Wall Hooks, Add	19.32	
For Hand Spray, Hose And 30" Slide Bar, Add	78.39	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0066 EA Stainless Steel Institutional Shower System With Flat Wall Recessed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-911RS).....	1,547.73	69.26
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0067 EA Stainless Steel Double Outlet Institutional Shower System With Thru-Ceiling Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-902S-FS).....	1,661.85	69.26
For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0068 EA Stainless Steel Institutional Triple Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Heads, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-931).....	3,083.29	69.26
For Recessed Soap Dish, Add	83.94	
For Pressure Balance And Metering Combination, Add	227.79	
22 42 39 00-0069 EA Stainless Steel Institutional Double Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Heads, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-921).....	2,690.77	69.26
For Recessed Soap Dish, Add	83.94	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0070 EA Stainless Steel Tub And Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-941-231).....	1,340.42	69.26
22 42 39 00-0071 EA Stainless Steel Double Outlet Institutional Shower System With Flat Wall Recessed Piping Covering, Vandal Resistant Adjustable Shower Head, Hand Spray, Hose, Wall Hooks, Soap Dish And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-912RS-FS).....	2,068.61	69.26
For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0072 EA Stainless Steel Single Supply Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S-60).....	1,338.59	69.26
22 42 39 00-0073 EA Stainless Steel Single Supply Single Outlet Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S-22-FS).....	1,334.57	69.26
For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
22 42 39 00-0074 EA Single Lever Handle, Chrome, Pressure-Balance, Shower System (Symmons SafetyMix 1-100-X-3/4).....	986.23	61.56
22 42 39 00-0075 EA Single Lever Handle, Chrome, Pressure-Balance, Shower Valve (Symmons SafetyMix 4-500).....	763.88	44.53
22 42 39 00-0076 Service Sink Faucets (22 42 39)		
22 42 39 00-0077 EA 4-5/8" Spout With Vacuum Breaker, Wall Mount Service Sink Faucet With Lever Handles (Kohler® Kinlock™).....	533.13	85.42
22 42 39 00-0078 EA 3" Spout, Wall Mount, Service Sink Faucet With Lever Handles (American Standard 8340.235).....	377.39	85.42
22 42 39 00-0079 EA 3" Spout With Vacuum Breaker, Wall Mount Service Sink Faucet With Lever Handles (American Standard 8340.243).....	407.55	85.42
22 42 39 00-0080 EA 6" Spout With Vacuum Breaker And Top Brace, Wall Mount Service Sink Faucet, Lever Handles (American Standard 8344.012).....	423.20	85.42
22 42 39 00-0081 EA 7-1/4" Spout With Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8355.101).....	551.58	119.74
22 42 39 00-0082 EA 7-1/4" Spout With Vacuum Break And Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8355.110).....	617.45	136.47
22 42 39 00-0083 EA 11" Spout With Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8345.115).....	715.76	136.47
22 42 39 00-0084 EA Wall Mount Service Sink Faucet With Atmospheric Vacuum Breaker Spout, Lever Handles (Chicago Faucet 305-VBRCF).....	419.90	85.42
22 42 39 00-0085 EA 44" Flexible Stainless Steel Hose With Insulated Handle, 23" Riser, Pre-Rinse Faucet (Chicago Faucet 923-XKCAB).....	864.12	136.47
22 42 39 00-0086 EA Wall Mounted Mixing Faucet With Integral Stop, Vacuum Breaker, And Wall Brass (Fiat 830-AA).....	374.04	85.42
22 42 39 00-0087 EA 30" Long, 5/8" Rubber Hose And Stainless Steel Hose Bracket (Fiat 832-AA).....	58.55	7.70
22 42 39 00-0088 EA Stainless Steel Mop Hanger (Fiat 889-CC).....	130.75	10.26



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 39 00-0089 EA 1/2" Thermostatic Mixing Valve (Watts 1170-US/UT)	400.62	136.47
22 42 39 00-0090 Laboratory Faucets And Fittings (22 42 39)		
22 42 39 00-0091 EA Cold Faucet, Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Laboratory Faucet (Chicago Faucet 927)	216.15	36.33
22 42 39 00-0092 EA Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet (Chicago Faucet 929)	355.04	51.30
22 42 39 00-0093 EA Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet With Vacuum Breaker (Chicago Faucet 930)	462.55	51.30
22 42 39 00-0094 EA Cold Wall Mount, Gooseneck Spout With Aerator, Laboratory Faucet (Chicago Faucet 933)	281.88	47.91
22 42 39 00-0095 EA 6" Spout With Aerator, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 940)	382.51	68.34
22 42 39 00-0096 EA 6" Spout With Aerator And Vacuum Breaker, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 940-VBE7-CP)	522.68	68.34
22 42 39 00-0097 EA Dual Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet (Chicago Faucet 946)	418.67	51.30
22 42 39 00-0098 EA Gooseneck Spout With Aerator, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 942)	407.98	68.34
22 42 39 00-0099 EA Single Control, Single Hole Deck Mount Sink Faucet (Chicago Faucet 350-CP)	268.07	39.44
22 42 39 00-0100 EA Dual Control, Single Hole Deck Mount Sink Faucet (Chicago Faucet 50-CP)	377.64	55.71
22 42 39 00-0101 EA 4" Center Set, Deck Mount, Lavatory Faucet With Blade Handles (Chicago Faucet 802)	288.80	55.71
22 42 39 00-0102 EA 4" Center Set, Deck Mount, Gooseneck Sink Faucet With Blade Handles (Chicago Faucet 895-317ABCP)	354.74	55.71
22 42 39 00-0103 EA Gas Ball Valve, Removable Nozzle, With Index Button (Chicago Faucet 909-AGVCP)	89.28	34.27
22 42 39 00-0104 EA Dual Service Lab Fitting, Two Gas And One Water Outlet (Chicago Faucet 1332-CP)	581.29	61.56
22 42 39 00-0105 EA Dual Service Lab Fitting With Wristblade Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-317CP)	750.64	61.56
22 42 39 00-0106 EA Dual Service Lab Fitting With Metal Cross Handle, Inline Vacuum Breaker, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7-204CP)	904.92	61.56
22 42 39 00-0107 EA Dual Service Lab Fitting With Plastic Cross Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7CP)	798.97	61.56
22 42 39 00-0108 EA Dual Service Lab Fitting With Chemical Resistant Coating And Plastic Cross Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7SAM)	953.46	61.56
22 42 39 00-0109 EA Single, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-131WSA)	156.43	33.86
22 42 39 00-0110 EA 90 Degree Double, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-132AWSA)	220.31	40.63
22 42 39 00-0111 EA 180 Degree Double, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-132SWSA)	220.31	40.63
22 42 39 00-0112 EA Three Way, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-133WSA)	284.20	47.40
22 42 39 00-0113 EA Four Way, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-134WSA)	348.07	54.17
22 42 39 00-0114 Laboratory Countertop Faucets (22 42 39)		
Note: Includes final connection. Excludes rough-in.		
22 42 39 00-0115 EA 6" Gooseneck Deck Mount Single Valve Faucet (Fisher Hamilton 32L391)	214.88	27.86
22 42 39 00-0116 EA 6" Gooseneck Deck Mount Hot And Cold Valve Faucet (Fisher Hamilton 32L406)	293.49	27.86
22 42 39 00-0117 EA Deionized Water 6" Gooseneck Deck Mount Single Valve Faucet (Fisher Hamilton 32L512)	296.63	27.86
22 42 39 00-0118 EA Turret Deck Mount Air Or Gas Valve (Fisher Hamilton 30L535)	97.81	16.71
22 42 39 00-0119 Gooseneck Faucets With Independent Eyewash (22 42 39)		
22 42 39 00-0120 EA Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA)	889.57	38.47
22 42 39 00-0121 EA Single Lever Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-SL)	965.49	35.91
22 42 39 00-0122 EA 8" Stem, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-8)	1,247.90	38.47
22 42 39 00-0123 EA Serrated Tip With Vacuum Breaker, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-ST)	1,318.44	38.47
22 42 39 00-0124 EA Thermostatic Mixing Valve Kit For The SEF-1800 (Speakman SEF-TW)	1,605.72	25.66
22 42 39 00-0125 EA Foot Pedal Activation, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-FP)	1,928.92	64.13
22 42 39 00-0126 EA Thermostatic Mixing Valve Kit, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-TW)	2,698.44	64.13
22 42 39 00-0127 EA 8" Stem, Thermostatic Mixing Valve Kit, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-8TW)	2,788.21	64.13
22 42 39 00-0128 EA Adjustable Aerated Outlet Heads, Gooseneck Faucet Mounted Eyewash (WaterSaver EW101)	313.33	39.00
22 42 39 00-0129 EA Gooseneck Faucet Mounted Eyewash With Faucet Control Valve (WaterSaver EW200)	345.77	39.00
22 42 39 00-0130 EA Gooseneck Faucet Mounted Eyewash With Faucet Control Valve (WaterSaver EW201)	374.10	39.00
22 42 39 00-0131 EA 6 Gallon Capacity, Tempering Valve (WaterSaver AP3600)	1,684.18	25.66
22 42 39 00-0132 Bubblers And Glass Fillers (22 42 39)		
22 42 39 00-0133 EA Self-Closing Bubbler Faucet, Metering Handle (Chicago Faucet 748-665CP)	385.96	36.33
22 42 39 00-0134 EA Wall Mount Glass Filler, 1/2" Flanged Female Inlet (Chicago Faucet 313-CP)	341.35	47.91
22 42 39 00-0135 EA 7" Overall Outlet Height, Deck Mount Glass Filler, 1/2" Flanged Female Inlet (Chicago Faucet 709-CP)	380.61	36.33
22 42 39 00-0136 EA Wall Mount, Push Button Single Glass Filler (Chicago Faucet 324-CP)	230.17	52.03
22 42 39 00-0137 EA Deck Mount, Lever Handle Drinking Faucet (Haws 5054LF)	452.30	39.44
22 42 39 00-0138 EA Push Button Bubbler, 1/2" OD (Haws 5017LF)	458.44	39.44
22 42 39 00-0139 EA Push Button Bubbler, 3/8" NPT (Haws 5010-6427)	380.80	39.44
22 42 39 00-0140 Automatic Electronic Sensor Faucets (22 42 39)		
22 42 39 00-0141 EA Electronic Lavatory Faucet (American Standard 6055.205.002)	702.49	85.57
For Faucet With Temperature Control, Add		40.00
22 42 39 00-0142 EA Electronic Lavatory Gooseneck Faucet (American Standard 6055.105.002)	709.19	85.57
For Faucet With Temperature Control, Add		40.00
22 42 39 00-0143 EA Electronic Gooseneck Faucet (Chicago Faucet 116.103.AB.1)	954.38	92.92



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 39 00-0144	EA	Electronic Lavatory Faucet (Chicago Faucet 116.112.AB.1)	996.57	85.57
22 42 39 00-0145	EA	Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-30880).....	1,485.19	92.92
22 42 39 00-0146	EA	Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-30880-BDT)	1,862.91	92.92
22 42 39 00-0147	EA	Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-35187).....	1,739.05	92.92
22 42 39 00-0148	EA	Solar Powered, Electronic Lavatory Faucet With Integral Mixing Valve (Sloan Solis EAF-275-ISM).....	1,210.68	85.57
22 42 39 00-0149	EA	Deck Mount, AC Power, Electronic Lavatory Faucet (T&S Brass EC1100).....	1,034.16	85.57
22 42 39 00-0150	EA	Wall Mount, AC Power, Electronic Lavatory Faucet (T&S Brass EC1101)	1,093.24	85.57
22 42 39 00-0151	EA	Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC1102).....	945.54	85.57
22 42 39 00-0152	EA	Deck Mount, DC Power, Electronic Lavatory Faucet (T&S Brass EC2100).....	1,093.24	85.57
22 42 39 00-0153	EA	Deck Mount, DC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC2102)	953.77	85.57
22 42 39 00-0154	EA	Deck Mount, AC Power, Electronic Lavatory Gooseneck Faucet (T&S Brass EC3100).....	953.77	85.57
22 42 39 00-0155	EA	Wall Mount, AC Power, Electronic Lavatory Gooseneck Faucet (T&S Brass EC3101)	1,075.24	85.57
22 42 39 00-0156	EA	Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC3102).....	910.25	85.57
22 42 39 00-0157	EA	4" Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC3103)	872.99	85.57
22 42 39 00-0158	EA	Self-Generating EcoPower System, Single Supply Sensor Faucet, Standard Spout (Toto "Eco-Power" TEL3GKCN-60)	1,452.12	85.57
22 42 39 00-0159	EA	Single Hole, Chrome, Sensor Operated, Battery Or A/C Powered Lavatory Faucet (Moen 8554AC)	1,007.96	85.16
22 42 39 00-0160	EA	Single Hole, Chrome, Sensor Operated, Battery Powered Gooseneck Faucet (Moen CA8303).....	988.45	85.16
22 42 39 00-0161	EA	4", Chrome, Sensor Operated, Battery Powered Lavatory Faucet (Moen CA8301)	918.72	85.16
22 42 39 00-0162	EA	Single Hole, Chrome, Sensor Operated, Battery Powered Lavatory Faucet (Moen CA8302)	908.30	85.16
22 42 39 00-0163		Singles (22 42 39)		
22 42 39 00-0164	EA	Stainless Steel Single Deck Faucet With 6" Swivel/Rigid Gooseneck Spout And Lever Handles (Fisher 58130)	270.29	37.66
22 42 39 00-0165		Other Trim (22 42 39)		
22 42 39 00-0166	EA	Faucet Aerator, Male Thread 13/16" Male, 2 GPM (Delta RP330)	19.44	5.57
22 42 39 00-0167	EA	1-1/2" Pop-up Tailpiece (Chicago Faucet 226-ACP).....	135.05	16.71
22 42 39 00-0168	EA	1-1/4" Grid Strainer Tailpiece (Chicago Faucet 327-XCP).....	52.72	13.93
22 42 39 00-0169	EA	1-1/2" Grid Strainer Tailpiece (Chicago Faucet 327-X1-1/2TPCP)	121.81	13.93
22 42 39 00-0170	EA	Deck Mount, Single Inlet Spout (Chicago Faucet 626-E3).....	243.78	64.62
22 42 39 00-0171	EA	Deck Mount Sink Faucet, 8" Center Set, Lever Handles (Chicago Faucet 786 ABCP)	631.57	64.62
22 42 39 00-0172	EA	Lavatory Drainline Guard And Shutoff Covers (IPS Truebro Lav Guard 102).....	62.91	15.39
22 42 39 00-0173	EA	Soft Lavatory Drainline Guard And Shutoff Covers (IPS Truebro Soft-Guard Plus).....	65.78	15.39
22 42 39 00-0174	EA	Lavatory Protective Enclosure (IPS Truebro Lav Shield).....	163.95	15.39
22 42 39 00-0175	EA	36" Wide, Undersink Protective Enclosure (IPS Truebro Basin Guard).....	200.87	15.39
22 42 39 00-0176	EA	42" Wide, Undersink Protective Enclosure (IPS Truebro Basin Guard).....	227.69	15.39
22 42 39 00-0177	EA	1/2" NPT x 3/8" Compression Chrome, Quarter Turn Angle Stop (SharkBite 23036).....	38.78	10.77
22 42 39 00-0178	EA	1/2" NPT x 3/8" Compression Chrome, Quarter Turn Straight Stop (SharkBite 23037).....	38.78	10.77
22 42 39 00-0179	EA	1/2" NPT x 3/8" Compression Chrome, Quarter Turn Dual Angle Stop (SharkBite 25558).....	54.49	10.77
22 42 39 00-0180	PR	Pair of 16" Long, 3/8" OD x 1/2" IPS, Stainless Steel Braided Sink Supply Line	36.43	11.83
22 42 39 00-0181	EA	12" Long, 3/8" OD x 7/8" BC, Stainless Steel Braided Toilet Supply Line.....	22.76	6.96
22 42 39 00-0182	EA	12" Long, 1/2" OD x 7/8" BC, Stainless Steel Braided Toilet Supply Line.....	23.47	6.96
22 42 39 00-0183		Removal And Reinstallation Of Fixtures And Trim (22 42 39)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 39 00-0184	EA	Removal And Reinstallation Of Faucet	89.13	
22 42 43		Flushometers (22 42)		
22 42 43 00-0001		Water Closet Flush Valves (22 42 43)		
22 42 43 00-0002	EA	Exposed Manual Water Closet Flush Valve (Sloan Regal-115XL)	319.69	34.99
22 42 43 00-0003	EA	Exposed Manual Water Closet Flush Valve (Sloan Regal-113-1.6).....	309.29	34.99
22 42 43 00-0004	EA	Exposed Manual Water Closet Flush Valve (Sloan Regal-110 Or 111).....	361.54	34.99
22 42 43 00-0005	EA	Back Spud, Concealed Manual Water Closet Flush Valve (Sloan Royal-140).....	499.52	34.99
22 42 43 00-0006	EA	Top Spud, Concealed Manual Water Closet Flush Valve (Sloan Royal-142).....	558.24	34.99
22 42 43 00-0007	EA	Exposed Infrared Water Closet Flush Valve (Sloan Royal 115-1.6 ES-S).....	1,040.34	34.99
22 42 43 00-0008	EA	Concealed Infrared Water Closet Flush Valve, Back Spud (Sloan Royal-140 ES-S).....	1,036.06	34.99
22 42 43 00-0009	EA	Concealed Infrared Water Closet Flush Valve, Top Spud (Sloan Royal-153-1.6-ES-S).....	1,095.29	34.99
22 42 43 00-0010	EA	Exposed Battery Powered Water Closet Flush Valve (Sloan G2 Optima Plus 8113)	1,015.76	34.99
22 42 43 00-0011	EA	Dual Flush Water Closet Flush Valve (Sloan Uppercut WES-115).....	439.61	34.99
		Note: "Green", 1.6 Gallons per flush. Includes instructional placards on proper operation.		
22 42 43 00-0012	EA	Exposed Battery Powered Water Closet Flush Valve (Sloan G2 Optima Plus 8110)	812.44	34.99
22 42 43 00-0013	EA	Side Mount Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan Optima EBV-89A)	438.09	34.99
22 42 43 00-0014	EA	Side Mount Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Technical Concepts 40118X)	435.94	34.99
22 42 43 00-0015	EA	Slide Over Handle Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan Optima Smooth EBV-200A)	445.61	30.78
22 42 43 00-0016	EA	Slide Over Handle Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Technical Concepts 40180X)	485.53	30.78
22 42 43 00-0017	EA	Exposed Battery Powered Water Closet Flush Valve (Sloan Royal Optima 110 Smooth).....	691.97	34.99
22 42 43 00-0018	EA	Automatic Water Closet And Urinal Cleaning System	437.46	51.30
22 42 43 00-0019	EA	1.28 GPF, Exposed Infrared Water Closet Flush Valve (Toto EcoPower TET1LN).....	1,055.65	34.99
22 42 43 00-0020	EA	Exposed Infrared Water Closet Flush Valve (1-1/2" V.B.) 1.28 GPF (Toto EcoPower TET1LN32)	1,158.87	34.99
22 42 43 00-0021	EA	1.28 GPF, Back Spud, Concealed Infrared Water Closet Flush Valve (Toto EcoPower TET2LN31 Or TET3LN31)	1,474.78	34.99
22 42 43 00-0022	EA	1.28 GPF, Top Spud, Concealed Infrared Water Closet Flush Valve (Toto EcoPower TET2LN32 Or TET3LN32)	1,474.78	34.99
22 42 43 00-0023	EA	Exposed Manual Water Closet Flush Valve (Zurn Z6000AV)	275.32	34.99
22 42 43 00-0024	EA	Exposed Infrared Water Closet Flush Valve (Zurn ZEMS6000AV-HET-IS).....	952.70	34.99



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 43 00-0025	EA	Exposed Infrared Water Closet Flush Valve (Zurn ZTS6200EV).....	944.52	34.99
22 42 43 00-0026	EA	Slide Over Handle AC Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan EL-600-A)	468.01	30.78
22 42 43 00-0027	EA	6 Volt DC, 120 Volt AC Hardwired Power Transformer (Sloan EL-451)	146.12	6.16
22 42 43 00-0028	EA	Exposed Battery Powered Water Closet Flush Valve (Moen 8310DF16).....	868.82	34.89
22 42 43 00-0029	EA	Exposed Solar/Battery Powered Water Closet Flush Valve (Sloan Solis 8111-1.28)	549.65	34.99
22 42 43 00-0030	EA	Exposed Manual Water Closet Flush Valve (Zurn Z6000AV-HET).....	345.10	34.99
22 42 43 00-0031	EA	Exposed Battery Powered Water Closet Flush Valve (Zurn ZER6000AV-HET)	965.22	34.99
22 42 43 00-0032 Urinal Flush Valves (22 42 43)				
22 42 43 00-0033	EA	3/4" Top Spud, Exposed Manual Urinal Flush Valve (Sloan Regal 186 XL)	271.80	34.99
Note: 0.5, 1.0 or 1.5 GPF.				
22 42 43 00-0034	EA	1-1/4" Top Spud, Exposed Manual Urinal Flush Valve (Sloan Regal 180)	293.93	34.99
Note: 1.0, 1.5 or 3.5 GPF.				
22 42 43 00-0035	EA	Back Spud, Concealed Manual Urinal Flush Valve (Sloan Royal 195).....	399.71	34.99
Note: 1.0 or 1.5 GPF.				
22 42 43 00-0036	EA	Top Spud, Concealed Manual Urinal Flush Valve (Sloan Royal 197).....	486.85	34.99
Note: 1.0 or 1.5 GPF.				
22 42 43 00-0037	EA	Exposed Infrared Urinal Flush Valve (Sloan Royal 186-ES-S)	774.10	34.99
Note: 1.0 or 1.5 GPF.				
22 42 43 00-0038	EA	Back Spud, Concealed Infrared Urinal Flush Valve (Sloan Royal 195-WB-ES-S).....	1,045.26	34.99
Note: 0.5, 1.0 or 1.5 GPF.				
22 42 43 00-0039	EA	Top Spud, Concealed Infrared Urinal Flush Valve (Sloan Royal 197-WB-ES-S).....	1,174.40	34.99
Note: 0.5, 1.0 or 1.5 GPF.				
22 42 43 00-0040	EA	Top Spud, Exposed Battery Powered Urinal Flush Valve (Sloan G2 Opt+8186-1)	761.14	34.99
Note: 1.0 GPF.				
22 42 43 00-0041	EA	Exposed Infrared Urinal Flush Valve (3/4" V.B.) (Toto EcoPower TEU1LN12).....	1,152.22	34.99
Note: 0.5 GPF.				
22 42 43 00-0042	EA	Top Spud, Exposed Battery Powered Urinal Flush Valve (Sloan G2 Opt 8180).....	761.14	34.99
Note: 1.0, 1.5 or 3.5 GPF.				
22 42 43 00-0043	EA	3/4" Top Spud, Exposed Manual Urinal Flush Valve (Zurn Z6003AV).....	327.86	34.99
Note: 0.5, 1.0 or 1.5 GPF.				
22 42 43 00-0044	EA	Top Spud, Exposed Solar/Battery Powered Urinal Flush Valve (Sloan Solis 8186-0.13)	498.35	34.99
Note: 0.13 GPF.				
22 42 43 00-0045	EA	3/4" Top Spud, Exposed Manual Urinal Flush Valve (Zurn Z6003AV-ULF).....	313.36	34.99
Note: 0.125 GPF.				
22 42 43 00-0046	EA	Top Spud, Exposed Battery Powered Urinal Flush Valve (Zurn ZTR6203-ULF)	822.01	34.99
Note: 0.125 GPF.				
22 42 43 00-0047	EA	Exposed Infrared Urinal Flush Valve (Zurn ZEMS6003AV-ULF-IS).....	824.13	34.99
Note: 0.125 GPF.				
22 42 43 00-0048	EA	Foot Operated Flush Valve.....	861.72	34.99
Note: Can be used for water closets.				
22 42 43 00-0049	EA	Exposed Battery Powered Urinal Flush Valve (Moen 8316)	795.28	34.99
22 42 43 00-0050	EA	Exposed Manual Urinal Flush Valve, 3/4" Top Spud (Moen 8312M05)	306.92	34.99
22 42 43 00-0051 Removal And Reinstallation Of Fixtures And Trim (22 42 43)				
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.				
22 42 43 00-0052	EA	Removal And Reinstallation Of Flush Valve	139.27	
22 42 43 00-0053 Plumbing Control Transformers (22 42 43)				
22 42 43 00-0054	EA	6 Volt DC, 120 Volt AC Plug In Style Power Transformer (Zurn P6000-PC6)	65.78	
22 42 46 Chemical Toilets (22 42)				
Note: Includes toilet, urinal, holding tank, and ventilation system. Building to be priced separately.				
22 42 46 00-0001 Standard Chemical Toilets (22 42 46)				
22 42 46 00-0002 Small Tank Chemical Toilets (22 42 46 00-0001)				
22 42 46 00-0003	EA	Chemical Toilet, Small Tank 7,000 Uses/Year.....	4,269.02	1,026.04
For Extra Urinal, Add			139.61	
22 42 46 00-0004 Medium Tank Chemical Toilets (22 42 46 00-0001)				
22 42 46 00-0005	EA	Chemical Toilet, Medium Tank 13,000 Uses/Year	5,072.75	1,222.03
For Extra Urinal, Add			165.26	
22 42 46 00-0006 Large Tank Chemical Toilets (22 42 46 00-0001)				
22 42 46 00-0007	EA	Chemical Toilet, Large Tank 28,000 Uses/Year	6,133.58	1,386.19
For Extra Urinal, Add			225.54	
22 43 Healthcare Plumbing Fixtures (22 40)				
22 43 13 Healthcare Water Closets (22 43)				
22 43 13 00-0001 Healthcare Water Closets (22 43 13)				
22 43 13 00-0002	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Priolo® ADA)	818.11	106.71

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 43 13 00-0003	EA		Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Madera™ ADA).....	663.10	106.71
22 43 13 00-0004	EA		Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Huron).....	814.88	106.71
22 43 13 00-0005	EA		Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Aftwall ADA).....	1,187.51	131.34
22 43 16 Healthcare Sinks (22 43)					
22 43 16 00-0001 Healthcare Sinks (22 43 16)					
Note: Includes trap, drain and supply valves. Excludes faucets and flush valves.					
22 43 16 00-0002	EA		25" x 21", Wall Mounted, Blow Out Flushing Rim, Vitreous China Clinic Service Sink (American Standard) <i>For Stainless Steel Rim Guards (Three Sides), Add</i>	1,231.60 108.61	68.74
22 43 16 00-0003	EA		29" x 20", Floor Mounted, Siphon Jet Flushing Rim, Vitreous China Clinic Service Sink (American Standard) <i>For Stainless Steel Rim Guards (Three Sides), Add</i> <i>For Pedestal Base, Add</i>	1,322.93 108.61 497.95	197.51
22 43 16 00-0004	EA		28" x 22", Wall Mounted, Vitreous China Surgeon's Scrub Sink (American Standard) <i>For Painted Bracket Supports, Add</i>	1,183.79 174.90	68.74
22 43 16 00-0005	EA		20" x 17", Wall Mounted, Vitreous China Intensive Care Unit Sink (American Standard).....	1,040.35	68.74
22 43 16 00-0006 Surgical Scrub Sinks (22 43 16)					
22 43 16 00-0007	EA		25" Wide x 20" Deep x 43" High Single Surgical Scrub Sink (FHCSS25-IR)..... Note: Features infra red sensor operated water, under counter mixing valve, swivel gooseneck spout with aerator. Unit will be supported by a z-bracket and main support bracket supplied with the sink.	5,251.17	153.91
22 43 16 00-0008	EA		32" Wide x 27-1/2" Deep x 37-1/8" High Single Surgical Scrub Sink (FHCSS32)..... Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	8,056.30	205.21
22 43 16 00-0009	EA		32" Wide x 27-1/2" Deep x 37-1/8" High Single Surgical Scrub Sink (FHCSS32-IR)..... Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	8,056.30	205.21
22 43 16 00-0010	EA		64" Wide x 27-1/2" Deep x 37-1/8" High Double Surgical Scrub Sink (FHCSS64)..... Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	10,636.21	256.51
22 43 16 00-0011	EA		64" Wide x 27-1/2" Deep x 37-1/8" High Double Surgical Scrub Sink (FHCSS64-IR)..... Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	10,636.21	256.51
22 43 16 00-0012	EA		96" Wide x 27-1/2" Deep x 37-1/8" High Triple Surgical Scrub Sink (FHCSS96)..... Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	13,891.76	307.81
22 43 16 00-0013	EA		96" Wide x 27-1/2" Deep x 37-1/8" High Triple Surgical Scrub Sink (FHCSS96-IR)..... Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z- bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support.	13,891.76	307.81
22 43 16 00-0014	EA		Single Chair Carrier (FHC P-617106-846).....	548.03	76.96
22 43 16 00-0015	EA		Double Chair Carrier (FHC P-617106-851).....	580.81	82.08
22 43 16 00-0016	EA		Triple Chair Carrier (FHC P-617106-852).....	636.11	87.21
22 43 16 00-0017	EA		60" Wide x 23" Deep x 38-1/4" High, 2.2 GPM, Laminar Flow Spray Head, Chrome Color Finish, Wall Mounted, Stainless Steel Scrub Sink (Sloan ESS-2100-C).....	12,834.21	102.60
22 43 23 Healthcare Showers (22 43)					
22 43 23 00-0001 Gel-Coated Fiberglass Showers (22 43 23)					
22 43 23 00-0002	EA		62" x 34" x 80" ADA/Special Needs, Gel Coat Fiberglass Barrier Free Shower Enclosure (Floestone 35-62H)..... Note: Includes stainless steel curtain rod, Symmons® pressure balance mixing valve with concealed check stops, Moen® hand-held shower head with hose and stainless steel slide bar/grab bar, stainless steel corner grab bar, stainless steel recessed soap dish, white naugahyde folding wheelchair transfer seat, and 2" brass drain.	3,060.00	205.21
22 43 23 00-0003	EA		Three Piece 62" x 34" x 80" ADA/Special Needs, Gel Coat Fiberglass Barrier Free Shower Enclosure (Floestone 35-62H)..... Note: Includes stainless steel curtain rod, Symmons® pressure balance mixing valve with concealed check stops, Moen® hand-held shower head with hose and stainless steel slide bar/grab bar, stainless steel corner grab bar, stainless steel recessed soap dish, white naugahyde folding wheelchair transfer seat, and 2" brass drain.	3,186.84	184.68
22 43 39 Healthcare Faucets (22 43)					
22 43 39 00-0001 Medical Faucet Spouts (22 43 39)					
22 43 39 00-0002	EA		Deck Mounted, Rigid Gooseneck Medical Lavatory Spout (American Standard 7522).....	100.03	15.39



Plumbing			22
Plumbing Fixtures			22 40
Healthcare Plumbing Fixtures			22 43

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 43 39 00-0003			Electronic Proximity Medical Faucets (22 43 39)		
22 43 39 00-0004	EA		DC Or Plug-In AC Powered, Single Inlet, Electronic Proximity Medical Lavatory Faucet (American Standard Selectronic™ ICU).....	572.17	75.31
			<i>For Hard Wired AC Powered, Add</i>	24.73	
22 43 39 00-0005			Foot And Knee Faucet Controls (22 43 39)		
22 43 39 00-0006	EA		Single Supply Metering Pedal Valve (Chicago Faucet 628)	424.88	136.87
22 43 39 00-0007	EA		Double Supply Metering Pedal Valve (Chicago Faucet 625).....	501.97	136.87
22 43 39 00-0008	EA		Knee Actuated Metering Mixing Valve (Chicago Faucet 745-VOCP)	1,096.14	136.87
22 43 39 00-0009	EA		Double Knee Actuated Metering Mixing Valve (American Standard 7676).....	663.80	136.87
22 43 39 00-0010			Centerset Medical Faucets (22 43 39)		
22 43 39 00-0011	EA		Rigid Gooseneck Centerset Medical Lavatory Faucet, 8" Centers 6" Wrist Action Handles, Adjustable Centers (T&S B-0865-04)	598.15	75.31
22 43 39 00-0012	EA		Swivel Gooseneck Centerset Medical Lavatory Faucet, 8" Centers, 6" Wrist Action Handles, Adjustable Centers (T&S B-0866-04)	605.14	75.31
22 43 39 00-0013	EA		Swivel Gooseneck Centerset Medical Lavatory Faucet With Aerator 8" Centers, 6" Wrist Action Handles, Adjustable Centers (T&S B-0867-04)	604.43	75.31
22 43 39 00-0014	EA		Surgical Sink Rigid Gooseneck Faucets, 8" Centers, 6" Wrist Action Handles (T&S B-0322-04).....	538.11	75.31
22 43 39 00-0015	EA		Surgical Sink Rigid Gooseneck Faucets With Stream Regulator Outlet, 8" Centers, 6" Wrist Action Handles (T&S B-0323-04).....	514.37	75.31
22 43 39 00-0016			Bedpan Washers (22 43 39)		
22 43 39 00-0017	EA		Self Closing Pedal Valve Bed Pan Washer, With Volume Control, Vacuum Breaker, Wall Hook Hose Connection, Polyvinyl Chloride Hose (T&S B-0675).....	1,428.19	136.87
22 43 39 00-0018	EA		Pedal Valve Bed Panwasher With Volume Control Valve, Vacuum Breaker, Wall Hook Hose Connection, Extended Spray Polyvinyl Chloride Hose (T&S B-0676).....	1,355.09	136.87
22 43 39 00-0019	EA		Self Closing Single Pedal Valve Bedpan Washer With Volume Control, Vacuum Breaker, Wall Hook Hose Connection Polyvinyl Chloride Hose (T&S B-0685).....	1,333.43	136.87
22 43 39 00-0020	EA		Single Pedal Valve Bedpan Washer With Volume Control, Vacuum Breaker, Wall Hook Hose Connection, Polyvinyl Chloride Hose, Extended Spray (T&S B-0686)	1,312.37	136.87
22 43 43			Healthcare Plumbing Fixture Flushometers (22 43)		
22 43 43 00-0001			Healthcare Plumbing Fixture Flushometers (22 43 43)		
22 43 43 00-0002	EA		Exposed Manual Service Sink Flush Valve (Sloan Royal-117).....	227.90	34.99
22 43 43 00-0003	EA		Exposed Manual Water Closet Flush Valve With Bedpan Washer (Sloan Slimline BPW).....	506.92	34.99
22 43 46			Healthcare Patient Care Units (22 43)		
22 43 46 00-0001			Patient Care Units (22 43 46)		
22 43 46 00-0002	EA		47" Swivel Toilet Modular Sink And Water Closet Patient Care Unit (Willoughby WH-1700-AQCT-WB-BWSEV)	19,751.99	205.21
			<i>For SDB Single Temperature Dialysis Box, Add</i>	1,450.35	
			<i>For DDB Dual Temperature Dialysis Box, Add</i>	1,540.44	
			<i>For BWSEV Bedpan Washer With Elevated Valve, Add</i>	1,108.44	
			<i>For LOCK Flush Valve Lockout Device, Add</i>	817.51	
22 43 46 00-0003	EA		31" Swing Front Cabinet Modular Sink And Water Closet Patient Care Unit (Willoughby WH-2600-SST-DC-AQCT-WB)	15,555.06	179.56
			<i>For SDB Single Temperature Dialysis Box, Add</i>	1,450.35	
			<i>For DDB Dual Temperature Dialysis Box, Add</i>	1,540.44	
			<i>For BWSEV Bedpan Washer With Elevated Valve, Add</i>	1,108.44	
			<i>For LOCK Flush Valve Lockout Device, Add</i>	817.51	
22 43 46 00-0004			Patient Care Plumbing Accessories (22 43 46)		
22 43 46 00-0005	EA		One Valve Supply Recessed Stainless Steel Dialysis Box With Locking Door (Bradley 7920)	1,885.36	27.86
22 43 46 00-0006	EA		Two Valve Supply Recessed Stainless Steel Dialysis Box With Locking Door (Bradley 7919)	2,077.69	27.86
22 45			Emergency Plumbing Fixtures (22 40)		
22 45 13			Emergency Showers (22 45)		
22 45 13 00-0001			Emergency Drench Showers (22 45 13)		
22 45 13 00-0002			Emergency Drench Showers (Haws) (22 45 13 00-0001)		
			Note: Includes one pull rod.		
22 45 13 00-0003	EA		Horizontal Or Vertical Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8122)	686.58	179.56
22 45 13 00-0004	EA		Horizontal Or Vertical Mounted, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8123)	788.20	179.56
22 45 13 00-0005	EA		Horizontal Mounted, Barrier-Free, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8122HWC).....	844.66	179.56
22 45 13 00-0006	EA		Horizontal Or Vertical Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8130).....	1,014.04	179.56
22 45 13 00-0007	EA		Horizontal Mounted, All Stainless Steel, Corrosion Resistant, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8133H).....	1,364.08	179.56

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 13 00-0008	EA	Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8100)	1,076.63	205.21
22 45 13 00-0009	EA	Wall Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Stainless Steel Push Flag (Haws 8111FP)	1,178.74	230.86
22 45 13 00-0010	EA	Flush To Ceiling, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8169)	1,071.47	230.86
22 45 13 00-0011	EA	Concealed Ceiling Supply, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8163)	1,094.06	230.86
22 45 13 00-0012	EA	Flush To Ceiling, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead And Pull Down Lever Ball Valve Mounted In A Recessed Stainless Steel Cabinet (Haws 8164)	1,517.49	230.86
22 45 13 00-0013		Emergency Drench Showers (Speakman) (22 45 13 00-0001) Note: Includes one pull rod.		
22 45 13 00-0014	EA	Vertical Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-220)	606.39	179.56
22 45 13 00-0015	EA	Horizontal Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-227)	624.86	179.56
22 45 13 00-0016	EA	Floor Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-253)	986.02	205.21
22 45 13 00-0017		Emergency Drench Showers (WaterSaver) (22 45 13 00-0001) Note: Includes one pull rod.		
22 45 13 00-0018	EA	Emergency Shower, Vertically Mounted (WaterSaver ES635)	832.09	179.56
22 45 13 00-0019	EA	Emergency Shower, Horizontally Mounted (WaterSaver ES643)	852.78	179.56
22 45 13 00-0020	EA	All-Stainless Steel, Emergency Shower, Horizontally Mounted (WaterSaver ES691)	1,865.68	179.56
22 45 13 00-0021	EA	Emergency Shower, Recess Mounted (WaterSaver ES629)	1,331.37	230.86
22 45 13 00-0022	EA	Emergency Shower, Semi-Concealed (WaterSaver ES658)	1,799.35	230.86
22 45 13 00-0023		Emergency Drench Showers (Guardian) (22 45 13 00-0001)		
22 45 13 00-0024	EA	11-3/4" Bowl Diameter, 20 GPM, 2 Spray Heads, Height Impact Plastic, Flip Top Dust Covers, Pull Handle Activator, Emergency Wash Station Drench Shower (Guardian G1902P)	1,151.77	205.21
22 45 13 00-0025		Emergency Drench Showers (Hughes) (22 45 13 00-0001)		
22 45 13 00-0026	EA	41-5/16" Length x 40-13/16" Width x 94-13/16" Height, Covered ABS Eye/Face Wash, Emergency Cubicle Shower (Hughes SD32K45G)	9,589.61	205.21
22 45 13 00-0027	EA	30-13/16" Length x 19-13/16" Width x 103" Height, Floor Mounted, Closed ABS Bowl, Galvanized Pipe, Top Inlet, Floor Mounted, Emergency Shower Station (Hughes 18G45GT)	1,563.44	205.21
22 45 16		Eyewash Equipment (22 45)		
22 45 16 00-0001		Emergency Eyewash Equipment (22 45 16)		
22 45 16 00-0002		Emergency Eyewash Equipment (Haws) (22 45 16 00-0001)		
22 45 16 00-0003	EA	Faucet Mounted, Stainless Steel Emergency Eyewash (Haws Axion® eyePOD® 7620)	303.84	5.13
22 45 16 00-0004	EA	Wall Mounted, Freeze Protected, Emergency Eye Wash With Soft-Flo Heads And Stainless Steel Bowl (Haws 7433FP)	1,427.16	230.86
22 45 16 00-0005		Emergency Eyewash Equipment (WaterSaver) (22 45 16 00-0001)		
22 45 16 00-0006	EA	Auto Flow, Right Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW805)	847.89	51.30
22 45 16 00-0007	EA	Auto Flow, Left Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW805LH)	847.89	51.30
22 45 16 00-0008	EA	Right Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW806)	863.56	51.30
22 45 16 00-0009	EA	Left Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW806LH)	863.56	51.30
22 45 16 00-0010	EA	Stainless Steel Bowl, Emergency Eye Wash, Deck Mounted (WaterSaver EW822)	1,151.26	51.30
22 45 16 00-0011	EA	Swing-Down, Auto Flow, Emergency Eye Wash, Wall Mounted (WaterSaver EW848)	1,313.34	51.30
22 45 16 00-0012	EA	Swing-Down, Auto Flow, Emergency Eye Wash, Deck Mounted (WaterSaver EW849)	1,313.34	51.30
22 45 16 00-0013	EA	Right Hand Mounting, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW893)	2,443.74	51.30
22 45 16 00-0014	EA	Left Hand Mounting, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW893LH)	2,443.74	51.30
22 45 16 00-0015	EA	Right Hand Mounting, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW895)	2,557.78	51.30
22 45 16 00-0016	EA	Left Hand Mounting, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW895LH)	2,557.78	51.30
22 45 16 00-0017	EA	Swing-Down, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Wall Mounted (WaterSaver EW898)	3,157.91	51.30
22 45 16 00-0018	EA	Swing-Down, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW899)	3,157.91	51.30
22 45 16 00-0019	EA	Ball Valve With Flag Handle, Emergency Eye Wash, Recess Deck Mounted (WaterSaver EW808)	1,541.67	179.56
22 45 16 00-0020	EA	Push-Down Valve, Emergency Eye Wash, Recess Deck Mounted (WaterSaver EW810)	1,519.55	179.56
22 45 16 00-0021	EA	Stainless Steel Bowl, Emergency Eye Wash, Wall Mounted (WaterSaver EW814)	1,083.56	179.56
22 45 16 00-0022	EA	Stainless Steel Bowl And Cover, Emergency Eye Wash, Wall Mounted (WaterSaver EW814BC)	1,543.34	179.56
22 45 16 00-0023	EA	Plastic Bowl, Emergency Eye Wash, Wall Mounted (WaterSaver EW814P)	919.40	179.56
22 45 16 00-0024		Emergency Eyewash Equipment (Fendall) (22 45 16 00-0001)		
22 45 16 00-0025	EA	7 Gallon Capacity, 15-minute Constant Flow, Plastic, Mounted Eyewash Station (Fendall H-3838)	644.12	55.71
		Note: Includes emergency sign, installation DVD, mounting bracket and tamper seal		
22 45 16 00-0026		Emergency Eyewash Equipment (Porta Stream) (22 45 16 00-0001)		
22 45 16 00-0027	EA	26" Height x 20" Width x 20" Depth, 16 Gallon Capacity, Eyewash Station (Porta Stream II H-1142)	477.88	37.10
22 45 16 00-0028		Emergency Eyewash Equipment (Pure Flow) (22 45 16 00-0001)		



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 16 00-0029	EA	30" Height x 29" Width x 23" Depth, 0.4 GPM Constant Flow, 7 Gallon Capacity, Eyewash Station (Pure Flow 1000 H-1297).....	618.75	55.71
22 45 16 00-0030		Emergency Eyewash Equipment (U-Line) (22 45 16 00-0001)		
22 45 16 00-0031	EA	11-1/2" Bowl Diameter, Twin Spray Heads, Flip-top Dust Covers, Plastic, Mounted Eyewash Station (U-Line H-5457).....	686.66	222.83
		Note: Includes emergency sign and inspection tag		
22 45 16 00-0032	EA	11-1/2" Bowl Diameter, Twin Spray Heads, Flip-top Dust Covers, Stainless Steel, Mounted Eyewash Station (U-Line H-5795).....	774.29	222.83
		Note: Includes emergency sign and inspection tag		
22 45 16 00-0033	EA	20" Height x 11" Width x 14" Depth, 3-minute Constant Flow, 1 Gallon Capacity, Pull Strap Activation, Wall Mounted Or Tabletop Use Flash Flood Eyewash Station (U-Line H-7917).....	246.12	37.10
22 45 16 00-0034	EA	1" Head Diameter, Single Faucet With Easy Pull-knob, Faucet Mounted Eyewash Station (U-Line H-5100).....	138.57	18.60
22 45 23		Personal Eyewash Equipment (22 45)		
22 45 23 00-0001		Portable Eyewash Equipment (22 45 23)		
22 45 23 00-0002		Portable Eyewash Equipment (Bradley) (22 45 23 00-0001)		
22 45 23 00-0003	EA	Wall Mounted, Portable Gravity Fed Eyewash Unit With Clear Tank (Bradley S19-921).....	303.18	15.39
22 45 23 00-0004	EA	Wall Mounted, Portable Gravity Fed Eyewash Unit With Insulated Heater Jacket (Bradley S19-921H).....	1,594.38	15.39
22 45 23 00-0005	EA	5 Gallon Portable Pressurized Tank With Eyewash Only (Bradley S19-671).....	727.80	
22 45 23 00-0006	EA	5 Gallon Portable Pressurized Tank With Eyewash And 8' Drench Hose For Facewash (Bradley S19-672).....	868.20	
22 45 26		Eye/Face Wash Equipment (22 45)		
22 45 26 00-0001		Emergency Eye/Face Wash Equipment (22 45 26)		
22 45 26 00-0002		Emergency Eye/Face Wash Equipment (Haws) (22 45 26 00-0001)		
22 45 26 00-0003	EA	Unmounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7460).....	747.70	128.26
		Note: Excludes p-trap and tailpiece.		
22 45 26 00-0004	EA	Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly Without Receptor (Haws 7324).....	748.68	179.56
22 45 26 00-0005	EA	Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7260B-7270B).....	731.75	179.56
		Note: Excludes p-trap and tailpiece.		
22 45 26 00-0006	EA	Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7260BT-7270BT).....	798.37	179.56
		Note: Excludes p-trap and tailpiece.		
22 45 26 00-0007	EA	Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360B-7460B).....	805.14	179.56
		Note: Excludes p-trap and tailpiece.		
22 45 26 00-0008	EA	Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360BT-7460BT).....	885.31	179.56
		Note: Excludes p-trap and tailpiece.		
22 45 26 00-0009	EA	Wall Mounted, Barrier-Free, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360BTWC).....	1,206.00	179.56
22 45 26 00-0010	EA	Wall Mounted, All Stainless Steel, Corrosion Resistant, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl And Dust Cover (Haws 7778B).....	2,278.71	179.56
22 45 26 00-0011	EA	Pedestal Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7261-7271).....	918.55	205.21
22 45 26 00-0012	EA	Pedestal Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7361-7461).....	1,048.40	205.21
22 45 26 00-0013	EA	Pedestal Mounted, All Stainless Steel, Corrosion Resistant, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7777).....	2,358.24	205.21
22 45 26 00-0014	EA	Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 7611).....	627.66	51.30
22 45 26 00-0015	EA	Right Side Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Stainless Steel Axion® MSR Wash Head Assembly (Haws 7612).....	605.08	51.30
22 45 26 00-0016	EA	Left Side Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Stainless Steel Axion® MSR Wash Head Assembly (Haws 7612LH).....	633.31	51.30
22 45 26 00-0017	EA	Wall Or Deck Mounted, Barrier-Free, Swing-Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 7610).....	797.04	51.30
22 45 26 00-0018	EA	Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet (Haws 7655WCC).....	1,935.77	256.51
22 45 26 00-0019	EA	Surface Wall Mounted, Wheelchair Accessible, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet (Haws 7655WCSM).....	2,346.95	205.21
22 45 26 00-0020	EA	Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet And Drain Pan (Haws 7656WCC).....	2,410.03	256.51
22 45 26 00-0021	EA	Surface Wall Mounted, Wheelchair Accessible, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet And Drain Pan (Haws 7656WCSM).....	2,832.49	205.21
22 45 26 00-0022		Emergency Eye/Face Wash Equipment (Speakman) (22 45 26 00-0001)		
22 45 26 00-0023	EA	Wall Mounted, Lifesaver® Emergency Eye/Face Wash And Plastic Bowl (Speakman SE-495).....	683.34	179.56
22 45 26 00-0024	EA	Floor Mounted, DuraJade™ Finish, Lifesaver® Emergency Eye/Face Wash And Plastic Bowl (Speakman SE-496).....	838.27	205.21
22 45 26 00-0025		Emergency Eye/Face Wash Equipment (WaterSaver) (22 45 26 00-0001)		

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 26 00-0026 EA Wide Area, Emergency Eye/Face Wash With Stainless Steel Bowl, Wall Mounted (WaterSaver FE724).....	1,372.09	179.56
22 45 26 00-0027 EA Wide Area, Emergency Eye/Face Wash With Stainless Steel Bowl And Cover, Wall Mounted (WaterSaver FE724BC).....	1,831.88	179.56
22 45 26 00-0028 EA Wide Area, Push-Down Valve, Emergency Eye/Face Wash, Recess Deck Mounted (WaterSaver FE727).....	1,773.43	179.56
22 45 26 00-0029 EA Push-Down Valve, Emergency Eye/Face Wash, Recess Deck Mounted (WaterSaver FE765).....	1,633.95	179.56
22 45 26 00-0030 EA Auto Flow, Right Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE774).....	893.52	51.30
22 45 26 00-0031 EA Auto Flow, Left Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE774LH).....	893.52	51.30
22 45 26 00-0032 EA Right Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE775).....	866.31	51.30
22 45 26 00-0033 EA Left Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE775LH).....	866.31	51.30
22 45 26 00-0034 EA Swing-Down, Auto Flow, Emergency Eye/Face Wash, Wall Mounted (WaterSaver FE778).....	1,333.79	51.30
22 45 26 00-0035 EA Swing-Down, Auto Flow, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE779).....	1,333.79	51.30
22 45 26 00-0036 Emergency Eye/Face Wash Equipment (Guardian) (22 45 26 00-0001)		
Note: Includes one pull rod.		
22 45 26 00-0037 EA All-Stainless Steel Handicapped Accessible Safety Station With WideArea™ Eye/Face Wash (Guardian GBF1994).....	5,548.98	179.56
22 45 29 Hand-Held Emergency Drench Hoses (22 45)		
22 45 29 00-0001 Hand-Held Emergency Eye/Face/Body Wash With Hose (22 45 29)		
22 45 29 00-0002 Hand-Held Emergency Eye/Face/Body Wash With Hose (Haws) (22 45 29 00-0001)		
22 45 29 00-0003 EA Counter Mounted, Hand-Held Emergency Eye/Face/Body Wash With Axion® MSR Wash Head Assembly And 8' Hose (Haws 8904).....	670.26	64.13
22 45 29 00-0004 EA Wall Mounted, Hand-Held Emergency Eye/Face/Body Wash With Axion® MSR Wash Head Assembly And 12' Recoil Hose (Haws 8905).....	771.89	64.13
22 45 29 00-0005 Hand-Held Emergency Eye/Face/Body Wash With Hose (WaterSaver) (22 45 29 00-0001)		
22 45 29 00-0006 EA Emergency Drench Hose Unit, Deck Mounted (WaterSaver EW1020).....	676.60	64.13
22 45 29 00-0007 EA Emergency Drench Hose Unit, Wall Mounted (WaterSaver EW1025).....	621.99	64.13
22 45 29 00-0008 EA Emergency Eye Wash Drench Hose Unit, Wall Mounted (WaterSaver EW1014).....	943.28	64.13
22 45 29 00-0009 EA Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1022).....	882.51	64.13
22 45 29 00-0010 EA Emergency Eye Wash Drench Hose Unit, Wall Mounted (WaterSaver EW1026).....	904.27	64.13
22 45 29 00-0011 EA Ball Valve With Flag Handle, Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1028).....	1,190.78	64.13
22 45 29 00-0012 EA Ball Valve With Flag Handle And Vacuum Breaker, Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1028VB).....	1,381.33	64.13
22 45 29 00-0013 EA Emergency Eye Wash Drench Hose Unit, 45 Degree Panel Mounted (WaterSaver EW1041).....	1,316.71	64.13
22 45 33 Combination Emergency Fixture Units (22 45)		
22 45 33 00-0001 Emergency Shower With Eye/Face Wash (22 45 33)		
22 45 33 00-0002 Emergency Shower With Eye/Face Wash (Haws) (22 45 33 00-0001)		
22 45 33 00-0003 EA Floor Mounted, All Stainless Steel, Corrosion Resistant, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8330).....	3,969.75	333.47
22 45 33 00-0004 EA Floor Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eyewash With Soft-Flo Heads And Stainless Steel Bowl (Haws 8300FP).....	2,682.50	333.47
Note: Includes freeze protection bury valve.		
22 45 33 00-0005 EA Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8300-8309).....	1,863.85	333.47
22 45 33 00-0006 EA Floor Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eyewash With Soft-Flo Heads And Stainless Steel Bowl (Haws 8300.158).....	2,976.08	333.47
22 45 33 00-0007 EA Floor Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8300CRP-8309CRP).....	2,180.02	333.47
22 45 33 00-0008 EA Floor Mounted, Barrier-Free, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8309WC).....	2,050.16	333.47
22 45 33 00-0009 EA Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317).....	1,750.93	333.47
22 45 33 00-0010 EA Floor Mounted, Corrosion Resistant, PVC Plastic, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8336).....	2,874.46	333.47
22 45 33 00-0011 EA Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Ceiling Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCC).....	3,151.10	333.47
22 45 33 00-0012 EA Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCW).....	3,213.21	333.47
22 45 33 00-0013 EA Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan And Ceiling Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCC).....	3,591.48	333.47
22 45 33 00-0014 EA Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan, Daylight Drain And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCDD).....	3,811.67	333.47
22 45 33 00-0015 EA Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCW).....	3,749.56	333.47
22 45 33 00-0016 EA Floor Mounted, 120 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFP).....	5,612.69	333.47



Plumbing			22
Plumbing Fixtures			22 40
Emergency Plumbing Fixtures			22 45

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 33 00-0017 EA Floor Mounted, 220 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFP.220V).....	5,917.57	333.47
22 45 33 00-0018 EA Floor Mounted, C1D1 Rated, 120 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFP.220V).....	12,523.21	333.47
22 45 33 00-0019 EA Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8320-8325).....	1,750.93	333.47
22 45 33 00-0020 EA Floor Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8320CRP).....	1,982.41	333.47
22 45 33 00-0021 Emergency Shower With Eye/Face Wash (Speakman) (22 45 33 00-0001)		
22 45 33 00-0022 EA Floor Mounted, Emergency Drench Shower With Plastic Showerhead And Eye/Face Wash With Plastic Bowl (Speakman SE-690).....	1,665.13	333.47
22 45 33 00-0023 EA 3.18 GPM, 1-1/4" IPS Galvanized Steel Piping, Durajade Powder-Coat, Yellow Bowl Color, ADA compliant, Push-handle Activated, Pull-rod Shower, Brass Fittings, Floor Mounted, Combination Emergency Station (Speakman SE-697).....	1,096.47	205.21
22 45 33 00-0024 Emergency Shower With Eye/Face Wash (WaterSaver) (22 45 33 00-0001)		
22 45 33 00-0025 EA All-Stainless Steel, Wide Area, Emergency Shower With Eye/Face Wash Station, Floor Mounted (WaterSaver SS994).....	6,251.20	278.55
22 45 33 00-0026 EA Polished Chrome Construction, Wide Area, Emergency Shower With Eye/Face Wash Station, Floor Mounted (WaterSaver SS909PCC).....	6,389.77	278.55
22 45 33 00-0027 EA Emergency Shower With Eye Wash Station And Stainless Steel Bowl, Floor Mounted (WaterSaver SS902).....	2,484.55	278.55
22 45 33 00-0028 EA Emergency Shower With Eye Wash Station And Plastic Bowl, Floor Mounted (WaterSaver SS902P).....	2,268.96	278.55
22 45 33 00-0029 EA Emergency Shower With Eye Wash Station And Stainless Steel Bowl And Cover, Floor Mounted (WaterSaver SS902BC).....	2,944.34	278.55
22 45 33 00-0030 Emergency Shower With Eye/Face Wash (Guardian) (22 45 33 00-0001)		
22 45 33 00-0031 EA Emergency Eye Wash Station With Plastic Bowl And Shower Head (Guardian H-5101).....	1,281.62	222.83
22 45 33 00-0032 EA Emergency Eye Wash Station With Stainless Steel Bowl And Shower Head (Guardian H-6618).....	2,578.77	222.83
22 45 33 00-0033 EA Emergency Eye Wash Station With Plastic Bowl And Shower Head (U-Line H-6697).....	1,079.84	222.83
22 45 33 00-0034 Emergency Shower With Eye/Face Wash (Hughes) (22 45 33 00-0001)		
22 45 33 00-0035 EA 120 Volt, 35-13/64" Length x 14-45/64" Width x 104-1/2" Height, Freeze Protected, ABS Bowl, Floor Mounted, Emergency Shower Station (Hughes H5G45G-1H).....	3,497.05	205.21
22 45 33 00-0036 EA 29-1/2" Length x 12-13/32" Width x 103" Height, Open ABS Bowl, Galvanized Pipe, Floor Mounted, Emergency Combination Shower (Hughes 18G75G).....	1,324.76	205.21
22 45 36 Emergency Fixture Water-Tempering Equipment (22 45)		
22 45 36 00-0001 Emergency Fixture Water-Tempering Equipment (22 45 36)		
22 45 36 00-0002 Emergency Fixture Water-Tempering Equipment (Haws) (22 45 36 00-0001)		
22 45 36 00-0003 EA 10 GPM, 1/2" Inlet, 1/2" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201EW).....	709.78	64.13
22 45 36 00-0004 EA 12 GPM, 1/2" Inlet, 3/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201EFE).....	1,042.89	64.13
22 45 36 00-0005 EA 31 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201E).....	1,534.08	64.13
22 45 36 00-0006 EA 78 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9202E).....	1,810.72	64.13
22 45 36 00-0007 EA 31 GPM, 1" Inlet, 1-1/4" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws 9201H).....	2,567.27	64.13
22 45 36 00-0008 EA 12 GPM, 1/2" Inlet, 3/4" Outlet, Secondary High Temperature Limit Valve, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.EWE).....	2,708.41	64.13
22 45 36 00-0009 EA 74 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.SHE).....	4,554.61	64.13
22 45 36 00-0010 EA 78 GPM, 2" Inlet, 2" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.HF).....	5,474.88	64.13
22 45 36 00-0011 EA 1/2" Inlet, 1/2" Outlet, Brass Scald Protection Bleed Valve (Haws SP157B).....	794.47	64.13
22 45 39 Emergency Plumbing Fixture Accessories (22 45)		
22 45 39 00-0001 Emergency Plumbing Fixture Accessories (22 45 39)		
22 45 39 00-0002 Emergency Plumbing Fixture Accessories (Haws) (22 45 39 00-0001)		
22 45 39 00-0003 EA Pedestal Mounted, Powder Coated Aluminum Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220).....	182.19	20.52
22 45 39 00-0004 EA Wall Mounted, Powder Coated Aluminum Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220W).....	255.58	20.52
22 45 39 00-0005 EA Pedestal Mounted, Stainless Steel Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220SS).....	266.87	20.52
22 45 39 00-0006 EA Axion® MSR Stainless Steel Showerhead For Emergency Drench Showers (Haws SP829SS).....	297.68	7.70
22 45 39 00-0007 EA Stainless Steel Dust Cover For Emergency Eye/Face Wash Bowls (Haws 9102).....	303.84	5.13
22 45 39 00-0008 EA 3-Sided ABS Plastic Safety Sign For Emergency Combination Shower And Eyewash Units (Haws 9020).....	331.04	10.26
22 45 39 00-0009 EA Emergency Body Spray Kit With 8' Hose And ABS Plastic Head For Emergency Plumbing Fixtures (Haws 8901RFK).....	577.35	76.96
22 45 39 00-0010 EA Class 1, Div. 1, Group B, C And D, Indicator Light For Emergency Plumbing Fixtures (Haws 8317IDLTEXP).....	604.62	36.96
22 45 39 00-0011 EA Vapor Tight And Gasketed, Green Area Light For Emergency Plumbing Fixtures (Haws 8317LT).....	898.20	36.96
22 45 39 00-0012 EA Privacy Curtain For Horizontal Emergency Drench Shower Or Combination Emergency Drench Shower And Eyewash Units (Haws 9037).....	1,042.89	76.96

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 39 00-0013	EA	Class 1, Div. 1, Group B, C And D, White Area Light For Emergency Plumbing Fixtures (Haws 8317LTEXP).....	1,999.14	36.96
22 45 39 00-0014	EA	1/2" Supply, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001.5).....	2,222.43	123.19
22 45 39 00-0015	EA	1-1/4" Supply, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001).....	2,267.59	123.19
22 45 39 00-0016	EA	1-1/4" Supply, Class 1, Division 2, Groups B, C, And D Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001EXP).....	4,198.48	123.19
22 45 39 00-0017	EA	1-1/4" Supply, 90 db, Class 1, Division 1, Groups C And D, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001EXPC1D1)	7,981.19	123.19
22 45 39 00-0018		Emergency Plumbing Fixture Accessories (Speakman) (22 45 39 00-0001)		
22 45 39 00-0019	EA	Privacy Curtain For Emergency Showers	1,090.66	76.96
		Note: Curtain includes stainless steel curtain rod and mounting accessories.		
22 45 39 00-0020		Emergency Plumbing Fixture Accessories (WaterSaver) (22 45 39 00-0001)		
22 45 39 00-0021	EA	Hand And Foot Control For Emergency Eyewash Equipment (WaterSaver HFC).....	179.33	16.71
22 45 39 00-0022		Emergency Plumbing Fixture Accessories (U-Liner) (22 45 39 00-0001)		
22 45 39 00-0023	EA	58" Height x 29" Width x 20" Depth, Portable Eyewash Stand (U-Line H-5193).....	165.07	13.93
		Note: Includes eyewash station bolts to stand		
22 45 39 00-0024	EA	12" Height x 18" Width, Aluminum, Corrosion Resistant With Engineer-grade Reflective Surface, Eyewash Sign (U-Line S-17343A).....	62.45	13.93
22 45 39 00-0025	EA	7" Height x 10" Width, 0.055" Thick HDPE, Plastic, Eyewash Sign (U-Line S-17343P)	37.43	8.91
		Note: Includes pre-drilled mounting holes and 4 strips of double-sided mounting tape		
22 45 39 00-0026	EA	7" Height x 10" Width, Vinyl, Eyewash Sign (U-Line S-17343V).....	29.36	8.91
		Note: Includes 4 mil flexible vinyl with adhesive backing		
22 46		Security Plumbing Fixtures (22 40)		
22 46 13		Security Water Closets and Urinals (22 46)		
22 46 13 13		Security Water Closets (22 46 13)		
22 46 13 13-0001		Security Water Closets (22 46 13 13)		
22 46 13 13-0002	EA	Security Water Closet, Integral Seat, Back Supply And Flush Valve, Wall Hung, Wall Outlet, Cast Aluminum (Acorn 1675).....	2,737.66	256.51
		For Angled Toilet, Add	25.65	
		For Offset Toilet, Add	248.12	
22 46 13 13-0003	EA	Security Water Closet, Integral Seat, Back Supply And Flush Valve, Floor Mount, Wall Outlet, Cast Aluminum (Acorn 1684).....	3,310.70	256.51
		For Angled Toilet, Add	25.65	
		For Offset Toilet, Add	305.42	
22 46 13 13-0004	EA	Security Water Closet, Integral Seat, Back Supply And Flush Valve, Floor Mount, Floor Outlet, Cast Aluminum (Acorn 1695).....	3,360.91	256.51
		For Angled Toilet, Add	25.65	
		For Offset Toilet, Add	310.44	
22 46 13 13-0005	EA	Recessed Tissue Holder For Security Water Closet, Stainless Steel (Acorn 1840).....	308.53	51.30
22 46 13 13-0006	EA	Penal-Ware® Blowout Jet Water Closet, Integral Seat, Back Supply, Floor Mount, Wall Outlet, Stainless Steel (Acorn LR1685-W-2FVBO TLT)	1,131.81	256.51
22 46 13 13-0007	EA	Ligature Resistant, Stainless Steel, Floor Mount, Wall Outlet, Siphon Jet Toilet - ADA (Whitehall BestCare® WH2142-ADA-T-EGE10).....	2,183.95	256.51
22 46 13 13-0008		Replacement Blowout Toilets (22 46 13 13)		
22 46 13 13-0009	EA	Wall Mount Toilet For Replacement, Stainless Steel (Acorn 3330/3331).....	3,228.62	215.47
22 46 13 13-0010	EA	Floor Mounted Toilet For Replacement, Stainless Steel (Acorn 3334/3335)	3,885.02	205.21
22 46 13 16		Security Urinals (22 46 13)		
22 46 13 16-0001		Security Urinals (22 46 13 16)		
22 46 13 16-0002	EA	Security Urinal, Back Supply And Flush, Wall Hung, Stainless Steel (Acorn 1700).....	3,236.90	230.86
22 46 13 16-0003	EA	Security Urinal, Back Supply And Flush, Stall, Stainless Steel (Acorn 1720)	5,491.39	328.03
22 46 13 16-0004		Replacement Urinals (22 46 13 16)		
22 46 13 16-0005	EA	Wall Mounted Straddle Urinal For Replacement, Stainless Steel (Acorn 3349).....	4,543.35	256.51
22 46 13 19		Security Combination Toilet and Lavatory (22 46 13)		
22 46 13 19-0001		Security Combination Toilet - Lavatory (22 46 13 19)		
22 46 13 19-0002	EA	15" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1415)	4,960.79	318.08
		For Angled Toilet, Add	31.81	
		For Offset Toilet, Add	464.27	
		For 15" Mirror/Shelf Module, Add	868.08	
		For AC Duplex Outlet Option, Add	93.62	
		For Intercom Option, Add	138.62	
		For 15" Wide Light/Ventilation Module, Add	825.85	



Plumbing			22
Plumbing Fixtures			22 40
Security Plumbing Fixtures			22 46

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 46 13 19-0003	EA 18" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1418).....	5,111.02		333.47	
	For Angled Toilet, Add	33.35			
	For Offset Toilet, Add	477.76			
	For 18" Mirror/Shelf Module, Add	908.47			
	For AC Duplex Outlet Option, Add	96.69			
	For Intercom Option, Add	141.69			
	For 18" Wide Light/Ventilation Module, Add	850.08			
22 46 13 19-0004	EA 20" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1420).....	5,224.91		348.85	
	For Angled Toilet, Add	34.89			
	For Offset Toilet, Add	487.61			
	For 20" Mirror/Shelf Module, Add	958.86			
	For AC Duplex Outlet Option, Add	99.77			
	For Intercom Option, Add	144.77			
	For 20" Wide Light/Ventilation Module, Add	884.32			
22 46 13 19-0005	EA 26" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1426).....	5,591.54		364.25	
	For Angled Toilet, Add	36.42			
	For Offset Toilet, Add	522.73			
	For 26" Mirror/Shelf Module, Add	999.25			
	For AC Duplex Outlet Option, Add	102.85			
	For Intercom Option, Add	147.85			
	For 26" Wide Light/Ventilation Module, Add	913.55			
22 46 13 19-0006	EA 28" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Floor Mounted, Stainless Steel (Acorn 1428).....	9,010.37		379.64	
	For Angled Toilet, Add	37.96			
	For Offset Toilet, Add	863.07			
	For 28" Mirror/Shelf Module, Add	1,034.64			
	For AC Duplex Outlet Option, Add	105.93			
	For Intercom Option, Add	150.93			
	For 28" Wide Light/Ventilation Module, Add	942.78			
22 46 13 19-0007	Replacement Combination Units (22 46 13 19) Note: Includes hot and cold valve, bubbler, flush valve, paper holder, and mounting hardware.				
22 46 13 19-0008	EA 18" Lav-Toilet Comby Replacement Unit, Stainless Steel (Acorn 3318).....	5,596.28		312.94	
	For Auto Reset Flood-Trol, FTA, Add	230.00			
	For PWT Electronic FV And H And C, Add	248.00			
22 46 13 19-0009	EA Angled ADA Lav-Toilet Comby Unit, Stainless Steel (Acorn 1432).....	7,452.17		312.94	
	For Auto Reset Flood-Trol, FTA, Add	230.00			
	For PWT Electronic FV And H And C, Add	248.00			
22 46 13 19-0010	EA Flat Wall ADA Lav-Toilet Comby Unit, Stainless Steel (Acorn 1435).....	9,851.67		312.94	
	For Auto Reset Flood-Trol, FTA, Add	230.00			
	For PWT Electronic FV And H And C, Add	248.00			
22 46 16	Security Lavatories and Sinks (22 46)				
22 46 16 13	Security Lavatories (22 46 16)				
22 46 16 13-0001	Security Lavatories (22 46 16 13)				
22 46 16 13-0002	EA 20" Security Lavatory, Wall Hung, Push Button Filler Valve, Rectangular Bowl, Stainless Steel (Acorn 1650).....	1,973.10		179.56	
	For Shelf, Add	88.87			
22 46 16 13-0003	EA 18" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Stainless Steel (Acorn 1655).....	2,006.34		179.56	
	For Shelf, Add	88.87			
22 46 16 13-0004	EA 13" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Corner Mount, Stainless Steel (Acorn 1660).....	2,287.03		179.56	
	For Shelf, Add	88.87			
22 46 16 13-0005	EA 18" Security Lavatory, Wall Hung, Push Button Filler Valve, Multi Sided Bowl, Stainless Steel (Acorn 1656).....	2,006.34		179.56	
	For Shelf, Add	88.87			
22 46 16 13-0006	EA Penal-Ware® 18" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Stainless Steel (Acorn M-1652-E530-1 Multi-Lav).....	3,646.82		179.56	
22 46 16 13-0007	EA Ligature Resistant Corterra®, Wall, Bathroom Sink, With Faucet, Bowl Size 14-1/2" x 12-1/2" (Whitehall BestCare® WH3775-WH3375L-SO).....	2,484.54		256.51	
22 46 16 13-0008	EA Ligature Resistant Corterra®, Wall, Bathroom Sink, Without Faucet, Bowl Size 14-1/2" x 12-1/2" (Whitehall WH3775-09).....	2,134.25		256.51	
22 46 16 13-0009	EA Ligature Resistant Sensor Activated Spout with Electronic Valve, Single Temperature (Whitehall BestCare® WH3375L-SO).....	936.30		36.94	
22 46 16 13-0010	Replacement Lavatories (22 46 16 13) Note: Includes hot and cold valve, bubbler, and mounting hardware.				
22 46 16 13-0011	EA 15" Lavatory For Replacement, Stainless Steel (Acorn 3325).....	1,859.00		153.91	
	For PWT Electronic H And C valve, Add	150.00			
22 46 16 13-0012	EA 18" Lavatory For Replacement, Stainless Steel (Acorn 3326).....	1,995.65		153.91	
	For PWT Electronic H And C valve, Add	150.00			
22 46 16 13-0013	EA 18" ADA Front Access Lavatory, Stainless Steel (Acorn 1652-ADA-BP-4M-FA).....	2,146.39		153.91	
	For PWT Electronic H And C valve, Add	150.00			
22 46 16 16	Security Sinks (22 46 16)				
22 46 16 16-0001	Security Sinks (22 46 16 16)				
22 46 16 16-0002	EA 22" x 16" x 10" Security Service Sink, With Soap Dish, Stainless Steel (Acorn 1642).....	4,243.94		273.44	

22 Plumbing**22 40 Plumbing Fixtures****22 46 Security Plumbing Fixtures**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 46 16 16-0003	Security Mop Sink ^(22 46 16 16)		
22 46 16 16-0004	EA 24" x 24" x 10" Stainless Steel Mop Sink With Strainer (ACORN 1630)	4,083.53	153.91
22 46 19	Security Showers^(22 46)		
22 46 19 00-0001	Security Showers^(22 46 19)		
22 46 19 00-0002	EA 30" Security Shower, Stainless Steel, Knock-Down (Acorn 1730-3M-KD)	11,067.88	410.42
22 46 19 00-0003	EA 32" Security Shower, Stainless Steel, Knock-Down (Acorn 1732-3M-KD)	11,469.52	410.42
22 46 19 00-0004	EA 36" Security Shower, Stainless Steel, Knock-Down (Acorn 1736-3M-KD)	11,882.89	410.42
22 46 19 00-0005	EA 36" ADA Security Shower, Stainless Steel, Front Access (Acorn 1736-ADA-3M-FA)	15,119.50	410.42
22 46 19 00-0006	EA Security Shower Package For Built-in, Hot And Cold Faucets, Mixing Valve, Rectangular Soap Dish, Stainless Steel (Acorn 1741)	712.99	136.98
22 46 19 00-0007	EA Security Shower Head With Mixing Valves And Piping Assembly In Wall (Acorn 1743)	518.52	71.83
22 46 19 00-0008	EA Ligature Resistant ADA Compliant Flush-Mounted Stainless Steel Security Shower With Temperature/Pressure Mixing Valve, Dual Showerhead (Acorn MLR1748 LIG/RES SHWR)	1,079.90	71.83
22 46 19 00-0009	Wall Mounted Security Shower^(22 46 19)		
	Note: Includes single temp air control valve, and mounting hardware.		
22 46 19 00-0010	EA Wall Mounted Security Shower, Stainless Steel (Acorn 452)	1,107.46	107.74
	For PWT Electronic FV, Add	148.00	
22 46 19 00-0011	EA Wall Mounted ADA Security Shower, Stainless Steel (Acorn 452 ADA)	1,340.08	107.74
	For PWT Electronic FV, Add	148.00	
22 46 43	Security Plumbing Fixture Flushometers^(22 46)		
22 46 43 00-0001	EA Concealed Manual Water Closet Flush Valve, With Pushbutton Control (Sloan 601 AFD ESM)	764.02	34.99
	Note: Anti-flood device (AFD), solenoid operated with module plug 24V (ESM).		
22 46 43 00-0002	EA Concealed Manual Urinal Flush Valve, 1-1/2" Backinlet, With Pushbutton Control (Sloan 609 ESM)	763.13	34.99
	Note: Solenoid operated with module plug 24V (ESM).		
22 46 43 00-0003	EA Concealed Manual Urinal Flush Valve, 3/4" Backinlet, With Pushbutton Control (Sloan 613 ESM)	737.09	34.99
	Note: Solenoid operated with module plug 24V (ESM).		
22 46 56	Security Drinking Fountains^(22 46)		
22 46 56 00-0001	Security Drinking Fountain^(22 46 56)		
	Note: Includes air control valve, bubbler with mouthguard and mounting bracket.		
22 46 56 00-0002	EA Wall Mounted Security Drinking Fountain, Stainless Steel (Acorn 1670-1-BP-3-FA)	2,230.17	205.21
22 46 56 00-0003	EA Wall Mounted Security ADA Drinking Fountain, Stainless Steel (Acorn 1672-1-ADA-BP-3-FA)	2,246.20	205.21
22 47	Drinking Fountains and Water Coolers^(22 40)		
22 47 13	Drinking Fountains^(22 47)		
22 47 13 00-0001	Drinking Fountain Accessories^(22 47 13)		
22 47 13 00-0002	Drinking Fountain Grab Bars^(22 47 13 00-0001)		
	Note: Includes satin finish and concealed mounting with snap flange.		
22 47 13 00-0003	EA 18" x 33", Wall And Floor Mounted, 1-1/4" Diameter, Stainless Steel Drinking Fountain Grab Bar	327.46	21.69
	For Peened Grip, Add	25.57	
22 47 13 00-0004	EA 18" x 33", Wall And Floor Mounted, 1-1/2" Diameter, Stainless Steel Drinking Fountain Grab Bar	353.03	21.69
	For Peened Grip, Add	27.87	
22 47 13 00-0005	Indoor Drinking Fountains^(22 47 13)		
22 47 13 00-0006	Face Mounted Indoor Drinking Fountain^(22 47 13 00-0005)		
22 47 13 00-0007	EA Stainless Steel, Standard Length, Semi-Circular Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-S)	1,741.61	166.73
22 47 13 00-0008	EA Stainless Steel, Standard Length, Semi-Circular With Back Panel Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-SBP)	2,531.40	179.56
22 47 13 00-0009	EA Stainless Steel, Extended Length, Semi-Circular Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-E)	2,290.89	166.73
22 47 13 00-0010	EA Stainless Steel, Extended Length, Semi-Circular With Back Panel Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-EBP)	2,729.23	179.56
22 47 13 00-0011	EA Stainless Steel, Standard Length, Rectangle Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFS)	1,171.57	166.73
22 47 13 00-0012	EA Stainless Steel, Standard Length, Rectangle With Back Panel Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners With Back Panel (Halsey-Taylor HRFSBP)	1,399.36	179.56
22 47 13 00-0013	EA Stainless Steel, Extended Length, Rectangle Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFE)	1,323.54	166.73
22 47 13 00-0014	EA Stainless Steel, Extended Length, Rectangle With Back Panel Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFE BP)	1,604.75	179.56
22 47 13 00-0015	Wall Mounted Indoor Drinking Fountain^(22 47 13 00-0005)		
22 47 13 00-0016	EA Stainless Steel Wall-Mounted Rectangle Indoor Drinking Fountain With Bubbler, Backsplash, Front And Side Push Bars (Halsey-Taylor 5701)	1,206.76	179.56



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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 13 00-0017	EA		Stainless Steel Wall-Mounted Rectangle Indoor Drinking Fountain/Bottle Filling Station With Bubbler, Backsplash, Front And Side Push Bars (Halsey-Taylor HTHB-HAC8WF).....	1,843.28	179.56
22 47 13 00-0018	EA		Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Halsey-Taylor HTHB-HAC8BLWF).....	2,336.71	230.86
22 47 13 00-0019	EA		Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay VRCGRNTL8WSK)	3,453.73	230.86
22 47 13 00-0020	EA		Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay EZSTLG8WSLK)	2,966.47	230.86
22 47 13 00-0021	EA		Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay LZSTL8WSSP)	2,697.95	230.86
22 47 13 00-0022	EA		White Vitreous China Wall-Mounted Indoor Drinking Fountain (Haws 1201).....	1,318.04	179.56
22 47 13 00-0023	EA		White Enameled Iron Wall-Mounted Indoor Drinking Fountain (Haws 1311 And 6700).....	1,850.96	179.56
22 47 13 00-0024	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRC8WSK)	3,049.50	179.56
22 47 13 00-0025	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRC8WSK).....	2,945.08	179.56
22 47 13 00-0026	EA		Stainless Steel Wall-Mounted Indoor Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRC8WSK)	2,817.47	179.56
22 47 13 00-0027	EA		Stainless Steel Wall-Mounted Indoor Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRC8WSK)	2,701.45	179.56
22 47 13 00-0028	EA		Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRCGRN8WSK).....	2,457.82	179.56
22 47 13 00-0029	EA		Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRCGRN8WSK)	2,353.41	179.56
22 47 13 00-0030	EA		Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZSG8WSSK)	2,237.39	179.56
22 47 13 00-0031	EA		Stainless Steel Wall-Mounted Indoor Chilled Filtered Bottle Filling Station With Hands-Free Touchless Sensor Drinking Fountain (Elkay LZO8WSSK)	2,237.39	179.56
22 47 13 00-0032	EA		Stainless Steel Wall-Mounted Indoor Chilled Non-Filtered Bottle Filling Station With Hands-Free Fountain (Elkay EZO8WSSK)	2,132.98	179.56
22 47 13 00-0033	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Bottle Filling Station With Drinking Fountain (Elkay EZSG8WSSK)	2,132.98	179.56
22 47 13 00-0034	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LMABF8WSSK)	2,086.58	179.56
22 47 13 00-0035	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LZS8WSVRSK)	2,086.58	179.56
22 47 13 00-0036	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Drinking Fountain (Elkay EMABF8WSSK)	1,982.16	179.56
22 47 13 00-0037	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZS8WSSK)	1,924.16	179.56
22 47 13 00-0038	EA		Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZS8WSSP)	1,842.95	179.56
22 47 13 00-0039	EA		Stainless Steel Wall-Mounted Indoor Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZSDWSSK)	1,808.14	179.56
22 47 13 00-0040	EA		Stainless Steel Wall-Mounted Indoor Hands-Free Non-Filtered Bottle Filling Station With Drinking Fountain (Elkay EMABFDWSLK)	1,692.13	179.56
22 47 13 00-0041	EA		Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay EMABF8WSLK).....	1,924.16	179.56
22 47 13 00-0042	EA		Vinyl Clad Cabinet, Non-Chilled, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay EMABFDWSLK)	1,692.13	179.56
22 47 13 00-0043	EA		Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay LZS8WSLK).....	1,794.39	179.56
22 47 13 00-0044	EA		Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor, Bottle Filling Station With Drinking Fountain (Elkay LZS8WSLP).....	1,796.54	179.56
22 47 13 00-0045	EA		Surface Mounted, Stainless Steel, Filtered Non-Refrigerated, Bottle Filling Station Kit (Elkay LZWSSM)	1,485.10	128.26
22 47 13 00-0046	EA		Wall Mounted, Non-Filtered Non-Refrigerated, Retrofit Bottle Filling Station Kit (Elkay EMABFWS-RF)	1,113.86	128.26
22 47 13 00-0047			Semi-Recessed Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0048	EA		Stainless Steel Semi-Recessed Indoor Drinking Fountain With Bubbler (Halsey-Taylor 5801).....	1,617.02	192.38
22 47 13 00-0049	EA		Stainless Steel Semi-Recessed Indoor Drinking Fountain With Bubbler And Cuspidor (Halsey-Taylor 5801C).....	3,451.10	192.38
22 47 13 00-0050			Fully Recessed Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0051	EA		Stainless Steel Fully-Recessed, With Bubbler, Indoor Drinking Fountain (Halsey-Taylor 8880, Haws 2400).....	1,729.56	205.21
22 47 13 00-0052	EA		Stainless Steel Fully-Recessed, With Bubbler And Cuspidor, Indoor Drinking Fountain (Halsey-Taylor 8800 With 10245, Haws 2403)	3,136.64	205.21
22 47 13 00-0053	EA		Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler, Barrier Free (Haws 2401)	2,095.10	205.21
22 47 13 00-0054	EA		Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler, Barrier Free (Haws 2406)	4,699.47	205.21
22 47 13 00-0055	EA		Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler (Haws 2403).....	3,207.63	205.21
22 47 13 00-0056			Countertop Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0057	EA		Stainless Steel Countertop Circular Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 10000)	721.65	128.26
22 47 13 00-0058	EA		Stainless Steel Countertop Rectangular Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 6000)	695.16	128.26
22 47 13 00-0059	EA		Stainless Steel Countertop Oval Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 6028)	840.32	128.26
22 47 13 00-0060			Bowl And Bracket Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0061	EA		Stainless Steel, Bowl And Bracket With Pushbutton Bubbler, Indoor Drinking Fountain (Halsey-Taylor 2501A)	611.46	128.26

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 13 00-0062 EA Stainless Steel, Bowl And Bracket, Self Closing Lever Handle Stop, Indoor Drinking Fountain (Halsey-Taylor 4540)	734.51	128.26
22 47 13 00-0063 Multi-Station Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0064 EA Two Station, Stainless Steel, Indoor Drinking Fountains With Bubbler And Built In Backsplash, With Bottom Cover Plate (Halsey-Taylor 7020)	3,258.48	205.21
22 47 13 00-0065 EA Three Station, Stainless Steel, Indoor Drinking Fountains With Bubbler And Built In Backsplash, With Bottom Cover Plate (Halsey-Taylor 7030)	4,093.36	205.21
22 47 13 00-0066 EA Two Station, Marblyte, Face-Mounted Indoor Drinking Fountain With Bubblers (Halsey-Taylor 7120)	3,108.97	205.21
22 47 13 00-0067 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1430)	2,624.87	205.21
22 47 13 00-0068 EA Three Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1435)	3,300.87	205.21
22 47 13 00-0069 EA Bi-Level, Stainless Steel, Indoor Drinking Fountain With Bubblers And Back Panel (Halsey-Taylor HRFSEBP, Haws 1119.14 With 6700.4)	2,882.82	281.77
22 47 13 00-0070 EA Two Station, Cast Aluminum Indoor Drinking Fountains With Bubblers (Haws 1441)	5,395.29	205.21
22 47 13 00-0071 EA Three Station, Cast Aluminum Indoor Drinking Fountains With Bubblers (Haws 1408)	5,299.24	205.21
22 47 13 00-0072 EA White Enameled Iron, Dual Height, Drinking Fountain (Haws 1501 with 6715)	3,207.78	281.77
22 47 13 00-0073 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1431)	2,722.78	205.21
22 47 13 00-0074 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1501)	2,774.27	205.21
22 47 13 00-0075 Outdoor Drinking Fountains (22 47 13)		
22 47 13 00-0076 Face Mounted Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0077 EA Stainless Steel Freeze Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor HRFE-FR)	1,512.18	205.21
22 47 13 00-0078 EA Stainless Steel Freeze Resistant Face Mounted, With Back Panel, Outdoor Drinking Fountain With Bubbler (Halsey-Taylor HRFEBP-FR)	1,656.05	205.21
22 47 13 00-0079 EA Stone Aggregate Weather Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4592)	1,593.58	205.21
22 47 13 00-0080 EA Stone Aggregate Freeze Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4592-FR)	2,329.98	205.21
22 47 13 00-0081 Free Standing Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0082 EA Steel Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4715)	2,855.19	192.38
22 47 13 00-0083 EA Steel Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4715-FR)	4,003.33	192.38
22 47 13 00-0084 EA Steel Barrier-Free Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4710)	2,851.38	192.38
22 47 13 00-0085 EA Steel Barrier-Free Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4710-FR)	3,930.00	192.38
22 47 13 00-0086 EA Steel Barrier-Free Bi-level Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4720)	4,236.29	205.21
22 47 13 00-0087 EA Steel Barrier-Free Bi-level Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4720-FR)	4,312.96	205.21
22 47 13 00-0088 EA Stone Aggregate Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4591)	1,613.34	192.38
22 47 13 00-0089 EA Stone Aggregate Barrier-Free Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4590)	2,771.90	192.38
22 47 13 00-0090 EA Stone Aggregate Barrier-Free Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4590-FR)	3,920.04	192.38
22 47 13 00-0091 EA Stone Aggregate Barrier-Free Bi-level Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4595)	4,612.06	205.21
22 47 13 00-0092 EA Stone Aggregate Barrier-Free Bi-level Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4595-FR)	6,465.37	205.21
22 47 13 00-0093 EA Hi-Lo Pedestal Style Drinking Fountain (Haws Model 3500)	4,979.19	205.21
22 47 13 00-0094 EA Pedestal Outdoor Drinking Fountain, Triple (Haws 3502)	6,475.27	205.21
22 47 13 00-0095 Wall Mounted Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0096 EA Stainless Steel, Single Wall Mounted Drinking Fountain (Haws 1105)	2,111.76	192.38
22 47 13 00-0097 EA Stainless Steel, Single Low Profile Wall Mounted Drinking Fountain (Haws 1107L)	2,533.71	192.38
22 47 13 00-0098 EA Stainless Steel, Single Wall Mounted Drinking Fountain (Haws 1109)	2,348.24	192.38
22 47 13 00-0099 EA White Polymarble Barrier-Free Single Drinking Fountain (Haws 1075)	2,529.27	192.38
22 47 13 00-0100 EA Vitreous China Single Drinking Fountain (Haws 1201)	2,060.86	192.38
22 47 13 00-0101 Multi-Station Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0102 EA Stainless Steel, Hi/Lo Wall Mounted Drinking Fountain (Haws 1119)	2,694.80	205.21
22 47 13 00-0103 EA Stainless Steel, 3 Position Adjustable Hi/Lo Wall Mounted Drinking Fountain (Haws 1117L)	4,597.74	205.21
22 47 13 00-0104 EA White Polymarble Barrier-Free Two Bowl (Hi-Lo) Drinking Fountain (Haws 1085)	5,409.66	205.21
22 47 13 00-0105 EA White Cast Aluminum Three Station Outdoor Drinking Fountains With Bubblers (Haws 1408)	3,172.66	205.21
22 47 16 Pressure Water Coolers (22 47)		
22 47 16 00-0001 Indoor Water Coolers (22 47 16)		
22 47 16 00-0002 Face Mounted Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0003 EA Stainless Steel, Semi-Circular Water Cooler With Bubbler, Face-Mounted, Extended Length, 180 Degree Push Bar, 7.5 GPH (Halsey-Taylor OVL-II ER-Q)	3,273.67	205.21
22 47 16 00-0004 EA Stainless Steel, Semi-Circular Water Cooler, Electronic Sensor, Face-Mounted, Extended Length, With Bubbler, 7.5 GPH (Halsey-Taylor OVL-II EREE-Q)	3,494.21	205.21
22 47 16 00-0005 Wall Mounted Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0006 EA Stainless Steel Wall-Mounted Compact Water Cooler, 4 GPH, With Bubbler, (Halsey-Taylor SW4A-Q)	1,565.19	205.21
22 47 16 00-0007 EA Stainless Steel Wall-Mounted Compact Water Cooler, 8 GPH, With Bubbler (Halsey-Taylor SW8A-Q)	1,621.98	205.21



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 16 00-0008	EA	Stainless Steel Wall-Mounted Compact Water Cooler, 14 GPH, With Bubbler (Halsey-Taylor SW14A-Q).....	1,799.92	205.21
22 47 16 00-0009	EA	Stainless Steel Wall-Mounted Vandal Resistant Compact Water Cooler With Bubbler, 8 GPH (Halsey-Taylor SW8A-VR-Q-SS).....	1,868.07	205.21
22 47 16 00-0010	EA	Stainless Steel Wall-Mounted Vandal Resistant Barrier Free Water Cooler With Bubbler, 8 GPH (Halsey-Taylor HVR8-CHILD ADA).....	1,387.24	205.21
22 47 16 00-0011	EA	Stainless Steel Wall-Mounted Barrier Free Water Cooler With Bubbler, Front And Side Pushbar, 8 GPH (Halsey-Taylor WC8AFS-Q-SS).....	1,604.94	205.21
22 47 16 00-0012	EA	Stainless Steel Wall-Mounted Barrier Free Water Cooler With Bubbler, Front And Side Pushbar, 8 GPH (Halsey-Taylor HAC8FS-Q Child SS).....	1,265.14	205.21
22 47 16 00-0013	EA	Stainless Steel Wall-Mounted Water Cooler, 8 GPH, With Bubbler, (Halsey-Taylor HAC8VR-BL).....	1,896.78	205.21
22 47 16 00-0014	EA	Stainless Steel, Wall Mounted, Barrier Free, Bi-Level Indoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HAC8FSBL-Q-SS).....	2,118.72	307.81
22 47 16 00-0015		Simulated Recessed Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0016	EA	Stainless Steel Simulated Recessed Water Cooler With Bubbler, 8 GPH (Halsey-Taylor RWM8A-Q).....	1,864.12	205.21
22 47 16 00-0017		Fully Recessed Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0018	EA	Stainless Steel Fully-Recessed Water Cooler With Bubbler, 8 GPH (Halsey-Taylor RC8A-Q).....	3,610.78	230.86
22 47 16 00-0019	EA	Stainless Steel Fully-Recessed Water Cooler With Bubbler And Cup Dispenser, 8 GPH (Halsey-Taylor RC8AQ + 14762).....	4,407.43	230.86
22 47 16 00-0020	EA	Stainless Steel Fully-Recessed Water Cooler With Bubbler And Cup Dispenser And Glass Filler, 8 GPH (Halsey-Taylor RC8A-Q-14700).....	5,156.54	230.86
22 47 16 00-0021		Free Standing Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0022	EA	Stainless Steel, Free-Standing Indoor Water Cooler, 4 GPH, With Bubbler (Halsey-Taylor SCWT4A-Q).....	1,507.25	179.56
22 47 16 00-0023	EA	Stainless Steel, Free-Standing Indoor Water Cooler, 8 GPH, With Bubbler (Halsey-Taylor SCWT8A-Q).....	1,617.99	179.56
22 47 16 00-0024	EA	Stainless Steel, Free-Standing Indoor Water Cooler, 14 GPH, With Bubbler (Halsey-Taylor SCWT14A-Q).....	1,834.75	179.56
22 47 16 00-0025	EA	Stainless Steel, Free-Standing Vandal Resistant Water Cooler With Bubbler, 14 GPH (Halsey-Taylor SCWT14A-VR-Q).....	2,040.15	179.56
22 47 16 00-0026		Bottled Water Coolers (22 47 16 00-0001)		
22 47 16 00-0027	EA	Free-Standing Bottled Water Cooler With Chilled Or Room Temperature Water.....	524.49	102.60
22 47 16 00-0028	EA	Free-Standing Bottled Water Cooler With Chilled Or Hot Water.....	626.20	102.60
22 47 16 00-0029		Multi-Station Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0030	EA	Stainless Steel, Wall Mounted, Two Station, Semi-Circular Indoor Water Cooler With Bubblers, 180 Degree Push Bars, 7.5 GPH (Halsey-Taylor OVL-II SER-Q).....	4,325.33	307.81
22 47 16 00-0031	EA	Stainless Steel, Wall Mounted, Two Station, Electronic Sensor Semi Circular Indoor Water Cooler With Bubblers, 180 Degree Push Bars, 7.5 GPH (Halsey-Taylor OVL-II-SEREE-Q).....	4,963.02	307.81
22 47 16 00-0032	EA	Stainless Steel, Wall Mounted, Barrier Free, Bi-Level, Vandal Resistant Indoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HVR8BL-CHILD ADA-SS).....	2,295.72	307.81
22 47 16 00-0033		Outdoor Water Coolers (22 47 16)		
22 47 16 00-0034		Wall Mounted Outdoor Water Coolers (22 47 16 00-0033)		
22 47 16 00-0035	EA	Stainless Steel, Wall Mounted, Barrier Free, Vandal Resistant, Frost Resistant Outdoor Water Cooler With Bubbler, 8 GPH (Halsey-Taylor HVR8FR-CHILD ADA-SS).....	1,618.03	128.26
22 47 16 00-0036	EA	Stainless Steel, Wall Mounted, Barrier Free, Bi-Level, Vandal Resistant Outdoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HVR8BLFR-CHILD ADA-SS).....	2,778.06	128.26
22 47 16 00-0037		Free Standing Outdoor Water Coolers (22 47 16 00-0033)		
22 47 16 00-0038	EA	Stainless Steel Free-Standing Outdoor Water Cooler With Bubbler, 14 GPH (Halsey-Taylor HOF14A-Q).....	2,668.72	192.38
22 47 16 00-0039	EA	Stainless Steel Free-Standing Frost Resistant Outdoor Water Cooler With Bubbler, 14 GPH (Halsey-Taylor HOF14A-FR-Q).....	3,198.78	192.38
22 47 16 00-0040		Removal And Reinstallation Of Fixtures And Trim (22 47 16)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 47 16 00-0041	EA	Removal And Reinstallation Of Wall Hung Water Cooler.....	498.94	
22 47 16 00-0042	EA	Removal And Reinstallation Of Floor Mount Water Cooler.....	111.42	
22 47 19		Water-Station Water Coolers (22 47)		
22 47 19 00-0001		Bottle Filler (22 47 19)		
22 47 19 00-0002	EA	Outdoor Tubular Bottle Filling Station, Surface Mount (Elkay LK4410BF).....	3,959.30	205.21
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0003	EA	Outdoor Tubular Bottle Filling Station, Surface Mount, Freeze Resistant (Elkay LK4410BFFRK).....	4,881.48	205.21
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0004	EA	Tri-level Outdoor Tubular Bottle Filling Station With Single Bottle Filler And Two Drinking Fountain Basins, Surface Mount (Elkay LK4430BF1).....	6,265.66	230.86
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0005	EA	Tri-level Outdoor Tubular Bottle Filling Station With Two Bottle Fillers And Single Drinking Fountain Basin, Surface Mount (Elkay LK4430BF2).....	6,769.91	230.86
		For Stainless Steel Carrier, Add	205.00	

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 47 19 00-0006 EA Tri-level Outdoor Tubular Bottle Filling Station With Three Bottle Fillers, Surface Mount (Elkay LK4430BF3) 7,274.15 230.86
For Stainless Steel Carrier, Add 205.00

22 47 23 Remote Water Coolers (22 47)**22 47 23 00-0001 Remote Chillers (22 47 23)**

22 47 23 00-0002 EA 1.5 GPH Remote Chiller (Halsey-Taylor SJ1-Q) 931.70 69.26
22 47 23 00-0003 EA 5 GPH Remote Chiller (Halsey-Taylor SJ5-Q) 1,414.68 76.96
22 47 23 00-0004 EA 8 GPH Remote Chiller (Halsey-Taylor SJ8-Q) 1,216.96 89.78
22 47 23 00-0005 EA 10 GPH Remote Chiller (Halsey-Taylor SJ10-Q) 1,565.37 102.60
22 47 23 00-0006 EA 19 GPH Remote Chiller (Halsey-Taylor SJ19-Q) 2,451.72 153.91
22 47 23 00-0007 EA 30 GPH Remote Chiller (Halsey-Taylor SJ30-Q) 2,658.13 166.73

22 47 26 Fixture Carriers (22 47)**22 47 26 00-0001 Water Cooler Carriers (22 47 26)****22 47 26 00-0002 Floor Mounted, Water Cooler Carriers (22 47 26 00-0001)**

Note: Includes adjustable supporting rods, structural uprights and welded feet.

22 47 26 00-0003 EA Floor Mounted Hanger Plate Type, Single Water Cooler Carrier 577.93 38.99
For Up To 4" Extension Sleeves And Hardware, Add 24.54
For Bi-Level Carrier, Add 278.83
22 47 26 00-0004 EA Floor Mounted Bearing Plate Type, Single Water Cooler Carrier 545.64 38.99
For Up To 4" Extension Sleeves And Hardware, Add 24.54
For Bi-Level Carrier, Add 278.83

22 50 Pool and Fountain Plumbing Systems (22)**22 51 Swimming Pool Plumbing Systems (22 50)****22 51 13 Swimming Pool Piping (22 51)****22 51 13 00-0001 Swimming Pool Gutters (22 51 13)**

22 51 13 00-0002 LF Swimming Pool Gutters, Stainless 251.48 23.09

22 51 13 00-0003 Pool Drains (22 51 13)**22 51 13 00-0004 Cast Iron Pool Drain With Bottom Outlet (22 51 13 00-0003)**

Note: Large square top and 24" loose set round super-flo grate.

22 51 13 00-0005 EA Cast Iron Pool Drain, 4" - 8" Bottom Outlet, Large Square Top And 24" Super-Flo Grate 2,827.30 64.64
For Polished Bronze Top, Add 769.60
For Chromium Plated Top, Add 805.00
For Galvanized Top, Add 276.40
For Vandal Proof Construction, Add 57.20

22 51 13 00-0006 Cast Iron Pool Drain With Waterproof Flange (22 51 13 00-0003)

Note: Bottom outlet 14" square top and loose set square flange.

22 51 13 00-0007 EA Cast Iron Pool Drain, 2" - 4" Bottom Outlet With Waterproof Flange And 14" Square Top 790.23 64.64
For Clamp Device, Add 13.80
For Galvanized Top, Add 38.10
For Polished Bronze Top, Add 133.50
For Chromium Plated Top, Add 146.90
For Hinge Grate, Add 28.60
For Supplementary Strainer, Add 7.00
For Threaded Outlet, Add 9.50
For Vandal Proof Construction, Add 17.10
For Ground Screw, Add 18.30

22 51 13 00-0008 Pool Supply Fittings (22 51 13)**22 51 13 00-0009 Cast Iron Pool Supply Fittings (22 51 13 00-0008)**

Note: Includes polished bronze head and anchor flange and adjustable V-ported valve insert and threaded inlet.

22 51 13 00-0010 EA Cast Iron Pool Fitting For 2" Pipe 1,023.84 115.43
For Galvanized Head, Add 26.30
For Vandal Proof Construction, Add 11.50
For Grounding Screw, Add 18.30
22 51 13 00-0011 EA Cast Iron Pool Fitting For 3" Pipe 1,023.84 115.43
For Chromium Plated Head, Add 11.50
For Galvanized Head, Add 26.30
For Vandal Proof Construction, Add 11.50
For Grounding Screw, Add 18.30

22 51 16 Swimming Pool Pumps (22 51)**22 51 16 00-0001 Variable Speed Pool Pumps (22 51 16)**

22 51 16 00-0002 EA 3 HP, Variable Speed Pool Pump With Vacuum Release (Pentair INTELLIFLO VS+SVRS 11017) 2,695.03 436.07
22 51 16 00-0003 EA Variable Speed Pool Pump (Hayward EcoStar SVRS SP3400VSP) 2,953.72 436.07



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 16 00-0004 EA Variable Speed Pool Pump With Vacuum Release (Hayward EcoStar SVRS SP3400VSPVR).....	3,300.94	436.07
22 51 16 00-0005 Electric Powered Portable Vacuum Cleaner Pump (22 51 16) Note: Includes 75' of 3 wire electric safety cord.		
22 51 16 00-0006 EA 1 HP Electric Portable Vacuum Cleaner Pump With 75' Of 3-Wire Safety Cord.....	361.69	51.30
22 51 16 00-0007 EA 1-1/2 HP Electric Portable Vacuum Cleaner Pump With 75' Of 3-Wire Safety Cord.....	634.53	51.30
22 51 16 00-0008 Gasoline Driven Portable Vacuum Cleaner Pump (22 51 16)		
22 51 16 00-0009 EA 3 HP Gasoline Driven Portable Vacuum Cleaner Pump	2,448.39	51.30
22 51 19 Swimming Pool Water Treatment Equipment (22 51)		
22 51 19 00-0001 Condensing Pool Water Heater (22 51 19)		
22 51 19 00-0002 EA 372 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN400).....	40,212.12	735.36
22 51 19 00-0003 EA 467 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN501).....	43,787.89	882.43
22 51 19 00-0004 EA 567 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN601).....	48,021.10	955.98
22 51 19 00-0005 EA 660 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN701).....	59,029.03	1,029.51
22 51 19 00-0006 EA 773 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN801).....	61,219.84	1,103.04
22 51 19 00-0007 EA 967 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1015).....	92,886.81	1,323.65
22 51 19 00-0008 EA 1,257 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1320).....	119,105.03	1,397.19
22 51 19 00-0009 EA 1,450 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1520).....	123,894.56	1,507.50
22 51 19 00-0010 Non-Condensing Pool Water Heater (22 51 19)		
22 51 19 00-0011 EA 500 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0502).....	21,511.16	955.98
22 51 19 00-0012 EA 650 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0652).....	22,923.01	1,029.51
22 51 19 00-0013 EA 750 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0752).....	24,977.66	1,103.04
22 51 19 00-0014 EA 990 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0992).....	33,041.54	1,323.65
22 51 19 00-0015 EA 1,260 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1262).....	38,322.87	1,397.19
22 51 19 00-0016 EA 1,440 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1442).....	40,906.92	1,507.50
22 51 19 00-0017 EA 1,800 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1802).....	40,509.12	1,581.03
22 51 19 00-0018 EA 2,070 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN2072).....	52,613.67	1,617.80
22 51 19 00-0019 Swimming Pool Heaters (22 51 19) Note: Excludes wiring, external piping, base or pad. Commercial pools.		
22 51 19 00-0020 Electric Pool Heaters (22 51 19 00-0019)		
22 51 19 00-0021 EA 12 KW Heater (1 Degree/Hour), For 4,800 Gallon Pool.....	4,166.15	205.21
22 51 19 00-0022 EA 18 KW Heater (1 Degree/Hour), For 7,200 Gallon Pool.....	4,657.06	220.60
22 51 19 00-0023 EA 24 KW Heater (1 Degree/Hour), For 9,600 Gallon Pool.....	5,172.76	256.51
22 51 19 00-0024 EA 30 KW Heater (1 Degree/Hour), For 12,000 Gallon Pool.....	5,472.10	307.81
22 51 19 00-0025 EA 36 KW Heater (1 Degree/Hour), For 14,400 Gallon Pool.....	6,010.86	430.94
22 51 19 00-0026 EA 60 KW Heater (1 Degree/Hour), For 24,000 Gallon Pool.....	6,877.45	615.63
22 51 19 00-0027 Gas Fired Pool Heaters (22 51 19 00-0019)		
22 51 19 00-0028 EA 120 MBH Output Gas Fired Pool Heater	5,895.41	1,007.15
22 51 19 00-0029 EA 180 MBH Output Gas Fired Pool Heater	6,695.49	1,151.03
22 51 19 00-0030 EA 240 MBH Output Gas Fired Pool Heater	7,566.34	1,294.91
22 51 19 00-0031 EA 300 MBH Output Gas Fired Pool Heater	8,694.98	1,582.67
22 51 19 00-0032 EA 360 MBH Output Gas Fired Pool Heater	8,950.57	1,670.48
22 51 19 00-0033 EA 400 MBH Output Gas Fired Pool Heater	10,518.56	2,057.53
22 51 19 00-0034 EA 500 MBH Output Gas Fired Pool Heater	16,647.01	2,374.07
22 51 19 00-0035 EA 600 MBH Output Gas Fired Pool Heater	19,319.78	2,611.48
22 51 19 00-0036 EA 750 MBH Output Gas Fired Pool Heater	21,797.46	2,848.89
22 51 19 00-0037 EA 1,000 MBH Output Gas Fired Pool Heater	27,982.30	3,363.27
22 51 19 00-0038 Surge Tanks (22 51 19) Note: Includes 100 GPM vertical pump with 2 HP motor and electronic float switch. Prices are for 1' To 5' sump depth for pump.		
22 51 19 00-0039 EA 1,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	22,840.75	822.75
22 51 19 00-0040 EA 1,500 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	25,700.67	822.75
22 51 19 00-0041 EA 2,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	30,956.27	1,057.21
22 51 19 00-0042 EA 5,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	40,660.09	1,706.24
22 51 19 00-0043 Diatomite Type Filter System (22 51 19)		
22 51 19 00-0044 EA 35,000 Gallon Filter System, Diatomite	14,323.36	2,942.29

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 19 00-0045 EA 45,000 Gallon Filter System, Diatomite.....	17,078.28	3,530.75
22 51 19 00-0046 Silver Recovery System, X-Ray Film Processing (22 51 19)		
22 51 19 00-0047 EA 20 Gallon/Day Capacity, Silver Recovery System	1,928.20	348.19
22 51 19 00-0048 EA 40 Gallon/Day Capacity, Silver Recovery System	2,832.23	464.28
22 51 19 00-0049 Inline Water Filter (22 51 19)		
Note: 3/8" NPT threaded inlet and outlet, 125 PSI, includes one filter cartridge.		
22 51 19 00-0050 EA 2 GPM Water Filter, 100 Degree Temperature, 8" x 5" Diameter, Plastic Body.....	253.34	102.60
22 51 19 00-0051 EA 6 GPM Water Filter, 250 Degree Temperature, 12" x 5" Diameter, Stainless Steel Body.....	462.60	153.91
22 51 19 00-0052 Horizontal High Rate Sand Filters (22 51 19)		
Note: Includes sand, filter system equipment and attached accessory gauges.		
22 51 19 00-0053 EA 135-270 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	40,667.58	2,210.89
Note: 1 tank, 4" pipe size, Miami Tanks model # HH3614-A.		
22 51 19 00-0054 EA 135-270 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	24,758.68	2,210.89
Note: 1 tank, 4" pipe size, Miami tanks model # HH3614-M.		
22 51 19 00-0055 EA 270-405 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	56,182.61	4,421.76
Note: 2 tank, 4" pipe size, Miami tanks model # HH3624-A.		
22 51 19 00-0056 EA 270-405 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	44,385.76	4,421.76
Note: 2 tank, 4" pipe size, Miami tanks model # HH3624-M.		
22 51 19 00-0057 EA 270-540 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	57,762.54	4,421.76
Note: 2 tank, 6" pipe size, Miami tanks model # HH3626-A.		
22 51 19 00-0058 EA 270-540 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	46,201.63	4,421.76
Note: 2 tank, 6" pipe size, Miami tanks model # HH3626-M.		
22 51 19 00-0059 EA 405-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	78,893.50	6,632.65
Note: 3 tank, 6" pipe size, Miami tanks model # HH3636-A.		
22 51 19 00-0060 EA 405-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	61,345.69	6,632.65
Note: 3 tank, 6" pipe size, Miami tanks model # HH3636-M.		
22 51 19 00-0061 EA 405-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	81,168.61	6,632.65
Note: 3 tank, 8" pipe size, Miami tanks model # HH3638-A.		
22 51 19 00-0062 EA 405-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	67,927.25	6,632.65
Note: 3 tank, 8" pipe size, Miami tanks model # HH3638-M.		
22 51 19 00-0063 EA 540-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	101,819.15	8,843.54
Note: 4 tank, 6" pipe size, Miami tanks model # HH3646-A.		
22 51 19 00-0064 EA 540-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	86,950.91	8,843.54
Note: 4 tank, 6" pipe size, Miami tanks model # HH3646-M.		
22 51 19 00-0065 EA 675 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls	123,780.81	11,054.42
Note: 5 tank, 6" pipe size, Miami tanks model # HH3656-A.		
22 51 19 00-0066 EA 675 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	104,631.99	11,054.42
Note: 5 tank, 6" pipe size, Miami tanks model # HH3656-M.		
22 51 19 00-0067 EA 675-1350 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	127,273.52	11,054.42
Note: 5 tank, 8" pipe size, Miami tanks model # HH3658-A.		
22 51 19 00-0068 EA 675-1350 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	108,450.32	11,054.42
Note: 5 tank, 8" pipe size, Miami tanks model # HH3658-M.		
22 51 19 00-0069 EA 810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls	146,968.77	13,265.30
Note: 6 tank, 6" pipe size, Miami tanks model # HH3666-A.		
22 51 19 00-0070 EA 810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	125,667.03	13,265.30
Note: 6 tank, 8" pipe size, Miami tanks model # HH3666-M.		
22 51 19 00-0071 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	150,019.10	13,265.30
Note: 6 tank, 8" pipe size, Miami tanks model # HH3668-A.		
22 51 19 00-0072 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	128,150.75	13,265.30
Note: 6 tank, 8" pipe size, Miami tanks model # HH3668-M.		
22 51 19 00-0073 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	154,101.65	13,265.30
Note: 6 tank, 10" pipe size, Miami tanks model # HH36610-A.		
22 51 19 00-0074 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	122,894.78	13,265.30
Note: 6 tank, 10" pipe size, Miami tanks model # HH36610-M.		
22 51 19 00-0075 EA 945-1418 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	173,225.22	15,476.18
Note: 7 tank, 8" pipe size, Miami tanks model # HH3678-A.		
22 51 19 00-0076 EA 945-1418 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	151,921.98	15,476.18
Note: 7 tank, 8" pipe size, Miami tanks model # HH3678-M.		
22 51 19 00-0077 EA 945-1890 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	178,359.56	15,476.18
Note: 7 tank, 10" pipe size, Miami tanks model # HH36710-A.		
22 51 19 00-0078 EA 945-1890 GPM Horizontal Hi-Rate Sand Filter, Manual Controls	156,480.62	15,476.18
Note: 7 tank, 10" pipe size, Miami tanks model # HH36710-M.		
22 51 19 00-0079 EA 1080-2160 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	198,460.32	17,687.07
Note: 8 tank, 10" pipe size, Miami tanks model # HH36810-A.		
22 51 19 00-0080 EA 1080-2160 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	176,817.32	17,687.07
Note: 8 tank, 10" pipe size, Miami tanks model # HH36810-M.		
22 51 19 00-0081 Swimming Pool Chlorinators (22 51 19)		
22 51 19 00-0082 EA Swimming Pool Chlorinator, 50-100 PPD, Direct Cylinder Mounted Gas Chlorinator.....	1,107.07	146.73
22 51 19 00-0083 Ultra-Violet Pool Treatment Lights (22 51 19)		
22 51 19 00-0084 Stainless Steel Ultra-Violet Pool Treatment Lights (22 51 19 00-0083)		
Note: Delta ELP Amalgam Series		
22 51 19 00-0085 EA 3" Flanged, 79 GPM, 2 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	15,661.24	319.91



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 19 00-0086	EA	3" Flanged, 116 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	16,561.70	319.91
22 51 19 00-0087	EA	3" Flanged, 158 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	17,393.53	319.91
22 51 19 00-0088	EA	4" Flanged, 254 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	17,879.91	338.79
22 51 19 00-0089	EA	4" Flanged, 295 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	18,262.40	338.79
22 51 19 00-0090	EA	4" Flanged, 329 GPM, 7 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	21,735.55	338.79
22 51 19 00-0091	EA	6" Flanged, 396 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	25,616.86	608.37
22 51 19 00-0092	EA	6" Flanged, 440 GPM, 2 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	38,044.34	608.37
22 51 19 00-0093	EA	6" Flanged, 650 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	41,777.93	608.37
22 51 19 00-0094	EA	8" Flanged, 695 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	44,786.32	729.86
22 51 19 00-0095	EA	8" Flanged, 920 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	48,112.01	729.86
22 51 19 00-0096	EA	8" Flanged, 1140 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	50,433.75	729.86
22 51 19 00-0097	EA	8" Flanged, 1260 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	52,943.72	729.86
22 51 19 00-0098	EA	10" Flanged, 1510 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	56,858.77	829.61
22 51 19 00-0099	EA	10" Flanged, 1760 GPM, 7 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	61,251.23	829.61
22 51 19 00-0100	EA	10" Flanged, 2010 GPM, 8 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	65,643.66	829.61
22 51 19 00-0101	EA	10" Flanged, 2520 GPM, 10 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	70,977.35	829.61
22 51 19 00-0102 HDPE Ultra-Violet Pool Treatment Lights (22 51 19 00-0083)				
Note: Delta EL Series				
22 51 19 00-0103	EA	3" Flanged, 116 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing	7,770.56	319.91
22 51 19 00-0104	EA	3" Flanged, 158 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing	8,649.02	319.91
22 51 19 00-0105	EA	4" Flanged, 254 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing	9,555.97	338.79
22 51 19 00-0106 In-Line, Stainless Steel Ultra-Violet Pool Treatment Lights (22 51 19 00-0083)				
Note: Delta EM Series				
22 51 19 00-0107	EA	3" Flanged, 100 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	30,360.25	319.91
22 51 19 00-0108	EA	3" Flanged, 170 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	30,673.97	319.91
22 51 19 00-0109	EA	6" Flanged, 300 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	32,691.86	608.37
22 51 19 00-0110	EA	6" Flanged, 600 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	41,439.07	608.37
22 51 19 00-0111	EA	8" Flanged, 1300 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	57,838.15	729.86
22 51 19 00-0112	EA	10" Flanged, 2000 GPM, 2 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	65,267.18	829.61
22 51 19 00-0113	EA	12" Flanged, 3000 GPM, 3 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	76,932.38	1,073.55
22 51 19 00-0114	EA	12" Flanged, 4000 GPM, 4 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	86,344.74	1,073.55
22 51 23 Swimming Pool Equipment Controls (22 51)				
22 51 23 00-0001 Pool Pump Variable Frequency Drive (22 51 23)				
Note: Pentair Acu Drive XS				
22 51 23 00-0002	EA	3 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N01).....	4,591.71	236.52
22 51 23 00-0003	EA	5 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N01).....	4,930.33	266.09
22 51 23 00-0004	EA	7-1/2 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N01).....	5,905.41	332.61
22 51 23 00-0005	EA	10 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N01).....	6,280.71	396.92
22 51 23 00-0006	EA	15 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N01).....	6,722.82	461.96
22 51 23 00-0007	EA	20 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N01).....	7,619.51	527.75
22 51 23 00-0008	EA	3 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N01).....	4,597.50	236.52
22 51 23 00-0009	EA	5 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N01).....	4,847.39	266.09
22 51 23 00-0010	EA	7-1/2 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N01).....	5,226.40	332.61
22 51 23 00-0011	EA	10 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N01).....	5,620.99	396.92
22 51 23 00-0012	EA	15 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N01).....	6,628.30	461.96
22 51 23 00-0013	EA	20 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N01).....	7,362.95	527.75
22 51 23 00-0014	EA	3 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N01FB).....	5,930.44	236.52
22 51 23 00-0015	EA	5 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N01FB).....	6,818.82	266.09
22 51 23 00-0016	EA	7-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N01FB).....	7,579.78	332.61
22 51 23 00-0017	EA	10 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N01FB).....	8,173.06	396.92
22 51 23 00-0018	EA	15 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N01FB).....	9,622.11	461.96
22 51 23 00-0019	EA	20 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N01FB).....	10,848.65	527.75
22 51 23 00-0020	EA	3 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N01FB).....	6,368.32	236.52
22 51 23 00-0021	EA	5 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N01FB).....	6,622.45	266.09
22 51 23 00-0022	EA	7-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N01FB).....	6,995.29	332.61

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0023	EA	10 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N01FB)	7,391.81	396.92
22 51 23 00-0024	EA	15 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N01FB)	8,435.78	461.96
22 51 23 00-0025	EA	20 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N01FB)	9,230.22	527.75
22 51 23 00-0026	EA	1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-2303-N12)	4,369.57	236.52
22 51 23 00-0027	EA	3/4 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-2303-N12)	4,442.29	236.52
22 51 23 00-0028	EA	1 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-2303-N12)	4,487.22	236.52
22 51 23 00-0029	EA	1-1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-2303-N12)	4,608.26	236.52
22 51 23 00-0030	EA	2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-2303-N12)	4,791.11	236.52
22 51 23 00-0031	EA	3 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N12)	4,932.95	236.52
22 51 23 00-0032	EA	5 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N12)	5,281.22	266.09
22 51 23 00-0033	EA	7-1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N12)	6,296.76	332.61
22 51 23 00-0034	EA	10 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N12)	6,735.89	396.92
22 51 23 00-0035	EA	15 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N12)	7,191.59	461.96
22 51 23 00-0036	EA	20 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N12)	8,171.03	527.75
22 51 23 00-0037	EA	25 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-2303-N12)	10,732.09	657.83
22 51 23 00-0038	EA	30 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-2303-N12)	11,847.10	724.35
22 51 23 00-0039	EA	40 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-2303-N12)	14,012.63	790.88
22 51 23 00-0040	EA	50 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-2303-N12)	16,303.96	923.93
22 51 23 00-0041	EA	60 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-2303-N12)	17,859.99	990.45
22 51 23 00-0042	EA	1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-4603-N12)	4,460.19	236.52
22 51 23 00-0043	EA	3/4 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-4603-N12)	4,554.12	236.52
22 51 23 00-0044	EA	1 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-4603-N12)	4,672.29	236.52
22 51 23 00-0045	EA	1-1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-4603-N12)	4,773.87	236.52
22 51 23 00-0046	EA	2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-4603-N12)	4,877.38	236.52
22 51 23 00-0047	EA	3 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N12)	4,986.62	236.52
22 51 23 00-0048	EA	5 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N12)	5,244.80	266.09
22 51 23 00-0049	EA	7-1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N12)	5,627.84	332.61
22 51 23 00-0050	EA	10 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N12)	6,032.10	396.92
22 51 23 00-0051	EA	15 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N12)	7,330.75	461.96
22 51 23 00-0052	EA	20 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N12)	8,082.47	527.75
22 51 23 00-0053	EA	25 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-4603-N12)	8,908.55	657.83
22 51 23 00-0054	EA	30 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-4603-N12)	10,076.30	724.35
22 51 23 00-0055	EA	40 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-4603-N12)	11,375.99	790.88
22 51 23 00-0056	EA	50 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-4603-N12)	13,941.11	923.93
22 51 23 00-0057	EA	60 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-4603-N12)	15,316.28	990.45
22 51 23 00-0058	EA	75 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD750-4603-N12)	17,175.07	1,056.97
22 51 23 00-0059	EA	100 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC10-4603-N12)	20,349.26	1,119.80
22 51 23 00-0060	EA	125 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC13-4603-N12)	23,467.95	1,182.62
22 51 23 00-0061	EA	150 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC15-4603-N12)	25,454.13	1,323.05
22 51 23 00-0062	EA	200 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC20-4603-N12)	29,715.67	1,448.71
22 51 23 00-0063	EA	1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-2303-N12FB)	6,308.33	236.52
22 51 23 00-0064	EA	3/4 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-2303-N12FB)	6,381.05	236.52



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0065	EA	1 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-2303-N12FB)	6,425.98	236.52
22 51 23 00-0066	EA	1-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-2303-N12FB)	6,547.03	236.52
22 51 23 00-0067	EA	2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-2303-N12FB)	6,729.88	236.52
22 51 23 00-0068	EA	3 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N12FB)	6,871.71	236.52
22 51 23 00-0069	EA	5 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N12FB)	7,219.98	266.09
22 51 23 00-0070	EA	7-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N12FB)	8,016.04	332.61
22 51 23 00-0071	EA	10 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N12FB)	8,679.34	396.92
22 51 23 00-0072	EA	15 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N12FB)	10,167.25	461.96
22 51 23 00-0073	EA	20 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N12FB)	11,490.20	527.75
22 51 23 00-0074	EA	25 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-2303-N12FB)	13,525.55	657.83
22 51 23 00-0075	EA	30 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-2303-N12FB)	14,890.72	724.35
22 51 23 00-0076	EA	40 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-2303-N12FB)	19,023.67	790.88
22 51 23 00-0077	EA	50 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-2303-N12FB)	25,084.81	923.93
22 51 23 00-0078	EA	60 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-2303-N12FB)	27,569.02	990.45
22 51 23 00-0079	EA	1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-4603-N12FB)	6,280.82	236.52
22 51 23 00-0080	EA	3/4 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-4603-N12FB)	6,374.73	236.52
22 51 23 00-0081	EA	1 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-4603-N12FB)	6,492.92	236.52
22 51 23 00-0082	EA	1-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-4603-N12FB)	6,594.50	236.52
22 51 23 00-0083	EA	2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-4603-N12FB)	6,697.99	236.52
22 51 23 00-0084	EA	3 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N12FB)	6,807.25	236.52
22 51 23 00-0085	EA	5 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N12FB)	7,065.43	266.09
22 51 23 00-0086	EA	7-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N12FB)	7,446.50	332.61
22 51 23 00-0087	EA	10 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N12FB)	7,850.76	396.92
22 51 23 00-0088	EA	15 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N12FB)	9,188.90	461.96
22 51 23 00-0089	EA	20 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N12FB)	10,001.72	527.75
22 51 23 00-0090	EA	25 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-4603-N12FB)	10,957.90	657.83
22 51 23 00-0091	EA	30 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-4603-N12FB)	12,350.05	724.35
22 51 23 00-0092	EA	40 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-4603-N12FB)	14,625.39	790.88
22 51 23 00-0093	EA	50 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-4603-N12FB)	16,828.96	923.93
22 51 23 00-0094	EA	60 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-4603-N12FB)	18,736.34	990.45
22 51 23 00-0095	EA	75 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD750-4603-N12FB)	21,758.03	1,056.97
22 51 23 00-0096	EA	100 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC10-4603-N12FB)	28,696.49	1,119.80
22 51 23 00-0097	EA	125 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC13-4603-N12FB)	31,746.33	1,182.62
22 51 23 00-0098	EA	150 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC15-4603-N12FB)	39,885.79	1,323.05
22 51 23 00-0099	EA	200 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC20-4603-N12FB)	46,867.43	1,448.71
22 51 23 00-0100	EA	380+ Volt AC, Up To 10 HP, 260 Volt AC, Up To 3 HP, 3 Year Extended Warranty (Pentair AD-EWW136)	430.71	
22 51 23 00-0101	EA	380+ Volt AC, 15 To 40 HP, 260 Volt AC, 5 To 25 HP, 3 Year Extended Warranty (Pentair AD-EWW236)	687.30	
22 51 23 00-0102	EA	380+ Volt AC, Up To 10 HP, 260 Volt AC, Up To 3 HP, 6 Year Extended Warranty (Pentair AD-EWW172)	760.60	
22 51 23 00-0103	EA	380+ Volt AC, 15 To 40 HP, 260 Volt AC, 5 To 25 HP, 6 Year Extended Warranty (Pentair AD-EWW272)	1,292.12	
22 51 23 00-0104	EA	380+ Volt AC, 50 To 125 HP, 260 Volt AC, 30 To 60 HP, 6 Year Extended Warranty (Pentair AD-EWW372)	2,465.11	
22 51 23 00-0105	EA	3" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97014-4203KIT)	1,535.77	
22 51 23 00-0106	EA	4" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97014-4204KIT)	1,605.51	
22 51 23 00-0107	EA	6" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97016-4206KIT)	1,751.68	
22 51 23 00-0108	EA	8" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97016-4208KIT)	1,878.32	
22 51 23 00-0109	EA	3" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97014BL-03KIT)	2,200.54	
22 51 23 00-0110	EA	4" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97014BL-04KIT)	2,266.01	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0111	EA	6" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97016BL-06KIT)	2,405.41	
22 51 23 00-0112	EA	8" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97016BL-08KIT)	2,528.07	
22 51 23 00-0113	EA	10" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97020BL-10KIT)	3,022.60	
22 51 23 00-0114	EA	12" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97020BL-12KIT)	3,033.75	
22 51 23 00-0115		Eco-Flow-E Aquatic Variable Frequency Drive And Options (22 51 23)		
22 51 23 00-0116		Eco-Flow-E Aquatic Variable Frequency Drive (22 51 23 00-0115)		
22 51 23 00-0117	EA	2 HP, 480 Volt, 3 Phase, 4 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-04-12-4)	3,960.96	197.11
		For Bypass Panel, Add	899.67	
22 51 23 00-0118	EA	3 HP, 480 Volt, 3 Phase, 6 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-06-12-4)	3,964.76	197.11
		For Bypass Panel, Add	899.67	
22 51 23 00-0119	EA	5 HP, 480 Volt, 3 Phase, 8 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-08-12-4)	4,034.29	221.74
		For Bypass Panel, Add	899.67	
22 51 23 00-0120	EA	7-1/2 HP, 480 Volt, 3 Phase, 12 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-12-12-4)	4,186.97	277.18
		For Bypass Panel, Add	899.67	
22 51 23 00-0121	EA	10 HP, 480 Volt, 3 Phase, 16 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-16-12-4)	4,528.46	330.76
		For Bypass Panel, Add	899.67	
22 51 23 00-0122	EA	15 HP, 480 Volt, 3 Phase, 24 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-24-12-4)	5,039.64	384.97
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0123	EA	20 HP, 480 Volt, 3 Phase, 30 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-30-12-4)	5,939.65	439.78
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0124	EA	25 HP, 480 Volt, 3 Phase, 39 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-39-12-4)	6,182.92	550.65
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0125	EA	30 HP, 480 Volt, 3 Phase, 45 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-45-12-4)	7,395.76	605.48
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0126	EA	40 HP, 480 Volt, 3 Phase, 61 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-61-12-4)	7,627.03	659.68
		For Bypass Panel, Add	1,293.03	
22 51 23 00-0127	EA	1/2 HP, 208/230 Volt, 1 Phase (1 HP, 208/230 Volt, 3 Phase) 8 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-08-12-2)	3,939.42	197.11
		For Bypass Panel, Add	899.67	
22 51 23 00-0128	EA	1 HP, 208/230 Volt, 1 Phase (2 HP, 208/230 Volt, 3 Phase) 12 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-12-12-2)	3,944.49	197.11
		For Bypass Panel, Add	899.67	
22 51 23 00-0129	EA	1-1/2 HP, 208/230 Volt, 1 Phase (3 HP, 208/230 Volt, 3 Phase) 16 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-16-12-2)	3,968.56	197.11
		For Bypass Panel, Add	899.67	
22 51 23 00-0130	EA	5 HP, 208/230 Volt, 1 Phase, 24 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-24-12-2)	4,054.56	221.74
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0131	EA	3 HP, 208/230 Volt, 1 Phase (7-1/2 HP, 208/230 Volt, 3 Phase) 32 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-32-12-2)	4,404.82	277.18
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0132	EA	5 HP, 208/230 Volt, 1 Phase (10 HP, 208/230 Volt, 3 Phase) 46 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-46-12-2)	4,910.97	330.76
		For Bypass Panel, Add	1,062.15	
22 51 23 00-0133	EA	7-1/2 HP, 208/230 Volt, 1 Phase (15 HP, 208/230 Volt, 3 Phase) 60 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-60-12-2)	5,818.60	384.97
		For Bypass Panel, Add	1,293.03	
22 51 23 00-0134	EA	10 HP, 208/230 Volt, 1 Phase (20 HP, 208/230 Volt, 3 Phase) 74 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-74-12-2)	5,952.31	439.78
		For Bypass Panel, Add	1,293.03	
22 51 23 00-0135	EA	25 HP, 208/230 Volt, 1 Phase, 88 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-88-12-2)	7,268.40	550.65
		For Bypass Panel, Add	1,756.97	
22 51 23 00-0136	EA	15 HP, 208/230 Volt, 1 Phase (30 HP, 208/230 Volt, 3 Phase) 124 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-124-12-2)	7,502.15	605.48
		For Bypass Panel, Add	2,421.03	
22 51 23 00-0137		Eco-Flow-E Aquatic Variable Frequency Drive Options (22 51 23 00-0115)		
22 51 23 00-0138	EA	0 To 30 PSI, 1/4" NPT Male Thread, 4 To 20 mA Output, 10' Cable, Pressure Sensor (H2Flow PS-30)	544.70	92.39
22 51 23 00-0139	EA	0 To 100 PSI, 1/4" NPT Male Thread, 4 To 20 mA Output, 10' Cable, Pressure Sensor (H2Flow PS-100)	544.70	92.39
22 51 23 00-0140	EA	Lightning Arrestor (H2Flow LA)	576.63	61.59
22 51 23 00-0141	EA	2 HP, 480 Volt, (3/4 HP, 208/230 Volt) Load Reactor (TCI V1K4A00)	648.21	27.71
22 51 23 00-0142	EA	3 HP, 480 Volt, (1 To 1-1/2 HP, 208/230 Volt) Load Reactor (TCI V1K6A00)	669.56	30.80
22 51 23 00-0143	EA	5 HP, 480 Volt, (2 HP, 208/230 Volt) Load Reactor (TCI V1K8A00)	685.86	33.88
22 51 23 00-0144	EA	7-1/2 HP, 480 Volt, (3 HP, 208/230 Volt) Load Reactor (TCI V1K12A00)	716.08	36.96
22 51 23 00-0145	EA	10 HP, 480 Volt, (5 HP, 208/230 Volt) Load Reactor (TCI V1K16A00)	729.84	40.04



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0146 EA 15 HP, 480 Volt, (7-1/2 HP, 208/230 Volt) Load Reactor (TCI V1K25A00)	952.59	43.11
22 51 23 00-0147 EA 20 HP, 480 Volt, Load Reactor (TCI V1K27A00)	992.94	46.19
22 51 23 00-0148 EA 25 HP, 480 Volt, (10 HP, 208/230 Volt) Load Reactor (TCI V1K35A00)	1,037.10	49.28
22 51 23 00-0149 EA 30 HP, 480 Volt, (15 HP, 208/230 Volt) Load Reactor (TCI V1K45A00)	1,080.00	52.36
22 51 23 00-0150 EA 40 HP, 480 Volt, (20 HP, 208/230 Volt) Load Reactor (TCI V1K55A00)	1,117.82	55.44
22 51 23 00-0151 EA 25 To 30 HP, 208/230 Volt, Load Reactor (TCI V1K80A00)	1,536.89	58.51
22 51 23 00-0152 EA 1 HP, 208/230 Volt, Line Reactor (TCI KDRA25L)	197.12	30.80
22 51 23 00-0153 EA 2 HP, 208/230 Volt, Line Reactor (TCI KDRA27L)	210.89	33.88
22 51 23 00-0154 EA 3 HP, 208/230 Volt, Line Reactor (TCI KDRA28L)	236.03	36.96
22 51 23 00-0155 EA 5 HP, 208/230 Volt, Line Reactor (TCI KDRB22L)	310.59	40.04
22 51 23 00-0156 EA 7-1/2 HP, 208/230 Volt, Line Reactor (TCI KDRB23L)	348.43	43.11
22 51 23 00-0157 EA 10 HP, 208/230 Volt, Line Reactor (TCI KDRD25L)	360.91	46.19
22 51 23 00-0158 EA 15 HP, 208/230 Volt, Line Reactor (TCI KDRD24L)	373.40	49.28
22 51 23 00-0159 EA 20 HP, 208/230 Volt, Line Reactor (TCI KDRD26L)	396.04	52.36
22 51 23 00-0160 EA 25 HP, 208/230 Volt, Line Reactor (TCI KDRC22L)	500.98	55.44
22 51 23 00-0161 EA 30 HP, 208/230 Volt, Line Reactor (TCI KDRC24L)	514.74	58.51
22 51 23 00-0162 EA 1 HP, 480 Volt, Line Reactor (TCI KDRA8L)	198.38	30.80
22 51 23 00-0163 EA 2 HP, 480 Volt, Line Reactor (TCI KDRA1L)	218.49	33.88
22 51 23 00-0164 EA 3 HP, 480 Volt, Line Reactor (TCI KDRA2L)	239.83	36.96
22 51 23 00-0165 EA 5 HP, 480 Volt, Line Reactor (TCI KDRA3L)	252.33	40.04
22 51 23 00-0166 EA 7-1/2 HP, 480 Volt, Line Reactor (TCI KDRA4L)	263.56	43.11
22 51 23 00-0167 EA 10 HP, 480 Volt, Line Reactor (TCI KDRA5L)	330.51	46.19
22 51 23 00-0168 EA 15 HP, 480 Volt, Line Reactor (TCI KDRB2L)	344.27	49.28
22 51 23 00-0169 EA 20 HP, 480 Volt, Line Reactor (TCI KDRB1L)	361.84	52.36
22 51 23 00-0170 EA 25 HP, 480 Volt, Line Reactor (TCI KDRD1L)	374.32	55.44
22 51 23 00-0171 EA 30 HP, 480 Volt, Line Reactor (TCI KDRD2L)	451.41	58.51
22 51 23 00-0172 EA 40 HP, 480 Volt, Line Reactor (TCI KDRC1L)	491.77	61.59
22 51 23 00-0173 EA Models 04 To 30, 304 SS Metric To English Conduit Adaptor Kit	80.51	
22 51 23 00-0174 EA Models 32 To 46, 304 SS Metric To English Conduit Adaptor Kit	109.60	
22 51 23 00-0175 EA Models 60 To 74, 304 SS Metric To English Conduit Adaptor Kit	136.16	
22 51 23 00-0176 Pool Flow Meters (22 51 23)		
22 51 23 00-0177 EA 20 To 110 GPM, 1-1/2" Retrofit Kit FlowVis For Existing Jandy® Or Praher Valve Flow Meter (H2Flow FVJ-R-15)	140.34	20.52
22 51 23 00-0178 EA 20 To 110 GPM, 2" x 2-1/2" Retrofit Kit FlowVis For Existing Jandy® Or Praher Valve Flow Meter (H2Flow FVJ-R)	140.34	20.52
22 51 23 00-0179 EA 20 To 110 GPM, 1-1/2" Complete FlowVis Including Valve Body Flow Meter (H2Flow FV-C-15)	217.81	38.47
22 51 23 00-0180 EA 20 To 110 GPM, 2" x 2-1/2" Complete FlowVis Including Valve Body Flow Meter (H2Flow FV-C)	181.38	41.04
22 51 23 00-0181 Paddlewheel Flow Sensors (22 51 23)		
22 51 23 00-0182 EA 1/2" To 4" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3-2536-P0)	966.05	71.14
Note: Includes 25' of cable (extendable to 200').		
22 51 23 00-0183 EA 1/2" To 4" Pipe, Polypropylene Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537- 1C-PO)	1,281.43	71.14
22 51 23 00-0184 EA 1/2" To 4" Pipe, Polypropylene Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537- 2C-PO)	1,281.43	71.14
22 51 23 00-0185 EA 1/2" To 4" Pipe, Polypropylene Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537-5C-PO)	1,330.83	71.14
22 51 23 00-0186 EA 1/2" To 4" Pipe, Polypropylene Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3-2537-6C-PO)	1,384.03	71.14
22 51 23 00-0187 EA 1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537-1C-TO)	1,484.72	71.14
22 51 23 00-0188 EA 1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537-2C-TO)	1,484.72	71.14
22 51 23 00-0189 EA 1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537- 5C-TO)	1,547.42	71.14
22 51 23 00-0190 EA 1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3- 2537-6C-TO)	1,608.22	71.14
22 51 23 00-0191 EA >4" To 8" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3-2536-P1)	1,009.75	71.14
Note: Includes 25' of cable (extendable to 200').		
22 51 23 00-0192 EA >4" To 8" Pipe, Polypropylene Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537- 1C-P1)	1,330.83	71.14
22 51 23 00-0193 EA >4" To 8" Pipe, Polypropylene Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537- 2C-P1)	1,330.83	71.14
22 51 23 00-0194 EA >4" To 8" Pipe, Polypropylene Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537-5C-P1)	1,384.03	71.14
22 51 23 00-0195 EA >4" To 8" Pipe, Polypropylene Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3-2537-6C-P1)	1,433.43	71.14
22 51 23 00-0196 EA >8" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3- 2536-P2)	1,049.65	71.14
Note: Includes 25' of cable (extendable to 200').		
22 51 23 00-0197 EA 2" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S020)	322.34	
22 51 23 00-0198 EA 4" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S040)	445.58	
22 51 23 00-0199 EA 6" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S060)	547.91	
22 51 23 00-0200 EA 8" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S080)	673.05	
22 51 23 00-0201 EA 10" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S100)	891.28	
22 51 23 00-0202 EA 12" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S120)	902.42	
22 51 23 00-0203 EA 24 Volt DC, Power Supply 7.5 Watt, 300 mA (Signet 7300-7524)	318.94	19.71
22 51 23 00-0204 EA 24 Volt DC, Power Supply 15 Watt, 600 mA (Signet 7300-1524)	438.63	19.71
22 51 23 00-0205 EA 24 Volt DC, 30 Watt, 1.3 Amperes, Power Supply (Signet 7300-3024)	541.23	19.71
22 51 23 00-0206 EA 24 Volt DC, 50 Watt, 2.1 Amperes, Power Supply (Signet 7300-5024)	685.62	19.71
22 51 23 00-0207 EA 24 Volt DC, 100 Watt, 4.2 Amperes, Power Supply (Signet 7300-1024)	951.61	19.71

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 51 Swimming Pool Plumbing Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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

22 62 Vacuum Systems for Laboratory and Healthcare Facilities ^(22 60)

22 62 19 Vacuum Equipment for Laboratory and Healthcare Facilities ^(22 62)

22 62 19 74 Dental Vacuum and Evacuation Equipment ^(22 62 19)

22 62 19 74-0001 Dental Oral Vacuum Pumps ^(22 62 19 74)

22 62 19 74-0002 EA 165 SCFM, Duplex Vacuum Pump, Dental Oral, With 30" X 66", 77 Gallon Separator 9,209.69 919.38

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

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

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

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

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

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

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

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

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

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

22 63 13 70-0025 Triple Zone Valve Assemblies ^(22 63 13 70-0001)

22 63 13 70-0026	EA	1/2" x 1/2" x 1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050505)	908.69	151.96
22 63 13 70-0027	EA	1/2" x 1/2" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050507)	940.45	158.94
22 63 13 70-0028	EA	1/2" x 1/2" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050510)	979.07	164.47
22 63 13 70-0029	EA	1/2" x 1/2" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050512)	1,058.85	173.20
22 63 13 70-0030	EA	1/2" x 1/2" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050515)	1,159.40	179.46
22 63 13 70-0031	EA	1/2" x 3/4" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050707)	974.46	165.81
22 63 13 70-0032	EA	1/2" x 3/4" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050710)	1,013.08	171.35
22 63 13 70-0033	EA	1/2" x 3/4" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050712)	1,090.61	180.07
22 63 13 70-0034	EA	1/2" x 3/4" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050715)	1,191.15	186.33
22 63 13 70-0035	EA	1/2" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051010)	1,051.70	177.00
22 63 13 70-0036	EA	1/2" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051012)	1,129.21	185.71
22 63 13 70-0037	EA	1/2" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051015)	1,229.77	191.97
22 63 13 70-0038	EA	3/4" x 3/4" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070707)	1,006.23	172.68
22 63 13 70-0039	EA	3/4" x 3/4" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070710)	1,044.84	178.33
22 63 13 70-0040	EA	3/4" x 3/4" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070712)	1,122.37	186.94
22 63 13 70-0041	EA	3/4" x 3/4" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070715)	1,222.92	193.21
22 63 13 70-0042	EA	3/4" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071010)	1,083.45	183.87
22 63 13 70-0043	EA	3/4" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071012)	1,160.98	192.58
22 63 13 70-0044	EA	3/4" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071015)	1,259.28	198.85
22 63 13 70-0045	EA	1" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101010)	1,063.52	189.51
22 63 13 70-0046	EA	1" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101012)	1,138.78	198.13
22 63 13 70-0047	EA	1" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101015)	1,300.14	204.50

22 63 13 70-0048 Medical Gas Copper Pipe And Fittings ^(22 63 13 70)

22 63 13 70-0049 Medical Gas Copper Pipe, ASTM B819 ^(22 63 13 70-0048)

22 63 13 70-0050 LF 1/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1/4") 8.16 3.57



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

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MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
22 63 13 70-0051	LF	3/8" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3/8").....	10.11		3.57
22 63 13 70-0052	LF	1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1/2").....	10.85		3.57
22 63 13 70-0053	LF	5/8" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 5/8").....	12.22		3.57
22 63 13 70-0054	LF	3/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3/4").....	16.60		3.57
22 63 13 70-0055	LF	1" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1").....	19.48		3.57
22 63 13 70-0056	LF	1-1/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1-1/4").....	23.40		3.57
22 63 13 70-0057	LF	1-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1-1/2").....	29.14		3.57
22 63 13 70-0058	LF	2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 2").....	41.20		3.57
22 63 13 70-0059	LF	2-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 2-1/2").....	57.97		5.90
22 63 13 70-0060	LF	3" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3").....	70.95		5.90
22 63 13 70-0061	LF	3-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3-1/2").....	90.98		8.91
22 63 13 70-0062	LF	4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 4").....	125.38		8.91
22 63 13 70-0063 Medical Gas Copper Fittings (22 63 13 70-0048)					
22 63 13 70-0064 Medical Gas Copper 90 Degree Elbows (22 63 13 70-0063)					
22 63 13 70-0065	EA	1/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P049).....	43.57		27.07
22 63 13 70-0066	EA	3/8" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P050).....	45.12		28.30
22 63 13 70-0067	EA	1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P079).....	47.72		29.75
22 63 13 70-0068	EA	5/8" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P080).....	52.73		31.31
22 63 13 70-0069	EA	3/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P081).....	52.09		31.31
22 63 13 70-0070	EA	1" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P082).....	63.24		37.21
22 63 13 70-0071	EA	1-1/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P055).....	67.42		39.66
22 63 13 70-0072	EA	1-1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P056).....	81.51		45.68
22 63 13 70-0073	EA	2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P057).....	100.27		54.03
22 63 13 70-0074	EA	2-1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P058).....	180.53		91.47
22 63 13 70-0075	EA	3" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMA3).....	220.62		108.08
22 63 13 70-0076	EA	4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMA4).....	333.07		132.14
22 63 13 70-0077 Medical Gas Copper Tees (22 63 13 70-0063)					
22 63 13 70-0078	EA	1/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P095).....	65.93		39.66
22 63 13 70-0079	EA	3/8" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P096).....	68.63		42.45
22 63 13 70-0080	EA	1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P098).....	70.06		45.68
22 63 13 70-0081	EA	5/8" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R568).....	87.19		49.58
22 63 13 70-0082	EA	3/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P103).....	77.91		49.58
22 63 13 70-0083	EA	1" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P109).....	100.44		59.49
22 63 13 70-0084	EA	1-1/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P113).....	115.78		66.07
22 63 13 70-0085	EA	1-1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P117).....	134.27		74.32
22 63 13 70-0086	EA	2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R499).....	166.81		84.90
22 63 13 70-0087	EA	2-1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMD9).....	289.28		148.64
22 63 13 70-0088	EA	3" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VME5).....	364.75		169.92
22 63 13 70-0089	EA	4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG2).....	580.79		237.77
22 63 13 70-0090 Medical Gas Copper Couplings (22 63 13 70-0063)					
22 63 13 70-0091	EA	1/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R491).....	36.48		23.73
22 63 13 70-0092	EA	3/8" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R495).....	38.25		24.74
22 63 13 70-0093	EA	1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R489).....	39.51		25.85
22 63 13 70-0094	EA	5/8" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R493).....	43.25		27.07
22 63 13 70-0095	EA	3/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R490).....	43.93		28.30
22 63 13 70-0096	EA	1" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R492).....	52.78		32.98
22 63 13 70-0097	EA	1-1/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R501).....	58.72		34.99
22 63 13 70-0098	EA	1-1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R509).....	67.25		39.66
22 63 13 70-0099	EA	2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R516).....	80.89		45.68
22 63 13 70-0100	EA	2-1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R615).....	147.70		79.22
22 63 13 70-0101	EA	3" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R690).....	180.54		91.47
22 63 13 70-0102	EA	4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R692).....	239.40		111.42
22 63 13 70-0103 Medical Gas Copper Caps (22 63 13 70-0063)					
22 63 13 70-0104	EA	1/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R498).....	23.38		14.82
22 63 13 70-0105	EA	3/8" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R521).....	23.99		14.82
22 63 13 70-0106	EA	1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P121).....	22.91		14.82
22 63 13 70-0107	EA	5/8" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R511).....	25.57		15.60
22 63 13 70-0108	EA	3/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P122).....	24.53		15.60
22 63 13 70-0109	EA	1" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P123).....	30.93		18.60
22 63 13 70-0110	EA	1-1/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P124).....	35.11		20.51
22 63 13 70-0111	EA	1-1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P125).....	40.55		22.84

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 63 13 70-0112	EA	2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P126)	52.05	27.07
22 63 13 70-0113	EA	2-1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG6)	80.02	29.75
22 63 13 70-0114	EA	3" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG7)	96.97	32.98
22 63 13 70-0115	EA	4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG8)	139.81	37.21
22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities				
22 66 53 Laboratory Chemical-Waste and Vent Piping				
22 66 53 00-0001		Polypropylene Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)		
22 66 53 00-0002		Schedule 40 Polypropylene Acid Resistant DWV Pipe And Fuseal Fittings (22 66 53 00-0001)		
22 66 53 00-0003		Schedule 40 Polypropylene Acid Resistant DWV Pipe (22 66 53 00-0002)		
22 66 53 00-0004	LF	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	14.15	5.84
		For Schedule 80, Add	2.78	
		For Fire Retardant Thermoplastic Pipe (Proxylene), Add	2.38	
		For Work In Restricted Working Space, Add	2.64	
22 66 53 00-0005	LF	2" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	17.14	6.57
		For Schedule 80, Add	3.75	
		For Fire Retardant Thermoplastic Pipe (Proxylene), Add	3.21	
		For Work In Restricted Working Space, Add	2.98	
22 66 53 00-0006	LF	3" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	27.38	9.54
		For Schedule 80, Add	6.78	
		For Fire Retardant Thermoplastic Pipe (Proxylene), Add	5.80	
		For Work In Restricted Working Space, Add	4.31	
22 66 53 00-0007	LF	4" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	37.15	12.41
		For Schedule 80, Add	9.62	
		For Fire Retardant Thermoplastic Pipe (Proxylene), Add	8.23	
		For Work In Restricted Working Space, Add	5.60	
22 66 53 00-0008	LF	6" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	60.71	18.26
		For Schedule 80, Add	17.34	
		For Fire Retardant Thermoplastic Pipe (Proxylene), Add	14.84	
		For Work In Restricted Working Space, Add	8.21	
22 66 53 00-0009		Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bends (22 66 53 00-0002)		
22 66 53 00-0010	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	54.63	22.06
		For Work In Restricted Working Space, Add	9.93	
22 66 53 00-0011	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend	70.40	29.14
		For Work In Restricted Working Space, Add	13.10	
22 66 53 00-0012	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	95.44	33.34
		For Work In Restricted Working Space, Add	15.02	
22 66 53 00-0013	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	138.44	44.12
		For Work In Restricted Working Space, Add	19.86	
22 66 53 00-0014	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	275.29	65.16
		For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0015		Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bends (22 66 53 00-0002)		
22 66 53 00-0016	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	54.26	22.06
		For Work In Restricted Working Space, Add	9.93	
22 66 53 00-0017	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend	69.42	29.14
		For Work In Restricted Working Space, Add	13.10	
22 66 53 00-0018	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	97.30	33.34
		For Work In Restricted Working Space, Add	15.02	
22 66 53 00-0019	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	119.77	44.12
		For Work In Restricted Working Space, Add	19.86	
22 66 53 00-0020	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	246.35	65.16
		For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0021		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tees (22 66 53 00-0002)		
22 66 53 00-0022	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	97.50	47.20
		For Work In Restricted Working Space, Add	21.23	
22 66 53 00-0023	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	121.25	59.51
		For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0024	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	161.80	65.16
		For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0025	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	224.22	85.57
		For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0026	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	396.05	136.87
		For Work In Restricted Working Space, Add	61.56	
22 66 53 00-0027		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tees (22 66 53 00-0002)		
22 66 53 00-0028	EA	2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee.....	121.21	59.51
		For Work In Restricted Working Space, Add	26.77	



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

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0029 EA 3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee..... For Work In Restricted Working Space, Add	157.33 29.32	65.16
22 66 53 00-0030 EA 3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee For Work In Restricted Working Space, Add	153.35 29.32	65.16
22 66 53 00-0031 EA 4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee..... For Work In Restricted Working Space, Add	214.02 38.48	85.57
22 66 53 00-0032 EA 4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee..... For Work In Restricted Working Space, Add	217.87 38.48	85.57
22 66 53 00-0033 EA 6" x 6" x 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee..... For Work In Restricted Working Space, Add	367.65 61.56	136.87
22 66 53 00-0034 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tees With Plug (22 66 53 00-0002)		
22 66 53 00-0035 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug For Work In Restricted Working Space, Add	110.55 21.23	47.20
22 66 53 00-0036 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug For Work In Restricted Working Space, Add	124.41 26.77	59.51
22 66 53 00-0037 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug For Work In Restricted Working Space, Add	171.46 29.32	65.16
22 66 53 00-0038 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug For Work In Restricted Working Space, Add	228.67 38.48	85.57
22 66 53 00-0039 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug For Work In Restricted Working Space, Add	340.98 61.56	136.87
22 66 53 00-0040 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wyes (22 66 53 00-0002)		
22 66 53 00-0041 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye For Work In Restricted Working Space, Add	104.82 21.23	47.20
22 66 53 00-0042 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye For Work In Restricted Working Space, Add	128.04 26.77	59.51
22 66 53 00-0043 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye For Work In Restricted Working Space, Add	165.84 29.32	65.16
22 66 53 00-0044 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye For Work In Restricted Working Space, Add	227.57 38.48	85.57
22 66 53 00-0045 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye For Work In Restricted Working Space, Add	457.32 61.56	136.87
22 66 53 00-0046 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wyes (22 66 53 00-0002)		
22 66 53 00-0047 EA 2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	137.01 26.77	59.51
22 66 53 00-0048 EA 3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	161.24 29.32	65.16
22 66 53 00-0049 EA 3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	161.24 29.32	65.16
22 66 53 00-0050 EA 4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	223.59 38.48	85.57
22 66 53 00-0051 EA 4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	223.59 38.48	85.57
22 66 53 00-0052 EA 6" x 6" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	404.55 61.56	136.87
22 66 53 00-0053 EA 6" x 6" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	407.64 61.56	136.87
22 66 53 00-0054 EA 6" x 6" x 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... For Work In Restricted Working Space, Add	368.95 61.56	136.87
22 66 53 00-0055 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Crosses (22 66 53 00-0002)		
22 66 53 00-0056 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross For Work In Restricted Working Space, Add	130.36 26.54	59.00
22 66 53 00-0057 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... For Work In Restricted Working Space, Add	161.74 33.46	74.39
22 66 53 00-0058 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... For Work In Restricted Working Space, Add	222.61 36.65	81.47
22 66 53 00-0059 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... For Work In Restricted Working Space, Add	310.75 48.10	106.91
22 66 53 00-0060 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... For Work In Restricted Working Space, Add	555.67 76.95	171.04
22 66 53 00-0061 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bends (22 66 53 00-0002)		
22 66 53 00-0062 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend For Work In Restricted Working Space, Add	95.10 21.23	47.20
22 66 53 00-0063 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend For Work In Restricted Working Space, Add	124.79 26.77	59.51
22 66 53 00-0064 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend For Work In Restricted Working Space, Add	143.24 29.32	65.16
22 66 53 00-0065 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend For Work In Restricted Working Space, Add	199.04 38.48	85.57

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0066	EA	2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend	114.20	59.51
		<i>For Work In Restricted Working Space, Add</i>	26.77	
22 66 53 00-0067	EA	3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend	138.98	65.16
		<i>For Work In Restricted Working Space, Add</i>	29.32	
22 66 53 00-0068	EA	3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend	140.69	65.16
		<i>For Work In Restricted Working Space, Add</i>	29.32	
22 66 53 00-0069	EA	4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend	192.71	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
22 66 53 00-0070	EA	4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend	193.79	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
22 66 53 00-0071		Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Traps (22 66 53 00-0002)		
22 66 53 00-0072	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap	112.62	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
22 66 53 00-0073	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap	150.02	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
22 66 53 00-0074	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap	229.23	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
22 66 53 00-0075	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap	325.44	124.46
		<i>For Work In Restricted Working Space, Add</i>	55.97	
22 66 53 00-0076		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapters (22 66 53 00-0002)		
22 66 53 00-0077	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter	53.61	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
22 66 53 00-0078	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter	65.04	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 66 53 00-0079	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter	76.50	33.34
		<i>For Work In Restricted Working Space, Add</i>	15.02	
22 66 53 00-0080	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter	104.32	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
22 66 53 00-0081	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter	154.82	65.16
		<i>For Work In Restricted Working Space, Add</i>	29.32	
22 66 53 00-0082		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapters (22 66 53 00-0002)		
22 66 53 00-0083	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter	51.04	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
22 66 53 00-0084	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter	66.98	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 66 53 00-0085	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter	80.07	33.34
		<i>For Work In Restricted Working Space, Add</i>	15.02	
22 66 53 00-0086	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter	107.82	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
22 66 53 00-0087		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Couplings (22 66 53 00-0002)		
22 66 53 00-0088	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling	47.84	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
22 66 53 00-0089	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling	61.23	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 66 53 00-0090	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling	71.38	33.34
		<i>For Work In Restricted Working Space, Add</i>	15.02	
22 66 53 00-0091	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling	94.39	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
22 66 53 00-0092	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling	138.72	65.16
		<i>For Work In Restricted Working Space, Add</i>	29.32	
22 66 53 00-0093		Glass Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)		
22 66 53 00-0094		Glass Acid Resistant DWV Pipe (22 66 53 00-0093)		
22 66 53 00-0095	LF	1-1/2" Glass Acid Resistant DWV Pipe	38.06	5.64
		<i>For Work In Restricted Working Space, Add</i>	3.39	
22 66 53 00-0096	LF	2" Glass Acid Resistant DWV Pipe	48.78	6.16
		<i>For Work In Restricted Working Space, Add</i>	3.69	
22 66 53 00-0097	LF	3" Glass Acid Resistant DWV Pipe	67.36	8.62
		<i>For Work In Restricted Working Space, Add</i>	5.19	
22 66 53 00-0098	LF	4" Glass Acid Resistant DWV Pipe	113.43	11.19
		<i>For Work In Restricted Working Space, Add</i>	6.72	
22 66 53 00-0099	LF	6" Glass Acid Resistant DWV Pipe	193.79	15.29
		<i>For Work In Restricted Working Space, Add</i>	9.16	
22 66 53 00-0100		Glass Acid Resistant DWV 90 Or 60 Degree Sweeps (22 66 53 00-0093)		
22 66 53 00-0101	EA	1-1/2" Glass Acid Resistant DWV 90 Or 60 Degree Sweep	107.13	25.14
		<i>For Work In Restricted Working Space, Add</i>	15.05	
22 66 53 00-0102	EA	2" Glass Acid Resistant DWV 90 Or 60 Degree Sweep	125.14	26.67
		<i>For Work In Restricted Working Space, Add</i>	15.97	



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0103 EA 3" Glass Acid Resistant DWV 90 Or 60 Degree Sweep..... For Work In Restricted Working Space, Add	178.98 18.16	30.27
22 66 53 00-0104 EA 4" Glass Acid Resistant DWV 90 Or 60 Degree Sweep..... For Work In Restricted Working Space, Add	269.12 24.01	40.01
22 66 53 00-0105 EA 6" Glass Acid Resistant DWV 90 Or 60 Degree Sweep..... For Work In Restricted Working Space, Add	687.12 33.25	55.41
22 66 53 00-0106 Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweeps (22 66 53 00-0093)		
22 66 53 00-0107 EA 1-1/2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep For Work In Restricted Working Space, Add	107.34 15.11	25.24
22 66 53 00-0108 EA 2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep For Work In Restricted Working Space, Add	124.73 15.85	26.37
22 66 53 00-0109 EA 3" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep For Work In Restricted Working Space, Add	178.77 18.10	30.17
22 66 53 00-0110 EA 4" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep For Work In Restricted Working Space, Add	269.13 24.01	40.01
22 66 53 00-0111 EA 6" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep For Work In Restricted Working Space, Add	687.10 33.24	55.41
22 66 53 00-0112 Glass Acid Resistant DWV 90 Or 60 Degree Bends (22 66 53 00-0093)		
22 66 53 00-0113 EA 1-1/2" Glass Acid Resistant DWV 90 Or 60 Degree Bend For Work In Restricted Working Space, Add	108.90 15.11	25.24
22 66 53 00-0114 EA 2" Glass Acid Resistant DWV 90 Or 60 Degree Bend For Work In Restricted Working Space, Add	126.60 15.85	26.37
22 66 53 00-0115 EA 3" Glass Acid Resistant DWV 90 Or 60 Degree Bend For Work In Restricted Working Space, Add	182.03 18.10	30.17
22 66 53 00-0116 EA 4" Glass Acid Resistant DWV 90 Or 60 Degree Bend For Work In Restricted Working Space, Add	269.13 24.01	40.01
22 66 53 00-0117 Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bends (22 66 53 00-0093)		
22 66 53 00-0118 EA 1-1/2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend For Work In Restricted Working Space, Add	108.90 15.11	25.24
22 66 53 00-0119 EA 2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend For Work In Restricted Working Space, Add	126.60 15.85	26.37
22 66 53 00-0120 EA 3" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend For Work In Restricted Working Space, Add	182.03 18.10	30.17
22 66 53 00-0121 EA 4" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend For Work In Restricted Working Space, Add	269.13 24.01	40.01
22 66 53 00-0122 Glass Acid Resistant DWV 90 Degree Bends With Long Leg (22 66 53 00-0093)		
22 66 53 00-0123 EA 1-1/2" Glass Acid Resistant DWV 90 Degree Bend With Long Leg..... For Work In Restricted Working Space, Add	131.10 15.11	25.24
22 66 53 00-0124 EA 2" Glass Acid Resistant DWV 90 Degree Bends With Long Leg For Work In Restricted Working Space, Add	158.50 15.85	26.37
22 66 53 00-0125 Glass Acid Resistant DWV Double Quarter Bends (22 66 53 00-0093)		
22 66 53 00-0126 EA 1-1/2" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	177.35 22.67	37.76
22 66 53 00-0127 EA 2" x 1-1/2" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	232.26 23.45	39.10
22 66 53 00-0128 EA 2" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	212.80 23.78	39.60
22 66 53 00-0129 EA 3" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	297.50 27.15	45.24
22 66 53 00-0130 EA 4" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	507.08 36.01	60.03
22 66 53 00-0131 EA 6" Glass Acid Resistant DWV Double Quarter Bend For Work In Restricted Working Space, Add	787.52 49.87	83.11
22 66 53 00-0132 Glass Acid Resistant DWV Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0133 EA 1-1/2" Glass Acid Resistant DWV Sanitary Tee..... For Work In Restricted Working Space, Add	167.75 22.78	37.97
22 66 53 00-0134 EA 2" Glass Acid Resistant DWV Sanitary Tee..... For Work In Restricted Working Space, Add	170.82 23.70	39.50
22 66 53 00-0135 EA 3" Glass Acid Resistant DWV Sanitary Tee..... For Work In Restricted Working Space, Add	227.26 27.09	45.14
22 66 53 00-0136 EA 4" Glass Acid Resistant DWV Sanitary Tee..... For Work In Restricted Working Space, Add	365.78 36.01	60.03
22 66 53 00-0137 EA 6" Glass Acid Resistant DWV Sanitary Tee..... For Work In Restricted Working Space, Add	824.54 49.87	83.11
22 66 53 00-0138 Glass Acid Resistant DWV Reducing Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0139 EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee..... For Work In Restricted Working Space, Add	169.80 23.39	38.99

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0140	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	206.25 25.55	42.58
22 66 53 00-0141	EA	3" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	220.90 26.16	43.61
22 66 53 00-0142	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	288.86 31.70	52.84
22 66 53 00-0143	EA	4" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	304.98 32.01	53.36
22 66 53 00-0144	EA	4" x 3" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	321.60 32.94	54.90
22 66 53 00-0145	EA	6" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	599.57 41.25	68.74
22 66 53 00-0146	EA	6" x 3" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	650.88 42.17	70.28
22 66 53 00-0147	EA	6" x 4" Glass Acid Resistant DWV Reducing Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	663.79 45.25	75.41
22 66 53 00-0148 Glass Acid Resistant DWV Double Sanitary Tees (22 66 53 00-0093)				
22 66 53 00-0149	EA	1-1/2" Glass Acid Resistant DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	241.41 30.17	50.27
22 66 53 00-0150	EA	2" Glass Acid Resistant DWV Double Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	246.52 31.70	52.84
22 66 53 00-0151	EA	3" Glass Acid Resistant DWV Double Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	328.06 36.32	60.54
22 66 53 00-0152	EA	4" Glass Acid Resistant DWV Double Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	556.74 48.01	80.03
22 66 53 00-0153	EA	6" Glass Acid Resistant DWV Double Sanitary Tee..... <i>For Work In Restricted Working Space, Add</i>	1,030.62 66.50	110.81
22 66 53 00-0154 Glass Acid Resistant DWV Reducing Double Sanitary Tees (22 66 53 00-0093)				
22 66 53 00-0155	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	244.47 31.09	51.81
22 66 53 00-0156	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	287.45 33.24	55.41
22 66 53 00-0157	EA	3" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	306.16 33.86	56.43
22 66 53 00-0158	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	465.38 39.09	65.16
22 66 53 00-0159	EA	4" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	458.48 40.01	66.70
22 66 53 00-0160	EA	4" x 3" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	493.56 42.18	70.28
22 66 53 00-0161	EA	6" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	667.30 49.24	82.08
22 66 53 00-0162	EA	6" x 3" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	729.78 51.40	85.67
22 66 53 00-0163	EA	6" x 4" Glass Acid Resistant DWV Reducing Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	828.43 57.24	95.43
22 66 53 00-0164 Glass Acid Resistant DWV Tees (22 66 53 00-0093)				
22 66 53 00-0165	EA	1-1/2" Glass Acid Resistant DWV Tee..... <i>For Work In Restricted Working Space, Add</i>	189.55 22.78	37.97
22 66 53 00-0166	EA	2" Glass Acid Resistant DWV Tee <i>For Work In Restricted Working Space, Add</i>	192.61 23.70	39.50
22 66 53 00-0167	EA	3" Glass Acid Resistant DWV Tee <i>For Work In Restricted Working Space, Add</i>	254.33 27.09	45.14
22 66 53 00-0168	EA	4" Glass Acid Resistant DWV Tee <i>For Work In Restricted Working Space, Add</i>	408.26 36.01	60.03
22 66 53 00-0169	EA	6" Glass Acid Resistant DWV Tee <i>For Work In Restricted Working Space, Add</i>	875.45 49.87	83.11
22 66 53 00-0170 Glass Acid Resistant DWV Reducing Tees (22 66 53 00-0093)				
22 66 53 00-0171	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	191.57 23.39	38.99
22 66 53 00-0172	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	228.97 25.55	42.58
22 66 53 00-0173	EA	3" x 2" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	234.29 26.17	43.61
22 66 53 00-0174	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	293.85 31.71	52.84
22 66 53 00-0175	EA	4" x 2" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	302.64 32.01	53.36
22 66 53 00-0176	EA	4" x 3" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	372.67 32.94	54.90
22 66 53 00-0177	EA	6" x 3" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	744.25 42.17	70.28
22 66 53 00-0178	EA	6" x 4" Glass Acid Resistant DWV Reducing Tee..... <i>For Work In Restricted Working Space, Add</i>	773.01 45.24	75.41



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

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
22 66 53 00-0179	Glass Acid Resistant DWV Test Tees With Cleanout (22 66 53 00-0093)			
22 66 53 00-0180	EA 1-1/2" Glass Acid Resistant DWV Test Tee With Cleanout	226.90		37.97
	For Work In Restricted Working Space, Add	22.78		
22 66 53 00-0181	EA 2" Glass Acid Resistant DWV Test Tee With Cleanout.....	255.95		39.50
	For Work In Restricted Working Space, Add	23.70		
22 66 53 00-0182	EA 3" Glass Acid Resistant DWV Test Tee With Cleanout.....	334.16		45.14
	For Work In Restricted Working Space, Add	27.09		
22 66 53 00-0183	EA 4" Glass Acid Resistant DWV Test Tee With Cleanout.....	590.19		60.03
	For Work In Restricted Working Space, Add	36.01		
22 66 53 00-0184	EA 6" Glass Acid Resistant DWV Test Tee With Cleanout.....	875.45		83.11
	For Work In Restricted Working Space, Add	49.87		
22 66 53 00-0185	Glass Acid Resistant DWV Wyes (22 66 53 00-0093)			
22 66 53 00-0186	EA 1-1/2" Glass Acid Resistant DWV Wye.....	172.43		37.97
	For Work In Restricted Working Space, Add	22.78		
22 66 53 00-0187	EA 2" Glass Acid Resistant DWV Wye.....	175.49		39.50
	For Work In Restricted Working Space, Add	23.70		
22 66 53 00-0188	EA 3" Glass Acid Resistant DWV Wye.....	245.92		45.14
	For Work In Restricted Working Space, Add	27.09		
22 66 53 00-0189	EA 4" Glass Acid Resistant DWV Wye.....	386.63		60.03
	For Work In Restricted Working Space, Add	36.01		
22 66 53 00-0190	EA 6" Glass Acid Resistant DWV Wye.....	810.24		83.11
	For Work In Restricted Working Space, Add	49.87		
22 66 53 00-0191	Glass Acid Resistant DWV Reducing Wyes (22 66 53 00-0093)			
22 66 53 00-0192	EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	174.45		38.99
	For Work In Restricted Working Space, Add	23.39		
22 66 53 00-0193	EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	215.90		42.58
	For Work In Restricted Working Space, Add	25.55		
22 66 53 00-0194	EA 3" x 2" Glass Acid Resistant DWV Reducing Wye.....	222.00		43.61
	For Work In Restricted Working Space, Add	26.17		
22 66 53 00-0195	EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	307.54		52.84
	For Work In Restricted Working Space, Add	31.71		
22 66 53 00-0196	EA 4" x 2" Glass Acid Resistant DWV Reducing Wye.....	310.42		53.36
	For Work In Restricted Working Space, Add	32.01		
22 66 53 00-0197	EA 4" x 3" Glass Acid Resistant DWV Reducing Wye.....	339.99		54.90
	For Work In Restricted Working Space, Add	32.94		
22 66 53 00-0198	EA 6" x 2" Glass Acid Resistant DWV Reducing Wye.....	579.31		68.74
	For Work In Restricted Working Space, Add	41.24		
22 66 53 00-0199	EA 6" x 3" Glass Acid Resistant DWV Reducing Wye.....	679.51		70.28
	For Work In Restricted Working Space, Add	42.17		
22 66 53 00-0200	EA 6" x 4" Glass Acid Resistant DWV Reducing Wye.....	739.40		75.41
	For Work In Restricted Working Space, Add	45.24		
22 66 53 00-0201	Glass Acid Resistant DWV Double Wyes (22 66 53 00-0093)			
22 66 53 00-0202	EA 1-1/2" Glass Acid Resistant DWV Double Wye	288.40		50.27
	For Work In Restricted Working Space, Add	30.17		
22 66 53 00-0203	EA 2" Glass Acid Resistant DWV Double Wye.....	293.54		52.84
	For Work In Restricted Working Space, Add	31.71		
22 66 53 00-0204	EA 3" Glass Acid Resistant DWV Double Wye.....	401.03		60.54
	For Work In Restricted Working Space, Add	36.32		
22 66 53 00-0205	EA 4" Glass Acid Resistant DWV Double Wye.....	631.27		80.03
	For Work In Restricted Working Space, Add	48.01		
22 66 53 00-0206	EA 6" Glass Acid Resistant DWV Double Wye.....	1,070.90		110.81
	For Work In Restricted Working Space, Add	66.51		
22 66 53 00-0207	Glass Acid Resistant DWV Reducing Double Wyes (22 66 53 00-0093)			
22 66 53 00-0208	EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye	291.45		51.81
	For Work In Restricted Working Space, Add	31.08		
22 66 53 00-0209	EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye	298.65		55.41
	For Work In Restricted Working Space, Add	33.24		
22 66 53 00-0210	EA 3" x 2" Glass Acid Resistant DWV Reducing Double Wye	351.74		56.43
	For Work In Restricted Working Space, Add	33.86		
22 66 53 00-0211	EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye	436.16		65.16
	For Work In Restricted Working Space, Add	39.10		
22 66 53 00-0212	EA 4" x 2" Glass Acid Resistant DWV Reducing Double Wye	462.24		66.70
	For Work In Restricted Working Space, Add	40.02		
22 66 53 00-0213	EA 4" x 3" Glass Acid Resistant DWV Reducing Double Wye	550.65		70.28
	For Work In Restricted Working Space, Add	42.17		
22 66 53 00-0214	EA 6" x 2" Glass Acid Resistant DWV Reducing Double Wye	874.47		82.08
	For Work In Restricted Working Space, Add	49.24		
22 66 53 00-0215	EA 6" x 3" Glass Acid Resistant DWV Reducing Double Wye	918.23		85.67
	For Work In Restricted Working Space, Add	51.41		
22 66 53 00-0216	EA 6" x 4" Glass Acid Resistant DWV Reducing Double Wye	978.35		95.43
	For Work In Restricted Working Space, Add	57.26		

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

22 66 53 00-0217 Glass Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0093)			
22 66 53 00-0218 EA 1-1/2" Glass Acid Resistant DWV Combination Wye And 1/8 Bend	197.07	37.97	
For Work In Restricted Working Space, Add	22.78		
22 66 53 00-0219 EA 2" Glass Acid Resistant DWV Combination Wye And 1/8 Bend	201.17	39.50	
For Work In Restricted Working Space, Add	23.70		
22 66 53 00-0220 EA 3" Glass Acid Resistant DWV Combination Wye And 1/8 Bend	261.17	45.14	
For Work In Restricted Working Space, Add	27.09		
22 66 53 00-0221 EA 4" Glass Acid Resistant DWV Combination Wye And 1/8 Bend	394.56	60.03	
For Work In Restricted Working Space, Add	36.01		
22 66 53 00-0222 EA 6" Glass Acid Resistant DWV Combination Wye And 1/8 Bend	787.99	83.11	
For Work In Restricted Working Space, Add	49.87		
22 66 53 00-0223 Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0093)			
22 66 53 00-0224 EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	200.13	38.99	
For Work In Restricted Working Space, Add	23.39		
22 66 53 00-0225 EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	219.79	42.58	
For Work In Restricted Working Space, Add	25.55		
22 66 53 00-0226 EA 3" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	237.56	43.61	
For Work In Restricted Working Space, Add	26.17		
22 66 53 00-0227 EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	298.21	52.84	
For Work In Restricted Working Space, Add	31.71		
22 66 53 00-0228 EA 4" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	312.44	53.36	
For Work In Restricted Working Space, Add	32.01		
22 66 53 00-0229 EA 4" x 3" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	342.32	54.90	
For Work In Restricted Working Space, Add	32.94		
22 66 53 00-0230 EA 6" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	580.71	68.74	
For Work In Restricted Working Space, Add	41.24		
22 66 53 00-0231 EA 6" x 3" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	665.97	70.28	
For Work In Restricted Working Space, Add	42.17		
22 66 53 00-0232 EA 6" x 4" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	677.14	75.41	
For Work In Restricted Working Space, Add	45.24		
22 66 53 00-0233 Glass Acid Resistant DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0093)			
22 66 53 00-0234 EA 1-1/2" Double Glass Combination Wye And 1/8 Bend	265.05	50.27	
For Work In Restricted Working Space, Add	30.17		
22 66 53 00-0235 EA 2" Double Glass Combination Wye And 1/8 Bend	313.15	52.84	
For Work In Restricted Working Space, Add	31.71		
22 66 53 00-0236 EA 3" Double Glass Combination Wye And 1/8 Bend	430.60	60.54	
For Work In Restricted Working Space, Add	36.32		
22 66 53 00-0237 EA 4" Double Glass Combination Wye And 1/8 Bend	700.06	80.03	
For Work In Restricted Working Space, Add	48.01		
22 66 53 00-0238 EA 6" Double Glass Combination Wye And 1/8 Bend	1,180.69	110.81	
For Work In Restricted Working Space, Add	66.51		
22 66 53 00-0239 Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0093)			
22 66 53 00-0240 EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	271.68	51.81	
For Work In Restricted Working Space, Add	31.08		
22 66 53 00-0241 EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	353.74	55.41	
For Work In Restricted Working Space, Add	33.24		
22 66 53 00-0242 EA 3" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	346.76	56.43	
For Work In Restricted Working Space, Add	33.86		
22 66 53 00-0243 EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	474.44	65.16	
For Work In Restricted Working Space, Add	39.10		
22 66 53 00-0244 EA 4" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	468.31	66.70	
For Work In Restricted Working Space, Add	40.02		
22 66 53 00-0245 EA 4" x 3" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	529.02	70.28	
For Work In Restricted Working Space, Add	42.17		
22 66 53 00-0246 EA 6" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	774.19	82.08	
For Work In Restricted Working Space, Add	49.24		
22 66 53 00-0247 EA 6" x 3" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	826.40	85.67	
For Work In Restricted Working Space, Add	51.41		
22 66 53 00-0248 EA 6" x 4" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	967.46	95.43	
For Work In Restricted Working Space, Add	57.26		
22 66 53 00-0249 Glass Acid Resistant DWV Partition Crosses (Compact) (22 66 53 00-0093)			
22 66 53 00-0250 EA 2" x 1-1/2" Glass Acid Resistant DWV Partition Cross (Compact)	302.81	51.81	
For Work In Restricted Working Space, Add	31.08		
22 66 53 00-0251 EA 2" Glass Acid Resistant DWV Partition Cross (Compact)	304.90	52.84	
For Work In Restricted Working Space, Add	31.71		
22 66 53 00-0252 EA 2" x 1-1/2" x 1-1/2" x 1-1/2" Glass Acid Resistant DWV Partition Cross (Compact)	330.76	51.30	
For Work In Restricted Working Space, Add	30.78		
22 66 53 00-0253 Glass Acid Resistant DWV Upright Y Or H (Vent Branch) (22 66 53 00-0093)			
22 66 53 00-0254 EA 1-1/2" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch)	308.45	37.97	
For Work In Restricted Working Space, Add	22.78		



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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0255	EA	2" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch)	341.86	39.50
		For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0256	EA	3" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch)	393.62	45.14
		For Work In Restricted Working Space, Add	27.09	
22 66 53 00-0257	EA	4" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch)	582.88	60.03
		For Work In Restricted Working Space, Add	36.01	
22 66 53 00-0258	EA	6" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch)	1,119.79	83.11
		For Work In Restricted Working Space, Add	49.87	
22 66 53 00-0259 Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch) (22 66 53 00-0093)				
22 66 53 00-0260	EA	2" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch)	309.54	38.99
		For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0261	EA	3" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch)	355.03	42.58
		For Work In Restricted Working Space, Add	25.55	
22 66 53 00-0262	EA	3" x 2" Reducing Glass Upright Y Or H (Vent Branch)	379.65	43.61
		For Work In Restricted Working Space, Add	26.17	
22 66 53 00-0263	EA	4" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch)	438.27	52.84
		For Work In Restricted Working Space, Add	31.71	
22 66 53 00-0264	EA	4" x 2" Reducing Glass Upright Y Or H (Vent Branch)	466.21	53.36
		For Work In Restricted Working Space, Add	32.01	
22 66 53 00-0265	EA	4" x 3" Reducing Glass Upright Y Or H (Vent Branch)	515.39	54.90
		For Work In Restricted Working Space, Add	32.94	
22 66 53 00-0266	EA	6" x 3" Reducing Glass Upright Y Or H (Vent Branch)	750.63	70.28
		For Work In Restricted Working Space, Add	42.17	
22 66 53 00-0267	EA	6" x 4" Reducing Glass Upright Y Or H (Vent Branch)	859.23	75.41
		For Work In Restricted Working Space, Add	45.24	
22 66 53 00-0268 Glass Acid Resistant DWV Reducers Or Increases (22 66 53 00-0093)				
22 66 53 00-0269	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increase.....	101.10	25.66
		For Eccentric Reducers Or Increases, Add	3.98	
		For Work In Restricted Working Space, Add	15.39	
22 66 53 00-0270	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increase.....	129.34	27.70
		For Eccentric Reducers Or Increases, Add	5.91	
		For Work In Restricted Working Space, Add	16.62	
22 66 53 00-0271	EA	3" x 2" Glass Acid Resistant DWV Reducer Or Increase.....	139.23	28.21
		For Eccentric Reducers Or Increases, Add	6.62	
		For Work In Restricted Working Space, Add	16.93	
22 66 53 00-0272	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increase.....	181.30	32.83
		For Eccentric Reducers Or Increases, Add	9.25	
		For Work In Restricted Working Space, Add	19.70	
22 66 53 00-0273	EA	4" x 2" Glass Acid Resistant DWV Reducer Or Increase.....	189.49	33.34
		For Eccentric Reducers Or Increases, Add	9.82	
		For Work In Restricted Working Space, Add	20.01	
22 66 53 00-0274	EA	4" x 3" Glass Acid Resistant DWV Reducer Or Increase.....	202.52	34.89
		For Eccentric Reducers Or Increases, Add	10.62	
		For Work In Restricted Working Space, Add	20.93	
22 66 53 00-0275	EA	6" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increase.....	417.22	40.53
		For Eccentric Reducers Or Increases, Add	26.89	
		For Work In Restricted Working Space, Add	24.32	
22 66 53 00-0276	EA	6" x 2" Glass Acid Resistant DWV Reducer Or Increase.....	439.57	41.04
		For Eccentric Reducers Or Increases, Add	28.60	
		For Work In Restricted Working Space, Add	24.62	
22 66 53 00-0277	EA	6" x 3" Glass Acid Resistant DWV Reducer Or Increase.....	467.08	42.58
		For Eccentric Reducers Or Increases, Add	30.55	
		For Work In Restricted Working Space, Add	25.55	
22 66 53 00-0278	EA	6" x 4" Glass Acid Resistant DWV Reducer Or Increase.....	488.40	47.71
		For Eccentric Reducers Or Increases, Add	31.44	
		For Work In Restricted Working Space, Add	28.63	
22 66 53 00-0279 Glass Acid Resistant DWV Swivel P-Traps (22 66 53 00-0093)				
22 66 53 00-0280	EA	1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	251.17	37.97
		For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0281	EA	2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	269.87	38.99
		For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0282	EA	2" Glass Acid Resistant DWV Swivel P-Trap.....	305.92	39.50
		For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0283	EA	1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	273.89	37.97
		For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0284	EA	2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	298.82	38.99
		For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0285	EA	2" Glass Acid Resistant DWV Swivel P-Trap.....	338.60	39.50
		For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0286	EA	1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	280.12	37.97
		For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0287	EA	2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap.....	298.82	38.99
		For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0288	EA	2" Glass Acid Resistant DWV Swivel P-Trap.....	338.60	39.50
		For Work In Restricted Working Space, Add	23.70	

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

22 66 53 00-0289 Glass Acid Resistant DWV Drum P-Traps (22 66 53 00-0093)			
22 66 53 00-0290	EA 1-1/2" Glass Acid Resistant DWV Drum P-Trap	350.78	37.97
	For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0291	EA 2" x 1-1/2" Glass Acid Resistant DWV Drum P-Trap	446.83	38.99
	For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0292	EA 2" Glass Acid Resistant DWV Drum P-Trap	460.30	39.50
	For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0293	EA 1-1/2" Glass Acid Resistant DWV Drum P-Trap	388.59	37.97
	For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0294	EA 2" x 1-1/2" Glass Acid Resistant DWV Drum P-Trap	412.74	38.99
	For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0295	EA 2" Glass Acid Resistant DWV Drum P-Trap	467.61	39.50
	For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0296 Glass Acid Resistant DWV Cleanout Plugs (22 66 53 00-0093)			
22 66 53 00-0297	EA 1-1/2" Glass Acid Resistant DWV Cleanout Plug	48.85	12.83
	For Work In Restricted Working Space, Add	7.70	
22 66 53 00-0298	EA 2" Glass Acid Resistant DWV Cleanout Plug	59.93	13.34
	For Work In Restricted Working Space, Add	8.00	
22 66 53 00-0299	EA 3" Glass Acid Resistant DWV Cleanout Plug	71.62	14.87
	For Work In Restricted Working Space, Add	8.93	
22 66 53 00-0300	EA 4" Glass Acid Resistant DWV Cleanout Plug	115.34	20.01
	For Work In Restricted Working Space, Add	12.00	
22 66 53 00-0301	EA 6" Glass Acid Resistant DWV Cleanout Plug	165.44	27.70
	For Work In Restricted Working Space, Add	16.62	
22 66 53 00-0302 Glass Acid Resistant DWV Sink Fittings (22 66 53 00-0093)			
22 66 53 00-0303	EA 1-1/2" Glass Acid Resistant DWV Interceptor Trap	765.25	50.27
	For Work In Restricted Working Space, Add	30.17	
22 66 53 00-0304	EA 1-1/2" x 6-1/2" Long Glass Acid Resistant DWV Tailpiece Assembly	68.77	12.83
	For Work In Restricted Working Space, Add	7.70	
22 66 53 00-0305	EA 1-1/2" x 10-1/2" Long Glass Acid Resistant DWV Tailpiece Assembly	77.02	12.83
	For Work In Restricted Working Space, Add	7.70	
22 66 53 00-0306	EA 1-1/2" Split Coupling (Threaded To Beaded Pipe) For Glass Acid Resistant DWV Pipe And Fittings	102.35	25.66
	For Work In Restricted Working Space, Add	15.39	
22 66 53 00-0307	EA 3" Diameter Hemispherical Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings	223.78	26.67
	For Work In Restricted Working Space, Add	16.01	
22 66 53 00-0308	EA 6" Diameter Hemispherical Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings	226.89	26.67
	For Work In Restricted Working Space, Add	16.01	
22 66 53 00-0309	EA 3" x 9" Oval Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings	258.01	26.67
	For Work In Restricted Working Space, Add	16.01	
22 66 53 00-0310	EA 3" x 6" Oval Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings	206.97	26.67
	For Work In Restricted Working Space, Add	16.01	
22 66 53 00-0311 Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapters (22 66 53 00-0093)			
	Note: Includes teflon spacer.		
22 66 53 00-0312	EA 1-1/2" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter	191.20	37.86
	For Work In Restricted Working Space, Add	22.72	
22 66 53 00-0313	EA 2" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter	199.40	39.71
	For Work In Restricted Working Space, Add	23.82	
22 66 53 00-0314	EA 3" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter	281.94	45.24
	For Work In Restricted Working Space, Add	27.15	
22 66 53 00-0315	EA 4" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter	405.10	60.13
	For Work In Restricted Working Space, Add	36.04	
22 66 53 00-0316 Bead To Bead Drainline Couplings For Glass Acid Resistant DWV Pipe And Fittings (22 66 53 00-0093)			
	Note: Includes segmented stainless steel outer band, Buna-N rubber compression liner with TFE seal ring, stainless steel bolt and silver plated stainless hex nut.		
22 66 53 00-0317	EA 1-1/2" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	39.06	
22 66 53 00-0318	EA 2" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	49.28	
22 66 53 00-0319	EA 3" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	65.88	
22 66 53 00-0320	EA 4" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	111.02	
22 66 53 00-0321	EA 6" Bead To Bead, Stainless Steel, TFE Seal Ring Couplings, Glass Piping	258.61	
22 66 53 00-0322 Bead To Plain End Drainline Couplings For Glass Acid Resistant DWV Pipe And Fittings (22 66 53 00-0093)			
	Note: Includes stainless steel band with bolt, Buna-N rubber compression liner with TFE seal ring and silver plated stainless hex nut.		
22 66 53 00-0323	EA 1-1/2" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	50.37	
22 66 53 00-0324	EA 2" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	63.03	
22 66 53 00-0325	EA 3" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	107.02	
22 66 53 00-0326	EA 4" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	159.52	
22 66 53 00-0327	EA 6" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings	388.96	



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

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0328	Bell And Spigot High Silicon Iron Alloy Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53) Note: Acid resistant. ASTM A518.		
22 66 53 00-0329	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe (22 66 53 00-0328)		
22 66 53 00-0330	LF 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	133.65	9.13
22 66 53 00-0331	LF 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	188.89	11.39
22 66 53 00-0332	LF 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	258.31	13.13
22 66 53 00-0333	LF 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	426.90	19.22
22 66 53 00-0334	LF 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	756.80	25.59
22 66 53 00-0335	LF 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	1,344.66	32.27
22 66 53 00-0336	LF 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	2,404.44	43.47
22 66 53 00-0337	LF 15" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	4,295.85	49.84
22 66 53 00-0338	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Fittings (22 66 53 00-0329)		
22 66 53 00-0339	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweeps (22 66 53 00-0338)		
22 66 53 00-0340	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	511.46	77.77
22 66 53 00-0341	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	677.43	85.57
22 66 53 00-0342	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	1,120.32	102.40
22 66 53 00-0343	EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	1,692.65	126.97
22 66 53 00-0344	EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	3,926.94	205.64
22 66 53 00-0345	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bends (22 66 53 00-0339)		
22 66 53 00-0346	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	279.99	77.77
22 66 53 00-0347	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	373.34	85.57
22 66 53 00-0348	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	471.30	102.40
22 66 53 00-0349	EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	1,334.10	126.97
22 66 53 00-0350	EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	3,063.24	205.64
22 66 53 00-0351	EA 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	4,679.27	256.20
22 66 53 00-0352	EA 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	6,904.57	308.10
22 66 53 00-0353	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bends (22 66 53 00-0339)		
22 66 53 00-0354	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	279.99	77.77
22 66 53 00-0355	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	373.34	85.57
22 66 53 00-0356	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	471.30	102.40
22 66 53 00-0357	EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	961.94	126.97
22 66 53 00-0358	EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	2,582.15	205.64
22 66 53 00-0359	EA 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	3,794.93	256.20
22 66 53 00-0360	EA 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	5,407.51	308.10
22 66 53 00-0361	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bends (22 66 53 00-0339)		
22 66 53 00-0362	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	279.99	77.77
22 66 53 00-0363	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	373.34	85.57
22 66 53 00-0364	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	471.06	102.30
22 66 53 00-0365	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweeps (22 66 53 00-0339)		
22 66 53 00-0366	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep.....	397.99	77.77
22 66 53 00-0367	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep.....	731.89	85.57
22 66 53 00-0368	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep.....	816.23	102.40
22 66 53 00-0369	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tees (22 66 53 00-0339)		
22 66 53 00-0370	EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	392.35	116.36
22 66 53 00-0371	EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	501.99	128.97
22 66 53 00-0372	EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	712.02	154.01
22 66 53 00-0373	EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	1,239.18	190.81
22 66 53 00-0374	EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	3,916.75	308.72
22 66 53 00-0375	EA 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee.....	5,586.11	385.50
22 66 53 00-0376	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tees (22 66 53 00-0338)		
22 66 53 00-0377	EA 2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	366.95	111.53
22 66 53 00-0378	EA 3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	433.72	119.74
22 66 53 00-0379	EA 3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	489.90	123.94
22 66 53 00-0380	EA 4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	563.76	136.87
22 66 53 00-0381	EA 4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	606.61	141.18
22 66 53 00-0382	EA 4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	671.76	145.40

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0383 EA 6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	861.03	165.11
22 66 53 00-0384 EA 6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	961.97	169.37
22 66 53 00-0385 EA 6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee.....	1,082.56	177.15
22 66 53 00-0386 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tees (22 66 53 00-0338)		
22 66 53 00-0387 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee.....	455.83	116.36
22 66 53 00-0388 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee.....	555.96	128.67
22 66 53 00-0389 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee.....	770.98	154.01
22 66 53 00-0390 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tees (22 66 53 00-0338)		
22 66 53 00-0391 EA 2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee.....	430.46	111.53
22 66 53 00-0392 EA 3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee.....	545.24	124.56
22 66 53 00-0393 EA 4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee.....	661.67	141.60
22 66 53 00-0394 EA 4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee.....	713.26	145.80
22 66 53 00-0395 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wyes (22 66 53 00-0338)		
22 66 53 00-0396 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye.....	388.02	116.56
22 66 53 00-0397 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye.....	551.92	128.97
22 66 53 00-0398 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye.....	711.83	153.91
22 66 53 00-0399 EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye.....	1,247.15	190.10
22 66 53 00-0400 EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye.....	4,942.00	308.42
22 66 53 00-0401 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wyes (22 66 53 00-0338)		
22 66 53 00-0402 EA 2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	403.23	111.53
22 66 53 00-0403 EA 3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	433.67	119.74
22 66 53 00-0404 EA 3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	459.23	124.67
22 66 53 00-0405 EA 4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	513.83	136.87
22 66 53 00-0406 EA 4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	534.23	141.39
22 66 53 00-0407 EA 4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	654.25	145.80
22 66 53 00-0408 EA 6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	910.50	165.31
22 66 53 00-0409 EA 6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	1,093.59	169.37
22 66 53 00-0410 EA 6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	1,141.56	177.15
22 66 53 00-0411 EA 8" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	2,873.82	248.81
22 66 53 00-0412 EA 8" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	3,108.52	257.03
22 66 53 00-0413 EA 8" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	3,822.57	270.18
22 66 53 00-0414 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0338)		
22 66 53 00-0415 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend.....	473.93	116.36
22 66 53 00-0416 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend.....	569.57	128.67
22 66 53 00-0417 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend.....	861.75	154.01
22 66 53 00-0418 EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend.....	1,365.52	190.30
22 66 53 00-0419 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0338)		
22 66 53 00-0420 EA 2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	385.07	111.53
22 66 53 00-0421 EA 3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	451.83	119.74
22 66 53 00-0422 EA 3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	504.39	124.56
22 66 53 00-0423 EA 4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	545.60	136.87
22 66 53 00-0424 EA 4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	638.98	141.60
22 66 53 00-0425 EA 4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	731.35	145.70
22 66 53 00-0426 EA 6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	969.43	165.31
22 66 53 00-0427 EA 6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	1,225.28	169.47
22 66 53 00-0428 EA 6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend.....	1,346.22	177.45
22 66 53 00-0429 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducers (22 66 53 00-0338)		
22 66 53 00-0430 EA 2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	236.89	73.26
22 66 53 00-0431 EA 3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	261.17	77.37
22 66 53 00-0432 EA 3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	294.58	81.47
22 66 53 00-0433 EA 4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	493.98	90.30
22 66 53 00-0434 EA 4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	518.30	94.50
22 66 53 00-0435 EA 6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	567.33	105.93
22 66 53 00-0436 EA 6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	747.38	114.02
22 66 53 00-0437 EA 8" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	1,089.00	154.26
22 66 53 00-0438 EA 8" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer.....	1,158.53	167.31
22 66 53 00-0439 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increasers (22 66 53 00-0338)		
22 66 53 00-0440 EA 2" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser.....	646.83	171.04



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

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MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0441	EA	2" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	882.83	171.04
22 66 53 00-0442	EA	3" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	904.01	171.04
22 66 53 00-0443	EA	4" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	1,012.19	236.24
22 66 53 00-0444 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Traps (22 66 53 00-0338)				
22 66 53 00-0445	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	779.23	77.77
22 66 53 00-0446	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	945.20	85.57
22 66 53 00-0447	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	1,152.09	102.40
22 66 53 00-0448	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	3,499.01	126.97
22 66 53 00-0449 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hubs (22 66 53 00-0338)				
22 66 53 00-0450	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	396.22	77.77
22 66 53 00-0451	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	468.65	85.57
22 66 53 00-0452	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	652.84	102.40
22 66 53 00-0453	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	852.26	126.97
22 66 53 00-0454	EA	8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	1,690.76	177.15
22 66 53 00-0455 Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings (22 66 53 00-0328)				
Note: Labor costs for installation of lead and oakum are included in the installation costs for fittings.				
22 66 53 00-0456	LB	Lead (1 LB/Diameter Inch) Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings.....	7.74	
22 66 53 00-0457	LB	Seal-Tite Packing (1/8 LB/Diameter Inch) Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings	83.21	
22 66 53 00-0458 Mechanical Joint High Silicon Iron Alloy Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)				
Note: ASTM A518.				
22 66 53 00-0459 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe (22 66 53 00-0458)				
22 66 53 00-0460	LF	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	106.25	6.87
22 66 53 00-0461	LF	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	121.01	7.60
22 66 53 00-0462	LF	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	167.40	9.54
22 66 53 00-0463	LF	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	211.71	11.08
22 66 53 00-0464 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Fittings (22 66 53 00-0458)				
22 66 53 00-0465 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweeps (22 66 53 00-0464)				
22 66 53 00-0466	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	376.72	54.48
22 66 53 00-0467	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	405.50	61.56
22 66 53 00-0468	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	564.73	67.93
22 66 53 00-0469	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	681.38	82.08
22 66 53 00-0470 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bends (22 66 53 00-0464)				
22 66 53 00-0471	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	199.71	54.48
22 66 53 00-0472	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	241.16	60.94
22 66 53 00-0473	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	315.46	68.13
22 66 53 00-0474	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	417.22	81.47
22 66 53 00-0475	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	236.08	57.56
22 66 53 00-0476 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bends (22 66 53 00-0464)				
22 66 53 00-0477	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend	199.71	54.48
22 66 53 00-0478	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	241.16	60.94
22 66 53 00-0479	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	315.46	68.13
22 66 53 00-0480	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	417.22	81.47
22 66 53 00-0481 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bends (22 66 53 00-0464)				
22 66 53 00-0482	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend	240.56	54.48
22 66 53 00-0483	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend.....	304.70	60.94
22 66 53 00-0484	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend.....	483.39	68.13
22 66 53 00-0485	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend.....	539.76	81.47
22 66 53 00-0486 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bends (22 66 53 00-0464)				
22 66 53 00-0487	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	231.48	54.48
22 66 53 00-0488	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	277.47	60.94
22 66 53 00-0489	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	442.54	68.13
22 66 53 00-0490	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend.....	498.91	81.47

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

22 66 53 00-0491		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Branch 1/4 Bends (22 66 53 00-0464)		
22 66 53 00-0492	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Branch 1/4 Bend.....	349.85	81.98
22 66 53 00-0493		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tees (22 66 53 00-0464)		
22 66 53 00-0494	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	277.23	81.98
22 66 53 00-0495	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	347.21	92.34
22 66 53 00-0496	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	467.45	102.91
22 66 53 00-0497	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	724.77	123.23
22 66 53 00-0498		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tees (22 66 53 00-0464)		
22 66 53 00-0499	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	323.86	88.86
22 66 53 00-0500	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	402.32	95.83
22 66 53 00-0501	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	430.09	99.21
22 66 53 00-0502	EA	4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	459.10	109.48
22 66 53 00-0503	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee.....	509.18	112.56
22 66 53 00-0504	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee.....	555.14	115.94
22 66 53 00-0505		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wyes (22 66 53 00-0464)		
22 66 53 00-0506	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	277.64	82.29
22 66 53 00-0507	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	329.06	92.34
22 66 53 00-0508	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	449.30	102.91
22 66 53 00-0509	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	724.77	123.23
22 66 53 00-0510		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wyes (22 66 53 00-0464)		
22 66 53 00-0511	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	310.93	89.37
22 66 53 00-0512	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	388.68	95.73
22 66 53 00-0513	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	407.85	99.53
22 66 53 00-0514	EA	4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	459.59	109.79
22 66 53 00-0515	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	510.11	113.17
22 66 53 00-0516	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye.....	541.97	116.25
22 66 53 00-0517		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wyes (22 66 53 00-0464)		
22 66 53 00-0518	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	422.99	109.58
22 66 53 00-0519	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	547.93	123.33
22 66 53 00-0520	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	712.88	136.47
22 66 53 00-0521	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	935.84	164.07
22 66 53 00-0522	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	469.04	116.04
22 66 53 00-0523	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	529.20	122.93
22 66 53 00-0524	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	639.30	129.70
22 66 53 00-0525	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	705.48	143.64
22 66 53 00-0526	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	861.62	150.93
22 66 53 00-0527		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Crosses (22 66 53 00-0464)		
22 66 53 00-0528	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	477.39	109.58
22 66 53 00-0529	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	565.83	123.13
22 66 53 00-0530	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	832.05	137.18
22 66 53 00-0531	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	1,176.65	164.27
22 66 53 00-0532	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	514.36	116.04
22 66 53 00-0533	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	688.01	122.93
22 66 53 00-0534	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	725.46	129.70
22 66 53 00-0535	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	773.50	143.54
22 66 53 00-0536	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross.....	1,001.52	150.31
22 66 53 00-0537		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0538	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	313.13	81.67
22 66 53 00-0539	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	365.37	92.34
22 66 53 00-0540	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	449.30	102.91
22 66 53 00-0541	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	774.70	123.23
22 66 53 00-0542		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0464)		



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

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MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0543	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	346.63	88.96
22 66 53 00-0544	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	389.09	96.04
22 66 53 00-0545	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	426.00	99.53
22 66 53 00-0546	EA	4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	591.21	109.79
22 66 53 00-0547	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	605.42	113.17
22 66 53 00-0548	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	682.66	116.25
22 66 53 00-0549 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0464)				
22 66 53 00-0550	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	508.93	109.37
22 66 53 00-0551	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	647.44	123.03
22 66 53 00-0552	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	953.85	136.77
22 66 53 00-0553	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	1,145.41	164.58
22 66 53 00-0554 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0464)				
22 66 53 00-0555	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	555.21	116.04
22 66 53 00-0556	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	674.38	122.81
22 66 53 00-0557	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	702.77	129.70
22 66 53 00-0558	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	782.57	143.54
22 66 53 00-0559	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	1,001.52	150.31
22 66 53 00-0560 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducers-Increasers (22 66 53 00-0464)				
22 66 53 00-0561	EA	2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	236.94	58.17
22 66 53 00-0562	EA	3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	269.31	61.56
22 66 53 00-0563	EA	3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	316.45	71.83
22 66 53 00-0564	EA	4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	383.69	68.23
22 66 53 00-0565	EA	4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	406.97	71.61
22 66 53 00-0566	EA	4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	430.23	75.00
22 66 53 00-0567 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tees (22 66 53 00-0464)				
22 66 53 00-0568	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	221.59	47.91
22 66 53 00-0569	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	258.24	54.17
22 66 53 00-0570	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	305.24	61.36
22 66 53 00-0571	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	574.96	74.70
22 66 53 00-0572 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plugs (22 66 53 00-0464)				
22 66 53 00-0573	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug	95.32	27.30
22 66 53 00-0574	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug	113.77	30.47
22 66 53 00-0575	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug	123.69	34.07
22 66 53 00-0576	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug	160.95	40.73
22 66 53 00-0577 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Traps (22 66 53 00-0464)				
22 66 53 00-0578	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap	421.62	54.17
22 66 53 00-0579	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap	431.78	60.94
22 66 53 00-0580	EA	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap	537.85	68.13
22 66 53 00-0581	EA	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap	689.53	81.47
22 66 53 00-0582	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap	595.62	58.28
22 66 53 00-0583	EA	2" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap	828.28	65.05
22 66 53 00-0584	EA	3" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap	1,006.29	71.83
22 66 53 00-0585	EA	4" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap	1,253.81	85.57
22 66 53 00-0586 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum Traps (22 66 53 00-0464)				
22 66 53 00-0587	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum P-Trap	805.28	61.87
22 66 53 00-0588	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum P-Trap	1,287.18	68.44
22 66 53 00-0589	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum S-Trap	841.21	61.56
22 66 53 00-0590	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum S-Trap	1,287.18	68.44

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
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22 66 53 00-0591		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Traps (22 66 53 00-0464)		
22 66 53 00-0592	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Short P-Trap	745.90	61.56
22 66 53 00-0593	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Short P-Trap	878.71	68.44
22 66 53 00-0594	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long P-Trap	868.44	61.56
22 66 53 00-0595	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long S-Trap	1,945.28	68.44
22 66 53 00-0596	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long S-Trap	1,141.95	68.44
22 66 53 00-0597		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bends (22 66 53 00-0464)		
22 66 53 00-0598	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bend	295.39	54.79
22 66 53 00-0599	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bend	391.89	61.56
22 66 53 00-0600		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapters (22 66 53 00-0464)		
22 66 53 00-0601	EA	1-1/2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter	143.26	41.04
22 66 53 00-0602	EA	1-1/2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter	280.01	44.53
22 66 53 00-0603	EA	2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter	194.96	51.30
22 66 53 00-0604		Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter (22 66 53 00-0464)		
22 66 53 00-0605	EA	1-1/2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	278.21	58.38
22 66 53 00-0606	EA	1-1/2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	305.61	61.56
22 66 53 00-0607	EA	1-1/2" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	342.50	64.94
22 66 53 00-0608	EA	1-1/2" x 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	366.12	71.61
22 66 53 00-0609	EA	2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	342.55	65.05
22 66 53 00-0610	EA	2" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	361.25	68.44
22 66 53 00-0611	EA	2" x 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	389.38	75.00
22 66 53 00-0612	EA	3" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	448.12	71.83
22 66 53 00-0613	EA	4" x 4" Mechanical Joint High Silicon Iron Alloy Hub To Mechanical Joint Adapter	554.89	85.57
22 66 53 00-0614		Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings (22 66 53 00-0464)		
22 66 53 00-0615	EA	1-1/2" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting	108.93	
22 66 53 00-0616	EA	2" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting	127.08	
22 66 53 00-0617	EA	3" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting	136.16	
22 66 53 00-0618	EA	4" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting	149.77	
22 66 53 00-0619		Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Fittings (22 66 53 00-0464)		
22 66 53 00-0620	EA	Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Outlet	789.91	27.40
22 66 53 00-0621	EA	Mechanical Joint High Silicon Iron Alloy Acid Resistant Stopper	297.37	13.64
22 66 53 00-0622	EA	Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Overflow	560.61	13.64
22 66 53 00-0623		Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drains With Stainless Steel Strainer Plates (22 66 53 00-0464)		
22 66 53 00-0624	EA	Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drain With Stainless Steel Strainer	2,810.36	136.87
22 66 53 00-0625	EA	Mechanical Joint High Silicon Iron Alloy Acid Resistant Sediment Basin Floor Drain With Stainless Steel Strainer	3,483.25	143.75
22 66 53 00-0626	EA	Stainless Steel Funnel Attachment For Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drain	2,389.65	13.64
22 66 53 00-0627		Chlorinated Polyvinyl Chloride (CPVC) Drain-Waste-Vent (DWV) Pipe And Fittings (ASTM F2618) (22 66 53)		
22 66 53 00-0628		Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe (22 66 53 00-0627) Note: Excludes fittings or hangers.		
22 66 53 00-0629	LF	1-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	17.14	4.31
22 66 53 00-0630	LF	2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	22.20	5.13
22 66 53 00-0631	LF	3" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	37.22	7.39
22 66 53 00-0632	LF	4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	49.12	8.00
22 66 53 00-0633	LF	6" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	82.23	10.11
22 66 53 00-0634	LF	8" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe	190.78	13.45
22 66 53 00-0635		Chlorinated Polyvinyl Chloride (CPVC) DWV Fittings (22 66 53 00-0627)		
22 66 53 00-0636		Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends (22 66 53 00-0635)		
22 66 53 00-0637	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends	66.75	17.13
		Note: 0.125		
		For Work In Restricted Working Space, Add	7.70	
22 66 53 00-0638	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends	83.87	21.86
		Note: 0.16		
		For Work In Restricted Working Space, Add	9.85	



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

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 66 53 00-0639	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends Note: 0.215	130.81		29.34	
	For Work In Restricted Working Space, Add	13.24			
22 66 53 00-0640	EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends Note: 0.25	189.22		34.17	
	For Work In Restricted Working Space, Add	15.39			
22 66 53 00-0641	EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends Note: 0.325	423.62		44.43	
	For Work In Restricted Working Space, Add	20.01			
22 66 53 00-0642	EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends Note: 0.438	587.26		59.82	
	For Work In Restricted Working Space, Add	26.93			
22 66 53 00-0643	Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends (22 66 53 00-0635)				
22 66 53 00-0644	EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends For Work In Restricted Working Space, Add	68.17		17.13	
		7.70			
22 66 53 00-0645	EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends For Work In Restricted Working Space, Add	90.78		21.86	
		9.85			
22 66 53 00-0646	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends For Work In Restricted Working Space, Add	143.27		29.34	
		13.24			
22 66 53 00-0647	EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends For Work In Restricted Working Space, Add	193.79		34.17	
		15.39			
22 66 53 00-0648	Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends (22 66 53 00-0635)				
22 66 53 00-0649	EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	66.03		17.13	
		7.70			
22 66 53 00-0650	EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	82.01		21.86	
		9.85			
22 66 53 00-0651	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	134.39		29.34	
		13.24			
22 66 53 00-0652	EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	153.60		34.17	
		15.39			
22 66 53 00-0653	EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	365.48		44.43	
		20.01			
22 66 53 00-0654	EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends For Work In Restricted Working Space, Add	520.60		59.82	
		26.93			
22 66 53 00-0655	Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends (22 66 53 00-0635)				
22 66 53 00-0656	EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	66.84		17.13	
		7.70			
22 66 53 00-0657	EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	81.95		21.86	
		9.85			
22 66 53 00-0658	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	132.91		29.34	
		13.24			
22 66 53 00-0659	EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	165.20		34.17	
		15.39			
22 66 53 00-0660	EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	294.45		44.43	
		20.01			
22 66 53 00-0661	EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends For Work In Restricted Working Space, Add	324.62		59.82	
		26.93			
22 66 53 00-0662	Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends (22 66 53 00-0635)				
22 66 53 00-0663	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends For Work In Restricted Working Space, Add	403.07		44.12	
		19.85			
22 66 53 00-0664	EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends For Work In Restricted Working Space, Add	312.77		32.83	
		14.78			
22 66 53 00-0665	EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends For Work In Restricted Working Space, Add	189.25		25.66	
		11.54			
22 66 53 00-0666	Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees (22 66 53 00-0635)				
22 66 53 00-0667	EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	89.51		25.66	
		11.54			
22 66 53 00-0668	EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	110.40		32.83	
		14.78			
22 66 53 00-0669	EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	188.55		44.12	
		19.85			
22 66 53 00-0670	EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	260.25		51.30	
		23.09			
22 66 53 00-0671	EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	711.00		66.59	
		30.01			
22 66 53 00-0672	EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees For Work In Restricted Working Space, Add	986.01		89.67	
		40.40			
22 66 53 00-0673	Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees (22 66 53 00-0635)				
22 66 53 00-0674	EA 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees For Work In Restricted Working Space, Add	103.10		28.01	
		12.62			

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0675 EA 2" x 1-1/2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	109.45 13.70	30.37
22 66 53 00-0676 EA 2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	106.69 13.70	30.37
22 66 53 00-0677 EA 3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	163.15 17.08	37.97
22 66 53 00-0678 EA 3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	174.73 18.16	40.33
22 66 53 00-0679 EA 4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	231.49 20.32	45.14
22 66 53 00-0680 EA 4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	244.47 22.01	48.84
22 66 53 00-0681 EA 6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	520.16 27.70	61.46
22 66 53 00-0682 EA 8" x 8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	1,231.08 34.63	76.85
22 66 53 00-0683 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0684 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	128.21 15.39	34.17
22 66 53 00-0685 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	156.37 19.70	43.71
22 66 53 00-0686 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	209.53 26.47	58.80
22 66 53 00-0687 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	264.47 30.78	68.34
22 66 53 00-0688 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0689 EA 2" x 2" x 1-1/2" x 1-1/2 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	159.79 17.54	38.99
22 66 53 00-0690 EA 3" x 3" x 1-1/2" x 1-1/2 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	190.86 20.93	46.48
22 66 53 00-0691 EA 3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	247.43 23.09	51.30
22 66 53 00-0692 EA 4" x 4" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	215.68 25.24	56.03
22 66 53 00-0693 EA 4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	240.67 28.63	63.51
22 66 53 00-0694 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers (22 66 53 00-0635)		
22 66 53 00-0695 EA 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	92.05 8.77	19.50
22 66 53 00-0696 EA 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	101.21 10.47	23.19
22 66 53 00-0697 EA 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	171.12 11.54	25.66
22 66 53 00-0698 EA 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	187.83 12.62	28.01
22 66 53 00-0699 EA 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	206.76 14.31	31.81
22 66 53 00-0700 EA 6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	283.48 16.62	36.94
22 66 53 00-0701 EA 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	327.94 17.70	39.30
22 66 53 00-0702 Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushings (22 66 53 00-0635)		
22 66 53 00-0703 EA 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	63.47 8.77	19.50
22 66 53 00-0704 EA 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	71.06 10.47	23.19
22 66 53 00-0705 EA 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	77.91 11.54	25.66
22 66 53 00-0706 EA 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	129.60 12.62	28.01
22 66 53 00-0707 EA 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	137.28 14.31	31.81
22 66 53 00-0708 EA 6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	219.71 16.62	36.94
22 66 53 00-0709 EA 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	215.69 17.70	39.30
22 66 53 00-0710 EA 8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	640.12 21.18	47.00
22 66 53 00-0711 EA 8" x 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	672.45 23.49	52.13
22 66 53 00-0712 Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps (22 66 53 00-0635)		



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0713 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps For Work In Restricted Working Space, Add	118.60 11.54	25.66
22 66 53 00-0714 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps For Work In Restricted Working Space, Add	161.06 14.78	32.83
22 66 53 00-0715 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps For Work In Restricted Working Space, Add	269.15 19.85	44.12
22 66 53 00-0716 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps For Work In Restricted Working Space, Add	437.72 23.09	51.30
22 66 53 00-0717 Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes (22 66 53 00-0635)		
22 66 53 00-0718 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	90.51 11.54	25.66
22 66 53 00-0719 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	122.25 14.78	32.83
22 66 53 00-0720 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	196.29 19.85	44.12
22 66 53 00-0721 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	266.60 23.09	51.30
22 66 53 00-0722 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	581.46 30.01	66.59
22 66 53 00-0723 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes For Work In Restricted Working Space, Add	658.67 40.40	89.67
22 66 53 00-0724 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes (22 66 53 00-0635)		
22 66 53 00-0725 EA 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	98.95 12.62	28.01
22 66 53 00-0726 EA 2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	118.66 13.70	30.37
22 66 53 00-0727 EA 3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	168.96 17.08	37.97
22 66 53 00-0728 EA 3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	181.81 18.16	40.33
22 66 53 00-0729 EA 4" x 4" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	184.52 19.24	42.68
22 66 53 00-0730 EA 4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	242.27 20.32	45.14
22 66 53 00-0731 EA 4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	255.40 22.01	48.84
22 66 53 00-0732 EA 6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	404.96 27.70	61.46
22 66 53 00-0733 EA 8" x 8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	479.60 34.63	76.85
22 66 53 00-0734 EA 8" x 8" x 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes For Work In Restricted Working Space, Add	528.42 36.94	81.98
22 66 53 00-0735 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes (22 66 53 00-0635)		
22 66 53 00-0736 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	148.94 15.39	34.17
22 66 53 00-0737 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	168.89 19.70	43.71
22 66 53 00-0738 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	274.83 26.47	58.80
22 66 53 00-0739 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	528.27 30.78	68.34
22 66 53 00-0740 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	873.62 40.01	88.86
22 66 53 00-0741 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Wyes (22 66 53 00-0635)		
22 66 53 00-0742 EA 2" x 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	213.37 17.54	38.99
22 66 53 00-0743 EA 3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	267.54 23.09	51.30
22 66 53 00-0744 EA 4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	472.50 28.63	63.51
22 66 53 00-0745 EA 6" x 6" x 4" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes For Work In Restricted Working Space, Add	707.24 35.40	78.60
22 66 53 00-0746 Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0747 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	106.41 11.54	25.66
22 66 53 00-0748 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	139.90 14.78	32.83
22 66 53 00-0749 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	210.90 19.85	44.12
22 66 53 00-0750 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	282.51 23.09	51.30

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0751	EA		6" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	655.62	66.59
			<i>For Work In Restricted Working Space, Add</i>	30.01	
22 66 53 00-0752	EA		8" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	1,156.90	89.67
			<i>For Work In Restricted Working Space, Add</i>	40.40	
22 66 53 00-0753 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0635)					
22 66 53 00-0754	EA		2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	98.59	28.01
			<i>For Work In Restricted Working Space, Add</i>	12.62	
22 66 53 00-0755	EA		2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	127.28	30.37
			<i>For Work In Restricted Working Space, Add</i>	13.70	
22 66 53 00-0756	EA		3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	177.33	37.97
			<i>For Work In Restricted Working Space, Add</i>	17.08	
22 66 53 00-0757	EA		3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	190.94	40.33
			<i>For Work In Restricted Working Space, Add</i>	18.16	
22 66 53 00-0758	EA		4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	248.29	45.14
			<i>For Work In Restricted Working Space, Add</i>	20.32	
22 66 53 00-0759	EA		4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	262.81	48.84
			<i>For Work In Restricted Working Space, Add</i>	22.01	
22 66 53 00-0760	EA		6" x 6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	509.29	59.10
			<i>For Work In Restricted Working Space, Add</i>	26.63	
22 66 53 00-0761	EA		6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends.....	529.06	61.46
			<i>For Work In Restricted Working Space, Add</i>	27.70	
22 66 53 00-0762 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0635)					
22 66 53 00-0763	EA		1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	161.61	34.17
			<i>For Work In Restricted Working Space, Add</i>	15.39	
22 66 53 00-0764	EA		2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	244.88	43.71
			<i>For Work In Restricted Working Space, Add</i>	19.70	
22 66 53 00-0765	EA		3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	396.24	58.80
			<i>For Work In Restricted Working Space, Add</i>	26.47	
22 66 53 00-0766	EA		4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	686.26	68.34
			<i>For Work In Restricted Working Space, Add</i>	30.78	
22 66 53 00-0767	EA		6" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	946.66	88.86
			<i>For Work In Restricted Working Space, Add</i>	40.01	
22 66 53 00-0768 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0635)					
22 66 53 00-0769	EA		2" x 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	213.38	38.99
			<i>For Work In Restricted Working Space, Add</i>	17.54	
22 66 53 00-0770	EA		3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	335.17	51.30
			<i>For Work In Restricted Working Space, Add</i>	23.09	
22 66 53 00-0771	EA		4" x 4" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	407.49	56.03
			<i>For Work In Restricted Working Space, Add</i>	25.24	
22 66 53 00-0772	EA		4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	418.78	63.51
			<i>For Work In Restricted Working Space, Add</i>	28.63	
22 66 53 00-0773	EA		6" x 6" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	533.13	73.77
			<i>For Work In Restricted Working Space, Add</i>	33.24	
22 66 53 00-0774	EA		6" x 6" x 4" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends.....	599.94	78.60
			<i>For Work In Restricted Working Space, Add</i>	35.40	
22 66 53 00-0775 Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees With Plug (22 66 53 00-0635)					
22 66 53 00-0776	EA		1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees.....	99.27	25.66
			<i>For Work In Restricted Working Space, Add</i>	11.54	
22 66 53 00-0777	EA		2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees.....	116.41	32.83
			<i>For Work In Restricted Working Space, Add</i>	14.78	
22 66 53 00-0778	EA		3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees.....	206.99	44.12
			<i>For Work In Restricted Working Space, Add</i>	19.85	
22 66 53 00-0779	EA		4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees.....	268.72	51.30
			<i>For Work In Restricted Working Space, Add</i>	23.09	
22 66 53 00-0780	EA		6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees.....	617.93	66.59
			<i>For Work In Restricted Working Space, Add</i>	30.01	
22 66 53 00-0781	EA		1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug.....	22.02	8.51
			<i>For Work In Restricted Working Space, Add</i>	3.85	
22 66 53 00-0782	EA		2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug.....	26.47	10.87
			<i>For Work In Restricted Working Space, Add</i>	4.92	
22 66 53 00-0783	EA		3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug.....	39.62	14.67
			<i>For Work In Restricted Working Space, Add</i>	6.62	
22 66 53 00-0784	EA		4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug.....	45.35	17.03
			<i>For Work In Restricted Working Space, Add</i>	7.70	
22 66 53 00-0785	EA		6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug.....	79.28	22.16
			<i>For Work In Restricted Working Space, Add</i>	10.00	
22 66 53 00-0786 Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug (22 66 53 00-0635)					



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0787 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	52.24 1.70	17.13
22 66 53 00-0788 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	64.17 9.85	21.86
22 66 53 00-0789 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	101.95 13.24	29.34
22 66 53 00-0790 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	150.77 15.39	34.17
22 66 53 00-0791 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	238.77 20.01	44.43
22 66 53 00-0792 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	432.32 26.96	59.82
22 66 53 00-0793 Chlorinated Polyvinyl Chloride (CPVC) Couplings (22 66 53 00-0635)		
22 66 53 00-0794 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	57.76 7.70	17.13
22 66 53 00-0795 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	72.90 9.85	21.86
22 66 53 00-0796 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	95.39 13.24	29.34
22 66 53 00-0797 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	124.25 15.39	34.17
22 66 53 00-0798 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	182.33 20.01	44.43
22 66 53 00-0799 EA 8" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	401.70 26.96	59.82
22 66 53 00-0800 Chlorinated Polyvinyl Chloride (CPVC) Female Adapters (22 66 53 00-0635)		
22 66 53 00-0801 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0802 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0803 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0804 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0805 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters	38.08 50.81 78.82 134.78 216.13	8.51 10.98 14.67 17.13 22.16
22 66 53 00-0806 Chlorinated Polyvinyl Chloride (CPVC) Male Adapters (22 66 53 00-0635)		
22 66 53 00-0807 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0808 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0809 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0810 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0811 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters	43.07 61.80 71.76 129.28 173.20	8.51 10.98 14.67 17.13 22.16
22 66 53 00-0812 Chlorinated Polyvinyl Chloride (CPVC) Caps (22 66 53 00-0635)		
22 66 53 00-0813 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0814 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0815 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0816 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0817 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0818 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap	37.79 46.28 73.68 130.90 166.70 264.86	8.51 10.98 14.67 17.13 22.16 29.96
22 66 70 Healthcare Chemical-Waste and Vent Piping (22 66)		
22 66 70 00-0001 Hemo-Dialysis Supply And Waste Box (22 66 70)		
22 66 70 00-0002 EA Stainless Steel Recessed Dialysis Supply And Waste Box With One Valve 22 66 70 00-0003 EA Stainless Steel Recessed Dialysis Supply And Waste Box With Two Valves	1,603.87 1,816.79	55.71 55.71
22 66 83 Chemical-Waste Tanks (22 66)		
22 66 83 16 Chemical-Waste Neutralization Tanks (22 66 83)		
22 66 83 16-0001 Acid Neutralization Tank (22 66 83 16)		
22 66 83 16-0002 Polyethylene Acid Neutralization Tank (22 66 83 16-0001)		
22 66 83 16-0003 EA 5 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0004 EA 15 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0005 EA 30 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0006 EA 55 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0007 EA 100 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0008 EA 150 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0009 EA 200 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0010 EA 275 Gallon Capacity Polyethylene Acid Neutralization Tank 22 66 83 16-0011 EA 350 Gallon Capacity Polyethylene Acid Neutralization Tank	550.85 1,013.94 1,251.43 1,603.17 2,066.72 2,840.93 3,264.71 4,257.99 4,819.16	208.91 289.69 417.82 557.09 668.51 835.64 1,044.55 1,253.46 1,504.15
22 66 83 16-0012 Polypropylene Acid Neutralization Tank (22 66 83 16-0001)		
22 66 83 16-0013 EA 5 Gallon Capacity Polypropylene Acid Neutralization Tank 22 66 83 16-0014 EA 15 Gallon Capacity Polypropylene Acid Neutralization Tank	932.04 1,617.51	208.91 289.69

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

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 83 16-0015	EA	30 Gallon Capacity Polypropylene Acid Neutralization Tank	2,615.56	417.82	
22 66 83 16-0016	EA	55 Gallon Capacity Polypropylene Acid Neutralization Tank	3,446.19	557.09	
22 66 83 16-0017	EA	100 Gallon Capacity Polypropylene Acid Neutralization Tank	4,367.14	668.51	
22 66 83 16-0018	EA	150 Gallon Capacity Polypropylene Acid Neutralization Tank	4,896.68	835.64	
22 66 83 16-0019	EA	200 Gallon Capacity Polypropylene Acid Neutralization Tank	5,311.39	1,044.55	
22 66 83 16-0020	EA	275 Gallon Capacity Polypropylene Acid Neutralization Tank	7,831.76	1,253.46	
22 66 83 16-0021	EA	350 Gallon Capacity Polypropylene Acid Neutralization Tank	8,440.56	1,504.15	
22 66 83 16-0022		Chemical Dilution Trap (22 66 83 16)			
22 66 83 16-0023	EA	1 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	511.95	69.64	
		Note: 1-1/2" top inlet and side outlet with anti siphon.			
22 66 83 16-0024	EA	1-1/2 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	528.92	69.64	
		Note: 1-1/2" top inlet and side outlet with anti siphon.			
22 66 83 16-0025	EA	2 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	545.88	69.64	
		Note: 1-1/2" top inlet and side outlet with anti siphon.			
22 66 83 16-0026	EA	5 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	596.19	83.56	
		Note: 1-1/2" top inlet and side outlet with anti siphon.			
22 67		Processed Water Systems for Laboratory and Healthcare Facilities			
		(22 60)			
22 67 13		Processed Water Piping for Laboratory and Healthcare Facilities (22 67)			
22 67 13 53		Laboratory Water Piping (22 67 13)			
22 67 13 53-0001		Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe And Fittings (22 67 13 53)			
22 67 13 53-0002		Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe (22 67 13 53-0001)			
22 67 13 53-0003	LF	1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	7.13	2.97	
		For Work In Restricted Working Space, Add	1.32		
22 67 13 53-0004	LF	3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	8.96	3.70	
		For Work In Restricted Working Space, Add	1.65		
22 67 13 53-0005	LF	1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	10.85	3.90	
		For Work In Restricted Working Space, Add	1.76		
22 67 13 53-0006	LF	1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	15.61	4.31	
		For Work In Restricted Working Space, Add	1.92		
22 67 13 53-0007	LF	2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	20.46	5.13	
		For Work In Restricted Working Space, Add	2.31		
22 67 13 53-0008		Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbows (22 67 13 53-0001)			
22 67 13 53-0009	EA	1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	26.86	10.98	
		For Work In Restricted Working Space, Add	4.97		
22 67 13 53-0010	EA	3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	34.06	14.67	
		For Work In Restricted Working Space, Add	6.62		
22 67 13 53-0011	EA	1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	41.30	18.26	
		For Work In Restricted Working Space, Add	8.21		
22 67 13 53-0012	EA	1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	65.68	29.14	
		For Work In Restricted Working Space, Add	13.10		
22 67 13 53-0013	EA	2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	81.94	37.04	
		For Work In Restricted Working Space, Add	16.64		
22 67 13 53-0014		Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbows (22 67 13 53-0001)			
22 67 13 53-0015	EA	1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	26.86	11.08	
		For Work In Restricted Working Space, Add	4.97		
22 67 13 53-0016	EA	3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	34.06	14.67	
		For Work In Restricted Working Space, Add	6.62		
22 67 13 53-0017	EA	1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	41.30	18.26	
		For Work In Restricted Working Space, Add	8.21		
22 67 13 53-0018	EA	1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	65.93	29.14	
		For Work In Restricted Working Space, Add	13.10		
22 67 13 53-0019	EA	2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	81.94	37.04	
		For Work In Restricted Working Space, Add	16.64		
22 67 13 53-0020		Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tees (22 67 13 53-0001)			
22 67 13 53-0021	EA	1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee	39.35	18.26	
		For Work In Restricted Working Space, Add	8.21		
22 67 13 53-0022	EA	3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee	47.04	22.06	
		For Work In Restricted Working Space, Add	9.93		
22 67 13 53-0023	EA	1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee	59.69	29.14	
		For Work In Restricted Working Space, Add	13.10		
22 67 13 53-0024	EA	1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee	95.46	44.12	
		For Work In Restricted Working Space, Add	19.86		



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

22

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
22 67 13 53-0025	EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee..... For Work In Restricted Working Space, Add	121.66	54.79	
		24.62		
22 67 13 53-0026	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tees (22 67 13 53-0001)			
22 67 13 53-0027	EA 3/4" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee..... For Work In Restricted Working Space, Add	70.91	20.52	
		9.23		
22 67 13 53-0028	EA 1" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee..... For Work In Restricted Working Space, Add	83.28	23.91	
		10.77		
22 67 13 53-0029	EA 1" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee..... For Work In Restricted Working Space, Add	88.33	25.96	
		11.70		
22 67 13 53-0030	EA 1-1/2" x 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee..... For Work In Restricted Working Space, Add	114.78	36.94	
		16.62		
22 67 13 53-0031	EA 2" x 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee..... For Work In Restricted Working Space, Add	142.73	49.25	
		22.16		
22 67 13 53-0032	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Inserts (22 67 13 53-0001)			
22 67 13 53-0033	EA 3/4" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	34.68	13.03	
		5.85		
22 67 13 53-0034	EA 1" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	40.97	15.08	
		6.77		
22 67 13 53-0035	EA 1" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	46.55	17.13	
		7.70		
22 67 13 53-0036	EA 1-1/2" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	60.88	20.52	
		9.23		
22 67 13 53-0037	EA 1-1/2" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	65.36	22.57	
		10.16		
22 67 13 53-0038	EA 1-1/2" x 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	68.24	23.91	
		10.77		
22 67 13 53-0039	EA 2" x 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert..... For Work In Restricted Working Space, Add	100.45	33.56	
		15.08		
22 67 13 53-0040	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapters (22 67 13 53-0001)			
22 67 13 53-0041	EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter..... For Work In Restricted Working Space, Add	29.79	11.08	
		4.97		
22 67 13 53-0042	EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter..... For Work In Restricted Working Space, Add	38.10	14.67	
		6.62		
22 67 13 53-0043	EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter..... For Work In Restricted Working Space, Add	45.76	18.26	
		8.21		
22 67 13 53-0044	EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter..... For Work In Restricted Working Space, Add	68.75	29.14	
		13.10		
22 67 13 53-0045	EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter..... For Work In Restricted Working Space, Add	89.42	36.94	
		16.62		
22 67 13 53-0046	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapters (22 67 13 53-0001)			
22 67 13 53-0047	EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... For Work In Restricted Working Space, Add	29.79	11.08	
		4.97		
22 67 13 53-0048	EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... For Work In Restricted Working Space, Add	38.10	14.67	
		6.62		
22 67 13 53-0049	EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... For Work In Restricted Working Space, Add	45.76	18.26	
		8.21		
22 67 13 53-0050	EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... For Work In Restricted Working Space, Add	68.75	29.14	
		13.10		
22 67 13 53-0051	EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... For Work In Restricted Working Space, Add	88.91	37.04	
		16.64		
22 67 13 53-0052	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Couplings (22 67 13 53-0001)			
22 67 13 53-0053	EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling..... For Work In Restricted Working Space, Add	22.96	11.08	
		4.97		
22 67 13 53-0054	EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling..... For Work In Restricted Working Space, Add	30.85	14.67	
		6.62		
22 67 13 53-0055	EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling..... For Work In Restricted Working Space, Add	38.79	18.26	
		8.21		
22 67 13 53-0056	EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling..... For Work In Restricted Working Space, Add	61.22	29.14	
		13.10		
22 67 13 53-0057	EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling..... For Work In Restricted Working Space, Add	79.99	37.04	
		16.64		
22 67 13 53-0058	Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Unions (22 67 13 53-0001)			

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0059 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union..... <i>For Work In Restricted Working Space, Add</i>	71.26 8.21	18.26
22 67 13 53-0060 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union..... <i>For Work In Restricted Working Space, Add</i>	79.79 9.93	22.06
22 67 13 53-0061 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union..... <i>For Work In Restricted Working Space, Add</i>	95.78 13.10	29.14
22 67 13 53-0062 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union..... <i>For Work In Restricted Working Space, Add</i>	160.68 19.86	44.12
22 67 13 53-0063 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union..... <i>For Work In Restricted Working Space, Add</i>	217.54 24.62	54.79
22 67 13 53-0064 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Caps (22 67 13 53-0001)		
22 67 13 53-0065 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	25.71 5.04	11.25
22 67 13 53-0066 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	32.38 6.62	14.67
22 67 13 53-0067 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	38.79 8.21	18.26
22 67 13 53-0068 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	61.50 13.10	29.14
22 67 13 53-0069 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	79.99 16.64	37.04
22 67 13 53-0070 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flanges (22 67 13 53-0001)		
22 67 13 53-0071 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange..... <i>For Work In Restricted Working Space, Add</i>	44.08 8.21	18.47
22 67 13 53-0072 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange..... <i>For Work In Restricted Working Space, Add</i>	51.91 9.93	21.86
22 67 13 53-0073 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange..... <i>For Work In Restricted Working Space, Add</i>	65.62 13.10	29.44
22 67 13 53-0074 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange..... <i>For Work In Restricted Working Space, Add</i>	99.36 19.86	44.53
22 67 13 53-0075 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange..... <i>For Work In Restricted Working Space, Add</i>	120.54 24.62	54.79
22 67 13 53-0076 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe And Fittings (22 67 13 53)		
22 67 13 53-0077 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe (22 67 13 53-0076)		
22 67 13 53-0078 LF 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	13.63 1.32	2.97
22 67 13 53-0079 LF 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	17.42 1.65	3.70
22 67 13 53-0080 LF 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	22.61 1.76	3.90
22 67 13 53-0081 LF 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	28.56 1.92	4.31
22 67 13 53-0082 LF 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	39.11 2.31	5.13
22 67 13 53-0083 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbows (22 67 13 53-0076)		
22 67 13 53-0084 EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	47.32 4.97	10.98
22 67 13 53-0085 EA 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	60.72 6.62	14.67
22 67 13 53-0086 EA 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	75.67 8.21	18.26
22 67 13 53-0087 EA 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	109.15 13.10	29.14
22 67 13 53-0088 EA 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	144.21 16.64	37.04
22 67 13 53-0089 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbows (22 67 13 53-0076)		
22 67 13 53-0090 EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	46.97 4.97	11.08
22 67 13 53-0091 EA 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	60.90 6.62	14.67
22 67 13 53-0092 EA 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	75.85 8.21	18.26
22 67 13 53-0093 EA 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	111.65 13.10	29.14
22 67 13 53-0094 EA 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow <i>For Work In Restricted Working Space, Add</i>	144.21 16.64	37.04



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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0095 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tees ^(22 67 13 53-0076)		
EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee <i>For Work In Restricted Working Space, Add</i>	64.04 8.21	18.26
EA 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee <i>For Work In Restricted Working Space, Add</i>	76.40 9.93	22.06
EA 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee <i>For Work In Restricted Working Space, Add</i>	94.65 13.10	29.14
EA 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee <i>For Work In Restricted Working Space, Add</i>	142.77 19.86	44.12
EA 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee <i>For Work In Restricted Working Space, Add</i>	183.71 24.62	54.79
22 67 13 53-0101 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tees ^(22 67 13 53-0076)		
EA 3/4" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee <i>For Work In Restricted Working Space, Add</i>	75.86 9.23	20.52
EA 1" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee <i>For Work In Restricted Working Space, Add</i>	93.87 10.77	23.91
EA 1" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee <i>For Work In Restricted Working Space, Add</i>	96.96 11.70	25.96
EA 1-1/2" x 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee <i>For Work In Restricted Working Space, Add</i>	138.79 16.62	36.94
EA 2" x 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee <i>For Work In Restricted Working Space, Add</i>	178.55 22.16	49.25
22 67 13 53-0107 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Inserts ^(22 67 13 53-0076)		
EA 3/4" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	54.38 5.85	13.03
EA 1" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	61.58 6.77	15.08
EA 1" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	64.66 7.70	17.13
EA 1-1/2" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	84.82 9.23	20.52
EA 1-1/2" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	87.90 10.16	22.57
EA 1-1/2" x 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	89.95 10.77	23.91
EA 2" x 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert <i>For Work In Restricted Working Space, Add</i>	125.43 15.08	33.56
22 67 13 53-0115 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapters ^(22 67 13 53-0076)		
EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	47.32 4.97	11.08
EA 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	59.64 6.62	14.67
EA 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	70.12 8.21	18.26
EA 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	95.55 13.10	29.14
EA 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	136.28 16.62	36.94
22 67 13 53-0121 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapters ^(22 67 13 53-0076)		
EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	47.32 4.97	11.08
EA 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	59.64 6.62	14.67
EA 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	70.12 8.21	18.26
EA 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	95.55 13.10	29.14
EA 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	136.33 16.64	37.04
22 67 13 53-0127 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Couplings ^(22 67 13 53-0076)		
EA 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	44.28 4.97	11.08

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0129	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling	56.07	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
22 67 13 53-0130	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling	66.19	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
22 67 13 53-0131	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling	94.83	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 67 13 53-0132	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling	122.38	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
22 67 13 53-0133 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Unions				
		(22 67 13 53-0076)		
22 67 13 53-0134	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union	150.82	
		<i>For Work In Restricted Working Space, Add</i>	8.21	
22 67 13 53-0135	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union	174.45	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
22 67 13 53-0136	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union	210.77	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 67 13 53-0137	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union	347.10	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
22 67 13 53-0138	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union	452.45	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
22 67 13 53-0139 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Caps (22				
		67 13 53-0076)		
22 67 13 53-0140	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap	44.52	11.25
		<i>For Work In Restricted Working Space, Add</i>	5.04	
22 67 13 53-0141	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap	56.07	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
22 67 13 53-0142	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap	66.01	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
22 67 13 53-0143	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap	95.19	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 67 13 53-0144	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap	122.38	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
22 67 13 53-0145 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB				
		Flanges (22 67 13 53-0076)		
22 67 13 53-0146	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange	86.76	18.47
		<i>For Work In Restricted Working Space, Add</i>	8.21	
22 67 13 53-0147	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange	99.66	21.86
		<i>For Work In Restricted Working Space, Add</i>	9.93	
22 67 13 53-0148	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange	119.88	29.44
		<i>For Work In Restricted Working Space, Add</i>	13.10	
22 67 13 53-0149	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange	172.11	44.53
		<i>For Work In Restricted Working Space, Add</i>	19.86	
22 67 13 53-0150	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange	214.48	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	

END OF SECTION 22

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 01 Operation and Maintenance of HVAC Systems****23 01 20 Operation and Maintenance of HVAC Piping and Pumps**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

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

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

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

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

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



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

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 01 50 61-0023	EA	2-1/2" Rolled Boiler Tube Termination (2 Per New Tube).....	62.25	
23 01 50 61-0024	EA	3" Rolled Boiler Tube Termination (2 Per New Tube).....	77.82	
23 01 50 61-0025	EA	3-1/2" Rolled Boiler Tube Termination (2 Per New Tube).....	93.38	
23 01 50 61-0026	EA	4" Rolled Boiler Tube Termination (2 Per New Tube).....	108.95	
23 01 50 61-0027	EA	1-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	93.38	
23 01 50 61-0028	EA	2" Welded Boiler Tube Termination (2 Per New Tube).....	124.51	
23 01 50 61-0029	EA	2-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	155.64	
23 01 50 61-0030	EA	3" Welded Boiler Tube Termination (2 Per New Tube).....	186.77	
23 01 50 61-0031	EA	3-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	217.89	
23 01 50 61-0032	EA	4" Welded Boiler Tube Termination (2 Per New Tube).....	249.01	
23 01 50 61-0033	EA	Plug Boiler Tube Hole Where Boiler Tube Is Not Replaced.....	389.66	

23 01 50 61-0034 Cast Iron Boiler Section Replacement (23 01 50 61-0001)

23 01 50 61-0035	EA	Removal And Replacement Of Front Section Of Weil McLain Model 80 Cast Iron Boiler.....	2,766.98	
23 01 50 61-0036	EA	Removal And Replacement Of Rear Section Of Weil McLain Model 80 Cast Iron Boiler.....	1,907.01	
23 01 50 61-0037	EA	Removal And Replacement Of Inside Section Of Weil McLain Model 80 Cast Iron Boiler.....	2,390.04	
23 01 50 61-0038	EA	Removal And Replacement Of Front Section Of Weil McLain Model 88 Cast Iron Boiler.....	5,098.79	
23 01 50 61-0039	EA	Removal And Replacement Of Rear Section Of Weil McLain Model 88 Cast Iron Boiler.....	3,765.47	
23 01 50 61-0040	EA	Removal And Replacement Of Inside Section Of Weil McLain Model 88 Cast Iron Boiler.....	4,377.82	
23 01 50 61-0041	EA	Removal And Replacement Of Front Section Of Weil McLain Model 94 Cast Iron Boiler.....	8,276.62	
23 01 50 61-0042	EA	Removal And Replacement Of Rear Section Of Weil McLain Model 94 Cast Iron Boiler.....	6,448.84	
23 01 50 61-0043	EA	Removal And Replacement Of Inside Section Of Weil McLain Model 94 Cast Iron Boiler.....	6,906.78	

23 01 50 61-0044 Cast Iron Grate Replacement (23 01 50 61-0001)

23 01 50 61-0045	SF	Removal And Replacement Of Cast Iron Boiler Grates, Prepared From Casting Mold.....	143.44	
		Note: Includes support, linkages and removal of existing.		
23 01 50 61-0046	EA	Prepare Cast Iron Boiler Grate Mold.....	2,168.43	
		Note: Includes preparing unique size mold for grate casting. Mold to be used for multiple castings.		
23 01 50 61-0047	EA	Removal And Replacement Of Stay Bolt.....	52.13	

23 01 50 61-0048 Replacement Or Conversion Of Boiler Burners (23 01 50 61-0001)

Note: Includes mounting plate, mechanical and electrical labor for installation of burners.

23 01 50 61-0049	EA	700 MBH Max Input Burner With 2" Boiler Connection, Screwed.....	10,588.67	1,093.70
23 01 50 61-0050	EA	2,100 MBH Max Input Burner With 2-1/2" Boiler Connection, Screwed.....	15,323.17	1,354.08
23 01 50 61-0051	EA	2,800 MBH Max Input Burner With 3" Boiler Connection, Screwed.....	18,091.27	1,640.43
23 01 50 61-0052	EA	3,800 MBH Max Input Burner With 4" Boiler Connection, Flanged.....	21,374.68	1,765.60

23 01 50 61-0053 Video Inspection Of Boiler Tubing (23 01 50 61-0001)

23 01 50 61-0054	EA	Initial Set Up For Boiler Tubing Video Camera Inspection.....	496.68	
23 01 50 61-0055	LF	Boiler Tubing Inspection.....	0.60	

23 01 50 61-0056 Boiler And Chiller Water Treatment (23 01 50 61)

Note: 3 LB. chemical per 50 gallon system water.

23 01 50 61-0057	LB	Boil Out Boiler And System With Caustic Soda.....	1.69	
		Note: Includes disposal after treatment.		
23 01 50 61-0058	LB	Boil Out Boiler And System With Trisodium Phosphate.....	2.54	
		Note: Includes disposal after treatment.		
23 01 50 61-0059	GAL	Corrosion Resistant Chemical Treatment, Based On Gallons Of Chemical Required.....	158.67	

23 01 60 Operation and Maintenance of Central Cooling Equipment (23 01)**23 01 60 61 Central Cooling Equipment Repair (23 01 60)****23 01 60 61-0001 Cooling Tower Repairs (23 01 60 61)**

23 01 60 61-0002	EA	Replace 6' Diameter 4 Blade, Cooling Tower Fan Blade.....	3,494.95	
23 01 60 61-0003	EA	Replace 6' Diameter 5 Blade, Cooling Tower Fan Blade.....	4,125.28	
23 01 60 61-0004	EA	Replace 6' Diameter 6 Blade, Cooling Tower Fan Blade.....	4,750.98	
23 01 60 61-0005	EA	Replace 6' Diameter 7 Blade, Cooling Tower Fan Blade.....	5,618.25	
23 01 60 61-0006	EA	Replace 6' Diameter 8 Blade, Cooling Tower Fan Blade.....	6,195.66	
23 01 60 61-0007	EA	Replace 8' Diameter 4 Blade, Cooling Tower Fan Blade.....	3,854.55	
23 01 60 61-0008	EA	Replace 8' Diameter 5 Blade, Cooling Tower Fan Blade.....	4,296.21	
23 01 60 61-0009	EA	Replace 8' Diameter 6 Blade, Cooling Tower Fan Blade.....	5,055.35	
23 01 60 61-0010	EA	Replace 8' Diameter 7 Blade, Cooling Tower Fan Blade.....	5,768.49	
23 01 60 61-0011	EA	Replace 8' Diameter 8 Blade, Cooling Tower Fan Blade.....	6,359.71	
23 01 60 61-0012	EA	Replace Individual Cooling Tower Fan Blade For 6' Diameter Fan.....	959.99	
23 01 60 61-0013	EA	Replace Individual Cooling Tower Fan Blade For 8' Diameter Fan.....	995.56	
23 01 60 61-0014	EA	Replace Individual Cooling Tower Fan Blade For 10' Diameter Fan.....	1,063.36	
23 01 60 61-0015	EA	Replace Individual Cooling Tower Fan Blade For 12' Diameter Fan.....	1,239.25	
23 01 60 61-0016	EA	Replace Individual Cooling Tower Fan Blade For 14' Diameter Fan.....	1,537.06	
23 01 60 61-0017	EA	Replace Individual Cooling Tower Fan Blade For 16' Diameter Fan.....	2,081.03	
23 01 60 61-0018	EA	Replace Individual Cooling Tower Fan Blade For 18' Diameter Fan.....	2,187.92	
23 01 60 61-0019	EA	Replace Individual Cooling Tower Fan Blade For 20' Diameter Fan.....	2,348.26	
23 01 60 61-0020	EA	Replace Counterflow Nozzle (1/2" - 2" NPT Thread).....	39.63	
23 01 60 61-0021	EA	Replace 6' Polyvinyl Chloride (PVC) Splash Fill.....	23.39	



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

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 13 00-0059	EA	200 HP, 3,600 RPM, 444TS NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	19,708.98
23 05 13 00-0060	EA	200 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	20,228.47
23 05 13 00-0061	EA	200 HP, 1,200 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	27,823.98

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

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

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

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

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

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

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

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



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Common Motor Requirements for HVAC Equipment 23 05 13

23

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 13 00-0131	EA	1 HP, 3,600 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,257.79	
23 05 13 00-0132	EA	1 HP, 1,800 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,382.15	
23 05 13 00-0133	EA	1 HP, 1,200 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,526.97	
23 05 13 00-0134	EA	1 HP, 900 RPM, L182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,145.63	
23 05 13 00-0135	EA	1-1/2 HP, 3,600 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,430.95	
23 05 13 00-0136	EA	1-1/2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,408.91	
23 05 13 00-0137	EA	1-1/2 HP, 1,200 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,786.72	
23 05 13 00-0138	EA	1-1/2 HP, 900 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,669.84	
23 05 13 00-0139	EA	2 HP, 3,600 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,497.06	
23 05 13 00-0140	EA	2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,470.30	
23 05 13 00-0141	EA	2 HP, 1,200 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,810.33	
23 05 13 00-0142	EA	2 HP, 900 RPM, L213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,367.21	
23 05 13 00-0143	EA	3 HP, 3,600 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,770.98	
23 05 13 00-0144	EA	3 HP, 1,800 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,860.70	
23 05 13 00-0145	EA	3 HP, 1,200 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,613.17	
23 05 13 00-0146	EA	3 HP, 900 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,652.14	
23 05 13 00-0147	EA	5 HP, 3,600 RPM, 184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,178.69	
23 05 13 00-0148	EA	5 HP, 1,800 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,893.76	
23 05 13 00-0149	EA	5 HP, 1,200 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,647.80	
23 05 13 00-0150	EA	5 HP, 900 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,813.52	
23 05 13 00-0151	EA	7-1/2 HP, 3,600 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,843.01	
23 05 13 00-0152	EA	7-1/2 HP, 1,800 RPM, L213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,384.91	
23 05 13 00-0153	EA	7-1/2 HP, 1,200 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,789.10	
23 05 13 00-0154	EA	7-1/2 HP, 900 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,647.85	
23 05 13 00-0155	EA	10 HP, 3,600 RPM, 215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,027.19	
23 05 13 00-0156	EA	10 HP, 1,800 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,855.60	
23 05 13 00-0157	EA	10 HP, 1,200 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	4,922.52	
23 05 13 00-0158	EA	10 HP, 900 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,754.51	
23 05 13 00-0159	EA	15 HP, 3,600 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,872.53	
23 05 13 00-0160	EA	15 HP, 1,800 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,637.98	
23 05 13 00-0161	EA	15 HP, 1,200 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,643.51	
23 05 13 00-0162	EA	15 HP, 900 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	10,351.94	
23 05 13 00-0163	EA	20 HP, 3,600 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	4,517.95	
23 05 13 00-0164	EA	20 HP, 1,800 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,902.44	
23 05 13 00-0165	EA	20 HP, 1,200 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,667.93	
23 05 13 00-0166	EA	20 HP, 900 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	11,801.78	
23 05 13 00-0167	EA	25 HP, 3,600 RPM, 284TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,429.42	
23 05 13 00-0168	EA	25 HP, 1,800 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,106.70	
23 05 13 00-0169	EA	25 HP, 1,200 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	8,012.68	
23 05 13 00-0170	EA	30 HP, 3,600 RPM, 286TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,619.51	
23 05 13 00-0171	EA	30 HP, 1,800 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,063.82	
23 05 13 00-0172	EA	30 HP, 1,200 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	10,329.90	
23 05 13 00-0173	EA	40 HP, 3,600 RPM, 324TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,094.15	
23 05 13 00-0174	EA	40 HP, 1,800 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,933.97	
23 05 13 00-0175	EA	40 HP, 1,200 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	12,875.38	
23 05 13 00-0176	EA	50 HP, 3,600 RPM, 326TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,530.21	
23 05 13 00-0177	EA	50 HP, 1,800 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,312.97	
23 05 13 00-0178	EA	50 HP, 1,200 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	13,714.43	
23 05 13 00-0179	EA	60 HP, 3,600 RPM, 364TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	13,830.92	
23 05 13 00-0180	EA	60 HP, 1,800 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	12,481.83	
23 05 13 00-0181	EA	60 HP, 1,200 RPM, 404T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	18,732.98	
23 05 13 00-0182	EA	75 HP, 3,600 RPM, 365TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	15,461.79	
23 05 13 00-0183	EA	75 HP, 1,800 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	14,584.96	
23 05 13 00-0184	EA	75 HP, 1,200 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,799.14	
23 05 13 00-0185	EA	100 HP, 3,600 RPM, 405TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	19,435.07	
23 05 13 00-0186	EA	100 HP, 1,800 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	19,145.42	
23 05 13 00-0187	EA	100 HP, 1,200 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	25,077.01	
23 05 13 00-0188	EA	125 HP, 3,600 RPM, 444TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,836.92	
23 05 13 00-0189	EA	125 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,633.85	
23 05 13 00-0190	EA	125 HP, 1,200 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	28,329.30	
23 05 13 00-0191	EA	150 HP, 3,600 RPM, 445TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	26,772.42	
23 05 13 00-0192	EA	150 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	26,515.82	
23 05 13 00-0193	EA	150 HP, 1,200 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,940.52	
23 05 13 00-0194	EA	200 HP, 3,600 RPM, 447TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,702.81	
23 05 13 00-0195	EA	200 HP, 1,800 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,898.01	
23 05 13 00-0196	EA	200 HP, 1,200 RPM, 449T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	41,839.09	
23 05 13 00-0197 Premium Efficient, Explosion Proof Motors (23 05 13 00-0001)				
Note: NEMA premium efficiency, explosion proof, three phase AC motors.				
23 05 13 00-0198	EA	1 HP, 1,800 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,678.10	
23 05 13 00-0199	EA	1-1/2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,737.92	
23 05 13 00-0200	EA	2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,895.34	
23 05 13 00-0201	EA	3 HP, 1,800 RPM, L182T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	2,342.41	
23 05 13 00-0202	EA	5 HP, 1,800 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	2,597.43	
23 05 13 00-0203	EA	7-1/2 HP, 1,800 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	3,579.73	
23 05 13 00-0204	EA	10 HP, 1,800 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	3,653.72	
23 05 13 00-0205	EA	15 HP, 1,800 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	4,946.14	
23 05 13 00-0206	EA	20 HP, 1,800 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	5,638.78	
23 05 13 00-0207	EA	25 HP, 1,800 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	7,408.19	
23 05 13 00-0208	EA	30 HP, 1,800 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	8,314.92	

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 13 00-0209	EA	40 HP, 1,800 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	10,873.00	
23 05 13 00-0210	EA	50 HP, 1,800 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	12,245.70	
23 05 13 00-0211	EA	60 HP, 1,800 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	17,130.44	
23 05 13 00-0212	EA	75 HP, 1,800 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	20,110.40	
23 05 13 00-0213	EA	100 HP, 1,800 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	24,497.70	
23 05 13 00-0214	EA	125 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	32,019.23	
23 05 13 00-0215	EA	150 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	36,534.03	

23 05 13 00-0216**Motor Mounting** (23 05 13)

Note: Includes handling and motor installation on mounting base. Excludes mounting base.

23 05 13 00-0217	EA	1/2 HP Motor Mounting.....	193.38	98.39
23 05 13 00-0218	EA	3/4 HP Motor Mounting.....	222.82	122.99
23 05 13 00-0219	EA	1 HP Motor Mounting.....	238.36	122.99
23 05 13 00-0220	EA	1-1/2 HP Motor Mounting.....	256.23	122.99
23 05 13 00-0221	EA	2 HP Motor Mounting.....	277.00	147.59
23 05 13 00-0222	EA	3 HP Motor Mounting.....	320.29	147.59
23 05 13 00-0223	EA	5 HP Motor Mounting.....	379.61	245.99
23 05 13 00-0224	EA	7-1/2 HP Motor Mounting.....	488.06	245.99
23 05 13 00-0225	EA	10 HP Motor Mounting.....	640.59	430.47
23 05 13 00-0226	EA	15 HP Motor Mounting.....	788.41	430.47
23 05 13 00-0227	EA	20 HP Motor Mounting.....	931.75	614.96
23 05 13 00-0228	EA	25 HP Motor Mounting.....	1,056.63	614.96
23 05 13 00-0229	EA	30 HP Motor Mounting.....	1,281.16	614.96
23 05 13 00-0230	EA	40 HP Motor Mounting.....	1,443.56	922.44
23 05 13 00-0231	EA	50 HP Motor Mounting.....	1,601.45	922.44
23 05 13 00-0232	EA	75 HP Motor Mounting.....	1,933.83	1,352.91
23 05 13 00-0233	EA	100 HP Motor Mounting.....	2,329.38	1,352.91
23 05 13 00-0234	EA	125 HP Motor Mounting.....	2,847.02	1,844.87
23 05 13 00-0235	EA	150 HP Motor Mounting.....	3,306.22	1,844.87
23 05 13 00-0236	EA	200 HP Motor Mounting.....	3,796.04	2,213.84

23 05 13 00-0237**Motor Couplings** (23 05 13)

23 05 13 00-0238	EA	5 To 15 HP, MGD Coupling (MagnaDrive MGE-07).....	5,060.63	67.75
23 05 13 00-0239	EA	>15 To 50 HP, MGD Coupling (MagnaDrive MGE-11).....	6,588.21	101.64
23 05 13 00-0240	EA	>50 To 100 HP, MGD Coupling (MagnaDrive MGE-15).....	11,484.97	135.52

23 05 16 Expansion Fittings and Loops for HVAC Piping (23 05)**23 05 16 00-0001****Stainless Steel Bellows Type Expansion Joints** (23 05 16)

Note: Includes internal sleeves and external covers.

23 05 16 00-0002**Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joints** (23 05 16 00-0001)

Note: Carbon steel ends. Includes internal sleeves and external covers.

23 05 16 00-0003	EA	1/2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	266.20	89.84
		For 300 LB Rating, Add.....	21.61	
23 05 16 00-0004	EA	3/4" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	297.17	101.32
		For 300 LB Rating, Add.....	23.67	
23 05 16 00-0005	EA	1" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	355.65	116.14
		For 300 LB Rating, Add.....	30.86	
23 05 16 00-0006	EA	1-1/4" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	407.12	129.64
		For 300 LB Rating, Add.....	37.04	
23 05 16 00-0007	EA	1-1/2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	443.17	139.33
		For 300 LB Rating, Add.....	41.13	
23 05 16 00-0008	EA	2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	500.57	163.96
		For 300 LB Rating, Add.....	43.18	

23 05 16 00-0009**Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joints** (23 05 16 00-0001)

Note: Carbon steel ends. Includes internal sleeves and external covers.

23 05 16 00-0010	EA	1-1/4" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	551.83	89.83
		For 300 LB Rating, Add.....	110.06	
23 05 16 00-0011	EA	1-1/2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	604.10	107.80
		For 300 LB Rating, Add.....	117.26	
23 05 16 00-0012	EA	2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	640.22	136.85
		For 300 LB Rating, Add.....	117.28	
23 05 16 00-0013	EA	2-1/2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	690.52	148.87
		For 300 LB Rating, Add.....	125.97	
23 05 16 00-0014	EA	3" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	762.91	174.53
		For 300 LB Rating, Add.....	136.12	
23 05 16 00-0015	EA	4" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	953.97	292.59
		For 300 LB Rating, Add.....	146.83	
23 05 16 00-0016	EA	5" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,275.05	319.99
		For 300 LB Rating, Add.....	218.92	
23 05 16 00-0017	EA	6" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,195.96	355.55
		For 300 LB Rating, Add.....	187.49	
23 05 16 00-0018	EA	8" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,536.42	454.31
		For 300 LB Rating, Add.....	243.02	
23 05 16 00-0019	EA	10" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,948.74	553.07
		For 300 LB Rating, Add.....	314.35	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0020 EA 12" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	2,544.55 426.39	418.95
23 05 16 00-0021 EA 14" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	3,222.69 558.77	790.10
23 05 16 00-0022 EA 16" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	4,124.67 759.57	869.11
23 05 16 00-0023 EA 18" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	13,756.87 3,137.99	963.92
23 05 16 00-0024 EA 20" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	15,825.79 3,616.95	1,086.39
23 05 16 00-0025 EA 24" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	18,380.56 4,178.49	1,333.30
23 05 16 00-0026 EA 30" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	23,195.51 5,119.88	2,172.77
23 05 16 00-0027 EA 36" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	29,518.00 6,474.18	2,897.04
23 05 16 00-0028 Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joints (23 05 16 00-0001)		
Note: Carbon steel ends. Includes internal sleeves and external covers.		
23 05 16 00-0029 EA 1-1/4" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	599.90 88.40	123.20
23 05 16 00-0030 EA 1-1/2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	625.18 94.18	124.22
23 05 16 00-0031 EA 2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	633.70 94.20	128.33
23 05 16 00-0032 EA 2-1/2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	684.89 101.18	139.93
23 05 16 00-0033 EA 3" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	767.69 109.56	164.56
23 05 16 00-0034 EA 4" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	1,126.46 117.93	327.70
23 05 16 00-0035 EA 5" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	1,370.65 175.83	334.51
23 05 16 00-0036 EA 6" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	1,342.53 150.59	370.36
23 05 16 00-0037 EA 8" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	1,625.91 195.19	423.20
23 05 16 00-0038 EA 10" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	2,044.88 252.49	518.50
23 05 16 00-0039 EA 12" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	2,626.86 342.47	628.52
23 05 16 00-0040 EA 14" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	3,144.95 466.18	639.99
23 05 16 00-0041 EA 16" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint For 300 LB Rating, Add	4,135.14 633.71	799.97
23 05 16 00-0042 Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joints (23 05 16)		
23 05 16 00-0043 Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joints (23 05 16 00-0042)		
23 05 16 00-0044 EA 2" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	798.07	136.85
23 05 16 00-0045 EA 2-1/2" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	860.08	148.87
23 05 16 00-0046 EA 3" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	946.13	174.53
23 05 16 00-0047 EA 4" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	1,151.60	292.59
23 05 16 00-0048 EA 5" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	1,569.71	319.99
23 05 16 00-0049 EA 6" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	1,448.32	355.55
23 05 16 00-0050 EA 8" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	1,863.52	454.31
23 05 16 00-0051 EA 10" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	2,371.87	553.07
23 05 16 00-0052 EA 12" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	3,118.47	419.45
23 05 16 00-0053 EA 14" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	3,974.80	790.10
23 05 16 00-0054 EA 16" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	5,147.08	869.11
23 05 16 00-0055 EA 18" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	6,735.89	963.92
23 05 16 00-0056 EA 20" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	7,849.30	1,086.39
23 05 16 00-0057 EA 24" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	9,031.57	1,333.30
23 05 16 00-0058 EA 30" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	11,740.22	2,172.77
23 05 16 00-0059 EA 36" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	15,032.60	2,897.04
23 05 16 00-0060 Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joints (23 05 16)		
23 05 16 00-0061 Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joints (23 05 16 00-0060)		
23 05 16 00-0062 EA 2" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	1,500.54	136.85
23 05 16 00-0063 EA 2-1/2" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	1,614.58	148.87
23 05 16 00-0064 EA 3" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	1,761.46	174.53
23 05 16 00-0065 EA 4" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	2,031.06	292.59
23 05 16 00-0066 EA 5" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	2,880.97	319.99
23 05 16 00-0067 EA 6" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	2,571.31	355.55
23 05 16 00-0068 EA 8" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	3,319.13	454.31

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

23 05 16 00-0069	EA	10" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	4,254.78	553.07
23 05 16 00-0070	EA	12" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	5,672.43	419.45
23 05 16 00-0071	EA	14" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	7,321.68	790.10
23 05 16 00-0072	EA	16" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	9,696.73	869.11
23 05 16 00-0073	EA	18" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	12,932.89	963.92
23 05 16 00-0074	EA	20" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	15,122.26	1,086.39
23 05 16 00-0075	EA	24" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	17,283.37	1,333.30
23 05 16 00-0076	EA	30" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	21,851.13	2,172.77
23 05 16 00-0077	EA	36" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	27,618.00	2,897.04

23 05 16 00-0078 Neoprene Bellows Type Expansion Joints (23 05 16)**23 05 16 00-0079 Flanged, 150 LB, Neoprene Bellows Type Expansion Joints (23 05 16 00-0078)**

Note: Cast iron ends.

23 05 16 00-0080	EA	2" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,000.01	136.85
23 05 16 00-0081	EA	2-1/2" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,061.61	148.87
23 05 16 00-0082	EA	3" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,104.89	174.53
23 05 16 00-0083	EA	4" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,356.74	292.59
23 05 16 00-0084	EA	5" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,608.19	319.99
23 05 16 00-0085	EA	6" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	1,674.02	355.55
23 05 16 00-0086	EA	8" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	2,022.61	454.31
23 05 16 00-0087	EA	10" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	2,264.71	553.07
23 05 16 00-0088	EA	12" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	2,527.50	419.24
23 05 16 00-0089	EA	14" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	3,232.57	790.10
23 05 16 00-0090	EA	16" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	4,137.20	869.11
23 05 16 00-0091	EA	18" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	5,349.40	963.92
23 05 16 00-0092	EA	20" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	6,250.80	1,086.39
23 05 16 00-0093	EA	24" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	7,211.81	1,333.30
23 05 16 00-0094	EA	30" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	9,489.17	2,172.77
23 05 16 00-0095	EA	36" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint.....	12,198.11	2,897.04

23 05 16 00-0096 Tube And Cover Expansion Joints (23 05 16)

Note: Carbon steel split backup rings.

23 05 16 00-0097 Flanged, 150 LB, Tube And Cover Expansion Joints (23 05 16 00-0096)**23 05 16 00-0098 Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joints (23 05 16 00-0097)**

23 05 16 00-0099	EA	1" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	445.08	77.00
23 05 16 00-0100	EA	1-1/4" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	425.97	89.83
23 05 16 00-0101	EA	1-1/2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	507.68	107.80
23 05 16 00-0102	EA	2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	590.28	136.85
23 05 16 00-0103	EA	2-1/2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	664.05	148.87
23 05 16 00-0104	EA	3" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	749.48	189.50
23 05 16 00-0105	EA	4" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	991.91	317.68
23 05 16 00-0106	EA	5" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	1,102.78	361.15
23 05 16 00-0107	EA	6" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	1,226.14	355.55
23 05 16 00-0108	EA	8" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	1,588.04	404.15
23 05 16 00-0109	EA	10" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	2,356.36	553.07
23 05 16 00-0110	EA	12" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	2,980.40	671.59
23 05 16 00-0111	EA	14" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	3,339.64	790.10
23 05 16 00-0112	EA	16" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	3,729.49	869.11
23 05 16 00-0113	EA	18" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	4,057.58	963.92
23 05 16 00-0114	EA	20" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	4,874.36	1,086.39
23 05 16 00-0115	EA	24" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	5,916.53	1,333.30
23 05 16 00-0116	EA	30" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	8,467.92	2,172.77
23 05 16 00-0117	EA	36" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451).....	10,165.00	2,897.04

23 05 16 00-0118 Flanged, 150 LB, Rubber Tube And Cover Expansion Joints (23 05 16 00-0097)

23 05 16 00-0119	EA	1" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	421.79	77.00
23 05 16 00-0120	EA	1-1/4" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	402.68	89.83



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0121 EA 1-1/2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	484.39	107.80
23 05 16 00-0122 EA 2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	596.99	136.85
23 05 16 00-0123 EA 2-1/2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	640.76	148.87
23 05 16 00-0124 EA 3" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	726.19	189.50
23 05 16 00-0125 EA 4" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	956.98	317.68
23 05 16 00-0126 EA 5" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	1,067.85	361.15
23 05 16 00-0127 EA 6" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	1,191.21	355.55
23 05 16 00-0128 EA 8" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	1,589.00	454.31
23 05 16 00-0129 EA 10" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	2,228.29	553.07
23 05 16 00-0130 EA 12" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	2,863.97	671.59
23 05 16 00-0131 EA 14" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	3,211.56	790.10
23 05 16 00-0132 EA 16" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	3,601.41	869.11
23 05 16 00-0133 EA 18" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	3,917.86	963.92
23 05 16 00-0134 EA 20" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	4,711.35	1,086.39
23 05 16 00-0135 EA 24" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	5,718.59	1,333.30
23 05 16 00-0136 EA 30" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	7,897.38	2,172.77
23 05 16 00-0137 EA 36" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	9,838.98	2,897.04
23 05 16 00-0138 Flanged, 125 LB, Buna-N Tube And Cover Expansion Joints (23 05 16 00-0097)		
23 05 16 00-0139 EA 2" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	578.64	136.85
23 05 16 00-0140 EA 3" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	717.46	189.50
23 05 16 00-0141 EA 4" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	945.34	317.68
23 05 16 00-0142 EA 6" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,092.24	355.55
23 05 16 00-0143 EA 8" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,356.12	454.31
23 05 16 00-0144 EA 10" x 8" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,681.04	553.07
23 05 16 00-0145 EA 12" x 8" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	2,008.16	671.59
23 05 16 00-0146 Flanged, Tube And Cover Expansion Joints (Mercer 501) (23 05 16 00-0096)		
23 05 16 00-0147 Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joints (501EE) (23 05 16 00-0146)		
23 05 16 00-0148 EA 1-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	856.98	107.80
23 05 16 00-0149 EA 2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	951.23	136.85
23 05 16 00-0150 EA 2-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	990.07	148.87
23 05 16 00-0151 EA 3" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,122.07	189.50
23 05 16 00-0152 EA 4" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,422.73	317.68
23 05 16 00-0153 EA 5" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,568.53	361.15
23 05 16 00-0154 EA 6" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,688.60	355.55
23 05 16 00-0155 EA 8" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	2,229.39	454.31
23 05 16 00-0156 EA 10" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	2,752.25	553.07
23 05 16 00-0157 EA 12" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,178.34	671.59
23 05 16 00-0158 EA 14" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,642.37	790.10
23 05 16 00-0159 EA 16" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,974.00	869.11
23 05 16 00-0160 EA 18" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	4,348.67	963.92
23 05 16 00-0161 EA 20" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	5,107.23	1,086.39
23 05 16 00-0162 EA 24" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	6,265.84	1,333.30
23 05 16 00-0163 EA 30" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	9,038.45	2,172.77
23 05 16 00-0164 EA 36" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	11,212.93	2,897.04
23 05 16 00-0165 EA 42" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	14,653.67	4,345.56
23 05 16 00-0166 EA 48" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	17,373.96	5,431.94
23 05 16 00-0167 EA 60" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	23,156.00	7,822.00
23 05 16 00-0168 Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 501RR) (23 05 16 00-0146)		
23 05 16 00-0169 EA 1-1/2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	810.41	107.80
23 05 16 00-0170 EA 2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	893.01	136.85
23 05 16 00-0171 EA 2-1/2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	931.85	148.87
23 05 16 00-0172 EA 3" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,052.21	189.50
23 05 16 00-0173 EA 4" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,341.22	317.68
23 05 16 00-0174 EA 5" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,487.02	361.15
23 05 16 00-0175 EA 6" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,575.45	355.55
23 05 16 00-0176 EA 8" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	2,101.32	454.31
23 05 16 00-0177 EA 10" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	2,600.88	553.07
23 05 16 00-0178 EA 12" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,003.69	671.59
23 05 16 00-0179 EA 14" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,444.43	790.10
23 05 16 00-0180 EA 16" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,764.42	869.11
23 05 16 00-0181 EA 18" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	4,104.16	963.92
23 05 16 00-0182 EA 20" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	4,827.78	1,086.39
23 05 16 00-0183 EA 24" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	5,928.18	1,333.30
23 05 16 00-0184 EA 30" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	8,561.07	2,172.77

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

23 05 16 00-0185	EA	36" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	10,642.39	2,897.04

23 05 16 00-0186 Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501) (23 05 16 00-0146)

Note: 501BB, 501NN or 501NiNi.

23 05 16 00-0187	EA	1-1/2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	856.98	107.80
23 05 16 00-0188	EA	2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	962.87	136.85
23 05 16 00-0189	EA	2-1/2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	990.07	148.87
23 05 16 00-0190	EA	3" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,122.07	189.50
23 05 16 00-0191	EA	4" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,422.73	317.68
23 05 16 00-0192	EA	5" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,568.53	361.15
23 05 16 00-0193	EA	6" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,680.24	355.55
23 05 16 00-0194	EA	8" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	2,229.39	454.31
23 05 16 00-0195	EA	10" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	2,752.25	553.07
23 05 16 00-0196	EA	12" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	3,178.34	671.59
23 05 16 00-0197	EA	14" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	3,642.37	790.10
23 05 16 00-0198	EA	16" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	3,974.00	869.11
23 05 16 00-0199	EA	18" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	4,348.67	963.92
23 05 16 00-0200	EA	20" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	5,107.23	1,086.39
23 05 16 00-0201	EA	24" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	6,265.84	1,333.30
23 05 16 00-0202	EA	30" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	9,038.45	2,172.77
23 05 16 00-0203	EA	36" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	11,212.93	2,897.04

23 05 16 00-0204 Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joints (Mercer 501NNFA) (23 05 16 00-0146)

23 05 16 00-0205	EA	1-1/2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	891.91	107.80
23 05 16 00-0206	EA	2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	986.16	136.85
23 05 16 00-0207	EA	2-1/2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	1,025.00	148.87
23 05 16 00-0208	EA	3" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	1,168.65	189.50
23 05 16 00-0209	EA	4" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	1,480.94	317.68
23 05 16 00-0210	EA	5" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	1,626.74	361.15
23 05 16 00-0211	EA	6" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	1,738.46	355.55
23 05 16 00-0212	EA	8" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	2,310.90	454.31
23 05 16 00-0213	EA	10" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	2,857.04	553.07
23 05 16 00-0214	EA	12" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	3,306.42	671.59
23 05 16 00-0215	EA	14" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	3,770.45	790.10
23 05 16 00-0216	EA	16" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	4,125.37	869.11
23 05 16 00-0217	EA	18" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	4,500.04	963.92
23 05 16 00-0218	EA	20" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	5,293.53	1,086.39
23 05 16 00-0219	EA	24" x 10" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA).....	6,510.36	1,333.30

23 05 16 00-0220 Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E) (23 05 16 00-0146)

Note: Kevlar reinforcement for high temperature.

23 05 16 00-0221	EA	1-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	1,113.14	107.80
23 05 16 00-0222	EA	2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	1,172.46	136.85
23 05 16 00-0223	EA	2-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	1,269.51	148.87
23 05 16 00-0224	EA	3" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	1,366.59	189.50
23 05 16 00-0225	EA	4" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	1,876.83	317.68
23 05 16 00-0226	EA	5" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	2,045.91	361.15
23 05 16 00-0227	EA	6" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	2,111.05	355.55
23 05 16 00-0228	EA	8" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	2,497.20	454.31
23 05 16 00-0229	EA	10" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	2,961.83	553.07
23 05 16 00-0230	EA	12" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	3,585.87	671.59
23 05 16 00-0231	EA	14" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	4,236.19	790.10
23 05 16 00-0232	EA	16" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	4,940.42	869.11
23 05 16 00-0233	EA	18" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	5,489.74	963.92
23 05 16 00-0234	EA	20" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	6,481.17	1,086.39
23 05 16 00-0235	EA	24" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E).....	8,454.84	1,333.30

23 05 16 00-0236 Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 800) (23 05 16 00-0096)



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Expansion Fittings and Loops for HVAC Piping 23 05 16



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0237 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802) (23 05 16 00-0236)				
23 05 16 00-0238	EA	1" x 1-3/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	514.94	77.00
23 05 16 00-0239	EA	1-1/2" x 1-3/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	584.46	82.65
23 05 16 00-0240	EA	2" x 1-5/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	788.22	85.52
23 05 16 00-0241	EA	2-1/2" x 2-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,013.54	93.42
23 05 16 00-0242	EA	3" x 2-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,372.26	185.48
23 05 16 00-0243	EA	4" x 2-5/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,849.23	237.65
23 05 16 00-0244	EA	5" x 3-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	2,253.25	259.16
23 05 16 00-0245	EA	6" x 2-3/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	2,508.15	246.90
23 05 16 00-0246	EA	8" x 4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	3,463.62	282.16
23 05 16 00-0247	EA	10" x 5-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	4,490.30	335.60
23 05 16 00-0248	EA	12" x 6" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	6,231.43	420.23
23 05 16 00-0249 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803) (23 05 16 00-0236)				
23 05 16 00-0250	EA	1" x 1-3/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	573.16	77.00
23 05 16 00-0251	EA	1-1/2" x 3" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	642.66	82.65
23 05 16 00-0252	EA	2" x 2-3/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	881.37	85.52
23 05 16 00-0253	EA	2-1/2" x 3-1/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	1,141.62	93.42
23 05 16 00-0254	EA	3" x 3-5/8" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	1,511.98	185.48
23 05 16 00-0255	EA	4" x 3-5/8" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,058.82	237.65
23 05 16 00-0256	EA	5" x 4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,509.41	259.16
23 05 16 00-0257	EA	6" x 4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,822.53	246.90
23 05 16 00-0258	EA	8" x 6" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	3,894.43	282.16
23 05 16 00-0259	EA	10" x 6" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	5,060.84	335.60
23 05 16 00-0260	EA	12" x 7" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	7,034.84	420.23
23 05 16 00-0261 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805) (23 05 16 00-0236)				
23 05 16 00-0262	EA	1" x 3" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	631.38	77.00
23 05 16 00-0263	EA	1-1/2" x 3-1/2" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	805.69	82.65
23 05 16 00-0264	EA	2" x 4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,032.74	85.52
23 05 16 00-0265	EA	2-1/2" x 4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,374.49	93.42
23 05 16 00-0266	EA	3" x 5" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,838.00	185.48
23 05 16 00-0267	EA	4" x 5-1/4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	2,373.20	237.65
23 05 16 00-0268	EA	5" x 6" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	3,126.52	259.16
23 05 16 00-0269	EA	6" x 6" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	3,346.49	246.90
23 05 16 00-0270	EA	8" x 8" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	5,070.43	282.16
23 05 16 00-0271	EA	10" x 8" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	6,749.16	335.60
23 05 16 00-0272	EA	12" x 9" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	8,443.71	420.23
23 05 16 00-0273 Mercer Rubber, Series 450 (23 05 16 00-0096)				
23 05 16 00-0274 Expansion Joints, 2 Arch (452) (23 05 16 00-0273)				
23 05 16 00-0275	EA	1-1/2" x 12" Expansion Joints, 2 Arch	633.94	82.65
23 05 16 00-0276	EA	2" x 12" Expansion Joints, 2 Arch	709.63	85.52
23 05 16 00-0277	EA	2-1/2" x 12" Expansion Joints, 2 Arch	786.49	93.42
23 05 16 00-0278	EA	3" x 12" Expansion Joints, 2 Arch	1,049.15	185.48
23 05 16 00-0279	EA	4" x 12" Expansion Joints, 2 Arch	1,200.10	237.65
23 05 16 00-0280	EA	6" x 12" Expansion Joints, 2 Arch	1,337.97	246.90
23 05 16 00-0281	EA	8" x 12" Expansion Joints, 2 Arch	1,501.67	282.16
23 05 16 00-0282	EA	10" x 14" Expansion Joints, 2 Arch	2,027.68	335.60
23 05 16 00-0283	EA	12" x 14" Expansion Joints, 2 Arch	2,383.82	420.54
23 05 16 00-0284	EA	14" x 14" Expansion Joints, 2 Arch	2,788.63	426.46
23 05 16 00-0285	EA	16" x 14" Expansion Joints, 2 Arch	3,363.21	531.84
23 05 16 00-0286	EA	18" x 14" Expansion Joints, 2 Arch	3,753.99	603.44
23 05 16 00-0287	EA	20" x 14" Expansion Joints, 2 Arch	4,254.58	679.09
23 05 16 00-0288	EA	24" x 16" Expansion Joints, 2 Arch	5,087.79	833.76
23 05 16 00-0289 Mercer Rubber, Series 502 And 701 (23 05 16 00-0096)				
23 05 16 00-0290 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR) (23 05 16 00-0289)				
Note: Baked enamel, coated ductile iron backup rings.				
23 05 16 00-0291	EA	1-1/2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,019.99	108.06
23 05 16 00-0292	EA	2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,079.31	136.89
23 05 16 00-0293	EA	2-1/2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,153.08	149.33
23 05 16 00-0294	EA	3" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,226.87	189.73
23 05 16 00-0295	EA	4" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,562.45	318.48
23 05 16 00-0296	EA	5" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,847.97	360.59
23 05 16 00-0297	EA	6" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,913.11	356.82
23 05 16 00-0298	EA	8" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	2,275.97	454.31
23 05 16 00-0299	EA	10" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	2,670.74	553.07
23 05 16 00-0300	EA	12" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	3,110.94	420.23

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 16 00-0301	EA	14" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	3,840.31	790.10
23 05 16 00-0302	EA	16" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	4,474.68	869.11
23 05 16 00-0303	EA	18" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	4,954.14	963.92
23 05 16 00-0304	EA	20" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	5,619.55	1,086.39
23 05 16 00-0305	EA	24" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	6,696.66	1,333.30
23 05 16 00-0306	EA	30" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	9,865.15	2,172.77
23 05 16 00-0307	EA	36" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	12,354.00	2,897.04
23 05 16 00-0308	EA	42" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	16,446.79	4,345.56
23 05 16 00-0309	EA	48" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	19,411.59	5,431.94
23 05 16 00-0310	EA	60" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	26,311.41	7,822.00

23 05 16 00-0311 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N) (23 05 16 00-0289)

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

23 05 16 00-0312	EA	1-1/2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,113.14	108.06
23 05 16 00-0313	EA	2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,172.46	136.89
23 05 16 00-0314	EA	2-1/2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,257.87	149.33
23 05 16 00-0315	EA	3" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,331.66	189.73
23 05 16 00-0316	EA	4" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,655.60	318.48
23 05 16 00-0317	EA	5" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,987.70	360.59
23 05 16 00-0318	EA	6" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,029.55	356.82
23 05 16 00-0319	EA	8" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,450.62	454.31
23 05 16 00-0320	EA	10" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,857.04	553.07
23 05 16 00-0321	EA	12" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	3,308.88	420.23
23 05 16 00-0322	EA	14" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	4,108.11	790.10
23 05 16 00-0323	EA	16" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	4,789.05	869.11
23 05 16 00-0324	EA	18" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	5,303.45	963.92
23 05 16 00-0325	EA	20" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	6,015.43	1,086.39
23 05 16 00-0326	EA	24" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	7,162.40	1,333.30
23 05 16 00-0327	EA	30" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	10,552.12	2,172.77
23 05 16 00-0328	EA	36" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	13,169.05	2,897.04
23 05 16 00-0329	EA	42" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	17,494.71	4,345.56
23 05 16 00-0330	EA	48" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	20,622.53	5,431.94
23 05 16 00-0331	EA	60" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	27,964.80	7,822.00

23 05 16 00-0332 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joints (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN) (23 05 16 00-0289)

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

23 05 16 00-0333	EA	1-1/2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,148.07	108.06
23 05 16 00-0334	EA	2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,242.32	136.89
23 05 16 00-0335	EA	2-1/2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,316.09	149.33
23 05 16 00-0336	EA	3" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,401.52	189.73
23 05 16 00-0337	EA	4" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,748.75	318.48
23 05 16 00-0338	EA	5" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,057.56	360.59
23 05 16 00-0339	EA	6" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,145.99	356.82
23 05 16 00-0340	EA	8" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,543.77	454.31
23 05 16 00-0341	EA	10" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,973.48	553.07
23 05 16 00-0342	EA	12" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	3,448.61	420.23
23 05 16 00-0343	EA	14" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	4,247.84	790.10
23 05 16 00-0344	EA	16" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	4,975.35	869.11
23 05 16 00-0345	EA	18" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	5,513.03	963.92



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0346 EA 20" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	6,294.88	1,086.39
23 05 16 00-0347 EA 24" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	7,418.56	1,333.30
23 05 16 00-0348 EA 30" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	10,587.05	2,172.77
23 05 16 00-0349 EA 36" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	13,634.80	2,897.04
23 05 16 00-0350 EA 42" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	18,146.75	4,345.56
23 05 16 00-0351 EA 48" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	21,344.43	5,431.94
23 05 16 00-0352 EA 60" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	28,942.87	7,822.00
23 05 16 00-0353 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joints (Mercer 502H, 502HN Or 502NH) ^(23 05 16 00-0289) Note: Hypalon 502H, Hypalon/Neoprene 502HN Or Neoprene/Hypalon 502NH. Baked enamel, coated ductile iron backup rings.		
23 05 16 00-0354 EA 1-1/2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,206.29	108.06
23 05 16 00-0355 EA 2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,265.61	136.89
23 05 16 00-0356 EA 2-1/2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,351.02	149.33
23 05 16 00-0357 EA 3" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,459.74	189.73
23 05 16 00-0358 EA 4" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,795.32	318.48
23 05 16 00-0359 EA 5" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,150.71	360.59
23 05 16 00-0360 EA 6" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,239.13	356.82
23 05 16 00-0361 EA 8" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,636.92	454.31
23 05 16 00-0362 EA 10" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	3,089.91	553.07
23 05 16 00-0363 EA 12" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	3,611.62	420.23
23 05 16 00-0364 EA 14" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	4,410.85	790.10
23 05 16 00-0365 EA 16" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	5,184.94	869.11
23 05 16 00-0366 EA 18" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	5,745.90	963.92
23 05 16 00-0367 EA 20" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	6,551.04	1,086.39
23 05 16 00-0368 EA 24" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	7,686.36	1,333.30
23 05 16 00-0369 EA 30" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	11,355.53	2,172.77
23 05 16 00-0370 EA 36" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	14,193.69	2,897.04
23 05 16 00-0371 EA 42" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	18,798.79	4,345.56
23 05 16 00-0372 EA 48" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	21,903.32	5,431.94
23 05 16 00-0373 EA 60" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	29,688.06	7,822.00
23 05 16 00-0374 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V) ^(23 05 16 00-0289) Note: Baked enamel, coated ductile iron backup rings.		
23 05 16 00-0375 EA 1-1/2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,509.02	108.06
23 05 16 00-0376 EA 2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,638.20	136.89
23 05 16 00-0377 EA 2-1/2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,746.90	149.33
23 05 16 00-0378 EA 3" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	2,321.36	189.73
23 05 16 00-0379 EA 4" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	3,029.54	318.48
23 05 16 00-0380 EA 5" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	3,710.95	360.59
23 05 16 00-0381 EA 6" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	4,032.25	356.82
23 05 16 00-0382 EA 8" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	5,198.51	454.31
23 05 16 00-0383 EA 10" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	6,885.73	553.07
23 05 16 00-0384 EA 12" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	7,873.17	420.23
23 05 16 00-0385 EA 14" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	9,056.64	790.10
23 05 16 00-0386 EA 16" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	11,099.89	869.11

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 16 00-0387	EA	18" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	12,312.89	963.92
23 05 16 00-0388	EA	20" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	14,468.68	1,086.39
23 05 16 00-0389	EA	24" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	18,992.30	1,333.30
23 05 16 00-0390	EA	30" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	31,824.98	2,172.77
23 05 16 00-0391	EA	36" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	39,949.33	2,897.04
23 05 16 00-0392	EA	42" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	52,239.21	4,345.56
23 05 16 00-0393	EA	48" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	61,049.11	5,431.94
23 05 16 00-0394	EA	60" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	80,803.46	7,822.00

23 05 16 00-0395 Teflon Lined Expansion Joints (Mercer 701) (23 05 16 00-0289)

Note: Natural rubber, neoprene, butyl, ethylene propylene diene monomer (EPDM) Or nitrile. Includes baked enamel coated ductile iron backer rings. Series 701.

23 05 16 00-0396	EA	1-1/2" Teflon Lined Expansion Joint (Mercer 701)	997.79	82.65
		For Hypalon Tube And Cover, Add	76.65	
		For Viton Tube And Cover, Add	832.52	
23 05 16 00-0397	EA	2" Teflon Lined Expansion Joint (Mercer 701)	1,166.64	85.52
		For Hypalon Tube And Cover, Add	19.91	
		For Viton Tube And Cover, Add	995.53	
23 05 16 00-0398	EA	2-1/2" Teflon Lined Expansion Joint (Mercer 701)	1,330.78	93.42
		For Hypalon Tube And Cover, Add	22.88	
		For Viton Tube And Cover, Add	1,143.98	
23 05 16 00-0399	EA	3" Teflon Lined Expansion Joint (Mercer 701)	1,640.20	185.48
		For Hypalon Tube And Cover, Add	25.38	
		For Viton Tube And Cover, Add	1,269.15	
23 05 16 00-0400	EA	4" Teflon Lined Expansion Joint (Mercer 701)	2,012.50	237.76
		For Hypalon Tube And Cover, Add	30.74	
		For Viton Tube And Cover, Add	1,536.96	
23 05 16 00-0401	EA	5" Teflon Lined Expansion Joint (Mercer 701)	2,395.49	258.94
		For Hypalon Tube And Cover, Add	37.55	
		For Viton Tube And Cover, Add	1,877.53	
23 05 16 00-0402	EA	6" Teflon Lined Expansion Joint (Mercer 701)	2,525.62	246.90
		For Hypalon Tube And Cover, Add	40.64	
		For Viton Tube And Cover, Add	2,031.81	
23 05 16 00-0403	EA	8" Teflon Lined Expansion Joint (Mercer 701)	3,032.34	281.97
		For Hypalon Tube And Cover, Add	49.37	
		For Viton Tube And Cover, Add	2,468.44	
23 05 16 00-0404	EA	10" Teflon Lined Expansion Joint (Mercer 701)	3,823.70	335.60
		For Hypalon Tube And Cover, Add	63.05	
		For Viton Tube And Cover, Add	3,152.50	
23 05 16 00-0405	EA	12" Teflon Lined Expansion Joint (Mercer 701)	4,890.10	420.54
		For Hypalon Tube And Cover, Add	80.98	
		For Viton Tube And Cover, Add	4,049.06	
23 05 16 00-0406	EA	14" Teflon Lined Expansion Joint (Mercer 701)	5,499.30	426.75
		For Hypalon Tube And Cover, Add	92.92	
		For Viton Tube And Cover, Add	4,645.80	
23 05 16 00-0407	EA	16" Teflon Lined Expansion Joint (Mercer 701)	6,827.18	531.84
		For Hypalon Tube And Cover, Add	115.27	
		For Viton Tube And Cover, Add	5,763.58	
23 05 16 00-0408	EA	18" Teflon Lined Expansion Joint (Mercer 701)	7,603.88	604.33
		For Hypalon Tube And Cover, Add	127.91	
		For Viton Tube And Cover, Add	6,395.25	
23 05 16 00-0409	EA	20" Teflon Lined Expansion Joint (Mercer 701)	8,903.53	677.80
		For Hypalon Tube And Cover, Add	150.96	
		For Viton Tube And Cover, Add	7,547.96	
23 05 16 00-0410	EA	24" Teflon Lined Expansion Joint (Mercer 701)	11,642.64	834.94
		For Hypalon Tube And Cover, Add	199.45	
		For Viton Tube And Cover, Add	9,972.74	

23 05 16 00-0411 Accessories For Mercer Rubber, Series 451 And 501 (23 05 16 00-0096)**23 05 16 00-0412 Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints** (23 05 16 00-0411)

23 05 16 00-0413	EA	1-1/2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	44.25	
23 05 16 00-0414	EA	2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	55.89	
23 05 16 00-0415	EA	2-1/2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	62.88	
23 05 16 00-0416	EA	3" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	67.53	
23 05 16 00-0417	EA	4" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	100.14	
23 05 16 00-0418	EA	5" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	123.42	
23 05 16 00-0419	EA	6" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	135.07	
23 05 16 00-0420	EA	8" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	149.04	
23 05 16 00-0421	EA	10" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	190.96	
23 05 16 00-0422	EA	12" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	225.89	
23 05 16 00-0423	EA	14" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	302.73	
23 05 16 00-0424	EA	16" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	326.02	
23 05 16 00-0425	EA	18" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	349.31	
23 05 16 00-0426	EA	20" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	384.24	
23 05 16 00-0427	EA	24" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	477.39	
23 05 16 00-0428	EA	30" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	593.82	
23 05 16 00-0429	EA	36" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	721.90	
23 05 16 00-0430	EA	42" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	1,024.64	
23 05 16 00-0431	EA	48" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints	1,222.58	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0432 Control Rods For Mercer 451 And 501 Expansion Joints (23 05 16 00-0411)		
23 05 16 00-0433 SET 1-1/2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	242.07	
23 05 16 00-0434 SET 2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	306.14	
23 05 16 00-0435 SET 2-1/2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	355.98	
23 05 16 00-0436 SET 3" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	427.18	
23 05 16 00-0437 SET 4" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	427.18	
23 05 16 00-0438 SET 5" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	462.77	
23 05 16 00-0439 SET 6" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	533.97	
23 05 16 00-0440 SET 8" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	783.16	
23 05 16 00-0441 SET 10" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	1,530.71	
23 05 16 00-0442 SET 12" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	2,100.28	
23 05 16 00-0443 SET 14" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	3,132.62	
23 05 16 00-0444 SET 16" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	3,524.20	
23 05 16 00-0445 SET 18" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	4,698.94	
23 05 16 00-0446 SET 20" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	5,019.32	
23 05 16 00-0447 SET 24" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	5,660.08	
23 05 16 00-0448 SET 30" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	8,294.33	
23 05 16 00-0449 SET 36" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	12,210.11	
23 05 16 00-0450 SET 42" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	8,258.74	
23 05 16 00-0451 SET 48" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	10,857.39	
23 05 16 00-0452 SET 60" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	16,944.65	
23 05 17 Sleeves and Sleeve Seals for HVAC Piping (23 05)		
23 05 17 00-0001 Wall Seals And Sleeves (23 05 17)		
Note: Up to 12" walls. Excludes drilling hole.		
23 05 17 00-0002 Ductile Iron Wall Sleeve (23 05 17 00-0001)		
Note: Includes rubber gasket seal.		
23 05 17 00-0003 EA 3" Ductile Iron Wall Sleeve With Rubber Gasket Seal	125.16	48.84
23 05 17 00-0004 EA 4" Ductile Iron Wall Sleeve With Rubber Gasket Seal	155.76	57.04
23 05 17 00-0005 EA 6" Ductile Iron Wall Sleeve With Rubber Gasket Seal	190.94	68.44
23 05 17 00-0006 EA 8" Ductile Iron Wall Sleeve With Rubber Gasket Seal	268.91	102.60
23 05 17 00-0007 EA 10" Ductile Iron Wall Sleeve With Rubber Gasket Seal	343.88	136.77
23 05 17 00-0008 EA 12" Ductile Iron Wall Sleeve With Rubber Gasket Seal	422.97	171.04
23 05 17 00-0009 Steel Pipe Sleeves (23 05 17 00-0001)		
Note: Includes link seals 12" length.		
23 05 17 00-0010 EA 2" Steel Pipe Sleeve With Link Seals.....	149.33	49.58
23 05 17 00-0011 EA 2-1/2" Steel Pipe Sleeve With Link Seals	189.27	53.74
23 05 17 00-0012 EA 3" Steel Pipe Sleeve With Link Seals.....	226.76	57.91
23 05 17 00-0013 EA 4" Steel Pipe Sleeve With Link Seals.....	283.38	69.48
23 05 17 00-0014 EA 6" Steel Pipe Sleeve With Link Seals.....	420.76	86.76
23 05 17 00-0015 EA 10" Steel Pipe Sleeve With Link Seals.....	1,047.79	104.15
23 05 17 00-0016 EA 13-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	1,266.07	130.20
23 05 17 00-0017 EA 17-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	1,743.50	160.20
23 05 17 00-0018 EA 23-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	2,480.04	208.32
23 05 17 00-0019 EA 29-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	3,671.73	260.40
23 05 19 Meters and Gages for HVAC Piping (23 05)		
See CSI section 33 19 00 00-0000 for water utility service metering.		
23 05 19 00-0001 Thermometers (23 05 19)		
23 05 19 00-0002 Dial Type, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometers (23 05 19 00-0001)		
Note: Various ranges.		
23 05 19 00-0003 EA 2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	108.06	35.67
23 05 19 00-0004 EA 2-1/2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	126.42	35.67
23 05 19 00-0005 EA 3-1/2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	126.42	35.67
23 05 19 00-0006 Liquid Filled Industrial Union Connection Type Thermometers (23 05 19 00-0001)		
Note: Various ranges.		
23 05 19 00-0007 EA 7" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer.....	144.78	35.67
23 05 19 00-0008 EA 9" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer.....	144.78	35.67
23 05 19 00-0009 EA 12" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer.....	183.18	35.67
23 05 19 00-0010 EA 7" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	149.79	35.67
23 05 19 00-0011 EA 9" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	158.14	35.67
23 05 19 00-0012 EA 12" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	188.19	35.67
23 05 19 00-0013 Liquid Filled Industrial Separable Socket Type Thermometers (23 05 19 00-0001)		
Note: Various ranges. Socket connection for thermowell.		
23 05 19 00-0014 EA 7" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer	144.78	35.67
23 05 19 00-0015 EA 9" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer	144.78	35.67
23 05 19 00-0016 EA 12" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer	183.18	35.67

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

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 05 19 00-0017	EA	7" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	166.49		35.67
23 05 19 00-0018	EA	9" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	183.18		35.67
23 05 19 00-0019	EA	12" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	187.44		35.67
23 05 19 00-0020		1" NPT, 304 Stainless Steel Thermowells (23 05 19 00-0001)			
23 05 19 00-0021	EA	4" Long, 1" NPT, 304 Stainless Steel Thermowell.....	186.42		66.88
23 05 19 00-0022	EA	8" Long, 1" NPT, 304 Stainless Steel Thermowell.....	186.33		66.88
23 05 19 00-0023		Pressure Gauges (23 05 19)			
23 05 19 00-0024		Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)			
23 05 19 00-0025	EA	2" Diameter Dial, Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	38.55		13.93
23 05 19 00-0026	EA	4" Diameter Dial, Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	48.40		13.93
23 05 19 00-0027		Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)			
23 05 19 00-0028	EA	3-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	303.34		13.93
23 05 19 00-0029	EA	4-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	303.34		13.93
23 05 19 00-0030	EA	6" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	396.90		13.93
23 05 19 00-0031	EA	8-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	947.84		13.93
23 05 19 00-0032		Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)			
		Note: Liquid filled.			
23 05 19 00-0033	EA	2-1/2" Diameter Dial, Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	145.33		13.93
23 05 19 00-0034	EA	4" Diameter Dial, Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	333.17		13.93
23 05 19 00-0035		Steel Case, 0 To 10K PSI High Pressure, Pressure Gauges (23 05 19 00-0023)			
23 05 19 00-0036	EA	4-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93
23 05 19 00-0037	EA	6-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93
23 05 19 00-0038	EA	8-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93
23 05 19 00-0039		Polypropylene Case, Stainless Steel Internals And Stem, Pressure Gauges (23 05 19 00-0023)			
23 05 19 00-0040		Polypropylene Case, 0 To 300 PSI, Stainless Steel Internals And Stem, Pressure Gauges (23 05 19 00-0039)			
23 05 19 00-0041	EA	4-1/2" Diameter Dry Dial, Polypropylene Case, 0 To 300 PSI, Stainless Steel Internals And Stem, Pressure Gauge.....	265.89		13.93
23 05 19 00-0042	EA	4-1/2" Diameter Liquid Filled Dial, Polypropylene Case, 0 To 300 PSI, Stainless Steel Internals And Stem, Pressure Gauge.....	353.66		13.93
23 05 19 00-0043	EA	6" Diameter Dry Dial, Polypropylene Case, 0 To 300 PSI, Stainless Steel Internals And Stem, Pressure Gauge.....	426.38		13.93
23 05 19 00-0044		Polypropylene Case, 0 To 100" H2O (Very Low PSI), Stainless Steel Internals And Stem, Pressure Gauges (23 05 19 00-0039)			
23 05 19 00-0045	EA	2-1/2" Diameter Dry Dial, Polypropylene Case, 0 To 100" H2O (Very Low PSI), Stainless Steel Internals And Stem, Pressure Gauge.....	154.17		13.93
23 05 19 00-0046	EA	2-1/2" Diameter Liquid Filled, Polypropylene Case, 0 To 100" H2O (Very Low PSI), Stainless Steel Internals And Stem, Pressure Gauge.....	117.37		13.93
23 05 19 00-0047		Gauge Accessories (23 05 19 00-0023)			
23 05 19 00-0048	EA	Pete's Plug (Valve Cock For Removable Pressure Gauge Or Thermometer).....	92.52		11.14
23 05 19 00-0049	EA	1/4" Snubber Valve.....	55.56		11.14
23 05 19 00-0050	EA	1/4" Female Pipe Thread, Brass Gauge Cock.....	34.72		16.72
23 05 19 00-0051	EA	1/4" Male Pipe Thread, Brass Gauge Cock.....	29.57		16.72
23 05 19 00-0052	EA	1/4" Pressure Pigtail Steam Siphon.....	46.31		16.72
23 05 19 00-0053	EA	1/4" x 3" Long Black Steel Nipple.....	8.53		5.57
23 05 19 00-0054	EA	1/4" Steel Thread-O-Let.....	63.97		27.87
23 05 19 00-0055	EA	1/4", 300 LB, Black Steel Union.....	112.66		11.14
23 05 19 00-0056	EA	1/4" Black Steel Coupling.....	25.64		11.14
23 05 19 00-0057	EA	1/4", 300 LB, Black Steel Plug.....	14.15		6.69
23 05 19 00-0058	EA	1/4", 150 LB, Black Steel Cap.....	15.26		6.69
23 05 19 00-0059	LF	1/4" Schedule 40, Threaded And Coupled, Black Steel Pipe.....	10.68		3.68
23 05 19 00-0060	LF	1/4" Schedule 80, Plain End, Black Steel Pipe.....	10.69		3.68
23 05 19 00-0061	LF	1/4" Schedule 40, Threaded And Coupled, Galvanized Steel Pipe.....	9.21		
23 05 19 00-0062	EA	1/4" Threaded, 800 LB, Forged Steel, Ball Valve.....	113.80		
23 05 19 00-0063		Valve Lock Covers (23 05 19)			
23 05 19 00-0064	EA	Valve Lock Cover.....	86.82		17.06
23 05 19 00-0065		Sight Flow Indicator (23 05 19)			



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 19 00-0066 Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (23 05 19 00-0065)		
23 05 19 00-0067 EA 1/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	170.96	16.23
23 05 19 00-0068 EA 3/8" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	178.54	17.07
23 05 19 00-0069 EA 1/2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	193.25	17.94
23 05 19 00-0070 EA 3/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	215.13	24.18
23 05 19 00-0071 EA 1" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	257.03	29.30
23 05 19 00-0072 EA 1-1/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	290.28	37.10
23 05 19 00-0073 EA 1-1/2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	414.40	42.89
23 05 19 00-0074 EA 2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100)	458.16	50.70
23 05 19 00-0075 Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (23 05 19 00-0065)		
23 05 19 00-0076 EA 1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	223.79	16.23
23 05 19 00-0077 EA 3/8" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	230.19	17.07
23 05 19 00-0078 EA 1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	248.43	17.94
23 05 19 00-0079 EA 3/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	262.09	24.18
23 05 19 00-0080 EA 1" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	276.99	29.30
23 05 19 00-0081 EA 1-1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	298.49	37.10
23 05 19 00-0082 EA 1-1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	574.05	42.89
23 05 19 00-0083 EA 2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	613.11	50.70
23 05 19 00-0084 Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (23 05 19 00-0065)		
23 05 19 00-0085 EA 1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	325.92	16.23
23 05 19 00-0086 EA 3/8" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	344.06	17.07
23 05 19 00-0087 EA 1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	374.03	17.94
23 05 19 00-0088 EA 3/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	405.31	24.18
23 05 19 00-0089 EA 1" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	464.81	29.30
23 05 19 00-0090 EA 1-1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	489.84	37.10
23 05 19 00-0091 EA 1-1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	996.66	42.89
23 05 19 00-0092 EA 2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	1,047.45	50.70
23 05 19 00-0093 Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicators (23 05 19 00-0065)		
23 05 19 00-0094 EA 1/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	220.26	16.23
23 05 19 00-0095 EA 3/8" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	229.02	17.07
23 05 19 00-0096 EA 1/2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	242.56	17.94
23 05 19 00-0097 EA 3/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	260.92	24.18
23 05 19 00-0098 EA 1" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	275.81	29.30
23 05 19 00-0099 EA 1-1/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	298.49	37.10
23 05 19 00-0100 EA 1-1/2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	567.01	42.89
23 05 19 00-0101 EA 2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	603.72	50.70
23 05 19 00-0102 Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicators (23 05 19 00-0065)		
23 05 19 00-0103 EA 1/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	323.57	16.23
23 05 19 00-0104 EA 3/8" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	348.76	17.07
23 05 19 00-0105 EA 1/2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	381.08	17.94
23 05 19 00-0106 EA 3/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	405.31	24.18
23 05 19 00-0107 EA 1" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	464.81	29.30
23 05 19 00-0108 EA 1-1/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	494.54	37.10

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 19 00-0109	EA	1-1/2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	996.66	42.89
23 05 19 00-0110	EA	2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	1,047.45	50.70
23 05 19 00-0111		Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicators (23 05 19 00-0065)		
23 05 19 00-0112	EA	1" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	474.20	29.30
23 05 19 00-0113	EA	1-1/4" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	532.10	37.10
23 05 19 00-0114	EA	1-1/2" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	604.57	42.89
23 05 19 00-0115	EA	2" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	678.85	50.70
23 05 19 00-0116		Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicators (23 05 19 00-0065)		
23 05 19 00-0117	EA	1-1/2" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,041.70	116.99
23 05 19 00-0118	EA	2" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,160.62	148.53
23 05 19 00-0119	EA	3" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,716.79	174.43
23 05 19 00-0120	EA	4" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	2,585.71	292.42
23 05 19 00-0121	EA	6" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	4,218.67	364.23
23 05 19 00-0122		Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicators (23 05 19 00-0065)		
23 05 19 00-0123	EA	1" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	800.06	83.56
23 05 19 00-0124	EA	1-1/4" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	945.19	97.49
23 05 19 00-0125	EA	1-1/2" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,017.63	116.99
23 05 19 00-0126	EA	2" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,275.08	148.53
23 05 19 00-0127	EA	3" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,857.07	174.43
23 05 19 00-0128	EA	4" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	2,737.73	292.42
23 05 19 00-0129		Venturi Flowmeters (23 05 19)		
23 05 19 00-0130		Threaded, Brass, Venturi Flowmeters (23 05 19 00-0129)		
23 05 19 00-0131	EA	3/4" Threaded, Brass, Venturi Flowmeter	309.30	75.80
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0132	EA	1" Threaded, Brass, Venturi Flowmeter	340.80	90.95
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0133	EA	1-1/4" Threaded, Brass, Venturi Flowmeter	375.79	101.10
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0134	EA	1-1/2" Threaded, Brass, Venturi Flowmeter	423.57	113.70
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0135	EA	2" Threaded, Brass, Venturi Flowmeter	504.85	129.97
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0136	EA	2-1/2" Threaded, Brass, Venturi Flowmeter	695.08	184.27
		For Portable Venturi Flow Meter, Add	995.00	
23 05 19 00-0137		Butt Weld, Carbon Steel, Venturi Flowmeters (23 05 19 00-0129)		
23 05 19 00-0138	EA	3" Butt Weld, Carbon Steel, Venturi Flowmeter	2,458.90	156.24
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	751.25	
23 05 19 00-0139	EA	4" Butt Weld, Carbon Steel, Venturi Flowmeter	3,451.52	187.48
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	1,076.79	
23 05 19 00-0140	EA	5" Butt Weld, Carbon Steel, Venturi Flowmeter	4,546.93	234.35
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	1,427.37	
23 05 19 00-0141	EA	6" Butt Weld, Carbon Steel, Venturi Flowmeter	5,347.10	312.47
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	1,652.75	
23 05 19 00-0142	EA	8" Butt Weld, Carbon Steel, Venturi Flowmeter	7,976.25	374.97
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	2,529.21	
23 05 19 00-0143	EA	10" Butt Weld, Carbon Steel, Venturi Flowmeter	13,315.16	468.72
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	4,332.21	
23 05 19 00-0144	EA	12" Butt Weld, Carbon Steel, Venturi Flowmeter	20,112.12	683.33
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	6,560.91	
23 05 19 00-0145	EA	14" Butt Weld, Carbon Steel, Venturi Flowmeter	28,093.31	1,025.00
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	9,115.16	
23 05 19 00-0146	EA	16" Butt Weld, Carbon Steel, Venturi Flowmeter	42,702.15	1,138.89
		For Portable Venturi Flow Meter, Add	995.00	
		For Flanged Ends, Add	14,148.53	
23 05 19 00-0147		Turbine Flowmeter (23 05 19)		
23 05 19 00-0148	EA	Saddle Mount Turbine Flowmeter	1,789.70	83.60



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Meters and Gages for HVAC Piping 23 05 19



MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 19 00-0149	Flowmeters (23 05 19)		
23 05 19 00-0150	Polyvinyl Chloride (PVC) Turbine Flowmeters (23 05 19 00-0149)		
23 05 19 00-0151	EA 2", Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	2,826.37	191.61
23 05 19 00-0152	EA 3", Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	3,366.28	204.32
23 05 19 00-0153	EA 4", Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	3,897.66	212.90
23 05 19 00-0154	EA 6", Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	4,938.55	218.92
23 05 19 00-0155	EA 2", Flanged, Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	2,886.17	148.59
23 05 19 00-0156	EA 3", Flanged, Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	3,580.50	189.49
23 05 19 00-0157	EA 4", Flanged, Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	4,384.38	317.68
23 05 19 00-0158	EA 6", Flanged, Sensor Signal Only, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP100).....	5,775.58	401.28
23 05 19 00-0159	EA 2", Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP101).....	4,806.66	191.61
	For Analog Output, Add	75.00	
23 05 19 00-0160	EA 3", Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP101).....	5,346.57	204.32
	For Analog Output, Add	75.00	
23 05 19 00-0161	EA 4", Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP101).....	5,877.95	212.90
	For Analog Output, Add	75.00	
23 05 19 00-0162	EA 6", Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP101).....	6,918.84	218.92
	For Analog Output, Add	75.00	
23 05 19 00-0163	EA 2", Flanged, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametric WTP101).....	4,866.46	148.59
	For Analog Output, Add	75.00	
23 05 19 00-0164	EA 3", Flanged, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametric WTP101).....	5,560.79	189.49
	For Analog Output, Add	75.00	
23 05 19 00-0165	EA 4", Flanged, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametric WTP101).....	6,364.67	317.68
	For Analog Output, Add	75.00	
23 05 19 00-0166	EA 6", Flanged, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametric WTP101).....	7,755.87	401.28
	For Analog Output, Add	75.00	
23 05 19 00-0167	EA 2", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	4,292.30	191.61
23 05 19 00-0168	EA 3", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	4,832.21	204.32
23 05 19 00-0169	EA 4", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	5,363.59	212.90
23 05 19 00-0170	EA 6", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	6,404.48	218.92
23 05 19 00-0171	EA 2", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	4,549.48	191.72
23 05 19 00-0172	EA 3", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	5,217.98	204.54
23 05 19 00-0173	EA 4", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	5,877.95	212.90
23 05 19 00-0174	EA 6", Blind 4-20mA DC, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP102).....	7,176.02	219.03
23 05 19 00-0175	EA 2", Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	5,269.58	191.61
23 05 19 00-0176	EA 3", Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	5,809.49	204.32
23 05 19 00-0177	EA 4", Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	6,340.87	212.90
23 05 19 00-0178	EA 6", Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	7,381.76	218.92
23 05 19 00-0179	EA 2", Flanged, Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	5,329.38	148.59
23 05 19 00-0180	EA 3", Flanged, Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	6,023.71	189.49
23 05 19 00-0181	EA 4", Flanged, Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	6,827.59	317.68
23 05 19 00-0182	EA 6", Flanged, Battery, Rate/Total/Pulse, Polyvinyl Chloride (PVC) Turbine Flowmeter (Seametrics WTP104).....	8,218.79	401.28
23 05 19 00-0183	Flanged, Main Line Flowmeters (23 05 19 00-0149)		
	Note: Six digit totalizer with rate indicator. AWWA Standard #C704-70.		
23 05 19 00-0184	150 LB, Flanged, Main Line Flow Meters (23 05 19 00-0183)		
23 05 19 00-0185	EA 2" x 14" Long, 150 LB, Flanged, Main Line Flow Meter.....	7,732.56	148.59
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0186	EA 2-1/2" x 16" Long, 150 LB, Flanged, Main Line Flow Meter.....	7,749.44	162.13
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0187	EA 3" x 16" Long, 150 LB, Flanged, Main Line Flow Meter.....	7,783.94	189.73
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0188	EA 4" x 20" Long, 150 LB, Flanged, Main Line Flow Meter.....	9,350.99	318.48
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0189	EA 6" x 22" Long, 150 LB, Flanged, Main Line Flow Meter.....	10,880.21	401.28
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0190	EA 8" x 24" Long, 150 LB, Flanged, Main Line Flow Meter.....	13,042.84	512.74
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0191	EA 10" x 26" Long, 150 LB, Flanged, Main Line Flow Meter.....	16,232.24	619.05
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0192	EA 12" x 28" Long, 150 LB, Flanged, Main Line Flow Meter.....	18,630.16	751.70
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0193	EA 14" x 42" Long, 150 LB, Flanged, Main Line Flow Meter.....	22,802.42	884.35
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0194	EA 16" x 48" Long, 150 LB, Flanged, Main Line Flow Meter.....	25,849.81	972.79
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0195	EA 18" x 54" Long, 150 LB, Flanged, Main Line Flow Meter.....	28,945.99	1,078.91
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0196	EA 20" x 60" Long, 150 LB, Flanged, Main Line Flow Meter.....	33,353.49	1,215.99
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0197	EA 24" x 60" Long, 150 LB, Flanged, Main Line Flow Meter.....	44,547.43	1,492.34
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0198	EA 30" x 60" Long, 150 LB, Flanged, Main Line Flow Meter.....	56,152.19	2,431.97
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0199	EA 36" x 60" Long, 150 LB, Flanged, Main Line Flow Meter.....	67,773.71	3,242.63
	For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add	165.00	
23 05 19 00-0200	300 LB, Flanged, Main Line Flow Meters (23 05 19 00-0183)		

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 19 00-0201	EA		2" x 20" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	8,782.70 165.00	148.62
23 05 19 00-0202	EA		2-1/2" x 20" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	8,799.58 165.00	162.13
23 05 19 00-0203	EA		3" x 20" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	8,834.08 165.00	189.73
23 05 19 00-0204	EA		4" x 24" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	10,160.84 165.00	317.68
23 05 19 00-0205	EA		6" x 26" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	12,268.53 165.00	401.28
23 05 19 00-0206	EA		8" x 28" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	15,294.42 165.00	512.74
23 05 19 00-0207	EA		10" x 30" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	20,646.39 165.00	619.05
23 05 19 00-0208	EA		12" x 32" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	26,159.13 165.00	751.70
23 05 19 00-0209	EA		14" x 42" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	31,328.14 165.00	884.35
23 05 19 00-0210	EA		16" x 48" Long, 300 LB, Flanged, Main Line Flow Meter <i>For Electronic Flow Meter For Extended Flow Rate (X-Flow), Add</i>	36,084.23 165.00	972.79
23 05 19 00-0211 Adjustable, Insertion Turbine Flowmeters (23 05 19 00-0149)					
23 05 19 00-0212	EA		For 1-1/2" To 3" Pipe, Probe Assembly With Display, Adjustable, Insertion Turbine Flowmeter	6,497.08	111.47
23 05 19 00-0213	EA		For 1-1/2" To 10" Pipe, Probe Assembly With Display, Adjustable, Insertion Turbine Flowmeter	6,675.07	111.47
23 05 19 00-0214	EA		For 1-1/2" To 3" Pipe, Probe Assembly With 4-20mA Transmitter, Adjustable, Insertion Turbine Flowmeter	5,495.67	222.93
23 05 19 00-0215	EA		For 1-1/2" To 10" Pipe, Probe Assembly With 4-20mA Transmitter, Adjustable, Insertion Turbine Flowmeter	5,785.12	111.47
23 05 19 00-0216	EA		For 1-1/2" To 3" Pipe, Probe Assembly With Display And 4-20mA Transmitter, Adjustable, Insertion Turbine Flowmeter	7,743.01	111.47
23 05 19 00-0217	EA		For 1-1/2" To 10" Pipe, Probe Assembly With Display And 4-20mA Transmitter, Adjustable, Insertion Turbine Flowmeter	7,921.00	111.47
23 05 19 00-0218 Epoxy Coated Cast Iron High-Volume Turbine Meters (23 05 19 00-0149)					
Note: AWWA C-701, Class II.					
23 05 19 00-0219 Meters With Mechanical Display (23 05 19 00-0218)					
23 05 19 00-0220	EA		2", 4.4 To 175 GPM Mechanical Display, Epoxy Coated Cast Iron High-Volume Turbine Meter (Master Meter)	5,616.07	191.72
23 05 19 00-0221	EA		3", 6 To 330 GPM Mechanical Display, Epoxy Coated Cast Iron High-Volume Turbine Meter (Master Meter)	6,985.44	204.54
23 05 19 00-0222	EA		4", 9 To 440 GPM Mechanical Display, Epoxy Coated Cast Iron High-Volume Turbine Meter (Master Meter)	8,942.55	212.90
23 05 19 00-0223	EA		6", 35 To 1,150 GPM Mechanical Display, Epoxy Coated Cast Iron High-Volume Turbine Meter (Master Meter)	12,897.20	219.03
23 05 19 00-0224	EA		8", 37 To 2,000 GPM Mechanical Display, Epoxy Coated Cast Iron High-Volume Turbine Meter (Master Meter)	18,343.75	236.86
23 05 19 00-0225 Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meters (23 05 19 00-0218)					
23 05 19 00-0226	EA		2", Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meter	6,274.63	191.72
23 05 19 00-0227	EA		3", Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meter	7,661.80	204.54
23 05 19 00-0228	EA		4", Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meter	9,707.91	212.90
23 05 19 00-0229	EA		6", Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meter	13,591.36	219.03
23 05 19 00-0230	EA		8", Electrical Output, Epoxy Coated Cast Iron High-Volume Turbine Meter	18,993.41	236.86
23 05 19 00-0231 Bronze High-Volume Turbine Meters (23 05 19 00-0149)					
Note: AWWA C-701, Class II.					
23 05 19 00-0232 Mechanical Display, Bronze High-Volume Turbine Meters (23 05 19 00-0231)					
23 05 19 00-0233	EA		1-1/2", 3 To 160 GPM Mechanical Display, Bronze High-Volume Turbine Meter (Master Meter)	4,250.06	167.20
23 05 19 00-0234	EA		2", 4 To 350 GPM Mechanical Display, Bronze High-Volume Turbine Meter (Master Meter)	4,904.11	191.72
23 05 19 00-0235	EA		3", 5 To 530 GPM Mechanical Display, Bronze High-Volume Turbine Meter (Master Meter)	7,581.71	204.54
23 05 19 00-0236	EA		4", 9 To 1,350 GPM Mechanical Display, Bronze High-Volume Turbine Meter (Master Meter)	11,389.91	212.90
23 05 19 00-0237	EA		6", 25 To 2,700 GPM Mechanical Display, Bronze High-Volume Turbine Meter (Master Meter)	20,906.75	219.03
23 05 19 00-0238 Electrical Output, Bronze High-Volume Turbine Meters (23 05 19 00-0231)					
23 05 19 00-0239	EA		1-1/2", 3 To 160 GPM Electrical Output, Bronze High-Volume Turbine Meter	4,926.42	167.20
23 05 19 00-0240	EA		2", 4 To 350 GPM Electrical Output, Bronze High-Volume Turbine Meter	5,589.37	191.72
23 05 19 00-0241	EA		3", 5 To 530 GPM Electrical Output, Bronze High-Volume Turbine Meter	8,258.07	204.54
23 05 19 00-0242	EA		4", 9 To 1,350 GPM Electrical Output, Bronze High-Volume Turbine Meter	12,066.28	212.90
23 05 19 00-0243	EA		6", 25 To 2,700 GPM Electrical Output, Bronze High-Volume Turbine Meter	22,134.88	219.03
23 05 19 00-0244 Multi-Jet Meters (23 05 19 00-0149)					
23 05 19 00-0245 Hostile Environment Multi-Jet Meters (23 05 19 00-0244)					
Note: Wetted materials are Viton, PP, 316 stainless steel and electroless-nickel plated bronze. AWWA C-708, Class II.					
23 05 19 00-0246	EA		1/2", 1 To 20 GPM Hostile Environment Multi-Jet Meter (Master Meter)	2,810.71	35.11
23 05 19 00-0247	EA		3/4", 1 To 30 GPM Hostile Environment Multi-Jet Meter (Master Meter)	3,270.01	46.26
23 05 19 00-0248	EA		1", 1 To 50 GPM Hostile Environment Multi-Jet Meter (Master Meter)	4,021.90	52.95
23 05 19 00-0249	EA		1-1/2", 5 To 100 GPM Hostile Environment Multi-Jet Meter (Master Meter)	6,778.36	69.66
23 05 19 00-0250	EA		2", 8 To 160 GPM Hostile Environment Multi-Jet Meter (Master Meter)	9,708.40	79.70



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Meters and Gages for HVAC Piping 23 05 19

23

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
23 05 19 00-0251 High-Pressure Multi-Jet Meters (23 05 19 00-0244)					
Note: Wetted materials are bronze, glass-filled Noryl, PP and nylon. AWWA C-708, Class II.					
23 05 19 00-0252	EA 3/4", 1 To 30 GPM High-Pressure Multi-Jet Meter (Master Meter)	8,502.92		46.26	
23 05 19 00-0253	EA 1", 1 To 50 GPM High-Pressure Multi-Jet Meter (Master Meter)	12,191.64		52.95	
23 05 19 00-0254	EA 1-1/2", 5 To 100 GPM High-Pressure Multi-Jet Meter (Master Meter)	22,272.39		69.66	
23 05 19 00-0255	EA 2", 8 To 160 GPM High-Pressure Multi-Jet Meter (Master Meter)	28,246.06		79.70	
23 05 19 00-0256 Flanged, 150 LB, 4-20 mA Output, Fabricated Steel Body, Main Propeller Meters (23 05 19 00-0149)					
23 05 19 00-0257	EA 3", 45 To 250 GPM, Flanged, 150 LB, 4-20 mA Output, Fabricated Steel Body, Main Propeller Meter	9,816.84		377.42	
23 05 19 00-0258	EA 4", 55 To 500 GPM, Flanged, 150 LB, 4-20 mA Output, Fabricated Steel Body, Main Propeller Meter	10,632.51		317.68	
23 05 19 00-0259	EA 6", 120 To 1,200 GPM, Flanged, 150 LB, 4-20 mA Output, Fabricated Steel Body, Main Propeller Meter	11,627.77		401.28	
23 05 19 00-0260	EA 8", 150 To 1,500 GPM, Flanged, 150 LB, 4-20 mA Output, Fabricated Steel Body, Main Propeller Meter	14,431.16		512.74	
23 05 19 00-0261 In-Line Flowmeters (23 05 19 00-0149)					
23 05 19 00-0262 Standard Flowmeter, Polyvinyl Chloride (PVC), Brass, 316 Stainless Steel, Viton (23 05 19 00-0261)					
23 05 19 00-0263	EA 3/4" In Line Flowmeter	1,006.23		46.26	
23 05 19 00-0264	EA 1" In Line Flowmeter	1,019.60		52.95	
23 05 19 00-0265	EA 1-1/2" In Line Flowmeter	1,526.41		69.66	
23 05 19 00-0266	EA 3/4" In Line Flowmeter With SPDP Switch	1,414.10		46.26	
23 05 19 00-0267	EA 1" In Line Flowmeter With SPDP Switch	1,427.47		52.95	
23 05 19 00-0268	EA 1-1/2" In Line Flowmeter With SPDP Switch	2,122.14		69.66	
23 05 19 00-0269 Water Flow Switches (23 05 19)					
23 05 19 00-0270	EA Flexible Paddle, Single Switch, Brass Body, Water Flow Switch (Taco IFS01BF-1)	289.73		32.85	
23 05 19 00-0271	EA Rigid Paddle, Single Switch, Brass Body, Water Flow Switch (Taco IFS01BR-1)	300.47		32.85	
23 05 19 00-0272	EA Flexible Paddle, Double Switch, Brass Body, Water Flow Switch (Taco IFS02BF-1)	391.14		32.85	
23 05 19 00-0273	EA Rigid Paddle, Double Switch, Brass Body, Water Flow Switch (Taco IFS02BR-1)	404.87		32.85	
23 05 19 00-0274	EA Flexible Paddle, High Current Single Switch, Brass Body, Water Flow Switch (Taco IFSH1BF-1)	314.20		32.85	
23 05 19 00-0275	EA Rigid Paddle, High Current Single Switch, Brass Body, Water Flow Switch (Taco IFSH1BR-1)	326.72		32.85	
23 05 19 00-0276	EA Flexible Paddle, High Current Double Switch, Brass Body, Water Flow Switch (Taco IFSH2BF-1)	415.61		32.85	
23 05 19 00-0277	EA Rigid Paddle, High Current Double Switch, Brass Body, Water Flow Switch (Taco IFSH2BR-1)	428.13		32.85	
23 05 19 00-0278	EA Flexible Paddle, Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS01SF-1)	831.36		32.85	
23 05 19 00-0279	EA Rigid Paddle, Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS01SR-1)	843.49		32.85	
23 05 19 00-0280	EA Flexible Paddle, Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS02SF-1)	958.75		32.85	
23 05 19 00-0281	EA Rigid Paddle, Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS02SR-1)	975.44		32.85	
23 05 19 00-0282	EA Flexible Paddle, High Current Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH1SF-1)	860.17		32.85	
23 05 19 00-0283	EA Rigid Paddle, High Current Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH1SR-1)	876.85		32.85	
23 05 19 00-0284	EA Flexible Paddle, High Current Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH2SF-1)	987.57		32.85	
23 05 19 00-0285	EA Rigid Paddle, High Current Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH2SR-1)	1,005.77		32.85	
23 05 19 00-0286 Sight Glass (23 05 19)					
23 05 19 00-0287 In-Line, 316L Stainless Steel Body, Sight Glass With Clamp (23 05 19 00-0286)					
23 05 19 00-0288	EA 1" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R100)	535.06		29.30	
23 05 19 00-0289	EA 1-1/2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R150)	621.59		42.89	
23 05 19 00-0290	EA 2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R200)	669.10		50.70	
23 05 19 00-0291	EA 2-1/2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R250)	847.63		60.39	
23 05 19 00-0292	EA 3" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R250)	1,272.44		62.07	
23 05 19 00-0293	EA 4" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R400)	1,543.93		91.58	
23 05 23 General-Duty Valves For HVAC Piping (23 05)					
Note: Flanged valves exclude bolt and gasket sets. See CSI section 22 05 23 00-0000 for additional valves, 23 21 13 23-0713 for bolt and gasket sets.					
23 05 23 00-0001 Gate Valves (23 05 23)					
23 05 23 00-0002 Class 125 Threaded, Bronze Gate Valves (23 05 23 00-0001)					
Note: 125 psi steam, basic rating. 200 psi cold working pressure.					
23 05 23 00-0003	EA 1/4" Diameter, 125 LB, Threaded Bronze Gate Valve	64.42		11.14	
For 150 LB Rating, Add		3.20			
For 200 LB Rating, Add		4.80			
For 250 LB Rating, Add		8.00			
For 300 LB Rating, Add		11.19			
For Work In Restricted Working Space, Add		9.73			
23 05 23 00-0004	EA 3/8" Diameter, 125 LB, Threaded Bronze Gate Valve	66.13		11.14	
For 150 LB Rating, Add		3.20			
For 200 LB Rating, Add		4.80			
For 250 LB Rating, Add		8.00			
For 300 LB Rating, Add		11.19			
For Work In Restricted Working Space, Add		10.25			

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0005	EA	1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	67.93	11.14
		For 150 LB Rating, Add	3.20	
		For 200 LB Rating, Add	4.80	
		For 250 LB Rating, Add	8.00	
		For 300 LB Rating, Add	11.19	
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0006	EA	3/4" Diameter, 125 LB, Threaded Bronze Gate Valve	86.60	12.26
		For 150 LB Rating, Add	3.82	
		For 200 LB Rating, Add	5.72	
		For 250 LB Rating, Add	9.54	
		For 300 LB Rating, Add	13.36	
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0007	EA	1" Diameter, 125 LB, Threaded Bronze Gate Valve	116.29	13.93
		For 150 LB Rating, Add	5.77	
		For 200 LB Rating, Add	8.65	
		For 250 LB Rating, Add	14.41	
		For 300 LB Rating, Add	20.18	
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0008	EA	1-1/4" Diameter, 125 LB, Threaded Bronze Gate Valve	152.01	14.82
		For 150 LB Rating, Add	7.77	
		For 200 LB Rating, Add	11.66	
		For 250 LB Rating, Add	19.43	
		For 300 LB Rating, Add	27.21	
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0009	EA	1-1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	183.66	17.16
		For 150 LB Rating, Add	9.80	
		For 200 LB Rating, Add	14.69	
		For 250 LB Rating, Add	24.49	
		For 300 LB Rating, Add	34.28	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0010	EA	2" Diameter, 125 LB, Threaded Bronze Gate Valve	235.12	20.27
		For 150 LB Rating, Add	13.38	
		For 200 LB Rating, Add	20.07	
		For 250 LB Rating, Add	33.46	
		For 300 LB Rating, Add	46.84	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0011	EA	2-1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	518.49	27.40
		For Chain Operated Type, Add	171.76	
		For 150 LB Rating, Add	38.17	
		For 200 LB Rating, Add	57.25	
		For 250 LB Rating, Add	95.42	
		For 300 LB Rating, Add	133.59	
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0012	EA	3" Diameter, 125 LB, Threaded Bronze Gate Valve	614.10	31.81
		For Chain Operated Type, Add	205.31	
		For 150 LB Rating, Add	45.63	
		For 200 LB Rating, Add	68.44	
		For 250 LB Rating, Add	114.06	
		For 300 LB Rating, Add	159.69	
		For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0013	EA	4" Diameter, 125 LB, Threaded Bronze Gate Valve	1,266.47	35.91
		For Chain Operated Type, Add	489.11	
		For 150 LB Rating, Add	108.69	
		For 200 LB Rating, Add	163.04	
		For 250 LB Rating, Add	271.73	
		For 300 LB Rating, Add	380.42	
		For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0014		Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001)		
		Note: 125 psi steam, basic rating, 200 psi cold working pressure.		
23 05 23 00-0015	EA	1-1/2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve	274.62	17.16
		For 150 LB Rating, Add	37.78	
		For 250 LB Rating, Add	66.12	
		For Chain Operated Type, Add	66.12	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0016	EA	2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve	420.51	20.27
		For 150 LB Rating, Add	63.84	
		For 250 LB Rating, Add	111.73	
		For Chain Operated Type, Add	111.73	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0017	EA	2-1/2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve	616.91	27.40
		For 150 LB Rating, Add	96.02	
		For 250 LB Rating, Add	168.04	
		For Chain Operated Type, Add	168.04	
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0018	EA	3" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve	787.77	31.81
		For 150 LB Rating, Add	125.98	
		For 250 LB Rating, Add	220.47	
		For Chain Operated Type, Add	220.47	
		For Work In Restricted Working Space, Add	47.36	



MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 05 23 00-0019	EA 4" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,875.24 339.14 593.49 593.49 53.87		35.91
23 05 23 00-0020	Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001) Note: 125 psi steam, basic rating. 200 psi cold working pressure.			
23 05 23 00-0021	EA 1-1/2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	602.76 132.29 228.08 529.46 228.08 43.98		116.99
23 05 23 00-0022	EA 2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	662.78 138.35 238.54 569.93 238.54 55.71		148.53
23 05 23 00-0023	EA 2-1/2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	758.96 166.00 286.20 665.68 286.20 55.97		148.78
23 05 23 00-0024	EA 3" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	933.77 207.48 357.73 824.62 357.73 65.49		174.43
23 05 23 00-0025	EA 4" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,320.45 276.66 477.00 1,137.23 477.00 109.94		292.42
23 05 23 00-0026	EA 5" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,649.21 359.63 620.05 1,444.65 620.05 122.74		327.80
23 05 23 00-0027	EA 6" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,983.01 442.57 763.05 1,754.56 763.05 137.07		364.23
23 05 23 00-0028	EA 8" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	3,106.12 733.12 1,264.00 2,817.06 1,264.00 173.44		465.40
23 05 23 00-0029	EA 10" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	4,046.82 968.20 1,669.31 3,692.72 1,669.31 212.46		566.57
23 05 23 00-0030	EA 12" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	5,628.14 1,383.22 2,384.66 5,198.93 2,384.66 257.53		687.97
23 05 23 00-0031	Class 125 Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001) Note: 125 psi steam, basic rating. 200 psi cold working pressure.			
23 05 23 00-0032	EA 1-1/2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	548.79 231.54 347.31 25.71		17.16
23 05 23 00-0033	EA 2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	699.93 299.32 448.98 30.39		20.27

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0034 EA 2-1/2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	811.85 337.52 506.28 41.04	27.40
23 05 23 00-0035 EA 3" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve..... For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	902.69 372.42 558.63 47.36	31.81
23 05 23 00-0036 EA 4" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve..... For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	1,208.08 514.26 771.39 53.87	35.91
23 05 23 00-0037 Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001)		
Note: 125 psi steam, basic rating. 200 psi cold working pressure for up to 12". 100 psi steam, basic rating. 150 psi cold working pressure for >12" to 24". 50 psi steam, basic rating. 150 psi cold working pressure for >24".		
23 05 23 00-0038 EA 1-1/2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	804.19 98.64 203.85 427.43 328.80 43.98	116.99
23 05 23 00-0039 EA 2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	862.83 101.57 209.91 440.13 338.57 55.71	148.53
23 05 23 00-0040 EA 2-1/2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	885.79 104.88 216.76 454.50 349.62 55.97	148.78
23 05 23 00-0041 EA 3" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	987.65 115.40 238.50 500.07 384.67 65.49	174.43
23 05 23 00-0042 EA 4" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,299.46 139.95 289.23 606.46 466.51 109.94	292.42
23 05 23 00-0043 EA 5" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,710.87 195.26 403.54 846.14 650.88 122.74	327.80
23 05 23 00-0044 EA 6" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,943.56 223.00 460.86 966.32 743.33 137.07	364.23
23 05 23 00-0045 EA 8" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	3,092.46 377.15 779.44 1,634.31 1,257.17 173.44	465.40
23 05 23 00-0046 EA 10" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	4,577.74 580.43 1,199.56 2,515.20 1,934.77 212.46	566.57
23 05 23 00-0047 EA 12" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	5,762.75 735.65 1,520.34 3,187.81 2,452.16 257.53	687.97
23 05 23 00-0048 EA 14" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	11,692.52 1,568.76 3,242.11 6,797.98 370.23	987.27



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0049	EA	16" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	15,268.26 2,086.61 4,312.34 9,041.99 407.25	1,086.00
23 05 23 00-0050	EA	18" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	20,980.90 2,921.30 6,037.35 12,658.95 451.68	1,204.48
23 05 23 00-0051	EA	20" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	26,732.73 3,755.38 7,761.11 16,273.30 509.06	1,357.50
23 05 23 00-0052	EA	24" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	36,620.04 5,180.63 10,706.63 22,449.38 624.76	1,666.03
23 05 23 00-0053	EA	30" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	76,785.94 11,008.83 22,751.58 47,704.92 1,018.13	2,715.01
23 05 23 00-0054	EA	36" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	97,776.26 13,987.69 28,907.89 60,613.31 1,357.50	3,620.01
23 05 23 00-0055	EA	42" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	114,533.69 16,318.97 33,725.87 70,715.53 1,722.17	4,592.45
23 05 23 00-0056	EA	48" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	137,650.71 19,571.25 40,447.25 84,808.75 2,152.71	5,740.57
23 05 23 00-0057	EA	54" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	165,180.85 23,485.50 48,536.70 101,770.50 2,583.26	6,888.68
23 05 23 00-0058		Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valves (23 05 23 00-0001) Note: 800 psig at 850 degrees F.		
23 05 23 00-0059	EA	1/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	165.15 9.73	11.14
23 05 23 00-0060	EA	1/2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	168.66 10.79	11.14
23 05 23 00-0061	EA	3/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	198.96 14.53	12.26
23 05 23 00-0062	EA	1" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	241.53 17.59	13.93
23 05 23 00-0063	EA	1-1/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	369.36 22.28	14.82
23 05 23 00-0064	EA	1-1/2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	436.92 25.71	17.16
23 05 23 00-0065	EA	2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve For Work In Restricted Working Space, Add	549.60 30.39	20.27
23 05 23 00-0066		Cast Steel Flanged Gate Valves (23 05 23 00-0001)		
23 05 23 00-0067		Class 150, Cast Steel, Flanged, Gate Valves (23 05 23 00-0066)		
23 05 23 00-0068	EA	2" Diameter, Class 150, Cast Steel, Flanged, Gate Valve For Work In Restricted Working Space, Add	1,751.63 55.71	148.53
23 05 23 00-0069	EA	2-1/2" Diameter, Class 150, Cast Steel, Flanged, Gate Valve For Work In Restricted Working Space, Add	2,432.56 55.97	148.78
23 05 23 00-0070	EA	3" Diameter, Class 150, Cast Steel, Flanged, Gate Valve For Work In Restricted Working Space, Add	2,464.31 65.49	174.43
23 05 23 00-0071	EA	4" Diameter, Class 150, Cast Steel, Flanged, Gate Valve For Work In Restricted Working Space, Add	3,207.80 109.94	292.42

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0072	EA	6" Diameter, Class 150, Cast Steel, Flanged, Gate Valve	4,760.73	364.23
		<i>For Work In Restricted Working Space, Add</i>	137.07	
23 05 23 00-0073	EA	8" Diameter, Class 150, Cast Steel, Flanged, Gate Valve	7,363.16	465.40
		<i>For Work In Restricted Working Space, Add</i>	173.44	
23 05 23 00-0074	EA	10" Diameter, Class 150, Cast Steel, Flanged, Gate Valve	10,611.15	566.57
		<i>For Work In Restricted Working Space, Add</i>	212.46	
23 05 23 00-0075	EA	12" Diameter, Class 150, Cast Steel, Flanged, Gate Valve	13,525.15	687.97
		<i>For Work In Restricted Working Space, Add</i>	257.53	
23 05 23 00-0076 Class 300, Cast Steel, Flanged, Gate Valves (23 05 23 00-0066)				
23 05 23 00-0077	EA	2" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	2,292.84	148.53
		<i>For Work In Restricted Working Space, Add</i>	55.71	
23 05 23 00-0078	EA	2-1/2" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	2,974.19	148.78
		<i>For Work In Restricted Working Space, Add</i>	55.97	
23 05 23 00-0079	EA	3" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	3,005.94	174.43
		<i>For Work In Restricted Working Space, Add</i>	65.49	
23 05 23 00-0080	EA	4" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	4,302.16	292.42
		<i>For Work In Restricted Working Space, Add</i>	109.94	
23 05 23 00-0081	EA	6" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	6,975.31	364.23
		<i>For Work In Restricted Working Space, Add</i>	137.07	
23 05 23 00-0082	EA	8" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	10,443.28	465.40
		<i>For Work In Restricted Working Space, Add</i>	173.44	
23 05 23 00-0083	EA	10" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	13,444.55	566.57
		<i>For Work In Restricted Working Space, Add</i>	212.46	
23 05 23 00-0084	EA	12" Diameter, Class 300, Cast Steel, Flanged, Gate Valve	22,763.50	687.97
		<i>For Work In Restricted Working Space, Add</i>	257.53	
23 05 23 00-0085 Class 600, Cast Steel, Flanged, Gate Valves (23 05 23 00-0066)				
23 05 23 00-0086	EA	2" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	3,365.31	148.53
		<i>For Work In Restricted Working Space, Add</i>	55.71	
23 05 23 00-0087	EA	2-1/2" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	4,269.51	148.78
		<i>For Work In Restricted Working Space, Add</i>	55.97	
23 05 23 00-0088	EA	3" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	4,301.26	174.43
		<i>For Work In Restricted Working Space, Add</i>	65.49	
23 05 23 00-0089	EA	4" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	6,472.97	292.42
		<i>For Work In Restricted Working Space, Add</i>	109.94	
23 05 23 00-0090	EA	6" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	12,602.31	364.23
		<i>For Work In Restricted Working Space, Add</i>	137.07	
23 05 23 00-0091	EA	8" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	26,800.96	465.40
		<i>For Work In Restricted Working Space, Add</i>	173.44	
23 05 23 00-0092	EA	10" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	39,894.21	566.57
		<i>For Work In Restricted Working Space, Add</i>	212.46	
23 05 23 00-0093	EA	12" Diameter, Class 600, Cast Steel, Flanged, Gate Valve	53,214.57	687.97
		<i>For Work In Restricted Working Space, Add</i>	257.53	
23 05 23 00-0094 Ball Valves (23 05 23)				
23 05 23 00-0095 Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valves (23 05 23 00-0094)				
		<i>Note: 125 LB WSP</i>		
23 05 23 00-0096	EA	1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	50.29	11.14
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	6.45	
		<i>For Work In Restricted Working Space, Add</i>	10.79	
23 05 23 00-0097	EA	3/4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	70.50	12.26
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	9.93	
		<i>For Work In Restricted Working Space, Add</i>	14.53	
23 05 23 00-0098	EA	1" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	88.42	13.93
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	13.40	
		<i>For Work In Restricted Working Space, Add</i>	17.59	
23 05 23 00-0099	EA	1-1/4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	124.28	14.82
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	22.50	
		<i>For Work In Restricted Working Space, Add</i>	22.28	
23 05 23 00-0100	EA	1-1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	149.57	17.16
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	28.74	
		<i>For Work In Restricted Working Space, Add</i>	25.71	
23 05 23 00-0101	EA	2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	181.28	20.27
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	36.00	
		<i>For Work In Restricted Working Space, Add</i>	30.39	
23 05 23 00-0102	EA	2-1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	514.30	27.40
		<i>For Extension Stems And Sleeves On Insulated Pipe, Add</i>	2.63	
		<i>For Full Port, Add</i>	169.87	
		<i>For Work In Restricted Working Space, Add</i>	41.04	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0103	EA	3" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Extension Stems And Sleeves On Insulated Pipe, Add</i> <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	593.40 2.63 196.00 47.36	31.81
23 05 23 00-0104	EA	4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Extension Stems And Sleeves On Insulated Pipe, Add</i> <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	773.37 2.63 267.21 53.87	35.91
23 05 23 00-0105 Screwed, 150 LB, Full Port, Carbon Steel Ball Valves (23 05 23 00-0094)				
23 05 23 00-0106	EA	1/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	59.89 9.73	11.14
23 05 23 00-0107	EA	1/2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	65.75 10.79	11.14
23 05 23 00-0108	EA	3/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	91.54 14.53	12.26
23 05 23 00-0109	EA	1" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	116.59 17.59	13.93
23 05 23 00-0110	EA	1-1/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	173.33 22.28	14.82
23 05 23 00-0111	EA	1-1/2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	211.19 25.71	17.16
23 05 23 00-0112	EA	2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	274.06 30.39	20.27
23 05 23 00-0113 Flanged, 150 LB, Full Port, Carbon Steel Ball Valves (23 05 23 00-0094)				
23 05 23 00-0114	EA	1-1/2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For 150 LB Rating, Add</i> <i>For 250 LB Rating, Add</i> <i>For 300 LB Rating, ASTM A182, Add</i> <i>For Chain Operated Type, Add</i> <i>For Work In Restricted Working Space, Add</i> <i>For Work In Restricted Working Space, Add</i>	489.10 99.33 171.25 415.80 171.25 43.98 43.98	116.99
23 05 23 00-0115	EA	2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For 150 LB Rating, Add</i> <i>For 250 LB Rating, Add</i> <i>For 300 LB Rating, ASTM A182, Add</i> <i>For Chain Operated Type, Add</i> <i>For Work In Restricted Working Space, Add</i> <i>For Work In Restricted Working Space, Add</i>	610.60 123.22 212.45 517.75 212.45 55.71 55.71	148.53
23 05 23 00-0116	EA	2-1/2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For 150 LB Rating, Add</i> <i>For 250 LB Rating, Add</i> <i>For 300 LB Rating, ASTM A182, Add</i> <i>For Chain Operated Type, Add</i> <i>For Work In Restricted Working Space, Add</i> <i>For Work In Restricted Working Space, Add</i>	962.74 225.09 388.09 869.46 388.09 55.97 55.97	148.78
23 05 23 00-0117	EA	3" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For 150 LB Rating, Add</i> <i>For 250 LB Rating, Add</i> <i>For 300 LB Rating, ASTM A182, Add</i> <i>For Chain Operated Type, Add</i> <i>For Work In Restricted Working Space, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,057.52 243.37 419.61 948.37 419.61 65.49 65.49	174.43
23 05 23 00-0118	EA	4" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	1,545.20 109.94	292.42
23 05 23 00-0119	EA	6" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	3,652.91 137.07	364.23
23 05 23 00-0120	EA	8" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve..... <i>For Work In Restricted Working Space, Add</i>	6,248.75 173.44	465.40
23 05 23 00-0121 Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valves (23 05 23 00-0094)				
23 05 23 00-0122	EA	1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	46.57 6.14 10.79	11.14
23 05 23 00-0123	EA	3/4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	60.67 7.44 14.53	12.26
23 05 23 00-0124	EA	1" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	75.67 9.89 17.59	13.93
23 05 23 00-0125	EA	1-1/4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	96.65 12.85 22.28	14.82
23 05 23 00-0126	EA	1-1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	124.63 20.07 25.71	17.16
23 05 23 00-0127	EA	2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	150.89 25.16 30.39	20.27

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0128	EA	2-1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	243.54 49.87 41.04	27.40
23 05 23 00-0129	EA	3" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	339.32 80.88 47.36	31.81
23 05 23 00-0130	EA	4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve..... <i>For True Union Socket Or Thread Type, Add</i> <i>For Work In Restricted Working Space, Add</i>	526.55 148.22 53.87	35.91
23 05 23 00-0131 Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valves (23 05 23 00-0094)				
23 05 23 00-0132	EA	1/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	91.81 19.41 14.60	16.71
23 05 23 00-0133	EA	3/8" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	94.37 19.41 15.37	16.71
23 05 23 00-0134	EA	1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	97.05 19.41 16.17	16.71
23 05 23 00-0135	EA	3/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	118.41 20.58 21.80	18.38
23 05 23 00-0136	EA	1" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	155.73 30.49 26.39	20.89
23 05 23 00-0137	EA	1-1/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	204.16 41.73 33.43	22.23
23 05 23 00-0138	EA	1-1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	251.86 55.49 38.57	25.73
23 05 23 00-0139	EA	2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	352.60 90.30 45.58	30.42
23 05 23 00-0140	EA	2-1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	692.19 219.14 61.56	41.09
23 05 23 00-0141	EA	3" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve..... <i>For Full Port, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,010.08 347.98 71.04	47.71
23 05 23 00-0142 Wye Strainer, Union With Two Pressure Ports, Ball Valves (23 05 23 00-0094)				
23 05 23 00-0143	EA	1/2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	171.67	11.14
23 05 23 00-0144	EA	3/4" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	220.08	14.48
23 05 23 00-0145	EA	1" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	283.85	17.83
23 05 23 00-0146	EA	1-1/4" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	387.72	24.51
23 05 23 00-0147	EA	1-1/2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	485.33	28.52
23 05 23 00-0148	EA	2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	641.20	33.43
23 05 23 00-0149 Plastic Ball Valves (23 05 23 00-0094)				
Note: Threaded or socket.				
23 05 23 00-0150 Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valves (23 05 23 00-0149)				
23 05 23 00-0151	EA	3/8" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	71.47	11.14
23 05 23 00-0152	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	74.63	11.14
23 05 23 00-0153	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	94.36	12.26
23 05 23 00-0154	EA	1" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	122.90	13.93
23 05 23 00-0155	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	145.97	14.82
23 05 23 00-0156	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	177.04	17.16
23 05 23 00-0157	EA	2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	215.82	20.27
23 05 23 00-0158 Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valves (23 05 23 00-0149)				
23 05 23 00-0159	EA	3/8" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	107.97	11.14
23 05 23 00-0160	EA	1/2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	109.47	11.14
23 05 23 00-0161	EA	3/4" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	137.49	12.26
23 05 23 00-0162	EA	1" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	169.78	13.93
23 05 23 00-0163	EA	1-1/4" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	256.75	14.82
23 05 23 00-0164	EA	1-1/2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	284.77	17.16



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0165 EA 2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346)	341.82	20.27
23 05 23 00-0166 Viton Liner And Seals, Polypropylene (PP) Ball Valves (23 05 23 00-0149)		
23 05 23 00-0167 EA 3/8" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	120.41	11.14
23 05 23 00-0168 EA 1/2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	130.20	11.14
23 05 23 00-0169 EA 3/4" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	149.10	12.26
23 05 23 00-0170 EA 1" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	183.05	13.93
23 05 23 00-0171 EA 1-1/4" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	230.21	14.82
23 05 23 00-0172 EA 1-1/2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	276.47	17.16
23 05 23 00-0173 EA 2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346)	358.40	20.27
23 05 23 00-0174 Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valves (23 05 23 00-0149)		
23 05 23 00-0175 EA 3/8" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	243.16	11.14
23 05 23 00-0176 EA 1/2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	259.59	11.14
23 05 23 00-0177 EA 3/4" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	308.34	12.26
23 05 23 00-0178 EA 1" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	360.54	13.93
23 05 23 00-0179 EA 1-1/4" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	439.22	14.82
23 05 23 00-0180 EA 1-1/2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	483.82	17.16
23 05 23 00-0181 EA 2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346)	557.46	20.27
23 05 23 00-0182 Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valves (23 05 23 00-0149)		
23 05 23 00-0183 EA 1/2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	48.34	11.14
23 05 23 00-0184 EA 3/4" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	64.75	12.26
23 05 23 00-0185 EA 1" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	78.55	13.93
23 05 23 00-0186 EA 1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	109.45	14.82
23 05 23 00-0187 EA 1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	120.88	17.16
23 05 23 00-0188 EA 2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact)	147.65	20.27
23 05 23 00-0189 Plastic, True Union, Ball Valves (23 05 23 00-0094)		
23 05 23 00-0190 Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valves (23 05 23 00-0189)		
Note: Socket or NPT connectors.		
23 05 23 00-0191 EA 3/8" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	117.09	11.14
23 05 23 00-0192 EA 1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	121.91	11.14
23 05 23 00-0193 EA 3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	147.44	12.26
23 05 23 00-0194 EA 1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	181.39	13.93
23 05 23 00-0195 EA 1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	218.60	14.82
23 05 23 00-0196 EA 1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	251.59	17.16
23 05 23 00-0197 EA 2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	308.64	20.27
23 05 23 00-0198 Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valves (23 05 23 00-0189)		
Note: Socket or NPT connectors.		
23 05 23 00-0199 EA 3/8" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	118.75	11.14
23 05 23 00-0200 EA 1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	138.50	11.14
23 05 23 00-0201 EA 3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	149.10	12.26
23 05 23 00-0202 EA 1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	181.39	13.93
23 05 23 00-0203 EA 1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	215.28	14.82
23 05 23 00-0204 EA 1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	249.93	17.16
23 05 23 00-0205 EA 2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	308.64	20.27

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0206	Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0189)		
Note: Socket or NPT connectors.			
23 05 23 00-0207	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	63.85 11.14
23 05 23 00-0208	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	81.92 12.26
23 05 23 00-0209	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	98.45 13.93
23 05 23 00-0210	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	129.85 14.82
23 05 23 00-0211	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	152.06 17.16
23 05 23 00-0212	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	209.11 20.27
23 05 23 00-0213	EA	2-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	292.74 27.40
23 05 23 00-0214	EA	3" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	370.18 31.81
23 05 23 00-0215	EA	4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	527.91 35.91
23 05 23 00-0216	Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valves (23 05 23 00-0189)		
Note: Socket or NPT connectors.			
23 05 23 00-0217	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	75.46 11.14
23 05 23 00-0218	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	98.50 12.26
23 05 23 00-0219	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	121.67 13.93
23 05 23 00-0220	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	170.49 14.82
23 05 23 00-0221	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	186.90 17.16
23 05 23 00-0222	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	240.63 20.27
23 05 23 00-0223	EA	2-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	418.81 27.40
23 05 23 00-0224	EA	3" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	489.61 31.81
23 05 23 00-0225	EA	4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	760.14 35.91
23 05 23 00-0226	Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0189)		
23 05 23 00-0227	Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0226)		
23 05 23 00-0228	EA	1/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	61.88 11.14
23 05 23 00-0229	EA	3/8" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	63.59 11.14
23 05 23 00-0230	EA	1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	65.09 11.14
23 05 23 00-0231	EA	3/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	82.91 12.26
23 05 23 00-0232	EA	1" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	101.52 13.93
23 05 23 00-0233	EA	1-1/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	123.94 14.82
23 05 23 00-0234	EA	1-1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	149.23 17.16
23 05 23 00-0235	EA	2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	190.87 20.27
23 05 23 00-0236	EA	2-1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	358.26 27.40
23 05 23 00-0237	EA	3" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	398.38 31.81
23 05 23 00-0238	EA	4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	553.62 35.91
23 05 23 00-0239	Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0226)		
23 05 23 00-0240	EA	1/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	61.88 11.14
23 05 23 00-0241	EA	3/8" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	63.59 11.14
23 05 23 00-0242	EA	1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	65.09 11.14
23 05 23 00-0243	EA	3/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	82.91 12.26
23 05 23 00-0244	EA	1" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	101.52 13.93
23 05 23 00-0245	EA	1-1/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	123.94 14.82
23 05 23 00-0246	EA	1-1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	149.23 17.16
23 05 23 00-0247	EA	2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	190.87 20.27
23 05 23 00-0248	EA	2-1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	358.26 27.40
23 05 23 00-0249	EA	3" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	398.38 31.81
23 05 23 00-0250	EA	4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	553.62 35.91
23 05 23 00-0251	Three Piece Ball Valves (23 05 23 00-0094)		
23 05 23 00-0252	Threaded Or Sweated, Bronze Body, Three Piece Ball Valves (23 05 23 00-0251)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0253 EA 1/4" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	98.53 9.73	11.14
23 05 23 00-0254 EA 3/8" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	100.24 10.25	11.14
23 05 23 00-0255 EA 1/2" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	112.56 10.79	11.14
23 05 23 00-0256 EA 3/4" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	142.45 14.53	12.26
23 05 23 00-0257 EA 1" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	182.11 17.59	13.93
23 05 23 00-0258 EA 1-1/4" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	251.76 22.28	14.82
23 05 23 00-0259 EA 1-1/2" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	315.47 25.71	17.16
23 05 23 00-0260 EA 2" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	517.60 30.39	20.27
23 05 23 00-0261 EA 2-1/2" Threaded Or Sweated, Bronze Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	1,116.47 44.56	29.08
23 05 23 00-0262 Threaded, Carbon Steel Body, Three Piece Ball Valves (23 05 23 00-0251)		
23 05 23 00-0263 EA 1/4" Threaded, Carbon Steel Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	114.48 9.73	11.14
23 05 23 00-0264 EA 3/8" Threaded, Carbon Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	125.43 10.25	11.14
23 05 23 00-0265 EA 1/2" Threaded, Carbon Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	133.12 10.79	11.14
23 05 23 00-0266 EA 3/4" Threaded, Carbon Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	212.74 14.53	12.26
23 05 23 00-0267 EA 1" Threaded, Carbon Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	271.94 17.59	13.93
23 05 23 00-0268 EA 1-1/4" Threaded, Carbon Steel Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	412.32 22.28	14.82
23 05 23 00-0269 EA 1-1/2" Threaded, Carbon Steel Body, Three Piece Ball Valve..... For Work In Restricted Working Space, Add	524.98 25.71	17.16
23 05 23 00-0270 EA 2" Threaded, Carbon Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	683.11 30.39	20.27
23 05 23 00-0271 Threaded, Stainless Steel Body, Three Piece Ball Valves (23 05 23 00-0251)		
23 05 23 00-0272 EA 1/4" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	297.71 9.73	11.14
23 05 23 00-0273 EA 3/8" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	319.18 10.25	11.14
23 05 23 00-0274 EA 1/2" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	336.44 10.79	11.14
23 05 23 00-0275 EA 3/4" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	488.27 14.53	12.26
23 05 23 00-0276 EA 1" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	595.30 17.59	13.93
23 05 23 00-0277 EA 1-1/4" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	694.94 22.28	14.82
23 05 23 00-0278 EA 1-1/2" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	931.33 25.71	17.16
23 05 23 00-0279 EA 2" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	1,212.65 30.39	20.27
23 05 23 00-0280 EA 3" Threaded, Stainless Steel Body, Three Piece Ball Valve For Work In Restricted Working Space, Add	3,193.47 51.42	34.54
23 05 23 00-0281 Globe Valves (23 05 23)		
23 05 23 00-0282 Threaded Or Sweated, 125 LB, Bronze Body, Globe Valves (23 05 23 00-0281)		
23 05 23 00-0283 EA 1/8" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve For 150 LB Rating, Add For 200 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, Add For Work In Restricted Working Space, Add	72.36 11.29 13.84 16.38 20.03 10.79	11.14
23 05 23 00-0284 EA 1/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve For 150 LB Rating, Add For 200 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, Add For Work In Restricted Working Space, Add	68.85 11.29 13.84 16.38 20.03 9.73	11.14
23 05 23 00-0285 EA 3/8" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve For 150 LB Rating, Add For 200 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, Add For Work In Restricted Working Space, Add	88.50 16.85 20.65 24.46 29.89 10.25	11.14

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0286 EA 1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	90.30	11.14
For 150 LB Rating, Add	16.85	
For 200 LB Rating, Add	20.65	
For 250 LB Rating, Add	24.46	
For 300 LB Rating, Add	29.89	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	74.17	
For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0287 EA 3/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	107.35	11.70
For 150 LB Rating, Add	18.26	
For 200 LB Rating, Add	22.39	
For 250 LB Rating, Add	26.51	
For 300 LB Rating, Add	32.40	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	84.18	
For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0288 EA 1" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	138.26	11.70
For 150 LB Rating, Add	24.68	
For 200 LB Rating, Add	30.26	
For 250 LB Rating, Add	35.83	
For 300 LB Rating, Add	43.79	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	111.04	
For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0289 EA 1-1/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	211.79	14.82
For 150 LB Rating, Add	42.63	
For 200 LB Rating, Add	52.25	
For 250 LB Rating, Add	61.88	
For 300 LB Rating, Add	75.63	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	180.97	
For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0290 EA 1-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	282.24	17.16
For 150 LB Rating, Add	60.92	
For 200 LB Rating, Add	74.68	
For 250 LB Rating, Add	88.44	
For 300 LB Rating, Add	108.09	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	250.47	
For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0291 EA 2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	332.33	20.27
For 150 LB Rating, Add	71.62	
For 200 LB Rating, Add	87.80	
For 250 LB Rating, Add	103.97	
For 300 LB Rating, Add	127.07	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	294.66	
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0292 EA 2-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	369.74	27.40
For 150 LB Rating, Add	72.21	
For 200 LB Rating, Add	88.51	
For 250 LB Rating, Add	104.82	
For 300 LB Rating, Add	128.11	
For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0293 EA 3" Globe Valve, Bronze, Threaded Or Soldered, 125 LB	679.72	31.81
For 150 LB Rating, Add	161.78	
For 200 LB Rating, Add	198.31	
For 250 LB Rating, Add	234.84	
For 300 LB Rating, Add	287.03	
For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0294 Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valves (23 05 23 00-0291)		
23 05 23 00-0295 EA 2" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	507.21	20.27
For 150 LB Rating, Add	125.84	
For 200 LB Rating, Add	154.25	
For 250 LB Rating, Add	182.66	
For 300 LB Rating, Add	223.26	
For Chain Operated Type, Add	338.94	
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0296 EA 2-1/2" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	628.83	27.40
For 150 LB Rating, Add	152.53	
For 200 LB Rating, Add	186.97	
For 250 LB Rating, Add	221.41	
For 300 LB Rating, Add	270.61	
For Chain Operated Type, Add	410.84	
For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0297 EA 3" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	748.27	31.81
For 150 LB Rating, Add	183.03	
For 200 LB Rating, Add	224.36	
For 250 LB Rating, Add	265.69	
For 300 LB Rating, Add	324.73	
For Chain Operated Type, Add	493.00	
For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0298 EA 4" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	966.74	35.91
For 150 LB Rating, Add	244.04	
For 200 LB Rating, Add	299.15	
For 250 LB Rating, Add	354.25	
For 300 LB Rating, Add	432.98	
For Chain Operated Type, Add	657.34	
For Work In Restricted Working Space, Add	53.85	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0299			Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valves (23 05 23 00-0281)		
23 05 23 00-0300	EA		2" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	576.50	148.53
			For 150 LB Rating, Add	121.15	
			For 250 LB Rating, Add	175.86	
			For Chain Operated Type, Add	195.40	
			For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0301	EA		2-1/2" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	662.97	148.78
			For 150 LB Rating, Add	147.69	
			For 250 LB Rating, Add	214.38	
			For Chain Operated Type, Add	238.21	
			For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0302	EA		3" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	790.00	174.43
			For 150 LB Rating, Add	177.22	
			For 250 LB Rating, Add	257.26	
			For Chain Operated Type, Add	285.85	
			For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0303	EA		4" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,128.70	292.42
			For 150 LB Rating, Add	236.30	
			For 250 LB Rating, Add	343.01	
			For Chain Operated Type, Add	381.13	
			For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0304	EA		5" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,469.13	327.80
			For 150 LB Rating, Add	328.60	
			For 250 LB Rating, Add	477.00	
			For Chain Operated Type, Add	530.01	
			For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0305	EA		6" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,796.81	364.23
			For 150 LB Rating, Add	415.37	
			For 250 LB Rating, Add	602.96	
			For Chain Operated Type, Add	669.95	
			For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0306	EA		8" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	2,638.60	465.40
			For 150 LB Rating, Add	638.75	
			For 250 LB Rating, Add	927.21	
			For Chain Operated Type, Add	1,030.24	
			For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0307	EA		10" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	3,846.54	566.57
			For 150 LB Rating, Add	972.89	
			For 250 LB Rating, Add	1,412.25	
			For Chain Operated Type, Add	1,569.17	
			For Work In Restricted Working Space, Add	212.46	
23 05 23 00-0308	EA		12" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	6,797.03	687.97
			For 150 LB Rating, Add	1,840.97	
			For 250 LB Rating, Add	2,672.37	
			For Chain Operated Type, Add	2,969.30	
			For Work In Restricted Working Space, Add	257.53	
23 05 23 00-0309			Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valves (23 05 23 00-0281)		
23 05 23 00-0310	EA		1/8" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	63.53	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0311	EA		1/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	60.02	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0312	EA		3/8" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	61.73	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0313	EA		1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	65.37	11.14
			For 150 LB Rating, Add	9.12	
			For 200 LB Rating, Add	11.18	
			For 300 LB Rating, Add	16.18	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0314	EA		3/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	89.23	11.70
			For 150 LB Rating, Add	12.64	
			For 200 LB Rating, Add	15.50	
			For 300 LB Rating, Add	22.43	
			For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0315	EA		1" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	112.17	11.70
			For 150 LB Rating, Add	16.59	
			For 200 LB Rating, Add	20.34	
			For 300 LB Rating, Add	29.44	
			For Work In Restricted Working Space, Add	17.59	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0316	EA	1-1/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	153.80	14.82
		For 150 LB Rating, Add	24.65	
		For 200 LB Rating, Add	30.22	
		For 300 LB Rating, Add	43.74	
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0317	EA	1-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	178.42	17.16
		For 150 LB Rating, Add	28.74	
		For 200 LB Rating, Add	35.23	
		For 300 LB Rating, Add	50.99	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0318	EA	2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	240.93	20.27
		For 150 LB Rating, Add	43.29	
		For 200 LB Rating, Add	53.06	
		For 300 LB Rating, Add	76.80	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0319	EA	2-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	400.45	29.75
		For 150 LB Rating, Add	78.09	
		For 200 LB Rating, Add	95.72	
		For 300 LB Rating, Add	138.54	
		For Work In Restricted Working Space, Add	44.57	
23 05 23 00-0320	EA	3" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	597.99	34.54
		For 150 LB Rating, Add	132.24	
		For 200 LB Rating, Add	162.10	
		For 300 LB Rating, Add	234.62	
		For Work In Restricted Working Space, Add	51.42	
23 05 23 00-0321 Flanged, 125 LB, Iron Body, Angle Globe Valves (23 05 23 00-0281)				
23 05 23 00-0322	EA	2" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	1,191.17	148.53
		For 250 LB Rating, Add	603.28	
		For Chain Operated Type, Add	392.13	
		For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0323	EA	2-1/2" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	1,375.70	148.78
		For 250 LB Rating, Add	713.48	
		For Chain Operated Type, Add	463.76	
		For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0324	EA	3" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	1,619.62	174.43
		For 250 LB Rating, Add	840.79	
		For Chain Operated Type, Add	546.51	
		For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0325	EA	4" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	2,367.93	292.42
		For 250 LB Rating, Add	1,200.89	
		For Chain Operated Type, Add	780.58	
		For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0326	EA	5" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	3,996.14	327.80
		For 250 LB Rating, Add	2,152.21	
		For Chain Operated Type, Add	1,398.94	
		For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0327	EA	6" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	4,043.93	364.23
		For 250 LB Rating, Add	2,152.21	
		For Chain Operated Type, Add	1,398.94	
		For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0328	EA	8" Flanged, 125 LB, Iron Body, Angle Globe Valve.....	7,598.65	465.40
		For 250 LB Rating, Add	4,212.31	
		For Chain Operated Type, Add	2,738.00	
		For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0329 Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valves (23 05 23 00-0281)				
		Note: 800 PSIG at 850 degrees F.		
23 05 23 00-0330	EA	1/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	208.85	18.05
		For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0331	EA	1/2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	212.36	18.05
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0332	EA	3/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	249.13	24.29
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0333	EA	1" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	307.88	29.30
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0334	EA	1-1/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	501.55	37.10
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0335	EA	1-1/2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	602.00	42.89
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0336	EA	2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve.....	766.48	50.70
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0337 Polyvinyl Chloride (PVC), Angle Globe Valves (23 05 23 00-0281)				
23 05 23 00-0338	EA	1/4" Polyvinyl Chloride (PVC), Angle Globe Valve.....	61.39	17.83
23 05 23 00-0339	EA	1/2" Polyvinyl Chloride (PVC), Angle Globe Valve.....	79.36	17.83
23 05 23 00-0340	EA	3/4" Polyvinyl Chloride (PVC), Angle Globe Valve.....	100.12	24.51
23 05 23 00-0341	EA	1" Polyvinyl Chloride (PVC), Angle Globe Valve.....	120.34	29.53
23 05 23 00-0342	EA	1-1/2" Polyvinyl Chloride (PVC), Angle Globe Valve.....	174.18	37.33
23 05 23 00-0343	EA	2" Polyvinyl Chloride (PVC), Angle Globe Valve.....	215.18	42.89



Heating, Ventilating, and Air-Conditioning (HVAC)

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Common Work Results for HVAC 23 05

General-Duty Valves For HVAC Piping 23 05 23

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0344 Flanged, Cast Steel, Globe Valves (23 05 23 00-0281)		
23 05 23 00-0345 Class 150, Flanged, Cast Steel, Globe Valves (23 05 23 00-0344)		
23 05 23 00-0346 EA 2" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	1,890.62 55.71	148.53
23 05 23 00-0347 EA 2-1/2" Class 150, Flanged, Cast Steel, Globe Valve For Work In Restricted Working Space, Add	2,669.83 55.97	148.78
23 05 23 00-0348 EA 3" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	2,701.58 65.49	174.43
23 05 23 00-0349 EA 4" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	3,824.04 109.94	292.42
23 05 23 00-0350 EA 6" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	5,928.64 137.07	364.23
23 05 23 00-0351 EA 8" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	9,667.70 173.44	465.40
23 05 23 00-0352 EA 10" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	21,773.45 212.46	566.57
23 05 23 00-0353 EA 12" Class 150, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	19,984.51 257.53	687.97
23 05 23 00-0354 Class 300, Flanged, Cast Steel, Globe Valves (23 05 23 00-0344)		
23 05 23 00-0355 EA 2" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	2,479.87 55.71	148.53
23 05 23 00-0356 EA 2-1/2" Class 300, Flanged, Cast Steel, Globe Valve For Work In Restricted Working Space, Add	3,268.67 55.97	148.78
23 05 23 00-0357 EA 3" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	3,300.42 65.49	174.43
23 05 23 00-0358 EA 4" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	5,155.76 109.94	292.42
23 05 23 00-0359 EA 6" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	8,744.19 137.07	364.23
23 05 23 00-0360 EA 8" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	13,794.01 173.44	465.40
23 05 23 00-0361 EA 10" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	27,800.55 212.46	566.57
23 05 23 00-0362 EA 12" Class 300, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	33,933.95 257.53	687.97
23 05 23 00-0363 Class 600, Flanged, Cast Steel, Globe Valves (23 05 23 00-0344)		
23 05 23 00-0364 EA 2" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	3,470.77 55.71	148.53
23 05 23 00-0365 EA 2-1/2" Class 600, Flanged, Cast Steel, Globe Valve For Work In Restricted Working Space, Add	5,158.93 55.97	148.78
23 05 23 00-0366 EA 3" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	5,190.68 65.49	174.43
23 05 23 00-0367 EA 4" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	7,999.11 109.94	292.42
23 05 23 00-0368 EA 6" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	16,213.69 137.07	364.23
23 05 23 00-0369 EA 8" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	28,796.68 173.44	465.40
23 05 23 00-0370 EA 10" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	42,876.51 212.46	566.57
23 05 23 00-0371 EA 12" Class 600, Flanged, Cast Steel, Globe Valve..... For Work In Restricted Working Space, Add	57,199.18 257.53	687.97
23 05 23 00-0372 Triple Duty Valves (23 05 23)		
Note: Valves function as a shut-off, check valve and calibrated balancing valve.		
23 05 23 00-0373 Straight Pattern, Triple Duty Valves (23 05 23 00-0372)		
Note: Bell & Gossett 3DX and 3DS-S Series.		
23 05 23 00-0374 EA 1" Threaded, Straight Pattern, Triple Duty Valve.....	304.47	11.70
23 05 23 00-0375 EA 1-1/4" Threaded, Straight Pattern, Triple Duty Valve.....	352.55	14.82
23 05 23 00-0376 EA 1-1/2" Threaded, Straight Pattern, Triple Duty Valve.....	382.57	17.16
23 05 23 00-0377 EA 2" Flanged, Straight Pattern, Triple Duty Valve.....	992.88	148.53
23 05 23 00-0378 EA 2-1/2" Flanged, Straight Pattern, Triple Duty Valve.....	1,118.99	148.78
23 05 23 00-0379 EA 3" Flanged, Straight Pattern, Triple Duty Valve.....	1,224.96	174.43
23 05 23 00-0380 EA 4" Flanged, Straight Pattern, Triple Duty Valve.....	2,509.65	292.42
23 05 23 00-0381 EA 5" Flanged, Straight Pattern Triple Duty Valve.....	2,937.35	327.80
23 05 23 00-0382 EA 6" Flanged, Straight Pattern, Triple Duty Valve.....	3,908.30	364.23
23 05 23 00-0383 EA 8" Flanged, Straight Pattern, Triple Duty Valve.....	5,263.48	465.40
23 05 23 00-0384 EA 10" Flanged, Straight Pattern, Triple Duty Valve.....	8,445.99	566.57
23 05 23 00-0385 Flanged, Angle Pattern, Triple Duty Valves (23 05 23 00-0372)		
Note: Bell & Gossett 3D-S Series.		
23 05 23 00-0386 EA 2" Flanged, Angle Pattern, Triple Duty Valve.....	969.68	148.53
23 05 23 00-0387 EA 2-1/2" Flanged, Angle Pattern, Triple Duty Valve.....	1,091.16	148.78

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0388	EA	3" Flanged, Angle Pattern, Triple Duty Valve.....	1,201.77	174.43
23 05 23 00-0389	EA	4" Flanged, Angle Pattern, Triple Duty Valve.....	2,449.34	292.42
23 05 23 00-0390	EA	5" Flanged, Angle Pattern, Triple Duty Valve.....	2,863.13	327.80
23 05 23 00-0391	EA	6" Flanged, Angle Pattern, Triple Duty Valve.....	3,212.45	364.23
23 05 23 00-0392	EA	8" Flanged, Angle Pattern, Triple Duty Valve.....	4,934.11	465.40
23 05 23 00-0393	EA	10" Flanged, Angle Pattern, Triple Duty Valve.....	6,595.04	566.57
23 05 23 00-0394 Balanced, Straight Pattern, Triple Duty Valves (23 05 23 00-0372)				
Note: Bell & Gossett 3DS-B Series.				
23 05 23 00-0395	EA	3" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	1,122.91	174.43
23 05 23 00-0396	EA	4" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	2,240.59	292.42
23 05 23 00-0397	EA	5" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	2,626.54	327.80
23 05 23 00-0398	EA	6" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	3,486.15	364.23
23 05 23 00-0399	EA	8" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	4,688.25	465.40
23 05 23 00-0400	EA	10" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	7,485.72	566.57
23 05 23 00-0401	EA	12" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	11,268.43	687.97
23 05 23 00-0402	EA	14" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	13,696.38	809.38
23 05 23 00-0403	EA	16" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	17,159.99	890.32
23 05 23 00-0404 Grooved Straight Pattern, Triple Duty Valves (23 05 23 00-0372)				
Note: Bell & Gossett 3DS-G Series.				
23 05 23 00-0405	EA	2" Grooved, Straight Pattern, Triple Duty Valve.....	1,061.24	27.52
23 05 23 00-0406	EA	2-1/2" Grooved, Straight Pattern, Triple Duty Valve.....	1,264.97	32.83
23 05 23 00-0407	EA	3" Grooved, Straight Pattern, Triple Duty Valve.....	1,472.88	35.60
23 05 23 00-0408	EA	4" Grooved, Straight Pattern, Triple Duty Valve.....	2,447.03	38.37
23 05 23 00-0409	EA	5" Grooved, Straight Pattern, Triple Duty Valve.....	2,837.07	51.60
23 05 23 00-0410	EA	6" Grooved, Straight Pattern Triple Duty Valve.....	3,782.48	66.17
23 05 23 00-0411	EA	8" Grooved, Straight Pattern Triple Duty Valve.....	5,144.80	83.98
23 05 23 00-0412	EA	10" Grooved, Straight Pattern Triple Duty Valve.....	8,120.65	94.09
23 05 23 00-0413	EA	12" Grooved, Straight Pattern Triple Duty Valve.....	12,895.30	114.73
23 05 23 00-0414 Plug Valves (23 05 23)				
23 05 23 00-0415 Plug Valves, Lubricated, Semisteel Screwed, Wrench Operated (23 05 23 00-0414)				
Note: Includes wrench.				
23 05 23 00-0416	EA	1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	293.99	11.14
23 05 23 00-0417	EA	3/4" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	306.48	12.26
23 05 23 00-0418	EA	1" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	387.77	13.93
23 05 23 00-0419	EA	1-1/4" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	463.97	14.82
23 05 23 00-0420	EA	1-1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	509.63	17.16
23 05 23 00-0421	EA	2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	601.56	20.27
23 05 23 00-0422	EA	2-1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	903.02	27.40
23 05 23 00-0423	EA	3" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	1,105.74	31.81
23 05 23 00-0424 Plug Valves, Lubricated, Semisteel Flanged (23 05 23 00-0414)				
Note: Wrench operated for 4", gear operated for 6" and 10".				
23 05 23 00-0425	EA	2" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	603.03	148.53
23 05 23 00-0426	EA	2-1/2" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	736.28	148.78
23 05 23 00-0427	EA	3" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	909.06	174.43
23 05 23 00-0428	EA	4" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	1,301.84	292.42
23 05 23 00-0429	EA	6" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	2,952.24	364.23
23 05 23 00-0430	EA	8" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	5,073.76	465.40
23 05 23 00-0431	EA	10" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	8,199.96	566.57
23 05 23 00-0432	EA	12" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	12,229.90	687.97
23 05 23 00-0433	EA	14" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	20,015.77	987.27
23 05 23 00-0434	EA	16" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	21,396.92	1,086.00
23 05 23 00-0435	EA	18" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	25,758.59	1,204.48
23 05 23 00-0436	EA	20" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	33,122.17	1,357.50
23 05 23 00-0437	EA	24" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	41,570.42	1,666.03
23 05 23 00-0438 Plug Valves, Forged Steel, Screwed (23 05 23 00-0414)				
23 05 23 00-0439	EA	1/2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,139.67	11.14
23 05 23 00-0440	EA	3/4" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,346.08	12.26
23 05 23 00-0441	EA	1" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,521.48	13.93
23 05 23 00-0442	EA	1-1/4" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,825.22	14.82
23 05 23 00-0443	EA	1-1/2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	2,125.55	17.16
23 05 23 00-0444	EA	2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	2,797.13	20.27
23 05 23 00-0445 Plug Valves, Eccentric, Cast Iron Flanged (23 05 23 00-0414)				
23 05 23 00-0446	EA	4" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	1,154.83	292.42
23 05 23 00-0447	EA	6" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	1,808.78	364.23
23 05 23 00-0448	EA	8" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	2,462.49	465.40
23 05 23 00-0449	EA	10" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	3,497.25	566.57
23 05 23 00-0450	EA	12" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	4,518.55	687.97



MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0451 Foot Valves (23 05 23)			
23 05 23 00-0452 Single Poppet Foot Valves, Metal To Metal Seat Construction (23 05 23 00-0451)			
23 05 23 00-0453	EA 1" Single Poppet Foot Valve, Metal To Metal Seat Construction	93.91	27.87
23 05 23 00-0454	EA 1-1/4" Single Poppet Foot Valve, Metal To Metal Seat Construction	106.91	31.21
23 05 23 00-0455	EA 1-1/2" Single Poppet Foot Valve, Metal To Metal Seat Construction	137.73	35.67
23 05 23 00-0456	EA 2" Single Poppet Foot Valve, Metal To Metal Seat Construction	182.08	40.13
23 05 23 00-0457	EA 2-1/2" Single Poppet Foot Valve, Metal To Metal Seat Construction	418.70	65.76
23 05 23 00-0458	EA 3" Single Poppet Foot Valve, Metal To Metal Seat Construction	535.93	80.25
23 05 23 00-0459 Double Poppet Foot Valves, Metal To Metal Seat Construction (23 05 23 00-0451)			
23 05 23 00-0460	EA 1" Double Poppet Foot Valve, Metal To Metal Seat Construction	93.91	27.87
23 05 23 00-0461	EA 1-1/4" Double Poppet Foot Valve, Metal To Metal Seat Construction	205.02	31.21
23 05 23 00-0462	EA 1-1/2" Double Poppet Foot Valve, Metal To Metal Seat Construction	194.33	35.67
23 05 23 00-0463	EA 2" Double Poppet Foot Valve, Metal To Metal Seat Construction	265.05	40.13
23 05 23 00-0464	EA 3" Double Poppet Foot Valve, Metal To Metal Seat Construction	521.58	65.76
23 05 23 00-0465	EA 4" Double Poppet Foot Valve, Metal To Metal Seat Construction	710.49	79.14
23 05 23 00-0466 Foot Valves, Buna-N-Ring And Stainless Steel Screen, SSI Model (23 05 23 00-0451)			
23 05 23 00-0467 Flanged Cast Iron Foot Valves, ASTM A126 Grade B (SSI 125FVIB) (23 05 23 00-0466)			
23 05 23 00-0468	EA 2" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	946.65	68.40
23 05 23 00-0469	EA 4" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	1,127.10	74.62
23 05 23 00-0470	EA 6" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	1,389.34	87.32
23 05 23 00-0471	EA 8" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	1,739.71	146.58
23 05 23 00-0472	EA 10" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	2,699.97	185.35
23 05 23 00-0473	EA 12" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	3,730.79	234.52
23 05 23 00-0474	EA 2" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	5,622.64	287.30
23 05 23 00-0475	EA 4" Flanged Cast Iron Foot Valve With Stainless Steel Screen, 125FVIB	8,945.33	348.24
23 05 23 00-0476 Flanged Cast Steel Foot Valve, ASTM A216 WBC (SSI 150FVFS) (23 05 23 00-0466)			
23 05 23 00-0477	EA 2" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	1,138.37	68.40
23 05 23 00-0478	EA 4" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	1,673.55	146.58
23 05 23 00-0479	EA 6" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	2,541.56	185.35
23 05 23 00-0480	EA 8" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	3,792.96	234.52
23 05 23 00-0481	EA 10" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	5,229.68	287.30
23 05 23 00-0482	EA 12" Flanged Cast Steel Foot Valve With Stainless Steel Screen, 125FVFS	7,674.04	348.24
23 05 23 00-0483 Flanged Cast Stainless Steel Foot Valve, ASTM A351 Grade CF8M (SSI 150FVFSS) (23 05 23 00-0466)			
23 05 23 00-0484	EA 2" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	956.74	68.40
23 05 23 00-0485	EA 4" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	1,629.03	146.58
23 05 23 00-0486	EA 6" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	2,541.81	110.88
23 05 23 00-0487	EA 8" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	3,786.83	234.52
23 05 23 00-0488	EA 10" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	5,505.38	287.30
23 05 23 00-0489	EA 12" Flanged Cast Stainless Steel Foot Valve With Stainless Steel Screen, 125FVFSS	9,363.44	348.24
23 05 23 00-0490 Float Valves (23 05 23)			
23 05 23 00-0491 Float Valve Assembly For Maintaining Liquid Level In Tanks (23 05 23 00-0490)			
23 05 23 00-0492 Single Seat, Bronze Construction (23 05 23 00-0491)			
Note: For storage tanks, reservoirs, cooling towers and filtration plants.			
23 05 23 00-0493	EA Inlet Size 1/2", Maximum PSI 100, Single Seat Float Valve	224.16	23.40
23 05 23 00-0494	EA Inlet Size 3/4", Maximum PSI 100, Single Seat Float Valve	256.81	27.86
23 05 23 00-0495	EA Inlet Size 1", Maximum PSI 100, Single Seat Float Valve	334.15	30.08
23 05 23 00-0496	EA Inlet Size 1-1/4", Maximum PSI 90, Single Seat Float Valve	559.26	37.88
23 05 23 00-0497	EA Inlet Size 1-1/2", Maximum PSI 90, Single Seat Float Valve	570.40	43.45
23 05 23 00-0498 Double Seat, Bronze Construction (23 05 23 00-0491)			
Note: For hot or cold water or oil to open tanks.			
23 05 23 00-0499	EA Pipe Size 1/2" Maximum PSI 150, Double Seat Float Valve	1,217.20	23.40
23 05 23 00-0500	EA Pipe Size 3/4" Maximum PSI 150, Double Seat Float Valve	1,226.12	27.86
23 05 23 00-0501	EA Pipe Size 1" Maximum PSI 150, Double Seat Float Valve	1,415.67	30.08
23 05 23 00-0502	EA Pipe Size 1-1/4" Maximum PSI 150, Double Seat Float Valve	1,564.27	37.88
23 05 23 00-0503	EA Pipe Size 1-1/2" Maximum PSI 150, Double Seat Float Valve	1,788.21	43.45
23 05 23 00-0504	EA Pipe Size 2" Maximum PSI 150, Double Seat Float Valve	2,346.46	51.25
23 05 23 00-0505	EA Pipe Size 2-1/2" Maximum PSI 150, Double Seat Float Valve	2,727.34	68.74
23 05 23 00-0506	EA Pipe Size 3" Maximum PSI 150, Double Seat Float Valve	3,280.89	79.00
23 05 23 00-0507 Float Valve Single Seated Balanced For Air Oil Or Water (23 05 23 00-0490)			
Note: Includes arm, ball and bracket.			
23 05 23 00-0508 Brass Body Threaded Ends (23 05 23 00-0507)			

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

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 05 23 00-0509	EA	1/2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	234.43		30.19
23 05 23 00-0510	EA	3/4" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	265.12		33.54
23 05 23 00-0511	EA	1" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	329.07		37.10
23 05 23 00-0512	EA	1-1/4" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	525.89		59.95
23 05 23 00-0513	EA	1-1/2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	549.95		68.30
23 05 23 00-0514	EA	2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	618.02		84.68
23 05 23 00-0515 Cast Iron Body Flanged (23 05 23 00-0507)					
23 05 23 00-0516	EA	2-1/2" Cast Iron Body, Flanged, Float Valve, Single Seated With Arm Ball And Bracket.....	7,666.02		148.78
23 05 23 00-0517	EA	3" Cast Iron Body, Flanged, Float Valve, Single Seated With Arm Ball And Bracket.....	9,269.89		174.43
23 05 23 00-0518 Float Operated Valves (23 05 23 00-0490)					
23 05 23 00-0519 For Condensate Receivers Tanks And Vessels (23 05 23 00-0518)					
Note: Cast iron body, self-contained, float in-line mount.					
23 05 23 00-0520	EA	1" Inlet, Float Operated Valve, Single Seated With Arm Ball And Bracket.....	849.32		52.36
23 05 23 00-0521 For Condensate Receivers Tanks And Vessels (23 05 23 00-0518)					
Note: Cast iron body, external float tank mount, flanged.					
23 05 23 00-0522	EA	3/4" Inlet, Float Operated Valve, Single Seated With Arm Ball And Bracket.....	1,065.27		97.47
23 05 23 00-0523 Needle Valves (23 05 23)					
23 05 23 00-0524 Bronze Needle Valve (23 05 23 00-0523)					
Note: For heating and cooling applications.					
23 05 23 00-0525	EA	1/4" Needle Valve, Bronze.....	116.28		11.14
23 05 23 00-0526	EA	3/8" Needle Valve, Bronze.....	129.81		11.14
23 05 23 00-0527	EA	1/2" Needle Valve, Bronze.....	142.09		11.14
23 05 23 00-0528	EA	3/4" Needle Valve, Bronze.....	216.08		12.26
23 05 23 00-0529	EA	1" Needle Valve, Bronze.....	332.09		13.93
23 05 23 00-0530 Eccentric Valves With Taps (23 05 23)					
23 05 23 00-0531 Screwed Eccentric Valves With Taps (23 05 23 00-0530)					
23 05 23 00-0532	EA	1/2" Diameter Eccentric Valves With Taps, Screwed.....	498.72		11.14
23 05 23 00-0533	EA	3/4" Diameter Eccentric Valves With Taps, Screwed.....	518.33		12.26
23 05 23 00-0534	EA	1" Diameter Eccentric Valves With Taps, Screwed.....	656.69		13.93
23 05 23 00-0535	EA	1-1/4" Diameter Eccentric Valves With Taps, Screwed.....	793.36		14.82
23 05 23 00-0536	EA	1-1/2" Diameter Eccentric Valves With Taps, Screwed.....	861.75		17.16
23 05 23 00-0537	EA	2" Diameter Eccentric Valves With Taps, Screwed.....	1,012.60		20.27
23 05 23 00-0538	EA	2-1/2" Diameter Eccentric Valves With Taps, Screwed.....	1,546.49		27.40
23 05 23 00-0539	EA	3" Diameter Eccentric Valves With Taps, Screwed.....	1,887.91		31.81
23 05 23 00-0540 Flanged Eccentric Valves With Taps (23 05 23 00-0530)					
23 05 23 00-0541	EA	2-1/2" Diameter Eccentric Valves With Taps, Flanged.....	1,859.67		148.78
23 05 23 00-0542	EA	3" Diameter Eccentric Valves With Taps, Flanged.....	2,211.80		174.43
23 05 23 00-0543	EA	4" Diameter Eccentric Valves With Taps, Flanged.....	2,893.91		292.42
23 05 23 00-0544	EA	5" Diameter Eccentric Valves With Taps, Flanged.....	3,968.92		327.80
23 05 23 00-0545	EA	6" Diameter Eccentric Valves With Taps, Flanged.....	5,084.65		364.23
23 05 23 00-0546	EA	8" Diameter Eccentric Valves With Taps, Flanged.....	8,943.66		465.40
23 05 23 00-0547	EA	10" Diameter Eccentric Valves With Taps, Flanged.....	12,633.53		566.57
23 05 23 00-0548	EA	12" Diameter Eccentric Valves With Taps, Flanged.....	22,039.24		687.97
23 05 23 00-0549 Earthquake-Sensitive Gas Shut-Off Valve (23 05 23)					
23 05 23 00-0550 0.5 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0549)					
23 05 23 00-0551	EA	3/4" Diameter Threaded, 0.5 PSI Earthquake Gas Shutoff Valve.....	162.80		12.26
23 05 23 00-0552	EA	1" Diameter Threaded, 0.5 PSI Earthquake Gas Shutoff Valve.....	184.54		13.93
23 05 23 00-0553 7 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0549)					
23 05 23 00-0554	EA	1-1/4" Diameter Threaded, 7 PSI Earthquake Gas Shutoff Valve.....	215.92		14.82
23 05 23 00-0555	EA	1-1/2" Diameter Threaded, 7 PSI Earthquake Gas Shutoff Valve.....	290.30		17.16
23 05 23 00-0556 60 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0549)					
23 05 23 00-0557	EA	3/4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	200.57		12.26
23 05 23 00-0558	EA	1" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	210.77		13.93
23 05 23 00-0559	EA	1-1/4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	236.91		14.82
23 05 23 00-0560	EA	1-1/2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	321.78		17.16
23 05 23 00-0561	EA	2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	730.81		20.27
23 05 23 00-0562	EA	2-1/2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	870.76		27.29
23 05 23 00-0563	EA	3" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	1,128.36		31.81
23 05 23 00-0564	EA	4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	1,307.46		35.91



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0565			60 PSI Flanged Earthquake Gas Shutoff Valves (23 05 23 00-0549)		
23 05 23 00-0566	EA		2" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,025.06	148.53
23 05 23 00-0567	EA		3" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,262.26	174.43
23 05 23 00-0568	EA		4" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,782.87	292.42
23 05 23 00-0569	EA		6" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	2,922.53	364.23
23 05 23 00-0570	EA		8" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	7,817.61	465.40
23 05 23 00-0571			Emergency Shut-Off Valve With Fusible Link (23 05 23)		
23 05 23 00-0572			Threaded, Fusible Brass Gate Valves (Morrison Bros. 939) (23 05 23 00-0571)		
			Note: Brass globe/gate valve used to shut off product flow in the event of a fire. Fusible element in the handwheel automatically closes the valve when in contact with 165° F.		
23 05 23 00-0573	EA		1/4" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	32.37	17.94
			For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0574	EA		3/8" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	84.12	18.94
			For Work In Restricted Working Space, Add	10.26	
23 05 23 00-0575	EA		1/2" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	138.69	17.94
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0576	EA		3/4" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	276.58	24.18
			For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0577	EA		1" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	705.43	29.30
			For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0578			Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI) (23 05 23 00-0571)		
			Note: Ductile iron body, cap, seat and swing arm. Viton® encapsulated Teflon® o-ring, Teflon® gasket, and stainless steel spring.		
23 05 23 00-0579	EA		1-1/2" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI)	532.46	17.16
23 05 23 00-0580	EA		2" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	573.24	20.27
23 05 23 00-0581	EA		3" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	964.47	31.81
23 05 23 00-0582			Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI) (23 05 23 00-0571)		
			Note: Ductile iron body, cap, seat and swing arm. Viton® encapsulated Teflon® o-ring, Teflon® gasket, and stainless steel spring.		
23 05 23 00-0583	EA		2" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	667.16	148.53
23 05 23 00-0584	EA		3" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	1,081.17	174.43
23 05 23 00-0585	EA		4" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	2,464.32	292.42
23 05 23 00-0586			Synthetic Sleeve Check Valve (23 05 23)		
23 05 23 00-0587			Synthetic Sleeve Fall-Out Flap/Duckbill Check Valve (23 05 23 00-0586)		
			Note: Model red valve series TF1, TF2 Or 35. For 35 series valves, select the valve and flange.		
23 05 23 00-0588	EA		4" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	1,359.91	218.55
23 05 23 00-0589	EA		8" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	3,000.14	288.85
23 05 23 00-0590	EA		12" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	4,860.66	428.87
23 05 23 00-0591	EA		20" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	13,330.72	695.66
23 05 23 00-0592	EA		24" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	14,286.09	856.12
23 05 23 00-0593	EA		30" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	24,534.56	1,366.13
23 05 23 00-0594	EA		36" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	29,602.79	2,732.26
23 05 23 00-0595	EA		48" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	52,554.11	3,635.53
23 05 23 00-0596	EA		54" Check Valve, Fall Out Flat Or Rounded Bottom Type, Buna-N Sleeve Material, 316 Stainless Steel Slip-On Clamps	70,376.79	4,042.24
23 05 23 00-0597	EA		4" Rounded Bottom, 316 Stainless Steel Flange, Addition	1,030.58	
23 05 23 00-0598	EA		8" Rounded Bottom, 316 Stainless Steel Flange, Addition	1,814.53	
23 05 23 00-0599	EA		12" Rounded Bottom, 316 Stainless Steel Flange, Addition	2,827.50	
23 05 23 00-0600	EA		20" Rounded Bottom, 316 Stainless Steel Flange, Addition	8,420.83	
23 05 23 00-0601	EA		24" Rounded Bottom, 316 Stainless Steel Flange, Addition	11,596.26	
23 05 23 00-0602	EA		30" Rounded Bottom, 316 Stainless Steel Flange, Addition	15,692.16	
23 05 23 00-0603	EA		36" Rounded Bottom, 316 Stainless Steel Flange, Addition	17,563.95	
23 05 23 00-0604	EA		48" Rounded Bottom, 316 Stainless Steel Flange, Addition	20,831.87	
23 05 23 00-0605	EA		54" Rounded Bottom, 316 Stainless Steel Flange, Addition	18,360.32	
23 05 23 00-0606			Synthetic Sleeve In-Line Flap/Duckbill Check Valve (23 05 23 00-0586)		
			Note: Cast iron body. Model red valve Series 39.		
23 05 23 00-0607	EA		4" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	2,749.54	292.42
23 05 23 00-0608	EA		8" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	7,589.24	465.40

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0609 EA 12" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	12,048.58	687.97
23 05 23 00-0610 EA 18" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	16,283.80	1,204.48
23 05 23 00-0611 EA 20" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	26,847.86	1,367.50
23 05 23 00-0612 EA 24" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Cast Iron Body, 316 Stainless Steel Flanges.....	30,668.08	1,666.03
23 05 23 00-0613 EA 4" Viton Sleeve Material, Addition.....	3,576.55	
23 05 23 00-0614 EA 8" Viton Sleeve Material, Addition.....	4,324.86	
23 05 23 00-0615 EA 12" Viton Sleeve Material, Addition.....	4,973.40	
23 05 23 00-0616 EA 18" Viton Sleeve Material, Addition.....	5,552.86	
23 05 23 00-0617 EA 20" Viton Sleeve Material, Addition.....	6,209.08	
23 05 23 00-0618 EA 24" Viton Sleeve Material, Addition.....	7,030.30	
23 05 23 00-0619 Synthetic Sleeve In-Line Flap/Duckbill Check Valve (23 05 23 00-0586)		
Note: 316 Stainless steel body. Model red valve Series 2633.		
23 05 23 00-0620 EA 1/2" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	370.48	11.14
23 05 23 00-0621 EA 3/4" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	408.93	12.26
23 05 23 00-0622 EA 1" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	505.64	13.93
23 05 23 00-0623 EA 1-1/2" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	642.30	17.16
23 05 23 00-0624 EA 2" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	721.33	20.27
23 05 23 00-0625 EA 3" Check Valve, In Line (Inserted), Buna-N Sleeve Material, Polyvinyl Chloride (PVC) Body, Threaded-End.....	924.97	31.81
23 05 23 00-0626 EA 1/2" Viton Sleeve Material, Addition.....	193.09	
23 05 23 00-0627 EA 3/4" Viton Sleeve Material, Addition.....	228.20	
23 05 23 00-0628 EA 1" Viton Sleeve Material, Addition.....	284.37	
23 05 23 00-0629 EA 1-1/2" Viton Sleeve Material, Addition.....	333.52	
23 05 23 00-0630 EA 2" Viton Sleeve Material, Addition.....	456.39	
23 05 23 00-0631 EA 3" Viton Sleeve Material, Addition.....	357.07	
23 05 23 00-0632 Check Valves (23 05 23)		
23 05 23 00-0633 Iron Body Wafer Type Check Valve (23 05 23 00-0632)		
23 05 23 00-0634 Single Disk Type (23 05 23 00-0633)		
23 05 23 00-0635 EA 2" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	469.28	148.59
For 150 LB Rating, Add	59.54	
For 200 LB Rating, Add	70.88	
For 300 LB Rating, Add	85.05	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	164.73	
23 05 23 00-0636 EA 2-1/2" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	558.10	148.87
For 150 LB Rating, Add	78.00	
For 200 LB Rating, Add	92.86	
For 300 LB Rating, Add	111.43	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	204.48	
23 05 23 00-0637 EA 3" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	687.93	174.53
For 150 LB Rating, Add	98.60	
For 200 LB Rating, Add	117.38	
For 300 LB Rating, Add	140.85	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	254.96	
23 05 23 00-0638 EA 4" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	1,002.56	292.59
For 150 LB Rating, Add	133.54	
For 200 LB Rating, Add	158.98	
For 300 LB Rating, Add	190.77	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	359.49	
23 05 23 00-0639 EA 6" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	1,509.35	410.66
For 150 LB Rating, Add	209.17	
For 200 LB Rating, Add	249.01	
For 300 LB Rating, Add	298.81	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	550.88	
23 05 23 00-0640 EA 8" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	2,116.72	472.25
For 150 LB Rating, Add	320.99	
For 200 LB Rating, Add	382.14	
For 300 LB Rating, Add	458.56	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	805.48	
23 05 23 00-0641 EA 10" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	3,165.28	574.92
For 150 LB Rating, Add	512.69	
For 200 LB Rating, Add	610.35	
For 300 LB Rating, Add	732.41	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	1,243.40	
23 05 23 00-0642 Twin Disc Type (23 05 23 00-0633)		
23 05 23 00-0643 EA 2" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	642.67	148.59
For 150 LB Rating, Add	95.95	
For 200 LB Rating, Add	114.22	
For 300 LB Rating, Add	137.07	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	242.76	
23 05 23 00-0644 EA 2-1/2" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	734.98	148.87
For 150 LB Rating, Add	115.15	
For 200 LB Rating, Add	137.08	
For 300 LB Rating, Add	164.50	
For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	284.08	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0645	EA	3" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	858.19	174.53
		For 150 LB Rating, Add	134.35	
		For 200 LB Rating, Add	159.94	
		For 300 LB Rating, Add	191.93	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	331.58	
23 05 23 00-0646	EA	4" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	1,179.11	292.59
		For 150 LB Rating, Add	170.61	
		For 200 LB Rating, Add	203.17	
		For 300 LB Rating, Add	243.74	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	438.93	
23 05 23 00-0647	EA	6" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	1,823.41	410.66
		For 150 LB Rating, Add	275.12	
		For 200 LB Rating, Add	327.53	
		For 300 LB Rating, Add	393.03	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	692.21	
23 05 23 00-0648	EA	8" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	2,587.39	472.25
		For 150 LB Rating, Add	420.16	
		For 200 LB Rating, Add	500.19	
		For 300 LB Rating, Add	600.23	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	1,017.67	
23 05 23 00-0649	EA	10" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	3,887.51	564.64
		For 150 LB Rating, Add	665.40	
		For 200 LB Rating, Add	792.15	
		For 300 LB Rating, Add	950.57	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	1,569.65	
23 05 23 00-0650	EA	12" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	5,115.24	698.11
		For 150 LB Rating, Add	891.49	
		For 200 LB Rating, Add	1,061.30	
		For 300 LB Rating, Add	1,273.56	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	2,084.35	
23 05 23 00-0651	EA	14" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	9,737.90	829.08
		For 150 LB Rating, Add	1,612.82	
		For 200 LB Rating, Add	2,158.12	
		For 300 LB Rating, Add	2,589.74	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	4,105.70	
23 05 23 00-0652	EA	16" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	13,403.01	972.79
		For 150 LB Rating, Add	2,559.27	
		For 200 LB Rating, Add	3,046.76	
		For 300 LB Rating, Add	3,656.11	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	5,727.36	
23 05 23 00-0653	EA	18" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	17,897.96	1,083.34
		For 150 LB Rating, Add	3,474.84	
		For 200 LB Rating, Add	4,136.72	
		For 300 LB Rating, Add	4,964.06	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	7,716.31	
23 05 23 00-0654	EA	20" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	21,307.98	1,215.99
		For 150 LB Rating, Add	4,155.48	
		For 200 LB Rating, Add	4,947.00	
		For 300 LB Rating, Add	5,936.40	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	9,208.60	
23 05 23 00-0655	EA	24" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	27,871.50	1,492.34
		For 150 LB Rating, Add	5,460.16	
		For 200 LB Rating, Add	6,500.19	
		For 300 LB Rating, Add	7,800.23	
		For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	12,074.49	
23 05 23 00-0656		Lift Check Valves (23 05 23 00-0632)		
23 05 23 00-0657		Bronze Body, Threaded, Vertical Lift Check Valves (23 05 23 00-0656)		
		Note: Watts #600 series.		
23 05 23 00-0658	EA	3/8" Lift Check Valve, Bronze, Threaded.....	119.61	11.14
23 05 23 00-0659	EA	1/2" Lift Check Valve, Bronze, Threaded.....	126.58	11.14
23 05 23 00-0660	EA	3/4" Lift Check Valve, Bronze, Threaded.....	161.32	11.70
23 05 23 00-0661	EA	1" Lift Check Valve, Bronze, Threaded.....	212.69	11.70
23 05 23 00-0662	EA	1-1/4" Lift Check Valve, Bronze, Threaded.....	295.09	14.82
23 05 23 00-0663	EA	1-1/2" Lift Check Valve, Bronze, Threaded.....	359.12	17.16
23 05 23 00-0664	EA	2" Lift Check Valve, Bronze, Threaded.....	512.38	20.27
23 05 23 00-0665		Bronze Body, Threaded, 300 LB, Lift Check Valves (23 05 23 00-0656)		
		Note: Crane 366E.		
23 05 23 00-0666	EA	1/2" Lift Check Valve, Bronze, Threaded, 300 LB.....	745.81	11.14
23 05 23 00-0667	EA	3/4" Lift Check Valve, Bronze, Threaded, 300 LB.....	905.79	11.70
23 05 23 00-0668	EA	1" Lift Check Valve, Bronze, Threaded, 300 LB.....	1,625.89	11.70
23 05 23 00-0669	EA	1-1/4" Lift Check Valve, Bronze, Threaded, 300 LB.....	2,167.01	14.82
23 05 23 00-0670	EA	1-1/2" Lift Check Valve, Bronze, Threaded, 300 LB.....	2,353.62	17.16
23 05 23 00-0671	EA	2" Lift Check Valve, Bronze, Threaded, 300 LB.....	3,023.70	20.27
23 05 23 00-0672		Iron Body, Flanged, 125 LB Vertical Lift Check Valves (23 05 23 00-0656)		
		Note: Mueller 105MAP.		
23 05 23 00-0673	EA	2" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,085.56	148.53
23 05 23 00-0674	EA	2-1/2" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,630.69	148.78
23 05 23 00-0675	EA	3" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,775.41	174.43

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0676	EA	4" Lift Check Valve, Iron Body, Flanged, 125 LB	2,458.96	292.42
23 05 23 00-0677	EA	5" Lift Check Valve, Iron Body, Flanged, 125 LB	3,100.90	327.80
23 05 23 00-0678	EA	6" Lift Check Valve, Iron Body, Flanged, 125 LB	3,829.00	364.23
23 05 23 00-0679	EA	8" Lift Check Valve, Iron Body, Flanged, 125 LB	6,750.06	465.40
23 05 23 00-0680	EA	10" Lift Check Valve, Iron Body, Flanged, 125 LB	8,478.98	566.57
23 05 23 00-0681	EA	12" Lift Check Valve, Iron Body, Flanged, 125 LB	13,786.81	687.97
23 05 23 00-0682	EA	14" Lift Check Valve, Iron Body, Flanged, 125 LB	18,848.52	987.27
23 05 23 00-0683	EA	16" Lift Check Valve, Iron Body, Flanged, 125 LB	20,887.61	1,086.00
23 05 23 00-0684		Bronze Body Swing Check Valves (23 05 23 00-0632)		
23 05 23 00-0685		Bronze Body, Threaded, Brazed Or Soldered Installation, 125 LB, Swing Check Valves (23 05 23 00-0684)		
23 05 23 00-0686	EA	1/8" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	80.82	11.14
		For 300 LB Rating, Add	17.50	
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0687	EA	1/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	77.31	11.14
		For 300 LB Rating, Add	17.50	
		For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0688	EA	3/8" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	79.02	11.14
		For 300 LB Rating, Add	17.50	
		For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0689	EA	1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	82.57	11.14
		For 300 LB Rating, Add	18.18	
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0690	EA	3/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	104.93	11.70
		For 300 LB Rating, Add	22.03	
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0691	EA	1" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	135.35	11.70
		For 300 LB Rating, Add	29.92	
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0692	EA	1-1/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	181.95	14.82
		For 300 LB Rating, Add	41.99	
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0693	EA	1-1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	236.49	17.16
		For 300 LB Rating, Add	58.80	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0694	EA	2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	295.15	20.27
		For 300 LB Rating, Add	75.61	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0695	EA	2-1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	582.46	27.40
		For 300 LB Rating, Add	173.80	
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0696	EA	3" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	791.67	31.81
		For 300 LB Rating, Add	247.19	
		For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0697	EA	4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	896.80	35.91
		For 300 LB Rating, Add	279.72	
		For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0698		Bronze Body, Flanged, 125 LB, Swing Check Valves (23 05 23 00-0684)		
23 05 23 00-0699	EA	2" Swing Check Valve, Bronze Body, Flanged, 125 LB	384.10	148.53
		For Work In Restricted Working Space, Add	55.71	
		For 150 Lb. Rated Valves, Add	87.30	
		For 250 Lb. Rated Valves, Add	257.92	
23 05 23 00-0700	EA	2-1/2" Swing Check Valve, Bronze Body, Flanged, 125 LB	401.84	148.78
		For Work In Restricted Working Space, Add	55.97	
		For 150 Lb. Rated Valves, Add	94.72	
		For 250 Lb. Rated Valves, Add	279.86	
23 05 23 00-0701	EA	3" Swing Check Valve, Bronze Body, Flanged, 125 LB	487.13	174.43
		For Work In Restricted Working Space, Add	65.49	
		For 150 Lb. Rated Valves, Add	118.28	
		For 250 Lb. Rated Valves, Add	349.47	
23 05 23 00-0702	EA	4" Swing Check Valve, Bronze Body, Flanged, 125 LB	766.70	292.42
		For Work In Restricted Working Space, Add	109.94	
		For 150 Lb. Rated Valves, Add	176.11	
		For 250 Lb. Rated Valves, Add	520.33	
23 05 23 00-0703	EA	5" Swing Check Valve, Bronze Body, Flanged, 125 LB	1,120.21	327.80
		For Work In Restricted Working Space, Add	122.74	
		For 150 Lb. Rated Valves, Add	312.88	
		For 250 Lb. Rated Valves, Add	924.42	
23 05 23 00-0704	EA	6" Swing Check Valve, Bronze Body, Flanged, 125 LB	1,168.00	364.23
		For Work In Restricted Working Space, Add	137.07	
		For 150 Lb. Rated Valves, Add	312.88	
		For 250 Lb. Rated Valves, Add	924.42	
23 05 23 00-0705	EA	8" Swing Check Valve, Bronze Body, Flanged, 125 LB	1,922.21	465.40
		For Work In Restricted Working Space, Add	173.44	
		For 150 Lb. Rated Valves, Add	591.40	
23 05 23 00-0706	EA	10" Swing Check Valve, Bronze Body, Flanged, 125 LB	2,735.36	566.57
		For Work In Restricted Working Space, Add	212.46	
		For 150 Lb. Rated Valves, Add	891.95	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0707	EA		12" Swing Check Valve, Bronze Body, Flanged, 125 LB..... For Work In Restricted Working Space, Add For 150 Lb. Rated Valves, Add	3,502.47 257.53 1,163.38	687.97
23 05 23 00-0708	EA		14" Swing Check Valve, Bronze Body, Flanged, 125 LB..... For Work In Restricted Working Space, Add For 150 Lb. Rated Valves, Add	10,021.97 370.23 3,866.67	987.27
23 05 23 00-0709	EA		16" Swing Check Valve, Bronze Body, Flanged, 125 LB..... For Work In Restricted Working Space, Add For 150 Lb. Rated Valves, Add	12,812.44 407.25 5,040.17	1,086.00
23 05 23 00-0710	EA		18" Swing Check Valve, Bronze Body, Flanged, 125 LB..... For Work In Restricted Working Space, Add For 150 Lb. Rated Valves, Add	16,471.34 451.68 6,585.15	1,204.48
23 05 23 00-0711	EA		20" Swing Check Valve, Bronze Body, Flanged, 125 LB..... For Work In Restricted Working Space, Add For 150 Lb. Rated Valves, Add	20,435.78 509.06 8,245.12	1,357.50
23 05 23 00-0712			125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves (23 05 23 00-0632)		
23 05 23 00-0713	EA		1" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	516.82 279.96 535.22 31.53	83.56
23 05 23 00-0714	EA		1-1/4" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	574.69 308.43 589.65 36.33	97.49
23 05 23 00-0715	EA		1-1/2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	638.56 334.53 639.55 43.98	116.99
23 05 23 00-0716	EA		2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	796.71 415.49 794.31 55.71	148.53
23 05 23 00-0717	EA		2-1/2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	899.64 484.89 927.00 55.97	148.78
23 05 23 00-0718	EA		3" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	993.22 526.94 1,007.38 65.49	174.43
23 05 23 00-0719	EA		4" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	1,564.02 814.35 1,556.84 109.94	292.42
23 05 23 00-0720	EA		5" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	2,167.39 1,195.62 2,285.75 122.74	327.80
23 05 23 00-0721	EA		6" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	2,495.54 1,386.27 2,650.22 137.07	364.23
23 05 23 00-0722	EA		8" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	5,667.84 3,461.00 6,616.62 173.44	465.40
23 05 23 00-0723	EA		10" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	7,636.38 4,711.16 9,006.63 212.46	566.57
23 05 23 00-0724	EA		12" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	11,662.60 7,346.84 14,045.42 257.53	687.97
23 05 23 00-0725	EA		14" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	13,465.89 8,317.62 15,901.34 370.23	987.27
23 05 23 00-0726	EA		16" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	19,173.03 12,114.56 23,160.19 407.25	1,086.00
23 05 23 00-0727	EA		18" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	29,506.60 19,040.69 36,401.31 451.68	1,204.48
23 05 23 00-0728	EA		20" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	40,669.59 26,501.44 50,664.52 509.06	1,357.50
23 05 23 00-0729	EA		24" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves..... For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	56,641.89 37,100.36 70,927.16 624.76	1,666.03

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0730	APCO Iron Body, Bronze Trim, Flanged, 250 LB, Swing Check Valves (23 05 23 00-0632)			
	Note: AWWA C-509, side mounted oil cushion.			
23 05 23 00-0731	EA	6" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Side Mounted Oil Cushion.....	21,125.69	364.23
		For Asphalt Varnish Interior, Add	104.00	
23 05 23 00-0732	EA	8" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Side Mounted Oil Cushion.....	22,283.03	465.40
		For Asphalt Varnish Interior, Add	112.00	
23 05 23 00-0733	EA	10" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Side Mounted Oil Cushion.....	33,902.58	566.57
		For Asphalt Varnish Interior, Add	160.00	
23 05 23 00-0734	EA	12" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Side Mounted Oil Cushion.....	39,908.83	687.97
		For Asphalt Varnish Interior, Add	168.00	
23 05 23 00-0735	APCO Iron Body, Bronze Trim, Flanged, 250 LB, Swing Check Valves (23 05 23 00-0632)			
	Note: AWWA C-509, bottom buffer oil cushion.			
23 05 23 00-0736	EA	8" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Bottom Buffer Oil Cushion.....	20,226.13	465.40
		For Asphalt Varnish Interior, Add	112.00	
23 05 23 00-0737	EA	10" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Bottom Buffer Oil Cushion.....	24,788.51	566.57
		For Asphalt Varnish Interior, Add	160.00	
23 05 23 00-0738	EA	12" Swing Check Valve, Iron Body, Bronze Trim, Flanged, 250 LB, AWWA C-509. Primer Interior, Bottom Buffer Oil Cushion.....	28,315.74	687.97
		For Asphalt Varnish Interior, Add	168.00	
23 05 23 00-0739	Class 800 Forged Steel, Screwed, Chrome Trim, Bolted Bonnet, Piston Check, Swing Check Valves (23 05 23 00-0632)			
	Note: 800 PSIG at 850 Degrees F.			
23 05 23 00-0740	EA	1/2" Class 800, Threaded, Forged Steel Swing Check Valve.....	191.32	11.14
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0741	EA	3/4" 800, Threaded, Forged Steel Swing Check Valve.....	224.85	12.26
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0742	EA	1" Class 800, Threaded, Forged Steel Swing Check Valve.....	265.80	13.93
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0743	EA	1-1/4" Class 800, Threaded, Forged Steel Swing Check Valve.....	413.08	14.82
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0744	EA	1-1/2" 800, Threaded, Forged Steel Swing Check Valve.....	490.33	17.16
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0745	EA	2" Class 800, Threaded, Forged Steel Swing Check Valve.....	664.52	20.27
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0746	Plastic Check Valve (23 05 23 00-0632)			
23 05 23 00-0747	Polyvinyl Chloride (PVC) Check Valve (23 05 23 00-0746)			
23 05 23 00-0748	Polyvinyl Chloride (PVC) "Y" Check Valve (23 05 23 00-0747)			
23 05 23 00-0749	EA	1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	93.97	11.14
23 05 23 00-0750	EA	3/4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	110.74	12.26
23 05 23 00-0751	EA	1" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	127.02	13.93
23 05 23 00-0752	EA	1-1/4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	181.77	14.82
23 05 23 00-0753	EA	1-1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	202.16	17.16
23 05 23 00-0754	EA	2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	331.87	18.67
23 05 23 00-0755	EA	2-1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	424.45	27.40
23 05 23 00-0756	EA	3" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	464.40	31.81
23 05 23 00-0757	EA	4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket.....	681.18	35.91
23 05 23 00-0758	EA	3" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Flanged.....	648.27	174.43
23 05 23 00-0759	Polyvinyl Chloride (PVC) True Union Ball Check Valve (23 05 23 00-0747)			
23 05 23 00-0760	Valves (23 05 23 00-0759)			
23 05 23 00-0761	EA	1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	70.78	11.14
23 05 23 00-0762	EA	3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	88.25	12.26
23 05 23 00-0763	EA	1" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	108.40	13.93
23 05 23 00-0764	EA	1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	140.63	14.82
23 05 23 00-0765	EA	1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	165.33	17.16
23 05 23 00-0766	EA	2" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	245.61	20.27
23 05 23 00-0767	EA	3" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	403.88	27.40
23 05 23 00-0768	EA	4" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	693.64	31.81
23 05 23 00-0769	Foot Valve Screen (23 05 23 00-0759)			
	Note: For use with PVC true union ball check valves above.			
23 05 23 00-0770	EA	1/2" Foot Valve Screen Option.....	59.16	
23 05 23 00-0771	EA	3/4" Foot Valve Screen Option.....	70.74	



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0772	EA	1" Foot Valve Screen Option	81.97	
23 05 23 00-0773	EA	1-1/4" Foot Valve Screen Option	123.75	
23 05 23 00-0774	EA	1-1/2" Foot Valve Screen Option	136.92	
23 05 23 00-0775	EA	2" Foot Valve Screen Option	148.15	
23 05 23 00-0776	EA	2-1/2" Foot Valve Screen Option	176.76	
23 05 23 00-0777	EA	3" Foot Valve Screen Option	205.38	
23 05 23 00-0778	EA	4" Foot Valve Screen Option	249.26	
23 05 23 00-0779 Hayward "True Check" With VITON Seals (23 05 23 00-0759)				
23 05 23 00-0780	EA	1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	63.96	11.14
23 05 23 00-0781	EA	3/8" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	65.67	11.14
23 05 23 00-0782	EA	1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	71.61	11.14
23 05 23 00-0783	EA	3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	88.17	12.26
23 05 23 00-0784	EA	1" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	109.57	13.93
23 05 23 00-0785	EA	1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	140.55	14.82
23 05 23 00-0786	EA	1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	170.31	17.16
23 05 23 00-0787	EA	2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	214.09	20.27
23 05 23 00-0788	EA	2-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	398.90	27.40
23 05 23 00-0789	EA	3" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	436.53	31.81
23 05 23 00-0790	EA	4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	694.62	35.91
23 05 23 00-0791 Hayward "True Check" With Ethylene Propylene Diene Monomer (EPDM) Seals (23 05 23 00-0759)				
23 05 23 00-0792	EA	1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	67.47	11.14
23 05 23 00-0793	EA	3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	84.10	12.26
23 05 23 00-0794	EA	1" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	103.93	13.93
23 05 23 00-0795	EA	1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	134.41	14.82
23 05 23 00-0796	EA	1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	159.03	17.16
23 05 23 00-0797	EA	2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	204.14	20.27
23 05 23 00-0798	EA	2-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	383.97	27.40
23 05 23 00-0799	EA	3" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	424.09	31.81
23 05 23 00-0800	EA	4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded	675.54	35.91
23 05 23 00-0801 Polyvinyl Chloride (PVC) Check Valve, Ethylene Propylene Diene Monomer (EPDM) Housing, Flanged (23 05 23 00-0747)				
23 05 23 00-0802	EA	1" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	341.10	66.86
23 05 23 00-0803	EA	1-1/4" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	371.29	77.99
23 05 23 00-0804	EA	1-1/2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	407.14	97.49
23 05 23 00-0805	EA	2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	495.85	122.56
23 05 23 00-0806	EA	2-1/2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	599.69	123.20
23 05 23 00-0807	EA	3" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	821.11	143.72
23 05 23 00-0808	EA	4" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	1,131.60	243.82
23 05 23 00-0809	EA	6" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing	1,858.17	410.66
23 05 23 00-0810 Swing Check Valves, 150 LB Polyvinyl Chloride (PVC) Socket Weld End Connections (23 05 23 00-0746)				
23 05 23 00-0811	EA	1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	79.41	11.14
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0812	EA	3/4" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	91.90	12.26
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0813	EA	1" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	103.81	13.93
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0814	EA	1-1/4" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	121.32	14.82
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0815	EA	1-1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	135.47	17.16
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0816	EA	2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	178.65	20.27
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0817	EA	2-1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	246.95	27.40
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0818	EA	3" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	300.78	31.81
		For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0819		Polyvinyl Chloride (PVC) Body, Swing Check Valves (23 05 23 00-0746)		
23 05 23 00-0820		Polyvinyl Chloride (PVC) Body, Swing Check Valves With Ethylene Propylene Diene Monomer (EPDM) Seals (23 05 23 00-0819)		

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0821 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals <i>For Work In Restricted Working Space, Add</i>	646.03 54.97	143.64
23 05 23 00-0822 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals <i>For Work In Restricted Working Space, Add</i>	819.33 90.53	243.68
23 05 23 00-0823 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals <i>For Work In Restricted Working Space, Add</i>	1,327.27 124.98	303.52
23 05 23 00-0824 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals <i>For Work In Restricted Working Space, Add</i>	1,773.97 141.64	384.45
23 05 23 00-0825 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Viton Seals (23 05 23 00-0819)		
23 05 23 00-0826 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	765.46 54.97	143.64
23 05 23 00-0827 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	1,083.07 90.53	243.68
23 05 23 00-0828 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	1,577.09 124.98	303.52
23 05 23 00-0829 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	2,072.55 141.64	384.45
23 05 23 00-0830 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter Weights (23 05 23 00-0819)		
23 05 23 00-0831 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights <i>For Work In Restricted Working Space, Add</i>	796.98 54.97	143.64
23 05 23 00-0832 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights <i>For Work In Restricted Working Space, Add</i>	1,085.56 90.53	243.68
23 05 23 00-0833 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights <i>For Work In Restricted Working Space, Add</i>	1,466.61 124.98	303.52
23 05 23 00-0834 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights <i>For Work In Restricted Working Space, Add</i>	1,888.76 141.64	384.45
23 05 23 00-0835 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Viton Seals And Counter Weights (23 05 23 00-0819)		
23 05 23 00-0836 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	896.50 54.97	143.64
23 05 23 00-0837 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	1,230.71 90.53	243.68
23 05 23 00-0838 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	1,673.96 124.98	303.52
23 05 23 00-0839 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	2,137.58 141.64	384.45
23 05 23 00-0840 Diaphragm Valves (23 05 23)		
23 05 23 00-0841 Polytetrafluoroethylene (PTFE) Or Viton Lined, Threaded Cast Iron Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0842 EA 1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	282.32	33.34
23 05 23 00-0843 EA 3/4" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	363.36	36.94
23 05 23 00-0844 EA 1" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	392.61	45.66
23 05 23 00-0845 EA 1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	624.29	68.23
23 05 23 00-0846 EA 2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	1,012.15	82.08
23 05 23 00-0847 Polytetrafluoroethylene (PTFE) Or Viton Lined, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0848 EA 1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	372.85	53.48
23 05 23 00-0849 EA 3/4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	436.49	55.71
23 05 23 00-0850 EA 1" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	512.08	83.56
23 05 23 00-0851 EA 1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	779.64	116.99
23 05 23 00-0852 EA 2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	1,258.03	148.53
23 05 23 00-0853 EA 2-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	1,625.52	148.78
23 05 23 00-0854 EA 3" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated.....	2,023.82	174.43



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0855	EA	4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	2,844.99	292.42
23 05 23 00-0856	EA	6" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	6,009.74	364.23
23 05 23 00-0857	EA	8" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	9,383.56	465.40
23 05 23 00-0858		Ethylene Propylene Diene Monomer (EPDM) Lined, Threaded Cast Iron Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0859	EA	1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	170.05	33.34
23 05 23 00-0860	EA	3/4" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	224.48	36.94
23 05 23 00-0861	EA	1" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	253.73	45.66
23 05 23 00-0862	EA	1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	435.17	68.23
23 05 23 00-0863	EA	2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	571.88	82.08
23 05 23 00-0864		Ethylene Propylene Diene Monomer (EPDM) Lined, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0865	EA	1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	244.50	53.48
23 05 23 00-0866	EA	3/4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	284.71	55.71
23 05 23 00-0867	EA	1" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	360.28	83.56
23 05 23 00-0868	EA	1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	572.95	116.99
23 05 23 00-0869	EA	2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	776.76	148.53
23 05 23 00-0870	EA	2-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	957.18	148.78
23 05 23 00-0871	EA	3" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	1,167.91	174.43
23 05 23 00-0872	EA	4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	1,836.06	292.42
23 05 23 00-0873	EA	6" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	3,749.38	364.23
23 05 23 00-0874	EA	8" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	5,798.43	465.40
23 05 23 00-0875		125 LB, Hand Wheel Operated, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0876	EA	1" Diaphragm Valve, Cast Iron, 125 LB, Flanged	466.36	83.56
23 05 23 00-0877	EA	1-1/2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	762.85	116.99
23 05 23 00-0878	EA	2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,030.37	148.53
23 05 23 00-0879	EA	2-1/2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,504.02	148.78
23 05 23 00-0880	EA	3" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,657.94	174.43
23 05 23 00-0881	EA	4" Diaphragm Valve, Cast Iron, 125 LB, Flanged	2,592.31	292.42
23 05 23 00-0882	EA	6" Diaphragm Valve, Cast Iron, 125 LB, Flanged	5,291.11	364.23
23 05 23 00-0883	EA	8" Diaphragm Valve, Cast Iron, 125 LB, Flanged	11,107.07	465.40
23 05 23 00-0884		Plastic Diaphragm Valves (23 05 23 00-0840)		
23 05 23 00-0885		Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valves (23 05 23 00-0884)		
23 05 23 00-0886	EA	1/2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	187.72	33.34
23 05 23 00-0887	EA	3/4" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	209.81	36.84
23 05 23 00-0888	EA	1" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	265.39	45.66
23 05 23 00-0889	EA	1-1/4" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	385.06	59.00
23 05 23 00-0890	EA	1-1/2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	405.46	68.34
23 05 23 00-0891	EA	2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	475.97	82.08
23 05 23 00-0892		Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valves (23 05 23 00-0884)		
23 05 23 00-0893	EA	1/2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	264.03	33.34
23 05 23 00-0894	EA	3/4" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	287.78	36.84
23 05 23 00-0895	EA	1" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	366.58	45.66
23 05 23 00-0896	EA	1-1/4" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	474.63	59.00
23 05 23 00-0897	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	531.52	68.34

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0898	EA	2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	578.82	82.08
23 05 23 00-0899		Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0884)		
23 05 23 00-0900		Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0899)		
23 05 23 00-0901	EA	1/2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.13	33.34
23 05 23 00-0902	EA	3/4" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	146.86	36.94
23 05 23 00-0903	EA	1" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	182.58	45.66
23 05 23 00-0904	EA	1-1/4" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	257.36	59.00
23 05 23 00-0905	EA	1-1/2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	275.83	68.23
23 05 23 00-0906	EA	2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	329.34	82.08
23 05 23 00-0907		Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0899)		
23 05 23 00-0908	EA	1/2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.13	33.34
23 05 23 00-0909	EA	3/4" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	146.86	36.94
23 05 23 00-0910	EA	1" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	182.58	45.66
23 05 23 00-0911	EA	1-1/4" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	257.36	59.00
23 05 23 00-0912	EA	1-1/2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	275.83	68.23
23 05 23 00-0913	EA	2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	329.34	82.08
23 05 23 00-0914		Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0884)		
23 05 23 00-0915		Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0914)		
23 05 23 00-0916	EA	1/2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	118.22	33.34
23 05 23 00-0917	EA	3/4" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.89	36.94
23 05 23 00-0918	EA	1" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	164.30	45.66
23 05 23 00-0919	EA	1-1/4" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	229.49	59.00
23 05 23 00-0920	EA	1-1/2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	247.96	68.23
23 05 23 00-0921	EA	2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.32	82.08
23 05 23 00-0922		Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0914)		
23 05 23 00-0923	EA	1/2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	118.22	33.34
23 05 23 00-0924	EA	3/4" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.89	36.94
23 05 23 00-0925	EA	1" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	164.30	45.66
23 05 23 00-0926	EA	1-1/4" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	229.49	59.00
23 05 23 00-0927	EA	1-1/2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	247.96	68.23
23 05 23 00-0928	EA	2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.32	82.08
23 05 23 00-0929		Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0884)		
23 05 23 00-0930		Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0929)		
23 05 23 00-0931	EA	1/2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	150.44	33.34
23 05 23 00-0932	EA	3/4" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	162.96	36.94
23 05 23 00-0933	EA	1" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	222.44	45.66
23 05 23 00-0934	EA	1-1/4" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.61	59.00
23 05 23 00-0935	EA	1-1/2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	315.08	68.23
23 05 23 00-0936	EA	2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	382.01	82.08
23 05 23 00-0937		Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0929)		
23 05 23 00-0938	EA	1/2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	150.44	33.34
23 05 23 00-0939	EA	3/4" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	162.96	36.94
23 05 23 00-0940	EA	1" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	222.44	45.66
23 05 23 00-0941	EA	1-1/4" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.58	59.00
23 05 23 00-0942	EA	1-1/2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	315.08	68.23
23 05 23 00-0943	EA	2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	382.01	82.08
23 05 23 00-0944		Pinch Valves (23 05 23)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0945 Open Cast Iron Body Pinch Valves, Manually Operated (23 05 23 00-0944)		
23 05 23 00-0946 EA 4" Pinch Valve, Open Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	2,277.53 287.00 50.00	292.42
23 05 23 00-0947 EA 8" Pinch Valve, Open Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	5,885.39 487.00 138.00	465.40
23 05 23 00-0948 EA 12" Pinch Valve, Open Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	9,431.41 673.00 223.00	687.97
23 05 23 00-0949 EA 20" Pinch Valve, Open Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	30,322.03 1,141.00 753.00	1,112.89
23 05 23 00-0950 EA 24" Pinch Valve, Open Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	35,392.86 1,287.00 877.00	1,365.83
23 05 23 00-0951 Closed Cast Iron Body Pinch Valves, Manually Operated (23 05 23 00-0944)		
23 05 23 00-0952 EA 4" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	2,926.06 287.00 67.00	292.42
23 05 23 00-0953 EA 8" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	6,752.67 487.00 160.00	465.40
23 05 23 00-0954 EA 12" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	12,551.29 673.00 304.00	687.97
23 05 23 00-0955 EA 16" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve For Viton Sleeve Material, Add For Epoxy Coated, Add	25,024.72 849.00 615.00	890.32
23 05 23 00-0956 EA 20" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	42,694.13 1,141.00 1,076.00	1,112.89
23 05 23 00-0957 EA 24" Pinch Valve, Closed Cast Iron Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add For Epoxy Coated, Add	52,891.86 1,287.00 1,333.00	1,365.83
23 05 23 00-0958 Closed Aluminum Body Pinch Valves, Manually Operated (23 05 23 00-0944)		
23 05 23 00-0959 EA 4" Pinch Valve, Closed Aluminum Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add 23 05 23 00-0960 EA 8" Pinch Valve, Closed Aluminum Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add 23 05 23 00-0961 EA 12" Pinch Valve, Closed Aluminum Body, Buna-N Sleeve, Flanged For Viton Sleeve Material, Add	3,616.81 287.00 8,997.61 487.00 15,452.44 673.00	292.42 465.40 687.97
23 05 23 00-0962 Solenoid Valves (23 05 23)		
23 05 23 00-0963 Bronze Body Solenoid Valves, 150 PSI Maximum Water Pressure (23 05 23 00-0962)		
23 05 23 00-0964 EA 1/4" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0965 EA 1/2" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0966 EA 3/4" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0967 EA 1" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0968 EA 1-1/2" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0969 EA 2" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0970 EA 2-1/2" Solenoid Valve, Bronze, 150 PSI, Water 23 05 23 00-0971 EA 3" Solenoid Valve, Bronze, 150 PSI, Water	134.35 156.11 199.55 295.32 522.65 821.69 1,119.31 1,627.81	11.14 11.14 12.26 13.93 17.16 20.27 27.40 31.81
23 05 23 00-0972 Polyvinyl Chloride (PVC) Body Solenoid Valves (23 05 23 00-0962)		
23 05 23 00-0973 EA 1/2" Polyvinyl Chloride (PVC) Solenoid Valve, Viton Seals 23 05 23 00-0974 EA 3/4" Polyvinyl Chloride (PVC) Solenoid Valve, Viton Seals 23 05 23 00-0975 EA 1" Polyvinyl Chloride (PVC) Solenoid Valve, Viton Seals 23 05 23 00-0976 EA 1/2" Polyvinyl Chloride (PVC) Solenoid Valve, Ethylene Propylene Diene Monomer (EPDM) Seals 23 05 23 00-0977 EA 3/4" Polyvinyl Chloride (PVC) Solenoid Valve, Ethylene Propylene Diene Monomer (EPDM) Seals 23 05 23 00-0978 EA 1" Polyvinyl Chloride (PVC) Solenoid Valve, Ethylene Propylene Diene Monomer (EPDM) Seals	216.63 294.16 327.07 212.50 287.97 319.85	11.14 12.26 13.93 11.14 12.26 13.93
23 05 23 00-0979 Flow Control Valves And Meters (23 05 23)		
23 05 23 00-0980 Conditioned Water Balancing Valves (23 05 23 00-0979) Note: Working pressures up to 300 PSIG. Iron and bronze body construction (combination balancing, flow measuring and shut-off). Excludes portable read-out meter.		
23 05 23 00-0981 EA 1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0982 EA 3/4" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0983 EA 1" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0984 EA 1-1/4" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0985 EA 1-1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0986 EA 2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG 23 05 23 00-0987 EA 2-1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	169.79 202.71 1,352.46 1,454.67 1,557.65 1,665.33 2,957.48	56.85 75.80 86.61 107.01 113.70 129.97 226.27

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0988	EA	3" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	2,846.85	258.61
23 05 23 00-0989	EA	3" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	2,567.91	174.53
23 05 23 00-0990	EA	4" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	3,563.30	292.59
23 05 23 00-0991	EA	6" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	5,559.84	369.59
23 05 23 00-0992	EA	8" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	7,501.82	472.25
23 05 23 00-0993	EA	10" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	10,716.07	574.92

23 05 23 00-0994 Read Out Meters (23 05 23 00-0979)

Note: For use with conditioned portable water balancing valves.

23 05 23 00-0995	EA	0.5 - 25% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,338.74	
23 05 23 00-0996	EA	0.5 - 50% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71	
23 05 23 00-0997	EA	0.5 - 75% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71	
23 05 23 00-0998	EA	0.5 - 100% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71	

23 05 23 00-0999 Balancing Valves (23 05 23)**23 05 23 00-1000 Balancing Valves With Lever (23 05 23 00-0999)**

Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.

23 05 23 00-1001	EA	1/2" Threaded Balancing Valve With Lever	339.05	35.11
23 05 23 00-1002	EA	3/4" Threaded Balancing Valve With Lever	369.19	46.26
23 05 23 00-1003	EA	1" Threaded Balancing Valve With Lever	559.30	52.95
23 05 23 00-1004	EA	1-1/4" Threaded Balancing Valve With Lever	602.01	65.76
23 05 23 00-1005	EA	1-1/2" Threaded Balancing Valve With Lever	632.19	69.66
23 05 23 00-1006	EA	2" Threaded Balancing Valve With Lever	776.36	79.70
23 05 23 00-1007	EA	2-1/2" Flanged Balancing Valve With Lever	1,041.86	148.87
23 05 23 00-1008	EA	3" Flanged Balancing Valve With Lever	1,045.44	174.53
23 05 23 00-1009	EA	4" Flanged Balancing Valve With Lever	1,306.44	292.59
23 05 23 00-1010	EA	5" Flanged Balancing Valve With Lever	3,897.56	332.63
23 05 23 00-1011	EA	6" Flanged Balancing Valve With Lever	1,920.30	369.59
23 05 23 00-1012	EA	8" Flanged Balancing Valve With Lever	2,540.34	472.25

23 05 23 00-1013 Balancing Valves With Nut (23 05 23 00-0999)

Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.

23 05 23 00-1014	EA	4" Flanged Balancing Valve With Nut	1,306.44	292.59
23 05 23 00-1015	EA	5" Flanged Balancing Valve With Nut	3,897.56	332.63
23 05 23 00-1016	EA	6" Flanged Balancing Valve With Nut	1,920.30	369.59
23 05 23 00-1017	EA	8" Flanged Balancing Valve With Nut	2,540.34	472.25

23 05 23 00-1018 Balancing Valves With Hand Wheel (23 05 23 00-0999)

Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.

23 05 23 00-1019	EA	4" Flanged Balancing Valve With Hand Wheel	1,781.55	292.59
23 05 23 00-1020	EA	5" Flanged Balancing Valve With Hand Wheel	4,399.82	332.63
23 05 23 00-1021	EA	6" Flanged Balancing Valve With Hand Wheel	2,423.60	369.59
23 05 23 00-1022	EA	8" Flanged Balancing Valve With Hand Wheel	3,433.13	472.25
23 05 23 00-1023	EA	10" Flanged Balancing Valve With Hand Wheel	5,284.93	574.92
23 05 23 00-1024	EA	12" Flanged Balancing Valve With Hand Wheel	6,928.56	469.04
23 05 23 00-1025	EA	14" Flanged Balancing Valve With Hand Wheel	9,060.16	884.35

23 05 23 00-1026 Balancing Valves With Chain Wheel (23 05 23 00-0999)

Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.

23 05 23 00-1027	EA	4" Flanged Balancing Valve With Chain Wheel	2,054.09	292.59
23 05 23 00-1028	EA	5" Flanged Balancing Valve With Chain Wheel	4,668.18	332.63
23 05 23 00-1029	EA	6" Flanged Balancing Valve With Chain Wheel	2,690.92	369.59
23 05 23 00-1030	EA	8" Flanged Balancing Valve With Chain Wheel	3,762.05	472.25
23 05 23 00-1031	EA	10" Flanged Balancing Valve With Chain Wheel	5,604.45	574.92
23 05 23 00-1032	EA	12" Flanged Balancing Valve With Chain Wheel	7,525.07	468.71
23 05 23 00-1033	EA	14" Flanged Balancing Valve With Chain Wheel	9,600.01	884.35

23 05 23 00-1034 Calibrated Balancing Valves (23 05 23 00-0999)

Note: Bell & Gossett CB Series.

23 05 23 00-1035	EA	1/2" Brazed Or Soldered Calibrated Balancing Valve (CB-1/2S)	141.32	11.14
23 05 23 00-1036	EA	3/4" Brazed Or Soldered Calibrated Balancing Valve (CB-3/4S)	165.64	12.26
23 05 23 00-1037	EA	1" Brazed Or Soldered Calibrated Balancing Valve (CB-1S)	187.12	13.93
23 05 23 00-1038	EA	1-1/4" Brazed Or Soldered Calibrated Balancing Valve (CB-1-1/4S)	262.12	14.82
23 05 23 00-1039	EA	1-1/2" Brazed Or Soldered Calibrated Balancing Valve (CB-1-1/2S)	307.79	17.17
23 05 23 00-1040	EA	2" Brazed Or Soldered Calibrated Balancing Valve (CB-2S)	413.82	20.28
23 05 23 00-1041	EA	1" Threaded Calibrated Balancing Valve (CB-1)	215.43	13.93
23 05 23 00-1042	EA	1-1/4" Threaded Calibrated Balancing Valve (CB-1-1/4)	293.84	14.82
23 05 23 00-1043	EA	1-1/2" Threaded Calibrated Balancing Valve (CB-1-1/2)	328.82	17.17
23 05 23 00-1044	EA	2" Threaded Calibrated Balancing Valve (CB-2)	443.38	20.28
23 05 23 00-1045	EA	2-1/2" Threaded Calibrated Balancing Valve (CB-2-1/2)	624.17	29.76
23 05 23 00-1046	EA	3" Threaded Calibrated Balancing Valve (CB-3)	1,092.89	34.55



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-1047	EA	2-1/2" Flanged Calibrated Balancing Valve (CB-2-1/2F).....	1,029.20	161.63
23 05 23 00-1048	EA	3" Flanged Calibrated Balancing Valve (CB-3F).....	1,794.28	189.49
23 05 23 00-1049	EA	4" Flanged Calibrated Balancing Valve (CB-4F).....	2,690.80	317.68
23 05 23 00-1050	EA	5" Flanged Calibrated Balancing Valve (CB-5F).....	3,718.17	361.15
23 05 23 00-1051	EA	6" Flanged Calibrated Balancing Valve (CB-6F).....	4,713.48	401.28
23 05 23 00-1052	EA	8" Flanged Calibrated Balancing Valve (CB-8F).....	7,470.50	512.74
23 05 23 00-1053	EA	10" Flanged Calibrated Balancing Valve (CB-10F).....	12,274.27	619.05
23 05 23 00-1054	EA	12" Flanged Calibrated Balancing Valve (CB-12F).....	25,981.60	751.70
23 05 23 00-1055	EA	4" Grooved Calibrated Balancing Valve (CB-4G).....	3,108.83	38.37
23 05 23 00-1056	EA	5" Grooved Calibrated Balancing Valve (CB-5G).....	3,608.93	51.60
23 05 23 00-1057	EA	6" Grooved Calibrated Balancing Valve (CB-6G).....	4,776.94	66.17
23 05 23 00-1058	EA	8" Grooved Calibrated Balancing Valve (CB-8G).....	8,961.11	83.98
23 05 23 00-1059	EA	10" Grooved Calibrated Balancing Valve (CB-10G).....	14,303.75	94.09
23 05 23 00-1060	EA	12" Grooved Calibrated Balancing Valve (CB-12G).....	29,492.69	114.73
23 05 23 00-1061 Butterfly Valves (23 05 23)				
23 05 23 00-1062 Cast Iron Body, Iron Disc, 150 PSI, Wafer Type, Butterfly Valves (23 05 23 00-1061)				
Note: With on-off handle				
23 05 23 00-1063	EA	2" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	423.32	148.53
		For 200 PSI, Add	114.06	
		For Work In Restricted Working Space, Add	55.71	
23 05 23 00-1064	EA	2-1/2" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	437.99	148.78
		For 200 PSI, Add	120.69	
		For Work In Restricted Working Space, Add	55.97	
23 05 23 00-1065	EA	3" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	489.08	174.43
		For 200 PSI, Add	129.97	
		For Work In Restricted Working Space, Add	65.49	
23 05 23 00-1066	EA	4" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	706.30	292.42
		For 200 PSI, Add	163.13	
		For Work In Restricted Working Space, Add	109.94	
23 05 23 00-1067	EA	5" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	940.43	364.23
		For 200 PSI, Add	232.09	
		For Work In Restricted Working Space, Add	137.07	
23 05 23 00-1068	EA	6" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	1,097.14	404.69
		For 200 PSI, Add	283.81	
		For Work In Restricted Working Space, Add	151.76	
23 05 23 00-1069	EA	8" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	1,467.82	465.40
		For 200 PSI, Add	427.05	
		For Work In Restricted Working Space, Add	173.44	
23 05 23 00-1070	EA	10" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	2,432.31	566.57
		For 200 PSI, Add	827.57	
		For Work In Restricted Working Space, Add	212.46	
23 05 23 00-1071	EA	12" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type.....	3,055.01	687.97
		For 200 PSI, Add	1,054.36	
		For Work In Restricted Working Space, Add	257.53	
23 05 23 00-1072 Cast Iron Body, Bronze Disc, Gear Operated, 200 LB, Lug Type, Butterfly Valves (23 05 23 00-1061)				
23 05 23 00-1073	EA	2" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	837.77	148.53
		For Work In Restricted Working Space, Add	55.71	
23 05 23 00-1074	EA	2-1/2" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	844.15	148.78
		For Work In Restricted Working Space, Add	55.97	
23 05 23 00-1075	EA	3" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	909.06	174.43
		For Work In Restricted Working Space, Add	65.49	
23 05 23 00-1076	EA	4" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	1,145.62	292.42
		For Work In Restricted Working Space, Add	109.94	
23 05 23 00-1077	EA	5" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	1,426.72	364.23
		For Work In Restricted Working Space, Add	137.07	
23 05 23 00-1078	EA	6" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	1,580.51	404.69
		For Work In Restricted Working Space, Add	151.76	
23 05 23 00-1079	EA	8" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	1,970.68	465.40
		For Work In Restricted Working Space, Add	173.44	
23 05 23 00-1080	EA	10" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	2,506.91	566.57
		For Work In Restricted Working Space, Add	212.46	
23 05 23 00-1081	EA	12" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI.....	3,472.23	687.97
		For Work In Restricted Working Space, Add	257.53	
23 05 23 00-1082 Cast Iron Body, Bronze Disc, Gear Operated, 150 LB, Lug Type, Butterfly Valves (23 05 23 00-1061)				
23 05 23 00-1083	EA	14" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	5,900.03	925.57
		For 200 PSI, Add	1,679.74	
		For Work In Restricted Working Space, Add	370.23	
23 05 23 00-1084	EA	16" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	7,626.12	1,086.00
		For 200 PSI, Add	2,256.70	
		For Work In Restricted Working Space, Add	407.25	
23 05 23 00-1085	EA	18" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	10,821.94	1,209.41
		For 200 PSI, Add	3,352.90	
		For Work In Restricted Working Space, Add	452.50	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-1086	EA	20" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	14,015.26	1,357.50
		For 200 PSI, Add	4,434.62	
		For Work In Restricted Working Space, Add	509.06	
23 05 23 00-1087	EA	24" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	18,908.22	1,666.03
		For 200 PSI, Add	6,055.11	
		For Work In Restricted Working Space, Add	626.54	
23 05 23 00-1088	EA	30" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	39,453.64	2,631.09
		For 200 PSI, Add	12,997.79	
		For Work In Restricted Working Space, Add	1,004.60	
23 05 23 00-1089	EA	36" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	50,059.63	3,587.85
		For 200 PSI, Add	16,514.57	
		For Work In Restricted Working Space, Add	1,255.75	
23 05 23 00-1090	EA	42" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	59,980.25	5,262.19
		For 200 PSI, Add	19,274.58	
		For Work In Restricted Working Space, Add	1,931.92	
23 05 23 00-1091	EA	48" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	72,597.03	6,577.73
		For 200 PSI, Add	23,121.13	
		For Work In Restricted Working Space, Add	2,511.50	
23 05 23 00-1092	EA	54" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI	87,483.19	7,893.28
		For 200 PSI, Add	27,726.70	
		For Work In Restricted Working Space, Add	3,139.37	
23 05 23 00-1093		Plastic Butterfly Valves (23 05 23 00-1061)		
23 05 23 00-1094		Polyvinyl Chloride (PVC) Butterfly Valves, With Operator (23 05 23 00-1093)		
23 05 23 00-1095		Polyvinyl Chloride (PVC) Butterfly Valves, Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 05 23 00-1094)		
23 05 23 00-1096	EA	1-1/2" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	232.54	97.49
23 05 23 00-1097	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	266.18	122.56
23 05 23 00-1098	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	306.00	143.64
23 05 23 00-1099	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	444.16	243.68
23 05 23 00-1100	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	631.20	303.52
23 05 23 00-1101	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	854.93	384.45
23 05 23 00-1102	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	1,350.59	455.27
23 05 23 00-1103	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	1,759.58	556.45
23 05 23 00-1104		Polyvinyl Chloride (PVC) Butterfly Valves, Viton Liner And Seals (23 05 23 00-1094)		
23 05 23 00-1105	EA	1-1/2" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	353.26	97.49
23 05 23 00-1106	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	386.90	122.56
23 05 23 00-1107	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	449.42	143.64
23 05 23 00-1108	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	624.73	243.68
23 05 23 00-1109	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	945.89	303.52
23 05 23 00-1110	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	1,366.69	384.45
23 05 23 00-1111	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	2,526.81	455.27
23 05 23 00-1112	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals	3,359.86	556.45
23 05 23 00-1113		Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, With Operator (23 05 23 00-1093)		
23 05 23 00-1114		Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 05 23 00-1113)		
23 05 23 00-1115	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	276.70	122.56
23 05 23 00-1116	EA	2-1/2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	284.42	123.13
23 05 23 00-1117	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	313.48	143.64
23 05 23 00-1118	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	442.58	243.68
23 05 23 00-1119	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	625.03	303.52
23 05 23 00-1120	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	940.53	384.45
23 05 23 00-1121	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	1,481.86	455.27
23 05 23 00-1122	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals	1,906.78	556.45
23 05 23 00-1123		Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, Viton Liner And Seals (23 05 23 00-1113)		
23 05 23 00-1124	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	342.81	50.70
23 05 23 00-1125	EA	2-1/2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	374.66	61.28
23 05 23 00-1126	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	393.11	68.34
23 05 23 00-1127	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	459.82	78.90
23 05 23 00-1128	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	737.68	128.26
23 05 23 00-1129	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	1,586.39	205.21
23 05 23 00-1130	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	2,369.49	227.78



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

General-Duty Valves For HVAC Piping 23 05 23

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-1131 EA 12" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	3,329.76	256.51
23 05 23 00-1132 Polyvinylidene Fluoride (PVDF) Butterfly Valves, With Operator (23 05 23 00-1093)		
23 05 23 00-1133 Polyvinylidene Fluoride (PVDF) Butterfly Valves, Viton Liner And Seals (23 05 23 00-1132)		
23 05 23 00-1134 EA 2" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	944.24	122.56
23 05 23 00-1135 EA 2-1/2" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	980.82	123.13
23 05 23 00-1136 EA 3" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	1,070.01	143.64
23 05 23 00-1137 EA 4" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	1,505.97	243.68
23 05 23 00-1138 EA 6" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	2,711.32	303.52
23 05 23 00-1139 EA 8" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	5,277.41	384.45
23 05 23 00-1140 EA 10" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	7,844.24	455.27
23 05 23 00-1141 EA 12" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	9,775.94	556.45
23 05 29 Hangers and Supports for HVAC Piping and Equipment (23 05)		
23 05 29 00-0001 Hangers And Supports (23 05 29)		
23 05 29 00-0002 Clevis Hangers (23 05 29 00-0001)		
23 05 29 00-0003 Steel Clevis Hanger (Cooper B-Line B3100) (23 05 29 00-0002)		
Note: Type 1.		
23 05 29 00-0004 EA 1/2" Steel Clevis Hanger (Cooper B-Line B3100)	20.37	9.23
For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0005 EA 3/4" Steel Clevis Hanger (Cooper B-Line B3100)	22.42	10.26
For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0006 EA 1" Steel Clevis Hanger (Cooper B-Line B3100)	23.58	10.26
For Work In Restricted Working Space, Add	6.48	
23 05 29 00-0007 EA 1-1/4" Steel Clevis Hanger (Cooper B-Line B3100)	24.46	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0008 EA 1-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	24.71	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0009 EA 2" Steel Clevis Hanger (Cooper B-Line B3100)	25.81	11.29
For Work In Restricted Working Space, Add	6.84	
23 05 29 00-0010 EA 2-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	28.35	11.70
For Work In Restricted Working Space, Add	7.04	
23 05 29 00-0011 EA 3" Steel Clevis Hanger (Cooper B-Line B3100)	30.28	12.31
For Work In Restricted Working Space, Add	7.24	
23 05 29 00-0012 EA 3-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	31.64	13.52
For Work In Restricted Working Space, Add	7.73	
23 05 29 00-0013 EA 4" Steel Clevis Hanger (Cooper B-Line B3100)	34.75	14.37
For Work In Restricted Working Space, Add	8.21	
23 05 29 00-0014 EA 5" Steel Clevis Hanger (Cooper B-Line B3100)	44.60	17.19
For Work In Restricted Working Space, Add	10.31	
23 05 29 00-0015 EA 6" Steel Clevis Hanger (Cooper B-Line B3100)	53.67	20.52
For Work In Restricted Working Space, Add	12.31	
23 05 29 00-0016 EA 8" Steel Clevis Hanger (Cooper B-Line B3100)	72.22	25.66
For Work In Restricted Working Space, Add	15.39	
23 05 29 00-0017 EA 10" Steel Clevis Hanger (Cooper B-Line B3100)	105.69	34.89
For Work In Restricted Working Space, Add	20.52	
23 05 29 00-0018 EA 12" Steel Clevis Hanger (Cooper B-Line B3100)	123.93	38.47
For Work In Restricted Working Space, Add	23.09	
23 05 29 00-0019 EA 14" Steel Clevis Hanger (Cooper B-Line B3100)	154.41	43.10
For Work In Restricted Working Space, Add	26.47	
23 05 29 00-0020 EA 16" Steel Clevis Hanger (Cooper B-Line B3100)	192.42	51.30
For Work In Restricted Working Space, Add	30.78	
23 05 29 00-0021 EA 18" Steel Clevis Hanger (Cooper B-Line B3100)	239.82	64.13
For Work In Restricted Working Space, Add	38.48	
23 05 29 00-0022 EA 20" Steel Clevis Hanger (Cooper B-Line B3100)	388.34	76.96
For Work In Restricted Working Space, Add	46.17	
23 05 29 00-0023 EA 24" Steel Clevis Hanger (Cooper B-Line B3100)	593.65	89.78
For Work In Restricted Working Space, Add	53.87	
23 05 29 00-0024 Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C) (23 05 29 00-0002)		
23 05 29 00-0025 EA 1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	25.43	9.23
For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0026 EA 3/4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	27.48	10.26
For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0027 EA 1" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	28.74	10.26
For Work In Restricted Working Space, Add	6.48	
23 05 29 00-0028 EA 1-1/4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	29.74	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0029 EA 1-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	30.38	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0030 EA 2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	31.16	11.29
For Work In Restricted Working Space, Add	6.84	
23 05 29 00-0031 EA 2-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	34.88	11.70
For Work In Restricted Working Space, Add	7.04	
23 05 29 00-0032 EA 3" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	36.59	12.31
For Work In Restricted Working Space, Add	7.24	

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0033 EA 3-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C) <i>For Work In Restricted Working Space, Add</i>	41.03 8.21	14.37
23 05 29 00-0034 EA 4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)..... <i>For Work In Restricted Working Space, Add</i>	45.30 8.21	14.37
23 05 29 00-0035 EA 5" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)..... <i>For Work In Restricted Working Space, Add</i>	74.34 10.31	17.19
23 05 29 00-0036 EA 6" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)..... <i>For Work In Restricted Working Space, Add</i>	92.14 12.31	20.52
23 05 29 00-0037 EA 8" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)..... <i>For Work In Restricted Working Space, Add</i>	109.72 15.39	25.66
23 05 29 00-0038 Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) (23 05 29 00-0002)		
23 05 29 00-0039 EA 1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	20.19 5.54	9.23
23 05 29 00-0040 EA 3/4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	22.28 6.16	10.26
23 05 29 00-0041 EA 1" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	23.54 6.48	10.26
23 05 29 00-0042 EA 1-1/4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	24.18 6.66	11.10
23 05 29 00-0043 EA 1-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	24.32 6.66	11.10
23 05 29 00-0044 EA 2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	25.02 6.84	11.29
23 05 29 00-0045 EA 2-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	27.31 7.04	11.70
23 05 29 00-0046 EA 3" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	28.52 7.24	12.31
23 05 29 00-0047 EA 3-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	32.14 8.21	14.37
23 05 29 00-0048 EA 4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) <i>For Work In Restricted Working Space, Add</i>	33.14 8.21	14.37
23 05 29 00-0049 Extended Steel Clevis Hanger (Cooper B-Line B3108) (23 05 29 00-0002)		
23 05 29 00-0050 EA 3/4" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	28.60 6.16	10.26
23 05 29 00-0051 EA 1" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	29.75 6.48	10.26
23 05 29 00-0052 EA 1-1/4" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	30.35 6.66	11.10
23 05 29 00-0053 EA 1-1/2" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	31.35 6.66	11.10
23 05 29 00-0054 EA 2" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	33.64 6.84	11.29
23 05 29 00-0055 EA 2-1/2" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	36.07 7.04	11.70
23 05 29 00-0056 EA 3" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	37.85 7.24	12.31
23 05 29 00-0057 EA 4" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	45.44 8.21	14.37
23 05 29 00-0058 EA 5" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	57.34 10.31	17.19
23 05 29 00-0059 EA 6" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	70.75 12.31	20.52
23 05 29 00-0060 EA 8" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	100.24 15.39	25.66
23 05 29 00-0061 EA 10" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	140.78 20.52	34.89
23 05 29 00-0062 EA 12" Steel Extended Clevis Hanger (Cooper B-Line B3108) <i>For Work In Restricted Working Space, Add</i>	158.13 23.09	38.47
23 05 29 00-0063 Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) (23 05 29 00-0002)		
23 05 29 00-0064 EA 2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	34.82 6.84	11.29
23 05 29 00-0065 EA 2-1/2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	37.18 7.04	11.70
23 05 29 00-0066 EA 3" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	39.11 7.24	12.31
23 05 29 00-0067 EA 3-1/2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	43.29 8.21	14.37
23 05 29 00-0068 EA 4" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	45.80 8.21	14.37
23 05 29 00-0069 EA 5" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	56.87 10.31	17.19
23 05 29 00-0070 EA 6" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	66.37 12.31	20.52
23 05 29 00-0071 EA 8" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) <i>For Work In Restricted Working Space, Add</i>	88.12 15.39	25.66



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0072 Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT) (23 05 29 00-0002)		
23 05 29 00-0073 EA 1/2" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	25.19	9.49
For Work In Restricted Working Space, Add	5.69	
23 05 29 00-0074 EA 3/4" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	26.73	10.26
For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0075 EA 1" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	27.81	10.26
For Work In Restricted Working Space, Add	6.48	
23 05 29 00-0076 EA 1-1/4" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	28.89	10.60
For Work In Restricted Working Space, Add	6.60	
23 05 29 00-0077 EA 1-1/2" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	29.52	10.93
For Work In Restricted Working Space, Add	6.72	
23 05 29 00-0078 EA 2" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	30.98	11.29
For Work In Restricted Working Space, Add	6.84	
23 05 29 00-0079 EA 2-1/2" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	35.06	11.80
For Work In Restricted Working Space, Add	7.00	
23 05 29 00-0080 EA 3" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	40.80	12.31
For Work In Restricted Working Space, Add	7.24	
23 05 29 00-0081 EA 3-1/2" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	44.44	13.34
For Work In Restricted Working Space, Add	7.70	
23 05 29 00-0082 EA 4" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	46.83	14.37
For Work In Restricted Working Space, Add	8.21	
23 05 29 00-0083 EA 5" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	58.59	17.44
For Work In Restricted Working Space, Add	9.87	
23 05 29 00-0084 EA 6" Copper Tubing Clevis Hanger, Light Duty (Cooper B-Line B3104CT).....	77.82	20.52
For Work In Restricted Working Space, Add	12.31	
23 05 29 00-0085 Fiberglass Clevis Hanger (23 05 29 00-0002)		
23 05 29 00-0086 EA 1-1/2" Fiberglass Clevis Hanger (Cooper BFV3104).....	256.81	10.93
23 05 29 00-0087 EA 2" Fiberglass Clevis Hanger (Cooper BFV3104).....	262.75	11.39
23 05 29 00-0088 EA 2-1/2" Fiberglass Clevis Hanger (Cooper BFV3104).....	263.55	11.80
23 05 29 00-0089 EA 3" Fiberglass Clevis Hanger (Cooper BFV3104).....	302.43	12.11
23 05 29 00-0090 EA 4" Fiberglass Clevis Hanger (Cooper BFV3104).....	381.94	13.64
23 05 29 00-0091 EA 6" Fiberglass Clevis Hanger (Cooper BFV3104).....	500.78	20.52
23 05 29 00-0092 EA 8" Fiberglass Clevis Hanger (Cooper BFP3104).....	703.15	25.66
23 05 29 00-0093 EA 10" Fiberglass Clevis Hanger (Cooper BFP3104).....	821.45	34.17
23 05 29 00-0094 EA 12" Fiberglass Clevis Hanger (Cooper BFP3104).....	1,053.35	38.47
23 05 29 00-0095 Adjustable Hangers (23 05 29 00-0001)		
23 05 29 00-0096 Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690) (23 05 29 00-0095) Note: Type 5.		
23 05 29 00-0097 EA 1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	18.61	8.09
For Work In Restricted Working Space, Add	4.85	
23 05 29 00-0098 EA 3/4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	20.39	8.97
For Work In Restricted Working Space, Add	5.39	
23 05 29 00-0099 EA 1" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	22.36	9.98
For Work In Restricted Working Space, Add	5.98	
23 05 29 00-0100 EA 1-1/4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	24.67	11.08
For Work In Restricted Working Space, Add	6.65	
23 05 29 00-0101 EA 1-1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	25.93	11.63
For Work In Restricted Working Space, Add	6.98	
23 05 29 00-0102 EA 2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	27.78	12.19
For Work In Restricted Working Space, Add	7.31	
23 05 29 00-0103 EA 2-1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	32.02	12.74
For Work In Restricted Working Space, Add	7.65	
23 05 29 00-0104 EA 3" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	33.45	13.30
For Work In Restricted Working Space, Add	7.98	
23 05 29 00-0105 EA 4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690).....	39.90	14.96
For Work In Restricted Working Space, Add	8.98	
23 05 29 00-0106 Adjustable Swivel Steel Ring (Cooper B-Line B3170) (23 05 29 00-0095) Note: Type 10.		
23 05 29 00-0107 EA 1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170).....	21.64	10.26
For Work In Restricted Working Space, Add	6.16	
For 304 Stainless Steel, Add	7.39	
For 316 Stainless Steel, Add	9.52	
23 05 29 00-0108 EA 3/4" Adjustable Swivel Steel Ring (Cooper B-Line B3170).....	22.82	10.26
For Work In Restricted Working Space, Add	6.48	
For 304 Stainless Steel, Add	8.05	
For 316 Stainless Steel, Add	10.37	
23 05 29 00-0109 EA 1" Adjustable Swivel Steel Ring (Cooper B-Line B3170).....	24.02	11.29
For Work In Restricted Working Space, Add	6.84	
For 304 Stainless Steel, Add	8.05	
For 316 Stainless Steel, Add	10.37	
23 05 29 00-0110 EA 1-1/4" Adjustable Swivel Steel Ring (Cooper B-Line B3170).....	25.50	12.31
For Work In Restricted Working Space, Add	7.24	
For 304 Stainless Steel, Add	8.98	
For 316 Stainless Steel, Add	11.56	

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0111 EA 1-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	28.72	14.37
For Work In Restricted Working Space, Add	8.21	
For 304 Stainless Steel, Add	8.98	
For 316 Stainless Steel, Add	11.56	
23 05 29 00-0112 EA 2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	30.75	14.37
For Work In Restricted Working Space, Add	8.79	
For 304 Stainless Steel, Add	9.50	
For 316 Stainless Steel, Add	12.24	
23 05 29 00-0113 EA 2-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	33.91	15.39
For Work In Restricted Working Space, Add	9.47	
For 304 Stainless Steel, Add	15.44	
For 316 Stainless Steel, Add	19.89	
23 05 29 00-0114 EA 3" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	36.64	17.44
For Work In Restricted Working Space, Add	10.26	
For 304 Stainless Steel, Add	16.10	
For 316 Stainless Steel, Add	20.74	
23 05 29 00-0115 EA 3-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	40.72	18.72
For Work In Restricted Working Space, Add	11.24	
For 304 Stainless Steel, Add	21.58	
For 316 Stainless Steel, Add	27.80	
23 05 29 00-0116 EA 4" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	44.31	20.52
For Work In Restricted Working Space, Add	12.31	
For 304 Stainless Steel, Add	21.58	
For 316 Stainless Steel, Add	27.80	
23 05 29 00-0117 EA 5" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	52.95	23.09
For Work In Restricted Working Space, Add	13.85	
For 304 Stainless Steel, Add	44.75	
For 316 Stainless Steel, Add	57.63	
23 05 29 00-0118 EA 6" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	58.19	25.66
For Work In Restricted Working Space, Add	15.39	
For 304 Stainless Steel, Add	45.47	
For 316 Stainless Steel, Add	58.57	
23 05 29 00-0119 EA 8" Adjustable Swivel Steel Ring (Cooper B-Line B3170)	69.74	30.78
For Work In Restricted Working Space, Add	18.47	
For 304 Stainless Steel, Add	53.99	
For 316 Stainless Steel, Add	69.53	
23 05 29 00-0120 Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) (23 05 29 00-0095)		
23 05 29 00-0121 EA 1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	24.09	10.26
For Work In Restricted Working Space, Add	6.16	
For 304 Stainless Steel, Add	23.56	
For 316 Stainless Steel, Add	30.35	
23 05 29 00-0122 EA 3/4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	25.17	10.26
For Work In Restricted Working Space, Add	6.48	
For 304 Stainless Steel, Add	23.56	
For 316 Stainless Steel, Add	30.35	
23 05 29 00-0123 EA 1" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	26.37	11.29
For Work In Restricted Working Space, Add	6.84	
For 304 Stainless Steel, Add	23.56	
For 316 Stainless Steel, Add	30.35	
23 05 29 00-0124 EA 1-1/4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	27.71	12.31
For Work In Restricted Working Space, Add	7.24	
For 304 Stainless Steel, Add	23.56	
For 316 Stainless Steel, Add	30.35	
23 05 29 00-0125 EA 1-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	31.23	14.37
For Work In Restricted Working Space, Add	8.21	
For 304 Stainless Steel, Add	25.54	
For 316 Stainless Steel, Add	32.90	
23 05 29 00-0126 EA 2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	33.18	14.37
For Work In Restricted Working Space, Add	8.79	
For 304 Stainless Steel, Add	25.54	
For 316 Stainless Steel, Add	32.90	
23 05 29 00-0127 EA 2-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	41.72	15.39
For Work In Restricted Working Space, Add	9.47	
For 304 Stainless Steel, Add	66.99	
For 316 Stainless Steel, Add	86.28	
23 05 29 00-0128 EA 3" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	46.77	17.44
For Work In Restricted Working Space, Add	10.26	
For 304 Stainless Steel, Add	82.96	
For 316 Stainless Steel, Add	106.85	
23 05 29 00-0129 EA 3-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	51.01	18.72
For Work In Restricted Working Space, Add	11.24	
For 304 Stainless Steel, Add	89.50	
For 316 Stainless Steel, Add	115.26	
23 05 29 00-0130 EA 4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	57.55	20.52
For Work In Restricted Working Space, Add	12.31	
For 304 Stainless Steel, Add	108.97	
For 316 Stainless Steel, Add	140.34	
23 05 29 00-0131 EA 5" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT)	62.91	23.09
For Work In Restricted Working Space, Add	13.85	
For 304 Stainless Steel, Add	110.48	
For 316 Stainless Steel, Add	142.29	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0132	EA		6" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT).....	75.53	25.66
			For Work In Restricted Working Space, Add	15.39	
			For 304 Stainless Steel, Add	159.92	
			For 316 Stainless Steel, Add	205.96	
23 05 29 00-0133			Roller Hangers (23 05 29 00-0001)		
23 05 29 00-0134			Single Pipe Roll (Cooper B-Line B3114) (23 05 29 00-0133)		
			Note: Excludes rod and nuts. Type 41.		
23 05 29 00-0135	EA		2" Single Pipe Roll (Cooper B-Line B3114)	32.25	8.22
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	4.93	
23 05 29 00-0136	EA		2-1/2" Single Pipe Roll (Cooper B-Line B3114)	35.49	9.24
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0137	EA		3" Single Pipe Roll (Cooper B-Line B3114)	39.50	10.78
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	6.47	
23 05 29 00-0138	EA		3-1/2" Single Pipe Roll (Cooper B-Line B3114)	45.45	12.32
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	7.39	
23 05 29 00-0139	EA		4" Single Pipe Roll (Cooper B-Line B3114)	62.78	13.86
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	8.32	
23 05 29 00-0140	EA		5" Single Pipe Roll (Cooper B-Line B3114)	56.06	15.40
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	9.24	
23 05 29 00-0141	EA		6" Single Pipe Roll (Cooper B-Line B3114)	69.76	18.48
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	11.09	
23 05 29 00-0142	EA		8" Single Pipe Roll (Cooper B-Line B3114)	94.00	21.56
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	12.94	
23 05 29 00-0143	EA		10" Single Pipe Roll (Cooper B-Line B3114)	111.44	25.67
			Note: Excludes rod and nuts.		
			For Work In Restricted Working Space, Add	15.40	
23 05 29 00-0144			Adjustable Clevis Roller Hanger (Cooper B-Line B3110) (23 05 29 00-0133)		
			Note: Type 43.		
23 05 29 00-0145	EA		2" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	48.07	14.49
			For Work In Restricted Working Space, Add	8.36	
			For 304 Stainless Steel, Add	133.32	
			For 316 Stainless Steel, Add	171.70	
23 05 29 00-0146	EA		2-1/2" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	50.07	14.93
			For Work In Restricted Working Space, Add	8.96	
			For 304 Stainless Steel, Add	133.32	
			For 316 Stainless Steel, Add	171.70	
23 05 29 00-0147	EA		3" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	54.38	15.61
			For Work In Restricted Working Space, Add	9.56	
			For 304 Stainless Steel, Add	148.70	
			For 316 Stainless Steel, Add	191.51	
23 05 29 00-0148	EA		3-1/2" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	63.44	16.72
			For Work In Restricted Working Space, Add	10.03	
			For 304 Stainless Steel, Add	198.00	
			For 316 Stainless Steel, Add	255.00	
23 05 29 00-0149	EA		4" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	67.16	18.95
			For Work In Restricted Working Space, Add	11.15	
			For 304 Stainless Steel, Add	198.00	
			For 316 Stainless Steel, Add	255.00	
23 05 29 00-0150	EA		5" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	75.82	20.39
			For Work In Restricted Working Space, Add	12.24	
			For 304 Stainless Steel, Add	231.13	
			For 316 Stainless Steel, Add	297.67	
23 05 29 00-0151	EA		6" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	88.08	22.30
			For Work In Restricted Working Space, Add	13.38	
			For 304 Stainless Steel, Add	287.03	
			For 316 Stainless Steel, Add	369.67	
23 05 29 00-0152	EA		8" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	120.82	27.87
			For Work In Restricted Working Space, Add	16.72	
			For 304 Stainless Steel, Add	429.59	
			For 316 Stainless Steel, Add	553.27	
23 05 29 00-0153	EA		10" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	151.86	37.90
			For Work In Restricted Working Space, Add	22.29	
			For 304 Stainless Steel, Add	511.83	
			For 316 Stainless Steel, Add	659.18	
23 05 29 00-0154	EA		12" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	197.60	41.79
			For Work In Restricted Working Space, Add	25.08	
			For 304 Stainless Steel, Add	752.40	
			For 316 Stainless Steel, Add	969.00	
23 05 29 00-0155	EA		14" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	411.77	47.93
			For Work In Restricted Working Space, Add	28.76	
			For 304 Stainless Steel, Add	2,085.01	
			For 316 Stainless Steel, Add	2,685.24	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0156	EA		16" Steel Clevis Roller Hanger (Cooper B-Line B3110).....	516.99	55.73
			<i>For Work In Restricted Working Space, Add</i>	33.44	
			<i>For 304 Stainless Steel, Add</i>	2,676.43	
			<i>For 316 Stainless Steel, Add</i>	3,446.92	
23 05 29 00-0157 Roller Chair (Cooper B-Line B3120) (23 05 29 00-0133)					
23 05 29 00-0158	EA		2" Steel Roller Chair (Cooper B-Line B3120).....	46.74	14.49
			<i>For Work In Restricted Working Space, Add</i>	8.36	
23 05 29 00-0159	EA		2-1/2" Steel Roller Chair (Cooper B-Line B3120).....	50.36	14.93
			<i>For Work In Restricted Working Space, Add</i>	8.96	
23 05 29 00-0160	EA		3" Steel Roller Chair (Cooper B-Line B3120).....	52.81	15.61
			<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0161	EA		3-1/2" Steel Roller Chair (Cooper B-Line B3120).....	60.14	16.72
			<i>For Work In Restricted Working Space, Add</i>	10.03	
23 05 29 00-0162	EA		4" Steel Roller Chair (Cooper B-Line B3120).....	67.01	18.95
			<i>For Work In Restricted Working Space, Add</i>	11.15	
23 05 29 00-0163	EA		5" Steel Roller Chair (Cooper B-Line B3120).....	73.24	20.39
			<i>For Work In Restricted Working Space, Add</i>	12.24	
23 05 29 00-0164	EA		6" Steel Roller Chair (Cooper B-Line B3120).....	89.77	22.30
			<i>For Work In Restricted Working Space, Add</i>	13.38	
23 05 29 00-0165	EA		8" Steel Roller Chair (Cooper B-Line B3120).....	116.80	27.87
			<i>For Work In Restricted Working Space, Add</i>	16.72	
23 05 29 00-0166	EA		10" Steel Roller Chair (Cooper B-Line B3120).....	150.92	37.90
			<i>For Work In Restricted Working Space, Add</i>	22.29	
23 05 29 00-0167	EA		12" Steel Roller Chair (Cooper B-Line B3120).....	195.16	41.79
			<i>For Work In Restricted Working Space, Add</i>	25.08	
23 05 29 00-0168	EA		14" Steel Roller Chair (Cooper B-Line B3120).....	212.88	47.93
			<i>For Work In Restricted Working Space, Add</i>	28.76	
23 05 29 00-0169	EA		16" Steel Roller Chair (Cooper B-Line B3120).....	256.72	55.73
			<i>For Work In Restricted Working Space, Add</i>	33.44	
23 05 29 00-0170	EA		18" Steel Roller Chair (Cooper B-Line B3120).....	346.16	69.66
			<i>For Work In Restricted Working Space, Add</i>	41.80	
23 05 29 00-0171	EA		20" Steel Roller Chair (Cooper B-Line B3120).....	428.39	83.60
			<i>For Work In Restricted Working Space, Add</i>	50.16	
23 05 29 00-0172 Adjustable Roller Support (Cooper B-Line B3122) (23 05 29 00-0133)					
23 05 29 00-0173	EA		2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	52.95	14.49
			<i>For Work In Restricted Working Space, Add</i>	8.36	
23 05 29 00-0174	EA		2-1/2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	59.55	14.93
			<i>For Work In Restricted Working Space, Add</i>	8.96	
23 05 29 00-0175	EA		3" Steel Adjustable Roller Support (Cooper B-Line B3122).....	62.60	15.61
			<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0176	EA		3-1/2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	66.13	16.72
			<i>For Work In Restricted Working Space, Add</i>	10.03	
23 05 29 00-0177	EA		4" Steel Adjustable Roller Support (Cooper B-Line B3122).....	79.57	18.95
			<i>For Work In Restricted Working Space, Add</i>	11.15	
23 05 29 00-0178	EA		5" Steel Adjustable Roller Support (Cooper B-Line B3122).....	90.25	20.39
			<i>For Work In Restricted Working Space, Add</i>	12.24	
23 05 29 00-0179	EA		6" Steel Adjustable Roller Support (Cooper B-Line B3122).....	105.13	22.30
			<i>For Work In Restricted Working Space, Add</i>	13.38	
23 05 29 00-0180	EA		8" Steel Adjustable Roller Support (Cooper B-Line B3122).....	148.42	27.87
			<i>For Work In Restricted Working Space, Add</i>	16.72	
23 05 29 00-0181	EA		10" Steel Adjustable Roller Support (Cooper B-Line B3122).....	185.01	37.90
			<i>For Work In Restricted Working Space, Add</i>	22.29	
23 05 29 00-0182	EA		12" Steel Adjustable Roller Support (Cooper B-Line B3122).....	214.04	41.79
			<i>For Work In Restricted Working Space, Add</i>	25.08	
23 05 29 00-0183	EA		14" Steel Adjustable Roller Support (Cooper B-Line B3122).....	303.23	47.93
			<i>For Work In Restricted Working Space, Add</i>	28.76	
23 05 29 00-0184	EA		16" Steel Adjustable Roller Support (Cooper B-Line B3122).....	363.58	55.73
			<i>For Work In Restricted Working Space, Add</i>	33.44	
23 05 29 00-0185	EA		18" Steel Adjustable Roller Support (Cooper B-Line B3122).....	412.65	69.66
			<i>For Work In Restricted Working Space, Add</i>	41.80	
23 05 29 00-0186 Adjustable Double Roller Support (Cooper B-Line B3122A) (23 05 29 00-0133)					
23 05 29 00-0187	EA		2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	53.31	14.49
			<i>For Work In Restricted Working Space, Add</i>	8.36	
23 05 29 00-0188	EA		2-1/2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	59.87	14.93
			<i>For Work In Restricted Working Space, Add</i>	8.96	
23 05 29 00-0189	EA		3" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	63.14	15.61
			<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0190	EA		3-1/2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	65.66	16.72
			<i>For Work In Restricted Working Space, Add</i>	10.03	
23 05 29 00-0191	EA		4" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	83.20	18.95
			<i>For Work In Restricted Working Space, Add</i>	11.15	
23 05 29 00-0192	EA		5" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	94.52	20.39
			<i>For Work In Restricted Working Space, Add</i>	12.24	
23 05 29 00-0193	EA		6" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	110.22	22.30
			<i>For Work In Restricted Working Space, Add</i>	13.38	
23 05 29 00-0194	EA		8" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	156.31	27.87
			<i>For Work In Restricted Working Space, Add</i>	16.72	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0195 EA 10" Steel Adjustable Double Roller Support (Cooper B-Line B3122A) For Work In Restricted Working Space, Add	194.48 22.29	37.90
23 05 29 00-0196 EA 12" Steel Adjustable Double Roller Support (Cooper B-Line B3122A) For Work In Restricted Working Space, Add	225.12 25.08	41.79
23 05 29 00-0197 EA 14" Steel Adjustable Double Roller Support (Cooper B-Line B3122A) For Work In Restricted Working Space, Add	320.96 28.76	47.93
23 05 29 00-0198 Pipe And Riser Clamps (23 05 29 00-0001) Note: Includes bolts and weldless eye nuts.		
23 05 29 00-0199 Steel Pipe Clamp (Cooper B-Line B3140) (23 05 29 00-0198) Note: Type 4.		
23 05 29 00-0200 EA 1/2" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	18.00 3.99	6.65
23 05 29 00-0201 EA 3/4" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	8.22 4.06	6.76
23 05 29 00-0202 EA 1" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	18.48 4.12	6.87
23 05 29 00-0203 EA 1-1/4" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	20.13 4.19	6.98
23 05 29 00-0204 EA 1-1/2" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	20.35 4.25	7.09
23 05 29 00-0205 EA 2" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	21.66 4.32	7.20
23 05 29 00-0206 EA 2-1/2" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	22.53 4.46	7.42
23 05 29 00-0207 EA 3" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	23.87 4.59	7.64
23 05 29 00-0208 EA 3-1/2" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	27.64 4.65	7.76
23 05 29 00-0209 EA 4" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	32.07 5.98	9.98
23 05 29 00-0210 EA 5" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	45.97 7.98	13.30
23 05 29 00-0211 EA 6" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	62.95 9.97	16.62
23 05 29 00-0212 EA 8" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	74.09 11.63	19.39
23 05 29 00-0213 EA 10" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	107.98 13.30	22.16
23 05 29 00-0214 EA 12" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	147.21 14.63	24.38
23 05 29 00-0215 EA 14" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	237.98 15.95	26.59
23 05 29 00-0216 EA 16" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	257.96 17.29	28.81
23 05 29 00-0217 EA 18" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	418.94 18.62	31.02
23 05 29 00-0218 EA 20" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	484.44 19.94	33.24
23 05 29 00-0219 EA 24" Steel Pipe Clamp (Cooper B-Line B3140) For Work In Restricted Working Space, Add	631.33 21.94	36.57
23 05 29 00-0220 Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) (23 05 29 00-0198)		
23 05 29 00-0221 EA 3" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	36.82 4.28	7.18
23 05 29 00-0222 EA 4" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	48.41 4.28	7.18
23 05 29 00-0223 EA 5" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	53.15 4.46	7.44
23 05 29 00-0224 EA 6" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	84.96 4.65	7.70
23 05 29 00-0225 EA 8" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	92.44 4.92	8.21
23 05 29 00-0226 EA 10" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	158.38 4.91	8.21
23 05 29 00-0227 EA 12" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	256.39 5.54	9.23
23 05 29 00-0228 EA 14" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	325.31 6.16	10.26
23 05 29 00-0229 EA 16" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	353.72 7.39	12.31
23 05 29 00-0230 EA 18" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	1,100.23 8.62	14.37
23 05 29 00-0231 EA 20" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	1,264.69 9.23	15.39
23 05 29 00-0232 EA 24" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) For Work In Restricted Working Space, Add	1,619.97 9.85	16.41
23 05 29 00-0233 Steel Riser Clamp (Cooper B-Line B3373) (23 05 29 00-0198) Note: Type 8.		

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0234 EA 1/2" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	18.19 3.69	6.16
23 05 29 00-0235 EA 3/4" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	18.95 3.76	6.26
23 05 29 00-0236 EA 1" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	19.23 3.82	6.36
23 05 29 00-0237 EA 1-1/4" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	20.79 3.88	6.46
23 05 29 00-0238 EA 1-1/2" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	21.60 3.94	6.57
23 05 29 00-0239 EA 2" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	22.13 4.00	6.67
23 05 29 00-0240 EA 2-1/2" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	23.07 4.12	6.87
23 05 29 00-0241 EA 3" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	24.46 4.25	7.08
23 05 29 00-0242 EA 3-1/2" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	26.90 4.31	7.18
23 05 29 00-0243 EA 4" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	32.65 5.54	9.23
23 05 29 00-0244 EA 5" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	42.21 7.39	12.31
23 05 29 00-0245 EA 6" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	53.53 9.23	15.39
23 05 29 00-0246 EA 8" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	73.16 10.77	17.96
23 05 29 00-0247 EA 10" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	96.16 12.31	20.52
23 05 29 00-0248 EA 12" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	116.33 13.54	22.57
23 05 29 00-0249 EA 14" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	156.36 14.78	24.63
23 05 29 00-0250 EA 16" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	297.87 16.01	26.67
23 05 29 00-0251 Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) (23 05 29 00-0198)		
23 05 29 00-0252 EA 1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	32.19 3.69	6.16
23 05 29 00-0253 EA 3/4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	32.69 3.76	6.26
23 05 29 00-0254 EA 1" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	34.04 3.82	6.36
23 05 29 00-0255 EA 1-1/4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	36.40 3.88	6.46
23 05 29 00-0256 EA 1-1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	41.12 3.94	6.57
23 05 29 00-0257 EA 2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	43.70 4.00	6.67
23 05 29 00-0258 EA 2-1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	47.29 4.12	6.87
23 05 29 00-0259 EA 3" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	51.98 4.25	7.08
23 05 29 00-0260 EA 4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C)..... <i>For Work In Restricted Working Space, Add</i>	70.40 5.54	9.23
23 05 29 00-0261 Copper Tubing Riser Clamp (Cooper B-Line B3373CT) (23 05 29 00-0198)		
23 05 29 00-0262 EA 1/2" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	31.17	6.16
23 05 29 00-0263 EA 3/4" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	31.38	6.26
23 05 29 00-0264 EA 1" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	31.59	6.36
23 05 29 00-0265 EA 1-1/4" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	32.40	6.46
23 05 29 00-0266 EA 1-1/2" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	36.91	6.57
23 05 29 00-0267 EA 2" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	38.41	6.67
23 05 29 00-0268 EA 2-1/2" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	43.28	6.87
23 05 29 00-0269 EA 3" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	48.32	7.08
23 05 29 00-0270 EA 3-1/2" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	59.74	7.18
23 05 29 00-0271 EA 4" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	64.29	9.23
23 05 29 00-0272 EA 5" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	85.48	12.31
23 05 29 00-0273 EA 6" Copper Tubing Riser Clamp (Cooper B-Line B3373CT).....	109.17	15.39
23 05 29 00-0274 Two Bolt Steel Underground Clamp (Cooper B-Line B3132) (23 05 29 00-0198)		
Note: Type 42		
23 05 29 00-0275 EA 4" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	72.60 4.28	7.18
23 05 29 00-0276 EA 6" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	77.07 4.65	7.70
23 05 29 00-0277 EA 8" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	84.63 4.92	8.21
23 05 29 00-0278 EA 10" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	90.35 4.91	8.21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0279 EA 12" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	109.33 5.54	9.23
23 05 29 00-0280 EA 14" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	340.01 6.16	10.26
23 05 29 00-0281 EA 16" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	455.55 7.39	12.31
23 05 29 00-0282 EA 18" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	542.83 8.62	14.37
23 05 29 00-0283 EA 20" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	790.90 9.23	15.39
23 05 29 00-0284 EA 24" Two Bolt Steel Underground Clamp (Cooper B-Line B3132) For Work In Restricted Working Space, Add	1,090.20 9.85	16.41
23 05 29 00-0285 Four Bolt Steel Underground Clamp (Cooper B-Line B3134) (23 05 29 00-0198)		
23 05 29 00-0286 EA 4" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	67.00 4.28	7.18
23 05 29 00-0287 EA 6" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	72.26 4.65	7.70
23 05 29 00-0288 EA 8" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	126.42 4.92	8.21
23 05 29 00-0289 EA 10" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	140.59 4.91	8.21
23 05 29 00-0290 EA 12" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	201.96 5.54	9.23
23 05 29 00-0291 EA 14" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	309.78 6.16	10.26
23 05 29 00-0292 EA 16" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	415.58 7.39	12.31
23 05 29 00-0293 EA 18" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	494.63 8.62	14.37
23 05 29 00-0294 EA 20" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	723.22 9.23	15.39
23 05 29 00-0295 EA 24" Four Bolt Steel Underground Clamp (Cooper B-Line B3134) For Work In Restricted Working Space, Add	990.01 9.85	16.41
23 05 29 00-0296 Split Pipe Clamps And Rings (23 05 29 00-0001)		
23 05 29 00-0297 Adjustable Split Ring Swivel Hanger (Cooper B-Line B3171) (23 05 29 00-0296) Note: Type 6.		
23 05 29 00-0298 EA 3/4" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	30.15 5.65	9.42
23 05 29 00-0299 EA 1" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	31.92 5.98	9.98
23 05 29 00-0300 EA 1-1/4" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	34.72 6.65	11.08
23 05 29 00-0301 EA 1-1/2" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	37.41 6.98	11.63
23 05 29 00-0302 EA 2" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	40.41 7.31	12.19
23 05 29 00-0303 EA 2-1/2" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	49.93 7.65	12.74
23 05 29 00-0304 EA 3" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	54.79 7.98	13.30
23 05 29 00-0305 EA 4" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	72.95 8.98	14.96
23 05 29 00-0306 EA 5" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	92.75 11.30	18.84
23 05 29 00-0307 EA 6" Adjustable Swivel Ring (Cooper B-Line B3171) For Work In Restricted Working Space, Add	124.05 13.30	22.16
23 05 29 00-0308 Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) (23 05 29 00-0296) Note: Type 11.		
23 05 29 00-0309 EA 1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	19.57 4.77	7.80
23 05 29 00-0310 EA 3/4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	20.65 4.99	7.80
23 05 29 00-0311 EA 1" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	22.73 5.57	10.03
23 05 29 00-0312 EA 1-1/4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	24.72 5.87	10.03
23 05 29 00-0313 EA 1-1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	27.61 6.08	10.03
23 05 29 00-0314 EA 2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	32.30 6.69	11.14
23 05 29 00-0315 EA 2-1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	43.20 6.96	11.14
23 05 29 00-0316 EA 3" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	48.05 7.27	12.26
23 05 29 00-0317 EA 4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) For Work In Restricted Working Space, Add	51.15 7.96	13.38

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-0318 Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H) (23 05 29 00-0296)			
Note: Type 12.			
23 05 29 00-0319	EA 1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	19.57	7.80
	For Work In Restricted Working Space, Add	4.77	
23 05 29 00-0320	EA 3/4" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	20.65	8.36
	For Work In Restricted Working Space, Add	4.99	
23 05 29 00-0321	EA 1" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	22.73	9.47
	For Work In Restricted Working Space, Add	5.57	
23 05 29 00-0322	EA 1-1/4" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	24.72	10.03
	For Work In Restricted Working Space, Add	5.87	
23 05 29 00-0323	EA 1-1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	27.61	10.03
	For Work In Restricted Working Space, Add	6.08	
23 05 29 00-0324	EA 2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	32.30	11.14
	For Work In Restricted Working Space, Add	6.69	
23 05 29 00-0325	EA 2-1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	43.20	11.70
	For Work In Restricted Working Space, Add	6.96	
23 05 29 00-0326	EA 3" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H).....	48.05	12.26
	For Work In Restricted Working Space, Add	7.27	

23 05 29 00-0327 Pipe Straps (23 05 29 00-0001)

23 05 29 00-0328 Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B-3180) (23 05 29 00-0327)			
23 05 29 00-0329	EA 1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	13.31	5.57
	For Work In Restricted Working Space, Add	3.34	
23 05 29 00-0330	EA 3/4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	13.89	6.69
	For Work In Restricted Working Space, Add	3.52	
23 05 29 00-0331	EA 1" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	14.55	6.69
	For Work In Restricted Working Space, Add	3.71	
23 05 29 00-0332	EA 1-1/4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	15.37	6.69
	For Work In Restricted Working Space, Add	3.93	
23 05 29 00-0333	EA 1-1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	16.27	7.80
	For Work In Restricted Working Space, Add	4.18	
23 05 29 00-0334	EA 2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	18.71	7.80
	For Work In Restricted Working Space, Add	4.46	
23 05 29 00-0335	EA 2-1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	22.87	7.80
	For Work In Restricted Working Space, Add	4.77	
23 05 29 00-0336	EA 3" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	29.32	7.80
	For Work In Restricted Working Space, Add	5.14	
23 05 29 00-0337	EA 4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	34.72	10.03
	For Work In Restricted Working Space, Add	6.02	
23 05 29 00-0338	EA 6" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	42.50	11.14
	For Work In Restricted Working Space, Add	6.69	
23 05 29 00-0339	EA 8" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180).....	52.98	12.26
	For Work In Restricted Working Space, Add	7.35	

23 05 29 00-0340 Two Hole Copper-Clad Pipe Straps (23 05 29 00-0327)

23 05 29 00-0341	EA 1/2" Two Hole Copper-Clad Pipe Strap.....	6.21	
	For Work In Restricted Working Space, Add	1.67	
23 05 29 00-0342	EA 3/4" Two Hole Copper-Clad Pipe Strap.....	6.60	
	For Work In Restricted Working Space, Add	1.76	
23 05 29 00-0343	EA 1" Two Hole Copper-Clad Pipe Strap.....	7.43	
	For Work In Restricted Working Space, Add	1.84	
23 05 29 00-0344	EA 1-1/4" Two Hole Copper-Clad Pipe Strap.....	8.31	
	For Work In Restricted Working Space, Add	1.92	
23 05 29 00-0345	EA 1-1/2" Two Hole Copper-Clad Pipe Strap.....	8.95	
	For Work In Restricted Working Space, Add	2.01	
23 05 29 00-0346	EA 2" Two Hole Copper-Clad Pipe Strap.....	9.71	
	For Work In Restricted Working Space, Add	2.17	

23 05 29 00-0347 One Hole Galvanized Steel Pipe Straps (23 05 29 00-0327)

23 05 29 00-0348	EA 1/2" One Hole Galvanized Steel Pipe Strap (Anvil 185D).....	2.81	
	For Work In Restricted Working Space, Add	0.56	
23 05 29 00-0349	EA 3/4" One Hole Galvanized Steel Pipe Strap (Anvil 185D).....	3.36	
	For Work In Restricted Working Space, Add	0.60	
23 05 29 00-0350	EA 1" One Hole Galvanized Steel Pipe Strap (Anvil 185D).....	3.61	
	For Work In Restricted Working Space, Add	0.65	
23 05 29 00-0351	EA 1-1/4" Galvanized Steel Strap, 1 Hole.....	3.87	
	For Work In Restricted Working Space, Add	0.70	
23 05 29 00-0352	EA 1-1/2" Galvanized Steel Strap, 1 Hole.....	4.16	
	For Work In Restricted Working Space, Add	0.76	
23 05 29 00-0353	EA 2" Galvanized Steel Strap, 1 Hole.....	4.65	
	For Work In Restricted Working Space, Add	0.84	

23 05 29 00-0354 Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B-2400 Or Tripac 2STR) (23 05 29 00-0327)

Note: Designed for supporting pipe runs from strut supports.



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0355	EA	1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-1/2ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	45.15 10.70	17.83
23 05 29 00-0356	EA	3/4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-3/4ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	48.91 11.70	19.50
23 05 29 00-0357	EA	1" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-1ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	52.83 12.70	21.17
23 05 29 00-0358	EA	1-1/4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-11/4ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	56.78 13.70	22.84
23 05 29 00-0359	EA	1-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-11/2ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	61.66 14.71	24.51
23 05 29 00-0360	EA	2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-2ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	70.64 16.04	26.74
23 05 29 00-0361	EA	2-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-21/2ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	78.04 17.72	29.53
23 05 29 00-0362	EA	3" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-3ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	85.50 19.72	32.86
23 05 29 00-0363	EA	3-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-31/2ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	86.25 19.72	32.86
23 05 29 00-0364	EA	4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-4ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	100.16 23.06	38.44
23 05 29 00-0365	EA	5" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-5ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	119.59 26.41	44.57
23 05 29 00-0366	EA	6" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-6ZN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	134.57 29.75	49.58
23 05 29 00-0367	EA	8" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-8AN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	162.56 36.10	60.17
23 05 29 00-0368	EA	10" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-10AN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	193.15 42.12	70.19
23 05 29 00-0369	EA	12" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-12AN)..... Note: Designed for supporting pipe runs from strut supports. <i>For Work In Restricted Working Space, Add</i>	219.30 46.80	77.99
23 05 29 00-0370		Standard Two Hole Pipe Strap, Stainless Steel (Cooper B-Line B-2400) ^(23 05 29 00-0327)		
23 05 29 00-0371	EA	1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-1/2SS4)..... <i>For Work In Restricted Working Space, Add</i>	63.57 10.70	17.83
23 05 29 00-0372	EA	3/4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-3/4SS4)..... <i>For Work In Restricted Working Space, Add</i>	68.12 11.70	20.05
23 05 29 00-0373	EA	1" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-1SS4)..... <i>For Work In Restricted Working Space, Add</i>	71.52 12.70	21.17
23 05 29 00-0374	EA	1-1/4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-11/4SS4)..... <i>For Work In Restricted Working Space, Add</i>	82.68 13.70	23.40
23 05 29 00-0375	EA	1-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-11/2SS4)..... <i>For Work In Restricted Working Space, Add</i>	81.87 14.71	24.51
23 05 29 00-0376	EA	2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-2SS4)..... <i>For Work In Restricted Working Space, Add</i>	100.98 16.04	26.74
23 05 29 00-0377	EA	2-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-21/2SS4)..... <i>For Work In Restricted Working Space, Add</i>	96.46 14.37	24.51
23 05 29 00-0378	EA	3" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-3SS4)..... <i>For Work In Restricted Working Space, Add</i>	116.43 19.72	33.43
23 05 29 00-0379	EA	3-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-31/2SS4)..... <i>For Work In Restricted Working Space, Add</i>	128.66 21.39	35.65
23 05 29 00-0380	EA	4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-4SS4)..... <i>For Work In Restricted Working Space, Add</i>	144.01 23.06	39.00
23 05 29 00-0381	EA	5" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-5SS4)..... <i>For Work In Restricted Working Space, Add</i>	185.53 26.41	44.57
23 05 29 00-0382	EA	6" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-6SS4)..... <i>For Work In Restricted Working Space, Add</i>	203.42 29.75	50.14
23 05 29 00-0383	EA	8" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-8SS4)..... <i>For Work In Restricted Working Space, Add</i>	253.87 36.10	60.17
23 05 29 00-0384	EA	10" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-10SS4)..... <i>For Work In Restricted Working Space, Add</i>	294.53 42.12	70.19
23 05 29 00-0385	EA	12" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-12SS4)..... <i>For Work In Restricted Working Space, Add</i>	533.17 46.80	77.99
23 05 29 00-0386	EA	14" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-14SS4)..... <i>For Work In Restricted Working Space, Add</i>	391.23 51.47	85.79
23 05 29 00-0387		Pipe and Equipment Support Brackets ^(23 05 29 00-0001)		

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-0388	Pipe and Equipment Supports, Light Duty Welded Steel Bracket (Cooper B-Line B3068) (23 05 29 00-0387) Note: Up to 750# load.			
23 05 29 00-0389	EA	9" x 9" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068)	121.63	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	19.40	
23 05 29 00-0390	EA	13" x 13" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068)	123.40	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	19.75	
23 05 29 00-0391	EA	19" x 19" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068)	130.42	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	21.16	
23 05 29 00-0392	Pipe and Equipment Supports, Medium Duty Welded Steel Bracket (Cooper B-Line B3066) (23 05 29 00-0387) Note: Up to 1500# load.			
23 05 29 00-0393	EA	12" Wide x 18" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066)	293.02	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	53.68	
23 05 29 00-0394	EA	18" Wide x 24" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066)	343.48	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	63.77	
23 05 29 00-0395	EA	24" Wide x 30" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066)	446.36	12.31
		For Work In Restricted Working Space, Add	7.39	
		For Galvanized, Add	84.35	
23 05 29 00-0396	Fiberglass Brackets (23 05 29 00-0387)			
23 05 29 00-0397	Polyester Resin (23 05 29 00-0396) Note: (B-Line BFP409 Series), single channel bracket.			
23 05 29 00-0398	EA	6" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP409)	309.09	10.26
23 05 29 00-0399	EA	9" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP409)	325.77	11.29
23 05 29 00-0400	EA	12" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP409)	342.45	12.31
23 05 29 00-0401	EA	18" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP409)	387.76	12.83
23 05 29 00-0402	EA	24" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP409)	429.88	13.34
23 05 29 00-0403	Vinyl Ester Resin (23 05 29 00-0396) Note: (B-Line BFV409 Series), single channel bracket.			
23 05 29 00-0404	EA	6" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV409)	395.66	10.26
23 05 29 00-0405	EA	9" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV409)	417.08	11.29
23 05 29 00-0406	EA	12" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV409)	438.91	12.31
23 05 29 00-0407	EA	18" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV409)	496.46	12.83
23 05 29 00-0408	EA	24" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV409)	557.16	13.34
23 05 29 00-0409	Polyester Resin (23 05 29 00-0396) Note: (B-Line BFP494 Series), braced single channel bracket.			
23 05 29 00-0410	EA	24" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP494)	480.09	13.34
23 05 29 00-0411	EA	30" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP494)	495.98	14.37
23 05 29 00-0412	EA	36" Fiberglass Bracket, Polyester Resin (Cooper B-Line BFP494)	529.65	15.39
23 05 29 00-0413	Vinyl Ester Resin (23 05 29 00-0396) Note: (B-Line BFV494 Series), braced single channel bracket.			
23 05 29 00-0414	EA	24" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV494)	616.85	13.34
23 05 29 00-0415	EA	30" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV494)	643.82	14.37
23 05 29 00-0416	EA	36" Fiberglass Bracket, Vinyl Ester Resin (Cooper B-Line BFV494)	679.86	15.39
23 05 29 00-0417	Pipe Alignment Guide (23 05 29 00-0001)			
23 05 29 00-0418	Pipe Alignment Guide, 1" Insulation (23 05 29 00-0417)			
23 05 29 00-0419	EA	1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1/2)	555.90	19.50
23 05 29 00-0420	EA	3/4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-3/4)	556.92	20.01
23 05 29 00-0421	EA	1" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1)	557.95	20.52
23 05 29 00-0422	EA	1-1/4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1-1/4)	558.98	21.03
23 05 29 00-0423	EA	1-1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1-1/2)	610.36	21.54
23 05 29 00-0424	EA	2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-2)	622.29	23.60
23 05 29 00-0425	EA	2-1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-2-1/2)	623.83	24.37
23 05 29 00-0426	EA	3" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-3)	625.36	25.14
23 05 29 00-0427	EA	4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-4)	661.85	26.67
23 05 29 00-0428	EA	5" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-5)	771.02	33.86
23 05 29 00-0429	EA	6" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-6)	785.38	41.04
23 05 29 00-0430	EA	8" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-8)	883.73	51.30
23 05 29 00-0431	EA	10" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-10)	1,643.65	61.56
23 05 29 00-0432	EA	12" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-12)	2,504.85	82.08
23 05 29 00-0433	EA	14" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-14)	3,081.91	102.60
23 05 29 00-0434	EA	16" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-16)	3,710.72	114.91



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Hangers and Supports for HVAC Piping and Equipment 23 05 29



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0435 EA 18" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-18).....	4,001.06	128.26
23 05 29 00-0436 EA 20" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-20).....	4,249.18	146.73
23 05 29 00-0437 EA 24" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-24).....	5,362.79	153.91
23 05 29 00-0438 Pipe Alignment Guide, 1-1/2" Insulation (23 05 29 00-0417)		
23 05 29 00-0439 EA 1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1/2).....	556.92	20.01
23 05 29 00-0440 EA 3/4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-3/4).....	608.30	20.52
23 05 29 00-0441 EA 1" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1).....	609.33	21.03
23 05 29 00-0442 EA 1-1/4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1-1/4).....	610.36	21.54
23 05 29 00-0443 EA 1-1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1-1/2).....	611.38	22.06
23 05 29 00-0444 EA 2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-2).....	623.32	24.11
23 05 29 00-0445 EA 2-1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-2-1/2).....	624.85	24.88
23 05 29 00-0446 EA 3" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-3).....	659.79	25.66
23 05 29 00-0447 EA 4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-4).....	662.87	27.19
23 05 29 00-0448 EA 5" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-5).....	772.56	34.63
23 05 29 00-0449 EA 6" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-6).....	787.44	42.07
23 05 29 00-0450 EA 8" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-8).....	886.30	52.58
23 05 29 00-0451 EA 10" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-10).....	1,646.72	63.10
23 05 29 00-0452 EA 12" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-12).....	2,508.95	84.14
23 05 29 00-0453 EA 14" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-14).....	3,087.04	105.17
23 05 29 00-0454 EA 16" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-16).....	3,716.88	118.00
23 05 29 00-0455 EA 18" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-18).....	4,007.22	131.34
23 05 29 00-0456 EA 20" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-20).....	4,256.37	150.31
23 05 29 00-0457 EA 24" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-24).....	5,370.49	157.76
23 05 29 00-0458 Pipe Alignment Guide, 2" Insulation (23 05 29 00-0417)		
23 05 29 00-0459 EA 1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1/2).....	608.30	20.52
23 05 29 00-0460 EA 3/4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-3/4).....	617.16	21.03
23 05 29 00-0461 EA 1" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1).....	618.19	21.54
23 05 29 00-0462 EA 1-1/4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1-1/4).....	619.21	22.06
23 05 29 00-0463 EA 1-1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1-1/2).....	620.23	22.57
23 05 29 00-0464 EA 2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-2).....	657.74	24.63
23 05 29 00-0465 EA 2-1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-2-1/2).....	659.79	25.66
23 05 29 00-0466 EA 3" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-3).....	661.07	26.29
23 05 29 00-0467 EA 4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-4).....	758.71	27.70
23 05 29 00-0468 EA 5" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-5).....	774.10	35.40
23 05 29 00-0469 EA 6" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-6).....	867.32	43.10
23 05 29 00-0470 EA 8" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-8).....	975.06	53.87
23 05 29 00-0471 EA 10" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-10).....	1,649.80	64.64
23 05 29 00-0472 EA 12" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-12).....	2,513.05	86.19
23 05 29 00-0473 EA 14" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-14).....	3,092.17	107.74
23 05 29 00-0474 EA 16" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-16).....	3,722.80	120.96
23 05 29 00-0475 EA 18" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-18).....	4,013.89	134.66
23 05 29 00-0476 EA 20" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-20).....	4,263.54	153.91
23 05 29 00-0477 EA 24" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-24).....	5,378.19	161.60
23 05 29 00-0478 Pipe Alignment Guide, 2-1/2" Insulation (23 05 29 00-0417)		
23 05 29 00-0479 EA 1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1/2).....	617.16	21.03
23 05 29 00-0480 EA 3/4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-3/4).....	651.59	21.54
23 05 29 00-0481 EA 1" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1).....	652.61	22.06
23 05 29 00-0482 EA 1-1/4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1-1/4).....	653.63	22.57
23 05 29 00-0483 EA 1-1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1-1/2).....	654.66	23.09
23 05 29 00-0484 EA 2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-2).....	658.76	25.14
23 05 29 00-0485 EA 2-1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-2-1/2).....	661.07	26.29
23 05 29 00-0486 EA 3" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-3).....	757.17	26.93
23 05 29 00-0487 EA 4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-4).....	759.73	28.21
23 05 29 00-0488 EA 5" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-5).....	852.96	35.91
23 05 29 00-0489 EA 6" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-6).....	869.37	44.12
23 05 29 00-0490 EA 8" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-8).....	1,630.82	55.15
23 05 29 00-0491 EA 10" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-10).....	2,473.04	66.18
23 05 29 00-0492 EA 12" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-12).....	3,053.18	88.24
23 05 29 00-0493 EA 14" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-14).....	3,097.83	110.30
23 05 29 00-0494 EA 16" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-16).....	3,729.19	124.15
23 05 29 00-0495 EA 18" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-18).....	4,020.56	138.00
23 05 29 00-0496 EA 20" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-20).....	4,271.24	157.76
23 05 29 00-0497 EA 24" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-24).....	5,386.39	165.71
23 05 29 00-0498 Pipe Alignment Guide, 3" Insulation (23 05 29 00-0417)		
23 05 29 00-0499 EA 1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1/2).....	651.59	21.54
23 05 29 00-0500 EA 3/4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-3/4).....	652.61	22.06
23 05 29 00-0501 EA 1" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1).....	653.63	22.57
23 05 29 00-0502 EA 1-1/4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1-1/4).....	654.66	23.09
23 05 29 00-0503 EA 1-1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1-1/2).....	655.69	23.60
23 05 29 00-0504 EA 2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-2).....	754.60	25.66
23 05 29 00-0505 EA 2-1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-2-1/2).....	757.17	26.93
23 05 29 00-0506 EA 3" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-3).....	758.71	27.70

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

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-0507	EA	4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-4).....	839.00	28.93
23 05 29 00-0508	EA	5" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-5).....	855.00	36.94
23 05 29 00-0509	EA	6" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-6).....	957.62	45.14
23 05 29 00-0510	EA	8" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-8).....	1,633.39	56.43
23 05 29 00-0511	EA	10" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-10).....	2,476.12	67.72
23 05 29 00-0512	EA	12" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-12).....	3,057.28	90.30
23 05 29 00-0513	EA	14" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-14).....	3,102.96	112.87
23 05 29 00-0514	EA	16" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-16).....	3,735.34	127.23
23 05 29 00-0515	EA	18" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-18).....	4,026.72	141.08
23 05 29 00-0516	EA	20" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-20).....	4,278.94	161.60
23 05 29 00-0517	EA	24" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-24).....	5,394.60	169.81

23 05 29 00-0518 Pipe Alignment Guide, 3-1/2" Insulation (23 05 29 00-0417)

23 05 29 00-0519	EA	1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1/2).....	652.61	22.06
23 05 29 00-0520	EA	3/4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-3/4).....	748.44	22.57
23 05 29 00-0521	EA	1" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1).....	749.47	23.09
23 05 29 00-0522	EA	1-1/4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1-1/4).....	750.50	23.60
23 05 29 00-0523	EA	1-1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1-1/2).....	751.53	24.11
23 05 29 00-0524	EA	2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-2).....	755.88	26.29
23 05 29 00-0525	EA	2-1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-2-1/2).....	758.50	27.60
23 05 29 00-0526	EA	3" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-3).....	837.92	28.40
23 05 29 00-0527	EA	4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-4).....	840.64	29.76
23 05 29 00-0528	EA	5" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-5).....	943.25	37.97
23 05 29 00-0529	EA	6" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-6).....	1,612.86	46.17
23 05 29 00-0530	EA	8" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-8).....	2,456.11	57.72
23 05 29 00-0531	EA	10" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-10).....	3,016.06	69.41
23 05 29 00-0532	EA	12" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-12).....	3,665.56	92.34
23 05 29 00-0533	EA	14" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-14).....	3,712.25	115.69
23 05 29 00-0534	EA	16" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-16).....	4,017.59	130.31
23 05 29 00-0535	EA	18" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-18).....	4,245.07	144.67
23 05 29 00-0536	EA	20" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-20).....	5,385.36	165.20

23 05 29 00-0537 Pipe Alignment Guide, 4" Insulation (23 05 29 00-0417)

23 05 29 00-0538	EA	1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1/2).....	748.44	22.57
23 05 29 00-0539	EA	3/4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-3/4).....	749.47	23.09
23 05 29 00-0540	EA	1" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1).....	750.50	23.60
23 05 29 00-0541	EA	1-1/4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1-1/4).....	751.53	24.11
23 05 29 00-0542	EA	1-1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1-1/2).....	752.55	24.63
23 05 29 00-0543	EA	2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-2).....	835.00	26.93
23 05 29 00-0544	EA	2-1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-2-1/2).....	837.56	28.21
23 05 29 00-0545	EA	3" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-3).....	839.30	29.09
23 05 29 00-0546	EA	4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-4).....	928.37	30.52
23 05 29 00-0547	EA	5" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-5).....	1,598.50	38.99
23 05 29 00-0548	EA	6" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-6).....	1,614.92	47.20
23 05 29 00-0549	EA	8" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-8).....	2,458.68	59.00
23 05 29 00-0550	EA	10" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-10).....	3,019.85	71.31
23 05 29 00-0551	EA	12" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-12).....	3,670.19	94.65
23 05 29 00-0552	EA	14" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-14).....	3,980.55	118.00
23 05 29 00-0553	EA	16" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-16).....	4,222.50	133.38
23 05 29 00-0554	EA	18" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-18).....	5,352.53	148.78

23 05 29 00-0555 Sway Bracing For No Hub Pipe (23 05 29 00-0001)

23 05 29 00-0556	EA	1-1/2" Sway Bracing.....	153.81	13.54
		For Work In Restricted Working Space, Add.....	8.10	
23 05 29 00-0557	EA	2" Sway Bracing.....	158.32	14.26
		For Work In Restricted Working Space, Add.....	8.55	
23 05 29 00-0558	EA	3" Sway Bracing.....	163.85	15.08
		For Work In Restricted Working Space, Add.....	9.05	
23 05 29 00-0559	EA	4" Sway Bracing.....	185.99	17.13
		For Work In Restricted Working Space, Add.....	10.26	
23 05 29 00-0560	EA	6" Sway Bracing.....	272.65	25.66
		For Work In Restricted Working Space, Add.....	15.39	
23 05 29 00-0561	EA	8" Sway Bracing.....	300.51	32.01
		For Work In Restricted Working Space, Add.....	19.24	
23 05 29 00-0562	EA	10" Sway Bracing.....	336.02	42.79
		For Work In Restricted Working Space, Add.....	25.65	

23 05 29 00-0563 Pipe Stand With Adjustable Saddle (Cooper B-Line B3088T-18 Base, B3093 Adjustable Pipe Saddle) (23 05 29 00-0001)

Note: Heights listed is total for base and adjustable saddle

23 05 29 00-0564	EA	23" to 28" High Pipe Stand With Adjustable Saddle For 1-1/4" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	332.40	10.26
		For Work In Restricted Working Space, Add.....	6.16	
23 05 29 00-0565	EA	24" to 29" High Pipe Stand With Adjustable Saddle For 1-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	339.82	11.29
		For Work In Restricted Working Space, Add.....	6.77	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0566 EA 24" to 29" High Pipe Stand With Adjustable Saddle For 2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	692.74	12.83
For Work In Restricted Working Space, Add	7.70	
23 05 29 00-0567 EA 24" to 29" High Pipe Stand With Adjustable Saddle For 2-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	831.20	14.37
For Work In Restricted Working Space, Add	8.62	
23 05 29 00-0568 EA 24" to 29" High Pipe Stand With Adjustable Saddle For 3" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	841.64	15.90
For Work In Restricted Working Space, Add	9.54	
23 05 29 00-0569 EA 25" to 29" High Pipe Stand With Adjustable Saddle For 3-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	926.63	17.96
For Work In Restricted Working Space, Add	10.77	
23 05 29 00-0570 EA 25" to 30" High Pipe Stand With Adjustable Saddle For 4" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,104.08	19.50
For Work In Restricted Working Space, Add	11.70	
23 05 29 00-0571 EA 25" to 30" High Pipe Stand With Adjustable Saddle For 5" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,116.85	21.03
For Work In Restricted Working Space, Add	12.62	
23 05 29 00-0572 EA 26" to 31" High Pipe Stand With Adjustable Saddle For 6" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,133.16	23.09
For Work In Restricted Working Space, Add	13.85	
23 05 29 00-0573 EA 28" to 33" High Pipe Stand With Adjustable Saddle For 8" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,180.36	25.14
For Work In Restricted Working Space, Add	15.08	
23 05 29 00-0574 EA 29" to 34" High Pipe Stand With Adjustable Saddle For 10" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,265.40	27.70
For Work In Restricted Working Space, Add	16.62	
23 05 29 00-0575 EA 30" to 35" High Pipe Stand With Adjustable Saddle For 12" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,302.98	30.78
For Work In Restricted Working Space, Add	18.47	
23 05 29 00-0576 EA 32" to 37" High Pipe Stand With Adjustable Saddle For 14" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,588.36	33.86
For Work In Restricted Working Space, Add	20.32	
23 05 29 00-0577 EA 33" to 38" High Pipe Stand With Adjustable Saddle For 16" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	1,734.11	37.97
For Work In Restricted Working Space, Add	22.78	
23 05 29 00-0578 EA 35" to 40" High Pipe Stand With Adjustable Saddle For 18" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	2,448.21	42.07
For Work In Restricted Working Space, Add	25.24	
23 05 29 00-0579 EA 36" to 41" High Pipe Stand With Adjustable Saddle For 20" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	3,026.16	46.17
For Work In Restricted Working Space, Add	27.70	
23 05 29 00-0580 EA 39" to 44" High Pipe Stand With Adjustable Saddle For 24" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	3,641.28	50.27
For Work In Restricted Working Space, Add	30.17	
23 05 29 00-0581 Channel Mounted Cushion Clamp (23 05 29 00-0001)		
Note: Includes fastening into channel.		
23 05 29 00-0582 EA 1/2" Channel Mounted Cushion Clamp For 3/8" Pipe (Cooper B-Line BVT050).....	12.67	4.62
23 05 29 00-0583 EA 5/8" Channel Mounted Cushion Clamp For 1/2" Pipe (Cooper B-Line BVT062).....	13.35	5.13
23 05 29 00-0584 EA 7/8" Channel Mounted Cushion Clamp For 3/4" Pipe (Cooper B-Line BVT087).....	14.85	5.39
23 05 29 00-0585 EA 1-1/8" Channel Mounted Cushion Clamp For 1" Pipe (Cooper B-Line BVT112).....	15.94	5.64
23 05 29 00-0586 EA 1-3/8" Channel Mounted Cushion Clamp For 1-1/4" Pipe (Cooper B-Line BVT137).....	17.83	6.16
23 05 29 00-0587 EA 1-5/8" Channel Mounted Cushion Clamp For 1-1/2" Pipe (Cooper B-Line BVT162).....	20.03	6.41
23 05 29 00-0588 EA 2-1/8" Channel Mounted Cushion Clamp For 2" Pipe (Cooper B-Line BVT212).....	25.65	6.67
23 05 29 00-0589 EA 2-5/8" Channel Mounted Cushion Clamp For 2-1/2" Pipe (Cooper B-Line BVT262).....	28.41	7.18
23 05 29 00-0590 EA 3-1/8" Channel Mounted Cushion Clamp For 3" Pipe (Cooper B-Line BVT312).....	35.06	8.21
23 05 29 00-0591 EA 4-1/8" Channel Mounted Cushion Clamp For 4" Pipe (Cooper B-Line BVT412).....	53.93	9.23
23 05 29 00-0592 Galvanized Steel Cushion Tube Clamp (KMC) (23 05 29 00-0001)		
Note: Excludes fastening bolt and drilling if necessary.		
23 05 29 00-0593 EA 1/2" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3/8" Pipe.....	3.91	
Note: 19/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0594 EA 1/2" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3/8" Pipe.....	4.05	
Note: 23/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0595 EA 5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1/2" Pipe.....	4.14	
Note: 23/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0596 EA 5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1/2" Pipe.....	4.36	
Note: 27/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0597 EA 7/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3/4" Pipe.....	4.09	
Note: 27/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0598 EA 7/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3/4" Pipe.....	4.50	
Note: 31/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0599 EA 1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1" Pipe.....	4.25	
Note: 31/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0600 EA 1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1" Pipe.....	4.74	
Note: 1-1/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0601 EA 1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1" Pipe.....	4.77	
Note: 1-5/32" Center To Center Length, 17/32" Hole Diameter For Screw		
23 05 29 00-0602 EA 1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1-1/4" Pipe.....	4.47	
Note: 1-3/32" Center To Center Length, 9/32" Hole Diameter For Screw		

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0603	EA	1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1-1/4" Pipe Note: 1-7/32" Center To Center Length, 13/32" Hole Diameter For Screw	4.70	
23 05 29 00-0604	EA	1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1-1/4" Pipe Note: 1-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	5.40	
23 05 29 00-0605	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1-1/2" Pipe Note: 1-5/16" Center To Center Length, 9/32" Hole Diameter For Screw	4.72	
23 05 29 00-0606	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1-1/2" Pipe Note: 1-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	5.17	
23 05 29 00-0607	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1-1/2" Pipe Note: 1-13/16" Center To Center Length, 17/32" Hole Diameter For Screw	5.92	
23 05 29 00-0608	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 2" Pipe Note: 1-7/16" Center To Center Length, 9/32" Hole Diameter For Screw	5.98	
23 05 29 00-0609	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 2" Pipe Note: 1-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	6.39	
23 05 29 00-0610	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 2" Pipe Note: 1-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	7.20	
23 05 29 00-0611	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 2-1/2" Pipe Note: 1-11/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.45	
23 05 29 00-0612	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 2-1/2" Pipe Note: 1-13/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.66	
23 05 29 00-0613	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 2-1/2" Pipe Note: 1-15/16" Center To Center Length, 17/32" Hole Diameter For Screw	8.75	
23 05 29 00-0614	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3" Pipe Note: 1-15/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.69	
23 05 29 00-0615	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3" Pipe Note: 2-1/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.66	
23 05 29 00-0616	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 3" Pipe Note: 2-3/16" Center To Center Length, 17/32" Hole Diameter For Screw	9.25	
23 05 29 00-0617	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3-1/2" Pipe Note: 2-3/16" Center To Center Length, 9/32" Hole Diameter For Screw	8.01	
23 05 29 00-0618	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3-1/2" Pipe Note: 2-5/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.60	
23 05 29 00-0619	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 3-1/2" Pipe Note: 2-7/16" Center To Center Length, 17/32" Hole Diameter For Screw	10.87	
23 05 29 00-0620	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 4" Pipe Note: 2-7/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.94	
23 05 29 00-0621	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 4" Pipe Note: 2-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.80	
23 05 29 00-0622	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 4" Pipe Note: 2-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	11.36	
23 05 29 00-0623		Rooftop Pipe Supports (23 05 29 00-0001) Note: Excludes pipe/conduit clamps and straps.		
23 05 29 00-0624		Rooftop Support Base (23 05 29 00-0623)		
23 05 29 00-0625	EA	4" x 6" x 4.8" Rooftop Support Base (Cooper B-Line Dura-Blok DBM)	41.97	8.36
23 05 29 00-0626	EA	4" x 6" x 9.6" Rooftop Support Base (Cooper B-Line Dura-Blok DBP)	58.73	11.14
23 05 29 00-0627		Rooftop Support Base With 14 Gauge Galvanized Channel (23 05 29 00-0623)		
23 05 29 00-0628	EA	5" x 6" x 4.8" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB5)	48.26	8.36
23 05 29 00-0629	EA	5" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10)	68.95	11.14
23 05 29 00-0630	EA	5" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB20)	130.63	13.93
23 05 29 00-0631	EA	5" x 6" x 30.8" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB30)	181.81	16.71
23 05 29 00-0632	EA	5" x 6" x 41.4" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB40)	253.59	19.50
23 05 29 00-0633	EA	5" x 6" x 52" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB48)	266.58	22.29
23 05 29 00-0634		Rooftop Support Base With 12 Gauge Galvanized Channel (23 05 29 00-0623)		
23 05 29 00-0635	EA	6-7/16" x 6" x 9.6" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB610)	85.65	11.14
23 05 29 00-0636	EA	6-7/16" x 6" x 20.2" Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB620)	138.08	13.93
23 05 29 00-0637	EA	6-7/16" x 6" x 30.8" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB630)	184.79	16.71
23 05 29 00-0638	EA	6-7/16" x 6" x 41.4" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB640)	253.75	19.50
23 05 29 00-0639	EA	6-7/16" x 6" x 52" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB648)	288.08	16.71
23 05 29 00-0640		Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (23 05 29 00-0623)		
23 05 29 00-0641	EA	5-5/8" x 6" x 28" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-28)	144.42	16.71
23 05 29 00-0642	EA	5-5/8" x 6" x 36" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-36)	164.25	19.50
23 05 29 00-0643	EA	5-5/8" x 6" x 42" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-42)	169.76	22.29
23 05 29 00-0644	EA	5-5/8" x 6" x 50" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-50)	185.48	25.07
23 05 29 00-0645	EA	5-5/8" x 6" x 60" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-60)	239.49	27.86
23 05 29 00-0646		Rooftop Pipe Support Base And Rod (23 05 29 00-0623)		
23 05 29 00-0647	EA	9.69" To 11.19" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1/2CT)	105.42	11.14
23 05 29 00-0648	EA	9.84" To 11.34" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-3/4CT)	105.42	11.14



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0649	EA	9.95" To 11.45" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1CT)	106.05	11.14
23 05 29 00-0650	EA	10.13" To 11.63" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1-1/4CT)	112.26	13.93
23 05 29 00-0651	EA	10.28" To 11.78" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1-1/2CT)	107.69	13.93
23 05 29 00-0652	EA	10.53" To 12.03" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-2CT)	113.55	13.93
23 05 29 00-0653		Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (23 05 29 00-0623)		
23 05 29 00-0654	EA	7.09" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR2-3 1/2)	135.34	11.14
23 05 29 00-0655	EA	7.09" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR4-6)	151.75	11.14
23 05 29 00-0656	EA	8.34" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR8-10)	199.26	13.93
23 05 29 00-0657	EA	9.38" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR12-14)	266.32	13.93
23 05 29 00-0658	EA	9.78" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR16-20)	365.92	13.93
23 05 29 00-0659		Rooftop Support Base And Adjustable Height Roller Assembly (23 05 29 00-0623) Note: Includes base, two zinc all threaded rod risers and pipe roller.		
23 05 29 00-0660	EA	Up To 12" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Roller Assembly (Cooper B-Line Dura-Blok DBR10-12)	167.15	16.71
23 05 29 00-0661		Rooftop Support Base And Adjustable Height Channel Assembly (23 05 29 00-0623) Note: Includes base, two zinc all threaded rod and 14 gauge slotted channel.		
23 05 29 00-0662	EA	Up To 8" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-8)	107.99	13.93
23 05 29 00-0663	EA	Up To 12" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-12)	148.40	16.71
23 05 29 00-0664	EA	Up To 16" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-16)	165.02	19.50
23 05 29 00-0665		Rooftop Support Bases With Channel Support And Risers Assembly (23 05 29 00-0623) Note: Includes two support bases, two 12 gauge galvanized channel risers and one 12 gauge galvanized channel support. Dimensions are "overall" (height x width x length).		
23 05 29 00-0666	EA	23" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2318DS)	411.80	22.29
23 05 29 00-0667	EA	29" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2918DS)	416.52	22.29
23 05 29 00-0668	EA	41" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4118DS)	433.08	22.29
23 05 29 00-0669	EA	53" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5318DS)	471.09	22.29
23 05 29 00-0670	EA	23" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2324DS)	403.38	22.29
23 05 29 00-0671	EA	29" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2924DS)	419.22	22.29
23 05 29 00-0672	EA	41" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4124DS)	435.78	22.29
23 05 29 00-0673	EA	53" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5324DS)	473.77	22.29
23 05 29 00-0674	EA	23" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2336DS)	422.21	22.29
23 05 29 00-0675	EA	29" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2936DS)	427.74	22.29
23 05 29 00-0676	EA	41" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4136DS)	443.97	22.29
23 05 29 00-0677	EA	53" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5336DS)	482.14	22.29
23 05 29 00-0678	EA	23" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2348DS)	441.45	22.29
23 05 29 00-0679	EA	29" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2948DS)	446.49	22.29
23 05 29 00-0680	EA	41" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4148DS)	462.73	22.29
23 05 29 00-0681	EA	53" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5348DS)	500.89	22.29
23 05 29 00-0682		Threaded Rod, Accessories And Attachments (23 05 29)		
23 05 29 00-0683		Threaded Rod And Rod Accessories (23 05 29 00-0682)		
23 05 29 00-0684		Threaded Rod (23 05 29 00-0683) Note: Fully threaded.		
23 05 29 00-0685	LF	3/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	5.10	0.70
		For Work In Restricted Working Space, Add	0.42	
		For Galvanized, Add	1.48	
		For Zinc Plated, Add	1.06	

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

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0686	LF		1/2" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	7.38	0.75
			<i>For Work In Restricted Working Space, Add</i>	0.44	
			<i>For Galvanized, Add</i>	2.36	
			<i>For Zinc Plated, Add</i>	1.68	
23 05 29 00-0687	LF		5/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	10.68	0.77
			<i>For Work In Restricted Working Space, Add</i>	0.46	
			<i>For Galvanized, Add</i>	3.66	
			<i>For Zinc Plated, Add</i>	2.60	
23 05 29 00-0688	LF		3/4" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	18.18	0.80
			<i>For Work In Restricted Working Space, Add</i>	0.47	
			<i>For Galvanized, Add</i>	6.64	
			<i>For Zinc Plated, Add</i>	4.73	
23 05 29 00-0689	LF		7/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	19.88	0.82
			<i>For Work In Restricted Working Space, Add</i>	0.49	
			<i>For Galvanized, Add</i>	7.30	
			<i>For Zinc Plated, Add</i>	5.20	
23 05 29 00-0690	LF		1" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	27.46	0.93
			<i>For Work In Restricted Working Space, Add</i>	0.56	
			<i>For Galvanized, Add</i>	10.24	
			<i>For Zinc Plated, Add</i>	7.30	
23 05 29 00-0691	LF		1-1/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	34.37	1.03
			<i>For Work In Restricted Working Space, Add</i>	0.62	
			<i>For Galvanized, Add</i>	12.92	
			<i>For Zinc Plated, Add</i>	9.21	
23 05 29 00-0692 Rod Couplings (23 05 29 00-0683)					
23 05 29 00-0693	EA		3/8" Diameter, Threaded Rod Coupling Nut	8.66	
			<i>For Work In Restricted Working Space, Add</i>	2.05	
23 05 29 00-0694	EA		1/2" Diameter, Threaded Rod Coupling Nut	9.87	
			<i>For Work In Restricted Working Space, Add</i>	2.28	
23 05 29 00-0695	EA		5/8" Diameter, Threaded Rod Coupling Nut	12.59	
			<i>For Work In Restricted Working Space, Add</i>	2.57	
23 05 29 00-0696	EA		3/4" Diameter, Threaded Rod Coupling Nut	15.64	
			<i>For Work In Restricted Working Space, Add</i>	2.80	
23 05 29 00-0697	EA		7/8" Diameter, Threaded Rod Coupling Nut	23.82	
			<i>For Work In Restricted Working Space, Add</i>	3.08	
23 05 29 00-0698	EA		1" Diameter, Threaded Rod Coupling Nut	28.28	
			<i>For Work In Restricted Working Space, Add</i>	3.62	
23 05 29 00-0699	EA		1-1/8" Diameter, Threaded Rod Coupling Nut	56.59	
			<i>For Work In Restricted Working Space, Add</i>	4.10	
23 05 29 00-0700 Flat Washers (23 05 29 00-0683)					
			Note: Zinc plated.		
23 05 29 00-0701	EA		3/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	0.62	0.22
			<i>For Work In Restricted Working Space, Add</i>	0.14	
			<i>For Galvanized, Add</i>	0.04	
23 05 29 00-0702	EA		1/2" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	0.86	0.22
			<i>For Work In Restricted Working Space, Add</i>	0.16	
			<i>For Galvanized, Add</i>	0.09	
23 05 29 00-0703	EA		5/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	1.27	0.33
			<i>For Work In Restricted Working Space, Add</i>	0.18	
			<i>For Galvanized, Add</i>	0.17	
23 05 29 00-0704	EA		3/4" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	1.75	0.33
			<i>For Work In Restricted Working Space, Add</i>	0.24	
			<i>For Galvanized, Add</i>	0.24	
23 05 29 00-0705	EA		7/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	2.06	0.44
			<i>For Work In Restricted Working Space, Add</i>	0.28	
			<i>For Galvanized, Add</i>	0.28	
23 05 29 00-0706	EA		1" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	2.42	0.44
			<i>For Work In Restricted Working Space, Add</i>	0.31	
			<i>For Galvanized, Add</i>	0.35	
23 05 29 00-0707	EA		1-1/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	2.73	0.55
			<i>For Work In Restricted Working Space, Add</i>	0.35	
			<i>For Galvanized, Add</i>	0.39	
23 05 29 00-0708 Hex Nuts (23 05 29 00-0683)					
			Note: Grade 2 and zinc plated.		
23 05 29 00-0709	EA		3/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	0.76	0.28
			<i>For Work In Restricted Working Space, Add</i>	0.19	
			<i>For Galvanized, Add</i>	0.03	
23 05 29 00-0710	EA		1/2" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	0.99	0.28
			<i>For Work In Restricted Working Space, Add</i>	0.21	
			<i>For Galvanized, Add</i>	0.07	
23 05 29 00-0711	EA		5/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	1.40	0.28
			<i>For Work In Restricted Working Space, Add</i>	0.22	
			<i>For Galvanized, Add</i>	0.17	
23 05 29 00-0712	EA		3/4" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	1.67	0.55
			<i>For Work In Restricted Working Space, Add</i>	0.23	
			<i>For Galvanized, Add</i>	0.22	
23 05 29 00-0713	EA		7/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	2.50	0.55
			<i>For Work In Restricted Working Space, Add</i>	0.25	
			<i>For Galvanized, Add</i>	0.42	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0714 EA 1" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut..... For Work In Restricted Working Space, Add For Galvanized, Add	3.20 0.28 0.57	0.55
23 05 29 00-0715 EA 1-1/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut..... For Work In Restricted Working Space, Add For Galvanized, Add	5.33 0.31 1.08	0.55
23 05 29 00-0716 Turnbuckle (Cooper B-Line B3202) (23 05 29 00-0683) Note: Type 13.		
23 05 29 00-0717 EA 3/8" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	26.93 3.34	5.57
23 05 29 00-0718 EA 1/2" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	32.01 3.71	6.12
23 05 29 00-0719 EA 5/8" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	34.45 4.18	6.69
23 05 29 00-0720 EA 3/4" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	43.41 4.78	7.80
23 05 29 00-0721 EA 7/8" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	56.26 5.57	8.36
23 05 29 00-0722 EA 1" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	69.86 6.69	8.92
23 05 29 00-0723 EA 1-1/8" Turnbuckle (Cooper B-Line B3202)..... For Work In Restricted Working Space, Add	97.00 8.36	10.04
23 05 29 00-0724 Swivel Turnbuckle (Cooper B-Line B3224) (23 05 29 00-0683) Note: Type 15.		
23 05 29 00-0725 EA 3/8" Swivel Turnbuckle (Cooper B-Line B3224)..... For Work In Restricted Working Space, Add	16.95 3.34	5.57
23 05 29 00-0726 EA 1/2" Swivel Turnbuckle (Cooper B-Line B3224)..... For Work In Restricted Working Space, Add	19.63 3.71	6.24
23 05 29 00-0727 EA 5/8" Swivel Turnbuckle (Cooper B-Line B3224)..... For Work In Restricted Working Space, Add	26.10 4.18	6.91
23 05 29 00-0728 EA 3/4" Swivel Turnbuckle (Cooper B-Line B3224)..... For Work In Restricted Working Space, Add	31.56 4.78	7.91
23 05 29 00-0729 Forged Steel Clevis (Cooper B-Line B3201) (23 05 29 00-0683) Note: Type 14.		
23 05 29 00-0730 EA 3-9/16" Forged Steel Clevis With Pin, 3/8" To 5/8" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	90.20 6.16	10.26
23 05 29 00-0731 EA 4" Forged Steel Clevis With Pin, 3/4" To 7/8" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	133.31 6.48	10.77
23 05 29 00-0732 EA 5-1/16" Forged Steel Clevis With Pin, 1" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	144.19 6.64	11.29
23 05 29 00-0733 EA 5-1/16" Forged Steel Clevis With Pin, 1-1/8" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	150.14 7.24	12.31
23 05 29 00-0734 EA 5-1/16" Forged Steel Clevis With Pin, 1-1/4" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	157.97 8.21	13.86
23 05 29 00-0735 EA 6" Forged Steel Clevis With Pin, 1-1/2" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	263.51 10.77	17.96
23 05 29 00-0736 EA 5-15/16" Forged Steel Clevis With Pin, 1-3/4" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	285.94 12.31	20.52
23 05 29 00-0737 EA 7" Forged Steel Clevis With Pin, 2" Rod Size (Cooper B-Line B3201)..... For Work In Restricted Working Space, Add	337.02 15.39	25.66
23 05 29 00-0738 Welded Eye Rod (Cooper B-Line B3211) (23 05 29 00-0683)		
23 05 29 00-0739 EA 3/8" Diameter x 8" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	26.76 3.62	6.01
23 05 29 00-0740 EA 3/8" Diameter x 10" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	27.62 3.69	6.12
23 05 29 00-0741 EA 3/8" Diameter x 12" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	28.48 3.76	6.24
23 05 29 00-0742 EA 3/8" Diameter x 14" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	28.71 3.83	6.36
23 05 29 00-0743 EA 3/8" Diameter x 18" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	30.44 3.97	6.58
23 05 29 00-0744 EA 3/8" Diameter x 24" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	32.44 4.18	7.02
23 05 29 00-0745 EA 3/8" Diameter x 30" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	33.76 4.39	7.35
23 05 29 00-0746 EA 3/8" Diameter x 36" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	36.38 4.60	7.68
23 05 29 00-0747 EA 3/8" Diameter x 42" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	38.34 4.81	8.03
23 05 29 00-0748 EA 3/8" Diameter x 48" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	40.32 5.01	8.36
23 05 29 00-0749 EA 1/2" Diameter x 8" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	35.68 4.01	6.69
23 05 29 00-0750 EA 1/2" Diameter x 10" Length Shank, Welded Eye Rod..... For Work In Restricted Working Space, Add	36.56 4.08	6.80

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

 TOTAL DIRECT DEMOLITION
 UNIT COST UNIT COST

23 05 29 00-0751	EA 1/2" Diameter x 12" Length Shank, Welded Eye Rod	37.46	6.91
	<i>For Work In Restricted Working Space, Add</i>	4.16	
23 05 29 00-0752	EA 1/2" Diameter x 14" Length Shank, Welded Eye Rod	38.34	7.02
	<i>For Work In Restricted Working Space, Add</i>	4.23	
23 05 29 00-0753	EA 1/2" Diameter x 18" Length Shank, Welded Eye Rod	40.10	7.24
	<i>For Work In Restricted Working Space, Add</i>	4.38	
23 05 29 00-0754	EA 1/2" Diameter x 24" Length Shank, Welded Eye Rod	43.40	7.69
	<i>For Work In Restricted Working Space, Add</i>	4.60	
23 05 29 00-0755	EA 1/2" Diameter x 30" Length Shank, Welded Eye Rod	46.06	8.03
	<i>For Work In Restricted Working Space, Add</i>	4.82	
23 05 29 00-0756	EA 1/2" Diameter x 36" Length Shank, Welded Eye Rod	49.35	8.36
	<i>For Work In Restricted Working Space, Add</i>	5.05	
23 05 29 00-0757	EA 1/2" Diameter x 42" Length Shank, Welded Eye Rod	51.93	8.81
	<i>For Work In Restricted Working Space, Add</i>	5.27	
23 05 29 00-0758	EA 1/2" Diameter x 48" Length Shank, Welded Eye Rod	54.65	9.14
	<i>For Work In Restricted Working Space, Add</i>	5.49	
23 05 29 00-0759	EA 5/8" Diameter x 8" Length Shank, Welded Eye Rod	48.12	7.47
	<i>For Work In Restricted Working Space, Add</i>	4.49	
23 05 29 00-0760	EA 5/8" Diameter x 10" Length Shank, Welded Eye Rod	49.63	7.58
	<i>For Work In Restricted Working Space, Add</i>	4.56	
23 05 29 00-0761	EA 5/8" Diameter x 12" Length Shank, Welded Eye Rod	51.19	7.69
	<i>For Work In Restricted Working Space, Add</i>	4.64	
23 05 29 00-0762	EA 5/8" Diameter x 14" Length Shank, Welded Eye Rod	52.08	7.91
	<i>For Work In Restricted Working Space, Add</i>	4.72	
23 05 29 00-0763	EA 5/8" Diameter x 18" Length Shank, Welded Eye Rod	54.50	8.14
	<i>For Work In Restricted Working Space, Add</i>	4.87	
23 05 29 00-0764	EA 5/8" Diameter x 24" Length Shank, Welded Eye Rod	58.46	8.47
	<i>For Work In Restricted Working Space, Add</i>	5.10	
23 05 29 00-0765	EA 5/8" Diameter x 30" Length Shank, Welded Eye Rod	62.40	8.92
	<i>For Work In Restricted Working Space, Add</i>	5.33	
23 05 29 00-0766	EA 5/8" Diameter x 36" Length Shank, Welded Eye Rod	65.73	9.25
	<i>For Work In Restricted Working Space, Add</i>	5.57	
23 05 29 00-0767	EA 5/8" Diameter x 42" Length Shank, Welded Eye Rod	69.69	9.69
	<i>For Work In Restricted Working Space, Add</i>	5.80	
23 05 29 00-0768	EA 5/8" Diameter x 48" Length Shank, Welded Eye Rod	73.63	10.04
	<i>For Work In Restricted Working Space, Add</i>	6.02	
23 05 29 00-0769	EA 3/4" Diameter x 8" Length Shank, Welded Eye Rod	59.08	8.47
	<i>For Work In Restricted Working Space, Add</i>	5.10	
23 05 29 00-0770	EA 3/4" Diameter x 10" Length Shank, Welded Eye Rod	61.26	8.58
	<i>For Work In Restricted Working Space, Add</i>	5.18	
23 05 29 00-0771	EA 3/4" Diameter x 12" Length Shank, Welded Eye Rod	62.79	8.81
	<i>For Work In Restricted Working Space, Add</i>	5.26	
23 05 29 00-0772	EA 3/4" Diameter x 14" Length Shank, Welded Eye Rod	64.97	8.92
	<i>For Work In Restricted Working Space, Add</i>	5.34	
23 05 29 00-0773	EA 3/4" Diameter x 18" Length Shank, Welded Eye Rod	68.69	9.14
	<i>For Work In Restricted Working Space, Add</i>	5.50	
23 05 29 00-0774	EA 3/4" Diameter x 24" Length Shank, Welded Eye Rod	73.92	9.58
	<i>For Work In Restricted Working Space, Add</i>	5.73	
23 05 29 00-0775	EA 3/4" Diameter x 30" Length Shank, Welded Eye Rod	79.18	9.92
	<i>For Work In Restricted Working Space, Add</i>	5.97	
23 05 29 00-0776	EA 3/4" Diameter x 36" Length Shank, Welded Eye Rod	85.09	10.37
	<i>For Work In Restricted Working Space, Add</i>	6.21	
23 05 29 00-0777	EA 3/4" Diameter x 42" Length Shank, Welded Eye Rod	90.96	10.70
	<i>For Work In Restricted Working Space, Add</i>	6.44	
23 05 29 00-0778	EA 3/4" Diameter x 48" Length Shank, Welded Eye Rod	96.22	11.14
	<i>For Work In Restricted Working Space, Add</i>	6.68	
23 05 29 00-0779	EA 7/8" Diameter x 8" Length Shank, Welded Eye Rod	70.72	9.81
	<i>For Work In Restricted Working Space, Add</i>	5.92	
23 05 29 00-0780	EA 7/8" Diameter x 10" Length Shank, Welded Eye Rod	73.54	10.04
	<i>For Work In Restricted Working Space, Add</i>	6.00	
23 05 29 00-0781	EA 7/8" Diameter x 12" Length Shank, Welded Eye Rod	75.73	10.15
	<i>For Work In Restricted Working Space, Add</i>	6.08	
23 05 29 00-0782	EA 7/8" Diameter x 14" Length Shank, Welded Eye Rod	77.91	10.26
	<i>For Work In Restricted Working Space, Add</i>	6.16	
23 05 29 00-0783	EA 7/8" Diameter x 18" Length Shank, Welded Eye Rod	82.31	10.59
	<i>For Work In Restricted Working Space, Add</i>	6.33	
23 05 29 00-0784	EA 7/8" Diameter x 24" Length Shank, Welded Eye Rod	89.49	10.92
	<i>For Work In Restricted Working Space, Add</i>	6.57	
23 05 29 00-0785	EA 7/8" Diameter x 30" Length Shank, Welded Eye Rod	96.05	11.37
	<i>For Work In Restricted Working Space, Add</i>	6.82	
23 05 29 00-0786	EA 7/8" Diameter x 36" Length Shank, Welded Eye Rod	103.25	11.82
	<i>For Work In Restricted Working Space, Add</i>	7.07	
23 05 29 00-0787	EA 7/8" Diameter x 42" Length Shank, Welded Eye Rod	109.82	12.15
	<i>For Work In Restricted Working Space, Add</i>	7.32	
23 05 29 00-0788	EA 7/8" Diameter x 48" Length Shank, Welded Eye Rod	116.37	12.59
	<i>For Work In Restricted Working Space, Add</i>	7.56	
23 05 29 00-0789	EA 1" Diameter x 8" Length Shank, Welded Eye Rod	88.56	11.82
	<i>For Work In Restricted Working Space, Add</i>	7.06	
23 05 29 00-0790	EA 1" Diameter x 10" Length Shank, Welded Eye Rod	91.42	11.93
	<i>For Work In Restricted Working Space, Add</i>	7.15	
23 05 29 00-0791	EA 1" Diameter x 12" Length Shank, Welded Eye Rod	94.28	12.04
	<i>For Work In Restricted Working Space, Add</i>	7.25	
23 05 29 00-0792	EA 1" Diameter x 14" Length Shank, Welded Eye Rod	97.14	12.26
	<i>For Work In Restricted Working Space, Add</i>	7.34	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0793 EA 1" Diameter x 18" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	102.84 7.52	12.59
23 05 29 00-0794 EA 1" Diameter x 24" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	111.44 7.80	13.04
23 05 29 00-0795 EA 1" Diameter x 30" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	120.03 8.08	13.49
23 05 29 00-0796 EA 1" Diameter x 36" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	129.21 8.36	13.93
23 05 29 00-0797 EA 1" Diameter x 42" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	137.79 8.64	14.38
23 05 29 00-0798 EA 1" Diameter x 48" Length Shank, Welded Eye Rod For Work In Restricted Working Space, Add	146.38 8.92	14.82
23 05 29 00-0799 Welded Linked Eye Rod (Cooper B-Line B3211X) (23 05 29 00-0683)		
23 05 29 00-0800 EA 3/8" Diameter x 16" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	55.84 4.97	8.14
23 05 29 00-0801 EA 3/8" Diameter x 20" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	57.34 5.04	8.36
23 05 29 00-0802 EA 3/8" Diameter x 24" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	58.86 5.18	8.69
23 05 29 00-0803 EA 3/8" Diameter x 30" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	59.56 5.39	9.02
23 05 29 00-0804 EA 3/8" Diameter x 36" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	62.35 5.60	9.36
23 05 29 00-0805 EA 3/8" Diameter x 48" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	65.91 6.02	10.03
23 05 29 00-0806 EA 3/8" Diameter x 60" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	68.34 6.44	10.70
23 05 29 00-0807 EA 3/8" Diameter x 72" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	72.94 6.85	11.47
23 05 29 00-0808 EA 1/2" Diameter x 16" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	72.13 5.42	9.03
23 05 29 00-0809 EA 1/2" Diameter x 20" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	73.67 5.57	9.25
23 05 29 00-0810 EA 1/2" Diameter x 24" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	75.27 5.72	9.47
23 05 29 00-0811 EA 1/2" Diameter x 30" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	77.07 5.94	9.92
23 05 29 00-0812 EA 1/2" Diameter x 36" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	79.90 6.16	10.26
23 05 29 00-0813 EA 1/2" Diameter x 48" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	85.65 6.61	11.03
23 05 29 00-0814 EA 1/2" Diameter x 60" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	90.33 7.05	11.71
23 05 29 00-0815 EA 1/2" Diameter x 72" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	96.07 7.49	12.48
23 05 29 00-0816 EA 5/8" Diameter x 16" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	96.50 6.05	10.04
23 05 29 00-0817 EA 5/8" Diameter x 20" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	99.11 6.20	10.37
23 05 29 00-0818 EA 5/8" Diameter x 24" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	101.77 6.36	10.59
23 05 29 00-0819 EA 5/8" Diameter x 30" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	103.61 6.59	11.03
23 05 29 00-0820 EA 5/8" Diameter x 36" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	107.57 6.82	11.37
23 05 29 00-0821 EA 5/8" Diameter x 48" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	114.41 7.28	12.15
23 05 29 00-0822 EA 5/8" Diameter x 60" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	121.25 7.74	12.93
23 05 29 00-0823 EA 5/8" Diameter x 72" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	127.05 8.21	13.71
23 05 29 00-0824 EA 3/4" Diameter x 16" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	121.99 6.85	11.37
23 05 29 00-0825 EA 3/4" Diameter x 20" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	125.75 7.01	11.71
23 05 29 00-0826 EA 3/4" Diameter x 24" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	128.38 7.17	11.93
23 05 29 00-0827 EA 3/4" Diameter x 30" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	132.35 7.40	12.37
23 05 29 00-0828 EA 3/4" Diameter x 36" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	138.46 7.64	12.71
23 05 29 00-0829 EA 3/4" Diameter x 48" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	147.45 8.12	13.49
23 05 29 00-0830 EA 3/4" Diameter x 60" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	156.48 8.59	14.27
23 05 29 00-0831 EA 3/4" Diameter x 72" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	166.58 9.07	15.16
23 05 29 00-0832 EA 7/8" Diameter x 16" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	146.52 7.92	13.15
23 05 29 00-0833 EA 7/8" Diameter x 20" Length Shank, Linked Welded Eye Rod For Work In Restricted Working Space, Add	151.33 8.09	13.49

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0834 EA 7/8" Diameter x 24" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	155.07 8.25	13.71
23 05 29 00-0835 EA 7/8" Diameter x 30" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	159.07 8.50	14.16
23 05 29 00-0836 EA 7/8" Diameter x 36" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	166.30 8.75	14.60
23 05 29 00-0837 EA 7/8" Diameter x 48" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	178.56 9.24	15.39
23 05 29 00-0838 EA 7/8" Diameter x 60" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	189.76 9.73	16.27
23 05 29 00-0839 EA 7/8" Diameter x 72" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	202.03 10.23	17.06
23 05 29 00-0840 EA 1" Diameter x 16" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	186.62 9.44	15.72
23 05 29 00-0841 EA 1" Diameter x 20" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	191.50 9.62	16.05
23 05 29 00-0842 EA 1" Diameter x 24" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	196.37 9.81	16.38
23 05 29 00-0843 EA 1" Diameter x 30" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	201.56 10.09	16.83
23 05 29 00-0844 EA 1" Diameter x 36" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	210.94 10.37	17.28
23 05 29 00-0845 EA 1" Diameter x 48" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	225.57 10.92	18.17
23 05 29 00-0846 EA 1" Diameter x 60" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	240.21 11.48	19.17
23 05 29 00-0847 EA 1" Diameter x 72" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	255.81 12.04	20.06
23 05 29 00-0848 Attachments (23 05 29 00-0682)		
23 05 29 00-0849 Welded Beam Attachments (B-Line B-3083) (23 05 29 00-0848)		
Note: Type 22.		
23 05 29 00-0850 EA 3/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	48.56 6.25	10.41
23 05 29 00-0851 EA 1/2" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	51.84 6.58	10.94
23 05 29 00-0852 EA 5/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	55.22 6.95	11.56
23 05 29 00-0853 EA 3/4" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	70.95 7.35	12.30
23 05 29 00-0854 EA 7/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	85.47 7.81	13.02
23 05 29 00-0855 EA 1" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	120.50 8.93	14.89
23 05 29 00-0856 EA 1-1/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	171.74 9.38	15.62
23 05 29 00-0857 C-Clamp Style Beam Clamps (B-Line B-3034) (23 05 29 00-0848)		
Note: Type 23. Top or bottom flange mount.		
23 05 29 00-0858 EA 3/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	17.32 4.18	5.68
23 05 29 00-0859 EA 1/2" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	20.73 4.46	7.24
23 05 29 00-0860 EA 5/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	23.56 4.78	7.80
23 05 29 00-0861 EA 3/4" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	30.40 5.15	8.36
23 05 29 00-0862 EA 7/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	44.32 5.57	8.92
23 05 29 00-0863 Bottom Mount I-Beam Clamps (B-Line B-3055) (23 05 29 00-0848)		
Note: Type 21. For attaching threaded rod centered under beam flanges.		
23 05 29 00-0864 EA 3/8" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	48.35 5.57	7.80
23 05 29 00-0865 EA 1/2" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	71.29 6.08	10.04
23 05 29 00-0866 EA 5/8" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	102.09 6.69	11.14
23 05 29 00-0867 EA 3/4" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	122.25 7.43	12.26
23 05 29 00-0868 EA 1" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	297.03 8.36	13.38
23 05 29 00-0869 Steel U-Bolts (B-Line B-3188) (23 05 29 00-0848)		
Note: Type 24. Includes plate and nuts.		
23 05 29 00-0870 EA 1/2" Pipe Size, Steel U-Bolt (B-Line B-3188)..... <i>For Work In Restricted Working Space, Add</i>	14.12 3.34	2.79
23 05 29 00-0871 EA 3/4" Pipe Size, Steel U-Bolt (B-Line B-3188)..... <i>For Work In Restricted Working Space, Add</i>	15.33 3.52	3.34



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0872 EA 1" Pipe Size, Steel U-Bolt (B-Line B-3188).....	16.51	3.34
For Work In Restricted Working Space, Add	3.71	
23 05 29 00-0873 EA 1-1/4" Pipe Size, Steel U-Bolt (B-Line B-3188).....	18.80	3.34
For Work In Restricted Working Space, Add	3.93	
23 05 29 00-0874 EA 1-1/2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	19.41	3.90
For Work In Restricted Working Space, Add	4.18	
23 05 29 00-0875 EA 2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	20.78	3.90
For Work In Restricted Working Space, Add	4.46	
23 05 29 00-0876 EA 2-1/2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	30.09	3.90
For Work In Restricted Working Space, Add	4.77	
23 05 29 00-0877 EA 3" Pipe Size, Steel U-Bolt (B-Line B-3188).....	33.19	4.46
For Work In Restricted Working Space, Add	5.14	
23 05 29 00-0878 EA 4" Pipe Size, Steel U-Bolt (B-Line B-3188).....	40.17	5.02
For Work In Restricted Working Space, Add	5.37	
23 05 29 00-0879 Copper Standoff Brackets With Flange (23 05 29 00-0848)		
Note: Installed in wood, concrete, concrete block or steel.		
23 05 29 00-0880 EA Clamp Size 1/2", Copper Standoff Brackets With Flange.....	33.66	15.94
For Work In Restricted Working Space, Add	9.56	
23 05 29 00-0881 EA Clamp Size 3/4", Copper Standoff Brackets With Flange.....	33.77	15.94
For Work In Restricted Working Space, Add	9.56	
23 05 29 00-0882 EA Clamp Size 1", Copper Standoff Brackets With Flange.....	33.88	15.94
For Work In Restricted Working Space, Add	9.56	
23 05 29 00-0883 EA Clamp Size 1 1/4", Copper Standoff Brackets With Flange.....	36.02	16.95
For Work In Restricted Working Space, Add	10.13	
23 05 29 00-0884 EA Clamp Size 1 1/2", Copper Standoff Brackets With Flange.....	36.24	16.95
For Work In Restricted Working Space, Add	10.13	
23 05 29 00-0885 Malleable Iron Eye Sockets (B-Line B-3222) (23 05 29 00-0848)		
Note: Type 16.		
23 05 29 00-0886 EA 3/8" Rod Size, Malleable Iron Eye Socket.....	10.89	1.67
For Work In Restricted Working Space, Add	1.01	
23 05 29 00-0887 EA 1/2" Rod Size, Malleable Iron Eye Socket.....	13.88	2.23
For Work In Restricted Working Space, Add	1.34	
23 05 29 00-0888 EA 5/8" Rod Size, Malleable Iron Eye Socket.....	23.84	2.23
For Work In Restricted Working Space, Add	1.35	
23 05 29 00-0889 EA 3/4" Rod Size, Malleable Iron Eye Socket.....	33.61	2.23
For Work In Restricted Working Space, Add	1.34	
23 05 29 00-0890 EA 7/8" Rod Size, Malleable Iron Eye Socket.....	36.29	2.79
For Work In Restricted Working Space, Add	1.67	
23 05 29 00-0891 Steel Weldless Eye Nuts (B-Line B-3200) (23 05 29 00-0848)		
Note: Type 17.		
23 05 29 00-0892 EA 3/8" Rod Size, Steel Weldless Eye Nut.....	35.45	1.67
For Work In Restricted Working Space, Add	1.01	
23 05 29 00-0893 EA 1/2" Rod Size, Steel Weldless Eye Nut.....	36.53	2.23
For Work In Restricted Working Space, Add	1.34	
23 05 29 00-0894 EA 5/8" Rod Size, Steel Weldless Eye Nut.....	36.57	2.23
For Work In Restricted Working Space, Add	1.35	
23 05 29 00-0895 EA 3/4" Rod Size, Steel Weldless Eye Nut.....	36.53	2.23
For Work In Restricted Working Space, Add	1.34	
23 05 29 00-0896 EA 7/8" Rod Size, Steel Weldless Eye Nut.....	71.20	2.45
For Work In Restricted Working Space, Add	1.51	
23 05 29 00-0897 EA 1" Rod Size, Steel Weldless Eye Nut.....	71.75	2.79
For Work In Restricted Working Space, Add	1.67	
23 05 29 00-0898 Top Mount I-Beam Clamps (B-Line B-3042) (23 05 29 00-0848)		
Note: For attaching threaded rod to either side of an I-beam.		
23 05 29 00-0899 EA 3/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	24.03	5.20
For Work In Restricted Working Space, Add	3.12	
23 05 29 00-0900 EA 1/2" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	28.91	5.73
For Work In Restricted Working Space, Add	3.45	
23 05 29 00-0901 EA 5/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	35.03	6.25
For Work In Restricted Working Space, Add	3.79	
23 05 29 00-0902 EA 3/4" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	48.15	6.77
For Work In Restricted Working Space, Add	3.98	
23 05 29 00-0903 EA 7/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	73.90	7.82
For Work In Restricted Working Space, Add	4.69	
23 05 29 00-0904 EA 3/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	25.29	5.20
For Work In Restricted Working Space, Add	3.12	
23 05 29 00-0905 EA 1/2" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	30.70	5.73
For Work In Restricted Working Space, Add	3.45	
23 05 29 00-0906 EA 5/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	35.03	6.25
For Work In Restricted Working Space, Add	3.79	
23 05 29 00-0907 EA 3/4" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	52.85	6.77
For Work In Restricted Working Space, Add	3.98	
23 05 29 00-0908 EA 7/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	81.93	7.82
For Work In Restricted Working Space, Add	4.69	
23 05 29 00-0909 EA 3/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp.....	28.23	5.20
For Work In Restricted Working Space, Add	3.12	

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

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0910	EA	1/2" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	34.01 3.45	5.73
23 05 29 00-0911	EA	5/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	42.77 3.79	6.25
23 05 29 00-0912	EA	3/4" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	61.64 3.98	6.77
23 05 29 00-0913	EA	7/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	99.11 4.69	7.82
23 05 29 00-0914 Side Beam Brackets (B-Line B-3062) (23 05 29 00-0848)				
Note: Type 34.				
23 05 29 00-0915	EA	3/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	19.41 4.18	7.24
23 05 29 00-0916	EA	1/2" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	23.00 4.46	7.24
23 05 29 00-0917	EA	5/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	29.80 4.78	7.80
23 05 29 00-0918	EA	3/4" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	53.04 5.15	8.36
23 05 29 00-0919	EA	7/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	62.11 5.57	9.47
23 05 29 00-0920 Hex Lag Bolts (23 05 29 00-0848)				
Note: Also known as coach screws.				
23 05 29 00-0921	EA	3/8" x 3-1/2" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.57 0.70	
23 05 29 00-0922	EA	3/8" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.24 0.72	
23 05 29 00-0923	EA	3/8" x 6" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.71 0.75	
23 05 29 00-0924	EA	3/8" x 8" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.57 0.77	
23 05 29 00-0925	EA	3/8" x 10" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.89 0.80	
23 05 29 00-0926	EA	3/8" x 12" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.82 0.84	
23 05 29 00-0927	EA	1/2" x 3-1/2" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	5.20 0.84	
23 05 29 00-0928	EA	1/2" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.53 0.87	
23 05 29 00-0929	EA	1/2" x 6" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	5.37 0.91	
23 05 29 00-0930	EA	1/2" x 8" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	6.30 0.95	
23 05 29 00-0931	EA	1/2" x 10" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.54 0.99	
23 05 29 00-0932	EA	1/2" x 12" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	8.11 1.04	
23 05 29 00-0933	EA	5/8" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.78 0.93	
23 05 29 00-0934	EA	3/4" x 5" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	9.47 0.95	
23 05 29 00-0935 Fiberglass Beam Clamp (23 05 29 00-0848)				
23 05 29 00-0936	EA	Fiberglass Beam Clamp Assembly 3/8" (B-Line BFV751J)	231.80	11.14
23 05 29 00-0937	EA	Fiberglass Beam Clamp Assembly 1/2" (B-Line BFV751J)	235.75	11.14
23 05 29 00-0938	EA	Fiberglass Beam Clamp Assembly 5/8" (B-Line BFV751J)	252.75	11.14
23 05 29 00-0939 Stainless Steel Threaded Rod And Rod Accessories (23 05 29 00-0682)				
23 05 29 00-0940 304 Stainless Steel Threaded Rod (23 05 29 00-0939)				
23 05 29 00-0941	LF	1/4" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	4.07 0.34	0.55
23 05 29 00-0942	LF	5/16" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	6.25 0.36	0.55
23 05 29 00-0943	LF	3/8" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	8.00 0.38	0.66
23 05 29 00-0944	LF	7/16" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	11.34 0.40	0.66
23 05 29 00-0945	LF	1/2" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	13.72 0.42	0.66
23 05 29 00-0946	LF	5/8" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	20.90 0.44	0.78
23 05 29 00-0947	LF	3/4" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	29.52 0.47	0.78
23 05 29 00-0948	LF	7/8" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	40.83 0.49	0.78
23 05 29 00-0949	LF	1" Diameter, 304 Stainless Steel Threaded Rod <i>For Work In Restricted Working Space, Add</i>	52.45 0.56	0.89



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0950 LF 1-1/4" Diameter, 304 Stainless Steel Threaded Rod For Work In Restricted Working Space, Add	111.57 0.70	1.12
23 05 29 00-0951 304 Stainless Steel Flat Washers (23 05 29 00-0939)		
23 05 29 00-0952 EA 3/8", 304 Stainless Steel Flat Washer For Work In Restricted Working Space, Add	0.81 0.14	0.22
23 05 29 00-0953 EA 1/2", 304 Stainless Steel Flat Washer For Work In Restricted Working Space, Add	1.69 0.16	0.22
23 05 29 00-0954 304 Stainless Steel Hex Nuts (23 05 29 00-0939)		
23 05 29 00-0955 EA 3/8-16, 304 Stainless Steel Hex Nut For Work In Restricted Working Space, Add	2.61 0.65	1.12
23 05 29 00-0956 EA 1/2-13, 304 Stainless Steel Hex Nut For Work In Restricted Working Space, Add	3.51 0.70	1.12
23 05 29 00-0957 316 Stainless Steel U-Bolts (23 05 29 00-0939) Note: Type 24. Includes nuts.		
23 05 29 00-0958 EA 1/2" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	28.90 3.34	5.57
23 05 29 00-0959 EA 3/4" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	29.79 3.52	5.90
23 05 29 00-0960 EA 1" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	30.97 3.71	6.24
23 05 29 00-0961 EA 1-1/4" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	32.26 3.93	6.58
23 05 29 00-0962 EA 1-1/2" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	33.66 4.18	6.91
23 05 29 00-0963 EA 2" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	42.22 4.46	7.46
23 05 29 00-0964 EA 2-1/2" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	45.17 4.77	7.91
23 05 29 00-0965 EA 3" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	48.45 5.14	8.58
23 05 29 00-0966 EA 3-1/2" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	50.91 5.35	8.91
23 05 29 00-0967 EA 4" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	53.79 5.57	9.25
23 05 29 00-0968 EA 5" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	96.70 5.72	9.58
23 05 29 00-0969 EA 6" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	163.46 5.84	9.69
23 05 29 00-0970 EA 8" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	246.33 5.97	9.92
23 05 29 00-0971 EA 10" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	353.08 6.15	10.25
23 05 29 00-0972 EA 12" Pipe Size, 316 Stainless Steel U-Bolt For Work In Restricted Working Space, Add	548.60 6.33	10.59
23 05 29 00-0973 Hanger Strap (23 05 29 00-0682)		
23 05 29 00-0974 LF 3/4" Wide x 0.025" Thick Galvanized Hanger Strap	5.41	
23 05 29 00-0975 Shields And Saddles (23 05 29)		
23 05 29 00-0976 Insulation Protection Shield (23 05 29 00-0975) Note: Type 40.		
23 05 29 00-0977 Insulation Protection Shield (Cooper B-Line B3151) (23 05 29 00-0976)		
23 05 29 00-0978 EA 1-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	15.48 2.68	2.68
23 05 29 00-0979 EA 2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	15.71 2.71	2.71
23 05 29 00-0980 EA 2-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	16.09 2.74	2.74
23 05 29 00-0981 EA 3" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	16.83 2.78	2.77
23 05 29 00-0982 EA 4" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	18.59 2.84	2.84
23 05 29 00-0983 EA 6" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	22.63 2.91	2.91
23 05 29 00-0984 EA 8" Outside Diameter, 16 Gauge Insulation Protection Shield, 18" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	26.29 2.98	2.97
23 05 29 00-0985 EA 10" Outside Diameter, 16 Gauge Insulation Protection Shield, 18" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	32.09 3.05	3.04
23 05 29 00-0986 EA 12" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	41.12 3.08	3.07
23 05 29 00-0987 EA 14" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	44.76 3.11	3.11
23 05 29 00-0988 EA 16" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151)..... For Work In Restricted Working Space, Add	61.50 3.14	3.14

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

MINOR			TOTAL DIRECT		DEMOLITION	
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST	
23 05 29 00-0989	EA	18" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	69.06		3.17	
		<i>For Work In Restricted Working Space, Add</i>	3.18			
23 05 29 00-0990	EA	20" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	127.84		3.21	
		<i>For Work In Restricted Working Space, Add</i>	3.21			
23 05 29 00-0991	EA	24" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	138.94		3.27	
		<i>For Work In Restricted Working Space, Add</i>	3.28			
23 05 29 00-0992	EA	30" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	167.87		3.35	
		<i>For Work In Restricted Working Space, Add</i>	3.34			
23 05 29 00-0993 Insulation Protection Shield (Cooper B-Line B3154) (23 05 29 00-0976)						
23 05 29 00-0994	EA	1-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	13.68		2.68	
		<i>For Work In Restricted Working Space, Add</i>	2.68			
23 05 29 00-0995	EA	2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	13.87		2.71	
		<i>For Work In Restricted Working Space, Add</i>	2.71			
23 05 29 00-0996	EA	2-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	14.18		2.74	
		<i>For Work In Restricted Working Space, Add</i>	2.74			
23 05 29 00-0997	EA	3" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	14.75		2.77	
		<i>For Work In Restricted Working Space, Add</i>	2.78			
23 05 29 00-0998	EA	4" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	16.09		2.84	
		<i>For Work In Restricted Working Space, Add</i>	2.84			
23 05 29 00-0999	EA	6" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	19.07		2.91	
		<i>For Work In Restricted Working Space, Add</i>	2.91			
23 05 29 00-1000	EA	8" Outside Diameter, 16 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	20.49		2.97	
		<i>For Work In Restricted Working Space, Add</i>	2.98			
23 05 29 00-1001	EA	10" Outside Diameter, 16 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	26.06		3.04	
		<i>For Work In Restricted Working Space, Add</i>	3.05			
23 05 29 00-1002	EA	12" Outside Diameter, 14 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	31.21		3.07	
		<i>For Work In Restricted Working Space, Add</i>	3.08			
23 05 29 00-1003 Pipe Covering Protection Saddle (23 05 29 00-0975)						
Note: Sizes are pipe sizes.						
23 05 29 00-1004 Saddle, For 1" Insulation (Cooper B-Line B3160) (23 05 29 00-1003)						
23 05 29 00-1005	EA	3/4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.76		3.68	
		<i>For Work In Restricted Working Space, Add</i>	3.69			
23 05 29 00-1006	EA	1" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.86		3.72	
		<i>For Work In Restricted Working Space, Add</i>	3.72			
23 05 29 00-1007	EA	1-1/4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.96		3.75	
		<i>For Work In Restricted Working Space, Add</i>	3.75			
23 05 29 00-1008	EA	1-1/2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	25.13		3.82	
		<i>For Work In Restricted Working Space, Add</i>	3.81			
23 05 29 00-1009	EA	2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	25.24		3.85	
		<i>For Work In Restricted Working Space, Add</i>	3.84			
23 05 29 00-1010	EA	2-1/2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	26.07		3.91	
		<i>For Work In Restricted Working Space, Add</i>	3.91			
23 05 29 00-1011	EA	3" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	28.98		3.97	
		<i>For Work In Restricted Working Space, Add</i>	3.97			
23 05 29 00-1012	EA	4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	32.53		4.03	
		<i>For Work In Restricted Working Space, Add</i>	4.03			
23 05 29 00-1013	EA	6" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	36.56		4.15	
		<i>For Work In Restricted Working Space, Add</i>	4.16			
23 05 29 00-1014	EA	8" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	44.49		4.32	
		<i>For Work In Restricted Working Space, Add</i>	4.31			
23 05 29 00-1015	EA	10" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	49.73		4.38	
		<i>For Work In Restricted Working Space, Add</i>	4.38			
23 05 29 00-1016	EA	12" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	58.93		4.38	
		<i>For Work In Restricted Working Space, Add</i>	4.47			
23 05 29 00-1017	EA	14" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	64.33		4.53	
		<i>For Work In Restricted Working Space, Add</i>	4.53			
23 05 29 00-1018 Saddle, For 1-1/2" Insulation (Cooper B-Line B3161) (23 05 29 00-1003)						
23 05 29 00-1019	EA	3/4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	26.81		3.68	
		<i>For Work In Restricted Working Space, Add</i>	3.69			
23 05 29 00-1020	EA	1" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	26.91		3.72	
		<i>For Work In Restricted Working Space, Add</i>	3.72			
23 05 29 00-1021	EA	1-1/4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	27.01		3.75	
		<i>For Work In Restricted Working Space, Add</i>	3.75			
23 05 29 00-1022	EA	1-1/2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	27.97		3.82	
		<i>For Work In Restricted Working Space, Add</i>	3.81			
23 05 29 00-1023	EA	2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	30.20		3.85	
		<i>For Work In Restricted Working Space, Add</i>	3.84			
23 05 29 00-1024	EA	2-1/2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	32.53		3.91	
		<i>For Work In Restricted Working Space, Add</i>	3.91			
23 05 29 00-1025	EA	3" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	33.08		3.97	
		<i>For Work In Restricted Working Space, Add</i>	3.97			
23 05 29 00-1026	EA	4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	37.57		3.97	
		<i>For Work In Restricted Working Space, Add</i>	4.03			
23 05 29 00-1027	EA	6" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	42.26		4.15	
		<i>For Work In Restricted Working Space, Add</i>	4.16			
23 05 29 00-1028	EA	8" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	50.08		4.32	
		<i>For Work In Restricted Working Space, Add</i>	4.31			



MINOR				TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION		UNIT COST	UNIT COST
23 05 29 00-1029	EA	10" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	56.34	4.38	
		For Work In Restricted Working Space, Add	4.38		
23 05 29 00-1030	EA	12" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	67.08	4.47	
		For Work In Restricted Working Space, Add	4.47		
23 05 29 00-1031	EA	14" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	73.48	4.53	
		For Work In Restricted Working Space, Add	4.53		
23 05 29 00-1032 Saddle, For 2" Insulation (Cooper B-Line B3162) (23 05 29 00-1003)					
23 05 29 00-1033	EA	3/4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	28.68	3.88	
		For Work In Restricted Working Space, Add	3.88		
23 05 29 00-1034	EA	1" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	28.78	3.91	
		For Work In Restricted Working Space, Add	3.91		
23 05 29 00-1035	EA	1-1/4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	30.31	3.94	
		For Work In Restricted Working Space, Add	3.94		
23 05 29 00-1036	EA	1-1/2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	31.23	4.00	
		For Work In Restricted Working Space, Add	4.00		
23 05 29 00-1037	EA	2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	32.06	4.03	
		For Work In Restricted Working Space, Add	4.03		
23 05 29 00-1038	EA	2-1/2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	32.27	4.10	
		For Work In Restricted Working Space, Add	4.10		
23 05 29 00-1039	EA	3" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	34.11	4.16	
		For Work In Restricted Working Space, Add	4.16		
23 05 29 00-1040	EA	4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	35.97	4.22	
		For Work In Restricted Working Space, Add	4.22		
23 05 29 00-1041	EA	6" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	45.92	4.37	
		For Work In Restricted Working Space, Add	4.38		
23 05 29 00-1042	EA	8" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	52.08	4.53	
		For Work In Restricted Working Space, Add	4.53		
23 05 29 00-1043	EA	10" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	54.69	4.59	
		For Work In Restricted Working Space, Add	4.59		
23 05 29 00-1044	EA	12" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	73.92	4.69	
		For Work In Restricted Working Space, Add	4.69		
23 05 29 00-1045	EA	14" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	81.89	4.76	
		For Work In Restricted Working Space, Add	4.75		
23 05 29 00-1046	EA	16" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	90.07	4.88	
		For Work In Restricted Working Space, Add	4.87		
23 05 29 00-1047	EA	18" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	98.25	5.00	
		For Work In Restricted Working Space, Add	5.00		
23 05 29 00-1048	EA	20" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	107.79	5.12	
		For Work In Restricted Working Space, Add	5.12		
23 05 29 00-1049	EA	24" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	123.49	5.25	
		For Work In Restricted Working Space, Add	5.25		
23 05 29 00-1050 Saddle, For 2-1/2" Insulation (Cooper B-Line B3163) (23 05 29 00-1003)					
23 05 29 00-1051	EA	1-1/4" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	32.16	4.03	
		For Work In Restricted Working Space, Add	4.03		
23 05 29 00-1052	EA	1-1/2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	33.97	4.09	
		For Work In Restricted Working Space, Add	4.10		
23 05 29 00-1053	EA	2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	34.87	4.13	
		For Work In Restricted Working Space, Add	4.13		
23 05 29 00-1054	EA	2-1/2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	35.87	4.19	
		For Work In Restricted Working Space, Add	4.19		
23 05 29 00-1055	EA	3" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	36.19	4.27	
		For Work In Restricted Working Space, Add	4.28		
23 05 29 00-1056	EA	4" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	42.13	4.34	
		For Work In Restricted Working Space, Add	4.34		
23 05 29 00-1057	EA	6" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	48.29	4.47	
		For Work In Restricted Working Space, Add	4.47		
23 05 29 00-1058	EA	8" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	56.33	4.63	
		For Work In Restricted Working Space, Add	4.63		
23 05 29 00-1059	EA	10" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	60.40	4.71	
		For Work In Restricted Working Space, Add	4.72		
23 05 29 00-1060	EA	12" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	75.83	4.80	
		For Work In Restricted Working Space, Add	4.81		
23 05 29 00-1061	EA	14" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	90.14	4.88	
		For Work In Restricted Working Space, Add	4.87		
23 05 29 00-1062	EA	16" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	104.66	4.99	
		For Work In Restricted Working Space, Add	5.00		
23 05 29 00-1063	EA	18" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	111.21	5.11	
		For Work In Restricted Working Space, Add	5.12		
23 05 29 00-1064	EA	20" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	118.50	5.25	
		For Work In Restricted Working Space, Add	5.25		
23 05 29 00-1065	EA	24" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	125.78	5.37	
		For Work In Restricted Working Space, Add	5.37		
23 05 29 00-1066 Saddle, For 3" Insulation (Cooper B-Line B3164) (23 05 29 00-1003)					
23 05 29 00-1067	EA	2" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)	36.08	4.22	
		For Work In Restricted Working Space, Add	4.22		
23 05 29 00-1068	EA	2-1/2" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)	39.42	4.31	
		For Work In Restricted Working Space, Add	4.31		

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

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1069 EA 3" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	41.15	4.37
For Work In Restricted Working Space, Add	4.38	
23 05 29 00-1070 EA 4" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	42.86	4.44
For Work In Restricted Working Space, Add	4.44	
23 05 29 00-1071 EA 6" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	49.34	4.57
For Work In Restricted Working Space, Add	4.56	
23 05 29 00-1072 EA 8" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	62.08	4.74
For Work In Restricted Working Space, Add	4.75	
23 05 29 00-1073 EA 10" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	67.35	4.81
For Work In Restricted Working Space, Add	4.81	
23 05 29 00-1074 EA 12" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	87.96	4.92
For Work In Restricted Working Space, Add	4.91	
23 05 29 00-1075 EA 14" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	105.21	4.99
For Work In Restricted Working Space, Add	5.00	
23 05 29 00-1076 EA 16" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	122.48	5.10
For Work In Restricted Working Space, Add	5.09	
23 05 29 00-1077 EA 18" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	124.82	5.24
For Work In Restricted Working Space, Add	5.25	
23 05 29 00-1078 EA 20" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	127.05	5.36
For Work In Restricted Working Space, Add	5.37	
23 05 29 00-1079 EA 24" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164).....	161.59	5.50
For Work In Restricted Working Space, Add	5.50	
23 05 29 00-1080 Saddle, For 4" Insulation (Cooper B-Line B3165) (23 05 29 00-1003)		
23 05 29 00-1081 EA 2" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	40.78	4.33
For Work In Restricted Working Space, Add	4.31	
23 05 29 00-1082 EA 2-1/2" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	44.74	4.40
For Work In Restricted Working Space, Add	4.41	
23 05 29 00-1083 EA 3" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	46.76	4.47
For Work In Restricted Working Space, Add	4.47	
23 05 29 00-1084 EA 4" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	48.88	4.53
For Work In Restricted Working Space, Add	4.53	
23 05 29 00-1085 EA 6" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	59.87	4.67
For Work In Restricted Working Space, Add	4.69	
23 05 29 00-1086 EA 8" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	70.85	4.85
For Work In Restricted Working Space, Add	4.84	
23 05 29 00-1087 EA 10" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	73.27	4.93
For Work In Restricted Working Space, Add	4.94	
23 05 29 00-1088 EA 12" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	94.01	5.03
For Work In Restricted Working Space, Add	5.03	
23 05 29 00-1089 EA 14" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	114.39	5.09
For Work In Restricted Working Space, Add	5.09	
23 05 29 00-1090 EA 16" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	134.98	5.23
For Work In Restricted Working Space, Add	5.22	
23 05 29 00-1091 EA 18" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	165.37	5.35
For Work In Restricted Working Space, Add	5.34	
23 05 29 00-1092 EA 20" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	195.60	5.49
For Work In Restricted Working Space, Add	5.50	
23 05 29 00-1093 EA 24" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	209.32	5.63
For Work In Restricted Working Space, Add	5.63	
23 05 29 00-1094 EA 30" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	220.32	5.77
For Work In Restricted Working Space, Add	5.78	
23 05 29 00-1095 EA 36" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165).....	228.46	5.91
For Work In Restricted Working Space, Add	5.90	
23 05 29 00-1096 Adjustable Pipe Saddle Support (Cooper B-Line B3096) (23 05 29 00-0975)		
23 05 29 00-1097 EA 2" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	92.24	13.93
23 05 29 00-1098 EA 3" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	97.73	16.16
23 05 29 00-1099 EA 4" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	118.80	18.39
23 05 29 00-1100 EA 5" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	123.85	20.06
23 05 29 00-1101 EA 6" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	137.42	22.30
23 05 29 00-1102 EA 8" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	156.17	27.87
23 05 29 00-1103 EA 10" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	204.21	37.34
23 05 29 00-1104 EA 12" Adjustable Pipe Saddle Support (Cooper B-Line B3096).....	252.13	55.73
23 05 29 00-1105 Pipe Stanchion Support (Cooper B-Line B3090) (23 05 29 00-0975)		
23 05 29 00-1106 EA 2-1/2" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	114.24	13.93
23 05 29 00-1107 EA 3" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	118.22	16.16
23 05 29 00-1108 EA 3-1/2" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	126.66	17.28
23 05 29 00-1109 EA 4" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	129.27	18.39
23 05 29 00-1110 EA 5" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	135.90	20.06
23 05 29 00-1111 EA 6" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	144.06	22.30
23 05 29 00-1112 EA 8" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	182.94	27.87
23 05 29 00-1113 EA 10" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	246.80	37.34
23 05 29 00-1114 EA 12" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090).....	322.64	55.73
23 05 29 00-1115 Pipe Saddle Support (Cooper B-Line B3095) (23 05 29 00-0975)		
23 05 29 00-1116 EA 2-1/2" Pipe Saddle Support (Cooper B-Line B3095).....	58.48	13.93



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1117 EA 3" Pipe Saddle Support (Cooper B-Line B3095).....	62.46	16.16
23 05 29 00-1118 EA 3-1/2" Pipe Saddle Support (Cooper B-Line B3095).....	94.33	17.28
23 05 29 00-1119 EA 4" Pipe Saddle Support (Cooper B-Line B3095).....	96.94	18.39
23 05 29 00-1120 EA 5" Pipe Saddle Support (Cooper B-Line B3095).....	106.59	20.06
23 05 29 00-1121 EA 6" Pipe Saddle Support (Cooper B-Line B3095).....	118.15	22.30
23 05 29 00-1122 EA 8" Pipe Saddle Support (Cooper B-Line B3095).....	135.46	27.87
23 05 29 00-1123 EA 10" Pipe Saddle Support (Cooper B-Line B3095).....	157.92	37.34
23 05 29 00-1124 EA 12" Pipe Saddle Support (Cooper B-Line B3095).....	199.28	55.73
23 05 29 00-1125 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-0975) Note: Insert is for use as isolated protective insulation at hangers.		
23 05 29 00-1126 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)		
23 05 29 00-1127 EA 1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.89	6.99
23 05 29 00-1128 EA 3/4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.19	6.99
23 05 29 00-1129 EA 1" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.27	6.99
23 05 29 00-1130 EA 1-1/4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.57	6.99
23 05 29 00-1131 EA 1-1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	17.72	7.42
23 05 29 00-1132 EA 2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.51	7.64
23 05 29 00-1133 EA 2-1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.44	7.96
23 05 29 00-1134 EA 3" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.46	8.28
23 05 29 00-1135 EA 4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.26	8.60
23 05 29 00-1136 EA 6" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.77	7.42
23 05 29 00-1137 EA 8" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	36.74	9.68
23 05 29 00-1138 EA 10" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	43.44	11.40
23 05 29 00-1139 EA 12" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	49.52	13.23
23 05 29 00-1140 EA 14" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	55.81	13.66
23 05 29 00-1141 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)		
23 05 29 00-1142 EA 1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	13.70	5.27
23 05 29 00-1143 EA 3/4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.19	5.27
23 05 29 00-1144 EA 1" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.54	5.38
23 05 29 00-1145 EA 1-1/4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.07	5.49
23 05 29 00-1146 EA 1-1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.57	5.49
23 05 29 00-1147 EA 2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	17.45	5.70
23 05 29 00-1148 EA 2-1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.47	5.91
23 05 29 00-1149 EA 3" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.98	6.02
23 05 29 00-1150 EA 4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.92	6.56
23 05 29 00-1151 EA 6" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.01	11.29
23 05 29 00-1152 EA 8" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	28.23	8.50
23 05 29 00-1153 EA 10" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	34.21	10.00
23 05 29 00-1154 EA 12" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	38.83	11.50
23 05 29 00-1155 EA 14" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	45.83	13.87
23 05 29 00-1156 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)		
23 05 29 00-1157 EA 1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.15	6.02
23 05 29 00-1158 EA 3/4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.39	6.02
23 05 29 00-1159 EA 1" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.06	6.14
23 05 29 00-1160 EA 1-1/4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.65	6.24
23 05 29 00-1161 EA 1-1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.27	6.35
23 05 29 00-1162 EA 2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.09	6.56
23 05 29 00-1163 EA 2-1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.27	6.78
23 05 29 00-1164 EA 3" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	24.38	6.99
23 05 29 00-1165 EA 4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.86	7.42
23 05 29 00-1166 EA 6" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.74	8.39
23 05 29 00-1167 EA 8" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	47.67	14.31
23 05 29 00-1168 EA 10" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	52.08	16.56
23 05 29 00-1169 EA 12" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	60.06	19.57
23 05 29 00-1170 EA 14" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	67.34	21.94
23 05 29 00-1171 EA 16" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	75.19	24.74
23 05 29 00-1172 EA 18" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	86.11	29.04
23 05 29 00-1173 EA 20" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	95.62	32.27
23 05 29 00-1174 EA 24" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	108.02	36.57
23 05 29 00-1175 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)		
23 05 29 00-1176 EA 1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.93	6.99
23 05 29 00-1177 EA 3/4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.20	6.99
23 05 29 00-1178 EA 1" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.02	7.10
23 05 29 00-1179 EA 1-1/4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.63	7.20
23 05 29 00-1180 EA 1-1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	24.26	7.20
23 05 29 00-1181 EA 2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	25.25	7.53

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-1182	EA	2-1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.60	7.75
23 05 29 00-1183	EA	3" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	27.86	8.07
23 05 29 00-1184	EA	4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.66	8.50
23 05 29 00-1185	EA	6" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	35.13	9.68
23 05 29 00-1186	EA	8" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	46.15	10.76
23 05 29 00-1187	EA	10" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	54.96	12.37
23 05 29 00-1188	EA	12" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	62.94	15.38
23 05 29 00-1189	EA	14" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	70.96	16.88
23 05 29 00-1190	EA	16" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	84.12	21.52
23 05 29 00-1191	EA	18" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	90.26	22.59
23 05 29 00-1192	EA	20" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	102.51	25.82
23 05 29 00-1193	EA	24" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	120.87	31.19

23 05 29 00-1194 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)

23 05 29 00-1195	EA	1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	48.17	7.20
23 05 29 00-1196	EA	3/4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	57.35	7.53
23 05 29 00-1197	EA	1" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	59.67	7.53
23 05 29 00-1198	EA	1-1/4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	61.14	7.75
23 05 29 00-1199	EA	1-1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	62.87	7.96
23 05 29 00-1200	EA	2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	64.82	8.07
23 05 29 00-1201	EA	2-1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	68.27	8.28
23 05 29 00-1202	EA	3" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	71.28	8.82
23 05 29 00-1203	EA	4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	78.65	9.15
23 05 29 00-1204	EA	6" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	89.99	11.18
23 05 29 00-1205	EA	8" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	116.80	12.26
23 05 29 00-1206	EA	10" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	139.01	12.91
23 05 29 00-1207	EA	12" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	159.36	16.67
23 05 29 00-1208	EA	14" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	179.52	17.75
23 05 29 00-1209	EA	16" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	214.60	23.66
23 05 29 00-1210	EA	18" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	231.02	25.82
23 05 29 00-1211	EA	20" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	261.67	27.97
23 05 29 00-1212	EA	24" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	307.40	34.42

23 05 29 00-1213 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)

23 05 29 00-1214	EA	1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.93	6.99
23 05 29 00-1215	EA	3/4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.49	8.50
23 05 29 00-1216	EA	1" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	27.66	8.50
23 05 29 00-1217	EA	1-1/4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	28.34	8.60
23 05 29 00-1218	EA	1-1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.18	8.71
23 05 29 00-1219	EA	2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.25	9.04
23 05 29 00-1220	EA	2-1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.89	9.36
23 05 29 00-1221	EA	3" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	33.31	9.68
23 05 29 00-1222	EA	4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	36.83	10.22
23 05 29 00-1223	EA	6" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	42.15	11.62
23 05 29 00-1224	EA	8" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	55.34	12.91
23 05 29 00-1225	EA	10" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	65.95	14.84
23 05 29 00-1226	EA	12" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	75.51	18.51
23 05 29 00-1227	EA	14" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	85.16	20.22
23 05 29 00-1228	EA	16" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	100.95	25.82
23 05 29 00-1229	EA	18" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	108.31	27.11
23 05 29 00-1230	EA	20" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	123.07	30.98
23 05 29 00-1231	EA	24" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	145.04	37.44

23 05 29 00-1232 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1125)

23 05 29 00-1233	EA	1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.56	9.47
23 05 29 00-1234	EA	3/4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.94	9.47
23 05 29 00-1235	EA	1" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.05	9.57
23 05 29 00-1236	EA	1-1/4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.95	9.68
23 05 29 00-1237	EA	1-1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	32.63	9.68
23 05 29 00-1238	EA	2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	34.43	10.33
23 05 29 00-1239	EA	2-1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	35.86	10.44
23 05 29 00-1240	EA	3" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	37.62	10.86
23 05 29 00-1241	EA	4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	41.40	11.50
23 05 29 00-1242	EA	6" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	47.39	13.02
23 05 29 00-1243	EA	8" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	61.45	14.09
23 05 29 00-1244	EA	10" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	74.21	16.78
23 05 29 00-1245	EA	12" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	84.98	20.86
23 05 29 00-1246	EA	14" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	95.83	22.70
23 05 29 00-1247	EA	16" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	113.63	29.04
23 05 29 00-1248	EA	18" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	121.80	30.44
23 05 29 00-1249	EA	20" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	136.84	34.86
23 05 29 00-1250	EA	24" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	163.20	42.17
23 05 29 00-1251	EA	26" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	186.11	49.59
23 05 29 00-1252	EA	28" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	211.75	58.52



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1253	EA	30" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate	239.54	69.17
23 05 29 00-1254	EA	42" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate	342.53	106.82
23 05 29 00-1255	EA	44" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate	368.89	117.57
23 05 29 00-1256	EA	46" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate	393.02	126.92
23 05 29 00-1257		Equipment Housekeeping Pads (23 05 29) See CSI section 03 31 13 00-0089 for Concrete Equipment Pads.		
23 05 29 00-1258		Molded Plastic Condenser Pad (23 05 29 00-1257)		
23 05 29 00-1259	EA	30" Round Molded Plastic Pad	146.69	13.93
23 05 29 00-1260	EA	30" Octagon Molded Plastic Pad	154.50	13.93
23 05 29 00-1261	EA	30" x 30" Molded Plastic Pad	146.69	13.93
23 05 29 00-1262	EA	36" x 36" Molded Plastic Pad	193.52	13.93
23 05 29 00-1263	EA	36" x 48" Molded Plastic Pad	281.15	13.93
23 05 29 00-1264		Inertia Base (23 05 29 00-1257) Note: Includes spring isolators.		
23 05 29 00-1265	EA	Up To 12 SF Inertia Base, 8" Thick With Spring Base	3,936.19	
23 05 29 00-1266	EA	>12 To 16 SF Inertia Base, 8" Thick With Spring Base	4,762.80	
23 05 29 00-1267	EA	>16 To 20 SF Inertia Base, 8" Thick With Spring Base	5,455.91	
23 05 29 00-1268	EA	>20 To 24 SF Inertia Base, 8" Thick With Spring Base	6,238.03	
23 05 29 00-1269		Hanger Assemblies (23 05 29) Note: Includes hanger, rod, nuts, washers, clamps, upper attachment, etc. Not for use where detail is available.		
23 05 29 00-1270	EA	1/2" Standard Duty Clevis Pipe Hanger Assembly	54.17	17.33
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	11.15	
23 05 29 00-1271	EA	3/4" Standard Duty Clevis Pipe Hanger Assembly	56.23	18.36
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	11.77	
23 05 29 00-1272	EA	1" Standard Duty Clevis Pipe Hanger Assembly	57.96	19.48
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	12.27	
23 05 29 00-1273	EA	1-1/4" Standard Duty Clevis Pipe Hanger Assembly	58.87	19.51
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	12.45	
23 05 29 00-1274	EA	1-1/2" Standard Duty Clevis Pipe Hanger Assembly	59.12	19.51
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	12.45	
23 05 29 00-1275	EA	2" Standard Duty Clevis Pipe Hanger Assembly	60.22	19.66
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	12.63	
23 05 29 00-1276	EA	2-1/2" Standard Duty Clevis Pipe Hanger Assembly	73.06	21.28
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	13.00	
23 05 29 00-1277	EA	3" Standard Duty Clevis Pipe Hanger Assembly	74.98	21.89
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	13.20	
23 05 29 00-1278	EA	4" Standard Duty Clevis Pipe Hanger Assembly	93.69	24.71
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	14.58	
23 05 29 00-1279	EA	6" Standard Duty Clevis Pipe Hanger Assembly	143.21	31.93
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	19.16	
23 05 29 00-1280	EA	8" Standard Duty Clevis Pipe Hanger Assembly	161.72	37.04
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	22.22	
23 05 29 00-1281	EA	10" Standard Duty Clevis Pipe Hanger Assembly	216.29	47.05
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	27.88	
23 05 29 00-1282	EA	12" Standard Duty Clevis Pipe Hanger Assembly	234.50	50.63
		Note: Includes hanger, rod, nuts, washers and clamp.		
		For Work In Restricted Working Space, Add	30.43	
23 05 29 00-1283		Steel Shapes For Hanger Devices (23 05 29)		
23 05 29 00-1284		Angle Iron For Hanger Devices (23 05 29 00-1283)		
23 05 29 00-1285	LF	1/2" x 1/2" x 1/8" Angle Iron For Hanger Devices	2.72	1.62
23 05 29 00-1286	LF	3/4" x 3/4" x 1/8" Angle Iron For Hanger Devices	3.58	2.03
23 05 29 00-1287	LF	1" x 1" x 1/8" Angle Iron For Hanger Devices	4.43	2.42
23 05 29 00-1288	LF	1-1/4" x 1-1/4" x 3/16" Angle Iron For Hanger Devices	6.22	3.01
23 05 29 00-1289	LF	1-1/2" x 1-1/2" x 3/16" Angle Iron For Hanger Devices	6.99	3.24
23 05 29 00-1290	LF	2" x 2" x 1/4" Angle Iron For Hanger Devices	9.60	3.63
23 05 29 00-1291	LF	2-1/2" x 2-1/2" x 1/4" Angle Iron For Hanger Devices	11.98	4.43
23 05 29 00-1292	LF	3" x 2" x 3/8" Angle Iron For Hanger Devices	15.69	5.19
23 05 29 00-1293	LF	3" x 3" x 3/8" Angle Iron For Hanger Devices	18.78	6.07
23 05 29 00-1294		Channels For Hanger Devices (23 05 29 00-1283)		

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

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1295	LF	C2 x 1.78, 2" Wide Channels For Hanger Devices	8.25	4.23
23 05 29 00-1296	LF	C3 x 4.1, 3" Wide Channels For Hanger Devices	14.22	6.08
23 05 29 00-1297	LF	C4 x 5.4, 4" Wide Channels For Hanger Devices	17.78	7.31
23 05 29 00-1298	LF	C5 x 6.7 - 5" Wide Channels For Hanger Devices	21.33	8.52
23 05 29 00-1299	LF	C6 x 8.2 - 6" Wide Channels For Hanger Devices	25.84	10.23
23 05 29 00-1300	LF	C7 x 9.8 - 7" Wide Channels For Hanger Devices	30.82	12.17
23 05 29 00-1301	LF	C8 x 11.5 - 8" Wide Channels For Hanger Devices	34.97	13.39
23 05 29 00-1302 Structural Bar Tees For Hanger Devices (23 05 29 00-1283)				
23 05 29 00-1303	LF	3/4" x 3/4" x 1/8" Structural Bar Tee For Hanger Devices	9.07	5.95
23 05 29 00-1304	LF	1" x 1" x 1/8" Structural Bar Tee For Hanger Devices	10.91	7.04
23 05 29 00-1305	LF	1-1/2" x 1-1/2" x 1/4" Structural Bar Tee For Hanger Devices	15.77	8.12
23 05 29 00-1306	LF	2" x 2" x 1/4" Structural Bar Tee For Hanger Devices	20.33	10.82
23 05 29 00-1307	LF	2-1/2" x 2-1/2" x 3/8" Structural Bar Tee For Hanger Devices	27.98	12.99
23 05 29 00-1308	LF	3" x 3" x 3/8" Structural Bar Tee For Hanger Devices	35.07	16.77
23 05 29 00-1309 Structural Zees For Hanger Devices (23 05 29 00-1283)				
23 05 29 00-1310	LF	1-1/4" x 1-3/4" x 1-3/4" Structural Zee For Hanger Devices	15.79	8.12
23 05 29 00-1311	LF	2-11/16" x 3" x 2-11/16" Structural Zee For Hanger Devices	19.13	8.12
23 05 29 00-1312	LF	3-1/16" x 4" x 3-1/16" Structural Zee For Hanger Devices	28.11	8.12
23 05 29 00-1313	LF	3-1/4" x 5" x 3-1/4" Structural Zee For Hanger Devices	35.64	8.12
23 05 29 00-1314	LF	3-1/2" x 6" x 3-1/2" Structural Zee For Hanger Devices	43.57	8.12
23 05 29 00-1315 Junior I-beams For Hanger Devices (23 05 29 00-1283)				
23 05 29 00-1316	LF	3" I-beam (Junior) For Hanger Devices	19.52	11.90
23 05 29 00-1317	LF	4" I-beam (Junior) For Hanger Devices	22.50	12.99
23 05 29 00-1318	LF	5" I-beam (Junior) For Hanger Devices	26.05	14.07
23 05 29 00-1319	LF	6" I-beam (Junior) For Hanger Devices	28.50	15.69
23 05 29 00-1320	LF	7" I-beam (Junior) For Hanger Devices	34.02	16.77
23 05 29 00-1321	LF	8" I-beam (Junior) For Hanger Devices	36.85	17.85
23 05 33 Heat Tracing for HVAC Piping (23 05)				
See CSI section 23 83 13 00-0000 for heat tracing cables.				
23 05 48 Vibration and Seismic Controls for HVAC (23 05)				
23 05 48 13 Vibration Controls for HVAC (23 05 48)				
23 05 48 13-0001 Unhoused Stable Steel Spring Isolators (23 05 48 13)				
Note: Includes leveling adjustment, cast top, base plate and pad. For use with floor mounted equipment only.				
23 05 48 13-0002	EA	60 LB Unhoused Steel Spring Isolator	101.34	31.20
23 05 48 13-0003	EA	115 LB Unhoused Steel Spring Isolator	107.66	31.20
23 05 48 13-0004	EA	1,130 LB Unhoused Steel Spring Isolator	128.60	31.20
23 05 48 13-0005 Housed Stable Steel Spring Isolators (23 05 48 13)				
Note: Includes leveling adjustment, top plate, base plate and pad. For use with floor mounted equipment only. Mason Industries, Inc.				
23 05 48 13-0006	EA	To 770 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	383.05	31.20
23 05 48 13-0007	EA	To 1,040 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	432.46	31.20
23 05 48 13-0008	EA	To 1,600 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	457.16	31.20
23 05 48 13-0009	EA	To 2,250 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	555.98	31.20
23 05 48 13-0010	EA	To 3,250 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	580.68	31.20
23 05 48 13-0011	EA	To 730 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	426.28	31.20
23 05 48 13-0012	EA	To 930 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	469.52	31.20
23 05 48 13-0013	EA	To 1,440 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	500.40	31.20
23 05 48 13-0014	EA	To 1,860 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	642.44	31.20
23 05 48 13-0015	EA	To 2,880 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	698.03	31.20
23 05 48 13-0016	EA	To 3,720 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	827.72	31.20
23 05 48 13-0017 Vibration Isolators (23 05 48 13)				
23 05 48 13-0018 Spring And Rubber Hanger For 1" Deflection (23 05 48 13-0017)				
23 05 48 13-0019	EA	50 To 500 LB Rated Spring And Rubber Hanger For Vibration Isolation With 3/4" Max Rod Size	132.81	20.06
23 05 48 13-0020	EA	600 To 1,000 LB Rated Spring And Rubber Hanger For Vibration Isolation With 7/8" Max Rod Size	278.31	22.30
23 05 48 13-0021 Rubber-In-Shear Isolator Hanger (23 05 48 13-0017)				
23 05 48 13-0022	EA	45-340 LB Rubber In Shear Hanger 0.38" Deflection With <1/2" Rod Size	74.12	16.72
23 05 48 13-0023	EA	130-700 LB Rubber In Shear Hanger 0.43" Deflection With <3/4" Rod Size	95.98	20.06
23 05 48 13-0024 Spring Hanger For 1" Deflection (23 05 48 13-0017)				
23 05 48 13-0025	EA	50 To 1,000 LB Rubber In Shear Hanger For 1" Deflection With <3/4" Rod Size	84.12	20.06
23 05 48 13-0026	EA	2" x 5/8" x 3-3/8" Isolation Spring Hanger (SHE Type), 25-350 LB	195.83	20.06



Heating, Ventilating, and Air-Conditioning (HVAC)

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Common Work Results for HVAC 23 05

Vibration and Seismic Controls for HVAC 23 05 48

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0027 EA 2" x 5/8" x 3-3/8" Isolation Spring Hanger (SHE Type), 350-600 LB.....	303.52	20.06
23 05 48 13-0028 EA 2" x 3/4" x 4-5/8" Isolation Spring Hanger (SHE Type), 45-900 LB.....	336.44	20.06
23 05 48 13-0029 EA 2" x 3/4" x 4-5/8" Isolation Spring Hanger (SHE Type), 900-1,500 LB.....	369.37	20.06
23 05 48 13-0030 Rubber-In-Shear Vibration Isolator (23 05 48 13-0017)		
23 05 48 13-0031 EA 45 To 340 LB Rubber In Shear Vibration Isolation With 0.38" Deflection	154.83	37.90
23 05 48 13-0032 EA 130 To 700 LB Rubber In Shear Vibration Isolation With 0.43" Deflection	210.72	37.90
23 05 48 13-0033 EA 550 To 1,920 LB Rubber In Shear Vibration Isolation With 0.48" Deflection	402.52	37.90
23 05 48 13-0034 Two-Piece Spring Type Vibration Isolator (23 05 48 13-0017)		
Note: For equipment support aluminum construction 1/2" adjusting and leveling bolt 1" deflection.		
23 05 48 13-0035 EA 50 To 1,000 LB Rated Load 2-Piece Isolator Spring Type Vibration Isolator.....	131.28	37.90
23 05 48 13-0036 EA >1,000 To 1,600 LB Rated Load 2-Piece Isolator Spring Type Vibration Isolator.....	135.44	37.90
23 05 48 13-0037 Open Double Spring Type Vibration Isolator (23 05 48 13-0017)		
Note: For equipment support 1" deflection neoprene pad and 5/8" stud bolt.		
23 05 48 13-0038 EA 150 To 450 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator.....	101.59	18.95
23 05 48 13-0039 EA 500 To 1,000 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator.....	101.59	18.95
23 05 48 13-0040 EA 1,100 To 1,600 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator.....	115.47	18.95
23 05 48 13-0041 EA 1,700 To 2,400 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator.....	115.47	18.95
23 05 48 13-0042 EA 2,500 To 3,400 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator.....	178.27	18.95
23 05 48 13-0043 Isolation Pads (23 05 48 13-0017)		
23 05 48 13-0044 Laminated Neoprene And Cork Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0045 EA 2" x 2", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	6.89	2.79
23 05 48 13-0046 EA 3" x 3", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	8.97	2.90
23 05 48 13-0047 EA 4" x 4", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	11.38	3.01
23 05 48 13-0048 EA 12" x 12", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	46.87	3.46
23 05 48 13-0049 EA 18" x 18", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	90.33	3.90
23 05 48 13-0050 Neoprene And Steel Plate Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0051 EA 6" x 4", 5/8" Thick Steel Plate And Ribbed Neoprene Isolation Pad	194.28	2.79
23 05 48 13-0052 EA 6" x 4", 7/8" Thick Steel Plate And Ribbed Neoprene Isolation Pad	215.20	2.79
23 05 48 13-0053 Neoprene Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0054 EA 2" x 2", 3/8" Thick Ribbed Neoprene Isolation Pad.....	6.38	2.79
23 05 48 13-0055 EA 3" x 3", 3/8" Thick Ribbed Neoprene Isolation Pad.....	7.34	2.79
23 05 48 13-0056 EA 4" x 4", 3/8" Thick Ribbed Neoprene Isolation Pad.....	8.88	2.79
23 05 48 13-0057 EA 12" x 12", 3/8" Thick Ribbed Neoprene Isolation Pad.....	46.10	3.35
23 05 48 13-0058 EA 18" x 18", 3/8" Thick Ribbed Neoprene Isolation Pad.....	84.84	3.90
23 05 48 13-0059 Ribbed Neoprene Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0060 EA 2" x 2", 3/8" Thick Ribbed Neoprene Isolation Pad.....	6.25	2.79
23 05 48 13-0061 EA 3" x 3", 3/8" Thick Ribbed Neoprene Isolation Pad.....	7.09	2.90
23 05 48 13-0062 EA 4" x 4", 3/8" Thick Ribbed Neoprene Isolation Pad.....	8.44	3.01
23 05 48 13-0063 EA 6" x 6", 3/8" Thick Ribbed Neoprene Isolation Pad.....	11.64	3.23
23 05 48 13-0064 EA 9" x 9", 3/8" Thick Ribbed Neoprene Isolation Pad.....	20.45	3.46
23 05 48 13-0065 EA 18" x 18", 3/8" Thick Ribbed Neoprene Isolation Pad.....	38.08	3.90
23 05 48 13-0066 Cork And Ribbed Neoprene Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0067 EA 2" x 2", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	6.55	2.79
23 05 48 13-0068 EA 3" x 3", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	8.48	2.90
23 05 48 13-0069 EA 4" x 4", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	10.62	3.01
23 05 48 13-0070 EA 6" x 6", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	14.91	3.23
23 05 48 13-0071 EA 9" x 9", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	27.49	3.46
23 05 48 13-0072 EA 18" x 18", 7/8" Thick Cork And Ribbed Neoprene Isolation Pad	59.10	3.90
23 05 48 13-0073 Cork, Ribbed Neoprene And Steel Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0074 EA 2" x 2", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	76.00	2.79
23 05 48 13-0075 EA 3" x 3", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	95.75	2.90
23 05 48 13-0076 EA 4" x 4", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	127.44	3.01
23 05 48 13-0077 EA 5" x 5", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	163.38	3.23
23 05 48 13-0078 EA 6" x 6", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	200.53	3.46
23 05 48 13-0079 EA 8" x 8", 1-1/8" Thick Cork, Ribbed Neoprene And Steel Isolation Pad.....	243.81	3.90
23 05 48 13-0080 Rubber Cube Isolation Pad (23 05 48 13-0043)		
23 05 48 13-0081 EA 2" x 2", 3/4" Thick Rubber Cube Isolation Pad.....	6.65	2.79
23 05 48 13-0082 EA 4" x 4", 3/4" Thick Rubber Cube Isolation Pad.....	10.72	3.01
23 05 48 13-0083 EA 18" x 18", 3/4" Thick Rubber Cube Isolation Pad.....	70.21	3.90

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 48 Vibration and Seismic Controls for HVAC**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0084		Vibra Strip For 1-5/8" Wide B Line Channel (23 05 48 13-0043)		
23 05 48 13-0085	LF	BVS Type - Vibra Strip For 1-5/8" Wide B-Line Channel	6.08	0.55
23 05 48 13-0086		Miscellaneous Piping Isolators (23 05 48 13-0017)		
23 05 48 13-0087	EA	Vibration Isolator, 2" Deflector Note: M.M. Sausse Model # RMXA.	969.70	33.44
23 05 48 13-0088		Vibration Isolators For Equipment (23 05 48 13)		
23 05 48 13-0089		Isolation Mounts For Equipment (23 05 48 13-0088)		
23 05 48 13-0090		Molded Neoprene Mounts (23 05 48 13-0089)		
23 05 48 13-0091	EA	3-1/4" x 1-7/8" x 1-7/8" Molded Neoprene Mount, 25-45 LB	133.97	5.57
23 05 48 13-0092	EA	3-1/4" x 1-7/8" x 1-7/8" Molded Neoprene Mount, 45-110 LB	133.97	5.57
23 05 48 13-0093	EA	3-1/4" x 1-7/8" x 1-7/8" Molded Neoprene Mount, 110-210 LB	133.97	5.57
23 05 48 13-0094	EA	3-1/4" x 1-7/8" x 1-7/8" Molded Neoprene Mount, 210-340 LB	133.97	5.57
23 05 48 13-0095	EA	4-1/4" x 2-1/2" x 2-1/8" Molded Neoprene Mount, 230-380 LB	148.67	6.69
23 05 48 13-0096	EA	4-1/4" x 2-1/2" x 2-1/8" Molded Neoprene Mount, 380-700 LB	332.00	6.69
23 05 48 13-0097	EA	6" x 3-1/2" x 2-3/8" Molded Neoprene Mount, 550-930 LB	335.35	8.36
23 05 48 13-0098		Cup Mounts (23 05 48 13-0089)		
23 05 48 13-0099	EA	2-3/8" x 2-3/8" x 1-1/8" Metal Housing And Neoprene Cup Mount, 8-14 LB	469.48	5.57
23 05 48 13-0100	EA	2-3/8" x 2-3/8" x 1-1/8" Metal Housing And Neoprene Cup Mount, 14-24 LB	469.48	5.57
23 05 48 13-0101	EA	2-3/8" x 2-3/8" x 1-1/8" Metal Housing And Neoprene Cup Mount, 24-38 LB	469.48	5.57
23 05 48 13-0102	EA	2-3/8" x 2-3/8" x 1-1/8" Metal Housing And Neoprene Cup Mount, 38-60 LB	469.48	5.57
23 05 48 13-0103	EA	3" x 3" x 1-1/2" Metal Housing And Neoprene Cup Mount, 15-30 LB	685.74	5.57
23 05 48 13-0104	EA	3" x 3" x 1-1/2" Metal Housing And Neoprene Cup Mount, 30-50 LB	685.74	5.57
23 05 48 13-0105	EA	3" x 3" x 1-1/2" Metal Housing And Neoprene Cup Mount, 50-80 LB	685.74	5.57
23 05 48 13-0106	EA	3" x 3" x 1-1/2" Metal Housing And Neoprene Cup Mount, 80-110 LB	685.74	5.57
23 05 48 13-0107		Free Standing Spring Mounts, 1" Deflection (OML Type) (23 05 48 13-0089)		
23 05 48 13-0108	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 25-50 LB	293.08	13.93
23 05 48 13-0109	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 50-100 LB	293.08	13.93
23 05 48 13-0110	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 100-150 LB	293.08	13.93
23 05 48 13-0111	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 150-250 LB	293.08	13.93
23 05 48 13-0112	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 250-350 LB	293.08	13.93
23 05 48 13-0113	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 350-450 LB	322.44	13.93
23 05 48 13-0114	EA	4-1/2" x 2" x 3-5/8" High Free Standing Spring Mount, 450-300 LB	322.44	13.93
23 05 48 13-0115		Free Standing Spring Mounts, 1" Deflection (OM Type) (23 05 48 13-0089)		
23 05 48 13-0116	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 75-150 LB	429.69	15.04
23 05 48 13-0117	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 150-250 LB	429.69	15.04
23 05 48 13-0118	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 250-350 LB	429.69	15.04
23 05 48 13-0119	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 350-500 LB	429.69	15.04
23 05 48 13-0120	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 500-600 LB	429.69	15.04
23 05 48 13-0121	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 600-750 LB	429.69	15.04
23 05 48 13-0122	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 750-900 LB	429.69	15.04
23 05 48 13-0123	EA	4-1/2" x 2" x 4-3/4" High Free Standing Spring Mount, 900-1,100 LB	429.69	15.04
23 05 48 13-0124		Free Standing Spring Mounts, 2" Deflection (OM Type) (23 05 48 13-0089)		
23 05 48 13-0125	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 75-150 LB	1,190.17	18.39
23 05 48 13-0126	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 150-275 LB	1,190.17	18.39
23 05 48 13-0127	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 275-425 LB	1,190.17	18.39
23 05 48 13-0128	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 425-500 LB	1,190.17	18.39
23 05 48 13-0129	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 500-650 LB	1,190.17	18.39
23 05 48 13-0130	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 650-775 LB	1,190.17	18.39
23 05 48 13-0131	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 775-1,000 LB	1,190.17	18.39
23 05 48 13-0132	EA	6-1/4" x 4" x 7-5/8" High Free Standing Spring Mount, 1,000-1,150 LB	1,190.17	18.39
23 05 48 13-0133		Housed Fail Safe Spring Mounts, 1" Deflection (HMLE Type) (23 05 48 13-0089)		
		Note: With external adjustment bolt.		
23 05 48 13-0134	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 25-50 LB	433.03	16.72
23 05 48 13-0135	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 50-100 LB	433.03	16.72
23 05 48 13-0136	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 100-150 LB	433.03	16.72
23 05 48 13-0137	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 150-250 LB	433.03	16.72
23 05 48 13-0138	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 250-350 LB	451.72	16.72
23 05 48 13-0139	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 350-450 LB	529.14	16.72
23 05 48 13-0140	EA	5-1/8" x 2-1/2" x 3-3/4"H Housed Fail Safe Spring Mount, 450-600 LB	529.14	16.72



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Vibration and Seismic Controls for HVAC 23 05 48



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0141 Housed Fail Safe Spring Mounts, 1" Deflection (HME Type) (23 05 48 13-0089)				
Note: With external adjustment bolt.				
23 05 48 13-0142	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 45-90 LB	628.61	18.39
23 05 48 13-0143	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 90-120 LB	628.61	18.39
23 05 48 13-0144	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 120-175 LB	628.61	18.39
23 05 48 13-0145	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 175-250 LB	628.61	18.39
23 05 48 13-0146	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 250-330 LB	628.61	18.39
23 05 48 13-0147	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 330-450 LB	687.34	18.39
23 05 48 13-0148	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 450-600 LB	687.34	18.39
23 05 48 13-0149	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 600-750 LB	687.34	18.39
23 05 48 13-0150	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 750-900 LB	687.34	18.39
23 05 48 13-0151	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 900-1,100 LB	756.76	18.39
23 05 48 13-0152	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 1,100-1,300 LB	756.76	18.39
23 05 48 13-0153	EA	6-3/8" x 2-5/8" x 5-1/8"H Housed Fail Safe Spring Mount, 1,300-1,500 LB	756.76	18.39
23 05 48 13-0154 Housed Fail Safe Spring Mount, 2" Deflection (HME Type) (23 05 48 13-0089)				
Note: With external adjustment bolt.				
23 05 48 13-0155	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 48-90 LB	924.07	18.39
23 05 48 13-0156	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 90-120 LB	924.07	18.39
23 05 48 13-0157	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 120-175 LB	924.07	18.39
23 05 48 13-0158	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 175-250 LB	924.07	18.39
23 05 48 13-0159	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 250-330 LB	924.07	18.39
23 05 48 13-0160	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 330-450 LB	924.07	18.39
23 05 48 13-0161	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 450-600 LB	1,022.85	18.39
23 05 48 13-0162	EA	6-3/8" x 2-5/8" x 5-5/8"H Housed Fail Safe Spring Mount, 600-750 LB	1,022.85	18.39
23 05 48 13-0163	EA	9-3/4" x 2-5/8" x 5-3/4"H Housed Fail Safe Spring Mount, 500-660 LB	1,644.93	18.39
23 05 48 13-0164	EA	9-3/4" x 2-5/8" x 5-3/4"H Housed Fail Safe Spring Mount, 660-900 LB	1,644.93	18.39
23 05 48 13-0165	EA	9-3/4" x 2-5/8" x 5-3/4"H Housed Fail Safe Spring Mount, 900-1,200 LB	1,644.93	18.39
23 05 48 13-0166	EA	9-3/4" x 2-5/8" x 5-3/4"H Housed Fail Safe Spring Mount, 1,200-1,500 LB	1,644.93	18.39
23 05 48 13-0167 Housed Fail Safe Spring Mount, 1" Deflection (HMLT Type) (23 05 48 13-0089)				
Note: Skid resistant neoprene top and external adjustment bolt.				
23 05 48 13-0168	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 25-50 LB	532.47	13.93
23 05 48 13-0169	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 50-100 LB	532.47	13.93
23 05 48 13-0170	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 100-150 LB	532.47	13.93
23 05 48 13-0171	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 150-250 LB	532.47	13.93
23 05 48 13-0172	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 250-350 LB	532.47	13.93
23 05 48 13-0173	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 350-450 LB	553.83	13.93
23 05 48 13-0174	EA	5-1/8" x 2-1/2" x 4-1/8" Housed Fail Safe Spring Mount, 450-600 LB	553.83	13.93
23 05 48 13-0175 Vibration Hangers (23 05 48 13-0089)				
Note: RH type neoprene hanger.				
23 05 48 13-0176	EA	2-3/4" x 2" x 4-1/2"H Neoprene Vibration Hanger, 60 To 100 LB	313.59	25.08
23 05 48 13-0177	EA	2-3/4" x 2" x 4-1/2"H Neoprene Vibration Hanger, 100 To 175 LB	313.59	25.08
23 05 48 13-0178	EA	2-3/4" x 2" x 4-1/2"H Neoprene Vibration Hanger, 175 To 300 LB	444.41	25.08
23 05 48 13-0179	EA	2-3/4" x 2" x 4-1/2"H Neoprene Vibration Hanger, 300 To 700 LB	444.41	25.08
23 05 48 13-0180	EA	3" x 2" x 7"H Neoprene Vibration Hanger, 700 To 1,100 LB	687.39	30.65
23 05 48 13-0181	EA	3" x 2" x 7"H Neoprene Vibration Hanger, 1,100 To 2,000 LB	687.39	30.65
23 05 48 13-0182 Threaded Flexible Bronze Hose Connectors (23 05 48 13)				
Note: Includes hex threaded nipple ends.				
23 05 48 13-0183	EA	3/8" Diameter x 9" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	71.83	17.83
23 05 48 13-0184	EA	1/2" Diameter x 10" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	84.33	24.52
23 05 48 13-0185	EA	3/4" Diameter x 11" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	103.49	30.10
23 05 48 13-0186	EA	1" Diameter x 12" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	120.47	35.67
23 05 48 13-0187	EA	1-1/4" Diameter x 12" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	138.17	46.81
23 05 48 13-0188	EA	1-1/2" Diameter x 14" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	155.66	49.82
23 05 48 13-0189	EA	2" Diameter x 14" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	208.24	59.07
23 05 48 13-0190	EA	2-1/2" Diameter x 16" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	287.08	92.07
23 05 48 13-0191 Weld End Flexible Hose Connectors (23 05 48 13)				
23 05 48 13-0192	EA	1/2" Diameter x 10" Flexible Hose Connection, Weld Ends	256.91	63.98
23 05 48 13-0193	EA	3/4" Diameter x 10" Flexible Hose Connection, Weld Ends	300.67	70.22
23 05 48 13-0194	EA	1" Diameter x 10" Flexible Hose Connection, Weld Ends	339.67	74.35
23 05 48 13-0195	EA	1-1/4" Diameter x 11" Flexible Hose Connection, Weld Ends	379.60	84.72
23 05 48 13-0196	EA	1-1/2" Diameter x 12" Flexible Hose Connection, Weld Ends	431.17	91.40
23 05 48 13-0197	EA	2" Diameter x 14" Flexible Hose Connection, Weld Ends	540.77	118.93
23 05 48 13-0198	EA	2-1/2" Diameter x 16" Flexible Hose Connection, Weld Ends	818.02	133.76

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 48 Vibration and Seismic Controls for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 48 13-0199	EA	3" Diameter x 16" Flexible Hose Connection, Weld Ends	1,012.17	150.48
23 05 48 13-0200	EA	4" Diameter x 18" Flexible Hose Connection, Weld Ends	1,398.44	222.93

23 05 48 13-0201 Flanged Flexible Hose Connectors (23 05 48 13)**23 05 48 13-0202 Flanged Flexible Molded Rubber Hose Connectors** (23 05 48 13-0201)

Note: With helical wire reinforcement 150 PSI.

23 05 48 13-0203	EA	1-1/2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	217.95	83.60
23 05 48 13-0204	EA	2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	235.91	92.85
23 05 48 13-0205	EA	2-1/2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	384.97	185.48
23 05 48 13-0206	EA	3" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	533.92	275.88
23 05 48 13-0207	EA	4" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	695.46	356.13
23 05 48 13-0208	EA	6" Diameter x 18" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	881.22	370.36
23 05 48 13-0209	EA	8" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	1,070.32	423.00
23 05 48 13-0210	EA	10" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	1,384.62	503.40
23 05 48 13-0211	EA	12" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI	3,373.06	629.61

23 05 48 13-0212 Flanged Flexible Corrugated Stainless Steel Hose Connectors (23 05 48 13-0201)

Note: With braided metal wire.

23 05 48 13-0213	EA	1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	170.07	76.02
23 05 48 13-0214	EA	1" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	166.23	104.56
23 05 48 13-0215	EA	1-1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	317.29	139.33
23 05 48 13-0216	EA	2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	412.76	208.99
23 05 48 13-0217	EA	2-1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	444.07	229.95
23 05 48 13-0218	EA	3" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	516.42	278.44
23 05 48 13-0219	EA	4" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	661.21	356.46
23 05 48 13-0220	EA	4" Diameter x 30" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	1,193.66	491.78
23 05 48 13-0221	EA	4" Diameter x 36" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	1,366.49	576.50
23 05 48 13-0222	EA	6" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	910.48	443.54
23 05 48 13-0223	EA	6" Diameter x 36" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	1,724.44	555.54
23 05 48 13-0224	EA	8" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	1,482.99	592.57
23 05 48 13-0225	EA	10" Diameter x 13" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	1,745.02	685.22
23 05 48 13-0226	EA	12" Diameter x 14" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation	2,240.59	740.72

23 05 48 13-0227 Flanged Flexible Molded Teflon Hose Connectors (23 05 48 13-0201)

Note: 150 PSI.

23 05 48 13-0228	EA	2-1/2" Diameter x 3-3/16" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation	942.66	161.63
23 05 48 13-0229	EA	3" Diameter x 3-5/8" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation	1,057.54	189.50
23 05 48 13-0230	EA	4" Diameter x 3-5/8" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation	1,603.71	318.48
23 05 48 13-0231	EA	6" Diameter x 4" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation	1,948.87	370.36
23 05 48 13-0232	EA	8" Diameter x 6" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation	2,559.87	454.31

23 05 48 13-0233 Flexible Hose Connectors Braided Metal Hose Type (23 05 48 13)**23 05 48 13-0234 Braided Metal Hose Type Flexible Bronze Hose Connectors** (23 05 48 13-0233)

Note: MPT connection.

23 05 48 13-0235	EA	1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	37.21	2.23
23 05 48 13-0236	EA	1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	44.46	2.23
23 05 48 13-0237	EA	1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	49.49	2.90
23 05 48 13-0238	EA	1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	60.17	2.90
23 05 48 13-0239	EA	3/4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	49.80	2.68
23 05 48 13-0240	EA	3/4" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	60.15	2.68
23 05 48 13-0241	EA	3/4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	68.85	3.45
23 05 48 13-0242	EA	3/4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	84.96	3.45
23 05 48 13-0243	EA	1" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	67.93	3.12
23 05 48 13-0244	EA	1" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	74.28	3.12
23 05 48 13-0245	EA	1" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	88.29	4.12
23 05 48 13-0246	EA	1" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	111.85	4.12
23 05 48 13-0247	EA	1" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	135.23	4.12
23 05 48 13-0248	EA	1" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	158.69	4.12
23 05 48 13-0249	EA	1-1/4" Or 1-1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	96.76	4.00
23 05 48 13-0250	EA	1-1/4" Or 1-1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	106.64	4.00
23 05 48 13-0251	EA	1-1/4" Or 1-1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	136.78	4.00
23 05 48 13-0252	EA	1-1/4" Or 1-1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	190.17	5.33
23 05 48 13-0253	EA	1-1/4" Or 1-1/2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	220.54	5.33
23 05 48 13-0254	EA	1-1/4" Or 1-1/2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	260.95	5.33
23 05 48 13-0255	EA	2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	132.44	4.83
23 05 48 13-0256	EA	2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	153.11	4.83
23 05 48 13-0257	EA	2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	193.13	4.83
23 05 48 13-0258	EA	2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	257.58	6.46
23 05 48 13-0259	EA	2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	318.58	6.46
23 05 48 13-0260	EA	2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	379.52	6.46
23 05 48 13-0261	EA	2-1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	183.87	6.06
23 05 48 13-0262	EA	2-1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	209.32	5.74
23 05 48 13-0263	EA	2-1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection	235.03	5.74



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Vibration and Seismic Controls for HVAC 23 05 48

23

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0264	EA	2-1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	289.85	7.70
23 05 48 13-0265	EA	2-1/2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	341.56	7.70
23 05 48 13-0266	EA	2-1/2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	391.65	7.70
23 05 48 13-0267	EA	3" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	289.88	7.70
23 05 48 13-0268	EA	3" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	324.22	7.70
23 05 48 13-0269	EA	3" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	1,558.28	7.70
23 05 48 13-0270	EA	3" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	1,874.48	10.26
23 05 48 13-0271	EA	3" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	502.03	10.26
23 05 48 13-0272	EA	3" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	569.61	10.26
23 05 48 13-0273	EA	4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	530.54	9.11
23 05 48 13-0274	EA	4" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	570.66	9.11
23 05 48 13-0275	EA	4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	610.79	9.11
23 05 48 13-0276	EA	4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	698.43	12.14
23 05 48 13-0277	EA	4" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	778.38	12.14
23 05 48 13-0278	EA	4" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	880.04	12.14
23 05 48 13-0279 Braided Stainless Steel Flexible Hose Connectors (23 05 48 13-0233)				
Note: Over braided carbon steel connection.				
23 05 48 13-0280	EA	2" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	157.78	4.90
23 05 48 13-0281	EA	2" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	190.61	4.90
23 05 48 13-0282	EA	2" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	222.83	4.90
23 05 48 13-0283	EA	2" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	291.65	6.56
23 05 48 13-0284	EA	2" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	356.95	6.56
23 05 48 13-0285	EA	2" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	422.18	6.56
23 05 48 13-0286	EA	2-1/2" Or 3" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	178.85	5.74
23 05 48 13-0287	EA	2-1/2" Or 3" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	213.16	5.74
23 05 48 13-0288	EA	2-1/2" Or 3" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	247.63	5.74
23 05 48 13-0289	EA	2-1/2" Or 3" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	320.81	7.70
23 05 48 13-0290	EA	2-1/2" Or 3" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	389.47	7.70
23 05 48 13-0291	EA	2-1/2" Or 3" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	457.18	7.70
23 05 48 13-0292	EA	4" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	189.83	7.70
23 05 48 13-0293	EA	4" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	229.14	7.90
23 05 48 13-0294	LF	4" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	269.01	7.70
23 05 48 13-0295	EA	4" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	356.27	10.26
23 05 48 13-0296	EA	4" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	435.58	10.26
23 05 48 13-0297	EA	4" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	517.14	10.26
23 05 48 13-0298	EA	6" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	382.79	15.00
23 05 48 13-0299	EA	6" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	564.59	15.10
23 05 48 13-0300	EA	6" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	757.15	19.90
23 05 48 13-0301	EA	6" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	939.02	19.90
23 05 48 13-0302	EA	6" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,120.84	19.90
23 05 48 13-0303	EA	8" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	664.21	18.54
23 05 48 13-0304	EA	8" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	801.75	18.54
23 05 48 13-0305	EA	8" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,086.89	24.11
23 05 48 13-0306	EA	8" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,359.75	24.11
23 05 48 13-0307	EA	8" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,632.53	24.11
23 05 48 13-0308	EA	10" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	711.77	23.18
23 05 48 13-0309	EA	10" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,055.64	23.18
23 05 48 13-0310	EA	10" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,413.85	30.18
23 05 48 13-0311	EA	10" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,758.93	30.18

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 48 Vibration and Seismic Controls for HVAC**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0312	EA	10" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,102.54	30.18
23 05 48 13-0313	EA	12" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,410.76	28.02
23 05 48 13-0314	EA	12" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,839.90	28.02
23 05 48 13-0315	EA	12" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,302.00	37.70
23 05 48 13-0316	EA	12" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,734.91	37.70
23 05 48 13-0317	EA	12" Diameter x 72" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	3,169.84	37.70
23 05 48 13-0318 Braided Metal Hose Type Flexible Bronze Hose Connectors (23 05 48 13-0233)				
Note: Flanged end connection (carbon steel ends).				
23 05 48 13-0319	EA	2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	690.85	4.83
23 05 48 13-0320	EA	2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,145.04	136.77
23 05 48 13-0321	EA	2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,439.48	136.77
23 05 48 13-0322	EA	2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,733.91	136.77
23 05 48 13-0323	EA	2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,028.47	136.77
23 05 48 13-0324	EA	2-1/2" Or 3" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	989.19	174.43
23 05 48 13-0325	EA	2-1/2" Or 3" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,299.46	174.43
23 05 48 13-0326	EA	2-1/2" Or 3" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,609.84	174.43
23 05 48 13-0327	EA	2-1/2" Or 3" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,920.35	174.43
23 05 48 13-0328	EA	2-1/2" Or 3" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,225.42	174.43
23 05 48 13-0329	EA	4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,316.09	292.42
23 05 48 13-0330	EA	4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,678.25	293.16
23 05 48 13-0331	EA	4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,046.30	292.42
23 05 48 13-0332	EA	4" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,457.80	292.42
23 05 48 13-0333	EA	4" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,772.23	292.42
23 05 48 13-0334	EA	6" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,139.03	374.97
23 05 48 13-0335	EA	6" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,959.60	374.97
23 05 48 13-0336	EA	6" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	3,780.63	376.31
23 05 48 13-0337	EA	6" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	4,601.31	374.97
23 05 48 13-0338	EA	6" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	5,421.88	374.97
23 05 48 13-0339	EA	8" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	3,757.96	473.89
23 05 48 13-0340	EA	8" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	4,378.73	473.89
23 05 48 13-0341	EA	8" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	5,609.52	473.89
23 05 48 13-0342	EA	8" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	6,840.78	473.89
23 05 48 13-0343	EA	8" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	8,071.46	473.89
23 05 48 13-0344	EA	10" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	6,369.56	576.92
23 05 48 13-0345	EA	10" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	7,916.18	576.92
23 05 48 13-0346	EA	10" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	9,473.19	576.92
23 05 48 13-0347	EA	10" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	11,026.85	576.92
23 05 48 13-0348	EA	10" Diameter x 72" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	12,282.49	576.92
23 05 48 13-0349	EA	12" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	8,742.26	700.55
23 05 48 13-0350	EA	12" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	10,704.88	700.55
23 05 48 13-0351	EA	12" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	12,667.38	700.55
23 05 48 13-0352	EA	12" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	14,629.88	700.55



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 05 48 13-0353 EA 12" Diameter x 72" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends).....	16,592.49	700.55

23 05 53 Identification for HVAC Piping and Equipment (23 05)**23 05 53 00-0001 Systems Identification** (23 05 53)**23 05 53 00-0002 Pipe Marker Snap-On Type Plastic** (23 05 53 00-0001)

Note: Outside diameters of insulation where necessary.

23 05 53 00-0003 EA 1/2" Outside Diameter Snap-On Plastic Marker.....	20.05	
23 05 53 00-0004 EA 3/4" Outside Diameter Snap-On Plastic Marker.....	20.33	
23 05 53 00-0005 EA 1" Outside Diameter Snap-On Plastic Marker.....	20.48	
23 05 53 00-0006 EA 1-1/4" Outside Diameter Snap-On Plastic Marker.....	20.80	
23 05 53 00-0007 EA 1-1/2" Outside Diameter Snap-On Plastic Marker.....	24.26	
23 05 53 00-0008 EA 2" Outside Diameter Snap-On Plastic Marker.....	24.76	
23 05 53 00-0009 EA 2-1/2" Outside Diameter Snap-On Plastic Marker.....	39.75	
23 05 53 00-0010 EA 3" Outside Diameter Snap-On Plastic Marker.....	40.16	
23 05 53 00-0011 EA 3-1/2" Outside Diameter Snap-On Plastic Marker.....	40.58	
23 05 53 00-0012 EA 4" Outside Diameter Snap-On Plastic Marker.....	40.81	
23 05 53 00-0013 EA 4-1/2" Outside Diameter Snap-On Plastic Marker.....	41.05	
23 05 53 00-0014 EA 5" Outside Diameter Snap-On Plastic Marker.....	41.29	
23 05 53 00-0015 EA 6" Outside Diameter Snap-On Plastic Marker.....	43.28	
23 05 53 00-0016 EA 7" Outside Diameter Snap-On Plastic Marker.....	43.55	
23 05 53 00-0017 EA 8" Outside Diameter Snap-On Plastic Marker.....	53.84	
23 05 53 00-0018 EA 10" Outside Diameter Snap-On Plastic Marker.....	55.61	
23 05 53 00-0019 EA 12" Outside Diameter Snap-On Plastic Marker.....	64.00	
23 05 53 00-0020 EA 14" Outside Diameter Snap-On Plastic Marker.....	73.42	

23 05 53 00-0021 Pipe Markers Pressure-Sensitive (23 05 53 00-0001)

Note: Outside diameter includes insulation where necessary.

23 05 53 00-0022 EA 1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	13.37	
23 05 53 00-0023 EA 3/4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	13.92	
23 05 53 00-0024 EA 1" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	15.05	
23 05 53 00-0025 EA 1-1/4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	15.26	
23 05 53 00-0026 EA 1-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	16.39	
23 05 53 00-0027 EA 2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	16.73	
23 05 53 00-0028 EA 2-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	19.06	
23 05 53 00-0029 EA 3" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	19.50	
23 05 53 00-0030 EA 3-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	19.83	
23 05 53 00-0031 EA 4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	20.18	
23 05 53 00-0032 EA 4-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	20.87	
23 05 53 00-0033 EA 5" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	21.62	
23 05 53 00-0034 EA 6" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	22.27	
23 05 53 00-0035 EA 7" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	22.92	
23 05 53 00-0036 EA 8" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	25.49	
23 05 53 00-0037 EA 10" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	26.72	
23 05 53 00-0038 EA 12" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation.....	31.33	

23 05 53 00-0039 Valve Identification Tag (23 05 53 00-0001)

Note: Includes beaded chain and/or "S" hook.

23 05 53 00-0040 EA 2" Diameter Identification Tag, Brass.....	11.75	
23 05 53 00-0041 EA 1-1/2" Diameter Identification Tag, Plastic.....	11.00	
23 05 53 00-0042 EA 1-1/2" Diameter Identification Tag, Brass.....	10.77	

23 05 53 00-0043 Medical Pipe Labels Pressure-Sensitive (23 05 53 00-0001)

23 05 53 00-0044 LF 3" Wide, Vinyl Medical Gas Pipe Pressure Sensitive Stick-On Label.....	21.59	

Note: To be wrapped around pipe insulation per location

23 05 66 Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment (23 05)**23 05 66 00-0001 Double Ended Ultraviolet HVAC Microbial Control Fixtures** (23 05 66)

23 05 66 00-0002 EA 18" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-181-VO).....	1,037.87	82.04
Note: Includes tube.		
23 05 66 00-0003 EA 24" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-241-VO).....	1,083.40	86.10
Note: Includes tube.		
23 05 66 00-0004 EA 30" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-301-VO).....	1,086.03	89.79
Note: Includes tube.		
23 05 66 00-0005 EA 36" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-361-VO).....	1,136.77	94.34
Note: Includes tube.		
23 05 66 00-0006 EA 42" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-421-VO).....	1,230.54	98.39
Note: Includes tube.		
23 05 66 00-0007 EA 62" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-621-VO).....	1,128.30	101.47
Note: Includes tube.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 66 Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 66 00-0008		Single Ended Ultraviolet HVAC Microbial Control Fixtures (23 05 66)	
23 05 66 00-0009	EA	12" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-121-VO) Note: Includes tube.	868.34 56.82
23 05 66 00-0010	EA	16" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-161-VO) Note: Includes tube.	879.73 61.49
23 05 66 00-0011	EA	20" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-201-VO) Note: Includes tube.	901.63 65.18
23 05 66 00-0012	EA	24" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-241-VO) Note: Includes tube.	912.29 70.10
23 05 66 00-0013	EA	30" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-301-VO) Note: Includes tube.	934.93 73.79
23 05 66 00-0014	EA	36" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-361-VO) Note: Includes tube.	951.56 77.49
23 05 66 00-0015	EA	42" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-421-VO) Note: Includes tube.	973.48 82.40
23 05 66 00-0016	EA	12" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-121-VO) Note: Includes tube.	990.62 56.82
23 05 66 00-0017	EA	16" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-161-VO) Note: Includes tube.	1,002.01 61.49
23 05 66 00-0018	EA	20" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-201-VO) Note: Includes tube.	1,023.91 65.18
23 05 66 00-0019	EA	24" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-241-VO) Note: Includes tube.	1,034.57 70.10
23 05 66 00-0020	EA	30" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-301-VO) Note: Includes tube.	1,057.21 73.79
23 05 66 00-0021	EA	36" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-361-VO) Note: Includes tube.	1,073.86 77.49
23 05 66 00-0022	EA	42" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-421-VO) Note: Includes tube.	1,095.76 82.40
23 05 66 00-0023	EA	16" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-161-VO) Note: Includes tube.	688.32 61.49
23 05 66 00-0024	EA	20" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-201-VO) Note: Includes tube.	710.22 65.18
23 05 66 00-0025	EA	24" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-241-VO) Note: Includes tube.	720.88 70.10
23 05 66 00-0026	EA	30" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-301-VO) Note: Includes tube.	743.52 73.79
23 05 66 00-0027	EA	36" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-361-VO) Note: Includes tube.	760.17 77.49
23 05 66 00-0028	EA	42" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-421-VO) Note: Includes tube.	782.07 82.40
23 05 66 00-0029		Fan Coil Unit Ultraviolet Microbial Control Fixtures (23 05 66)	
23 05 66 00-0030	EA	16" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	636.09 78.71
23 05 66 00-0031	EA	20" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	649.84 82.40
23 05 66 00-0032	EA	24" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	663.58 86.10
23 05 66 00-0033	EA	30" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	682.25 89.79
23 05 66 00-0034	EA	36" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	706.54 94.34
23 05 66 00-0035	EA	42" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	727.88 98.39
23 05 66 00-0036		Ultraviolet HVAC Microbial Control Replacement Parts (23 05 66)	
23 05 66 00-0037	EA	18" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-16-VO)	168.16
23 05 66 00-0038	EA	24" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-22-VO)	176.84
23 05 66 00-0039	EA	30" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-28-VO)	201.28
23 05 66 00-0040	EA	36" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-34-VO)	232.75
23 05 66 00-0041	EA	42" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-40-VO)	264.92
23 05 66 00-0042	EA	62" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-60-VO)	261.51
23 05 66 00-0043	EA	12" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-12-VO)	121.56
23 05 66 00-0044	EA	16" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-16-VO)	128.04
23 05 66 00-0045	EA	20" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-20-VO)	145.01
23 05 66 00-0046	EA	24" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-24-VO)	150.75
23 05 66 00-0047	EA	30" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-30-VO)	168.48
23 05 66 00-0048	EA	36" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-36-VO)	180.21
23 05 66 00-0049	EA	42" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-42-VO)	197.19
23 05 66 00-0050	EA	Removal And Replacement Of Power Supply For Ultraviolet Microbial Control Fixture (Steril-Aire)	494.67
23 05 66 00-0051		Ultraviolet HVAC Microbial Control Mounting Accessories (23 05 66)	
23 05 66 00-0052	EA	Two Spring Clip, 61" Emitter Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 11006610)	697.76
23 05 66 00-0053	EA	Two Spring Clip, 61" Sleeved Emitter Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 11006620)	894.96
23 05 66 00-0054	EA	Two Spring Clip, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-1)	403.74
		Note: Includes power supply, wires and connectors. Excludes emitter.	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 66 00-0055 EA Two Short Hook Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-2).....	427.89	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0056 EA Flat Plate For Metal, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-3)	556.25	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0057 EA Flat Plate For Plastic, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-4)	344.26	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0058 EA Insert Lamp Holder, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-5)	373.95	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0059 EA 16" U-Bracket, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-6)	485.86	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0060 EA 12" U-Bracket, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-7)	479.01	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0061 LF 30 x 30 mm Framing Structure For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000101)	18.01	
23 05 66 00-0062 EA Vertical Support Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000111)	60.48	
23 05 66 00-0063 EA Joint Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000112)	20.57	
23 05 66 00-0064 EA Emitter Mounting Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000113)	19.37	
23 05 66 00-0065 EA Foundation Bracket FB 8WA For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000104)	55.59	
23 05 66 00-0066 EA Slider Assembly Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000114)	67.23	
23 05 66 00-0067 EA Splice Kit For Horizontal Rows For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000108)	59.61	
23 05 66 00-0068 EA Gusset Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000115)	48.19	
23 05 66 00-0069 EA ISO "A" Bracket Hanger For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000109)	45.47	
23 05 66 00-0070 EA DE Boot Kit UV Resistant For 1 DE Fixture For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000223)	24.16	
23 05 66 00-0071 EA DE Wiring Kit For Up To 65" (DE Bank Install) For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000603)	51.24	
23 05 66 00-0072 EA Cleaning Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000100)	24.26	
23 05 66 00-0073 EA 480 To 220 Volt AC / 180 VA Step-Down Transformer For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000503)	97.79	
23 05 66 00-0074 EA Interlock Switch (16 Amps At 125 Volt, 10 Amperes At 250 Volt Maximum Ampacity) For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000120)	102.90	
23 05 66 00-0075 Ultraviolet Duct Disinfection Unit (eLEDLights) (23 05 66)		
23 05 66 00-0076 EA Two 12" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V12-P1)	1,432.37	113.77
23 05 66 00-0077 EA Two 18" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V18-P1)	1,602.53	119.92
23 05 66 00-0078 EA Two 24" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V24-P1)	1,662.53	129.14
23 05 66 00-0079 EA Two 30" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V30-P1)	1,739.14	138.36
23 05 66 00-0080 EA Two 36" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V36-P1)	1,790.83	147.59
23 05 66 00-0081 EA Two 48" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V48-P1)	2,160.43	153.73
23 05 66 00-0082 EA Four 18" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V18-P1)	2,165.90	119.92
23 05 66 00-0083 EA Four 24" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V24-P1)	2,250.82	129.14
23 05 66 00-0084 EA Four 30" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V30-P1)	2,601.64	138.36
23 05 66 00-0085 EA Four 36" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V36-P1)	2,703.18	147.59
23 05 66 00-0086 Ultraviolet Germicidal Airborne Duct System (Fresh-Aire UV) (23 05 66)		
Note: Includes 2 Year Warranty		
23 05 66 00-0087 EA Two 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-218D-HO)	1,033.83	119.92
23 05 66 00-0088 EA Four 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-218Q-HO)	1,737.83	119.92
23 05 66 00-0089 EA Six 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-218H-HO)	2,442.77	119.92
23 05 66 00-0090 EA Two 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-224D-HO)	1,063.66	129.14
23 05 66 00-0091 EA Four 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-224Q-HO)	1,777.12	129.14
23 05 66 00-0092 EA Six 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-224H-HO)	2,491.54	129.14
23 05 66 00-0093 EA Two 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-232D-HO)	1,091.58	138.36
23 05 66 00-0094 EA Four 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-232Q-HO)	1,816.42	138.36
23 05 66 00-0095 EA Six 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-232H-HO)	2,540.31	138.36
23 05 66 00-0096 EA Two 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-246D-HO)	1,208.55	153.73
23 05 66 00-0097 EA Four 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-246Q-HO)	2,002.56	153.73
23 05 66 00-0098 EA Six 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-246H-HO)	2,796.56	153.73
23 05 66 00-0099 EA Two 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-260D-HO)	1,412.69	169.11
23 05 66 00-0100 EA Four 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-260Q-HO)	2,381.04	169.11
23 05 66 00-0101 EA Six 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUV-ADS-260H-HO)	3,348.44	169.11
23 05 93 Testing, Adjusting, and Balancing for HVAC (23 05)		
Note: Includes all necessary testing, startup, and checkout. Use these tasks for testing, startup, and checkout of existing systems or for third party testing and report when required.		
23 05 93 00-0001 Heating And Ventilating Equipment (23 05 93)		
23 05 93 00-0002 EA Balancing Centrifugal Fans.....	474.01	
For Testing Of Unit Without Balancing, Deduct	-237.01	
23 05 93 00-0003 EA Balancing Heating And Ventilating Units	592.27	
For Testing Of Unit Without Balancing, Deduct	-296.14	
23 05 93 00-0004 EA Balancing In Line Fan	533.25	
For Testing Of Unit Without Balancing, Deduct	-266.63	
23 05 93 00-0005 EA Balancing Propeller And Wall Fan	118.50	
For Testing Of Unit Without Balancing, Deduct	-59.25	
23 05 93 00-0006 EA Balancing Roof Exhaust Fan	355.48	
For Testing Of Unit Without Balancing, Deduct	-177.74	
23 05 93 00-0007 EA Balancing Wall Fan	88.85	
For Testing Of Unit Without Balancing, Deduct	-44.43	
23 05 93 00-0008 EA Balancing Fan Section Exhaust	473.24	
For Testing Of Unit Without Balancing, Deduct	-236.62	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 93 Testing, Adjusting, and Balancing for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0009		Air Conditioning Equipment (23 05 93)		
23 05 93 00-0010	EA	Balancing Constant Volume Air Handling Unit.....	821.31	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-410.66	
23 05 93 00-0011	EA	Balancing Package A/C Unit.....	307.99	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-154.00	
23 05 93 00-0012	EA	Balancing Rooftop Heat And Cool Unit.....	410.66	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-205.33	
23 05 93 00-0013	EA	Balancing Variable Volume Air Handling Unit.....	1,437.28	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-718.64	
23 05 93 00-0014		Registers, Diffusers, Terminal Air Units And Dampers (23 05 93)		
23 05 93 00-0015	EA	Balancing HVAC Duct System, Ceiling Height To 12' Supply, Return, Exhaust, Register And Diffuser.....	88.87	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-44.44	
23 05 93 00-0016	EA	Balancing HVAC Duct System, Ceiling Height >12' Supply, Return, Exhaust, Register And Diffuser.....	148.13	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-74.07	
23 05 93 00-0017	EA	Balancing HVAC Duct System, Floor Height Supply, Return, Exhaust, Register And Diffuser.....	77.02	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-38.51	
23 05 93 00-0018	EA	Balance Variable Air Volume Box.....	83.45	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-41.73	
23 05 93 00-0019	EA	Balance Constant Volume Box.....	83.45	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-41.73	
23 05 93 00-0020	EA	Balance Fan Powered Box.....	94.80	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-47.40	
23 05 93 00-0021	EA	Balance Lab Fume Hood.....	385.14	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-192.57	
23 05 93 00-0022	EA	Balance General Hood.....	296.25	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-148.13	
23 05 93 00-0023	EA	Balance Induction Unit.....	177.76	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-88.88	
23 05 93 00-0024	EA	Balance Moduline - Master.....	71.08	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-35.54	
23 05 93 00-0025	EA	Balance Moduline - Slave.....	35.55	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-17.78	
23 05 93 00-0026	EA	Balance Dampers.....	33.01	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-16.51	
23 05 93 00-0027	EA	Balance Regenerators.....	473.24	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-236.62	
23 05 93 00-0028		Water Balancing Of Components (23 05 93)		
23 05 93 00-0029	EA	Water Balance, Air Cool Condenser.....	564.70	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-282.35	
23 05 93 00-0030	EA	Water Balance, Cabinet Heater.....	71.87	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-35.94	
23 05 93 00-0031	EA	Water Balance, Chiller, Air Cooled.....	615.93	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-307.97	
23 05 93 00-0032	EA	Water Balance, Chiller, Water Cooled.....	821.31	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-410.66	
23 05 93 00-0033	EA	Water Balance, Cooling Tower.....	410.66	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-205.33	
23 05 93 00-0034	EA	Water Balance, Fan Coil And Vent.....	102.73	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-51.37	
23 05 93 00-0035	EA	Water Balance, Fin Tube And Radiant Panel.....	102.66	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-51.33	
23 05 93 00-0036	EA	Water Balance, Main And Duct Re-Heat Coil.....	112.93	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-56.47	
23 05 93 00-0037	EA	Water Balance, Pumps.....	308.01	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-154.01	
23 05 93 00-0038	EA	Water Balance, Unit Heater.....	71.87	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-35.94	
23 05 93 00-0039	EA	Water Balancing, Converter.....	308.12	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-154.06	
23 05 93 00-0040	EA	Water Balancing, Cocks And Valves.....	51.32	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-25.66	
23 05 93 00-0041	EA	Water Balance, Convactor.....	61.59	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-30.80	
23 05 93 00-0042	EA	Water Balancing, Backflow Preventer Or Reduced Pressure Zone Valves.....	77.00	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-38.50	
23 05 93 00-0043	EA	Water Balance, Boiler, Up To 500 MBH.....	667.31	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-333.66	
23 05 93 00-0044	EA	>500 To 1,000 MBH, Water Balance, Boiler.....	1,231.96	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-615.98	
23 05 93 00-0045	EA	>1,000 MBH, Water Balance, Boiler.....	2,258.59	
		<i>For Testing Of Unit Without Balancing, Deduct</i>	-1,129.30	
23 05 93 00-0046		Non-Destructive Testing (23 05 93)		
23 05 93 00-0047		X-Ray Welds, Non-Destructive Testing (23 05 93 00-0046)		
23 05 93 00-0048		Minimum Charge For X-Ray Welds (23 05 93 00-0047)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0049 EA X-Ray Welds Minimum Set-Up Charge 874.47 Note: For projects where the total charges are less than the minimum set-up charge, use this task exclusively. This task should not be used in conjunction with any other tasks in this section.		
23 05 93 00-0050 Piping, X-Ray Welds, Non-Destructive Testing (23 05 93 00-0047)		
23 05 93 00-0051 EA Up To 3/4" Piping, X-Ray Welds, Non-Destructive Testing 86.76		
23 05 93 00-0052 EA 1" Piping, X-Ray Welds, Non-Destructive Testing 98.63		
23 05 93 00-0053 EA 1-1/4" - 1-1/2" Piping, X-Ray Welds, Non-Destructive Testing 110.50		
23 05 93 00-0054 EA 2" Piping, X-Ray Welds, Non-Destructive Testing 116.82		
23 05 93 00-0055 EA 3" Piping, X-Ray Welds, Non-Destructive Testing 123.11		
23 05 93 00-0056 EA 4" Piping, X-Ray Welds, Non-Destructive Testing 130.14		
23 05 93 00-0057 EA 6" Piping, X-Ray Welds, Non-Destructive Testing 142.73		
23 05 93 00-0058 EA 8" Piping, X-Ray Welds, Non-Destructive Testing 155.34		
23 05 93 00-0059 EA 10" Piping, X-Ray Welds, Non-Destructive Testing 162.37		
23 05 93 00-0060 EA 12" Piping, X-Ray Welds, Non-Destructive Testing 169.40		
23 05 93 00-0061 Liquid Penetration Of Welds, Non-Destructive Testing (23 05 93 00-0046)		
23 05 93 00-0062 Piping, Liquid Penetration Of Welds, Non-Destructive Testing (23 05 93 00-0061)		
23 05 93 00-0063 EA Up To 3/4" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 116.16		
23 05 93 00-0064 EA 1" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 121.74		
23 05 93 00-0065 EA 1-1/4" - 1-1/2" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 127.31		
23 05 93 00-0066 EA 2" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 130.09		
23 05 93 00-0067 EA 3" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 134.28		
23 05 93 00-0068 EA 4" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 138.46		
23 05 93 00-0069 EA 6" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 146.82		
23 05 93 00-0070 EA 8" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 155.17		
23 05 93 00-0071 EA 10" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 163.54		
23 05 93 00-0072 EA 12" Piping, Liquid Penetration Of Welds, Non-Destructive Testing 171.90		
23 05 93 00-0073 Hydrostatic Testing (23 05 93 00-0046)		
Note: Includes flushing and restoring of system.		
23 05 93 00-0074 Piping, Hydrostatic Testing (23 05 93 00-0073)		
23 05 93 00-0075 EA Up To 100', Up To 1-1/2" Piping, Hydrostatic Testing 733.33		
23 05 93 00-0076 EA >100' To 250', Up To 1-1/2" Piping, Hydrostatic Testing 1,047.60		
23 05 93 00-0077 EA >250' To 500', Up To 1-1/2" Piping, Hydrostatic Testing 1,255.23		
23 05 93 00-0078 EA >500' To 1,000', Up To 1-1/2" Piping, Hydrostatic Testing 1,671.98		
23 05 93 00-0079 EA >1,000' To 2,000', Up To 1-1/2" Piping, Hydrostatic Testing 2,533.30		
23 05 93 00-0080 EA Up To 100', >1-1/2" To 4" Piping, Hydrostatic Testing 975.03		
23 05 93 00-0081 EA >100' To 250', >1-1/2" To 4" Piping, Hydrostatic Testing 1,393.31		
23 05 93 00-0082 EA >250' To 500', >1-1/2" To 4" Piping, Hydrostatic Testing 1,658.71		
23 05 93 00-0083 EA >500' To 1,000', >1-1/2" To 4" Piping, Hydrostatic Testing 2,173.55		
23 05 93 00-0084 EA >1,000' To 2,000', >1-1/2" To 4" Piping, Hydrostatic Testing 3,288.21		
23 05 93 00-0085 EA Up To 100', >4" To 10" Piping, Hydrostatic Testing 1,270.70		
23 05 93 00-0086 EA >100' To 250', >4" To 10" Piping, Hydrostatic Testing 1,811.31		
23 05 93 00-0087 EA >250' To 500', >4" To 10" Piping, Hydrostatic Testing 1,911.06		
23 05 93 00-0088 EA >500' To 1,000', >4" To 10" Piping, Hydrostatic Testing 2,503.64		
23 05 93 00-0089 EA >1,000' To 2,000', >4" To 10" Piping, Hydrostatic Testing 3,787.53		
23 05 93 00-0090 EA Up To 100', >10" To 14" Piping, Hydrostatic Testing 1,649.69		
23 05 93 00-0091 EA >100' To 250', >10" To 14" Piping, Hydrostatic Testing 2,351.91		
23 05 93 00-0092 EA >250' To 500', >10" To 14" Piping, Hydrostatic Testing 2,484.86		
23 05 93 00-0093 EA >500' To 1,000', >10" To 14" Piping, Hydrostatic Testing 3,259.16		
23 05 93 00-0094 EA >1,000' To 2,000', >10" To 14" Piping, Hydrostatic Testing 4,938.13		
23 05 93 00-0095 Pneumatic Testing (23 05 93 00-0046)		
Note: Includes soaping joints flushing and restoring of system. Can be used for gas or smoke test.		
23 05 93 00-0096 Piping, Pneumatic Testing (23 05 93 00-0095)		
23 05 93 00-0097 EA Up To 100', Up To 1-1/2" Piping, Pneumatic Testing 834.49 Note: Includes soaping joints.		
23 05 93 00-0098 EA >100' To 250', Up To 1-1/2" Piping, Pneumatic Testing 1,190.50 Note: Includes soaping joints.		
23 05 93 00-0099 EA >250' To 500', Up To 1-1/2" Piping, Pneumatic Testing 1,286.60 Note: Includes soaping joints.		
23 05 93 00-0100 EA >500' To 1,000', Up To 1-1/2" Piping, Pneumatic Testing 1,648.73 Note: Includes soaping joints.		
23 05 93 00-0101 EA >1,000' To 2,000', Up To 1-1/2" Piping, Pneumatic Testing 2,579.85 Note: Includes soaping joints.		
23 05 93 00-0102 EA Up To 100', >1-1/2" To 4" Piping, Pneumatic Testing 1,088.86 Note: Includes soaping joints.		
23 05 93 00-0103 EA >100' To 250', >1-1/2" To 4" Piping, Pneumatic Testing 1,545.86 Note: Includes soaping joints.		
23 05 93 00-0104 EA >250' To 500', >1-1/2" To 4" Piping, Pneumatic Testing 1,672.41 Note: Includes soaping joints.		
23 05 93 00-0105 EA >500' To 1,000', >1-1/2" To 4" Piping, Pneumatic Testing 2,143.67 Note: Includes soaping joints.		
23 05 93 00-0106 EA >1,000' To 2,000', >1-1/2" To 4" Piping, Pneumatic Testing 3,353.09 Note: Includes soaping joints.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 93 Testing, Adjusting, and Balancing for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0107	EA	Up To 100', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	1,311.42	
23 05 93 00-0108	EA	>100' To 250', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	1,850.41	
23 05 93 00-0109	EA	>250' To 500', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	2,093.77	
23 05 93 00-0110	EA	>500' To 1,000', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	2,676.48	
23 05 93 00-0111	EA	>1,000' To 2,000', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	4,192.52	
23 05 93 00-0112	EA	Up To 100', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	1,707.67	
23 05 93 00-0113	EA	>100' To 250', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	2,405.77	
23 05 93 00-0114	EA	>250' To 500', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	2,722.89	
23 05 93 00-0115	EA	>500' To 1,000', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	3,480.43	
23 05 93 00-0116	EA	>1,000' To 2,000', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	5,459.69	
23 05 93 00-0117		EPA Testing Of Sludge (23 05 93)		
23 05 93 00-0118	EA	Flashpoint And Lead Test For Lead.....	1,019.08	
23 05 93 00-0119	EA	Air Test/Combustion Gas Level.....	97.98	
23 05 93 00-0120	EA	Toxicity Test For Heavy Metals.....	1,565.01	
23 05 93 00-0121	EA	Aboveground Tank Water Settlement Test Including Water.....	1,186.46	

23 07 HVAC Insulation (23)**23 07 13 Duct Insulation (23 07)**

Note: Based on SF surface area of duct to receive insulation.

23 07 13 00-0001 FSK Fiber Glass Duct Wrap Insulation (23 07 13)

Note: Foil-scrim kraft (FSK) facing lapped and joints sealed vapor tight.

23 07 13 00-0002 Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0003	SF	1" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	3.79	2.16
		For Plain Blanket, With No Facing, Deduct	-0.37	
		For Work In Restricted Working Space, Add	0.86	
23 07 13 00-0004	SF	1-1/2" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.41	2.16
		For Plain Blanket, With No Facing, Deduct	-0.42	
		For Work In Restricted Working Space, Add	1.01	
23 07 13 00-0005	SF	2" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.98	3.22
		For Plain Blanket, With No Facing, Deduct	-0.46	
		For Work In Restricted Working Space, Add	1.15	
23 07 13 00-0006	SF	3" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	5.91	3.77
		For Plain Blanket, With No Facing, Deduct	-0.57	
		For Work In Restricted Working Space, Add	1.35	
23 07 13 00-0007	SF	4" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	7.08	4.09
		For Plain Blanket, With No Facing, Deduct	-0.90	
		For Work In Restricted Working Space, Add	1.45	

23 07 13 00-0008 Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0009	SF	1" Thick, Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.64	3.22
		For Plain Blanket, With No Facing, Deduct	-0.42	
		For Work In Restricted Working Space, Add	1.08	
23 07 13 00-0010	SF	1-1/2" Thick, Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation	5.42	3.77
		For Plain Blanket, With No Facing, Deduct	-0.51	
		For Work In Restricted Working Space, Add	1.24	
23 07 13 00-0011	SF	2" Thick, Type 100 (1.0 LB/CF) Fiber Glass FSK Duct Wrap Insulation	6.40	4.30
		For Plain Blanket, With No Facing, Deduct	-0.60	
		For Work In Restricted Working Space, Add	1.47	

23 07 13 00-0012 Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0013	SF	1" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	6.10	4.30
		For Plain Blanket, With No Facing, Deduct	-0.71	
		For Work In Restricted Working Space, Add	1.30	
23 07 13 00-0014	SF	1-1/2" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	8.04	4.84
		For Plain Blanket, With No Facing, Deduct	-1.24	
		For Work In Restricted Working Space, Add	1.48	
23 07 13 00-0015	SF	2" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	9.39	5.38
		For Plain Blanket, With No Facing, Deduct	-1.46	
		For Work In Restricted Working Space, Add	1.72	

23 07 13 00-0016 3 LB/CF FSK Rigid Fiber Glass Board Insulation (23 07 13)

Note: Foil-scrim kraft (FSK) facing, sealed vapor tight and attached to ducts with mechanical fasteners.



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Insulation 23 07

Duct Insulation 23 07 13

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 13 00-0017 SF 1" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation..... For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	10.20 23.38 17.36 14.30 2.87	5.81
23 07 13 00-0018 SF 1-1/2" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	13.14 28.95 21.86 17.97 3.49	7.07
23 07 13 00-0019 SF 2" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation..... For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	16.41 35.32 26.93 22.00 4.21	8.54
23 07 13 00-0020 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation (23 07 13) Note: Foil-scrim kraft (FSK) facing, sealed vapor tight and attached to ducts with mechanical fastener.		
23 07 13 00-0021 SF 1" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation..... For Work In Restricted Working Space, Add	11.47 3.15	6.40
23 07 13 00-0022 SF 1-1/2" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation For Work In Restricted Working Space, Add	14.93 3.83	7.78
23 07 13 00-0023 SF 2" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation..... For Work In Restricted Working Space, Add	19.21 4.63	9.39
23 07 13 00-0024 Sheet Flexible Elastomeric Insulation (23 07 13)		
23 07 13 00-0025 SF 3/8" Thick, Sheet Flexible Elastomeric Insulation.....	8.89	2.90
23 07 13 00-0026 SF 1/2" Thick, Sheet Flexible Elastomeric Insulation.....	9.51	3.06
23 07 13 00-0027 SF 3/4" Thick, Sheet Flexible Elastomeric Insulation.....	12.52	3.22
23 07 13 00-0028 SF 1" Thick, Sheet Flexible Elastomeric Insulation.....	14.45	3.38
23 07 13 00-0029 SF 1-1/2" Thick, Sheet Flexible Elastomeric Insulation.....	20.08	3.71
23 07 13 00-0030 SF 2" Thick, Sheet Flexible Elastomeric Insulation.....	23.77	4.03
23 07 13 00-0031 Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation (23 07 13) Note: Jacketing is a 3-ply laminate consisting of a PVC core, 0.012" thick aluminum foil jacketing and UV-protective Mylar film.		
23 07 13 00-0032 SF 1/2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	13.25	3.06
23 07 13 00-0033 SF 3/4" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	14.58	3.22
23 07 13 00-0034 SF 1" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	16.25	3.38
23 07 13 00-0035 SF 1-1/2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	25.46	3.71
23 07 13 00-0036 SF 2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	30.19	4.03
23 07 13 00-0037 Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation (23 07 13) Note: Jacketing is a 3-ply laminate consisting of a PVC core, 0.012" thick aluminum foil jacketing and UV-protective Mylar film.		
23 07 13 00-0038 SF 1/2" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	15.91	3.06
23 07 13 00-0039 SF 3/4" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	17.24	3.22
23 07 13 00-0040 SF 1" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	19.38	3.38
23 07 13 00-0041 SF 1-1/2" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	28.55	3.71
23 07 13 00-0042 Fully Foil Encapsulated Pyroscat DuctWrap XL Insulation (23 07 13) Note: Fire rated insulation. Includes stainless steel bands.		
23 07 13 00-0043 SF 1-1/2", 6 LB/CF, Fully Foil Encapsulated Pyroscat DuctWrap XL Insulation..... For Work In Restricted Working Space, Add	17.70 1.48	4.84
23 07 13 00-0044 SF Two Layers, 1-1/2", 6 LB/CF, Fully Foil Encapsulated Pyroscat DuctWrap XL Insulation For Work In Restricted Working Space, Add	32.71 2.37	7.89
23 07 16 HVAC Equipment Insulation (23 07)		
23 07 16 00-0001 Calcium Silicate Block Insulation (23 07 16)		
23 07 16 00-0002 SF 1" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	17.41 4.19	6.98
23 07 16 00-0003 SF 1-1/2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	20.88 4.72	7.86
23 07 16 00-0004 SF 2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	25.08 5.46	9.06
23 07 16 00-0005 SF 2-1/2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	29.90 6.39	10.64
23 07 16 00-0006 SF 3" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	36.52 7.86	13.10
23 07 19 HVAC Piping Insulation (23 07) See CSI section 22 07 19 00-0000 for pipe insulation.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 07 HVAC Insulation****23 07 19 HVAC Piping Insulation**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 07 19 00-0001	Calcium Silicate Pipe Insulation (23 07 19)		
Note: Includes adhesive. Excludes fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint. See CSI section 22 07 19 00-0594 for protective jacketing.			
23 07 19 00-0002	1" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0003	LF 1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation	13.41	3.54
	For Work In Restricted Working Space, Add	2.65	
23 07 19 00-0004	LF 3/4" Diameter Pipe, 1" Thick Calcium Silicate Insulation	13.41	3.54
	For Work In Restricted Working Space, Add	2.65	
23 07 19 00-0005	LF 1" Diameter Pipe, 1" Thick Calcium Silicate Insulation	13.34	3.59
	For Work In Restricted Working Space, Add	2.69	
23 07 19 00-0006	LF 1-1/4" Diameter Pipe, 1" Thick Calcium Silicate Insulation	13.54	3.64
	For Work In Restricted Working Space, Add	2.73	
23 07 19 00-0007	LF 1-1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation	13.71	3.69
	For Work In Restricted Working Space, Add	2.77	
23 07 19 00-0008	LF 2" Diameter Pipe, 1" Thick Calcium Silicate Insulation	14.65	3.79
	For Work In Restricted Working Space, Add	2.84	
23 07 19 00-0009	LF 2-1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation	15.33	3.95
	For Work In Restricted Working Space, Add	2.96	
23 07 19 00-0010	LF 3" Diameter Pipe, 1" Thick Calcium Silicate Insulation	15.99	4.05
	For Work In Restricted Working Space, Add	3.03	
23 07 19 00-0011	LF 4" Diameter Pipe, 1" Thick Calcium Silicate Insulation	18.23	4.35
	For Work In Restricted Working Space, Add	3.26	
23 07 19 00-0012	LF 6" Diameter Pipe, 1" Thick Calcium Silicate Insulation	20.31	4.92
	For Work In Restricted Working Space, Add	3.68	
23 07 19 00-0013	1-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0014	LF 1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	14.03	3.69
	For Work In Restricted Working Space, Add	2.76	
23 07 19 00-0015	LF 3/4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	14.11	3.69
	For Work In Restricted Working Space, Add	2.76	
23 07 19 00-0016	LF 1" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	15.10	3.90
	For Work In Restricted Working Space, Add	2.93	
23 07 19 00-0017	LF 1-1/4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	15.70	3.98
	For Work In Restricted Working Space, Add	2.98	
23 07 19 00-0018	LF 1-1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	16.31	4.05
	For Work In Restricted Working Space, Add	3.04	
23 07 19 00-0019	LF 2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	17.50	4.27
	For Work In Restricted Working Space, Add	3.20	
23 07 19 00-0020	LF 2-1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	18.31	4.34
	For Work In Restricted Working Space, Add	3.26	
23 07 19 00-0021	LF 3" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	19.01	4.49
	For Work In Restricted Working Space, Add	3.37	
23 07 19 00-0022	LF 4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	21.15	4.86
	For Work In Restricted Working Space, Add	3.64	
23 07 19 00-0023	LF 6" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	24.54	5.67
	For Work In Restricted Working Space, Add	4.25	
23 07 19 00-0024	LF 8" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	28.70	5.98
	For Work In Restricted Working Space, Add	4.49	
23 07 19 00-0025	LF 10" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	36.09	7.16
	For Work In Restricted Working Space, Add	5.37	
23 07 19 00-0026	LF 12" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	42.42	8.34
	For Work In Restricted Working Space, Add	6.26	
23 07 19 00-0027	LF 14" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	47.23	9.15
	For Work In Restricted Working Space, Add	6.86	
23 07 19 00-0028	LF 16" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	56.38	11.64
	For Work In Restricted Working Space, Add	8.73	
23 07 19 00-0029	LF 18" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation	60.71	12.22
	For Work In Restricted Working Space, Add	9.16	
23 07 19 00-0030	2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0031	LF 1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation	17.73	4.05
	For Work In Restricted Working Space, Add	3.03	
23 07 19 00-0032	LF 3/4" Diameter Pipe, 2" Thick Calcium Silicate Insulation	18.14	4.05
	For Work In Restricted Working Space, Add	3.03	
23 07 19 00-0033	LF 1" Diameter Pipe, 2" Thick Calcium Silicate Insulation	18.71	4.10
	For Work In Restricted Working Space, Add	3.08	
23 07 19 00-0034	LF 1-1/4" Diameter Pipe, 2" Thick Calcium Silicate Insulation	19.45	4.15
	For Work In Restricted Working Space, Add	3.11	
23 07 19 00-0035	LF 1-1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation	19.96	4.20
	For Work In Restricted Working Space, Add	3.15	
23 07 19 00-0036	LF 2" Diameter Pipe, 2" Thick Calcium Silicate Insulation	20.81	4.35
	For Work In Restricted Working Space, Add	3.26	
23 07 19 00-0037	LF 2-1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation	23.22	4.50
	For Work In Restricted Working Space, Add	3.38	
23 07 19 00-0038	LF 3" Diameter Pipe, 2" Thick Calcium Silicate Insulation	23.65	4.66
	For Work In Restricted Working Space, Add	3.50	
23 07 19 00-0039	LF 4" Diameter Pipe, 2" Thick Calcium Silicate Insulation	26.16	4.92
	For Work In Restricted Working Space, Add	3.69	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Insulation 23 07

HVAC Piping Insulation 23 07 19

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 19 00-0040 LF 6" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	32.05 4.43	5.90
23 07 19 00-0041 LF 8" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	36.17 4.67	6.23
23 07 19 00-0042 LF 10" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	44.51 5.59	7.45
23 07 19 00-0043 LF 12" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	51.07 6.89	8.93
23 07 19 00-0044 LF 14" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	62.75 9.34	12.45
23 07 19 00-0045 LF 16" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	65.99 9.34	12.45
23 07 19 00-0046 LF 18" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	70.71 9.80	13.08
23 07 19 00-0047 LF 20" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	84.19 11.21	14.94
23 07 19 00-0048 LF 24" Diameter Pipe, 2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	98.13 13.54	18.05
23 07 19 00-0049 2-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0050 LF 1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	21.25 3.50	4.66
23 07 19 00-0051 LF 3/4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	21.68 3.50	4.66
23 07 19 00-0052 LF 1" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	22.07 3.56	4.74
23 07 19 00-0053 LF 1-1/4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	22.28 3.59	4.78
23 07 19 00-0054 LF 1-1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	22.84 3.61	4.82
23 07 19 00-0055 LF 2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	23.80 3.76	5.02
23 07 19 00-0056 LF 2-1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	26.70 3.89	5.19
23 07 19 00-0057 LF 3" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	27.16 4.03	5.37
23 07 19 00-0058 LF 4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	31.29 4.25	5.66
23 07 19 00-0059 LF 6" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	38.89 4.82	6.43
23 07 19 00-0060 LF 8" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	44.36 5.38	7.17
23 07 19 00-0061 LF 10" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	52.94 6.20	8.27
23 07 19 00-0062 LF 12" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	61.69 7.71	10.28
23 07 19 00-0063 LF 14" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	68.23 8.42	11.22
23 07 19 00-0064 LF 16" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	82.91 10.76	14.35
23 07 19 00-0065 LF 18" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	87.56 11.30	15.06
23 07 19 00-0066 LF 20" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	101.54 12.91	17.22
23 07 19 00-0067 LF 24" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	119.37 15.60	20.79
23 07 19 00-0068 3" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0069 LF 1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	26.72 3.87	5.17
23 07 19 00-0070 LF 3/4" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	26.82 3.87	5.17
23 07 19 00-0071 LF 1" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	27.06 3.92	5.22
23 07 19 00-0072 LF 1-1/4" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	27.35 3.94	5.25
23 07 19 00-0073 LF 1-1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	27.60 3.98	5.31
23 07 19 00-0074 LF 2" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	28.54 4.13	5.51
23 07 19 00-0075 LF 2-1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	31.62 4.27	5.69
23 07 19 00-0076 LF 3" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	32.27 4.43	5.90
23 07 19 00-0077 LF 4" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	37.95 4.67	6.23
23 07 19 00-0078 LF 6" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	44.97 5.30	7.07
23 07 19 00-0079 LF 8" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	52.22 5.91	7.88
23 07 19 00-0080 LF 10" Diameter Pipe, 3" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	61.99 6.82	9.10

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 07 HVAC Insulation****23 07 19 HVAC Piping Insulation**

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 07 19 00-0081	LF 12" Diameter Pipe, 3" Thick Calcium Silicate Insulation	71.69		11.30	
	<i>For Work In Restricted Working Space, Add</i>	8.48			
23 07 19 00-0082	LF 14" Diameter Pipe, 3" Thick Calcium Silicate Insulation	79.55		12.34	
	<i>For Work In Restricted Working Space, Add</i>	9.26			
23 07 19 00-0083	LF 16" Diameter Pipe, 3" Thick Calcium Silicate Insulation	93.23		15.78	
	<i>For Work In Restricted Working Space, Add</i>	11.83			
23 07 19 00-0084	LF 18" Diameter Pipe, 3" Thick Calcium Silicate Insulation	100.49		16.56	
	<i>For Work In Restricted Working Space, Add</i>	12.42			
23 07 19 00-0085	LF 20" Diameter Pipe, 3" Thick Calcium Silicate Insulation	117.61		18.94	
	<i>For Work In Restricted Working Space, Add</i>	14.21			
23 07 19 00-0086	LF 24" Diameter Pipe, 3" Thick Calcium Silicate Insulation	139.17		22.88	
	<i>For Work In Restricted Working Space, Add</i>	17.16			
23 07 19 00-0087 3-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)					
23 07 19 00-0088	LF 1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	33.96		5.66	
	<i>For Work In Restricted Working Space, Add</i>	4.25			
23 07 19 00-0089	LF 3/4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	35.21		5.66	
	<i>For Work In Restricted Working Space, Add</i>	4.25			
23 07 19 00-0090	LF 1" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	35.30		5.69	
	<i>For Work In Restricted Working Space, Add</i>	4.27			
23 07 19 00-0091	LF 1-1/4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	35.40		5.73	
	<i>For Work In Restricted Working Space, Add</i>	4.30			
23 07 19 00-0092	LF 1-1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	36.50		5.80	
	<i>For Work In Restricted Working Space, Add</i>	4.36			
23 07 19 00-0093	LF 2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	38.71		6.00	
	<i>For Work In Restricted Working Space, Add</i>	4.50			
23 07 19 00-0094	LF 2-1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	42.00		6.22	
	<i>For Work In Restricted Working Space, Add</i>	4.66			
23 07 19 00-0095	LF 3" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	43.49		6.44	
	<i>For Work In Restricted Working Space, Add</i>	4.82			
23 07 19 00-0096	LF 4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	49.49		6.80	
	<i>For Work In Restricted Working Space, Add</i>	5.10			
23 07 19 00-0097	LF 6" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	55.22		7.72	
	<i>For Work In Restricted Working Space, Add</i>	5.79			
23 07 19 00-0098	LF 8" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	67.17		8.59	
	<i>For Work In Restricted Working Space, Add</i>	6.45			
23 07 19 00-0099	LF 10" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	81.57		9.92	
	<i>For Work In Restricted Working Space, Add</i>	7.44			
23 07 19 00-0100	LF 12" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	98.79		12.33	
	<i>For Work In Restricted Working Space, Add</i>	9.25			
23 07 19 00-0101	LF 14" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	104.13		13.47	
	<i>For Work In Restricted Working Space, Add</i>	10.10			
23 07 19 00-0102	LF 16" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	121.58		17.21	
	<i>For Work In Restricted Working Space, Add</i>	12.91			
23 07 19 00-0103	LF 18" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	139.47		18.07	
	<i>For Work In Restricted Working Space, Add</i>	13.55			
23 07 19 00-0104	LF 20" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation	150.64		20.67	
	<i>For Work In Restricted Working Space, Add</i>	15.50			
23 07 19 00-0105 4" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)					
23 07 19 00-0106	LF 1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation	42.33		6.29	
	<i>For Work In Restricted Working Space, Add</i>	4.72			
23 07 19 00-0107	LF 3/4" Diameter Pipe, 4" Thick Calcium Silicate Insulation	42.37		6.29	
	<i>For Work In Restricted Working Space, Add</i>	4.72			
23 07 19 00-0108	LF 1" Diameter Pipe, 4" Thick Calcium Silicate Insulation	42.64		6.40	
	<i>For Work In Restricted Working Space, Add</i>	4.80			
23 07 19 00-0109	LF 1-1/4" Diameter Pipe, 4" Thick Calcium Silicate Insulation	43.80		6.47	
	<i>For Work In Restricted Working Space, Add</i>	4.85			
23 07 19 00-0110	LF 1-1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation	46.36		6.67	
	<i>For Work In Restricted Working Space, Add</i>	5.00			
23 07 19 00-0111	LF 2" Diameter Pipe, 4" Thick Calcium Silicate Insulation	47.34		6.88	
	<i>For Work In Restricted Working Space, Add</i>	5.16			
23 07 19 00-0112	LF 2-1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation	51.64		6.98	
	<i>For Work In Restricted Working Space, Add</i>	5.24			
23 07 19 00-0113	LF 3" Diameter Pipe, 4" Thick Calcium Silicate Insulation	53.13		7.24	
	<i>For Work In Restricted Working Space, Add</i>	5.43			
23 07 19 00-0114	LF 4" Diameter Pipe, 4" Thick Calcium Silicate Insulation	60.26		7.65	
	<i>For Work In Restricted Working Space, Add</i>	5.73			
23 07 19 00-0115	LF 6" Diameter Pipe, 4" Thick Calcium Silicate Insulation	69.69		8.67	
	<i>For Work In Restricted Working Space, Add</i>	6.51			
23 07 19 00-0116	LF 8" Diameter Pipe, 4" Thick Calcium Silicate Insulation	82.96		9.67	
	<i>For Work In Restricted Working Space, Add</i>	7.25			
23 07 19 00-0117	LF 10" Diameter Pipe, 4" Thick Calcium Silicate Insulation	95.54		11.17	
	<i>For Work In Restricted Working Space, Add</i>	8.38			
23 07 19 00-0118	LF 12" Diameter Pipe, 4" Thick Calcium Silicate Insulation	108.91		13.87	
	<i>For Work In Restricted Working Space, Add</i>	10.41			
23 07 19 00-0119	LF 14" Diameter Pipe, 4" Thick Calcium Silicate Insulation	115.88		15.16	
	<i>For Work In Restricted Working Space, Add</i>	11.37			
23 07 19 00-0120	LF 16" Diameter Pipe, 4" Thick Calcium Silicate Insulation	137.37		19.38	
	<i>For Work In Restricted Working Space, Add</i>	14.54			
23 07 19 00-0121	LF 18" Diameter Pipe, 4" Thick Calcium Silicate Insulation	146.05		20.31	
	<i>For Work In Restricted Working Space, Add</i>	15.23			



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Insulation 23 07

HVAC Piping Insulation 23 07 19

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MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 19 00-0122	LF	20" Diameter Pipe, 4" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add		161.72 17.43	23.24
23 07 19 00-0123		Weather-Protective Coating For Calcium Silicate Pipe Insulation (23 07 19 00-0001)			
23 07 19 00-0124	SF	1/4" Thick (Two 1/8" Coats), Weatherproof Coating Over Glass Cloth Mesh (Insulkote ET) For Work In Restricted Working Space, Add		5.69 1.00	
23 08 Commissioning of HVAC (23)					
See CSI section 23 05 93 00-0000 for testing and balancing.					
23 09 Instrumentation and Control for HVAC (23)					
23 09 23 Direct-Digital Control System for HVAC (23 09)					
23 09 23 11 Control Valves (23 09 23)					
23 09 23 11-0001 Valves With Actuator (23 09 23 11)					
23 09 23 11-0002	EA	1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G215+NV24-MFT US)		816.86	14.38
23 09 23 11-0003	EA	3/4" 2-Way Bronze Globe Valve With Actuator (Belimo G220+NV24-MFT US)		842.17	19.39
23 09 23 11-0004	EA	1" 2-Way Bronze Globe Valve With Actuator (Belimo B225+NV24-MFT US)		920.43	23.47
23 09 23 11-0005	EA	1-1/4" 2-Way Bronze Globe Valve With Actuator (Belimo B232+NV24-MFT US)		1,002.02	29.72
23 09 23 11-0006	EA	1-1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G240+NV24-MFT US)		1,141.15	34.30
23 09 23 11-0007	EA	2" 2-Way Bronze Globe Valve With Actuator (Belimo G250+NV24-MFT US)		1,288.68	40.53
23 09 23 11-0008	EA	2-1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G665+GMX24-MFTX1)		2,407.08	81.07
23 09 23 11-0009	EA	3" 2-Way Bronze Globe Valve With Actuator (Belimo G680+GMX24-MFTX1)		2,605.43	94.86
23 09 23 11-0010	EA	4" 2-Way Bronze Globe Valve With Actuator (Belimo G6100C+GMX24-MFTX1)		3,510.27	139.33
23 09 23 11-0011	EA	5" 2-Way Bronze Globe Valve With Actuator (Belimo G6125C+GMX24-MFTX1)		5,165.44	201.36
23 09 23 11-0012	EA	6" 2-Way Bronze Globe Valve With Actuator (Belimo G6150C+GMX24-MFTX1)		5,721.55	222.93
23 09 23 11-0013	EA	1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G315+NV24-MFT US)		875.28	21.57
23 09 23 11-0014	EA	3/4" 3-Way Bronze Globe Valve With Actuator (Belimo G320+NV24-MFT US)		898.29	29.08
23 09 23 11-0015	EA	1" 3-Way Bronze Globe Valve With Actuator (Belimo G325+NV24-MFT US)		971.04	35.20
23 09 23 11-0016	EA	1-1/4" 3-Way Bronze Globe Valve With Actuator (Belimo G332+NV24-MFT US)		1,073.26	44.59
23 09 23 11-0017	EA	1-1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G340+NV24-MFT US)		1,381.90	51.45
23 09 23 11-0018	EA	2" 3-Way Bronze Globe Valve With Actuator (Belimo G350+NV24-MFT US)		1,530.81	60.80
23 09 23 11-0019	EA	2-1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G765+GMX24-MFTX1)		2,695.67	121.60
23 09 23 11-0020	EA	3" 3-Way Bronze Globe Valve With Actuator (Belimo G780+GMX24-MFTX1)		2,958.07	142.30
23 09 23 11-0021	EA	4" 3-Way Bronze Globe Valve With Actuator (Belimo G7100+2"GMX24-MFTX1)		4,303.53	208.99
23 09 23 11-0022	EA	5" 3-Way Bronze Globe Valve With Actuator (Belimo G7125+2"GMX24-MFTX1)		6,242.76	302.03
23 09 23 11-0023	EA	6" 3-Way Bronze Globe Valve With Actuator (Belimo G7150+2"GMX24-MFTX1)		6,940.74	334.40
23 09 23 11-0024	EA	1/2" Two Way Brass Zone Valve With Actuator (Belimo ZONE215N-35+ZONE24NC)		132.80	14.38
23 09 23 11-0025	EA	3/4" Two Way Brass Zone Valve With Actuator (Belimo ZONE220N-50+ZONE24NC)		156.17	19.39
23 09 23 11-0026	EA	1" Two Way Brass Zone Valve With Actuator (Belimo ZONE225N-80+ZONE24NC)		196.93	23.47
23 09 23 11-0027	EA	1/2" Two Way Brass Zone Valve With Actuator (Belimo ZONE315N-35+ZONE24NC)		161.65	21.57
23 09 23 11-0028	EA	3/4" Two Way Brass Zone Valve With Actuator (Belimo ZONE320N-50+ZONE24NC)		188.18	29.08
23 09 23 11-0029	EA	1" Two Way Brass Zone Valve With Actuator (Belimo ZONE325N-80+ZONE24NC)		235.58	35.20
23 09 23 11-0030	EA	1/2" 2-Way Brass Ball Valve With Actuator (Belimo B215B+LRB24-3)		222.88	14.38
23 09 23 11-0031	EA	3/4" 2-Way Brass Ball Valve With Actuator (Belimo B220B+LRB24-3)		263.76	19.39
23 09 23 11-0032	EA	1" 2-Way Brass Ball Valve With Actuator (Belimo B225+LRB24-3)		299.74	23.47
23 09 23 11-0033	EA	1-1/4" 2-Way Brass Ball Valve With Actuator (Belimo B232+ARB24-3)		390.15	29.72
23 09 23 11-0034	EA	1-1/2" 2-Way Brass Ball Valve With Actuator (Belimo B240+ARB24-3)		402.87	34.30
23 09 23 11-0035	EA	2" 2-Way Brass Ball Valve With Actuator (Belimo B250+ARB24-3)		513.86	40.53
23 09 23 11-0036	EA	2-1/2" 2-Way Brass Ball Valve With Actuator (Belimo B265+ARB24-3)		1,105.06	81.07
23 09 23 11-0037	EA	3" 2-Way Brass Ball Valve With Actuator (Belimo B280+ARB24-3)		1,297.50	94.86
23 09 23 11-0038	EA	1/2" 3-Way Brass Ball Valve With Actuator (Belimo B315B+LRB24-3)		269.24	21.57
23 09 23 11-0039	EA	3/4" 3-Way Brass Ball Valve With Actuator (Belimo B320B+LRB24-3)		310.54	29.08
23 09 23 11-0040	EA	1" 3-Way Brass Ball Valve With Actuator (Belimo B325+LRB24-3)		401.26	35.20
23 09 23 11-0041	EA	1-1/4" 3-Way Brass Ball Valve With Actuator (Belimo B331+ARB24-3)		570.40	44.59
23 09 23 11-0042	EA	1-1/2" 3-Way Brass Ball Valve With Actuator (Belimo B341+ARB24-3)		600.43	51.45
23 09 23 11-0043	EA	2" 3-Way Brass Ball Valve With Actuator (Belimo B352+ARB24-3)		797.21	60.80
23 09 23 11-0044	EA	2" 2-Way Butterfly Valve With Actuator (Belimo F650HD+AMB24-3X1)		646.01	74.31
23 09 23 11-0045	EA	2-1/2" 2-Way Butterfly Valve With Actuator (Belimo F665HD+AMB24-3X1)		677.72	81.07
23 09 23 11-0046	EA	3" 2-Way Butterfly Valve With Actuator (Belimo F680HD+GMB24-3X1)		893.35	94.86
23 09 23 11-0047	EA	4" 2-Way Butterfly Valve With Actuator (Belimo F6100HD+2"GMB24-3X1)		1,361.09	159.24
23 09 23 11-0048	EA	5" 2-Way Butterfly Valve With Actuator (Belimo F6125HD+SY2-24)		2,764.56	201.36
23 09 23 11-0049	EA	6" 2-Way Butterfly Valve With Actuator (Belimo F6150HD+SY3-24)		2,914.53	222.93
23 09 23 11-0050	EA	8" 2-Way Butterfly Valve With Actuator (Belimo F6200HD+SY4-24)		3,974.54	254.78
23 09 23 11-0051	EA	10" 2-Way Butterfly Valve With Actuator (Belimo F6250HD+SY4-24)		4,876.52	312.11
23 09 23 11-0052	EA	12" 2-Way Butterfly Valve With Actuator (Belimo F6300HS+SY4-24)		6,028.23	378.31
23 09 23 11-0053	EA	14" 2-Way Butterfly Valve With Actuator (Belimo F6350HD+SY5-24)		6,693.43	445.86
23 09 23 11-0054	EA	16" 2-Way Butterfly Valve With Actuator (Belimo F6400HD+SY6-110)		8,872.67	490.45
23 09 23 11-0055	EA	18" 2-Way Butterfly Valve With Actuator (Belimo F6450HD+SY8-110)		10,763.83	544.84
23 09 23 11-0056	EA	2" 3-Way Butterfly Valve With Actuator (Belimo F750HD+AMB24-3X1)		1,199.13	111.47
23 09 23 11-0057	EA	2-1/2" 3-Way Butterfly Valve With Actuator (Belimo F765HD+GMB24-3X1)		1,414.59	121.60
23 09 23 11-0058	EA	3" 3-Way Butterfly Valve With Actuator (Belimo F780HD+2"GMB24-3X1)		1,748.01	142.30
23 09 23 11-0059	EA	4" 3-Way Butterfly Valve With Actuator (Belimo F7100HD+2"GMB24-3X1)		2,230.49	238.85
23 09 23 11-0060	EA	5" 3-Way Butterfly Valve With Actuator (Belimo F7125HD+SY3-24)		4,608.34	302.03
23 09 23 11-0061	EA	6" 3-Way Butterfly Valve With Actuator (Belimo F7150HD+SY3-24)		4,766.60	334.40
23 09 23 11-0062	EA	8" 3-Way Butterfly Valve With Actuator (Belimo F7200HD+SY4-24)		6,017.32	382.21
23 09 23 11-0063	EA	10" 3-Way Butterfly Valve With Actuator (Belimo F7250HD+SY4-24)		7,973.20	468.15

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 11-0064	EA	12" 3-Way Butterfly Valve With Actuator (Belimo F7300HD+SY5-24).....	9,691.73	567.46
23 09 23 11-0065	EA	14" 3-Way Butterfly Valve With Actuator (Belimo F7350HD+SY6-110).....	15,171.25	668.79
23 09 23 11-0066	EA	16" 3-Way Butterfly Valve With Actuator (Belimo F7400HD+SY7-110).....	16,918.93	735.67
23 09 23 11-0067	EA	18" 3-Way Butterfly Valve With Actuator (Belimo F7450HD+SY8-110).....	26,108.25	817.27

23 09 23 11-0068 Valve Actuators (23 09 23 11)

23 09 23 11-0069	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Terminal Strip, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3-T).....	441.07	92.09
23 09 23 11-0070	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 95 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3).....	448.13	92.09
23 09 23 11-0071	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, Terminal Strip, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-SR-T).....	565.69	92.09
23 09 23 11-0072	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Auxiliary Switch, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3-S).....	506.80	92.09
23 09 23 11-0073	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-SR).....	517.11	92.09
23 09 23 11-0074	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, 150 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-MFT).....	584.80	92.09
23 09 23 11-0075	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 2.5 Seconds Run Time, 35 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRQX24-1).....	725.13	92.09
23 09 23 11-0076	EA	24 Volt AC/DC Power Supply, 0-135 Ohms Control Input, 150 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-MFT95).....	741.40	92.09
23 09 23 11-0077	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, 2.5 Seconds Run Time, 35 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRQX24-MFT).....	780.61	92.09
23 09 23 11-0078	EA	120 Volt AC Power Supply, On/Off/Floating Point Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX120-3).....	549.07	92.09
23 09 23 11-0079	EA	120 Volt AC Power Supply, 2-10 Volt DC Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX120-SR).....	631.36	92.09
23 09 23 11-0080	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Terminal Strip, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3-T).....	551.26	92.09
23 09 23 11-0081	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3).....	561.59	92.09
23 09 23 11-0082	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARB24-3-5-14).....	565.46	92.09
23 09 23 11-0083	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Auxiliary Switch, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3-S).....	635.71	92.09
23 09 23 11-0084	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR-T).....	666.01	92.09
23 09 23 11-0085	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR).....	682.11	92.09
23 09 23 11-0086	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, Variable Run Time (90 To 350 Seconds), 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT).....	678.91	92.09
23 09 23 11-0087	EA	24 Volt AC/DC Power Supply, Phasecut Control Input, 95 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-PC).....	689.21	92.09
23 09 23 11-0088	EA	24 Volt AC/DC Power Supply, 0-135 Ohms Control Input, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT95).....	688.56	92.09
23 09 23 11-0089	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, NEMA 4X, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR-T N4).....	755.41	92.09
23 09 23 11-0090	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, NEMA 4X, Variable Run Time (75 To 350 Seconds), 160 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT-T N4).....	924.49	92.09
23 09 23 11-0091	EA	100-240 Volt AC Power Supply, On/Off/Floating Point Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX120-3).....	600.90	92.09
23 09 23 11-0092	EA	100-240 Volt AC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX120-SR).....	724.68	92.09
23 09 23 11-0093	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 15 Seconds Run Time, 801 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY2-24).....	1,695.39	92.09
23 09 23 11-0094	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 22 Seconds Run Time, 1,335 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY3-24).....	1,906.80	92.09
23 09 23 11-0095	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 16 Seconds Run Time, 3,560 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY4-24).....	2,298.05	92.09
23 09 23 11-0096	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 22 Seconds Run Time, 4,450 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY5-24).....	2,609.38	92.09
23 09 23 11-0097	EA	120 Volt AC Power Supply, On/Off Control Input, 28 Seconds Run Time, 5,785 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY6-110).....	3,097.32	92.09
23 09 23 11-0098	EA	120 Volt AC Power Supply, On/Off Control Input, 46 Seconds Run Time, 8,900 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY7-110).....	3,656.82	92.09
23 09 23 11-0099	EA	120 Volt AC Power Supply, On/Off Control Input, 46 Seconds Run Time, 13,350 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY8-110).....	4,943.38	92.09
23 09 23 11-0100	EA	120 Volt AC Power Supply, On/Off Control Input, 58 Seconds Run Time, 17,800 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY9-110).....	6,044.94	92.09

23 09 23 11-0101 Rotork IQ Electric Valve Actuators (23 09 23 11)**23 09 23 11-0102 Rotork IQ2 Electric Valve Actuators (23 09 23 11-0101)**

Note: 3 Phase, A, B1/B4, Z, or Z3 coupling designation. See CSI section 23 09 23 11-0156 for actuator mounting, 23 09 23 11-0161 for gearboxes, 23 09 23 11-0204 for gearboxes mounting.

23 09 23 11-0103 WT Enclosure (23 09 23 11-0102)

23 09 23 11-0104	EA	Rotork IQ10 Electric Valve Actuator, WT Enclosure.....	9,894.97	334.40
23 09 23 11-0105	EA	Rotork IQ12 Electric Valve Actuator, WT Enclosure.....	10,318.23	334.40
23 09 23 11-0106	EA	Rotork IQ18 Electric Valve Actuator, WT Enclosure.....	11,153.42	334.40
23 09 23 11-0107	EA	Rotork IQ20 Electric Valve Actuator, WT Enclosure.....	14,021.67	334.40



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 11-0108	EA	Rotork IQ25 Electric Valve Actuator, WT Enclosure	14,421.29	334.40
23 09 23 11-0109	EA	Rotork IQ35 Electric Valve Actuator, WT Enclosure	15,993.60	455.55
23 09 23 11-0110	EA	Rotork IQ40 Electric Valve Actuator, WT Enclosure	19,566.66	683.33
23 09 23 11-0111	EA	Rotork IQ70 Electric Valve Actuator, WT Enclosure	24,158.01	683.33
23 09 23 11-0112	EA	Rotork IQ90 Electric Valve Actuator, WT Enclosure	26,540.69	683.33
23 09 23 11-0113	EA	Rotork IQ91 Electric Valve Actuator, WT Enclosure	38,656.08	1,025.00
23 09 23 11-0114	EA	Rotork IQ95 Electric Valve Actuator, WT Enclosure	31,344.74	1,025.00
23 09 23 11-0115 FM Enclosure (23 09 23 11-0102)				
23 09 23 11-0116	EA	Rotork IQ10 Electric Valve Actuator, FM Enclosure	10,694.21	334.40
23 09 23 11-0117	EA	Rotork IQ12 Electric Valve Actuator, FM Enclosure	11,147.55	334.40
23 09 23 11-0118	EA	Rotork IQ18 Electric Valve Actuator, FM Enclosure	12,025.23	334.40
23 09 23 11-0119	EA	Rotork IQ20 Electric Valve Actuator, FM Enclosure	15,136.26	334.40
23 09 23 11-0120	EA	Rotork IQ25 Electric Valve Actuator, FM Enclosure	15,559.51	334.40
23 09 23 11-0121	EA	Rotork IQ35 Electric Valve Actuator, FM Enclosure	17,321.37	455.55
23 09 23 11-0122	EA	Rotork IQ40 Electric Valve Actuator, FM Enclosure	21,296.20	683.33
23 09 23 11-0123	EA	Rotork IQ70 Electric Valve Actuator, FM Enclosure	26,207.68	683.33
23 09 23 11-0124	EA	Rotork IQ90 Electric Valve Actuator, FM Enclosure	28,725.72	683.33
23 09 23 11-0125	EA	Rotork IQ91 Electric Valve Actuator, FM Enclosure	41,616.72	1,025.00
23 09 23 11-0126	EA	Rotork IQ95 Electric Valve Actuator, FM Enclosure	33,862.78	1,025.00
23 09 23 11-0127 Rotork IQM And M Range Syncroset Electric Valve Actuators (23 09 23 11-0101)				
Note: 3 Phase, A, B4, Z, or Z3 coupling designation. See CSI section 23 09 23 11-0156 for actuator mounting, 23 09 23 11-0161 for gearboxes, 23 09 23 11-0204 for gearboxes mounting.				
23 09 23 11-0128 WT Enclosure (23 09 23 11-0127)				
23 09 23 11-0129	EA	Rotork IQM10 Electric Valve Actuator, WT Enclosure	12,651.50	334.40
23 09 23 11-0130	EA	Rotork IQM12 Electric Valve Actuator, WT Enclosure	12,921.64	334.40
23 09 23 11-0131	EA	Rotork IQM20 Electric Valve Actuator, WT Enclosure	14,730.67	334.40
23 09 23 11-0132	EA	Rotork IQM25 Electric Valve Actuator, WT Enclosure	14,919.74	334.40
23 09 23 11-0133	EA	Rotork IQM35 Electric Valve Actuator, WT Enclosure	17,398.72	455.55
23 09 23 11-0134 FM Enclosure (23 09 23 11-0127)				
23 09 23 11-0135	EA	Rotork IQM10 Electric Valve Actuator, FM Enclosure	14,464.83	334.40
23 09 23 11-0136	EA	Rotork IQM12 Electric Valve Actuator, FM Enclosure	14,743.08	334.40
23 09 23 11-0137	EA	Rotork IQM20 Electric Valve Actuator, FM Enclosure	16,713.26	334.40
23 09 23 11-0138	EA	Rotork IQM25 Electric Valve Actuator, FM Enclosure	16,872.25	334.40
23 09 23 11-0139	EA	Rotork IQM35 Electric Valve Actuator, FM Enclosure	19,738.44	455.55
23 09 23 11-0140 Rotork IQT Electric Valve Actuators (23 09 23 11-0101)				
Note: 3 Phase, A, B4, Z, or Z3 coupling designation. See CSI section 23 09 23 11-0156 for actuator mounting, 23 09 23 11-0161 for gearboxes, 23 09 23 11-0204 for gearboxes mounting.				
23 09 23 11-0141 WT Enclosure (23 09 23 11-0140)				
23 09 23 11-0142	EA	Rotork IQT125 Electric Valve Actuator, WT Enclosure	8,968.97	334.40
23 09 23 11-0143	EA	Rotork IQT250 Electric Valve Actuator, WT Enclosure	9,151.59	334.40
23 09 23 11-0144	EA	Rotork IQT500 Electric Valve Actuator, WT Enclosure	9,407.26	334.40
23 09 23 11-0145	EA	Rotork IQT1000 Electric Valve Actuator, WT Enclosure	10,844.61	334.40
23 09 23 11-0146	EA	Rotork IQT2000 Electric Valve Actuator, WT Enclosure	11,579.40	334.40
23 09 23 11-0147 FM Enclosure (23 09 23 11-0140)				
23 09 23 11-0148	EA	Rotork IQT125 Electric Valve Actuator, FM Enclosure	9,778.95	334.40
23 09 23 11-0149	EA	Rotork IQT250 Electric Valve Actuator, FM Enclosure	9,574.85	334.40
23 09 23 11-0150	EA	Rotork IQT500 Electric Valve Actuator, FM Enclosure	10,219.40	334.40
23 09 23 11-0151	EA	Rotork IQT1000 Electric Valve Actuator, FM Enclosure	11,654.59	334.40
23 09 23 11-0152	EA	Rotork IQT2000 Electric Valve Actuator, FM Enclosure	12,703.06	334.40
23 09 23 11-0153 Rotork Q Range Basic Actuators (23 09 23 11-0101)				
See CSI section 23 09 23 11-0156 for actuator mounting, 23 09 23 11-0161 for gearboxes, 23 09 23 11-0204 for gearboxes mounting.				
23 09 23 11-0154	EA	Rotork Q100 Standard Actuator	1,751.03	
23 09 23 11-0155	EA	Rotork Q300 Standard Actuator	2,578.20	
23 09 23 11-0156 Rotork Actuator Mounting Kits (23 09 23 11-0101)				
Note: Mounting of Rotork actuators to valves, dampers or other equipment, including machining of actuator output device.				
23 09 23 11-0157	EA	Mounting Kit For Rotork Actuators (Up To IQ 18) Or Exeeco Gearboxes (Up To IW6 Or IB6) To Valves, Dampers And Other Equipment	1,042.02	
23 09 23 11-0158	EA	Mounting Kit For Rotork Actuators (IQ 20-25) Or Exeeco Gearboxes (Up To IW9 Or IB10) To Valves, Dampers And Other Equipment	1,589.89	
23 09 23 11-0159	EA	Mounting Kit For Rotork Actuators (IQ 35-40) Or Exeeco Gearboxes (Up To IW12 Or IB14) To Valves, Dampers And Other Equipment	2,084.04	
23 09 23 11-0160	EA	Mounting Kit For Rotork Actuators (IQ 70-90) Or Exeeco Gearboxes (Up To IS15 Or IS20) To Valves, Dampers And Other Equipment	2,638.36	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 11-0161**Rotork "Exeeco" Fitted Gearboxes (23 09 23 11-0101)**

See CSI section 23 09 23 11-0204 for mounting.

23 09 23 11-0162	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB2.....	2,991.84	445.87
23 09 23 11-0163	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB3.....	3,271.15	445.87
23 09 23 11-0164	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA10, IB4.....	2,624.45	445.87
23 09 23 11-0165	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB4.....	2,626.60	445.87
23 09 23 11-0166	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA10, IB5.....	2,903.75	445.87
23 09 23 11-0167	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB5.....	2,978.95	445.87
23 09 23 11-0168	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB6.....	3,599.87	445.87
23 09 23 11-0169	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB6.....	3,739.52	445.87
23 09 23 11-0170	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB7.....	4,096.17	445.87
23 09 23 11-0171	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB7.....	4,233.68	445.87
23 09 23 11-0172	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB8.....	5,725.34	442.18
23 09 23 11-0173	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB8.....	5,864.99	442.18
23 09 23 11-0174	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB8.....	6,030.43	442.18
23 09 23 11-0175	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB9.....	6,509.54	442.18
23 09 23 11-0176	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB9.....	6,649.20	442.18
23 09 23 11-0177	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB9.....	6,814.63	442.18
23 09 23 11-0178	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB10.....	7,885.55	552.72
23 09 23 11-0179	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB10.....	8,076.77	552.72
23 09 23 11-0180	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB10.....	8,139.07	552.72
23 09 23 11-0181	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA14, IB11.....	9,660.21	552.72
23 09 23 11-0182	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB11.....	9,851.43	552.72
23 09 23 11-0183	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB11.....	9,913.73	552.72
23 09 23 11-0184	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB12.....	12,118.10	552.72
23 09 23 11-0185	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB12.....	12,358.73	552.72
23 09 23 11-0186	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB13.....	15,538.51	552.72
23 09 23 11-0187	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB13.....	15,779.14	552.72
23 09 23 11-0188	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA16, IB14.....	30,140.74	663.26
23 09 23 11-0189	EA	Rotork Exeeco Fitted Gearbox, Bevel, FA25, IB14.....	30,381.37	663.26
23 09 23 11-0190	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW3.....	1,677.22	334.40
23 09 23 11-0191	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW4.....	2,210.05	334.40
23 09 23 11-0192	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW5.....	2,875.82	334.40
23 09 23 11-0193	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW52.....	3,509.63	334.40
23 09 23 11-0194	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW6.....	4,272.35	334.40
23 09 23 11-0195	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW63.....	6,003.02	683.33
23 09 23 11-0196	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW7.....	7,182.54	683.33
23 09 23 11-0197	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW72.....	8,652.12	683.33
23 09 23 11-0198	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW8.....	10,836.09	854.16
23 09 23 11-0199	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW82.....	13,001.78	1,025.00
23 09 23 11-0200	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW9.....	16,501.69	1,025.00
23 09 23 11-0201	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW10.....	21,951.44	1,366.66
23 09 23 11-0202	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW11.....	28,119.78	1,366.66
23 09 23 11-0203	EA	Rotork Exeeco Fitted Gearbox, Quadrant Worm, IW12.....	71,798.79	1,366.66

23 09 23 11-0204**Mounting Rotork Actuator To Exeeco Gearbox Mounting (23 09 23 11-0101)**

23 09 23 11-0205	EA	Mounting of Rotork Actuators (IQ 10-18) to Exeeco Gearboxes (IW3-IW6 or IB3 to IB6).....	713.30	
23 09 23 11-0206	EA	Mounting of Rotork Actuators (IQ 10-18) to Exeeco Gearboxes (IW7-IW12 or IB7 to IB7).....	835.77	
23 09 23 11-0207	EA	Mounting of Rotork Actuators (IQ 20-25) to Exeeco Gearboxes (IW6-IW12 or IB6 to IB11).....	1,121.52	
23 09 23 11-0208	EA	Mounting of Rotork Actuators (IQ 35-40) to Exeeco Gearboxes (IW6-IW12 or IB6 to IB14).....	1,284.80	
23 09 23 11-0209	EA	Mounting of Rotork Actuators (IQ 70-95) to Exeeco Gearboxes (IB10-IB14).....	1,665.09	

23 09 23 11-0210**Electro-Hydraulic Valve Actuators (23 09 23 11)**

Note: Actuators only.

23 09 23 11-0211**Electro-Hydraulic Rotary Actuators, Model 2000 (23 09 23 11-0210)**

Note: Fail set (fail in last position), 90 degree valve torque, NEMA 6P/7 actuator enclosure, 316 stainless steel components (base plate, actuator enclosure fittings and tubing), positive displacement gear pump, hand pump included. Trident Actuator Company.

23 09 23 11-0212	EA	Valve Torque To 13,000 LB (Maximum).....	44,146.26	1,114.65
	EA	For 316 Stainless Steel Coupling, Add.....	1,080.00	
23 09 23 11-0213	EA	Valve Torque To 45,000 LB (Maximum).....	72,648.23	1,393.31
	EA	For 316 Stainless Steel Coupling, Add.....	1,200.00	
23 09 23 11-0214	EA	Valve Torque To 90,000 LB (Maximum).....	143,064.48	1,670.64
	EA	For 316 Stainless Steel Coupling, Add.....	1,440.00	

23 09 23 11-0215**Electro-Hydraulic Linear Actuators, Model 3000 (23 09 23 11-0210)**

Note: Fail set (fail in last position), NEMA 6P/7 actuator enclosure, 316 stainless steel components (base plate, actuator enclosure fittings and tubing), positive displacement gear pump. Trident Actuator Company.

23 09 23 11-0216	EA	Linear Actuator Stroke To 24" (Maximum).....	72,090.90	1,114.65
	EA	For 316 Stainless Steel Coupling, Add.....	1,440.00	
23 09 23 11-0217	EA	Linear Actuator Stroke To 36" (Maximum).....	93,606.71	1,393.31
	EA	For 316 Stainless Steel Coupling, Add.....	1,440.00	
23 09 23 11-0218	EA	Linear Actuator Stroke To 48" (Maximum).....	122,106.00	1,670.64
	EA	For 316 Stainless Steel Coupling, Add.....	1,920.00	
23 09 23 11-0219	EA	Linear Actuator Stroke To 62" (Maximum).....	157,598.37	1,951.42
	EA	For 316 Stainless Steel Coupling, Add.....	1,920.00	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 11-0220			Electro-Hydraulic Valve Actuators, Model 2500 (23 09 23 11-0210) Note: Fail safe, 90 degree valve torque, NEMA 6P/7 actuator enclosure, 316 stainless steel components (base plate, actuator enclosure fittings and tubing), positive displacement gear pump, hand pump included. Trident Actuator Company.		
23 09 23 11-0221	EA		Valve Torque To 13,000 LB (Maximum).....	58,118.58	1,114.65
			For 316 Stainless Steel Coupling, Add	1,080.00	
23 09 23 11-0222	EA		Valve Torque To 45,000 LB (Maximum).....	95,702.56	1,393.31
			For 316 Stainless Steel Coupling, Add	1,200.00	
23 09 23 11-0223	EA		Valve Torque To 90,000 LB (Maximum).....	191,967.60	1,670.64
			For 316 Stainless Steel Coupling, Add	1,440.00	
23 09 23 11-0224			Electro-Hydraulic Linear Actuators, Model 3500 (23 09 23 11-0210) Note: Fail safe, 90 degree valve torque, NEMA 6P/7 actuator enclosure, 316 stainless steel components (base plate, actuator enclosure fittings and tubing), positive displacement gear pump. Trident Actuator Company.		
23 09 23 11-0225	EA		Linear Actuator Stroke To 24" (Maximum).....	96,542.46	1,114.65
			For 316 Stainless Steel Coupling, Add	1,080.00	
23 09 23 11-0226	EA		Linear Actuator Stroke To 36" (Maximum).....	125,044.43	1,393.31
			For 316 Stainless Steel Coupling, Add	1,200.00	
23 09 23 11-0227	EA		Linear Actuator Stroke To 48" (Maximum).....	171,009.12	1,670.64
			For 316 Stainless Steel Coupling, Add	1,200.00	
23 09 23 11-0228	EA		Linear Actuator Stroke To 62" (Maximum).....	206,501.49	1,951.42
			For 316 Stainless Steel Coupling, Add	1,920.00	
23 09 23 11-0229			Electro-Hydraulic Accessories Trident Actuator Company (23 09 23 11-0210)		
23 09 23 11-0230	EA		NEMA 4X Controller, With Push Button (For Model 2000 And 3000).....	34,870.72	668.57
23 09 23 11-0231	EA		NEMA 4X Controller, With Push Button (For Model 2500 And 3500).....	39,913.31	668.57
23 09 23 11-0232	EA		AB 500 Touch Screen (For Model 2000 And 3000).....	11,208.58	139.33
23 09 23 11-0233	EA		AB 500 Touch Screen (For Model 2500 And 3500).....	13,137.39	139.33
23 09 23 12			Control Dampers (23 09 23)		
23 09 23 12-0001			Rectangular Volume Control Dampers (Ruskin) (23 09 23 12) Note: Excludes actuators.		
23 09 23 12-0002			Rectangular Volume Control Dampers (Ruskin CD36) (23 09 23 12-0001)		
23 09 23 12-0003	EA		8" x 8" Volume Control Damper (Ruskin CD36).....	153.13	44.44
23 09 23 12-0004	EA		8" x 12" Volume Control Damper (Ruskin CD36).....	162.31	44.44
23 09 23 12-0005	EA		8" x 16" Volume Control Damper (Ruskin CD36).....	173.40	44.44
23 09 23 12-0006	EA		8" x 20" Volume Control Damper (Ruskin CD36).....	228.66	59.25
23 09 23 12-0007	EA		8" x 24" Volume Control Damper (Ruskin CD36).....	245.11	59.25
23 09 23 12-0008	EA		8" x 28" Volume Control Damper (Ruskin CD36).....	254.29	59.25
23 09 23 12-0009	EA		8" x 32" Volume Control Damper (Ruskin CD36).....	278.38	59.25
23 09 23 12-0010	EA		8" x 36" Volume Control Damper (Ruskin CD36).....	331.73	74.07
23 09 23 12-0011	EA		12" x 8" Volume Control Damper (Ruskin CD36).....	162.31	44.44
23 09 23 12-0012	EA		12" x 12" Volume Control Damper (Ruskin CD36).....	167.66	44.44
23 09 23 12-0013	EA		12" x 16" Volume Control Damper (Ruskin CD36).....	208.39	59.25
23 09 23 12-0014	EA		12" x 20" Volume Control Damper (Ruskin CD36).....	234.01	59.25
23 09 23 12-0015	EA		12" x 24" Volume Control Damper (Ruskin CD36).....	280.47	74.07
23 09 23 12-0016	EA		12" x 28" Volume Control Damper (Ruskin CD36).....	289.65	74.07
23 09 23 12-0017	EA		12" x 32" Volume Control Damper (Ruskin CD36).....	313.37	74.07
23 09 23 12-0018	EA		12" x 36" Volume Control Damper (Ruskin CD36).....	366.70	88.87
23 09 23 12-0019	EA		16" x 8" Volume Control Damper (Ruskin CD36).....	173.40	44.44
23 09 23 12-0020	EA		16" x 12" Volume Control Damper (Ruskin CD36).....	215.65	59.25
23 09 23 12-0021	EA		16" x 16" Volume Control Damper (Ruskin CD36).....	216.04	59.25
23 09 23 12-0022	EA		16" x 20" Volume Control Damper (Ruskin CD36).....	269.38	74.07
23 09 23 12-0023	EA		16" x 24" Volume Control Damper (Ruskin CD36).....	287.74	74.07
23 09 23 12-0024	EA		16" x 28" Volume Control Damper (Ruskin CD36).....	329.98	88.87
23 09 23 12-0025	EA		16" x 32" Volume Control Damper (Ruskin CD36).....	350.25	88.87
23 09 23 12-0026	EA		16" x 36" Volume Control Damper (Ruskin CD36).....	372.44	88.87
23 09 23 12-0027	EA		20" x 8" Volume Control Damper (Ruskin CD36).....	228.66	59.25
23 09 23 12-0028	EA		20" x 12" Volume Control Damper (Ruskin CD36).....	204.94	59.25
23 09 23 12-0029	EA		20" x 16" Volume Control Damper (Ruskin CD36).....	251.02	74.07
23 09 23 12-0030	EA		20" x 20" Volume Control Damper (Ruskin CD36).....	274.74	74.07
23 09 23 12-0031	EA		20" x 24" Volume Control Damper (Ruskin CD36).....	319.27	88.87
23 09 23 12-0032	EA		20" x 28" Volume Control Damper (Ruskin CD36).....	341.07	88.87
23 09 23 12-0033	EA		20" x 32" Volume Control Damper (Ruskin CD36).....	389.45	103.69
23 09 23 12-0034	EA		20" x 36" Volume Control Damper (Ruskin CD36).....	409.34	103.69
23 09 23 12-0035	EA		24" x 8" Volume Control Damper (Ruskin CD36).....	204.94	59.25
23 09 23 12-0036	EA		24" x 12" Volume Control Damper (Ruskin CD36).....	239.93	74.07
23 09 23 12-0037	EA		24" x 16" Volume Control Damper (Ruskin CD36).....	256.38	74.07
23 09 23 12-0038	EA		24" x 20" Volume Control Damper (Ruskin CD36).....	311.62	88.87
23 09 23 12-0039	EA		24" x 24" Volume Control Damper (Ruskin CD36).....	328.45	88.87
23 09 23 12-0040	EA		24" x 28" Volume Control Damper (Ruskin CD36).....	377.97	103.69
23 09 23 12-0041	EA		24" x 32" Volume Control Damper (Ruskin CD36).....	402.07	103.69
23 09 23 12-0042	EA		24" x 36" Volume Control Damper (Ruskin CD36).....	420.43	103.69
23 09 23 12-0043	EA		28" x 8" Volume Control Damper (Ruskin CD36).....	208.39	59.25
23 09 23 12-0044	EA		28" x 12" Volume Control Damper (Ruskin CD36).....	243.75	74.07

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0045	EA	28" x 16" Volume Control Damper (Ruskin CD36)	287.91	88.87
23 09 23 12-0046	EA	28" x 20" Volume Control Damper (Ruskin CD36)	317.36	88.87
23 09 23 12-0047	EA	28" x 24" Volume Control Damper (Ruskin CD36)	361.53	103.69
23 09 23 12-0048	EA	28" x 28" Volume Control Damper (Ruskin CD36)	383.71	103.69
23 09 23 12-0049	EA	28" x 32" Volume Control Damper (Ruskin CD36)	403.98	103.69
23 09 23 12-0050	EA	28" x 36" Volume Control Damper (Ruskin CD36)	431.52	103.69
23 09 23 12-0051	EA	32" x 8" Volume Control Damper (Ruskin CD36)	210.30	59.25
23 09 23 12-0052	EA	32" x 12" Volume Control Damper (Ruskin CD36)	245.28	74.07
23 09 23 12-0053	EA	32" x 16" Volume Control Damper (Ruskin CD36)	293.26	88.87
23 09 23 12-0054	EA	32" x 20" Volume Control Damper (Ruskin CD36)	348.90	103.69
23 09 23 12-0055	EA	32" x 24" Volume Control Damper (Ruskin CD36)	370.70	103.69
23 09 23 12-0056	EA	32" x 28" Volume Control Damper (Ruskin CD36)	390.98	103.69
23 09 23 12-0057	EA	32" x 32" Volume Control Damper (Ruskin CD36)	413.16	103.69
23 09 23 12-0058	EA	32" x 36" Volume Control Damper (Ruskin CD36)	468.41	118.50
23 09 23 12-0059	EA	36" x 8" Volume Control Damper (Ruskin CD36)	247.20	74.07
23 09 23 12-0060	EA	36" x 12" Volume Control Damper (Ruskin CD36)	282.55	88.87
23 09 23 12-0061	EA	36" x 16" Volume Control Damper (Ruskin CD36)	299.00	88.87
23 09 23 12-0062	EA	36" x 20" Volume Control Damper (Ruskin CD36)	354.26	103.69
23 09 23 12-0063	EA	36" x 24" Volume Control Damper (Ruskin CD36)	377.97	103.69
23 09 23 12-0064	EA	36" x 28" Volume Control Damper (Ruskin CD36)	402.07	103.69
23 09 23 12-0065	EA	36" x 32" Volume Control Damper (Ruskin CD36)	450.05	118.50
23 09 23 12-0066	EA	36" x 36" Volume Control Damper (Ruskin CD36)	475.68	118.50
23 09 23 12-0067	EA	36" x 40" Volume Control Damper (Ruskin CD36)	497.86	118.50
23 09 23 12-0068	EA	36" x 44" Volume Control Damper (Ruskin CD36)	521.58	118.50
23 09 23 12-0069	EA	36" x 48" Volume Control Damper (Ruskin CD36)	541.85	118.50
23 09 23 12-0070	EA	36" x 52" Volume Control Damper (Ruskin CD36)	565.56	118.50
23 09 23 12-0071	EA	36" x 56" Volume Control Damper (Ruskin CD36)	589.66	118.50
23 09 23 12-0072	EA	36" x 60" Volume Control Damper (Ruskin CD36)	609.55	118.50
23 09 23 12-0073	EA	36" x 64" Volume Control Damper (Ruskin CD36)	637.09	118.50
23 09 23 12-0074	EA	36" x 68" Volume Control Damper (Ruskin CD36)	688.90	133.31
23 09 23 12-0075	EA	36" x 72" Volume Control Damper (Ruskin CD36)	729.45	133.31
23 09 23 12-0076	EA	36" x 76" Volume Control Damper (Ruskin CD36)	853.38	133.31
23 09 23 12-0077	EA	36" x 80" Volume Control Damper (Ruskin CD36)	853.38	133.31
23 09 23 12-0078	EA	36" x 84" Volume Control Damper (Ruskin CD36)	906.93	133.31
23 09 23 12-0079	EA	40" x 40" Volume Control Damper (Ruskin CD36)	507.04	118.50
23 09 23 12-0080	EA	40" x 44" Volume Control Damper (Ruskin CD36)	530.76	118.50
23 09 23 12-0081	EA	40" x 48" Volume Control Damper (Ruskin CD36)	554.47	118.50
23 09 23 12-0082	EA	40" x 52" Volume Control Damper (Ruskin CD36)	580.48	118.50
23 09 23 12-0083	EA	40" x 56" Volume Control Damper (Ruskin CD36)	602.28	118.50
23 09 23 12-0084	EA	40" x 60" Volume Control Damper (Ruskin CD36)	652.18	133.31
23 09 23 12-0085	EA	40" x 64" Volume Control Damper (Ruskin CD36)	679.72	133.31
23 09 23 12-0086	EA	40" x 68" Volume Control Damper (Ruskin CD36)	705.35	133.31
23 09 23 12-0087	EA	40" x 72" Volume Control Damper (Ruskin CD36)	743.98	133.31
23 09 23 12-0088	EA	40" x 76" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0089	EA	40" x 80" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0090	EA	40" x 84" Volume Control Damper (Ruskin CD36)	927.58	133.31
23 09 23 12-0091	EA	44" x 40" Volume Control Damper (Ruskin CD36)	517.75	118.50
23 09 23 12-0092	EA	44" x 44" Volume Control Damper (Ruskin CD36)	541.85	118.50
23 09 23 12-0093	EA	44" x 48" Volume Control Damper (Ruskin CD36)	565.56	118.50
23 09 23 12-0094	EA	44" x 52" Volume Control Damper (Ruskin CD36)	591.19	118.50
23 09 23 12-0095	EA	44" x 56" Volume Control Damper (Ruskin CD36)	643.00	133.31
23 09 23 12-0096	EA	44" x 60" Volume Control Damper (Ruskin CD36)	668.63	133.31
23 09 23 12-0097	EA	44" x 64" Volume Control Damper (Ruskin CD36)	692.73	133.31
23 09 23 12-0098	EA	44" x 68" Volume Control Damper (Ruskin CD36)	721.80	133.31
23 09 23 12-0099	EA	44" x 72" Volume Control Damper (Ruskin CD36)	760.43	133.31
23 09 23 12-0100	EA	44" x 76" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0101	EA	44" x 80" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0102	EA	44" x 84" Volume Control Damper (Ruskin CD36)	982.06	148.13
23 09 23 12-0103	EA	40" x 40" Volume Control Damper (Ruskin CD36)	507.04	118.50
23 09 23 12-0104	EA	40" x 44" Volume Control Damper (Ruskin CD36)	530.76	118.50
23 09 23 12-0105	EA	40" x 48" Volume Control Damper (Ruskin CD36)	554.47	118.50
23 09 23 12-0106	EA	40" x 52" Volume Control Damper (Ruskin CD36)	580.48	118.50
23 09 23 12-0107	EA	40" x 56" Volume Control Damper (Ruskin CD36)	602.28	118.50
23 09 23 12-0108	EA	40" x 60" Volume Control Damper (Ruskin CD36)	652.18	133.31
23 09 23 12-0109	EA	40" x 64" Volume Control Damper (Ruskin CD36)	679.72	133.31
23 09 23 12-0110	EA	40" x 68" Volume Control Damper (Ruskin CD36)	705.35	133.31
23 09 23 12-0111	EA	40" x 72" Volume Control Damper (Ruskin CD36)	743.98	133.31
23 09 23 12-0112	EA	40" x 76" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0113	EA	40" x 80" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0114	EA	40" x 84" Volume Control Damper (Ruskin CD36)	927.58	133.31
23 09 23 12-0115	EA	44" x 40" Volume Control Damper (Ruskin CD36)	517.75	118.50
23 09 23 12-0116	EA	44" x 44" Volume Control Damper (Ruskin CD36)	541.85	118.50
23 09 23 12-0117	EA	44" x 48" Volume Control Damper (Ruskin CD36)	565.56	118.50
23 09 23 12-0118	EA	44" x 52" Volume Control Damper (Ruskin CD36)	591.19	118.50
23 09 23 12-0119	EA	44" x 56" Volume Control Damper (Ruskin CD36)	643.00	133.31
23 09 23 12-0120	EA	44" x 60" Volume Control Damper (Ruskin CD36)	668.63	133.31
23 09 23 12-0121	EA	44" x 64" Volume Control Damper (Ruskin CD36)	692.73	133.31
23 09 23 12-0122	EA	44" x 68" Volume Control Damper (Ruskin CD36)	721.80	133.31
23 09 23 12-0123	EA	44" x 72" Volume Control Damper (Ruskin CD36)	760.43	133.31
23 09 23 12-0124	EA	44" x 76" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0125	EA	44" x 80" Volume Control Damper (Ruskin CD36)	898.51	133.31



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0126	EA	44" x 84" Volume Control Damper (Ruskin CD36).....		982.06	148.13
23 09 23 12-0127	EA	48" x 40" Volume Control Damper (Ruskin CD36).....		528.84	118.50
23 09 23 12-0128	EA	48" x 44" Volume Control Damper (Ruskin CD36).....		552.94	118.50
23 09 23 12-0129	EA	48" x 48" Volume Control Damper (Ruskin CD36).....		578.57	118.50
23 09 23 12-0130	EA	48" x 52" Volume Control Damper (Ruskin CD36).....		633.82	133.31
23 09 23 12-0131	EA	48" x 56" Volume Control Damper (Ruskin CD36).....		657.54	133.31
23 09 23 12-0132	EA	48" x 60" Volume Control Damper (Ruskin CD36).....		679.72	133.31
23 09 23 12-0133	EA	48" x 64" Volume Control Damper (Ruskin CD36).....		707.26	133.31
23 09 23 12-0134	EA	48" x 68" Volume Control Damper (Ruskin CD36).....		734.80	133.31
23 09 23 12-0135	EA	48" x 72" Volume Control Damper (Ruskin CD36).....		778.79	133.31
23 09 23 12-0136	EA	48" x 76" Volume Control Damper (Ruskin CD36).....		952.99	148.13
23 09 23 12-0137	EA	48" x 80" Volume Control Damper (Ruskin CD36).....		952.99	148.13
23 09 23 12-0138	EA	48" x 84" Volume Control Damper (Ruskin CD36).....		1,006.92	148.13
23 09 23 12-0139	EA	52" x 40" Volume Control Damper (Ruskin CD36).....		787.79	118.50
23 09 23 12-0140	EA	52" x 44" Volume Control Damper (Ruskin CD36).....		824.51	118.50
23 09 23 12-0141	EA	52" x 48" Volume Control Damper (Ruskin CD36).....		911.13	133.31
23 09 23 12-0142	EA	52" x 52" Volume Control Damper (Ruskin CD36).....		962.39	133.31
23 09 23 12-0143	EA	52" x 56" Volume Control Damper (Ruskin CD36).....		999.11	133.31
23 09 23 12-0144	EA	52" x 60" Volume Control Damper (Ruskin CD36).....		1,041.56	133.31
23 09 23 12-0145	EA	52" x 64" Volume Control Damper (Ruskin CD36).....		1,096.64	133.31
23 09 23 12-0146	EA	52" x 68" Volume Control Damper (Ruskin CD36).....		1,155.16	133.31
23 09 23 12-0147	EA	52" x 72" Volume Control Damper (Ruskin CD36).....		1,254.78	148.13
23 09 23 12-0148	EA	52" x 76" Volume Control Damper (Ruskin CD36).....		1,386.74	148.13
23 09 23 12-0149	EA	52" x 80" Volume Control Damper (Ruskin CD36).....		1,387.12	148.13
23 09 23 12-0150	EA	52" x 84" Volume Control Damper (Ruskin CD36).....		1,469.36	148.13
23 09 23 12-0151	EA	56" x 40" Volume Control Damper (Ruskin CD36).....		795.06	118.50
23 09 23 12-0152	EA	56" x 44" Volume Control Damper (Ruskin CD36).....		867.15	133.31
23 09 23 12-0153	EA	56" x 48" Volume Control Damper (Ruskin CD36).....		922.22	133.31
23 09 23 12-0154	EA	56" x 52" Volume Control Damper (Ruskin CD36).....		968.12	133.31
23 09 23 12-0155	EA	56" x 56" Volume Control Damper (Ruskin CD36).....		1,010.20	133.31
23 09 23 12-0156	EA	56" x 60" Volume Control Damper (Ruskin CD36).....		1,058.01	133.31
23 09 23 12-0157	EA	56" x 64" Volume Control Damper (Ruskin CD36).....		1,111.18	133.31
23 09 23 12-0158	EA	56" x 68" Volume Control Damper (Ruskin CD36).....		1,206.97	148.13
23 09 23 12-0159	EA	56" x 72" Volume Control Damper (Ruskin CD36).....		1,280.41	148.13
23 09 23 12-0160	EA	56" x 76" Volume Control Damper (Ruskin CD36).....		1,386.74	148.13
23 09 23 12-0161	EA	56" x 80" Volume Control Damper (Ruskin CD36).....		1,386.74	148.13
23 09 23 12-0162	EA	56" x 84" Volume Control Damper (Ruskin CD36).....		1,469.36	148.13
23 09 23 12-0163	EA	60" x 40" Volume Control Damper (Ruskin CD36).....		835.78	133.31
23 09 23 12-0164	EA	60" x 44" Volume Control Damper (Ruskin CD36).....		883.59	133.31
23 09 23 12-0165	EA	60" x 48" Volume Control Damper (Ruskin CD36).....		936.76	133.31
23 09 23 12-0166	EA	60" x 52" Volume Control Damper (Ruskin CD36).....		984.57	133.31
23 09 23 12-0167	EA	60" x 56" Volume Control Damper (Ruskin CD36).....		1,035.83	133.31
23 09 23 12-0168	EA	60" x 60" Volume Control Damper (Ruskin CD36).....		1,074.46	133.31
23 09 23 12-0169	EA	60" x 64" Volume Control Damper (Ruskin CD36).....		1,157.24	148.13
23 09 23 12-0170	EA	60" x 68" Volume Control Damper (Ruskin CD36).....		1,221.50	148.13
23 09 23 12-0171	EA	60" x 72" Volume Control Damper (Ruskin CD36).....		1,306.03	148.13
23 09 23 12-0172	EA	60" x 76" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0173	EA	60" x 80" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0174	EA	60" x 84" Volume Control Damper (Ruskin CD36).....		1,535.53	148.13
23 09 23 12-0175	EA	64" x 40" Volume Control Damper (Ruskin CD36).....		846.87	133.31
23 09 23 12-0176	EA	64" x 44" Volume Control Damper (Ruskin CD36).....		900.04	133.31
23 09 23 12-0177	EA	64" x 48" Volume Control Damper (Ruskin CD36).....		951.29	133.31
23 09 23 12-0178	EA	64" x 52" Volume Control Damper (Ruskin CD36).....		997.19	133.31
23 09 23 12-0179	EA	64" x 56" Volume Control Damper (Ruskin CD36).....		1,048.83	133.31
23 09 23 12-0180	EA	64" x 60" Volume Control Damper (Ruskin CD36).....		1,120.52	148.13
23 09 23 12-0181	EA	64" x 64" Volume Control Damper (Ruskin CD36).....		1,172.16	148.13
23 09 23 12-0182	EA	64" x 68" Volume Control Damper (Ruskin CD36).....		1,234.51	148.13
23 09 23 12-0183	EA	64" x 72" Volume Control Damper (Ruskin CD36).....		1,331.66	148.13
23 09 23 12-0184	EA	64" x 76" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0185	EA	64" x 80" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0186	EA	64" x 84" Volume Control Damper (Ruskin CD36).....		1,565.16	162.94
23 09 23 12-0187	EA	66" x 40" Volume Control Damper (Ruskin CD36).....		856.05	133.31
23 09 23 12-0188	EA	66" x 44" Volume Control Damper (Ruskin CD36).....		911.13	133.31
23 09 23 12-0189	EA	66" x 48" Volume Control Damper (Ruskin CD36).....		960.47	133.31
23 09 23 12-0190	EA	66" x 52" Volume Control Damper (Ruskin CD36).....		1,010.20	133.31
23 09 23 12-0191	EA	66" x 56" Volume Control Damper (Ruskin CD36).....		1,092.99	148.13
23 09 23 12-0192	EA	66" x 60" Volume Control Damper (Ruskin CD36).....		1,136.97	148.13
23 09 23 12-0193	EA	66" x 64" Volume Control Damper (Ruskin CD36).....		1,193.96	148.13
23 09 23 12-0194	EA	66" x 68" Volume Control Damper (Ruskin CD36).....		1,250.95	148.13
23 09 23 12-0195	EA	66" x 72" Volume Control Damper (Ruskin CD36).....		1,346.58	148.13
23 09 23 12-0196	EA	66" x 76" Volume Control Damper (Ruskin CD36).....		1,469.36	148.13
23 09 23 12-0197	EA	66" x 80" Volume Control Damper (Ruskin CD36).....		1,498.99	162.94
23 09 23 12-0198	EA	66" x 84" Volume Control Damper (Ruskin CD36).....		1,606.47	162.94
23 09 23 12-0199	EA	72" x 40" Volume Control Damper (Ruskin CD36).....		866.76	133.31
23 09 23 12-0200	EA	72" x 44" Volume Control Damper (Ruskin CD36).....		922.22	133.31
23 09 23 12-0201	EA	72" x 48" Volume Control Damper (Ruskin CD36).....		968.12	133.31
23 09 23 12-0202	EA	72" x 52" Volume Control Damper (Ruskin CD36).....		1,052.82	148.13
23 09 23 12-0203	EA	72" x 56" Volume Control Damper (Ruskin CD36).....		1,107.90	148.13
23 09 23 12-0204	EA	72" x 60" Volume Control Damper (Ruskin CD36).....		1,153.80	148.13
23 09 23 12-0205	EA	72" x 64" Volume Control Damper (Ruskin CD36).....		1,218.06	148.13
23 09 23 12-0206	EA	72" x 68" Volume Control Damper (Ruskin CD36).....		1,267.40	148.13

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0207	EA	72" x 72" Volume Control Damper (Ruskin CD36).....	1,361.11	148.13
23 09 23 12-0208	EA	72" x 76" Volume Control Damper (Ruskin CD36).....	1,498.99	162.94
23 09 23 12-0209	EA	72" x 80" Volume Control Damper (Ruskin CD36).....	1,498.99	162.94
23 09 23 12-0210	EA	72" x 84" Volume Control Damper (Ruskin CD36).....	1,606.47	162.94
23 09 23 12-0211	EA	76" x 40" Volume Control Damper (Ruskin CD36).....	877.86	133.31
23 09 23 12-0212	EA	76" x 44" Volume Control Damper (Ruskin CD36).....	931.40	133.31
23 09 23 12-0213	EA	76" x 48" Volume Control Damper (Ruskin CD36).....	1,012.28	148.13
23 09 23 12-0214	EA	76" x 52" Volume Control Damper (Ruskin CD36).....	1,067.36	148.13
23 09 23 12-0215	EA	76" x 56" Volume Control Damper (Ruskin CD36).....	1,122.44	148.13
23 09 23 12-0216	EA	76" x 60" Volume Control Damper (Ruskin CD36).....	1,168.34	148.13
23 09 23 12-0217	EA	76" x 64" Volume Control Damper (Ruskin CD36).....	1,232.60	148.13
23 09 23 12-0218	EA	76" x 68" Volume Control Damper (Ruskin CD36).....	1,294.94	148.13
23 09 23 12-0219	EA	76" x 72" Volume Control Damper (Ruskin CD36).....	1,407.19	162.94
23 09 23 12-0220	EA	76" x 76" Volume Control Damper (Ruskin CD36).....	1,540.30	162.94
23 09 23 12-0221	EA	76" x 80" Volume Control Damper (Ruskin CD36).....	1,540.30	162.94
23 09 23 12-0222	EA	76" x 84" Volume Control Damper (Ruskin CD36).....	1,647.78	162.94
23 09 23 12-0223	EA	80" x 40" Volume Control Damper (Ruskin CD36).....	888.95	133.31
23 09 23 12-0224	EA	80" x 44" Volume Control Damper (Ruskin CD36).....	942.11	133.31
23 09 23 12-0225	EA	80" x 48" Volume Control Damper (Ruskin CD36).....	1,026.81	148.13
23 09 23 12-0226	EA	80" x 52" Volume Control Damper (Ruskin CD36).....	1,087.63	148.13
23 09 23 12-0227	EA	80" x 56" Volume Control Damper (Ruskin CD36).....	1,136.97	148.13
23 09 23 12-0228	EA	80" x 60" Volume Control Damper (Ruskin CD36).....	1,182.87	148.13
23 09 23 12-0229	EA	80" x 64" Volume Control Damper (Ruskin CD36).....	1,247.13	148.13
23 09 23 12-0230	EA	80" x 68" Volume Control Damper (Ruskin CD36).....	1,335.66	162.94
23 09 23 12-0231	EA	80" x 72" Volume Control Damper (Ruskin CD36).....	1,423.64	162.94
23 09 23 12-0232	EA	80" x 76" Volume Control Damper (Ruskin CD36).....	1,540.30	162.94
23 09 23 12-0233	EA	80" x 80" Volume Control Damper (Ruskin CD36).....	1,540.30	162.94
23 09 23 12-0234	EA	80" x 84" Volume Control Damper (Ruskin CD36).....	1,647.78	162.94
23 09 23 12-0235	EA	84" x 40" Volume Control Damper (Ruskin CD36).....	896.22	133.31
23 09 23 12-0236	EA	84" x 44" Volume Control Damper (Ruskin CD36).....	980.91	148.13
23 09 23 12-0237	EA	84" x 48" Volume Control Damper (Ruskin CD36).....	1,041.73	148.13
23 09 23 12-0238	EA	84" x 52" Volume Control Damper (Ruskin CD36).....	1,107.90	148.13
23 09 23 12-0239	EA	84" x 56" Volume Control Damper (Ruskin CD36).....	1,148.06	148.13
23 09 23 12-0240	EA	84" x 60" Volume Control Damper (Ruskin CD36).....	1,197.79	148.13
23 09 23 12-0241	EA	84" x 64" Volume Control Damper (Ruskin CD36).....	1,291.68	162.94
23 09 23 12-0242	EA	84" x 68" Volume Control Damper (Ruskin CD36).....	1,355.94	162.94
23 09 23 12-0243	EA	84" x 72" Volume Control Damper (Ruskin CD36).....	1,440.47	162.94
23 09 23 12-0244	EA	84" x 76" Volume Control Damper (Ruskin CD36).....	1,590.02	162.94
23 09 23 12-0245	EA	84" x 80" Volume Control Damper (Ruskin CD36).....	1,590.02	162.94
23 09 23 12-0246	EA	84" x 84" Volume Control Damper (Ruskin CD36).....	1,697.50	162.94

23 09 23 12-0247 Low Leakage Rectangular Volume Control Dampers (Ruskin CD50) (23 09 23 12-

0001)

23 09 23 12-0248	EA	8" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....	244.20	44.44
23 09 23 12-0249	EA	8" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....	299.13	44.44
23 09 23 12-0250	EA	8" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....	337.02	44.44
23 09 23 12-0251	EA	8" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....	372.33	59.25
23 09 23 12-0252	EA	8" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....	412.11	59.25
23 09 23 12-0253	EA	8" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....	448.10	59.25
23 09 23 12-0254	EA	8" x 32" Low Leakage Volume Control Damper (Ruskin CD50).....	453.78	59.25
23 09 23 12-0255	EA	8" x 36" Low Leakage Volume Control Damper (Ruskin CD50).....	521.30	74.07
23 09 23 12-0256	EA	12" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....	244.20	44.44
23 09 23 12-0257	EA	12" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....	299.13	44.44
23 09 23 12-0258	EA	12" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....	366.65	59.25
23 09 23 12-0259	EA	12" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....	372.33	59.25
23 09 23 12-0260	EA	12" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....	441.74	74.07
23 09 23 12-0261	EA	12" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....	477.73	74.07
23 09 23 12-0262	EA	12" x 32" Low Leakage Volume Control Damper (Ruskin CD50).....	483.41	74.07
23 09 23 12-0263	EA	12" x 36" Low Leakage Volume Control Damper (Ruskin CD50).....	550.92	88.87
23 09 23 12-0264	EA	16" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....	251.78	44.44
23 09 23 12-0265	EA	16" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....	342.02	59.25
23 09 23 12-0266	EA	16" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....	385.59	59.25
23 09 23 12-0267	EA	16" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....	419.01	74.07
23 09 23 12-0268	EA	16" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....	462.58	74.07
23 09 23 12-0269	EA	16" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....	530.08	88.87
23 09 23 12-0270	EA	16" x 32" Low Leakage Volume Control Damper (Ruskin CD50).....	535.76	88.87
23 09 23 12-0271	EA	16" x 36" Low Leakage Volume Control Damper (Ruskin CD50).....	583.12	88.87
23 09 23 12-0272	EA	20" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....	296.56	59.25
23 09 23 12-0273	EA	20" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....	366.65	59.25
23 09 23 12-0274	EA	20" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....	441.74	74.07
23 09 23 12-0275	EA	20" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....	447.42	74.07
23 09 23 12-0276	EA	20" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....	514.93	88.87
23 09 23 12-0277	EA	20" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....	564.18	88.87
23 09 23 12-0278	EA	20" x 32" Low Leakage Volume Control Damper (Ruskin CD50).....	607.07	103.69
23 09 23 12-0279	EA	20" x 36" Low Leakage Volume Control Damper (Ruskin CD50).....	644.95	103.69
23 09 23 12-0280	EA	24" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....	311.71	59.25
23 09 23 12-0281	EA	24" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....	411.43	74.07
23 09 23 12-0282	EA	24" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....	456.89	74.07
23 09 23 12-0283	EA	24" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....	494.09	88.87
23 09 23 12-0284	EA	24" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....	545.24	88.87
23 09 23 12-0285	EA	24" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....	622.22	103.69



MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
23 09 23 12-0286	EA	24" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	631.69		103.69
23 09 23 12-0287	EA	24" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	679.05		103.69
23 09 23 12-0288	EA	28" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	319.29		59.25
23 09 23 12-0289	EA	28" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	424.69		74.07
23 09 23 12-0290	EA	28" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	503.56		88.87
23 09 23 12-0291	EA	28" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	513.03		88.87
23 09 23 12-0292	EA	28" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	597.60		103.69
23 09 23 12-0293	EA	28" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	646.85		103.69
23 09 23 12-0294	EA	28" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	650.64		103.69
23 09 23 12-0295	EA	28" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	711.25		103.69
23 09 23 12-0296	EA	32" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	336.34		59.25
23 09 23 12-0297	EA	32" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	445.53		74.07
23 09 23 12-0298	EA	32" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	535.76		88.87
23 09 23 12-0299	EA	32" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	571.08		103.69
23 09 23 12-0300	EA	32" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	631.69		103.69
23 09 23 12-0301	EA	32" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	677.16		103.69
23 09 23 12-0302	EA	32" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	688.52		103.69
23 09 23 12-0303	EA	32" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	773.07		118.50
23 09 23 12-0304	EA	36" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	383.02		74.07
23 09 23 12-0305	EA	36" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	492.20		88.87
23 09 23 12-0306	EA	36" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	550.92		88.87
23 09 23 12-0307	EA	36" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	586.23		103.69
23 09 23 12-0308	EA	36" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	650.64		103.69
23 09 23 12-0309	EA	36" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	713.15		103.69
23 09 23 12-0310	EA	36" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	746.55		118.50
23 09 23 12-0311	EA	36" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	809.07		118.50
23 09 23 12-0312	EA	36" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	864.00		118.50
23 09 23 12-0313	EA	36" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	877.26		118.50
23 09 23 12-0314	EA	36" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	941.66		118.50
23 09 23 12-0315	EA	36" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,000.39		118.50
23 09 23 12-0316	EA	36" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,013.64		118.50
23 09 23 12-0317	EA	36" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,068.58		118.50
23 09 23 12-0318	EA	36" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,125.41		118.50
23 09 23 12-0319	EA	36" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,166.40		133.31
23 09 23 12-0320	EA	36" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12		133.31
23 09 23 12-0321	EA	36" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,646.12		133.31
23 09 23 12-0322	EA	36" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,646.12		133.31
23 09 23 12-0323	EA	36" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,675.01		133.31
23 09 23 12-0324	EA	40" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	903.78		118.50
23 09 23 12-0325	EA	40" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	915.14		118.50
23 09 23 12-0326	EA	40" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65		118.50
23 09 23 12-0327	EA	40" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85		118.50
23 09 23 12-0328	EA	40" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,051.53		118.50
23 09 23 12-0329	EA	40" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,143.67		133.31
23 09 23 12-0330	EA	40" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,208.08		133.31
23 09 23 12-0331	EA	40" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12		133.31
23 09 23 12-0332	EA	40" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,289.53		133.31
23 09 23 12-0333	EA	40" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0334	EA	40" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0335	EA	40" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,758.36		133.31
23 09 23 12-0336	EA	44" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	935.98		118.50
23 09 23 12-0337	EA	44" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	953.03		118.50
23 09 23 12-0338	EA	44" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,017.43		118.50
23 09 23 12-0339	EA	44" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,093.20		118.50
23 09 23 12-0340	EA	44" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,128.52		133.31
23 09 23 12-0341	EA	44" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,192.92		133.31
23 09 23 12-0342	EA	44" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,264.90		133.31
23 09 23 12-0343	EA	44" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,281.95		133.31
23 09 23 12-0344	EA	44" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,344.46		133.31
23 09 23 12-0345	EA	44" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0346	EA	44" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0347	EA	44" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,871.32		148.13
23 09 23 12-0348	EA	40" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	903.78		118.50
23 09 23 12-0349	EA	40" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	915.14		118.50
23 09 23 12-0350	EA	40" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65		118.50
23 09 23 12-0351	EA	40" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85		118.50
23 09 23 12-0352	EA	40" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,051.53		118.50
23 09 23 12-0353	EA	40" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,143.67		133.31
23 09 23 12-0354	EA	40" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,208.08		133.31
23 09 23 12-0355	EA	40" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12		133.31
23 09 23 12-0356	EA	40" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,289.53		133.31
23 09 23 12-0357	EA	40" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0358	EA	40" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0359	EA	40" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,758.36		133.31
23 09 23 12-0360	EA	44" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	935.98		118.50
23 09 23 12-0361	EA	44" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	953.03		118.50
23 09 23 12-0362	EA	44" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65		118.50
23 09 23 12-0363	EA	44" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85		118.50
23 09 23 12-0364	EA	44" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,128.52		133.31
23 09 23 12-0365	EA	44" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,192.92		133.31
23 09 23 12-0366	EA	44" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,264.90		133.31

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0367	EA	44" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,281.95	133.31
23 09 23 12-0368	EA	44" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,344.46	133.31
23 09 23 12-0369	EA	44" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29	133.31
23 09 23 12-0370	EA	44" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29	133.31
23 09 23 12-0371	EA	44" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,871.32	148.13
23 09 23 12-0372	EA	48" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	971.97	118.50
23 09 23 12-0373	EA	48" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	987.13	118.50
23 09 23 12-0374	EA	48" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,061.00	118.50
23 09 23 12-0375	EA	48" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,166.40	133.31
23 09 23 12-0376	EA	48" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,181.56	133.31
23 09 23 12-0377	EA	48" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,244.07	133.31
23 09 23 12-0378	EA	48" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,316.05	133.31
23 09 23 12-0379	EA	48" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,329.31	133.31
23 09 23 12-0380	EA	48" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,399.40	133.31
23 09 23 12-0381	EA	48" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,913.00	148.13
23 09 23 12-0382	EA	48" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,913.00	148.13
23 09 23 12-0383	EA	48" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,946.62	148.13
23 09 23 12-0384	EA	52" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,085.63	118.50
23 09 23 12-0385	EA	52" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,100.78	118.50
23 09 23 12-0386	EA	52" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,211.86	133.31
23 09 23 12-0387	EA	52" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,302.79	133.31
23 09 23 12-0388	EA	52" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,317.94	133.31
23 09 23 12-0389	EA	52" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,389.92	133.31
23 09 23 12-0390	EA	52" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,467.59	133.31
23 09 23 12-0391	EA	52" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,497.90	133.31
23 09 23 12-0392	EA	52" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,624.12	148.13
23 09 23 12-0393	EA	52" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32	148.13
23 09 23 12-0394	EA	52" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32	148.13
23 09 23 12-0395	EA	52" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,813.24	148.13
23 09 23 12-0396	EA	56" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,125.41	118.50
23 09 23 12-0397	EA	56" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,173.98	133.31
23 09 23 12-0398	EA	56" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,255.43	133.31
23 09 23 12-0399	EA	56" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,359.62	133.31
23 09 23 12-0400	EA	56" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,376.66	133.31
23 09 23 12-0401	EA	56" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,454.33	133.31
23 09 23 12-0402	EA	56" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,535.78	133.31
23 09 23 12-0403	EA	56" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,593.82	148.13
23 09 23 12-0404	EA	56" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,673.37	148.13
23 09 23 12-0405	EA	56" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32	148.13
23 09 23 12-0406	EA	56" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32	148.13
23 09 23 12-0407	EA	56" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,813.24	148.13
23 09 23 12-0408	EA	60" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,196.71	133.31
23 09 23 12-0409	EA	60" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,211.86	133.31
23 09 23 12-0410	EA	60" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,308.47	133.31
23 09 23 12-0411	EA	60" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,405.08	133.31
23 09 23 12-0412	EA	60" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,424.02	133.31
23 09 23 12-0413	EA	60" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,505.47	133.31
23 09 23 12-0414	EA	60" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,624.12	148.13
23 09 23 12-0415	EA	60" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,643.07	148.13
23 09 23 12-0416	EA	60" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,739.67	148.13
23 09 23 12-0417	EA	60" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0418	EA	60" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0419	EA	60" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,954.84	148.13
23 09 23 12-0420	EA	64" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,581.24	133.31
23 09 23 12-0421	EA	64" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,598.29	133.31
23 09 23 12-0422	EA	64" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,751.73	133.31
23 09 23 12-0423	EA	64" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,850.23	133.31
23 09 23 12-0424	EA	64" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,884.32	133.31
23 09 23 12-0425	EA	64" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,023.81	148.13
23 09 23 12-0426	EA	64" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,145.04	148.13
23 09 23 12-0427	EA	64" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,175.35	148.13
23 09 23 12-0428	EA	64" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,275.75	148.13
23 09 23 12-0429	EA	64" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0430	EA	64" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0431	EA	64" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,984.47	162.94
23 09 23 12-0432	EA	66" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,617.23	133.31
23 09 23 12-0433	EA	66" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,636.18	133.31
23 09 23 12-0434	EA	66" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,782.03	133.31
23 09 23 12-0435	EA	66" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,899.48	133.31
23 09 23 12-0436	EA	66" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,957.51	148.13
23 09 23 12-0437	EA	66" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,073.06	148.13
23 09 23 12-0438	EA	66" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,198.08	148.13
23 09 23 12-0439	EA	66" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,226.50	148.13
23 09 23 12-0440	EA	66" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,353.41	148.13
23 09 23 12-0441	EA	66" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,055.23	148.13
23 09 23 12-0442	EA	66" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94
23 09 23 12-0443	EA	66" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,143.11	162.94
23 09 23 12-0444	EA	72" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,649.44	133.31
23 09 23 12-0445	EA	72" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,674.06	133.31
23 09 23 12-0446	EA	72" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,816.13	133.31
23 09 23 12-0447	EA	72" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,976.46	148.13



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0448	EA	72" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,002.97	148.13	
23 09 23 12-0449	EA	72" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,124.21	148.13	
23 09 23 12-0450	EA	72" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,251.12	148.13	
23 09 23 12-0451	EA	72" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,275.75	148.13	
23 09 23 12-0452	EA	72" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,408.35	148.13	
23 09 23 12-0453	EA	72" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94	
23 09 23 12-0454	EA	72" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94	
23 09 23 12-0455	EA	72" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,143.11	162.94	
23 09 23 12-0456	EA	76" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,689.22	133.31	
23 09 23 12-0457	EA	76" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,715.74	133.31	
23 09 23 12-0458	EA	76" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,887.43	148.13	
23 09 23 12-0459	EA	76" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,025.71	148.13	
23 09 23 12-0460	EA	76" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,042.75	148.13	
23 09 23 12-0461	EA	76" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,175.35	148.13	
23 09 23 12-0462	EA	76" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,309.84	148.13	
23 09 23 12-0463	EA	76" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,342.05	148.13	
23 09 23 12-0464	EA	76" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,506.17	162.94	
23 09 23 12-0465	EA	76" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94	
23 09 23 12-0466	EA	76" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94	
23 09 23 12-0467	EA	76" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,309.81	162.94	
23 09 23 12-0468	EA	80" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,732.78	133.31	
23 09 23 12-0469	EA	80" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,757.41	133.31	
23 09 23 12-0470	EA	80" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,927.20	148.13	
23 09 23 12-0471	EA	80" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,073.06	148.13	
23 09 23 12-0472	EA	80" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,086.32	148.13	
23 09 23 12-0473	EA	80" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,226.50	148.13	
23 09 23 12-0474	EA	80" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,368.57	148.13	
23 09 23 12-0475	EA	80" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,437.98	162.94	
23 09 23 12-0476	EA	80" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,576.26	162.94	
23 09 23 12-0477	EA	80" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94	
23 09 23 12-0478	EA	80" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94	
23 09 23 12-0479	EA	80" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,309.81	162.94	
23 09 23 12-0480	EA	84" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,768.77	133.31	
23 09 23 12-0481	EA	84" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,815.44	148.13	
23 09 23 12-0482	EA	84" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,959.41	148.13	
23 09 23 12-0483	EA	84" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,122.31	148.13	
23 09 23 12-0484	EA	84" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,129.89	148.13	
23 09 23 12-0485	EA	84" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,262.49	148.13	
23 09 23 12-0486	EA	84" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,443.66	162.94	
23 09 23 12-0487	EA	84" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,485.33	162.94	
23 09 23 12-0488	EA	84" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,625.51	162.94	
23 09 23 12-0489	EA	84" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,401.20	162.94	
23 09 23 12-0490	EA	84" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,401.20	162.94	
23 09 23 12-0491	EA	84" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,476.50	162.94	
23 09 23 12-0492	Rectangular Volume Control Dampers (TAMCO) (23 09 23 12)				
	Note: Excludes actuators.				
23 09 23 12-0493	Air-Foil Control Damper (TAMCO Series 1000) (23 09 23 12-0492)				
23 09 23 12-0494	EA	12" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	227.35	44.44	
23 09 23 12-0495	EA	12" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	273.03	59.25	
23 09 23 12-0496	EA	12" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	289.10	59.25	
23 09 23 12-0497	EA	12" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	352.84	74.07	
23 09 23 12-0498	EA	12" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	362.62	74.07	
23 09 23 12-0499	EA	12" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	372.39	74.07	
23 09 23 12-0500	EA	12" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	418.02	88.87	
23 09 23 12-0501	EA	16" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	258.93	59.25	
23 09 23 12-0502	EA	16" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	260.88	59.25	
23 09 23 12-0503	EA	16" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	326.10	74.07	
23 09 23 12-0504	EA	16" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	361.70	74.07	
23 09 23 12-0505	EA	16" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	405.30	88.87	
23 09 23 12-0506	EA	16" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	437.80	88.87	
23 09 23 12-0507	EA	16" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	470.31	88.87	
23 09 23 12-0508	EA	20" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	294.04	59.25	
23 09 23 12-0509	EA	20" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	326.10	74.07	
23 09 23 12-0510	EA	20" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	351.30	74.07	
23 09 23 12-0511	EA	20" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	421.55	88.87	
23 09 23 12-0512	EA	20" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	462.18	88.87	
23 09 23 12-0513	EA	20" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	532.45	103.69	
23 09 23 12-0514	EA	20" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	573.08	103.69	
23 09 23 12-0515	EA	24" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	294.41	74.07	
23 09 23 12-0516	EA	24" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	343.17	74.07	
23 09 23 12-0517	EA	24" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	406.92	88.87	
23 09 23 12-0518	EA	24" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	452.76	88.87	
23 09 23 12-0519	EA	24" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	528.22	103.69	
23 09 23 12-0520	EA	24" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	574.06	103.69	
23 09 23 12-0521	EA	24" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	619.89	103.69	
23 09 23 12-0522	EA	28" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	324.60	74.07	
23 09 23 12-0523	EA	28" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	402.34	88.87	
23 09 23 12-0524	EA	28" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	445.11	88.87	
23 09 23 12-0525	EA	28" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	528.22	103.69	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0526	EA	28" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	581.70	103.69
23 09 23 12-0527	EA	28" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	635.16	103.69
23 09 23 12-0528	EA	28" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	688.64	103.69
23 09 23 12-0529	EA	32" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	350.27	74.07
23 09 23 12-0530	EA	32" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	435.03	88.87
23 09 23 12-0531	EA	32" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	513.67	103.69
23 09 23 12-0532	EA	32" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	574.91	103.69
23 09 23 12-0533	EA	32" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	636.18	103.69
23 09 23 12-0534	EA	32" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	697.44	103.69
23 09 23 12-0535	EA	32" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	788.32	118.50
23 09 23 12-0536	EA	36" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	384.49	88.87
23 09 23 12-0537	EA	36" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	453.40	88.87
23 09 23 12-0538	EA	36" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	551.96	103.69
23 09 23 12-0539	EA	36" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	590.97	103.69
23 09 23 12-0540	EA	36" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	654.88	103.69
23 09 23 12-0541	EA	36" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	748.43	118.50
23 09 23 12-0542	EA	36" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	812.37	118.50

23 09 23 12-0543 Ultra Low Leakage, Air-Foil Control Damper (TAMCO Series 1500) (23 09 23 12-

23 09 23 12-0544	EA	12" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	233.20	44.44
23 09 23 12-0545	EA	12" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	279.52	59.25
23 09 23 12-0546	EA	12" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	296.24	59.25
23 09 23 12-0547	EA	12" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	361.41	74.07
23 09 23 12-0548	EA	12" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	371.51	74.07
23 09 23 12-0549	EA	12" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	381.59	74.07
23 09 23 12-0550	EA	12" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	427.89	88.87
23 09 23 12-0551	EA	16" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	264.78	59.25
23 09 23 12-0552	EA	16" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	266.73	59.25
23 09 23 12-0553	EA	16" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.42	74.07
23 09 23 12-0554	EA	16" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	370.48	74.07
23 09 23 12-0555	EA	16" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	414.39	88.87
23 09 23 12-0556	EA	16" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	448.21	88.87
23 09 23 12-0557	EA	16" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	482.01	88.87
23 09 23 12-0558	EA	20" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	301.35	59.25
23 09 23 12-0559	EA	20" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.42	74.07
23 09 23 12-0560	EA	20" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	359.42	74.07
23 09 23 12-0561	EA	20" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	431.30	88.87
23 09 23 12-0562	EA	20" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	473.57	88.87
23 09 23 12-0563	EA	20" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	545.44	103.69
23 09 23 12-0564	EA	20" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	587.71	103.69
23 09 23 12-0565	EA	24" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	300.26	74.07
23 09 23 12-0566	EA	24" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	350.97	74.07
23 09 23 12-0567	EA	24" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	418.29	88.87
23 09 23 12-0568	EA	24" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	466.41	88.87
23 09 23 12-0569	EA	24" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	544.16	103.69
23 09 23 12-0570	EA	24" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	592.25	103.69
23 09 23 12-0571	EA	24" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	640.37	103.69
23 09 23 12-0572	EA	28" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.36	74.07
23 09 23 12-0573	EA	28" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	413.49	88.87
23 09 23 12-0574	EA	28" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	458.39	88.87
23 09 23 12-0575	EA	28" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	544.16	103.69
23 09 23 12-0576	EA	28" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	600.27	103.69
23 09 23 12-0577	EA	28" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	656.40	103.69
23 09 23 12-0578	EA	28" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	712.53	103.69
23 09 23 12-0579	EA	32" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	359.81	74.07
23 09 23 12-0580	EA	32" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	447.16	88.87
23 09 23 12-0581	EA	32" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	528.10	103.69
23 09 23 12-0582	EA	32" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	592.25	103.69
23 09 23 12-0583	EA	32" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	656.40	103.69
23 09 23 12-0584	EA	32" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	720.55	103.69
23 09 23 12-0585	EA	32" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	814.32	118.50
23 09 23 12-0586	EA	36" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	394.24	88.87
23 09 23 12-0587	EA	36" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	466.41	88.87
23 09 23 12-0588	EA	36" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	568.20	103.69
23 09 23 12-0589	EA	36" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	640.37	103.69
23 09 23 12-0590	EA	36" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	712.53	103.69
23 09 23 12-0591	EA	36" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	814.32	118.50
23 09 23 12-0592	EA	36" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	886.48	118.50

23 09 23 12-0593 Thermally Insulated Damper (TAMCO Series 9000) (23 09 23 12-0492)

23 09 23 12-0594	EA	12" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	272.21	44.44
23 09 23 12-0595	EA	12" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	322.80	59.25
23 09 23 12-0596	EA	12" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	343.77	59.25
23 09 23 12-0597	EA	12" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	418.46	74.07
23 09 23 12-0598	EA	12" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	430.74	74.07
23 09 23 12-0599	EA	12" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	443.03	74.07
23 09 23 12-0600	EA	12" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	493.71	88.87
23 09 23 12-0601	EA	16" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	303.79	59.25



Heating, Ventilating, and Air-Conditioning (HVAC)

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Instrumentation and Control for HVAC 23 09

Direct-Digital Control System for HVAC 23 09 23



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0602	EA	16" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	305.74	59.25	
23 09 23 12-0603	EA	16" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	392.18	74.07	
23 09 23 12-0604	EA	16" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	428.99	74.07	
23 09 23 12-0605	EA	16" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	475.07	88.87	
23 09 23 12-0606	EA	16" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	517.55	88.87	
23 09 23 12-0607	EA	16" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	560.03	88.87	
23 09 23 12-0608	EA	20" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	350.11	59.25	
23 09 23 12-0609	EA	20" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	382.18	74.07	
23 09 23 12-0610	EA	20" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	413.60	74.07	
23 09 23 12-0611	EA	20" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	496.31	88.87	
23 09 23 12-0612	EA	20" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	549.42	88.87	
23 09 23 12-0613	EA	20" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	632.14	103.69	
23 09 23 12-0614	EA	20" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	685.23	103.69	
23 09 23 12-0615	EA	24" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	339.27	74.07	
23 09 23 12-0616	EA	24" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	402.99	74.07	
23 09 23 12-0617	EA	24" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	483.32	88.87	
23 09 23 12-0618	EA	24" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	544.43	88.87	
23 09 23 12-0619	EA	24" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	635.16	103.69	
23 09 23 12-0620	EA	24" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	696.29	103.69	
23 09 23 12-0621	EA	24" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	757.39	103.69	
23 09 23 12-0622	EA	28" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	383.41	74.07	
23 09 23 12-0623	EA	28" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	477.19	88.87	
23 09 23 12-0624	EA	28" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	534.24	88.87	
23 09 23 12-0625	EA	28" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	635.16	103.69	
23 09 23 12-0626	EA	28" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	706.47	103.69	
23 09 23 12-0627	EA	28" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	777.76	103.69	
23 09 23 12-0628	EA	28" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	849.06	103.69	
23 09 23 12-0629	EA	32" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	417.03	74.07	
23 09 23 12-0630	EA	32" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	519.99	88.87	
23 09 23 12-0631	EA	32" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	614.80	103.69	
23 09 23 12-0632	EA	32" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	696.29	103.69	
23 09 23 12-0633	EA	32" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	777.76	103.69	
23 09 23 12-0634	EA	32" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	859.24	103.69	
23 09 23 12-0635	EA	32" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	970.35	118.50	
23 09 23 12-0636	EA	36" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	452.76	88.87	
23 09 23 12-0637	EA	36" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	544.43	88.87	
23 09 23 12-0638	EA	36" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	665.72	103.69	
23 09 23 12-0639	EA	36" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	756.09	103.69	
23 09 23 12-0640	EA	36" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	847.54	103.69	
23 09 23 12-0641	EA	36" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	968.61	118.50	
23 09 23 12-0642	EA	36" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	1,060.07	118.50	
23 09 23 12-0643 Thermally Broken Frame Damper (TAMCO Series 9000 BF) (23 09 23 12-0492)					
23 09 23 12-0644	EA	12" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	305.36	44.44	
23 09 23 12-0645	EA	12" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	359.59	59.25	
23 09 23 12-0646	EA	12" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	384.18	59.25	
23 09 23 12-0647	EA	12" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	466.94	74.07	
23 09 23 12-0648	EA	12" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	481.10	74.07	
23 09 23 12-0649	EA	12" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	495.26	74.07	
23 09 23 12-0650	EA	12" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	549.67	88.87	
23 09 23 12-0651	EA	16" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	336.94	59.25	
23 09 23 12-0652	EA	16" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	338.90	59.25	
23 09 23 12-0653	EA	16" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	423.62	74.07	
23 09 23 12-0654	EA	16" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	478.72	74.07	
23 09 23 12-0655	EA	16" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	526.66	88.87	
23 09 23 12-0656	EA	16" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	576.49	88.87	
23 09 23 12-0657	EA	16" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	626.34	88.87	
23 09 23 12-0658	EA	20" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	391.56	59.25	
23 09 23 12-0659	EA	20" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	423.62	74.07	
23 09 23 12-0660	EA	20" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	459.65	74.07	
23 09 23 12-0661	EA	20" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	551.58	88.87	
23 09 23 12-0662	EA	20" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	613.88	88.87	
23 09 23 12-0663	EA	20" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	705.82	103.69	
23 09 23 12-0664	EA	20" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	768.12	103.69	
23 09 23 12-0665	EA	24" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	372.43	74.07	
23 09 23 12-0666	EA	24" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	447.18	74.07	
23 09 23 12-0667	EA	24" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	522.33	88.87	
23 09 23 12-0668	EA	24" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	591.23	88.87	
23 09 23 12-0669	EA	24" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	689.77	103.69	
23 09 23 12-0670	EA	24" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	758.70	103.69	
23 09 23 12-0671	EA	24" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	827.61	103.69	
23 09 23 12-0672	EA	28" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	413.44	74.07	
23 09 23 12-0673	EA	28" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	515.42	88.87	
23 09 23 12-0674	EA	28" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	579.75	88.87	
23 09 23 12-0675	EA	28" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	689.77	103.69	
23 09 23 12-0676	EA	28" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	770.19	103.69	
23 09 23 12-0677	EA	28" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	850.58	103.69	
23 09 23 12-0678	EA	28" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	930.98	103.69	
23 09 23 12-0679	EA	32" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	451.36	74.07	
23 09 23 12-0680	EA	32" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	563.68	88.87	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0681 EA 32" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	666.82	103.69
23 09 23 12-0682 EA 32" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	758.70	103.69
23 09 23 12-0683 EA 32" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	850.58	103.69
23 09 23 12-0684 EA 32" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	942.47	103.69
23 09 23 12-0685 EA 32" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,063.97	118.50
23 09 23 12-0686 EA 36" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	487.86	88.87
23 09 23 12-0687 EA 36" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	591.23	88.87
23 09 23 12-0688 EA 36" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	724.24	103.69
23 09 23 12-0689 EA 36" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	826.30	103.69
23 09 23 12-0690 EA 36" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	929.46	103.69
23 09 23 12-0691 EA 36" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,062.23	118.50
23 09 23 12-0692 EA 36" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,165.39	118.50

23 09 23 12-0693 Rectangular Galvanized Volume Control Dampers (23 09 23 12)

Note: Excludes actuators.

23 09 23 12-0694 EA 8" x 8" Low Leakage Volume Control Damper (Johnson Controls VOPSN-008X008).....	208.55	36.74
23 09 23 12-0695 EA 10" x 10" Low Leakage Volume Control Damper (Johnson Controls VOPSN-010X010).....	235.38	40.29
23 09 23 12-0696 EA 12" x 12" Low Leakage Volume Control Damper (Johnson Controls VOPSN-012X012).....	263.36	44.44
23 09 23 12-0697 EA 14" x 14" Low Leakage Volume Control Damper (Johnson Controls VOPSN-014X014).....	304.29	52.14
23 09 23 12-0698 EA 16" x 16" Low Leakage Volume Control Damper (Johnson Controls VOPSN-016X016).....	344.04	59.25
23 09 23 12-0699 EA 18" x 18" Low Leakage Volume Control Damper (Johnson Controls VOPSN-018X018).....	346.08	66.66
23 09 23 12-0700 EA 20" x 20" Low Leakage Volume Control Damper (Johnson Controls VOPSN-020X020).....	426.89	74.07
23 09 23 12-0701 EA 24" x 24" Low Leakage Volume Control Damper (Johnson Controls VOPSN-024X024).....	509.69	88.87
23 09 23 12-0702 EA 32" x 32" Low Leakage Volume Control Damper (Johnson Controls VOPSN-032X032).....	657.42	103.69
23 09 23 12-0703 EA 48" x 48" Low Leakage Volume Control Damper (Johnson Controls VOPSN-048X048).....	985.98	118.50
23 09 23 12-0704 EA 60" x 60" Low Leakage Volume Control Damper (Johnson Controls VOPSN-060X060).....	1,831.63	133.31
23 09 23 12-0705 EA 72" x 72" Low Leakage Volume Control Damper (Johnson Controls VOPSN-072X072).....	2,332.56	148.13

23 09 23 12-0706 Round Galvanized Control Dampers (23 09 23 12)

Note: Excludes actuators.

23 09 23 12-0707 EA 6" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG06).....	201.04	41.48
23 09 23 12-0708 EA 8" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG08).....	207.07	44.44
23 09 23 12-0709 EA 10" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG10).....	216.53	44.44
23 09 23 12-0710 EA 12" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG12).....	240.09	50.37
23 09 23 12-0711 EA 14" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG14).....	275.19	50.37
23 09 23 12-0712 EA 16" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG16).....	297.23	59.25
23 09 23 12-0713 EA 18" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG18).....	399.80	62.37
23 09 23 12-0714 EA 20" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG20).....	418.19	64.64
23 09 23 12-0715 EA 22" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG22).....	443.39	69.69
23 09 23 12-0716 EA 24" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG24).....	469.13	74.73

23 09 23 12-0717 Remote Damper Control (23 09 23 12)

23 09 23 12-0718 EA Remote Cable Control Concealed Ceiling Regulator For Damper (Young Regulator Co. 270-301B).....	290.77	
For Each 10' Flexible Casing And Wire, Add	41.36	
23 09 23 12-0719 EA Remote Cable Control Concealed Ceiling Regulator For Damper (Young Regulator Co. 270-275B).....	282.30	
For Each 10' Flexible Casing And Wire, Add	41.36	

23 09 23 12-0720 Control Damper Actuators (23 09 23 12)

23 09 23 12-0721 EA 44 IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo LMB24-SR).....	517.80	97.90
23 09 23 12-0722 EA 90 IN-LB, 24 Volt AC/DC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo NMB24-SR).....	562.26	97.90
23 09 23 12-0723 EA 90 IN-LB, 2 Position, 24 To 240 Volt AC Spring Return Direct Coupled Control Damper Actuator (Belimo NFBUP).....	635.10	97.90
23 09 23 12-0724 EA 175 IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo AMB24-SR).....	669.90	97.90
23 09 23 12-0725 EA 90 IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Spring Return Direct Coupled Control Damper Actuator (Belimo NFB24-SR).....	690.55	97.90
23 09 23 12-0726 EA 360 IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo GMB24-SR).....	771.76	97.90

23 09 23 13 Energy Meters (23 09 23)**23 09 23 13-0001 Surge Protectors (23 09 23 13)**

23 09 23 13-0002 EA Surge Protector, T100's, Summit, BCU, UPCM, PCM, TCM (Transtector TR2255).....	354.96	9.86
23 09 23 13-0003 EA Surge Protector, 1AC Outlet (Transtector TR2251).....	267.80	9.86
23 09 23 13-0004 EA Surge Protector, 2 AC Outlets (Transtector TR2254).....	417.77	9.86
23 09 23 13-0005 EA Surge Protector, DB-15 Connection (Transtector TR2259-DLP15).....	225.24	9.86
23 09 23 13-0006 EA Surge Protector, DB-25 Connection (Transtector TR2259-DLP25).....	225.24	9.86
23 09 23 13-0007 EA Surge Protector, DB-9 Connection (Transtector TR2259-DLP9).....	225.24	9.86
23 09 23 13-0008 EA Surge Protector, Individual Wire Connection (Transtector TR2258).....	326.59	9.86
23 09 23 13-0009 EA Surge Protector, Trane Communication Links (Transtector TR2257).....	200.92	9.86

23 09 23 14 Flow Instruments (23 09 23)**23 09 23 14-0001 Water Flow Meters (23 09 23 14)**



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 14-0002 EA Insertion Electromagnetic Water Flow Meter (Onicon F-3500)..... Note: Excludes pipe fittings.	5,292.22	98.50
23 09 23 14-0003 Air Flow Monitoring Stations (23 09 23 14)		
23 09 23 14-0004 EA Analog Transmitter, 2 Point, 3 Sensor Air Flow Monitoring Station (Ebtron GTA116)..... Note: 10' cable, 36" x 24" typical duct size.	4,155.94	113.76
23 09 23 14-0005 EA Analog Transmitter, 3 Point, 4 Sensor Air Flow Monitoring Station (Ebtron GTA116)..... Note: 10' cable, 48" x 36" typical duct size.	5,975.96	113.76
23 09 23 14-0006 EA Analog Transmitter, 4 Point, 4 Sensor Air Flow Monitoring Station (Ebtron GTA116)..... Note: 10' cable, 60" x 48" typical duct size.	7,442.37	113.76
23 09 23 16 Gas Instruments (23 09 23)		
23 09 23 16-0001 Gas Sensors (23 09 23 16)		
23 09 23 16-0002 EA 6-1/4" x 6-1/8" CO2 Sensor, 0-2,000 ppm (Kele WCO-1B).....	2,203.49	59.13
23 09 23 16-0003 EA Wall Mounted CO2 Sensor, 0-2,000 ppm With LCD Display (Kele CD-AW-LCD).....	972.33	39.42
23 09 23 16-0004 EA CO Monitor/Transmitter, 0 To 250 ppm (Kele GMT-CO-S2)..... Note: Solid state sensor.	1,750.31	59.13
23 09 23 16-0005 EA CO2 Transmitter, Duct Mount, No Display, 0-10 Volt DC Out, 24 Volt AC/Volt DC, 0-10 Or 4-20mA, 0-2,000 ppm Range With CD-AD Duct Probe Assembly (CDE CD-AD-LCD, CD-AD).....	947.46	70.96
23 09 23 19 Moisture Instruments (23 09 23)		
23 09 23 19-0001 Relative Humidity Sensors (23 09 23 19)		
23 09 23 19-0002 EA 3% Duct Mounted RH Sensor (Kele HD30K).....	588.14	70.96
23 09 23 19-0003 EA 10K Ohm Thermistor 3% Duct Mounted RH Sensor (Kele HD30K-T3).....	604.33	70.96
23 09 23 19-0004 EA 3% RH Outdoor Air Sensor (Kele HO30K).....	682.92	98.55
23 09 23 19-0005 EA 2% Surface Mounted RH Transmitter (Kele HW20K).....	534.04	39.42
23 09 23 21 Motion Instruments (23 09 23)		
23 09 23 21-0001 Peco Motion Sensors (23 09 23 21)		
23 09 23 21-0002 EA Ceiling Mount Passive Infrared, 24 Volt, Slave Motion Sensor (Peco SA200-001).....	194.58	27.71
23 09 23 21-0003 EA Wall/Ceiling Mount Passive Infrared, 24 Volt, Slave Motion Sensor (Peco SB200-001).....	190.72	27.71
23 09 23 21-0004 EA Wall/Ceiling Passive Infrared, 24 Volt, Master Motion Sensor (Peco SD200-001).....	255.51	27.71
23 09 23 21-0005 EA Wall/Ceiling Mount, Passive Infrared, 24 Volt, Master Time Sensor (Peco SD200-002).....	226.92	27.71
23 09 23 21-0006 EA Door Switch Occupancy Sensor (Peco SE200-001).....	69.79	27.71
23 09 23 21-0007 EA Window Switch Occupancy Sensor (Peco SE200-002).....	64.47	27.71
23 09 23 21-0008 EA Power Pack And Controller (Peco SF200-001).....	119.26	27.71
23 09 23 23 Pressure Instruments (23 09 23)		
23 09 23 23-0001 Pressure Sensors (23 09 23 23)		
23 09 23 23-0002 EA 0 To 0.5" W.C., Differential Pressure Transmitters With NEMA 1 Case (Kele T30-005).....	785.21	83.22
23 09 23 23-0003 EA 0 To 5" W.C., Differential Pressure Transmitters With NEMA 1 Case (Kele T30-050).....	698.24	83.22
23 09 23 23-0004 EA 0.05 To 12" W.C., Adjustable Differential Pressure Switches (Kele AFS-222).....	277.43	83.22
23 09 23 23-0005 EA 0.05 To 2" W.C., Adjustable Differential Pressure Switches (Kele AFS-262).....	287.53	83.22
23 09 23 23-0006 EA 0.4 To 2" W.C., Manual Reset Adjustable Differential Pressure Switches (Kele AFS-460).....	307.31	83.22
23 09 23 23-0007 EA 0.05 To 12" W.C., 1/8" NPT, Adjustable Differential Pressure Switches (Kele AFS-145).....	284.60	83.22
23 09 23 23-0008 EA 0 To 100 psid, Bypass Valve Assembly Option, Water Differential Pressure Transmitter (Kele 360C-P210D-BVA)..... Note: Excludes pipe fittings.	2,903.38	83.22
23 09 23 23-0009 EA 0 To 60 psid, Bypass Valve Assembly Option, Water Differential Pressure Transmitter (Kele 360C-P160D-BVA)..... Note: Excludes pipe fittings.	2,903.38	83.22
23 09 23 23-0010 EA Magnahelic Gauge.....	754.76	50.87
23 09 23 27 Temperature Instruments (23 09 23)		
23 09 23 27-0001 Air Temperature Sensors (23 09 23 27)		
23 09 23 27-0002 EA 10K Ohm Thermistor Duct Temperature Sensor (Kele ST-D24).....	215.19	70.96
23 09 23 27-0003 EA 10K Ohm Thermistor Duct Temperature Sensor, 1/2" LB Conduit Fitting (Kele ST-D24-XCO).....	302.16	70.96
23 09 23 27-0004 EA 10K Ohm Thermistor Duct Temperature Sensor With Greenfield Fitting (Kele ST-D24-XG).....	225.19	70.96
23 09 23 27-0005 EA 10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing (Kele ST-D24-XH).....	235.45	70.96
23 09 23 27-0006 EA 10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing, 18" Probe (Kele ST-D24-XH-XL18).....	238.87	70.96
23 09 23 27-0007 EA 10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing, 6" Probe (Kele ST-D24-XH-XL6).....	235.49	70.96
23 09 23 27-0008 EA 10K Ohm Thermistor Duct Temperature Sensor With Non-Metallic Handibox Housing (Kele ST-D24-XHP).....	237.31	70.96
23 09 23 27-0009 EA 10K Ohm Thermistor Duct Temperature Sensor With 4" Probe (Kele ST-D24-XL4).....	254.59	70.96
23 09 23 27-0010 EA 10K Ohm Thermistor Duct Temperature Sensor With Weatherproof Housing (Kele ST-D24-XW).....	269.68	70.96
23 09 23 27-0011 EA 10K Ohm Thermistor Outdoor Air Temperature Sensor (Kele ST-O24).....	326.33	98.55
23 09 23 27-0012 EA 10K Ohm Thermistor Outdoor Air Temperature Sensor With 25' Lead (Kele ST-O24-XC25).....	337.95	98.55
23 09 23 27-0013 EA Delta Style Surface Mounted 10K Ohm Thermistor Room Temperature Sensor (Kele BA/10K3-R-N-DF).....	147.68	39.42
23 09 23 27-0014 EA Delta Style Surface Mounted AD592 Room Temperature Sensor (Kele BA/592-10K-R).....	151.95	39.42
23 09 23 27-0015 EA Stainless Steel Plate 1K Ohm Room Temperature Sensor (Kele BA/1K8-SP).....	140.73	39.42
23 09 23 27-0016 Water Temperature Sensors (23 09 23 27)		
23 09 23 27-0017 EA 5" Immersion 20K Ohm Water Temp Sensor (Honeywell C7041D2001).....	173.53	76.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 27-0018	EA	Strap-On 20K Ohm Water Temp Sensor (Honeywell C7041K2005)	393.31	76.26
23 09 23 27-0019		Peco Thermostats (23 09 23 27)		
23 09 23 27-0020	EA	3 Heating Stage, 2 Cooling Stage Programmable Thermostat With Humidification/Dehumidification Control (Peco T12532-IAQ)	407.60	18.48
23 09 23 27-0021	EA	3 Heating Stage, 2 Cooling Stage Programmable Thermostat (Peco T12532-001)	363.28	18.48
23 09 23 53		Proprietary Control Systems (23 09 23)		
23 09 23 53-0001		EMCS General Costs (23 09 23 53)		
23 09 23 53-0002		EMCS System Design Services (23 09 23 53-0001) Note: Hourly labor rates for use with Site Inspection, Project Management, Engineering, Design, Programming, Training and Technical Support.		
23 09 23 53-0003	HR	EMCS Site Inspection Of Existing Facilities	304.89	
23 09 23 53-0004	HR	EMCS Engineering Project Management	304.89	
23 09 23 53-0005	HR	EMCS System Engineering, Schematic Design And Layout	323.37	
23 09 23 53-0006	HR	EMCS System Software Programming And Graphics Programming	323.37	
23 09 23 53-0007	HR	EMCS Graphics Picture Creation	207.95	
23 09 23 53-0008	HR	EMCS System Controls Training	304.89	
23 09 23 53-0009	HR	EMCS On Site System Diagnostics Field Technician	304.89	
23 09 23 53-0010	HR	EMCS Remote Technical Support Using Phone Or Internet	254.14	
23 09 23 53-0011	HR	EMCS Travel Time (All Personnel)	263.38	
23 09 23 53-0012		Field Tests, Checkout And Commissioning (23 09 23 53-0001) Note: A point is defined as any transmitter, switch, actuator, sensor or device (starter, VFD, controller, fan, electric coil, actuator, valve, etc.) that is monitored or controlled by the EMCS system. Most devices count as 1 point. Actuators, valves and thermostats count as 2 points.		
23 09 23 53-0013	PNT	EMCS Field Test	161.75	
		Note: Priced per point.		
23 09 23 53-0014	PNT	EMCS Field Checkout And Startup	161.75	
		Note: Priced per point.		
23 09 23 53-0015	PNT	EMCS Field Commissioning	161.75	
		Note: Priced per point.		
23 09 23 53-0016	EA	EMCS Field Balance Support	138.58	
		Note: Priced per controller.		
23 09 23 53-0017		EMCS System Engineering/Submittal Design And Layout (23 09 23 53-0001) Note: A point is defined as any transmitter, switch, actuator, sensor or device (starter, VFD, controller, fan, electric coil, actuator, valve, etc.) that is monitored or controlled by the EMCS system. Most devices count as 1 point. Actuators, valves and thermostats count as 2 points.		
23 09 23 53-0018	PNT	EMCS System Engineering/Submittal Design And Layout	53.95	
		Note: Priced per point.		
23 09 23 53-0019		Alerton Controls (23 09 23 53)		
23 09 23 53-0020	EA	50 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-SMALL)	9,815.21	
23 09 23 53-0021	EA	150 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-MEDIUM)	12,610.71	
23 09 23 53-0022	EA	Dashboard Option, 150 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-MEDIUM)	31,919.04	
23 09 23 53-0023	EA	Unlimited Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-LARGE)	23,943.86	
23 09 23 53-0024	EA	Dashboard Option, Unlimited Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-LARGE)	61,721.01	
23 09 23 53-0025	EA	Unlimited Devices, SQL Server Interface, Unlimited WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-ENTERPRISE)	48,674.46	
23 09 23 53-0026	EA	Dashboard Option, Unlimited Devices, SQL Server Interface, Unlimited WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-ENTERPRISE)	74,313.38	
23 09 23 53-0027	EA	Alerton Building Suite Tech License (Alerton ABS-3-TECH)	2,063.08	
23 09 23 53-0028	EA	Enterprise Edition With SQL Server Support, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-ENT1)	28,191.69	
23 09 23 53-0029	EA	Unlimited Controllers, Unlimited Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-LRG)	20,623.66	
23 09 23 53-0030	EA	150 Controllers, 3 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-MED)	12,551.96	
23 09 23 53-0031	EA	50 Controllers, 1 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-SM)	7,754.24	
23 09 23 53-0032	EA	10 Controllers, 1 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-XS)	2,993.55	
23 09 23 53-0033	EA	1 Ethernet, 1 MS/TP, BACtalk Control Module (Alerton 715000100)	5,339.94	295.66
23 09 23 53-0034	EA	Foreign Protocol Converter For P1 Systems, BACtalk Control Module (Alerton BCM-FPCS)	7,882.74	394.21
23 09 23 53-0035	EA	Modbus Gateway, BACtalk Control Module (Alerton BCM-MDBS)	7,780.32	394.21
23 09 23 53-0036	EA	V.90/56K Modem, BACtalk Control Module (Alerton BCM-MDM)	2,863.43	295.66
23 09 23 53-0037	EA	1 MS/TP, BACtalk Control Module (Alerton 715000300)	3,463.67	295.66
23 09 23 53-0038	EA	Power Supply, BACtalk Control Module (Alerton BCM-PWS)	2,678.73	295.66
23 09 23 53-0039	EA	1 TUX Trunk, BACtalk Control Module (Alerton BCM-TUX)	3,326.00	295.66
23 09 23 53-0040	EA	Web Server And Configurator CD, BACtalk Control Module (Alerton BCM-WEB)	7,833.23	295.66
23 09 23 53-0041	EA	BACtalk Field Level Gateway For Modbus (Alerton FLG-MODBUS)	3,612.24	394.21
23 09 23 53-0042	EA	EXP BACnet Controller (Alerton VLX)	7,933.85	788.41
23 09 23 53-0043	EA	VLX BACnet High Performance Controller (Alerton VLX-PLATINUM)	9,247.67	788.41
23 09 23 53-0044	EA	Multiple Segment MS/TP Repeater (Alerton MSTP-REP)	1,218.81	87.78
23 09 23 53-0045	EA	4 Inputs, 2 Flow Transducers, 4 Ground-Switching Binary Triac Outputs, Dual-Duct VAV Controller (Alerton VAV-DD)	2,338.75	295.66
23 09 23 53-0046	EA	4 Inputs, 2 Flow Transducers, 3 Binary Triac Outputs, 4 Ground-Switching Binary Triac Outputs, Dual-Duct VAV Controller (Alerton VAV-DD7)	2,477.27	295.66
23 09 23 53-0047	EA	4 Inputs, 1 Flow Transducers, 3 Hot-Switching Binary Triac Outputs, 2 Ground-Switching Binary Triac Outputs, Single-Duct VAV Controller (Alerton VAV-SD)	1,998.76	295.66



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0048 EA 4 Universal Inputs, 5 Binary Outputs, 2 Analog Outputs, Single-Duct VAV Controller (Alerton VAV-SD2A)	2,191.85	295.66
23 09 23 53-0049 EA 5 Universal Inputs, 6 Binary Outputs, Integral Honeywell Actuator, Single-Duct VAV Controller (Alerton VAViH-SD)	2,183.45	295.66
23 09 23 53-0050 EA 11 Inputs, 8 Binary Triac Outputs, 8 Analog Outputs, BACtalk Field Controller For Central Plant Systems (Alerton VLC-1188)	3,291.58	295.66
23 09 23 53-0051 EA 16 Inputs, BACtalk Field Controller (Alerton VLC-1600)	2,528.48	295.66
23 09 23 53-0052 EA 16 Inputs, 16 Binary Triac Outputs, BACtalk Field Controller (Alerton VLC-16160)	3,792.75	394.21
23 09 23 53-0053 EA 4 Universal Inputs, 4 Binary Outputs, 4 Analog Outputs, Field Controller (Alerton VLC-444)	1,679.79	197.11
23 09 23 53-0054 EA 5 Inputs, 5 Binary Outputs, BACtalk Field Controller (Alerton VLC-550)	1,624.37	197.11
23 09 23 53-0055 EA 6 Inputs, 2 Binary Triac Outputs, 3 Isolated Relay Outputs, BACtalk Field Controller (Alerton VLC-651R)	2,204.43	295.66
23 09 23 53-0056 EA 6 Inputs, 3 Binary Triac Outputs, 3 Isolated Relay Outputs, BACtalk Field Controller (Alerton VLC-660R)	2,204.43	295.66
23 09 23 53-0057 EA 8 Inputs, 5 Binary Triac Outputs, 3 Analog Outputs, BACtalk Field Controller (Alerton VLC-853)	2,651.88	295.66
23 09 23 53-0058 EA 16 Universal Inputs, 8 Binary Outputs, 8 Analog Outputs, Field Controller (Alerton VLC-1688)	5,262.70	394.21
23 09 23 53-0059 EA 2 Fixed Inputs, 3 Universal Inputs, 6 Binary Outputs, 2 Analog Outputs, VisualLogic Display Controller (Alerton VLD-362)	2,284.18	295.66
23 09 23 53-0060 EA Wireless Door Contact Sensor (Alerton AL-OC-DS)	155.00	11.09
23 09 23 53-0061 EA One-Speed BACtalk Microset Wall Sensor (Alerton MS-1010-BT)	252.72	11.09
23 09 23 53-0062 EA One-Speed BACtalk Microset Wall Sensor With RH Sensor (Alerton MS-1010H-BT)	648.95	11.09
23 09 23 53-0063 EA Three-Speed BACtalk Microset Wall Sensor (Alerton MS-1030-BT)	648.95	11.09
23 09 23 53-0064 EA Three-Speed BACtalk Microset Wall Sensor With RH Sensor (Alerton MS-1030H-BT)	504.58	11.09
23 09 23 53-0065 EA BACnet-Compliant Wall Sensor (Alerton TS-1050-BT)	168.78	11.09
23 09 23 53-0066 EA Wireless Temperature And Humidity Sensor (Alerton WTS-1000-KIT)	685.06	11.09
23 09 23 53-0067 EA Wireless Temperature And Humidity Sensor With Temperature Adjustment Knob And Manual Override (Alerton WTS-1050-KIT)	769.02	11.09
23 09 23 53-0068 EA 10 12-Bit Inputs, 12 Binary Triac Outputs Expansion Module (Alerton EXP-10-12-0)	3,283.19	295.66
23 09 23 53-0069 EA 10 12-Bit Inputs, 4 Binary Triac Outputs Expansion Module (Alerton EXP-10-4-8)	3,489.69	295.66
23 09 23 53-0070 EA 22 12-Bit Inputs Expansion Module (Alerton EXP-22-0-0)	3,311.73	295.66
23 09 23 53-0071 EA 50 Devices, Ascent Compass 1 Software, Small License (Alerton Compass-1-SM)	10,633.93	
23 09 23 53-0072 EA Global Controller Base Unit (Alerton ACM)	5,796.79	295.66
23 09 23 53-0073 EA External Battery Pack For ACM (Alerton ACM-BATT)	1,259.17	164.46
23 09 23 53-0074 EA Licenses The ACM For Capacity Of 32 Directly Connected Devices (Alerton ACM032)	1,040.11	
23 09 23 53-0075 EA Microset 4 Wall Sensor (Alerton MS4-THC)	1,190.49	11.09
23 09 23 53-0076 Automated Logic Controls (23 09 23 53)		
23 09 23 53-0077 EA 0 Digital Outputs, 8 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M0100)	3,700.13	295.66
23 09 23 53-0078 EA 0 Digital Outputs, 32 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M0320)	8,280.35	886.97
23 09 23 53-0079 EA 2 Digital Outputs, 2 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M220nx)	2,555.02	295.66
23 09 23 53-0080 EA 4 Digital Outputs, 10 Universal Inputs, 6 Analog Outputs Standalone Control Module (Automated Logic M4106nx)	5,389.28	394.21
23 09 23 53-0081 EA 8 Digital Outputs, 10 Universal Inputs, 2 Analog Outputs Standalone Control Module (Automated Logic M8102nx)	5,303.82	394.21
23 09 23 53-0082 EA 16 Digital Outputs, 16 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M16160)	8,556.69	788.41
23 09 23 53-0083 EA 8 Digital Outputs, 8 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M880nx)	4,748.36	394.21
23 09 23 53-0084 EA 0 Digital Outputs, 32 Universal Inputs, 0 Analog Outputs Expander Control Module (Automated Logic MX0320)	4,759.78	295.66
23 09 23 53-0085 EA 16 Digital Outputs, 16 Universal Inputs, 0 Analog Outputs Expander Control Module (Automated Logic MX16160)	8,043.96	788.41
23 09 23 53-0086 EA No Display, Interior Wall Mounted, Standalone Controller For Heat Pumps, Fan Coil Units And Other Packaged HVAC Equipment (Automated Logic RC642)	1,931.10	197.11
23 09 23 53-0087 EA With Display, Interior Wall Mounted, Standalone Controller For Heat Pumps, Fan Coil Units And Other Packaged HVAC Equipment (Automated Logic RC642D)	2,064.37	197.11
23 09 23 53-0088 EA 3 Digital Outputs, 4 Universal Inputs, 1 Analog Outputs Controller For Pressure Independent VAV Applications (Automated Logic ZN341+)	2,790.78	197.11
23 09 23 53-0089 EA 1 Digital Outputs, 4 Universal Inputs, 1 Analog Outputs Controller For Pressure Independent VAV Applications (Automated Logic ZN141+)	2,694.64	197.11
23 09 23 53-0090 EA Air Flow Sensor And Damper Actuator Accessory For ZN341V+ Or ZN141V+ (Automated Logic ZASF)	2,332.83	295.66
23 09 23 53-0091 EA Unlimited Points, Front End Software For Building Control (Automated Logic WC)	14,151.29	
23 09 23 53-0092 EA 500 Point, Front End Software For Building Control (Automated Logic WC500)	8,938.47	
23 09 23 53-0093 EA Enterprise Integration Option, Front End Software For Building Control (Automated Logic WC-ENTERPRISE)	11,667.52	
23 09 23 53-0094 Cypress Envirosystems Controls (23 09 23 53)		
23 09 23 53-0095 Wireless Pneumatic Thermostat (23 09 23 53-0094)		
Note: Wireless pneumatic thermostats, hub and repeaters must be installed by installers certified by the manufacturer.		
23 09 23 53-0096 EA Two-Pipe Direct Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2DP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct		-28.38
For >200, Deduct		-56.71
23 09 23 53-0097 EA Two-Pipe Reverse Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2RP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct		-28.38
For >200, Deduct		-56.71
23 09 23 53-0098 EA Single-Pipe Direct Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1DP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct		-28.38
For >200, Deduct		-56.71
23 09 23 53-0099 EA Single-Pipe Indirect Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1RP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct		-28.38
For >200, Deduct		-56.71

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0100	EA		Two-Pipe Direct Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2DP-DB) Note: One for every thermostat to be retrofitted. For >50 To 200, Deduct For >200, Deduct 23 09 23 53-0101 EA Two-Pipe Reverse Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2RP-DB) Note: One for every thermostat to be retrofitted. For >50 To 200, Deduct For >200, Deduct 23 09 23 53-0102 EA Single-Pipe Direct Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-800-T1DP-DB) Note: One for every thermostat to be retrofitted. For >50 To 200, Deduct For >200, Deduct 23 09 23 53-0103 EA Single-Pipe Indirect Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1RP-DB) Note: One for every thermostat to be retrofitted. For >50 To 200, Deduct For >200, Deduct 23 09 23 53-0104 EA Wireless Pneumatic Thermostat Blank Cover (Cypress Envirosystems WPT-800-MCOV) Note: Optional cover. For >50 To 200, Deduct For >200, Deduct 23 09 23 53-0105 EA Green Box Controller (Cypress Envirosystems GBC-830-COM) Note: One unit for up to 100 thermostats. For 2, Deduct For >2, Deduct 23 09 23 53-0106 EA WPT USB Hub (Cypress Envirosystems WPT-800-HUSB) Note: One unit for up to 100 thermostats. For 2, Deduct For >2, Deduct 23 09 23 53-0107 EA WPT Repeater (Cypress Envirosystems WPT-800-RWAL) Note: One unit for up to 15 thermostats. For >5 To 10, Deduct For >10, Deduct 23 09 23 53-0108 EA 24 Volt, WPT Repeater (Cypress Envirosystems WPT-800-RWAL24V) Note: One unit for up to 15 thermostats. For >5 To 10, Deduct For >10, Deduct 23 09 23 53-0109 Delta Controls (23 09 23 53) 23 09 23 53-0110 Software (23 09 23 53-0109) Note: Excludes programming, set-up and commissioning of application. 23 09 23 53-0111 EA Orca Software Unlimited Points License (Delta Controls DOW333-USB) 23 09 23 53-0112 EA Orca Graphics Module, Delta Controls Orca View With Graphics Creation Capabilities (Delta Controls DOW333-I-USB) 23 09 23 53-0113 EA Orca Historical Module, Delta Controls Historian Package With Unlimited Archiving Trend Logs (Delta Controls DHS330-HL-USB) 23 09 23 53-0114 EA Web Server Unlimited Points License, Delta Controls Web Server Front End (Delta Controls DWS330-L-USB) 23 09 23 53-0115 EA Web Server Limited Points (Maximum I/O 2500) License, Delta Controls Web Server Front End (Delta Controls DWS330-M-USB) 23 09 23 53-0116 EA Web Server Limited Points (Maximum I/O 250) License, Delta Controls Web Server Front End (Delta Controls DWS330-S-USB) 23 09 23 53-0117 EA 100 User Energy Portal, Data Collection Controller, Web PC Server Program License (Delta Controls EP-2.01) 23 09 23 53-0118 EA 1,000 User Energy Portal, Data Collection Controller, Web PC Server Program License (Delta Controls EP-2.02) 23 09 23 53-0119 EA KVV Meter With H8163-2400-4-3 Series, With 3, 2,400 Amperes CT's And BACnet MS/TP Interface (Delta Controls H8186-CB) 23 09 23 53-0120 EA Delta Controls Touch Screen (Delta Controls DHMI-7-I) 23 09 23 53-0121 EMCS Central Equipment And Controllers (23 09 23 53-0109) 23 09 23 53-0122 EA Fully Programmable, Native BACnet Building Controller (Delta Controls DSC-1616E + DFM1616) Note: Includes 32 Universal Inputs/32 Analog Or Binary Outputs HOA's, Twisted-Pair Ethernet Port, BACnet IP, BACnet Over Ethernet, Main LAN RS-485 BACnet MS/TP (Maximum Of 99 Devices), SubLAN (Net2) BACnet MS/TP (Maximum 99 Devices) Or Delta LINKnet At 76,800 BPS, Serial RS-232 BACnet PTP, Real-Time Clock With Lithium Battery And SRAM Backup 23 09 23 53-0123 EA Fully Programmable, Native BACnet Building Controller, 16 Universal Inputs/16 Analog Or Binary Outputs HOA's, Twisted-Pair Ethernet Port, BACnet IP, BACnet Over Ethernet, Main LAN RS-485 BACnet MS/TP (Maximum Of 99 Devices), Sublan (Net2) BACnet MS/TP (Maximum 99 Devices) Or Delta LINKnet At 76,800 BPS (Maximum 12 Devices On LINKnet, With 2 DFM Devices) Serial RS-232 BACnet PTP, Real-Time Clock With Lithium Battery And SRAM Backup (Delta Controls DSC-1616E) 23 09 23 53-0124 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 4 Analog Output Or 6 Binary (Triac) Outputs (Delta Controls DAC-1146) 23 09 23 53-0125 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 8 Analog Or Binary Outputs (Delta Controls DAC-1180) 23 09 23 53-0126 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 4 Analog Output Or 6 Binary (Triac) Outputs (Delta Controls DAC-1146) 23 09 23 53-0127 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 6 Universal Inputs, 3 Binary (Triac) Outputs And 3 Analog Outputs (Delta Controls DAC-633 R3)	627.53 12.32 -32.61 -65.16 627.53 12.32 -32.61 -65.16 627.53 12.32 -32.61 -65.16 627.53 12.32 -32.61 -65.16 44.92 12.32 -1.81 -3.62 4,964.10 12.32 -248.61 -496.77 478.82 12.32 -25.94 -51.83 832.14 12.32 -42.84 -85.61 1,019.24 12.32 -49.82 -99.55 2,497.12 4,226.04 9,156.42 14,470.90 7,427.50 2,497.12 6,018.82 7,427.50 2,619.86 2,866.64 8,988.67 492.75 6,734.78 492.75 4,857.71 492.75 4,857.71 492.75 4,857.71 492.75 4,514.45 492.75	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0128 EA VAV Controllers Are Native BACnet Application Controllers That Are Fully Programmable, Communicate On A RS-485 LAN Using The MS/TP BACnet Protocol, 3 Universal Inputs, 4 Binary Outputs, Actuator Position Feedback, Supports 4 BACstat Network Sensors On LINKnet For Room Sensing And Control Or 2 Delta Field Modules On LINKnet For I/O Expansion (Delta Controls DVC-304AF)	1,608.86	246.38
23 09 23 53-0129 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 4 Binary Triac Outputs (24 Volt AC), 3 Binary Relay Outputs For Fan Speed Control, 240 Volt AC, 1 HP (60 LRA/10 FLA) LED Status Indication Of Each Output (Delta Controls DFC-304R3-240)	1,457.43	246.38
23 09 23 53-0130 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 6 Universal Inputs, 3 Binary (Triac) Outputs And 3 Analog Outputs (Delta Controls DAC-633 R3).....	1,557.90	246.38
23 09 23 53-0131 EA Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 4 Binary Triac Outputs (24 Volt AC), 3 Binary Relay Outputs For Fan Speed Control, 240 Volt AC, 1 HP (60 LRA/10 FLA) LED Status Indication Of Each Output (Delta Controls DFC-304R3-240)	1,457.43	246.38
23 09 23 53-0132 EA Remotely Expandable I/O To Delta's BACnet Controllers, 16 Universal Inputs, 16 Analog Outputs (Delta Controls DFM-1616)	3,485.79	307.97
23 09 23 53-0133 EA Remotely Expandable I/O To Delta's BACnet Controllers, 4 Universal Inputs, 4 Analog Outputs (Delta Controls DFM-440)	862.00	123.19
23 09 23 53-0134 EA Remotely Expandable I/O To Delta's BACnet™ Controllers, 4 Universal Inputs, 4 Binary Triac Outputs (Delta Controls DFM-404).....	925.85	123.19
23 09 23 53-0135 EA Remotely Expandable I/O To Delta's BACnet™ Controllers, 16 Universal Inputs (Delta Controls DFM-1600)	1,091.44	123.19
23 09 23 53-0136 Network, VAV And Special Sensors (23 09 23 53-0109)		
23 09 23 53-0137 EA BACnet MS/TP VAV Network Room Temperature Sensor With LCD Display (Delta Controls DNS-24)	288.62	39.42
23 09 23 53-0138 EA BACnet MS/TP VAV Network Temperature And Humidity Sensor With LCD Display (Delta Controls DNS-H24).....	392.61	44.35
23 09 23 53-0139 EA Programmable BACnet MS/TP Thermostat With 8 Button Keypad And LCD Display For DX Unit, Fan Coils And RTU (Delta Controls DAC-T305-G2B).....	777.53	18.48
23 09 23 53-0140 Honeywell Controls (23 09 23 53)		
23 09 23 53-0141 EMCS Central Equipment And Controllers (23 09 23 53-0140)		
23 09 23 53-0142 EMCS Network Area Controllers (BACnet Or Lon) (23 09 23 53-0141)		
Note: Includes loading software, software license, loading data base and mounting on wall.		
23 09 23 53-0143 EA Network Area Java Controller Supporting 126 Devices (Honeywell WC2003B2004)	12,529.02	600.55
Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 minimum RS-232 serial ports, 1 minimum RS-485 electrically isolated ports, 1 LonWorks port (supports 126 devices), and web user interface software.		
23 09 23 53-0144 EA Network Area Java Controller Supporting 27 Devices (Honeywell WC2003B1022).....	8,502.51	600.55
Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-232 port, 1 RS-485 port, 1 LonWorks port with driver, Lon tunnel service, BACnet driver, wind river VxWorks OS with Jeode java virtual machine, Niagara control engine and web user interface software (supports 27 device).		
23 09 23 53-0145 EA Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201).....	6,461.29	600.55
Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, 1 RS-232 serial port, 1 RS-485 serial port, NDIO port, 2 communication card option slots, BACnet IP Client, and BACnet MS/TP. Supports up to 10 devices.		
23 09 23 53-0146 EA Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-EZ).....	8,085.63	600.55
Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, 1 RS-232 serial port, 1 RS-485 serial port, NDIO port, 2 communication card option slots, BACnet IP Client, and BACnet MS/TP. Includes WEB user interface and Enterprise connectivity pack.		
23 09 23 53-0147 EA Niagara Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-LN).....	6,405.37	600.55
Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, factory installed LON card, NDIO port and MODBus TCP driver. Excludes RS232 and RS485 communications. Includes Niagara network ethernet communication between stations.		
23 09 23 53-0148 EA Web UI Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-LU)	6,405.37	600.55
Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, factory installed LON card, NDIO port and MODBus TCP driver. Excludes RS232 and RS485.		
23 09 23 53-0149 EA 16 Point BACnet IP Network Area Java Controller (Honeywell WEB-216-B)	6,967.15	600.55
Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.		
23 09 23 53-0150 EA 16 Point Web UI And BACnet IP Network Area Java Controller (Honeywell WEB-216-BU).....	7,556.89	600.55
Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.		
23 09 23 53-0151 EA 16 Point Niagara Network Area Java Controller (Honeywell WEB-216-N)	6,967.15	600.55
Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.		
23 09 23 53-0152 EA 16 Point Web UI And Niagara Network Area Java Controller (Honeywell WEB-216-NU).....	7,556.89	600.55
Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.		
23 09 23 53-0153 EA 34 Point BACnet IP Network Area Java Controller (Honeywell WEB-234-B)	7,561.98	600.55
Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.		
23 09 23 53-0154 EA 34 Point Web UI And BACnet IP Network Area Java Controller (Honeywell WEB-234-BU).....	8,151.72	600.55
Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0155	EA	34 Point Niagara Network Area Java Controller (Honeywell WEB-216-N).....	7,561.98	600.55	
Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.					
23 09 23 53-0156	EA	34 Point Web UI and Niagara Network Area Java Controller (Honeywell WEB-216-NU).....	8,151.72	600.55	
Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this.					
23 09 23 53-0157	EA	Network Area Java Controller Supporting 27 Devices (Controller Only) (Honeywell WEB-403-AX).....	8,057.66	600.55	
Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service.					
23 09 23 53-0158	EA	Unrestricted Network Area Java Controller Supporting 27 Devices (Controller Only).....	10,027.71	600.55	
Note: Unrestricted limit on connected devices. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service. Honeywell WEB-403-EXP-AX. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.					
23 09 23 53-0159	EA	Easy Pack Network Area Java Controller Supporting 27 Devices (Honeywell WEB-403-EZ).....	10,635.24	600.55	
Note: Includes controller plus User Interface Station Pack and Enterprise Connectivity Station Pack bundled as an "easy-order" bundle. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service.					
23 09 23 53-0160	EA	Expanded Easy Pack Network Area Java Controller Supporting 27 Devices (Honeywell WEB-403-EXP-EZ).....	12,605.28	600.55	
Note: Unrestricted limit on connected devices. Includes controller plus User Interface Station Pack and Enterprise Connectivity Station Pack bundled as an "easy-order" bundle. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.					
23 09 23 53-0161	EA	Network Area Java Controller Supporting 124 Devices (Controller Only) (Honeywell WEB-545-AX).....	10,663.20	600.55	
Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 4 RS-485 port, 2 RS-232 port, 1 LonWorks port. As with other WEBs controllers, capacity is limited by the characteristics of the application. Unit is supplied with a steel, wall mountable enclosure, and 120 volt power supply. Excludes UI service and Enterprise connectivity service.					
23 09 23 53-0162	EA	Easy Pack Network Area Java Controller Supporting 124 Devices (Honeywell WEB-545-EZ).....	14,417.72	600.55	
Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 4 RS-485 port, 2 RS-232 port, 1 LonWorks port. As with other JACEs, capacity is limited by the characteristics of the application. Unit is supplied with a steel, wall mountable enclosure, and 120 volt power supply. Includes WEB-545-AX plus User Interface Station Pack (UI-SP-5XX) and Enterprise Connectivity Station Pack (EC-SP-5XX) bundled as an "easy-order" bundle.					
23 09 23 53-0163 EMCS Network Interfaces (23 09 23 53-0141)					
Note: Includes installation, start-up and tech labor.					
23 09 23 53-0164	EA	Serial LonTalk Adapter For LonWorks Bus And A PC (Honeywell Q7760A2001).....	1,819.18	166.31	
Note: For desktop computer.					
23 09 23 53-0165	EA	Serial LonTalk Card For LonWorks Bus And A PC (Honeywell Q7752B2009).....	1,545.92	110.87	
Note: For laptop computer.					
23 09 23 53-0166	EA	FTT-10 To FTT-10 Router (Honeywell Q7751A2010).....	1,970.47	207.95	
23 09 23 53-0167	EA	4FTT-10 To TP/FTT-1250 Multi Port Router (Honeywell Q7751J2002).....	3,026.67	300.34	
23 09 23 53-0168	EA	Two Way Lon Repeater (Honeywell Q7740A1008).....	1,554.85	300.34	
23 09 23 53-0169	EA	FTT Termination Module For Network Bus (Honeywell 209541B).....	111.29	36.96	
23 09 23 53-0170 DDC Application Specific Controller Assemblies (23 09 23 53-0141)					
Note: Includes submittal generation, installation, field test, checkout and start-up. Includes control enclosure, transformer, terminal strip and ancillary devices. (For example, fan coil unit include valves, actuators with controller and thermostat. VAVs include controller, thermostat and hot water valve if VAV has reheat coil). Excludes graphics and database generation. Excludes discharge air sensor.					
23 09 23 53-0171	EA	Up To 10 Factory Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	2,876.59	679.12	
23 09 23 53-0172	EA	>10 Factory Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	2,414.63	401.94	
23 09 23 53-0173	EA	Up To 10 Field Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	3,070.62	795.53	
23 09 23 53-0174	EA	>10 Field Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	2,608.66	518.36	
23 09 23 53-0175	EA	Up To 10 Factory Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,396.49	831.61	
23 09 23 53-0176	EA	>10 Factory Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,049.95	623.10	
23 09 23 53-0177	EA	Up To 10 Field Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,604.34	956.34	
23 09 23 53-0178	EA	>10 Field Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,230.05	731.87	
23 09 23 53-0179	EA	Up To 10 Factory Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,541.51	679.02	
23 09 23 53-0180	EA	>10 Factory Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,079.55	401.94	
23 09 23 53-0181	EA	Up To 10 Field Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,795.66	831.61	
23 09 23 53-0182	EA	>10 Field Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,333.58	554.36	
23 09 23 53-0183	EA	Up To 10 Factory Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,405.78	690.21	
23 09 23 53-0184	EA	>10 Factory Installed Application Specific Fan Coil Unit Controller Assemblies.....	2,934.58	564.20	
23 09 23 53-0185	EA	Up To 10 Field Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,659.92	956.32	
23 09 23 53-0186	EA	>10 Field Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,188.60	635.65	
23 09 23 53-0187	EA	Up To 10 Factory Installed Application Specific Unit Ventilator Controller Assemblies.....	4,313.90	956.32	
23 09 23 53-0188	EA	>10 Factory Installed Application Specific Unit Ventilator Controller Assemblies.....	3,893.58	611.02	
23 09 23 53-0189	EA	Up To 10 Field Installed Application Specific Unit Ventilator Controller Assemblies.....	4,822.19	956.32	
23 09 23 53-0190	EA	>10 Field Installed Application Specific Unit Ventilator Controller Assemblies.....	4,401.74	715.73	
23 09 23 53-0191 DDC Programmable Controller Assemblies (23 09 23 53-0141)					
Note: Includes installation, field test, checkout and start-up. Includes control enclosure, transformer and terminal strip only. Excludes ancillary devices. Excludes submittal generation/system engineering and database generation. See CSI section 23 09 23 53-0198 for additional components.					



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0192 EA 3 AO, 6 UI, 8 DO And 4 DI Small Programmable Controller Assemblies.....	2,915.73	734.58
23 09 23 53-0193 EA Oversized Enclosure 3 AO, 6 UI, 8 DO And 4 DI Small Programmable Controller Assemblies.....	3,397.71	734.58
23 09 23 53-0194 EA 6 AO, 8 AI, 8 DO And 8 DI Medium Programmable Controller Assemblies.....	4,570.64	863.93
23 09 23 53-0195 EA Oversized Enclosure 6 AO, 8 AI, 8 DO And 8 DI Medium Programmable Controller Assemblies.....	5,052.62	863.93
23 09 23 53-0196 EA 10 AO, 16 AI, 16 DO And 16 DI Large Programmable Controller Assemblies.....	8,375.56	1,011.76
23 09 23 53-0197 EA Oversized Enclosure 10 AO, 16 AI, 16 DO And 16 DI Large Programmable Controller Assemblies.....	8,932.72	1,011.76
23 09 23 53-0198 EMCS Optional DDC Controller Hardware (23 09 23 53-0141)		
Note: Used to expand the capacity of DDC programmable controller assemblies.		
23 09 23 53-0199 EA 6 DO (Repay), 3 AI, 3 DI AHU Controller (Honeywell W7750A2005).....	579.57	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0200 EA 6 AI, 5 DI, 8 DO (Triac) AHU Controller (Honeywell W7750B2011).....	669.81	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0201 EA 3 AO, 6 AI, 5 DI, 5 DO (Triac) AHU Controller (Honeywell W7750C2001).....	701.59	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0202 EA VAV Controller Compatible Printed Wiring Board (Honeywell W7751B2010).....	662.19	
23 09 23 53-0203 EA VAV Controller With Internally Wired Subbase (Honeywell W7751D2016).....	672.36	
23 09 23 53-0204 EA VAV Controller With Externally Wired Subbase (Honeywell W7751F2011).....	657.10	
23 09 23 53-0205 EA VAV Controller With Premounted ML6161 Actuator (Honeywell W7751H2025).....	565.59	
23 09 23 53-0206 EA VAV Controller With Premounted ML6161 Actuator (Honeywell W7751J2004).....	491.88	
23 09 23 53-0207 EA Fan Coil Unit Controller With Electric Reheat Relay (Honeywell W7752F2002).....	720.65	
23 09 23 53-0208 EA Fan Coil Unit Controller Without Electric Reheat Relay (Honeywell W7752G2000).....	644.39	
23 09 23 53-0209 EA Unit Ventilator Controller With Heating, Cooling, Actuator And Fan Control (Honeywell W7753A2002).....	711.76	
23 09 23 53-0210 EA Building Manager, Monitor And Control HVAC Equipment (Honeywell W7760A2011).....	1,511.21	
23 09 23 53-0211 EA Plant Controller, Monitor And Control HVAC Equipment (Honeywell W7760C2017).....	1,879.80	
23 09 23 53-0212 EA Remote IO Device For Ancillary Point Monitoring And Control (Honeywell W7761A2002).....	939.27	
23 09 23 53-0213 EA Remote IO, UUKL-UL 864 Approved (Honeywell W7761A2010).....	925.28	
23 09 23 53-0214 EA Hydronic Controller Without Wall Module (Honeywell W7762B1027).....	453.75	
23 09 23 53-0215 EA Hydronic Controller With Built-in Wall Module (Honeywell W7763C1016).....	516.02	
23 09 23 53-0216 EA IO Module, 24 Volt AC Without Overrides (Honeywell XFC3A06001).....	953.25	
23 09 23 53-0217 EA IO Module, 24 Volt AC With Overrides (Honeywell XFC3D06001).....	1,019.34	
23 09 23 53-0218 EA AI Module (Honeywell XFL521B).....	638.04	
23 09 23 53-0219 EA AO Module (Honeywell XFL522B).....	638.04	
23 09 23 53-0220 EA DI Module (Honeywell XFL523B).....	638.04	
23 09 23 53-0221 EA DO Module (Honeywell XFL524B).....	638.04	
23 09 23 53-0222 EA Distributed IO, Lonwork Bus Connector Module With Endplate (Honeywell XSL511).....	113.12	
23 09 23 53-0223 EA Distributed IO, Terminal Block For AI, AO And DI Modules (Honeywell XSL513).....	213.53	
23 09 23 53-0224 EA Distributed IO, Terminal Block For DO Modules (Honeywell XSL514).....	209.71	
23 09 23 53-0225 EA Lon Analog IO Module, 24 Volt AC/DC, 10 Digital Inputs (Honeywell XIO-10DI).....	641.85	
23 09 23 53-0226 EA Lon Hub (Honeywell XIO-HUB).....	95.32	
23 09 23 53-0227 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog Outputs (Honeywell XIO-4AO).....	641.85	
23 09 23 53-0228 EA Lon Digital IO, 24 Volt AC/DC, 4 Digital Inputs (Honeywell XIO-4DI).....	591.01	
23 09 23 53-0229 EA Lon Digital IO, 24 Volt AC/DC, 4 Digital Outputs (Honeywell XIO-4DO).....	591.01	
23 09 23 53-0230 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog Inputs (Honeywell XIO-4NTC).....	622.79	
23 09 23 53-0231 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog PT1000 Inputs (Honeywell XIO-4PT1000).....	622.79	
23 09 23 53-0232 EA Lon Analog IO, 24 Volt AC/DC, 8 Analog Inputs (Honeywell XIO-8AI).....	896.05	
23 09 23 53-0233 EA 16 Point IO Module For Network Area Controllers (Honeywell WEB-IO-16).....	1,057.47	
Note: Includes 8 universal inputs, 4 relay outputs, and 4 analog outputs.		
23 09 23 53-0234 EA 34 Point IO Module For Network Area Controllers (Honeywell W7750A2005).....	2,247.12	
Note: Includes 16 universal inputs, 10 relay outputs, and 8 analog outputs.		
23 09 23 53-0235 EMCS Software (23 09 23 53-0140)		
23 09 23 53-0236 Software Packages And License (23 09 23 53-0235)		
Note: Includes installation on equipment.		
23 09 23 53-0237 EA On Board Programming Tool For Network Area Controllers (Honeywell WP-AX-WEB).....	716.84	
Note: Requires UI services to be installed on NAC.		
23 09 23 53-0238 EA Software Upgrade To Provide Unrestricted Connected Device Limit (Honeywell WEB-403-EXUP-AX).....	2,715.23	
Note: Upgrade existing network area controller. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.		
23 09 23 53-0239 EA WEBStation-AX Software For Windows (Honeywell WEB-S-AX).....	8,007.27	
Note: Includes Archon database. WEBs controllers must have Enterprise Connectivity Station Pack (EC-SP). Includes one copy of WP-AX (WEBPro-AX).		
23 09 23 53-0240 EA Small Building WEBStation-AX Based Software (Honeywell WEB-S-AX-SBS).....	4,766.23	
Note: For up to 3 NAC controllers. NAC controllers must have Enterprise Connectivity Station Pack (EC-SP). Includes Archon database.		
23 09 23 53-0241 EA Upgrade Small Building To Large Building Software.....	5,384.32	
Note: Upgrade WEB-S-AX-SBS to WEB-S-AX.		
23 09 23 53-0242 EA Additional Copy Of WEBPro-AX (Honeywell WEB-S-AX-W).....	3,760.87	
Note: One copy is included with WEB-S-AX and WEBStation-AX.		
23 09 23 53-0243 EA WEBs Energy Suite (WES) Base Software (Honeywell WES-BASE-AX).....	6,741.35	
Note: Includes license for 10 points of E ² Profiler and 2 licensed meters of Cost Profiler. Limit of one WES-BASE per WEBStation-AX Supervisor. Additional E ² Profiler point requirements or Cost Profiler meter requirements may use one or any combination of point/meter bundles. One WES-BASE required per WES project.		
23 09 23 53-0244 EA Perpetual License One Meter Point Bundle Of A Cost Profiler Meter And Two E ² Profiler Points (Honeywell WES-CP-AX).....	837.58	
Note: Can be combined with the required single instance of VES-BASE as well as with any combination of other EP points and CP meters.		
23 09 23 53-0245 EA Perpetual License For One Point Of E ² Profiler (Honeywell WES-E2-AX).....	538.89	
Note: Can be combined with the required single instance of VES-BASE as well as with any number of other EP Points and Cost Profiler meters.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0246	EA	Perpetual License For An Unlimited Bundle Of E2 Points And CP Meters Note: Sold on a per server basis. Purchase of this product must be accompanied by VES-M1-ENT-AX maintenance. The first year price of maintenance is included with VES-ENT-AX.	36,741.92	
23 09 23 53-0247	EA	Annual Maintenance For Enterprise WEBS-AX Energy Suite (Honeywell WES-M1-ENT-AX) Note: The first year cost of VES-M1-ENT-AX is included with VES-ENT-AX. After the first year VES-M1-ENT-AX maintenance fee will be invoiced annually.	33,507.83	
23 09 23 53-0248	EA	Standard WEBStation-AX Supervisor Bundled With WES-BASE-AX (Honeywell WES-S-AX)	12,768.42	
23 09 23 53-0249	EA	Small WEBStation-AX Supervisor Bundled With WES-BASE-AX (Honeywell WES-S-AX-SBS)	9,527.38	
23 09 23 53-0250	EA	Add 500 Modbus TCP Points To WEBStation With WS-OSD Option (Honeywell WS-MTCP-500)	2,754.25	
23 09 23 53-0251	EA	Add 500 OPC Points To WEBStation With WS-OSD Option (Honeywell WS-OPC-500)	2,754.25	
23 09 23 53-0252	EA	Vykon Oracle Driver For Support Of Oracle Database (Honeywell WS-ORCL) Note: Excludes Oracle.	19,064.92	
23 09 23 53-0253	EA	Open System Driver Option (Honeywell WS-SNMP-500) Note: Adds 25 points each of BACnet IP, OPC (client), Modbus TCP and SNMP to a standard WEBStation. Can be purchased with the WS or added later. Web Supervisor required to purchase this option.	2,541.99	
23 09 23 53-0254	EA	Add 500 SNMP Points To WEBStation With WS-OSD Option (Honeywell WS-SNMP-500)	2,754.25	
23 09 23 53-0255	EA	WEBStation Software WS-1 And First Copy Of WEBPro Software (Honeywell ZW2000A1003) Note: For a single Honeywell WEB NP controller. Excludes software keys for the additional nodes.	7,202.73	
23 09 23 53-0256	EA	WEBStation Additional Node (Honeywell ZW2000B1002)	2,754.25	
23 09 23 53-0257	EA	WEBStation Software And 20 Pack Of Node Software Keys (Honeywell ZW2000C1001)	46,180.33	
23 09 23 53-0258	EA	WEBStation Software And 50 Pack Of Node Software Keys (Honeywell ZW2000D1000)	84,733.42	
23 09 23 53-0259	EA	WEBStation Software And 100 Pack Of Node Software Keys (Honeywell ZW2000E1009)	148,283.17	
23 09 23 53-0260	EA	Master WEBStation Software For Monitoring Multiple WEBStations (Honeywell ZV2000F1008)	7,625.97	
23 09 23 53-0261	EA	Additional Master WEBStation Software Licenses (Honeywell ZW200G1007)	3,812.98	
23 09 23 53-0262	EA	Additional Copies Of Workplace Pro WP-1 (Web Pro) (Honeywell ZW2001A1001)	2,977.93	
23 09 23 53-0263	EA	Upgrade Existing NAC To Provide Unrestricted Connected Device Limit (Honeywell WC2003B1055) Note: As with other WEBS, capacity is limited by the characteristics of the application including size and complexity.	3,287.18	
23 09 23 53-0264	Initial Database Generation (23 09 23 53-0235)			
23 09 23 53-0265	PNT	Database Generation For Central Plant	82.66	
23 09 23 53-0266	PNT	Database Generation For Programmable Controller Note: For VAV AHU, large CV AHU, or heat exchanger, etc.	82.66	
23 09 23 53-0267	EA	Database Generation For Application Specific Controller Note: Price per each VAV box, fan coil unit, unit ventilator or small CV AHU. Task used for the first piece of each equipment.	82.66	
23 09 23 53-0268	EA	Replication Of Database Generation For Application Specific Controller	57.53	
23 09 23 53-0269	EA	Database Generation For Remote IO Modules, Sensors, Etcetera	57.53	
23 09 23 53-0270	Application Software Programs (23 09 23 53-0235)			
23 09 23 53-0271	EA	Basic Application Program Package Note: One per project. Includes program inputs, command priorities, alarms, trends for analog and digital points, energy totalization, schedules, calendars, special events, occupied and unoccupied setpoints, ventilation and recirculation modes, hot water reset program, chilled water reset program, condenser water reset program, and fail-over logic.	3,449.30	
23 09 23 53-0272	EA	Optimum Start/Stop Program Note: Priced per controller requiring optimum start programming.	115.31	
23 09 23 53-0273	EA	Duty Cycling Program	54.45	
23 09 23 53-0274	EA	Hot Deck/Cold Deck Reset Application Program	5,925.77	
23 09 23 53-0275	EA	Boiler Optimization Program	7,765.35	
23 09 23 53-0276	EA	Chiller Optimization Program	10,518.96	
23 09 23 53-0277	EA	Lighting Control Program	5,076.05	
23 09 23 53-0278	EA	Demand Limiting Program Note: Priced per controller requiring optimum start programming.	101.14	
23 09 23 53-0279	EA	Email Alarm Server Configuration	3,915.95	
23 09 23 53-0280	Color Graphics Generation (23 09 23 53-0235)			
23 09 23 53-0281	EA	Single Site Home Page Graphics Page With HTML Navigation Code	2,066.89	
23 09 23 53-0282	EA	Multi Site Home Page Graphics Page With HTML Navigation Code	3,669.68	
23 09 23 53-0283	EA	Color Graphics Page For Central Plant	939.07	
23 09 23 53-0284	EA	Color Graphics Page For Building Floor Plan	867.13	
23 09 23 53-0285	EA	Replication Of Color Graphics Page For Central Plant	471.07	
23 09 23 53-0286	EA	Color Graphics Page For Programmable Controller Note: For VAV AHU, large CV AHU, or heat exchanger, etc.	1,056.47	
23 09 23 53-0287	EA	Replication Of Color Graphics Page For Programmable Controller Note: Priced per copy made.	225.93	
23 09 23 53-0288	EA	Color Graphics Page For Application Specific Controller Note: Price per each VAV box, fan coil unit, unit ventilator or small CV AHU. Task used for the first piece of each equipment.	977.14	
23 09 23 53-0289	EA	Replication Of Color Graphics Page For Application Specific Cont	97.69	
23 09 23 53-0290	Sensors, Actuators And Control Devices (23 09 23 53-0140)			
Note: Includes installation, startup, checkout and miscellaneous parts for installation. Excludes conduit, wire and cable. Excludes engineering and programming labor. Each device is considered one control point. No engineering or programming time required for replacement parts.				



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0291			Special Sensors (23 09 23 53-0290)		
23 09 23 53-0292	EA		Dewpoint Sensor (Honeywell C7232B1014).....	2,244.27	76.26
23 09 23 53-0293	EA		Enthalpy Sensor -25 To 125 F.....	2,342.49	76.26
23 09 23 53-0294	EA		Outdoor Mounted Temperature And Humidity Transmitter (Honeywell H7635C1002).....	1,039.97	152.51
23 09 23 53-0295	EA		Freezestat (Honeywell L482A1004).....	711.36	254.14
23 09 23 53-0296	EA		Wall Mounted Occupancy Sensor.....	516.30	76.26
23 09 23 53-0297	EA		Ceiling Mounted Occupancy Sensor.....	408.03	76.26
23 09 23 53-0298	EA		I/P Positioner With Gauge.....	480.94	76.26
23 09 23 53-0299	EA		Non-Communicating Duct Mounted Smoke Detector With Sampling Tube.....	575.51	76.26
23 09 23 53-0300	EA		EP Transducer.....	480.94	50.87
23 09 23 53-0301	EA		Electric Heat Sequencer.....	760.97	101.63
23 09 23 53-0302			Meters (23 09 23 53-0290)		
23 09 23 53-0303	EA		208 - 480 Volt, Up To 2,400 Amperes, KW/KWh Meter/Current Transformer.....	4,907.32	609.79
23 09 23 53-0304	EA		208 - 480 Volt, Up To 2,400 Amperes, KW/KWh Meter/Current Transformer With LON interface.....	7,108.34	711.42
23 09 23 53-0305	EA		1 To 300 Amperes, Current Transformer For KW Meter.....	1,696.14	254.14
23 09 23 53-0306	EA		300 To 800 Amperes, Current Transformer For KW Meter.....	1,949.19	254.14
23 09 23 53-0307	EA		800 To 2,400 Amperes, Current Transformer For KW Meter.....	2,434.48	254.14
23 09 23 53-0308			Direct Coupled Actuators (23 09 23 53-0290)		
23 09 23 53-0309	EA		44 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4105A1002).....	654.55	97.76
23 09 23 53-0310	EA		88 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4110A1200).....	725.84	97.76
23 09 23 53-0311	EA		175 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4120A1209).....	848.41	97.76
23 09 23 53-0312	EA		44 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8105A1008).....	612.83	97.76
23 09 23 53-0313	EA		88 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8110A1206).....	689.50	97.76
23 09 23 53-0314	EA		175 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8120A1205).....	765.42	97.76
23 09 23 53-0315	EA		44 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator.....	693.69	97.76
23 09 23 53-0316	EA		88 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator (Honeywell MS7510A2206).....	803.01	97.76
23 09 23 53-0317	EA		175 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator (Honeywell MS7520A2205).....	921.01	97.76
23 09 23 53-0318	EA		44 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Non- Spring Return Direct Coupled Damper Actuator (Honeywell MN7505A2209).....	555.96	97.76
23 09 23 53-0319	EA		88 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Non- Spring Return Direct Coupled Damper Actuator (Honeywell MN7510A2209).....	614.17	97.76
23 09 23 53-0320	EA		175 IN-LB, 24 Volt AC, 4-20 mA, Floating Control, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN6120A1200).....	731.11	97.76
23 09 23 53-0321	EA		175 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN7220A2007).....	786.16	97.76
23 09 23 53-0322	EA		300 IN-LB, 24 Volt AC, 4-20 mA, Floating Control, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN6134A10030).....	785.47	97.76
23 09 23 53-0323	EA		300 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN7234A2008).....	936.43	97.76
23 09 23 53-0324	EA		Pneumatic Spring Return Damper Actuator Without Positive Positioner (Honeywell MP909E1018).....	579.81	97.76
23 09 23 53-0325	EA		Pneumatic Spring Return Damper Actuator With Positive Positioner (Honeywell MP909H1368).....	1,029.10	97.76
23 09 23 53-0326	EA		Foot Mount Kit With Damper Linkage And Connectors For Direct Coupled Actuator.....	432.12	97.76
23 09 23 53-0327	EA		Direct Coupled Damper Actuator Enclosure For Outdoor Use.....	665.43	97.76
23 09 23 53-0328			Plastic, Two Way, Pneumatic Activated (23 09 23 53-0290)		
23 09 23 53-0329			Polyvinyl Chloride (PVC) Butterfly Valve With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 09 23 53-0328)		
			Note: With NEMA 4X housing.		
23 09 23 53-0330	EA		1-1/2" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,442.29	35.11
			For Low Pressure Steam, Add.....	437.21	
23 09 23 53-0331	EA		2" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,455.64	41.79
			For Low Pressure Steam, Add.....	437.21	
23 09 23 53-0332	EA		3" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,702.65	111.47
			For Low Pressure Steam, Add.....	448.01	
23 09 23 53-0333	EA		4" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,732.71	167.20
			For Low Pressure Steam, Add.....	439.78	
23 09 23 53-0334	EA		6" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	5,106.68	222.93
			For Low Pressure Steam, Add.....	466.01	
23 09 23 53-0335	EA		8" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	5,927.69	250.80
			For Low Pressure Steam, Add.....	542.65	
23 09 23 53-0336			Polyvinyl Chloride (PVC) Butterfly Valve With Viton Liner And Seals (23 09 23 53-0328)		
			Note: With NEMA 4X housing.		
23 09 23 53-0337	EA		1-1/2" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	4,560.59	35.11
			For Low Pressure Steam, Add.....	449.04	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0338	EA	2" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals <i>For Low Pressure Steam, Add</i>	4,573.94 449.04	41.79
23 09 23 53-0339	EA	3" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals <i>For Low Pressure Steam, Add</i>	4,815.80 459.32	111.47
23 09 23 53-0340	EA	4" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals <i>For Low Pressure Steam, Add</i>	5,267.64 493.27	167.20
23 09 23 53-0341	EA	6" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals <i>For Low Pressure Steam, Add</i>	6,927.52 648.09	222.93
23 09 23 53-0342	EA	8" Two Way Pneumatically Activated Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals <i>For Low Pressure Steam, Add</i>	8,972.70 847.15	250.80
23 09 23 53-0343		Polyvinyl Chloride (PVC), Pneumatically Activated Diaphragm Valve (23 09 23 53-0328) Note: With NEMA 4X housing.		
23 09 23 53-0344	EA	1/2" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	2,443.49 232.49	59.07
23 09 23 53-0345	EA	3/4" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	2,561.97 242.26	69.66
23 09 23 53-0346	EA	1" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	2,679.60 252.04	79.70
23 09 23 53-0347	EA	1-1/4" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,285.91 311.70	84.72
23 09 23 53-0348	EA	1-1/2" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,302.80 311.70	93.07
23 09 23 53-0349	EA	2" Polyvinyl Chloride (PVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,964.03 374.97	107.01
23 09 23 53-0350		Chlorinated Polyvinyl Chloride (CPVC), Pneumatically Activated Diaphragm Valve (23 09 23 53-0328) Note: With NEMA 4X housing.		
23 09 23 53-0351	EA	1/2" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	2,731.53 261.30	59.07
23 09 23 53-0352	EA	3/4" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	2,901.44 276.21	69.66
23 09 23 53-0353	EA	1" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,049.94 289.07	79.70
23 09 23 53-0354	EA	1-1/4" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,779.70 361.08	84.72
23 09 23 53-0355	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	3,796.59 361.08	93.07
23 09 23 53-0356	EA	2" Chlorinated Polyvinyl Chloride (CPVC) Pneumatically Activated Diaphragm Valve <i>For Low Pressure Steam, Add</i>	4,390.95 417.66	107.01
23 09 23 53-0357		Polyvinyl Chloride (PVC), Pneumatically Activated Diaphragm Valve (23 09 23 53-0328) Note: With VITON seals.		
23 09 23 53-0358	EA	1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	1,017.72 89.96	59.07
23 09 23 53-0359	EA	3/4" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	1,128.55 98.92	69.66
23 09 23 53-0360	EA	1" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	1,225.46 106.61	79.70
23 09 23 53-0361	EA	1-1/4" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	1,647.36 147.90	84.15
23 09 23 53-0362	EA	1-1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	1,652.92 147.90	86.94
23 09 23 53-0363	EA	2" Polyvinyl Chloride (PVC) Diaphragm Valve With VITON Seals <i>For Low Pressure Steam, Add</i>	2,087.35 188.56	100.88
23 09 23 53-0364		Polyvinyl Chloride (PVC), Pneumatically Activated Diaphragm Valve (23 09 23 53-0328) Note: With PTFE seals.		
23 09 23 53-0365	EA	1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	1,097.76 97.96	59.07
23 09 23 53-0366	EA	3/4" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	1,202.20 106.29	69.66
23 09 23 53-0367	EA	1" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	1,295.88 113.65	79.70
23 09 23 53-0368	EA	1-1/4" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	1,698.59 153.03	84.15
23 09 23 53-0369	EA	1-1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	1,704.15 153.03	86.94
23 09 23 53-0370	EA	2" Polyvinyl Chloride (PVC) Diaphragm Valve With Polytetrafluoroethylene (PTFE) Seals <i>For Low Pressure Steam, Add</i>	2,122.59 192.08	100.88
23 09 23 53-0371		Polyvinyl Chloride (PVC), Pneumatically Activated Diaphragm Valve (23 09 23 53-0328) Note: With ethylene propylene diene monomer (EPDM) seals.		
23 09 23 53-0372	EA	1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals <i>For Low Pressure Steam, Add</i>	899.32 78.12	59.07



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0373 EA 3/4" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals..... <i>For Low Pressure Steam, Add</i>	981.29 84.20	69.66
23 09 23 53-0374 EA 1" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals..... <i>For Low Pressure Steam, Add</i>	1,062.20 90.28	79.70
23 09 23 53-0375 EA 1-1/4" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals..... <i>For Low Pressure Steam, Add</i>	1,448.87 128.06	84.15
23 09 23 53-0376 EA 1-1/2" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals..... <i>For Low Pressure Steam, Add</i>	1,454.43 128.06	86.94
23 09 23 53-0377 EA 2" Polyvinyl Chloride (PVC) Diaphragm Valve With Ethylene Propylene Diene Monomer (EPDM) Seals..... <i>For Low Pressure Steam, Add</i>	1,840.87 163.91	100.88
23 09 23 53-0378 Three-Way Modular Polyvinyl Chloride (PVC) Ball Valve (23 09 23 53-0328) Note: Equipped for actuator.		
23 09 23 53-0379 EA 1/2" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	201.12	20.06
23 09 23 53-0380 EA 3/4" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	231.91	24.52
23 09 23 53-0381 EA 1" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	250.67	26.20
23 09 23 53-0382 EA 1-1/2" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	480.34	39.57
23 09 23 53-0383 EA 2" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	699.13	80.81
23 09 23 53-0384 EA 3" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	1,519.12	111.47
23 09 23 53-0385 EA 4" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Threaded Or Socket.....	2,890.74	167.20
23 09 23 53-0386 EA 2" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Flanged.....	1,146.62	80.81
23 09 23 53-0387 EA 3" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Flanged.....	2,310.03	189.49
23 09 23 53-0388 EA 4" Polyvinyl Chloride (PVC) Modular 3-Way Ball Valve, Flanged.....	4,209.50	317.68
23 09 23 53-0389 Electric Activated Plastic Control Valves (23 09 23 53-0290) Note: Includes motor.		
23 09 23 53-0390 Two Way Plastic Electric Control Valves With Electric Actuator (23 09 23 53-0389) Note: With NEMA 4X housing.		
23 09 23 53-0391 Two Way Polyvinyl Chloride (PVC) Electric Control Valves, With Electric Actuator (23 09 23 53-0390)		
23 09 23 53-0392 EA 1/2" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,307.26	18.39
23 09 23 53-0393 EA 3/4" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,340.78	22.30
23 09 23 53-0394 EA 1" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,395.55	23.96
23 09 23 53-0395 EA 1-1/4" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,469.29	35.11
23 09 23 53-0396 EA 1-1/2" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,469.29	35.11
23 09 23 53-0397 EA 2" Two Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,595.80	41.79
23 09 23 53-0398 Two Way Chlorinated Polyvinyl Chloride (CPVC) Electric Control Valves, With Electric Actuator (23 09 23 53-0390)		
23 09 23 53-0399 EA 1/2" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,399.84	18.39
23 09 23 53-0400 EA 3/4" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,433.36	22.30
23 09 23 53-0401 EA 1" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,524.14	23.96
23 09 23 53-0402 EA 1-1/4" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,618.45	35.11
23 09 23 53-0403 EA 1-1/2" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,618.45	35.11
23 09 23 53-0404 EA 2" Two Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,786.11	41.79
23 09 23 53-0405 Three Way Plastic Electric Control Valves With Electric Actuator (23 09 23 53-0389) Note: With NEMA 4X housing.		
23 09 23 53-0406 Three Way Polyvinyl Chloride (PVC) Electric Control Valves, With Electric Actuator (23 09 23 53-0405)		
23 09 23 53-0407 EA 1/2" Three Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,403.18	20.06
23 09 23 53-0408 EA 3/4" Three Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,437.81	24.52
23 09 23 53-0409 EA 1" Three Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,508.02	26.20
23 09 23 53-0410 EA 1-1/2" Three Way Electric Control Valve, Polyvinyl Chloride (PVC).....	1,776.52	39.57
23 09 23 53-0411 EA 2" Three Way Electric Control Valve, Polyvinyl Chloride (PVC).....	2,101.15	80.81
23 09 23 53-0412 Three Way Chlorinated Polyvinyl Chloride (CPVC) Electric Control Valves, With Electric Actuator (23 09 23 53-0405)		
23 09 23 53-0413 EA 1/2" Three Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,480.34	20.06
23 09 23 53-0414 EA 3/4" Three Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,535.54	24.52
23 09 23 53-0415 EA 1" Three Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,616.03	26.20
23 09 23 53-0416 EA 1-1/2" Three Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	1,935.97	39.57
23 09 23 53-0417 EA 2" Three Way Electric Control Valve, Chlorinated Polyvinyl Chloride (CPVC).....	2,332.61	80.81
23 09 23 53-0418 Two Way Plastic Electric Control Butterfly Valves (23 09 23 53-0389) Note: Includes electric actuator. With NEMA 4X housing.		
23 09 23 53-0419 Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 09 23 53-0418)		
23 09 23 53-0420 EA 1-1/2" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,606.89	35.11
23 09 23 53-0421 EA 2" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,620.24	41.79

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0422	EA	3" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	4,815.80	111.47
23 09 23 53-0423	EA	4" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	5,787.15	167.20
23 09 23 53-0424	EA	6" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	6,351.43	222.93
23 09 23 53-0425	EA	8" Two Way Butterfly Control Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	7,172.44	250.80
23 09 23 53-0426		Polyvinyl Chloride (PVC) With Viton Liner And Seals (23 09 23 53-0418)		
23 09 23 53-0427	EA	1-1/2" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	5,188.11	35.11
23 09 23 53-0428	EA	2" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	5,201.46	41.79
23 09 23 53-0429	EA	3" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	5,443.32	111.47
23 09 23 53-0430	EA	4" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	6,682.13	167.20
23 09 23 53-0431	EA	6" Two Way Electric Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	7,863.65	222.93
23 09 23 53-0432	EA	8" Two Way Butterfly Control Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	9,703.09	250.80
23 09 23 53-0433		Thermostats (23 09 23 53-0140)		
23 09 23 53-0434		Electric And Electronic Thermostats (23 09 23 53-0433)		
Note: Includes installation, startup and checkout labor. Excludes engineering and programming labor. Each thermostat counts as one control point.				
23 09 23 53-0435	EA	Line Voltage 120 Volt, Heat/Cool Thermostat (Honeywell T651A3018)	225.46	18.48
23 09 23 53-0436	EA	Electronic Non-Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell TH5320)	243.52	18.48
23 09 23 53-0437	EA	Electronic Programmable Heating/Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6110)	223.45	18.48
23 09 23 53-0438	EA	Electronic Programmable Two Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6220).....	250.95	18.48
23 09 23 53-0439	EA	Electronic Programmable Three Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6320).....	271.62	18.48
23 09 23 53-0440	EA	Electronic Programmable Two Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH8321).....	404.10	18.48
23 09 23 53-0441	EA	Humidity Control Electronic Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7351F)	592.77	18.48
23 09 23 53-0442	EA	Lon Communicating Humidity Control Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7350H).....	965.86	18.48
23 09 23 53-0443	EA	Modulating Lon Communicating Humidity Control Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7350M)	1,030.68	18.48
23 09 23 53-0444		Pneumatic Thermostats (23 09 23 53-0433)		
Note: Includes installation, startup and checkout labor. Excludes engineering and programming labor. Each thermostat counts as two control point.				
23 09 23 53-0445	EA	Pneumatic Thermostat (Honeywell TP970B2182)	317.29	18.48
23 09 23 53-0446		Thermostats Guards (23 09 23 53-0433)		
23 09 23 53-0447	EA	9-3/4" x 7-1/4" x 3-3/8" Universal Thermostat Guard (Honeywell TG512A1009)	76.00	18.48
23 09 23 53-0448	EA	7-1/2" x 6-1/2" x 2-15/16" Universal Thermostat Guard (Honeywell TG511)	91.05	18.48
23 09 23 53-0449	EA	5-7/8" x 5-7/8" x 2-1/2" Deep Universal Thermostat Guard (Honeywell TG510)	85.63	18.48
23 09 23 53-0450		Johnson Controls (23 09 23 53)		
23 09 23 53-0451		Software (23 09 23 53-0450)		
Note: Excludes programming, set-up and commissioning of application.				
23 09 23 53-0452	EA	5 Concurrent User Application And Data Server (Johnson Controls MS-ADS05U-0).....	20,407.21	
23 09 23 53-0453	EA	10 Concurrent User External Application And Data Server (Johnson Controls MS-ADX10U-0)	24,138.09	
23 09 23 53-0454	EA	N2 Controllers Commissioning And Download Software (Johnson Controls MW-MTOOL-0).....	1,172.92	
23 09 23 53-0455	EA	N2 Controllers Download Cable Kit (Johnson Controls AS-CBLPRO-2).....	1,787.78	
23 09 23 53-0456	EA	BACnet FPU Controllers Commissioning And Download Software (Johnson Controls MS-CCTSWO-0).....	3,182.58	
23 09 23 53-0457	EA	BACnet Controllers Download Bluetooth Converter (Johnson Controls MS-BTCVT-0)	1,183.33	
23 09 23 53-0458	EA	New User FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) Software (Johnson Controls LP-FXTPRO-0)	1,176.36	
23 09 23 53-0459	EA	Upgrade FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) Software (Johnson Controls LP-FXTPRO-6)	415.81	
23 09 23 53-0460		Supervisory Controllers (23 09 23 53-0450)		
23 09 23 53-0461	EA	NAE With 1 RS-485, Support For 50 Devices (Either N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE3510-2).....	8,755.01	492.75
23 09 23 53-0462	EA	NAE With 1 RS-485, Support For 100 Devices (Either N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE4511-2).....	13,675.39	492.75
23 09 23 53-0463	EA	NAE With 2 RS-485, Support For 200 Devices (N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE5511-1)	18,606.68	492.75
23 09 23 53-0464	EA	NCE, 33 Points, Network Control Engine, 32 N2 Device Support Supervisory Controllers (Johnson Controls MS-NCE2510-0).....	6,859.70	492.75
23 09 23 53-0465		Controllers (23 09 23 53-0450)		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0466	EA		10 Point Field Equipment Controller With 2 UI, 1 BI, 3 BO, 4 CO, 24 Volt AC And Sensor Actuator Bus With Mounting Base (Johnson Controls MS-FEU1610-0).....	1,015.62	123.19
23 09 23 53-0467	EA		10 Point Field Equipment Controller With 2 UI, 1 BI, 3 BO, 4 CO, 24 Volt AC And Sensor Actuator Bus, Mounting Base And Integral Display (Johnson Controls MS-FEU1620-0).....	1,343.70	246.38
23 09 23 53-0468	EA		17 Point Field Equipment Controller With 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC, Sensor Actuator Bus And Mounting Base (Johnson Controls MS-FEU2610-0).....	1,738.47	246.38
23 09 23 53-0469	EA		17 Point Field Equipment Controller With 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC, Sensor Actuator Bus And Integral Display (Johnson Controls MS-FEU2620-0).....	2,066.55	246.38
23 09 23 53-0470	EA		BACnet MS/TP 4-Point I/O Module With 4 BI, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM1710-0).....	827.39	123.19
23 09 23 53-0471	EA		BACnet MS/TP 6 Point I/O Module With 2 UI, 2 UO, 2 BO, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM2710-0).....	911.05	123.19
23 09 23 53-0472	EA		BACnet MS/TP 12 Point I/O Module with 4 UI, 4 UO, 4 BO, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM3710-0).....	1,036.54	123.19
23 09 23 53-0473	EA		17 Point I/O Module with 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC And Sensor Actuator Bus With Mounting Base (Johnson Controls MS-IOU4710-0).....	1,053.27	123.19
23 09 23 53-0474	EA		BACnet MS/TP Rooftop Controller For Stand-Alone And Networked Zoning Systems (Johnson Controls TEC2664Z-2).....	2,151.91	246.38
23 09 23 53-0475	EA		32-bit, Integrated VAV Controller/Actuator/DPT, 3 UI, 3 BO, and 2 CO; 24 Volt AC; Field Controller Bus And Sensor Actuator Bus (Johnson Controls MS-VMA1630-0).....	1,030.85	123.19
23 09 23 53-0476	EA		32-bit, Integrated VAV Controller/Actuator/Pressure Sensor - DPT, 3 UI and 3 BO, 2 CO, 24 Volt AC, and Sensor Actuator Bus (Johnson Controls MS-VMA1930-0).....	1,507.97	123.19
Note: Includes 6-pin Sensor Port for use with TE-7xx Series Non-Communicating Sensors and two Ethernet Ports for BACnet/IP Communications					
23 09 23 53-0477	Master FX Controllers (23 09 23 53-0450)				
23 09 23 53-0478	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, No Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X00-000C).....	2,727.48	246.38
23 09 23 53-0479	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, N2 Open Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X01-000C).....	2,925.73	246.38
23 09 23 53-0480	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, LON Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X02-000C).....	3,024.25	246.38
23 09 23 53-0481	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, RS-232 Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X03-000C).....	2,964.38	246.38
23 09 23 53-0482	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, BACnet Communications Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X04-000C).....	2,870.81	246.38
23 09 23 53-0483	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, N2 Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X11-000C).....	2,885.81	246.38
23 09 23 53-0484	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, BACnet Communications Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X14-000C).....	2,870.81	246.38
23 09 23 53-0485	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, No Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X50-000C).....	2,925.95	246.38
23 09 23 53-0486	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, N2 Open Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X51-000C).....	3,097.16	246.38
23 09 23 53-0487	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, LON Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X52-000C).....	3,211.31	246.38
23 09 23 53-0488	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, RS-232 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X53-000C).....	3,154.23	246.38
23 09 23 53-0489	EA		6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, BACnet Communications Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X54-000C).....	3,037.40	246.38
23 09 23 53-0490	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, No Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X60-000C).....	2,925.95	246.38
23 09 23 53-0491	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, N2 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X61-000C).....	3,097.16	246.38
23 09 23 53-0492	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, LON Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X62-000C).....	3,211.31	246.38
23 09 23 53-0493	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, RS-232 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X63-000C).....	3,154.23	246.38
23 09 23 53-0494	EA		6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, BACnet Communications Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X64-000C).....	3,037.40	246.38
23 09 23 53-0495	EA		N2 Open Communication Card For FX16 (Johnson Controls LP-NET151-010C).....	325.42	61.59
23 09 23 53-0496	EA		LON Communication Card For FX15 and FX16 (Johnson Controls LP-NET152-010C).....	465.88	61.59
23 09 23 53-0497	EA		RS-232 Communication Card For FX16 (Johnson Controls LP-NET163-000C).....	364.84	61.59
23 09 23 53-0498	EA		BACnet Communications Card For FX16 (Johnson Controls LP-NET164-000C).....	325.42	61.59
23 09 23 53-0499	EA		Remote Medium User Interface For FX16 (Johnson Controls LP-DIS60P20-0C).....	902.02	61.59
23 09 23 53-0500	EA		Facility Explorer Extension I/O Module (Johnson Controls LP-XT91D00-000C).....	829.77	61.59
23 09 23 53-0501	EA		5 UI, 4 BI, 3 AO, 6 Relay DO Expansion I/O Module (Johnson Controls LP-XM07X01-000C).....	846.69	61.59
23 09 23 53-0502	EA		5 UI, 4 BI, 3 AO, 2 Triac DO, 4 Relay DO Expansion I/O Module (Johnson Controls LP-XM07X11-000C).....	846.69	61.59
23 09 23 53-0503	EA		5 UI, 4 BI, 3 AO, 6 Relay DO (Manual Overrides For 2 AO And 4 Relay DO) Expansion I/O Module (Johnson Controls LP-XM07X51-000C).....	931.19	61.59
23 09 23 53-0504	EA		5 UI, 4 BI, 3 AO, 2 Triac DO, 4 Relay DO (Manual Overrides For 2 AO, 2 Triac DO, And 2 Relay DO) Expansion I/O Module (Johnson Controls LP-XM07X61-000C).....	931.19	61.59
23 09 23 53-0505	EA		6 UI, 12 BI, 4 AO, 9 Relay DO Expansion I/O Module (Johnson Controls LP-XM14X01-000C).....	1,174.14	61.59
23 09 23 53-0506	EA		6 UI, 12 BI, 4 AO, 4 Triac DO Expansion I/O Module (Johnson Controls LP-XM14X11-000C).....	1,174.14	61.59
23 09 23 53-0507	EA		6 UI, 12 BI, 4 AO, 9 Relay DO (Manual Overrides For 3 AO And 7 Relay DO) Expansion I/O Module (Johnson Controls LP-XM14X51-000C).....	1,311.46	61.59
23 09 23 53-0508	EA		6 UI, 12 BI, 4 AO, 4 Triac DO, 5 Relay DO (Manual Overrides For 3 AO, 2 Triac DO, And 5 Relay DO) Expansion I/O Module (Johnson Controls LP-XM14X61-000C).....	1,311.46	61.59

23 09 23 53-0509 VAV, Network And Special Sensors (23 09 23 53-0450)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0510	EA	3" x 4-1/2", Surface Or Box Mounted, LCD RH Display, 3% RH Accuracy, Occupancy Override, Adjustable Temperature Setpoint BACnet Temperature And Humidity Sensor (Johnson Controls NS-BHR7001-0).....	619.92	39.42
23 09 23 53-0511	EA	3" x 4-1/2", Surface Or Box Mounted, Addressing Switch BACnet Temperature Sensor (Johnson Controls NS-BTN7003-0).....	205.07	39.42
23 09 23 53-0512	EA	3" x 4-1/2", Surface Or Box Mounted, 3% RH Accuracy, BACnet Temperature And Humidity Sensor (Johnson Controls NS-BHN7001-0).....	478.98	39.42
23 09 23 53-0513	EA	3" x 4-1/2", Surface Or Box Mounted, LCD Display, 2% RH Accuracy, Occupancy Override, Adjustable Temperature Setpoint Addressing Switch BACnet Temperature And Humidity Sensor (Johnson Controls NS-BPB7003-0).....	718.20	39.42
23 09 23 53-0514	EA	3" x 4-1/2", Surface Or Box Mounted, LCD Display, Occupancy Override, Adjustable Temperature Setpoint, BACnet Temperature Sensor (Johnson Controls NS-BTB7001-0).....	236.13	39.42
23 09 23 53-0515	EA	3" x 4-1/2", Surface Or Box Mounted CO2 Sensor, 0 To 2,000 ppm (Johnson Controls NS-BCN7004-0).....	650.75	39.42
23 09 23 53-0516 Sensors - Hard Wired Type (23 09 23 53-0450)				
23 09 23 53-0517	EA	Duct Mount Temperature Sensor, Platinum RT, With Handi-Box (Johnson Controls TFDCR00).....	196.13	70.96
23 09 23 53-0518	EA	Well Insertion Temperature Sensor, With Stainless 4-1/2" Well (Johnson Controls TIGB1C0).....	169.55	39.42
23 09 23 53-0519	EA	BACnet MS/TP Networked, Single Stage Thermostat (Johnson Controls TEC2601-2)..... Note: For fan coil units, unit heaters and single stage packaged heating/cooling equipment.	481.73	18.48
23 09 23 53-0520	EA	BACnet MS/TP Networked Two Outputs, Dehumidification Capability And Three Speed Fan Control Thermostat (Johnson Controls TEC2616-2)..... Note: For two or four pipe fan coils, cabinet unit heaters or other equipment using on/off, floating, or proportional 0 to 10 Volt DC control input, three speeds of fan control, and dehumidification capability.	653.42	18.48
23 09 23 53-0521	EA	BACnet MS/TP Networked Thermostats With Two Outputs (Johnson Controls TEC2627VVT-2)..... Note: For VVT systems.	482.68	18.48
23 09 23 53-0522	EA	BACnet MS/TP Zone Controller For Proportional Zone Damper, On/Off Or Proportional Reheat Control (Johnson Controls TEC2647Z-2).....	635.43	39.42
23 09 23 53-0523	EA	BACnet Zone Controller With Occupancy Sensor For Proportional Zone Damper, On/Off Or Proportional Reheat Control (Johnson Controls TEC2647Z-2+PIR).....	784.02	39.42
23 09 23 53-0524 Melink Intelli-Hood IH3 Controls (23 09 23 53)				
23 09 23 53-0525 Kitchen Ventilation Controllers (23 09 23 53-0524)				
23 09 23 53-0526	EA	Fully Programmable Kitchen Ventilation Controller (Melink Intelli-Hood 2SYS-3001)..... Note: RS-485 communication protocol supports up to 39 Hood Controllers, 10 graphical user interface devices, 10 auxiliary power supplies, and 10 auxiliary light controllers. Modbus VFD communications interface for support of up to 64 variable frequency drives, programmable I/O points. Includes 3 digital inputs, 4 digital outputs, 1 analog output, and 1 analog input. BACnet over TCP/IP Interface, Real-Time Clock with battery back-up.	10,191.22	492.75
23 09 23 53-0527	EA	Graphical User Interface (Melink Intelli-Hood 2KPD-3001)..... Note: Full color 2.5" display and programming interface device. RS-485 communication protocol for interface with main controller.	1,945.49	101.63
23 09 23 53-0528	EA	Hood Controller (Melink Intelli-Hood 2SEN-3001)..... Note: 6 point field I/O device, RS-485 communication protocol, supports up to 4 field temperature sensors and 1 optic sensor system.	3,150.99	410.22
23 09 23 53-0529 Kitchen Ventilation Sensors (23 09 23 53-0524)				
23 09 23 53-0530	EA	Duct Mount Stainless Steel RTD (Melink Intelli-Hood 2SEN-3005-Q)..... Note: Includes UL listed mounting compression fitting, stainless steel probe protection sleeve, RJ-45 communication connector.	571.24	70.96
23 09 23 53-0531	EA	Optic Sensor System For Detection Of Cooking Effluent (Melink Intelli-Hood 2SEN-3004-28)..... Note: Includes air purge unit, infrared emitter/receiver with stainless steel housings. Auto-calibration, 0.2 second response time, conformal-coated circuit boards, purge pipe assembly complete with UL listed compression fittings, communication interface cables and blower box assembly.	4,923.44	394.21
23 09 23 53-0532 Siemens Controls (23 09 23 53)				
23 09 23 53-0533	EA	Concealed Temperature Set Point Adjustment, Electric Line Voltage Heating/Cooling Thermostat (Siemens 134-1083).....	464.36	18.48
23 09 23 53-0534	EA	Exposed Temperature Set Point Adjustment, Electric Line Voltage Heating/Cooling Thermostat (Siemens 134-1085).....	326.82	18.48
23 09 23 53-0535	EA	SPST/Manual Reset, 1" To 12" Set Point Range, Differential Static Pressure Airflow Switch (Siemens 141-0575).....	333.88	83.22
23 09 23 53-0536	EA	-0.5" To 0.5" WG, Low Differential Pressure Transmitter (Siemens 141-0591).....	509.78	83.22
23 09 23 53-0537	EA	Spring Clip Mounting Kit For Thermostat (Siemens 182-685).....	78.74	12.32
23 09 23 53-0538	EA	Two Position, Pneumatic Circuit, RL243 Switching Relay (Siemens 243-0001).....	263.17	123.19
23 09 23 53-0539	EA	3/4" Two Way, Normally Closed, 6.3 Cv, FxF, Brass Trim, Floating, Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 260-02012).....	424.71	19.39
23 09 23 53-0540	EA	1" Three Way, 10 Cv, FxF, Stainless Steel Trim, Floating, Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 266-02079).....	748.76	35.20
23 09 23 53-0541	EA	1" Three Way, 10 Cv, FxF, Brass Trim, 0 To 10 Volt DC, 4 To 20 mA Electronic Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 274-03203).....	1,520.05	35.20
23 09 23 53-0542	EA	1-1/4" Two Way, 16 Cv, FxF, Stainless Steel Trim, 0 To 10 Volt DC Electronic Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 298-03006).....	1,280.40	44.59
23 09 23 53-0543	EA	36" Rigid Probe, 4 To 20 mA, 20 To 120 Degree F Range, Duct Averaging Sensor (Siemens 535-490-36).....	335.26	70.96
23 09 23 53-0544	EA	-58 To 122 Degree F Range, Outside Air Temperature Sensor (Siemens 536-768).....	283.24	39.42
23 09 23 53-0545	EA	Unit Conditioner Controller With Secure Mode (Siemens 540-110C).....	619.81	58.15
23 09 23 53-0546	EA	9-Pin, Female To RJ-11 Cable (Siemens 540-143).....	112.99	6.16
23 09 23 53-0547	EA	Terminal Box Controller, Electronic Output, For Trane (Siemens 540-800).....	1,000.87	118.26
23 09 23 53-0548	EA	MMI Extension Cable (Siemens 545-712).....	182.86	6.16
23 09 23 53-0549	EA	Remote Pressure Transmitter (Siemens 547-003).....	1,497.87	39.42
23 09 23 53-0550	EA	Cooling Only, GDE, BACnet Actuating Terminal Equipment Controller (Siemens 550-400).....	917.66	29.56
23 09 23 53-0551	EA	BACnet Unit Conditioner Fan Coil Controller (Siemens 550-433).....	794.25	78.84



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0552 EA Door Lock And Key Assembly (Siemens 567-225).....	43.50	24.63
23 09 23 53-0553 EA Insight Advanced Software Package (Siemens 571-010-381-USB)..... Note: Includes one user license and one sentinel key.	15,210.53	
23 09 23 53-0554 EA BACnet Client Option For Insight Advanced Software Package (Siemens 571-188).....	532.19	
23 09 23 53-0555 EA Soft Controller Option For Insight Advanced Software Package (Siemens 571-620).....	3,343.91	
23 09 23 53-0556 EA 1" Steam, Normally Open, 10 Cv, Stainless Steel Trim, Class 250 Globe Valve (Siemens 599-03059).....	498.59	11.71
23 09 23 53-0557 EA 2" Steam, Normally Open, 40 Cv, Stainless Steel Trim, Class 250 Globe Valve (Siemens 599-03062).....	1,052.46	20.28
23 09 23 53-0558 EA Firefinder XLS Driver, Modular Equipment Controller With RS-485 BLN, 8 DI, 8 DO, 8 AI, 8 AO, Point Expansion Support, HOA-Ready (Siemens 986-83481C).....	9,990.18	49.28
23 09 23 53-0559 EA SiPass Driver, Modular Equipment Controller With RS-485 ALN, 8 DI, 8 DO, 8 AI, 8 AO, Point Expansion Support, Modem With HOA (Siemens 986-83482F).....	11,770.83	49.28
23 09 23 53-0560 EA 7" x 13-7/16" x 3-3/4" Weather Shield (Siemens ASK75.3U).....	182.36	18.48
23 09 23 53-0561 EA Two Position, 24 Volt AC/Volt DC, Standard Cabling, Dual Auxillary Switches, Electronic Damper Actuator With Spring Return (Siemens GMA126.1U).....	449.25	47.40
23 09 23 53-0562 EA Modulating, 0 To 10 Volt DC, 24 Volt AC/Volt DC, Standard Cabling, Electronic Damper Actuator With Spring Return (Siemens GMA161.1U).....	490.13	47.40
23 09 23 53-0563 EA License To Enable 4 TX-I/O Modules On the Island Bus And FLN Support On Models PXC36-E-A And PXC36- PE-A (Siemens LSM-36.A).....	4,420.08	
23 09 23 53-0564 EA License To Enable FLN Support On PXC-16 or PXC-24 "F" Models (Siemens LSM-FLN).....	892.53	
23 09 23 53-0565 EA License To Enable FLN Support On Models PXC36-E-A And PXC36-PE-A (Siemens LSM-FLN36.A).....	2,872.53	
23 09 23 53-0566 EA License To Enable BACnet Field Panel Web Server (PXC-36) Or Web Services (PXC-16/24) (Siemens LSM- FPWEB).....	2,056.33	
23 09 23 53-0567 EA License To Enable 4 TX-I/O Modules On the Island Bus On Models PXC36-E-A And PXC36-PE-A (Siemens LSM-IB36.A).....	1,767.72	
23 09 23 53-0568 EA License To Enable SNMP Agent License To Enable SNMP Agent (Siemens LSM-SNMP).....	5,226.18	
23 09 23 53-0569 EA 16-Switch HOA Upgrade Kit (Siemens PXA16-M).....	830.95	2.46
23 09 23 53-0570 EA 16-Switch HOA Upgrade Kit (Extended Temp, UL 916) With HMI Cable (Siemens PXA16-MR).....	927.39	9.86
23 09 23 53-0571 EA 8-Switch HOA Upgrade Kit (Siemens PXA8-M).....	469.83	2.46
23 09 23 53-0572 EA 18" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC18).....	462.00	68.99
23 09 23 53-0573 EA 19" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC19).....	808.61	68.99
23 09 23 53-0574 EA 34" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC34).....	1,135.17	78.84
23 09 23 53-0575 EA Serial Cable Required For HOA Or PXM10T/S Connection To Non-Rooftop Variants Of The 16-Point And 24- Point Compact Series (Siemens PXA-HMI.CABLEP5).....	41.34	12.32
23 09 23 53-0576 EA 115 Volt, 24 Volt AC, 50/60 Hertz, 192 VA PX Series Service Box (Siemens PXA-SB115V192VA).....	818.67	30.80
23 09 23 53-0577 EA 115 Volt, 24 Volt AC, 50/60 Hertz, 384 VA PX Series Service Box (Siemens PXA-SB115V384VA).....	1,314.67	30.80
23 09 23 53-0578 EA 230 Volt, 24 Volt AC, 50/60 Hertz, 192 VA PX Series Service Box (Siemens PXA-SB230V192VA).....	1,001.41	30.80
23 09 23 53-0579 EA 230 Volt, 24 Volt AC, 50/60 Hertz, 384 VA PX Series Service Box (Siemens PXA-SB230V384VA).....	1,523.53	30.80
23 09 23 53-0580 EA PXC Modular, BACnet/IP Or MS/TP ALN, P1 Or MS/TP FLN, PXX-485.3 Is Also Required As The Connection To The FLN Devices (Siemens PXC00-E96.A).....	4,459.32	61.59
23 09 23 53-0581 EA PXC Modular Series For BACnet Networks, TX-I/O Module, 96 Node (Siemens PXC100-E96.A).....	5,768.66	61.59
23 09 23 53-0582 EA Peer To Peer, TX-I/O, 96 Node, APOGEE Automation System, Programmable Controller - Modular (Siemens PXC100-PE96.A).....	6,572.53	61.59
23 09 23 53-0583 EA 16 Point, BACnet/IP ALN Compact Programmable Controller (Siemens PXC16.2-E.A).....	1,805.85	61.59
23 09 23 53-0584 EA 16 Point, BACnet/IP ALN, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC16.2-EF.A).....	2,159.93	61.59
23 09 23 53-0585 EA 16 Point, MS/TP ALN Compact Programmable Controller (Siemens PXC16.2-M.A).....	1,925.32	61.59
23 09 23 53-0586 EA 24 Point, BACnet/IP ALN Compact Programmable Controller (Siemens PXC24.2-E.A).....	2,634.65	61.59
23 09 23 53-0587 EA 24 Point, BACnet/IP ALN, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC24.2-EF.A).....	2,879.14	61.59
23 09 23 53-0588 EA 24 Point, BACnet/IP ALN, Rooftop Compact Programmable Controller (Siemens PXC24.2-ER.A).....	2,818.48	61.59
23 09 23 53-0589 EA 24 Point, BACnet/IP ALN, Rooftop, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC24.2- ERF.A).....	3,037.54	61.59
23 09 23 53-0590 EA 24 Point, MS/TP ALN Compact Programmable Controller (Siemens PXC24.2-M.A).....	2,812.96	61.59
23 09 23 53-0591 EA 24 Point, MS/TP ALN, Rooftop Compact Programmable Controller (Siemens PXC24.2-MR.A).....	3,036.05	61.59
23 09 23 53-0592 EA 36 Point, BACnet/IP Or MS/TP ALN Compact Programmable Controller (Siemens PXC36-E.A).....	3,914.25	61.59
23 09 23 53-0593 EA 36 Point, BACnet/IP Or MS/TP ALN, Island Bus, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC36-EF.A).....	7,813.62	61.59
23 09 23 53-0594 EA License To Enable The Island Bus On PXC00-E96.A And PXC00-PE96.A (Siemens PXF-TXIO.A).....	1,326.06	
23 09 23 53-0595 EA Controller Mounted Operator Display Module With Point Monitor And Optional Blue Backlight (Siemens PXM10S).....	526.95	30.80
23 09 23 53-0596 EA Controller Mounted Operator Display Module (Siemens PXM10T).....	383.76	30.80
23 09 23 53-0597 EA Provides FLN Support For The PXC Modular (Siemens PXX-485.3)..... Note: Includes Three RS-485 P1 FLN Connections Or One MS/TP FLN Connection, Maximum Of 96 Devices Supported	874.59	24.63
23 09 23 53-0598 EA Full Feature With Display, Override And Temperature Setpoint Adjustment, Room Temperature Sensor, 10K Ohm Type III Thermistor (Siemens QAA22SS.FWSN).....	296.25	30.80
23 09 23 53-0599 EA Digital Temperature Room Unit for TEC, Sensing, Setpoint, Override, Display, No Logo (Siemens QAA2280.FWNC).....	288.51	39.42
23 09 23 53-0600 EA 4" Platinum, 1,000 Ohm, 385 Alpha Probe, Immersion Temperature Sensor (Siemens QAE2012.010).....	143.50	30.80
23 09 23 53-0601 EA 8" Platinum, 1,000 Ohm, 385 Alpha Probe, Duct Temperature Sensor (Siemens QAM2012.020).....	106.89	30.80
23 09 23 53-0602 EA 24" Flexible Averaging Probe (Siemens QAM2012.750).....	315.94	61.59
23 09 23 53-0603 EA 2 Meter Flexible Duct Temperature Sensor With Four Mounting Clamps (Siemens QAM2120.200).....	201.85	46.19
23 09 23 53-0604 EA 10 HP, 240 Volt, NEMA 2 Variable Frequency Drive (Siemens SED2-7.5/22X).....	3,554.94	396.92
23 09 23 53-0605 EA Two Sets, Address Keys 1 - 12, Accessory For TX-I/O Module (Siemens TXA1.K12).....	37.59	12.32
23 09 23 53-0606 EA Labels For HOA And TX-I/O Modules (Siemens TXA1.LLT-P100).....	0.87	
23 09 23 53-0607 EA 16 Digital Input Module (Siemens TXM1.16D).....	656.82	12.32
23 09 23 53-0608 EA 6 Digital Output Relay Points, Manual Override, Digital Output Module (Siemens TXM1.6R-M).....	994.65	12.32
23 09 23 53-0609 EA 8 Universal Points, Local Override/Identification, Digital Output Module (Siemens TXM1.8X-ML).....	1,597.54	24.63
23 09 23 53-0610 EA 1.2 A, 4A Fuse, Power Supply (Siemens TXS1.12F4).....	488.08	7.39
23 09 23 53-0611 Trane Controls (23 09 23 53)		
23 09 23 53-0612 Software (23 09 23 53-0611) Note: Excludes programming, set-up and commissioning of application.		
23 09 23 53-0613 EA Summit + Building Management Package (Trane 40201152).....	7,550.84	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 53-0614	EA	Summit Current Version Software (Trane 40201111).....	4,261.95	
23 09 23 53-0615	EA	Summit Customer Upgrade Package, Currently V10-V16 To V17 (Trane 40201113).....	1,030.93	
23 09 23 53-0616	EA	Rover Service Software And Hardware, Complete Kit (Trane X1365150001).....	4,236.14	
23 09 23 53-0617	EA	Tracer SC With -X1365152401 - BACnet (2 Pack) (Trane BMSC000AAA011000).....	11,716.99	

23 09 23 53-0618 EMCS Central Equipment And Controllers (23 09 23 53-0611)

23 09 23 53-0619	EA	Summit BTMX Operator Display Upgrade (Trane 40201224).....	6,477.37	492.75
23 09 23 53-0620	EA	Summit BTMX Retrofit Kit For BMTS And BMTW BCU (Trane 49500531).....	14,844.23	492.75
23 09 23 53-0621	EA	Summit BTMX Retrofit Kit For Tracer 100 (Trane 49500532).....	14,844.23	492.75
23 09 23 53-0622	EA	Summit BTMX, 120 Volt, (Trane BMTX-001-A-A-B0-00).....	13,027.49	492.75
23 09 23 53-0623	EA	Summit BTMX, 120 Volt, With Display (Trane BMTX-001-A-A-B0-10).....	15,139.80	492.75
23 09 23 53-0624	EA	Summit CCP Upgrade ROM Kit (Trane 40201095).....	228.35	30.80
23 09 23 53-0625	EA	Summit Comm5 Repeater (Trane 49500457).....	1,760.81	246.38
23 09 23 53-0626	EA	AHU Controller MP580/581 E Board Only (Trane 40201157).....	3,003.00	307.97
23 09 23 53-0627	EA	AHU Controller MP581 120 Volt AC With Enclosure And Display (Trane BMTM000AAC01).....	3,855.74	369.57
23 09 23 53-0628	EA	AHU Controller MP581 120 Volt AC With Enclosure, No Display (Trane BMTM000AAC00).....	3,016.25	369.57
23 09 23 53-0629	EA	AHU Controller MP581 Operator Door Display (Trane 40201156).....	2,542.62	369.57
23 09 23 53-0630	EA	AHU Controller MP581 Portable, Rugged, With Case (Trane 49500491).....	2,539.95	369.57
23 09 23 53-0631	EA	Controller MP503 I/O Module With Metal Enclosure (Trane 49500590).....	1,150.40	123.19
23 09 23 53-0632	EA	Controller MP503 I/O Module With Plastic Cover (Trane 49500490).....	1,046.04	123.19
23 09 23 53-0633	EA	Controller MP581 EX2 Expansion Module With Metal Enclosure (Trane 49500500).....	1,883.50	246.38
23 09 23 53-0634	EA	Controller MP581 EX2 Expansion Module With Plastic Cover (Trane 49500499).....	1,796.96	246.38
23 09 23 53-0635	EA	2 Position, FCU Controller ZN511 Zone With Metal Enclosure (Trane 49500569).....	1,007.82	123.19
23 09 23 53-0636	EA	2 Position, FCU Controller ZN511 Zone With Plastic Cover (Trane 4950-0469).....	882.17	123.19
23 09 23 53-0637	EA	4 Position, FCU Controller ZN517 Zone With Metal Enclosure (Trane 49500596).....	1,317.02	123.19
23 09 23 53-0638	EA	4 Position, FCU Controller ZN517 Zone With Plastic Cover (Trane 49500496).....	1,192.04	123.19
23 09 23 53-0639	EA	Modulating FCU Controller ZN520 Zone With Plastic Cover (Trane 4950049).....	1,019.01	123.19
23 09 23 53-0640	EA	Modulating FCU Controller ZN520 Zone With Plastic Cover (Trane 49500496).....	971.00	123.19
23 09 23 53-0641	EA	Modulating Tri ST FCU Controller ZN521 Zone With Metal Cover (Trane 49500570).....	1,118.37	123.19
23 09 23 53-0642	EA	Modulating Tri ST FCU Controller ZN521 Zone With Plastic Cover (Trane 49500470).....	1,019.01	123.19
23 09 23 53-0643	EA	DDC VAV Retrofit Kit (Trane VRTODD01).....	1,410.65	246.38
23 09 23 53-0644	EA	DDC VAV Retrofit Kit With Belimo Actuator (Trane VRTODD01BLMO).....	1,534.24	246.38

23 09 23 53-0645 Network, VAV And Special Sensors (23 09 23 53-0611)

23 09 23 53-0646	EA	Digital Display Zone Sensor (Trane X13790464010).....	240.93	39.42
23 09 23 53-0647	EA	Single Setpoint Wall Mounted Zone Temperature Sensor (Trane X13511529010).....	159.99	39.42
23 09 23 53-0648	EA	Wall Mounted Zone Temperature-Only Sensor (Trane X13511528010).....	146.33	39.42
23 09 23 53-0649	EA	Ceiling Mount Zone Occupancy Sensor (Trane X13790421-01).....	297.13	44.35
23 09 23 53-0650	EA	Zone LCD O/C Setpoint, 3 Speed Fan (Trane 41901121).....	178.65	39.42
23 09 23 53-0651	EA	Zone Sensor LCD O/C Setpoint (Trane 41901120).....	178.65	39.42
23 09 23 53-0652	EA	Duct CO2 Sensor, 0 To 2,000 ppm (Trane X13790423010).....	626.96	70.96
23 09 23 53-0653	EA	Room CO2 Sensor, 0 To 2,000 ppm (Trane X13790422010).....	575.42	39.42
23 09 23 53-0654	EA	Transformer 120/24 40 VA (Trane X13550284010).....	139.51	39.42
23 09 23 53-0655	EA	Transformer 24 Volt AC Wall Plug-In (Trane 35803005).....	134.63	39.42
23 09 23 53-0656	EA	Transformer UL Listed 120 Volt AC, 40 VA (Trane 35812022).....	126.83	39.42
23 09 23 53-0657	EA	Controller UC400 VAV Kit With Enclosure, And Belimo (Trane 5189454010).....	1,584.53	246.38
23 09 23 53-0658	EA	Controller UC400 VAV Kit With Enclosure, No Actuator (Trane 5189456010).....	1,517.86	246.38
23 09 23 53-0659	EA	Controller UC400 XM32 Module (4 Relay) (Trane X13651563010).....	1,378.73	246.38
23 09 23 53-0660	EA	Controller UC400 XM70 (8UI,6UI/AO,4R,1P) (Trane X13651568010).....	2,464.87	369.57
23 09 23 53-0661	EA	Controller UC400 XM30 I/O Module (4 UI/AO) (Trane X13651537010).....	1,378.73	246.38
23 09 23 53-0662	EA	Controller UC210 VAV With Belimo Actuator (Trane BMUC210AAA0B00011).....	1,449.30	246.38
23 09 23 53-0663	EA	Controller UC210 VAV Without Actuator (Trane BMUC210AAA0100011).....	1,454.79	246.38
23 09 23 53-0664	EA	Controller Optional Metal Enclosure, UC210 (Trane 501898).....	524.58	245.33
23 09 23 53-0665	EA	Controller UC400 PM014 24 Volt AC To 1.4 Amperes, 24 Volt DC (Trane X1365153801).....	759.45	245.33
23 09 23 53-0666	EA	Controller Tracer UC600 Controller (Trane BMUC600AAA0100011).....	2,760.36	369.57
23 09 23 53-0667	EA	Controller UC600 Tracer TD7 Display (Trane X13651571010).....	2,653.09	369.57
23 09 23 53-0668	EA	Controller UC600 TD7 Mounting Bracket (Trane X05010511010).....	163.89	49.10
23 09 23 53-0669	EA	Controller UC400 13" DIN Rail Enclosure, 120 Volt (Trane X13651559010).....	593.55	49.10
23 09 23 53-0670	EA	SC 24" DIN Rail Enclosure, 120 Volt (Trane X13651552010).....	2,826.67	369.57
23 09 23 53-0671	EA	BACnet Term (2 Pack) (Trane X1365152401).....	260.03	88.32
23 09 23 53-0672	EA	Tracer ES Add License (Trane X40250125010).....	3,388.98	
23 09 23 53-0673	EA	Kit - Tracer TU For Controls (Trane X4509151201).....	5,193.10	492.75
23 09 23 53-0674	EA	Kit - Tracer TU Complete (Trane X4509151301).....	6,827.54	492.75
23 09 23 53-0675	EA	Tracer TU Adapter Wired/Wireless (Trane X13651529010).....	673.51	88.32
23 09 23 53-0676	EA	Sensor Wireless Zone Sensor, Fahrenheit (Trane X13790492010).....	385.83	88.32
23 09 23 53-0677	EA	Sensor Wireless Display Sensor (Trane X13790822010).....	436.54	88.32
23 09 23 53-0678	EA	Sensor Wireless Receiver, 100mW (Trane X13790854010).....	390.70	88.32
23 09 23 53-0679	EA	Sensor Wireless Comm Interface (WCI) Indoor, 100mW (Trane X13790901010).....	531.00	88.32
23 09 23 53-0680	EA	Sensor Wireless Comm Interface (WCI) Outdoor, 100mW (Trane X13790941010).....	578.77	88.32

23 09 23 53-0681 Control Sensors, Meters, Relays, Power Supplies, Valves, Dampers And Actuators (23 09 23 53)**23 09 23 53-0682 Room Pressure Monitoring (23 09 23 53-0681)**

23 09 23 53-0683	EA	Hospital Room Pressure Monitor With Digital Interface Monitor, Through Wall Sensor Transformer And Plenum Rated Cable (TSI 8640-PM).....	3,434.98	59.25



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0684 EA Hospital Room Pressure Controller With Digital Interface Monitor, Through Wall Sensor Transformer And Plenum Rated Cable (TSI 8630-PC) Note: Excludes dampers and actuators.	5,551.96	59.25
23 09 23 53-0685 EA Hospital Room Pressure Status Remote Visual Display (TSI 8694-4)	431.45	35.55
23 09 23 53-0686 EA Hospital Room Pressure Status Remote Negative/Neutral Key Switch (TSI 8694-7)	499.01	35.55
23 09 23 53-0687 Current Switches And Current Sensors (23 09 23 53-0681)		
23 09 23 53-0688 EA Up To 20 Amperes, 0 To 5 Volt DC, Current Sensor (Senva C-1203)	149.26	39.42
23 09 23 53-0689 EA Up To 20 Amperes, 4-20mA, Current Sensor (Senva C-1205)	155.11	39.42
23 09 23 53-0690 EA 0.5 To 135 Amperes Range, Split Core, VFD Current Switch (Senva C-2350VFD-L)	240.93	39.42
23 09 23 53-0691 EA 0.15 To 100 Amperes Range, Split Core, Current Switch With NC Command Relay (Senva C-2300 And CR4-24)	141.46	39.42
23 09 23 53-0692 EA 0 To 50/100/200 Amperes (Selectable), 4-20mA, 0 To 5 Volt DC, Split Core, DC Current Sensor (Veris H970HCA)	439.87	39.42
23 09 23 53-0693 EA 0 To 20/40/80 Amperes (Selectable), 0-20mA, 0 To 5 Volt DC, Split Core, DC Current Sensor (Veris H970LCC)	279.69	39.42
23 09 23 53-0694 EA 1 To 135 Amperes, N.O. Contact, 1 Ampere At 110 Volt, Current Switch (Veris H709)	212.82	39.42
23 09 23 53-0695 EA 0 To 10/20/40 Amperes, 4-20mA Analog Output, Solid Core, Loop Powered, Current Switch (Veris H721)	212.82	39.42
23 09 23 53-0696 EA Energy Meter H8163 Series, With BACnet Output (Veris H8186-CB-BAC)	5,761.65	197.11
23 09 23 53-0697 EA 100 Amperes, Modbus RTU, Power Transducer (Veris H8035-0100-2)	1,465.20	39.42
Note: 3 phase networked transducer.		
23 09 23 53-0698 EA 2,400 Amperes, Three Current Switches, Pulse Output, Phase Loss Alarm Output, Energy Meter (Veris H8163-2400-4-3)	2,228.39	39.42
23 09 23 53-0699 EA Up To 20 Amperes, 0-5 Volt DC, Current Transducer (Kele 4CTV)	228.52	39.42
23 09 23 53-0700 EA Solid Core Fixed Setpoint Digital Output Current Switch (Veris H-800)	338.60	104.72
23 09 23 53-0701 EA Split Core Fixed Setpoint Digital Output Current Switch (Veris H-900)	339.07	104.72
23 09 23 53-0702 EA Solid Core Adjustable Setpoint Digital Output Current Sensor (Veris H-708)	362.47	104.72
23 09 23 53-0703 EA Split Core Adjustable Setpoint Digital Output Current Sensor (Veris H-908)	368.32	104.72
23 09 23 53-0704 EA Solid And Split Core Adjustable Setpoint Digital Output VFD Current Switch (Veris H-904)	401.48	104.72
23 09 23 53-0705 EA Toggle Switch	138.02	49.28
23 09 23 53-0706 EA Maintained Pushbutton Switch	147.58	49.28
23 09 23 53-0707 EA Manual Time Switch	237.66	49.28
23 09 23 53-0708 EA Emergency Stop Switch	398.74	49.28
23 09 23 53-0709 EA Float Switch	382.04	49.28
23 09 23 53-0710 EA Break Glass Switch	1,259.91	49.28
23 09 23 53-0711 EA Boiler E-Stop Switch	768.30	49.28
23 09 23 53-0712 Relays (23 09 23 53-0681)		
23 09 23 53-0713 EA DPDT, 24 Volt AC, Blade, Standard Relay (Kele RH2B-UAC24V)	122.93	39.42
23 09 23 53-0714 EA SPDT, 24 Volt AC/Volt DC, 120 Volt AC Multi-Voltage Relay Module (Kele PAM-1)	134.93	39.42
23 09 23 53-0715 EA SPDT, 24 Volt AC/Volt DC, 120 Volt AC Power Relay (Kele RIB2401B)	191.18	49.28
Note: Box type.		
23 09 23 53-0716 EA Motor Starter Interface, 300msec Pulse (Kele PIL-2)	242.53	39.42
23 09 23 53-0717 EA DP Relay Socket, DIN Rail Mounted (Kele SH2B-05)	114.23	39.42
23 09 23 53-0718 EA SP Relay Socket, DIN Rail Mounted (Kele SH1B-05)	112.48	39.42
23 09 23 53-0719 EA SPDT, 24 Volt AC, Blade, Standard Relay (Kele RH1B-UAC24V)	122.93	39.42
23 09 23 53-0720 EA DPDT, 24 Volt AC, Blade, Indicator Light Relay (Kele RH2B-ULAC24V)	128.41	39.42
23 09 23 53-0721 EA SPDT, 24 Volt AC, Blade, Indicator Light Relay (Kele RH1B-ULAC24V)	129.91	39.42
23 09 23 53-0722 EA SPDT Pilot Relay, Universal (Kele RIBU1C)	140.65	49.28
Note: Box type.		
23 09 23 53-0723 EA SPST Pilot Relay With HOA Switch (Kele RIBU1S)	189.60	49.28
Note: Box type.		
23 09 23 53-0724 EA SPDT 3 Phase Line Voltage Monitor, .1-5 Minute Delay On Break Timer (ICM400)	340.58	49.28
23 09 23 53-0725 EA SPDT 3-Phase Line Voltage Monitor, 0-10 Minute Delay On Break Timer (ICM450)	338.42	49.28
23 09 23 53-0726 Transformers (23 09 23 53-0681)		
23 09 23 53-0727 EA 50 VA, 120/240/277/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X050CBA)	147.97	39.42
23 09 23 53-0728 EA 75 VA, 120-24 Volt AC, CB Foot And Dual Hub Control Transformer (Veris X075CAB)	161.59	39.42
23 09 23 53-0729 EA 75 VA, 120/208/240/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X075CBA)	161.59	39.42
23 09 23 53-0730 EA 100 VA, 120-24 Volt AC, CB Foot And Dual Hub Control Transformer (Veris X100CAB)	173.91	39.42
23 09 23 53-0731 EA 100 VA, 120/240/277/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X100CBA)	181.50	39.42
23 09 23 53-0732 Power Supplies (23 09 23 53-0681)		
23 09 23 53-0733 EA Solid Core Current Operated Switch, Terminals, Adjustable Trip, 0.5-150A, SPST (Kele RIBXKTA)	224.57	39.42
23 09 23 53-0734 EA AC/DC Power Supply, 1.2 Amperes At 24 Volt Output (Kele DCPA-1.2)	262.34	39.42
23 09 23 53-0735 EA DC Power Supply, 5 Volt DC And 24 Volt DC Output (Kele DCP-524)	245.32	39.42
23 09 23 53-0736 EA DC Power Supply, 24 Volt DC, DIN Rail Mounted (Kele DCP-250-D)	253.37	39.42
23 09 23 53-0737 EA DC Power Supply, 24 Volt DC, Hub Mounted (Kele DCP-250-H)	246.20	39.42
23 09 23 53-0738 EA DC Power Supply, 24 Volt DC, Panel Mounted (Kele DCP-250-P)	258.21	39.42
23 09 23 53-0739 EA DC Power Supply, 24 Volt AC In To Custom DC Out, At 1.5 Amperes (Kele DCP-1.5-W-C)	192.09	39.42
23 09 23 53-0740 Carrier Sensors And Controls (23 09 23 53)		
23 09 23 53-0741 EA Touch Screen Controller, Supports 512 ID Units (Carrier BMS-CT5120UL)	6,100.41	164.09
23 09 23 53-0742 EA Wired Remote Controller (Carrier RBC-AMS54E-UL)	382.33	39.42
23 09 23 53-0743 EA Remote Sensor (Carrier TCB-TC41UL)	330.10	39.42
23 09 23 53-0744 EA VRF Start-up Assistance (Carrier VRFSA)	2,374.05	
23 09 23 53-0745 EA 2 Speed VFD Display Kit (Carrier CRDISKIT001A00)	527.09	61.59

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 43 Pneumatic Control System For HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 43 Pneumatic Control System For HVAC (23 09)**23 09 43 00-0001 Pneumatic Tubing For HVAC Instrumentation and Control Devices** (23 09 43)**23 09 43 00-0002 Polyurethane Pneumatic Tubing** (23 09 43 00-0001)

23 09 43 00-0003	LF	1/4" Outside Diameter x 1/32" Thick Wall Polyurethane Pneumatic Tubing	2.40	0.92
23 09 43 00-0004	LF	5/32" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	3.08	0.95
23 09 43 00-0005	LF	3/8" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	4.07	0.98
23 09 43 00-0006	LF	1/2" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	5.19	1.01

23 09 43 00-0007 Fire Resistant Polyethylene Pneumatic Tubing (23 09 43 00-0001)

23 09 43 00-0008	LF	1/4" Outside Diameter x .040" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing	2.13	0.92
23 09 43 00-0009	LF	5/32" Outside Diameter x .030" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing	2.29	0.95
23 09 43 00-0010	LF	3/8" Outside Diameter x .062" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing	2.64	0.98
23 09 43 00-0011	LF	1/2" Outside Diameter x .062" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing	3.32	1.01

23 09 43 00-0012 Nylon Pneumatic Tubing (23 09 43 00-0001)

23 09 43 00-0013	LF	1/8" Outside Diameter x .016" Thick Wall Nylon Pneumatic Tubing	2.55	0.89
23 09 43 00-0014	LF	1/4" Outside Diameter x .035" Thick Wall Nylon Pneumatic Tubing	3.42	0.92
23 09 43 00-0015	LF	3/8" Outside Diameter x .050" Thick Wall Nylon Pneumatic Tubing	5.23	0.98
23 09 43 00-0016	LF	1/2" Outside Diameter x .062" Thick Wall Nylon Pneumatic Tubing	6.74	1.01

23 09 43 00-0017 Flexible Vinyl Pneumatic Tubing (23 09 43 00-0001)

23 09 43 00-0018	LF	1/4" Outside Diameter Flexible Vinyl Pneumatic Tubing	2.49	0.92
23 09 43 00-0019	LF	3/8" Outside Diameter Flexible Vinyl Pneumatic Tubing	4.10	0.98
23 09 43 00-0020	LF	1/2" Outside Diameter Flexible Vinyl Pneumatic Tubing	4.96	1.01
23 09 43 00-0021	LF	5/8" Outside Diameter Flexible Vinyl Pneumatic Tubing	6.08	1.03
23 09 43 00-0022	LF	3/4" Outside Diameter Flexible Vinyl Pneumatic Tubing	6.89	1.06
23 09 43 00-0023	LF	1" Outside Diameter Flexible Vinyl Pneumatic Tubing	9.51	1.09

23 09 43 00-0024 Braided Vinyl Pneumatic Tubing (23 09 43 00-0001)

23 09 43 00-0025	LF	5/8" Outside Diameter Braided Vinyl Pneumatic Tubing	3.40	1.03
23 09 43 00-0026	LF	3/4" Outside Diameter Braided Vinyl Pneumatic Tubing	3.97	1.06
23 09 43 00-0027	LF	1" Outside Diameter Braided Vinyl Pneumatic Tubing	5.01	1.09

23 09 43 00-0028 Copper Pneumatic Tubing (23 09 43 00-0001)

23 09 43 00-0029	LF	1/4" Outside Diameter Copper Pneumatic Tubing	5.10	1.99
23 09 43 00-0030	LF	3/8" Outside Diameter Copper Pneumatic Tubing	6.22	2.29
23 09 43 00-0031	LF	1/2" Outside Diameter Copper Pneumatic Tubing	7.22	2.63
23 09 43 00-0032	LF	5/8" Outside Diameter Copper Pneumatic Tubing	8.92	3.03
23 09 43 00-0033	LF	3/4" Outside Diameter Copper Pneumatic Tubing	10.14	3.48

23 09 43 00-0034 Brass Couplings (23 09 43 00-0001)**23 09 43 00-0035 Straight Brass Couplings** (23 09 43 00-0034)

Note: Barb x Barb

23 09 43 00-0036	EA	1/4" x 1/4" Straight Brass Coupling	10.85	5.02
23 09 43 00-0037	EA	3/8" x 1/4" Straight Brass Coupling	10.99	5.02
23 09 43 00-0038	EA	3/8" x 3/8" Straight Brass Coupling	11.12	5.02

23 09 43 00-0039 Elbow Brass Couplings (23 09 43 00-0034)

Note: Barb x Barb

23 09 43 00-0040	EA	1/4" x 1/4" Elbow Brass Coupling	11.60	5.02
23 09 43 00-0041	EA	3/8" x 3/8" Elbow Brass Coupling	12.05	5.02

23 09 43 00-0042 Tee Brass Couplings (23 09 43 00-0034)

Note: Barb x Barb

23 09 43 00-0043	EA	1/4" x 1/4" x 1/4" Tee Brass Coupling	17.67	7.80
23 09 43 00-0044	EA	3/8" x 3/8" x 1/4" Tee Brass Coupling	20.40	8.36
23 09 43 00-0045	EA	3/8" x 3/8" x 3/8" Tee Brass Coupling	19.92	8.36

23 10 Facility Fuel Systems (23)**23 11 Facility Fuel Piping** (23 10)**23 11 23 Facility Natural-Gas Piping** (23 11)

See CSI section 23 21 13 23-0001 for threaded black steel pipe, 33 52 16 00-0000 for underground MDPE and HDPE pipe.

23 11 23 00-0001 Corrugated Stainless Steel Tubing (CSST), Flexible Gas Piping (23 11 23)**23 11 23 00-0002 Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe** (23 11 23 00-0001)

Note: Includes UV resistant polyethylene jacket. Excludes fittings and pipe hangers.



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0003	LF	3/8" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	6.18	1.95
23 11 23 00-0004	LF	1/2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	6.81	2.12
23 11 23 00-0005	LF	3/4" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	8.18	2.29
23 11 23 00-0006	LF	1" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	10.37	2.42
23 11 23 00-0007	LF	1-1/4" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	12.25	2.55
23 11 23 00-0008	LF	1-1/2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	18.74	2.65
23 11 23 00-0009	LF	2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	25.46	2.82
23 11 23 00-0010		Fittings And Accessories For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0001)		
23 11 23 00-0011		Male Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0012	EA	3/8" x 1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	29.43	
23 11 23 00-0013	EA	3/8" x 3/8", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	29.43	
23 11 23 00-0014	EA	1/2" x 3/8", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55	
23 11 23 00-0015	EA	1/2" x 1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55	
23 11 23 00-0016	EA	3/4" x 3/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.08	
23 11 23 00-0017	EA	1" x 3/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	52.74	
23 11 23 00-0018	EA	1" x 1", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	52.74	
23 11 23 00-0019	EA	1-1/4" x 1-1/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	90.30	
23 11 23 00-0020	EA	1-1/2" x 1-1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	166.15	
23 11 23 00-0021	EA	2" x 2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	269.73	
23 11 23 00-0022		Female Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0023	EA	3/8" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	28.47	
23 11 23 00-0024	EA	1/2" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55	
23 11 23 00-0025	EA	1/2" x 3/8", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55	
23 11 23 00-0026	EA	3/4" x 3/4", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.08	
23 11 23 00-0027	EA	3/4" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.08	
23 11 23 00-0028	EA	1" x 3/4", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	50.38	
23 11 23 00-0029	EA	1" x 1", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	50.38	
23 11 23 00-0030		Reducing Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0031	EA	3/4" x 1/2", (CSST x Threaded) Reducing Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.65	
23 11 23 00-0032	EA	1" x 3/4", (CSST x Threaded) Reducing Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	51.24	
23 11 23 00-0033		Couplings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0034	EA	3/8" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	39.88	
23 11 23 00-0035	EA	1/2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	44.28	
23 11 23 00-0036	EA	3/4" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.79	
23 11 23 00-0037	EA	1" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	80.36	
23 11 23 00-0038	EA	1-1/4" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	151.36	
23 11 23 00-0039	EA	1-1/2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	296.48	
23 11 23 00-0040	EA	2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	493.06	
23 11 23 00-0041		Tees For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0042	EA	1/2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.05	
23 11 23 00-0043	EA	3/4" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	89.42	
23 11 23 00-0044	EA	1" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	142.47	
23 11 23 00-0045	EA	1-1/4" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	246.20	
23 11 23 00-0046	EA	1-1/2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	264.76	
23 11 23 00-0047	EA	2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	304.18	
23 11 23 00-0048		Indoor Termination Fittings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0049	EA	3/8" x 1/2", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	35.70	
23 11 23 00-0050	EA	1/2" x 1/2", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	36.87	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0051	EA	3/4" x 3/4", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.14	
23 11 23 00-0052	EA	1" x 3/4", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	54.31	
23 11 23 00-0053	EA	1" x 1", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.12	
23 11 23 00-0054		Outdoor Termination Fittings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0055	EA	3/8" x 1/2", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	39.44	
23 11 23 00-0056	EA	1/2" x 1/2", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.46	
23 11 23 00-0057	EA	3/4" x 3/4", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	47.76	
23 11 23 00-0058	EA	1" x 3/4", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	56.44	
23 11 23 00-0059	EA	1" x 1", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	56.44	
23 11 23 00-0060		Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0061	EA	3/8" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	60.64	
23 11 23 00-0062	EA	1/2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	62.18	
23 11 23 00-0063	EA	3/4" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	65.30	
23 11 23 00-0064	EA	1" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	105.52	
23 11 23 00-0065	EA	1-1/4" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	109.60	
23 11 23 00-0066	EA	1-1/2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	159.44	
23 11 23 00-0067	EA	2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	199.03	
23 11 23 00-0068		Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0069	EA	3/8" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	64.27	
23 11 23 00-0070	EA	1/2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	65.75	
23 11 23 00-0071	EA	3/4" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	72.78	
23 11 23 00-0072	EA	1" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	134.11	
23 11 23 00-0073	EA	1-1/4" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	138.42	
23 11 23 00-0074	EA	1-1/2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	191.58	
23 11 23 00-0075	EA	2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	242.56	
23 11 23 00-0076		Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0077	EA	1/2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	37.66	
23 11 23 00-0078	EA	3/4" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.70	
23 11 23 00-0079	EA	1" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	62.46	
23 11 23 00-0080	EA	1-1/4" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	96.83	
23 11 23 00-0081	EA	1-1/2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	189.40	
23 11 23 00-0082	EA	2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	302.37	
23 11 23 00-0083		Stub-Outs For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
		Note: Includes mounting plate.		
23 11 23 00-0084	EA	1/2" Appliance Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.45	
23 11 23 00-0085	EA	3/4" Appliance Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	35.41	
23 11 23 00-0086	EA	1-1/2" Fireplace Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.49	
23 11 23 00-0087	EA	1/2" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.60	
23 11 23 00-0088	EA	3/4" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	33.96	
23 11 23 00-0089	EA	1" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.54	
23 11 23 00-0090	EA	1-1/4" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	48.98	
23 11 23 00-0091		Flush Mount Gas Valve Kits For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
		Note: Includes flush fitting plastic valve box and 90 degree brass shut-off valve.		
23 11 23 00-0092	EA	1/2" x 1/2", (CSST x Threaded) Flush Mount Gas Valve Kit For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	92.09	20.52
23 11 23 00-0093	EA	3/4" x 3/4", (CSST x Threaded) Flush Mount Gas Valve Kit For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	104.30	21.54



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0094		Shut-Off Valves For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0095	EA	3/8" x 1/2", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	65.55	17.96
23 11 23 00-0096	EA	1/2" x 1/2", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	76.19	21.34
23 11 23 00-0097	EA	3/4" x 3/4", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	93.58	25.66
23 11 23 00-0098	EA	1" x 3/4", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	116.73	34.27
23 11 23 00-0099		Manifolds For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
Note: Includes mounting hardware.				
23 11 23 00-0100	EA	1/2" Inlet, Three 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	90.62	21.34
23 11 23 00-0101	EA	3/4" Inlet, Three 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	91.26	25.66
23 11 23 00-0102	EA	1/2" Inlet, Four 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	86.60	21.34
23 11 23 00-0103	EA	3/4" Inlet, Four 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	95.14	25.66
23 11 23 00-0104	EA	2" x 1-1/2" Inlet, Four 1" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	178.98	64.13
23 11 23 00-0105		Pressure Regulators For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0106	EA	1/2" Port, 250 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	85.45	21.34
23 11 23 00-0107	EA	1/2" Port, 355 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	85.45	21.34
23 11 23 00-0108	EA	1/2" Port, 425 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	121.23	21.34
23 11 23 00-0109	EA	3/4" Port, 550 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	129.77	25.66
23 11 23 00-0110	EA	3/4" Port, 810 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	129.77	25.66
23 11 23 00-0111	EA	1" Port, 550 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	146.87	34.27
23 11 23 00-0112	EA	1-1/4" Port, 1,000 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	221.71	38.47
23 11 23 00-0113	EA	1/2" Port, 200 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	114.90	21.34
23 11 23 00-0114	EA	3/4" Port, 425 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	291.78	25.66
23 11 23 00-0115	EA	1-1/4" Port, 900 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	713.43	38.47
23 11 23 00-0116		Polymer Coated Stainless Steel, Flexible Gas Appliance Connectors (Brass Craft) (23 11 23)		
23 11 23 00-0117		3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0118	EA	12" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-12).....	46.10	15.39
23 11 23 00-0119	EA	18" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-18).....	50.81	16.41
23 11 23 00-0120	EA	24" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-24).....	55.31	16.41
23 11 23 00-0121	EA	30" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-30).....	58.12	17.44
23 11 23 00-0122	EA	36" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-36).....	61.71	17.44
23 11 23 00-0123	EA	48" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-48).....	69.94	18.47
23 11 23 00-0124	EA	60" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-60).....	77.40	18.47
23 11 23 00-0125	EA	72" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-72).....	84.78	19.50
23 11 23 00-0126		3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0127	EA	12" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-12).....	46.10	15.39
23 11 23 00-0128	EA	18" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-18).....	50.81	16.41
23 11 23 00-0129	EA	24" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-24).....	55.31	16.41
23 11 23 00-0130	EA	30" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-30).....	58.12	17.44
23 11 23 00-0131	EA	36" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-36).....	61.71	17.44
23 11 23 00-0132	EA	48" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-48).....	69.94	18.47
23 11 23 00-0133	EA	60" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-60).....	77.40	18.47
23 11 23 00-0134	EA	72" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-72).....	84.78	19.50

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0135		3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0136	EA	12" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-12).....	46.10	15.39
23 11 23 00-0137	EA	18" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-18).....	50.81	16.41
23 11 23 00-0138	EA	24" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-24).....	55.31	16.41
23 11 23 00-0139	EA	30" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-30).....	58.12	17.44
23 11 23 00-0140	EA	36" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-36).....	61.71	17.44
23 11 23 00-0141	EA	48" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-48).....	69.94	18.47
23 11 23 00-0142	EA	60" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-60).....	77.40	18.47
23 11 23 00-0143	EA	72" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-72).....	84.78	19.50
23 11 23 00-0144		3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0145	EA	12" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-12).....	46.10	15.39
23 11 23 00-0146	EA	18" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-18).....	50.81	16.41
23 11 23 00-0147	EA	24" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-24).....	66.95	16.41
23 11 23 00-0148	EA	30" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-30).....	58.12	17.44
23 11 23 00-0149	EA	36" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-36).....	61.71	17.44
23 11 23 00-0150	EA	48" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-48).....	69.94	18.47
23 11 23 00-0151	EA	60" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-60).....	77.40	18.47
23 11 23 00-0152	EA	72" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-72).....	84.78	19.50
23 11 23 00-0153		3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0154	EA	12" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-12).....	50.59	15.39
23 11 23 00-0155	EA	18" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-18).....	56.39	16.41
23 11 23 00-0156	EA	24" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-24).....	55.31	16.41
23 11 23 00-0157	EA	30" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-30).....	65.23	17.44
23 11 23 00-0158	EA	36" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-36).....	61.71	17.44
23 11 23 00-0159	EA	48" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-48).....	69.94	18.47
23 11 23 00-0160	EA	60" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-60).....	77.40	18.47
23 11 23 00-0161	EA	72" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-72).....	84.78	19.50
23 11 23 00-0162		3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0163	EA	12" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-12).....	46.10	15.39
23 11 23 00-0164	EA	24" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-24).....	61.90	16.41
23 11 23 00-0165	EA	30" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-30).....	58.12	17.44
23 11 23 00-0166	EA	36" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-36).....	61.71	17.44
23 11 23 00-0167	EA	48" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-48).....	69.94	18.47
23 11 23 00-0168	EA	60" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-60).....	89.26	18.47
23 11 23 00-0169	EA	72" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-72).....	84.78	19.50
23 11 23 00-0170		3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0171	EA		12" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-12).....	46.10	15.39
23 11 23 00-0172	EA		18" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-18).....	50.81	16.41
23 11 23 00-0173	EA		24" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-24).....	55.31	16.41
23 11 23 00-0174	EA		30" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-30).....	58.12	17.44
23 11 23 00-0175	EA		36" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-36).....	61.71	17.44
23 11 23 00-0176	EA		48" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-48).....	69.94	18.47
23 11 23 00-0177	EA		60" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-60).....	77.40	18.47
23 11 23 00-0178	EA		72" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-72).....	84.78	19.50
23 11 23 00-0179			3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0180	EA		12" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-12).....	46.10	15.39
23 11 23 00-0181	EA		18" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-18).....	50.81	16.41
23 11 23 00-0182	EA		24" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-24).....	55.31	16.41
23 11 23 00-0183	EA		30" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-30).....	58.12	17.44
23 11 23 00-0184	EA		36" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-36).....	61.71	17.44
23 11 23 00-0185	EA		48" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-48).....	69.94	18.47
23 11 23 00-0186	EA		60" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-60).....	77.40	18.47
23 11 23 00-0187	EA		72" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-72).....	84.78	19.50
23 11 23 00-0188			3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0189	EA		18" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-18).....	56.39	16.41
23 11 23 00-0190	EA		24" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-24).....	55.31	16.41
23 11 23 00-0191	EA		30" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-30).....	65.23	17.44
23 11 23 00-0192	EA		36" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-36).....	69.58	17.44
23 11 23 00-0193	EA		48" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-48).....	79.92	18.47
23 11 23 00-0194			1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0195	EA		12" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-12).....	46.10	15.39
23 11 23 00-0196	EA		18" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-18).....	50.81	16.41
23 11 23 00-0197	EA		24" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-24).....	50.66	16.41
23 11 23 00-0198	EA		30" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-30).....	58.12	17.44
23 11 23 00-0199	EA		36" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-36).....	56.14	17.44
23 11 23 00-0200	EA		48" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-48).....	71.64	18.47
23 11 23 00-0201	EA		60" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-60).....	77.40	18.47
23 11 23 00-0202	EA		72" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-72).....	84.78	19.50
23 11 23 00-0203			1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0204	EA		12" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-12).....	46.10	15.39
23 11 23 00-0205	EA		18" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-18).....	47.02	16.41
23 11 23 00-0206	EA		24" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-24).....	48.09	16.41
23 11 23 00-0207	EA		30" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-30).....	58.12	17.44

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0208	EA	36" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-36).....	61.71	17.44	
23 11 23 00-0209	EA	48" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-48).....	62.67	18.47	
23 11 23 00-0210	EA	60" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-60).....	77.40	18.47	
23 11 23 00-0211	EA	72" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-72).....	84.78	19.50	
23 11 23 00-0212 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)					
23 11 23 00-0213	EA	12" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-12).....	46.10	15.39	
23 11 23 00-0214	EA	18" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-18).....	50.81	16.41	
23 11 23 00-0215	EA	24" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-24).....	55.31	16.41	
23 11 23 00-0216	EA	30" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-30).....	58.12	17.44	
23 11 23 00-0217	EA	36" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-36).....	52.27	17.44	
23 11 23 00-0218	EA	48" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-48).....	69.94	18.47	
23 11 23 00-0219	EA	60" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-60).....	77.40	18.47	
23 11 23 00-0220	EA	72" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-72).....	84.78	19.50	
23 11 23 00-0221 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)					
23 11 23 00-0222	EA	12" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-12).....	62.08	15.39	
23 11 23 00-0223	EA	18" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-18).....	66.76	16.41	
23 11 23 00-0224	EA	24" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-24).....	71.26	16.41	
23 11 23 00-0225	EA	30" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-30).....	74.04	17.44	
23 11 23 00-0226	EA	36" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-36).....	77.79	17.44	
23 11 23 00-0227	EA	48" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-48).....	85.52	18.47	
23 11 23 00-0228	EA	60" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-60).....	93.62	18.47	
23 11 23 00-0229	EA	72" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-72).....	101.02	19.50	
23 11 23 00-0230 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)					
23 11 23 00-0231	EA	12" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-12).....	72.34	20.52	
23 11 23 00-0232	EA	18" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-18).....	77.02	21.54	
23 11 23 00-0233	EA	24" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-24).....	81.53	21.54	
23 11 23 00-0234	EA	30" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-30).....	84.30	22.57	
23 11 23 00-0235	EA	36" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-36).....	88.04	22.57	
23 11 23 00-0236	EA	48" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-48).....	95.78	23.60	
23 11 23 00-0237	EA	60" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-60).....	103.88	23.60	
23 11 23 00-0238	EA	72" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-72).....	111.28	24.63	
23 11 23 00-0239 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)					
23 11 23 00-0240	EA	12" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-12).....	72.34	20.52	
23 11 23 00-0241	EA	18" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-18).....	77.02	21.54	
23 11 23 00-0242	EA	24" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-24).....	81.53	21.54	
23 11 23 00-0243	EA	30" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-30).....	84.30	22.57	
23 11 23 00-0244	EA	36" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-36).....	88.04	22.57	



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0245	EA	48" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-48)	95.78	23.60
23 11 23 00-0246	EA	60" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-60)	103.88	23.60
23 11 23 00-0247	EA	72" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-72)	111.28	24.63
23 11 23 00-0248		3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0249	EA	12" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-12)	85.33	20.52
23 11 23 00-0250	EA	18" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-18)	90.01	21.54
23 11 23 00-0251	EA	24" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-24)	94.52	21.54
23 11 23 00-0252	EA	30" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-30)	97.29	22.57
23 11 23 00-0253	EA	36" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-36)	101.05	22.57
23 11 23 00-0254	EA	48" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-48)	108.77	23.60
23 11 23 00-0255	EA	60" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-60)	116.88	23.60
23 11 23 00-0256		3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0257	EA	12" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-12)	85.33	20.52
23 11 23 00-0258	EA	18" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-18)	90.01	21.54
23 11 23 00-0259	EA	24" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-24)	94.52	21.54
23 11 23 00-0260	EA	36" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-36)	101.05	22.57
23 11 23 00-0261	EA	48" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-48)	108.77	23.60
23 11 23 00-0262	EA	60" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-60)	116.88	23.60
23 11 23 00-0263		1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0264	EA	12" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-12)	85.33	20.52
23 11 23 00-0265	EA	18" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-18)	90.01	21.54
23 11 23 00-0266	EA	24" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-24)	94.52	21.54
23 11 23 00-0267	EA	30" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-30)	97.29	22.57
23 11 23 00-0268	EA	36" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-36)	101.05	22.57
23 11 23 00-0269	EA	48" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-48)	108.77	23.60
23 11 23 00-0270	EA	60" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-60)	116.88	23.60
23 11 23 00-0271	EA	72" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-72)	124.27	24.63
23 11 23 00-0272		1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0273	EA	12" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-12)	68.92	20.52
23 11 23 00-0274	EA	18" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-18)	73.62	21.54
23 11 23 00-0275	EA	24" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-24)	78.15	21.54
23 11 23 00-0276	EA	30" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-30)	80.89	22.57
23 11 23 00-0277	EA	36" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-36)	84.63	22.57
23 11 23 00-0278	EA	48" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-48)	92.35	23.60
23 11 23 00-0279	EA	72" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-72)	107.82	24.63

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 11 23 00-0280		1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) ^(23 11 23 00-0116)		
23 11 23 00-0281	EA	18" Length, 1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC5K-18).....	82.86	21.54
23 11 23 00-0282	EA	24" Length, 1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC5K-24).....	88.41	21.54
23 11 23 00-0283		Quarter-Turn, Gas Ball Valve ^(23 11 23)		
23 11 23 00-0284	EA	3/8" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top™ T-3000 102-102).....	41.62	10.92
23 11 23 00-0285	EA	1/2" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-103).....	41.58	11.14
23 11 23 00-0286	EA	3/4" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-104).....	60.16	12.26
23 11 23 00-0287	EA	3/8" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-112).....	41.23	10.92
23 11 23 00-0288	EA	1/2" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-113).....	43.45	11.14
23 11 23 00-0289	EA	1/2" Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-118).....	48.95	11.14
23 11 23 00-0290	EA	5/8" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-121).....	52.85	11.70
23 11 23 00-0291	EA	5/8" (7/8" -14) Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-114).....	55.65	11.70
23 11 23 00-0292	EA	5/8" (15/16" -16) Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-115).....	55.65	11.70
23 11 23 00-0293	EA	3/8" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-312).....	43.32	10.92
23 11 23 00-0294	EA	1/2" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-313).....	45.54	11.14
23 11 23 00-0295	EA	5/8" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-314).....	57.12	11.70
23 11 23 00-0296	EA	1/2" FIP x 1/8" Texas Pattern, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-413).....	45.82	11.14
23 11 23 00-0297	EA	3/4" FIP x 1/8" Texas Pattern, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-414).....	61.74	12.26
23 11 23 00-0298	EA	3/8" (9/16" -24) Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-119).....	43.21	10.92
23 11 23 00-0299	EA	3/8" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-612).....	40.95	10.92
23 11 23 00-0300	EA	1/2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-613).....	41.57	11.14
23 11 23 00-0301	EA	3/4" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-614).....	57.14	12.26
23 11 23 00-0302	EA	1" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-615).....	78.09	13.93
23 11 23 00-0303	EA	1-1/4" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-616).....	112.84	14.48
23 11 23 00-0304	EA	1-1/2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-617).....	134.37	16.71
23 11 23 00-0305	EA	2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-618).....	166.29	20.05
23 11 23 00-0306	EA	1/2" Flathead, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3002 102-713).....	42.78	11.14
23 11 23 00-0307	EA	3/4" Flathead, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3002 102-714).....	56.77	12.26
23 11 23 00-0308		Gas Stops ^(23 11 23)		
23 11 23 00-0309		Brass/Bronze Gas Stops ^(23 11 23 00-0308)		
		Note: Flat or square head		
23 11 23 00-0310	EA	3/8" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	52.99	11.14
23 11 23 00-0311	EA	1/2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	52.81	11.14
23 11 23 00-0312	EA	3/4" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	69.14	12.26
23 11 23 00-0313	EA	1" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	98.50	13.93
23 11 23 00-0314	EA	1-1/4" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	131.55	14.82
23 11 23 00-0315	EA	1-1/2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	166.83	17.16
23 11 23 00-0316	EA	2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596).....	233.78	20.27
23 11 23 00-0317		Iron Body Gas Stops ^(23 11 23 00-0308)		
23 11 23 00-0318	EA	1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	72.89	11.14
23 11 23 00-0319	EA	3/4" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	88.89	12.26
23 11 23 00-0320	EA	1" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	110.41	13.93
23 11 23 00-0321	EA	1-1/4" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	143.12	14.82
23 11 23 00-0322	EA	1-1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	181.37	17.16
23 11 23 00-0323	EA	2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	237.08	20.27
23 11 23 00-0324	EA	2-1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	468.16	27.40
23 11 23 00-0325	EA	3" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B).....	631.85	31.81
23 11 23 00-0326		Bronze Body Solenoid Valves, 150 PSI Gas ^(23 11 23)		
23 11 23 00-0327	EA	1/4" Solenoid Valve, Bronze, 150 PSI, Gas.....	194.78	11.14
23 11 23 00-0328	EA	1/2" Solenoid Valve, Bronze, 150 PSI, Gas.....	227.37	11.14
23 11 23 00-0329	EA	3/4" Solenoid Valve, Bronze, 150 PSI, Gas.....	289.16	12.26
23 11 23 00-0330	EA	1" Solenoid Valve, Bronze, 150 PSI, Gas.....	435.68	13.93
23 11 23 00-0331	EA	1-1/2" Solenoid Valve, Bronze, 150 PSI, Gas.....	781.78	17.16
23 11 23 00-0332	EA	2" Solenoid Valve, Bronze, 150 PSI, Gas.....	1,336.70	20.27
23 11 23 00-0333	EA	2-1/2" Solenoid Valve, Bronze, 150 PSI, Gas.....	1,654.48	27.40
23 11 23 00-0334	EA	3" Solenoid Valve, Bronze, 150 PSI, Gas.....	2,499.58	31.81

23 11 26 Facility Liquefied-Petroleum Gas Piping ^(23 11)**23 11 26 00-0001 Fiberglass Reinforced Plastic Pipe And Fittings ^(23 11 26)**



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0002 Fiberglass Reinforced Plastic Pipe (23 11 26 00-0001) Note: For double containment fiberglass pipe, select both outer containment pipe size and inner containment pipe size (add modifier for use as inner pipe).		
23 11 26 00-0003 LF 2" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	20.71 -8.27	7.39
23 11 26 00-0004 LF 3" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	24.82 -9.93	8.83
23 11 26 00-0005 LF 4" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	32.81 -14.63	13.03
23 11 26 00-0006 LF 5" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	38.56 -16.47	14.98
23 11 26 00-0007 LF 6" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	45.01 -18.85	16.73
23 11 26 00-0008 LF 8" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	62.27 -22.85	20.34
23 11 26 00-0009 LF 10" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	82.74 -27.24	24.18
23 11 26 00-0010 LF 12" Fiberglass Reinforced Plastic Pipe..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	240.91 -34.27	30.45
23 11 26 00-0011 Fiberglass Reinforced Plastic Fittings (23 11 26 00-0001)		
23 11 26 00-0012 Fiberglass Reinforced Plastic Flanged 90 Degree Elbows (23 11 26 00-0011)		
23 11 26 00-0013 EA 2" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	158.48 -82.75	73.57
23 11 26 00-0014 EA 3" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	186.96 -99.30	88.34
23 11 26 00-0015 EA 4" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	223.98 -115.35	102.60
23 11 26 00-0016 EA 5" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	278.98 -132.70	120.29
23 11 26 00-0017 EA 6" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	336.24 -151.76	134.96
23 11 26 00-0018 EA 8" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	482.02 -189.70	168.65
23 11 26 00-0019 EA 10" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	619.55 -228.45	203.16
23 11 26 00-0020 EA 12" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	1,770.14 -283.28	251.92
23 11 26 00-0021 Fiberglass Reinforced Plastic Flanged 45 Degree Elbows (23 11 26 00-0011)		
23 11 26 00-0022 EA 2" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	158.84 -82.75	73.57
23 11 26 00-0023 EA 3" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	187.07 -99.30	88.34
23 11 26 00-0024 EA 4" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	224.32 -115.43	102.71
23 11 26 00-0025 EA 5" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	281.64 -134.67	122.00
23 11 26 00-0026 EA 6" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	336.10 -151.76	134.96
23 11 26 00-0027 EA 8" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	482.02 -189.70	168.65
23 11 26 00-0028 EA 10" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	1,335.52 -228.45	203.16
23 11 26 00-0029 EA 12" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	1,770.14 -283.28	251.92
23 11 26 00-0030 Fiberglass Reinforced Plastic Flanged Tees (23 11 26 00-0011)		
23 11 26 00-0031 EA 2" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	379.79 -124.12	110.40
23 11 26 00-0032 EA 3" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	471.99 -149.48	132.97
23 11 26 00-0033 EA 4" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	535.57 -173.17	154.01
23 11 26 00-0034 EA 5" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	689.09 -202.09	182.94
23 11 26 00-0035 EA 6" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	839.10 -228.45	203.16
23 11 26 00-0036 EA 8" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	1,057.51 -283.28	251.92
23 11 26 00-0037 EA 10" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	1,745.97 -342.68	304.73
23 11 26 00-0038 EA 12" Fiberglass Reinforced Plastic Flanged Tee..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	2,353.94 -416.59	370.50
23 11 26 00-0039 Fiberglass Reinforced Plastic Flanged Wyes (23 11 26 00-0011)		
23 11 26 00-0040 EA 2" Fiberglass Reinforced Plastic Flanged Wye..... For Use As Inner Pipe In Double Wall Pipe System, Deduct	524.85 -124.12	110.40

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0041	EA		3" Fiberglass Reinforced Plastic Flanged Wye	679.36	132.77
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-149.30	
23 11 26 00-0042	EA		4" Fiberglass Reinforced Plastic Flanged Wye	799.28	154.01
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-173.15	
23 11 26 00-0043	EA		5" Fiberglass Reinforced Plastic Flanged Wye	913.63	182.94
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-202.09	
23 11 26 00-0044	EA		6" Fiberglass Reinforced Plastic Flanged Wye	1,024.51	203.16
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0045	EA		8" Fiberglass Reinforced Plastic Flanged Wye	1,350.73	251.92
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0046	EA		10" Fiberglass Reinforced Plastic Flanged Wye	2,115.81	304.73
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-342.68	
23 11 26 00-0047	EA		12" Fiberglass Reinforced Plastic Flanged Wye	2,757.09	370.50
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-416.59	
23 11 26 00-0048			Fiberglass Reinforced Plastic Flanged Concentric Reducers (23 11 26 00-0011)		
23 11 26 00-0049	EA		2" Fiberglass Reinforced Plastic Flanged Concentric Reducer	291.92	73.57
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-82.75	
23 11 26 00-0050	EA		3" Fiberglass Reinforced Plastic Flanged Concentric Reducer	382.76	88.34
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-99.30	
23 11 26 00-0051	EA		4" Fiberglass Reinforced Plastic Flanged Concentric Reducer	416.09	102.71
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-115.43	
23 11 26 00-0052	EA		5" Fiberglass Reinforced Plastic Flanged Concentric Reducer	482.54	122.00
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-134.67	
23 11 26 00-0053	EA		6" Fiberglass Reinforced Plastic Flanged Concentric Reducer	546.06	134.96
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-151.76	
23 11 26 00-0054	EA		8" Fiberglass Reinforced Plastic Flanged Concentric Reducer	732.04	168.65
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-189.70	
23 11 26 00-0055	EA		10" Fiberglass Reinforced Plastic Flanged Concentric Reducer	942.37	203.16
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0056	EA		12" Fiberglass Reinforced Plastic Flanged Concentric Reducer	1,301.66	251.92
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0057			Fiberglass Reinforced Plastic Bell x Male Or Female Adapters (23 11 26 00-0011)		
23 11 26 00-0058	EA		2" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	227.09	73.57
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-82.75	
23 11 26 00-0059	EA		3" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	258.95	88.34
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-99.30	
23 11 26 00-0060	EA		4" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	292.40	102.71
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-115.43	
23 11 26 00-0061	EA		4" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	361.39	122.00
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-134.67	
23 11 26 00-0062	EA		6" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	427.51	134.96
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-151.76	
23 11 26 00-0063	EA		8" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	405.39	168.65
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-189.70	
23 11 26 00-0064	EA		10" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	523.68	203.16
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0065	EA		12" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	854.07	251.92
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0066			Fiberglass Reinforced Plastic Nipples (23 11 26 00-0011)		
23 11 26 00-0067	EA		2" x 6" Fiberglass Reinforced Plastic Nipple	45.48	8.83
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-9.93	
23 11 26 00-0068	EA		2" x 12" Fiberglass Reinforced Plastic Nipple	90.88	17.64
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-19.81	
23 11 26 00-0069	EA		3" x 8" Fiberglass Reinforced Plastic Nipple	161.19	13.54
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-15.23	
23 11 26 00-0070	EA		3" x 12" Fiberglass Reinforced Plastic Nipple	185.95	18.92
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-21.27	
23 11 26 00-0071	EA		4" x 8" Fiberglass Reinforced Plastic Nipple	175.44	13.45
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-15.18	
23 11 26 00-0072	EA		4" x 12" Fiberglass Reinforced Plastic Nipple	209.42	20.24
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-22.76	
23 11 26 00-0073	EA		6" x 12" Fiberglass Reinforced Plastic Nipple	261.46	22.66
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-25.04	
23 11 26 00-0074	EA		6" x 12" Fiberglass Reinforced Plastic Nipple	313.44	24.28
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-27.35	
23 11 26 00-0075	EA		8" x 18" Fiberglass Reinforced Plastic Nipple	158.54	28.33
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-31.87	
23 11 26 00-0076	EA		8" x 24" Fiberglass Reinforced Plastic Nipple	215.39	40.47
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-45.50	
23 11 26 00-0077	EA		10" x 18" Fiberglass Reinforced Plastic Nipple	274.91	28.83
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-32.39	
23 11 26 00-0078	EA		10" x 24" Fiberglass Reinforced Plastic Nipple	412.70	43.10
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-48.51	
23 11 26 00-0079	EA		12" x 18" Fiberglass Reinforced Plastic Nipple	322.83	29.75
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-33.41	
23 11 26 00-0080	EA		12" x 24" Fiberglass Reinforced Plastic Nipple	419.85	44.52
			<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-50.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Facility Fuel Systems			23 10
Facility Fuel Piping			23 11

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0081 Fiberglass Reinforced Plastic Sleeve Couplings (23 11 26 00-0011)			
23 11 26 00-0082	EA 2" Fiberglass Reinforced Plastic Sleeve Coupling	139.94	73.57
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-82.75	
23 11 26 00-0083	EA 3" Fiberglass Reinforced Plastic Sleeve Coupling	168.45	88.34
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-99.30	
23 11 26 00-0084	EA 4" Fiberglass Reinforced Plastic Sleeve Coupling	194.50	102.71
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-115.43	
23 11 26 00-0085	EA 5" Fiberglass Reinforced Plastic Sleeve Coupling	235.68	122.00
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-134.67	
23 11 26 00-0086	EA 6" Fiberglass Reinforced Plastic Sleeve Coupling	273.97	134.96
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-151.76	
23 11 26 00-0087	EA 8" Fiberglass Reinforced Plastic Sleeve Coupling	357.99	168.65
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-189.70	
23 11 26 00-0088	EA 10" Fiberglass Reinforced Plastic Sleeve Coupling	464.58	203.16
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-228.45	
23 11 26 00-0089	EA 12" Fiberglass Reinforced Plastic Sleeve Coupling	566.34	251.92
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-283.28	
23 11 26 00-0090 Fiberglass Reinforced Plastic Flanges (23 11 26 00-0011)			
23 11 26 00-0091	EA 2" Fiberglass Reinforced Plastic Flange	143.64	73.57
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-82.75	
23 11 26 00-0092	EA 3" Fiberglass Reinforced Plastic Flange	173.35	88.34
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-99.30	
23 11 26 00-0093	EA 4" Fiberglass Reinforced Plastic Flange	206.89	101.07
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-113.62	
23 11 26 00-0094	EA 5" Fiberglass Reinforced Plastic Flange	251.32	120.29
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-132.79	
23 11 26 00-0095	EA 6" Fiberglass Reinforced Plastic Flange	295.46	134.96
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-151.76	
23 11 26 00-0096	EA 8" Fiberglass Reinforced Plastic Flange	368.67	161.47
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-181.59	
23 11 26 00-0097	EA 10" Fiberglass Reinforced Plastic Flange	498.01	203.16
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-228.45	
23 11 26 00-0098	EA 12" Fiberglass Reinforced Plastic Flange	700.06	251.92
	For Use As Inner Pipe In Double Wall Pipe System, Deduct	-283.28	
23 11 26 00-0099 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing And Fittings (23 11 26)			
23 11 26 00-0100 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing (23 11 26 00-0099)			
23 11 26 00-0101	LF 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	140.24	31.70
23 11 26 00-0102	LF 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	167.26	37.56
23 11 26 00-0103	LF 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	210.64	55.41
23 11 26 00-0104	LF 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	298.22	71.83
23 11 26 00-0105	LF 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	435.30	87.01
23 11 26 00-0106	LF 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	599.53	103.20
23 11 26 00-0107	LF 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	766.67	130.21
23 11 26 00-0108 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Fittings (23 11 26 00-0099)			
23 11 26 00-0109 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbows (23 11 26 00-0108)			
23 11 26 00-0110	EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	2,555.51	392.36
23 11 26 00-0111	EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	2,935.69	470.95
23 11 26 00-0112	EA 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	3,688.09	547.29
23 11 26 00-0113	EA 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	6,550.15	719.64
23 11 26 00-0114	EA 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	10,710.13	899.72
23 11 26 00-0115	EA 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	14,492.38	1,082.44
23 11 26 00-0116	EA 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	19,392.11	1,340.43
23 11 26 00-0117 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbows (23 11 26 00-0108)			
23 11 26 00-0118	EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	2,559.79	392.36
23 11 26 00-0119	EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	2,928.18	470.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0120	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow.....	3,682.20	547.29
23 11 26 00-0121	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow.....	6,515.48	719.64
23 11 26 00-0122	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow.....	10,659.93	899.72
23 11 26 00-0123	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow.....	14,424.12	1,082.95
23 11 26 00-0124	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow.....	19,303.48	1,343.47
23 11 26 00-0125		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tees (23 11 26 00-0108)		
23 11 26 00-0126	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	3,543.30	588.54
23 11 26 00-0127	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	4,449.28	709.31
23 11 26 00-0128	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	5,014.55	821.35
23 11 26 00-0129	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	8,261.03	1,083.45
23 11 26 00-0130	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	10,455.03	1,343.47
23 11 26 00-0131	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	18,439.48	1,623.31
23 11 26 00-0132	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	25,282.05	1,968.21
23 11 26 00-0133		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wyes (23 11 26 00-0108)		
23 11 26 00-0134	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	5,344.42	588.54
23 11 26 00-0135	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	7,025.86	708.49
23 11 26 00-0136	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	8,289.17	821.35
23 11 26 00-0137	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	10,563.20	1,083.45
23 11 26 00-0138	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	14,095.81	1,343.47
23 11 26 00-0139	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	23,031.67	1,623.31
23 11 26 00-0140	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	30,287.81	1,968.21
23 11 26 00-0141		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducers (23 11 26 00-0108)		
23 11 26 00-0142	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	2,842.92	392.36
23 11 26 00-0143	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	3,814.65	470.95
23 11 26 00-0144	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	4,075.92	547.29
23 11 26 00-0145	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	5,346.75	719.64
23 11 26 00-0146	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	7,297.85	899.72
23 11 26 00-0147	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	9,541.83	1,082.44
23 11 26 00-0148	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer.....	13,481.95	1,340.43
23 11 26 00-0149		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapters (23 11 26 00-0108)		
23 11 26 00-0150	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	2,037.98	392.36
23 11 26 00-0151	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	2,277.40	470.95
23 11 26 00-0152	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	2,540.15	547.29
23 11 26 00-0153	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	3,874.73	719.64
23 11 26 00-0154	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	3,242.00	899.72
23 11 26 00-0155	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	4,343.04	1,082.44
23 11 26 00-0156	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter.....	7,924.43	1,340.43
23 11 26 00-0157		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipples (23 11 26 00-0108)		
23 11 26 00-0158	EA	2" x 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	470.86	47.10
23 11 26 00-0159	EA	2" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	941.35	93.98
23 11 26 00-0160	EA	3" x 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	1,857.59	72.23
23 11 26 00-0161	EA	3" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,108.00	100.87
23 11 26 00-0162	EA	4" x 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,035.04	71.94
23 11 26 00-0163	EA	4" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,385.44	107.95
23 11 26 00-0164	EA	6" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,633.62	129.71
23 11 26 00-0165	EA	8" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	1,667.53	151.16



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0166	EA		8" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,244.72	215.80
23 11 26 00-0167	EA		10" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,107.66	153.58
23 11 26 00-0168	EA		10" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	4,666.05	230.06
23 11 26 00-0169	EA		12" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,692.97	158.44
23 11 26 00-0170	EA		12" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	4,739.83	237.65
23 11 26 00-0171			Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanges (23 11 26 00-0108)		
23 11 26 00-0172	EA		4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	1,495.73	538.85
23 11 26 00-0173	EA		6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	2,235.19	719.64
23 11 26 00-0174	EA		8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	2,862.75	861.39
23 11 26 00-0175	EA		10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	4,024.35	1,082.44
23 11 26 00-0176	EA		12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	6,012.16	1,340.43
23 12			Facility Fuel Pumps (23 10)		
23 12 13			Facility Fuel-Oil Pumps (23 12)		
23 12 13 00-0001			Cast Iron Internal Gear Rotary Pump (23 12 13) Note: Heavy duty type with relief valve, 1150 RPM drip-proof motor, common base plate. For viscosity to 20 centipoise; diesel oil, and light oil.		
23 12 13 00-0002			10 GPM 1" Discharge (23 12 13 00-0001)		
23 12 13 00-0003	EA		10 GPM Cast Iron Rotary Pump, 20 PSI 1/2 HP With 1" Discharge	1,460.72	297.72
23 12 13 00-0004	EA		10 GPM Cast Iron Rotary Pump, 40 PSI 3/4 HP With 1" Discharge	1,533.48	360.34
23 12 13 00-0005	EA		10 GPM Cast Iron Rotary Pump, 60 PSI 1 HP With 1" Discharge	1,679.50	428.11
23 12 13 00-0006			25 GPM 1-1/4" Discharge (23 12 13 00-0001)		
23 12 13 00-0007	EA		25 GPM Cast Iron Rotary Pump, 20 PSI 1 HP With 1-1/4" Discharge	1,575.36	297.72
23 12 13 00-0008	EA		25 GPM Cast Iron Rotary Pump, 40 PSI 1.5 HP With 1-1/4" Discharge	1,659.30	360.34
23 12 13 00-0009	EA		25 GPM Cast Iron Rotary Pump, 60 PSI 2 HP With 1-1/4" Discharge	1,743.05	428.11
23 12 13 00-0010			Pump, Fuel Oil, 2 Stage 3450 RPM 100 PSI (23 12 13)		
23 12 13 00-0011	EA		1/4 HP Pump Fuel Oil/Diesel	1,098.50	166.82
23 12 13 00-0012	EA		1/3 HP Pump Fuel Oil/Diesel	1,290.35	186.85
23 12 13 00-0013	EA		1/2 HP Pump Fuel Oil/Diesel	1,411.45	209.43
23 12 13 00-0014	EA		3/4 HP Pump Fuel Oil/Diesel	1,540.79	236.13
23 12 13 00-0015	EA		1 HP Pump Fuel Oil/Diesel	2,158.52	262.82
23 12 13 00-0016	EA		1-1/2 HP Pump Fuel Oil/Diesel	2,636.55	294.13
23 12 13 00-0017	EA		2 HP Pump Fuel Oil/Diesel	2,922.27	329.55
23 12 13 00-0018	EA		3 HP Pump Fuel Oil/Diesel	3,558.88	368.56
23 12 13 00-0019	EA		5 HP Pump Fuel Oil/Diesel	4,192.43	413.22
23 12 13 00-0020	EA		7.5 HP Pump Fuel Oil/Diesel	4,694.11	463.53
23 12 13 00-0021	EA		10 HP Pump Fuel Oil/Diesel	5,262.90	519.57
23 12 16			Facility Gasoline Dispensing Pumps (23 12)		
23 12 16 00-0001			Unloading Hose And Accessories (23 12 16)		
23 12 16 00-0002			Hoses With Braided Rayon Cord, Neoprene Cover, And End Couplings (23 12 16 00-0001)		
23 12 16 00-0003			Two Braid Hose x 25' (23 12 16 00-0002)		
23 12 16 00-0004	EA		3/4" x 1-3/4", 2-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	380.98	41.64
23 12 16 00-0005	EA		1" x 1-1/2", 2-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	467.92	41.64
23 12 16 00-0006	EA		1-1/4" x 1-3/4", 2-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	710.39	41.64
23 12 16 00-0007			Two Braid Hose x 50' (23 12 16 00-0002)		
23 12 16 00-0008	EA		3/4" x 1-3/4", 2-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	758.04	84.32
23 12 16 00-0009	EA		1" x 1-1/2", 2-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	928.11	84.32
23 12 16 00-0010	EA		1-1/4" x 1-3/4", 2-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	1,418.34	84.32
23 12 16 00-0011			Three Braid Hose x 25' (23 12 16 00-0002)		
23 12 16 00-0012	EA		1-1/2" x 2-3/32", 3-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	1,162.26	41.64
23 12 16 00-0013	EA		2" x 2-21/32", 3-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	1,428.86	56.22
23 12 16 00-0014	EA		2-1/2" x 3-3/16", 3-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	2,040.99	69.75
23 12 16 00-0015	EA		3" x 3-3/4", 3-Braid Hose, 25' Long Rayon Cord, Neoprene Cover And End Couplings	2,574.34	84.32
23 12 16 00-0016			Three Braid Hose x 50' (23 12 16 00-0002)		
23 12 16 00-0017	EA		1-1/2" x 2-3/32", 3-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	2,045.32	84.32
23 12 16 00-0018	EA		2" x 2-21/32", 3-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	2,474.68	111.39
23 12 16 00-0019	EA		2-1/2" x 3-3/16", 3-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	3,364.53	140.53
23 12 16 00-0020	EA		3" x 3-3/4", 3-Braid Hose, 50' Long Rayon Cord, Neoprene Cover And End Couplings	4,120.03	167.60

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 12 Facility Fuel Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 12 16 00-0021		Tank Car Unloading Hose Assemblies (23 12 16 00-0001)		
23 12 16 00-0022		Flexible Galvanized Hose Assemblies (23 12 16 00-0021)		
		Note: Each end includes a female coupling.		
23 12 16 00-0023	EA	2" Inside Diameter x 10' Flexible Galvanized Hose Assembly With Female Coupling Each End	807.07	97.85
23 12 16 00-0024	EA	2-1/2" Inside Diameter x 10' Flexible Galvanized Hose Assembly With Female Coupling Each End	988.23	97.85
23 12 16 00-0025	EA	3" Inside Diameter x 10' Flexible Galvanized Hose Assembly With Female Coupling Each End	1,173.81	97.85
23 12 16 00-0026	EA	4" Inside Diameter x 10' Flexible Galvanized Hose Assembly With Female Coupling Each End	1,898.45	97.85
23 12 16 00-0027		Standard Gas Station Pumps (23 12 16)		
23 12 16 00-0028		Gasoline Pumps (23 12 16 00-0027)		
		Note: With polished stainless steel dial frame, stainless steel nozzle side panel. Four wheel, self-timing meter, cable retractor, 120 mesh cartridge strainer (60 mesh for diesel fuels). Internal gear pump, reverse flow air separator, 1/2" connector. High speed pump, 3/4 H.P. motor, 1" hose and standard nozzle.		
23 12 16 00-0029	EA	Standard Gas Station Pump, 3/4 HP Motor 1" Hose And Standard Nozzle	5,596.40	832.81
23 12 16 00-0030		Gasoline Pumps With Vapor Recovery System (23 12 16 00-0027)		
		Note: With polished stainless steel dial frame, stainless steel nozzle side panel. Four wheel, self-timing meter, cable retractor, 120 mesh cartridge strainer (60 mesh for diesel fuels). Internal gear pump, reverse flow air separator, 1/2" connector. High speed pump, 3/4 H.P. motor, 1" hose and standard nozzle.		
23 12 16 00-0031	EA	Standard Gas Station Pump, 3/4 HP Motor 1" Hose And Standard Nozzle With Vapor Recovery	11,198.60	1,249.20
23 12 23		Facility Natural-Gas Pumps (23 12)		
23 12 23 00-0001		Natural Gas Booster Pump (23 12 23)		
23 12 23 00-0002	EA	Natural Gas Booster Pump, 3/4" Outlet Size	1,195.83	154.00
23 12 23 00-0003	EA	Natural Gas Booster Pump, 1" Outlet Size	1,420.98	171.96
23 12 23 00-0004	EA	Natural Gas Booster Pump, 1-1/4" Outlet Size	1,596.45	179.66
23 12 23 00-0005	EA	Natural Gas Booster Pump, 1-1/2" Outlet Size	1,815.58	187.36
23 12 23 00-0006	EA	Natural Gas Booster Pump, 2" Outlet Size	2,058.74	192.49

23 13 Facility Fuel-Storage Tanks (23 10)**23 13 13 Facility Underground Fuel-Oil, Storage Tanks (23 13)****23 13 13 13 Double-Wall Steel, Underground Fuel-Oil, Storage Tanks (23 13 13)**

23 13 13 13-0001		Coated Underground Double Wall Storage Tanks (23 13 13 13)		
		Note: Includes setting in place with hold down bars and manway and 4" NPT connections as follows: up to 1000 gallon, 4 each; all others 6 each. Excludes excavation, pad, plastic lining, pumps and piping.		
23 13 13 13-0002	EA	250 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	16,052.97	729.30
23 13 13 13-0003	EA	550 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	17,347.68	729.30
23 13 13 13-0004	EA	1,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	25,077.99	911.58
23 13 13 13-0005	EA	2,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	34,307.90	1,780.52
23 13 13 13-0006	EA	3,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	54,664.85	2,289.11
23 13 13 13-0007	EA	4,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	60,892.94	2,629.11
23 13 13 13-0008	EA	5,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	65,689.45	3,476.25
23 13 13 13-0009	EA	6,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	67,918.89	3,732.35
23 13 13 13-0010	EA	8,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	82,903.24	4,409.30
23 13 13 13-0011	EA	10,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	96,014.99	5,085.80
23 13 13 13-0012	EA	12,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	122,887.52	5,592.81
23 13 13 13-0013	EA	14,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	145,669.39	6,790.57
23 13 13 13-0014	EA	15,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	150,453.30	7,206.55
23 13 13 13-0015	EA	20,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	184,427.53	11,431.09
23 13 13 13-0016	EA	25,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	226,600.13	14,823.33
23 13 13 13-0017	EA	30,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	267,021.78	16,960.58
23 13 13 13-0018	EA	40,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	343,675.45	18,232.63
23 13 13 13-0019	EA	48,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	466,005.71	18,700.17

23 13 13 23 Glass-Fiber-Reinforced-Plastic, Underground Fuel-Oil, Storage Tanks (23 13 13)

23 13 13 23-0001		Underground Fiberglass Storage Tanks (23 13 13 23)		
23 13 13 23-0002		Single Wall Fiberglass Underground Storage Tanks (23 13 13 23-0001)		
		Note: Includes setting in place with hold down bars, fittings, bumper pads, flow channels, monitoring fitting, tank bottom deflector gauge plates, manway, anchor straps and 4" NPT tank mounted fitting connections as follows: 550 gallon or 1,000 gallon, 4 each; all others 6 each. Excludes excavation and backfill.		
23 13 13 23-0003	EA	550 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	4,098.12	729.30
23 13 13 23-0004	EA	1,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	5,147.86	911.58
23 13 13 23-0005	EA	2,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	6,692.75	1,127.87
23 13 13 23-0006	EA	2,500 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	7,599.39	1,373.81
23 13 13 23-0007	EA	3,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	8,501.89	1,611.26
23 13 13 23-0008	EA	4,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	10,340.28	2,120.07
23 13 13 23-0009	EA	5,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	12,315.92	3,222.51
23 13 13 23-0010	EA	6,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	13,922.95	4,070.54
23 13 13 23-0011	EA	8,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	16,705.85	4,579.36



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 13 23-0012 EA 10,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	18,802.06	5,427.38
23 13 13 23-0013 EA 12,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	24,229.53	6,445.02
23 13 13 23-0014 EA 15,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	29,789.10	8,056.28
23 13 13 23-0015 EA 20,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	37,596.29	10,769.97
23 13 13 23-0016 EA 25,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	56,209.45	13,398.86
23 13 13 23-0017 EA 30,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	68,893.38	16,112.56
23 13 13 23-0018 EA 40,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	98,354.38	23,320.80
23 13 13 23-0019 EA 50,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	140,081.84	29,681.03
23 13 13 23-0020 Double Wall Fiberglass Underground Storage Tanks (23 13 13 23-0001)		
Note: Includes setting in place with hold down bars, fittings, bumper pads, flow channels, monitoring fitting, tank bottom deflector gauge plates, manway, anchor straps and 4" NPT tank mounted fitting connections as follows: 550 gallon or 1,000 gallon, 4 each; all others 6 each. Excludes excavation and backfill.		
23 13 13 23-0021 EA 550 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	7,914.73	729.30
23 13 13 23-0022 EA 1,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	10,432.25	911.58
23 13 13 23-0023 EA 2,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	12,507.89	1,102.44
23 13 13 23-0024 EA 3,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	16,261.11	1,611.36
23 13 13 23-0025 EA 4,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	18,261.15	2,120.07
23 13 13 23-0026 EA 5,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	21,023.49	3,222.51
23 13 13 23-0027 EA 6,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	23,406.44	4,070.54
23 13 13 23-0028 EA 8,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	28,775.76	4,579.36
23 13 13 23-0029 EA 10,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	30,871.96	5,427.38
23 13 13 23-0030 EA 12,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	37,377.11	6,445.02
23 13 13 23-0031 EA 15,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	51,396.38	8,056.28
23 13 13 23-0032 EA 20,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	63,675.90	10,769.97
23 13 13 23-0033 EA 30,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps	98,421.54	16,112.56
23 13 13 23-0034 Underground Storage Tank Pump Enclosures (23 13 13 23)		
23 13 13 23-0035 EA Secondary Containment Collar	3,936.14	
23 13 13 23-0036 EA Turbine Enclosure With Lid 4' Long x 42" Diameter	3,936.14	
23 13 13 23-0037 EA Fitting Kit For Turbine Enclosure	787.23	
23 13 13 23-0038 EA Grommet Kits For Plumbing And Electrical	1,574.46	
23 13 13 23-0039 EA Turbine Electrical Coupling Kit	1,968.07	
23 13 13 23-0040 Rehabilitation Of Fiberglass Reinforced Polyester (FRP) Lining Tanks (23 13 13 23)		
Note: Fiberglass Reinforced Plastic Tanks (Sodium Hypochlorite Storage Tanks).		
23 13 13 23-0041 DAY Fiberglass Reinforced Polyester (FRP) Storage Tank, Lining Inspection, Two Man Crew With Confined Space Certification, Maximum Of Two Tanks Per Day, 10 Hour Day	1,300.00	
Note: Includes inspection report and repair estimate.		
23 13 13 23-0042 SF Fiberglass Reinforced Polyester (FRP) Storage Tank, Interior Lining Repairs, Inner Surface And Interior Layer Repair	107.70	
Note: 50 SF minimum.		
23 13 13 23-0043 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, Side Manway Installation, 24" Diameter Manway	9,504.09	
23 13 13 23-0044 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, Side Manway Installation, 30" Diameter Manway	14,132.42	
23 13 13 23-0045 SF Fiberglass Reinforced Polyester (FRP) Storage Tank, Lining Replacement	130.99	
Note: Includes sandblasting, priming, lining and top coating. Excludes disposal of sandblasting sand.		
23 13 13 23-0046 LF Fiberglass Reinforced Polyester (FRP) Storage Tank, Seam Repair	279.45	
Note: Circumference of a tank knuckle (FT) = tank diameter (FT) x 3.14.		
23 13 13 23-0047 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 1" Non-Gusseted Flange Installation	4,197.52	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	142.00	
23 13 13 23-0048 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 1-1/2" Non-Gusseted Flange Installation	4,229.54	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	153.00	
23 13 13 23-0049 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 2" Non-Gusseted Flange Installation	4,296.49	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	176.00	
23 13 13 23-0050 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 3" Non-Gusseted Flange Installation	4,471.14	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	236.00	
23 13 13 23-0051 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 4" Non-Gusseted Flange Installation	4,535.18	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	318.00	
23 13 13 23-0052 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 6" Non-Gusseted Flange Installation	4,872.85	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	374.00	
23 13 13 23-0053 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 1" Gusseted Flange Installation	4,503.16	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	247.00	
For Blade Gusseted Outlet, Add	675.47	
23 13 13 23-0054 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 1-1/2" Gusseted Flange Installation	4,549.74	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	263.00	
For Blade Gusseted Outlet, Add	682.46	
23 13 13 23-0055 EA Fiberglass Reinforced Polyester (FRP) Storage Tank, 2" Gusseted Flange Installation	4,689.46	
Note: Includes Labor, Material And Removal Of Old Flange		
For Additional Flange Installation During The Same Day, Add	135.00	
For Blade Gusseted Outlet, Add	703.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 13 13 23-0056	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 3" Gusseted Flange Installation.....	4,980.55	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For Additional Flange Installation During The Same Day, Add	175.00	
		For Blade Gusseted Outlet, Add	747.08	
23 13 13 23-0057	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 4" Gusseted Flange Installation.....	5,161.03	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For Additional Flange Installation During The Same Day, Add	215.00	
		For Blade Gusseted Outlet, Add	774.15	
23 13 13 23-0058	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 6" Gusseted Flange Installation.....	5,629.68	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For Additional Flange Installation During The Same Day, Add	260.00	
		For Blade Gusseted Outlet, Add	844.45	
23 13 13 23-0059	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 2" Gusseted Full Bottom Drain Flange Installation.....	8,397.95	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For Blade Gusseted Outlet, Add	1,259.69	
23 13 13 23-0060	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 3/8" Female Threaded Coupling Installation.....	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0061	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 1/2" Female Threaded Coupling Installation.....	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0062	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 3/4" Female Threaded Coupling Installation.....	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0063	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 1" Female Threaded Coupling Installation.....	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0064	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 1-1/2" Female Threaded Coupling Installation	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0065	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 2" Female Threaded Coupling Installation.....	4,060.71	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	100.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	200.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	300.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0066	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 2-1/2" Female Threaded Coupling Installation	4,206.25	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	145.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	270.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	435.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0067	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 3" Female Threaded Coupling Installation.....	4,206.25	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	145.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	270.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	435.00	
		Note: (Total Of Four Couplings), Add		
23 13 13 23-0068	EA	Fiberglass Reinforced Polyester (FRP) Storage Tank, 4" Female Threaded Coupling Installation.....	4,206.25	
		Note: Includes Labor, Material And Removal Of Old Flange		
		For One Additional Coupling Installation During The Same Day (Total Of Two Couplings)	145.00	
		For Two Additional Coupling Installation During The Same Day, (Total Of Three Couplings), Add	270.00	
		Note: (Total Of Three Couplings), Add		
		For Three Additional Coupling Installation During The Same Day, (Total Of Four Couplings), Add	435.00	
		Note: (Total Of Four Couplings), Add		

23 13 23 Facility Aboveground Fuel-Oil, Storage Tanks (23 13)**23 13 23 13 Vertical, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)****23 13 23 13-0001 Vertical Rectangular Double Wall Steel Fuel Day Tank (23 13 23 13)**

Note: Includes day tank with standard equipment, pump, pump control, level control, backup level control, level alarms, alarm outputs.



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Facility Fuel Systems

23 10

Facility Fuel-Storage Tanks

23 13

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 13-0002 EA 10 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,170.95	133.76
23 13 23 13-0003 EA 15 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,257.53	140.45
23 13 23 13-0004 EA 25 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,365.11	150.48
23 13 23 13-0005 EA 50 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,568.68	160.51
23 13 23 13-0006 EA 60 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,749.56	167.20
23 13 23 13-0007 EA 75 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	2,062.43	200.64
23 13 23 13-0008 EA 100 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	2,776.46	234.08
23 13 23 13-0009 EA 150 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	3,514.50	267.51
23 13 23 13-0010 EA 200 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	4,509.67	300.95
23 13 23 13-0011 EA 275 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	5,026.55	334.40
23 13 23 13-0012 EA 300 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	5,751.75	401.28
23 13 23 13-0013 EA 350 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	6,442.66	468.15
23 13 23 13-0014 EA 400 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	7,154.13	535.04
23 13 23 13-0015 EA 450 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	7,940.17	568.48
23 13 23 13-0016 EA 500 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	8,731.34	601.91
23 13 23 13-0017 EA 550 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	9,630.52	635.35
23 13 23 13-0018 EA 600 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	10,416.56	668.79
23 13 23 13-0019 EA 700 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	11,599.51	802.55
23 13 23 13-0020 EA 800 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	12,511.55	869.43
23 13 23 13-0021 EA 900 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	13,730.51	1,003.19
23 13 23 13-0022 EA 1,000 Gallon Double Wall Steel Day Tank (Tramont TRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	14,954.60	1,136.95
23 13 23 13-0023 EA 10 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,421.24	133.76
23 13 23 13-0024 EA 15 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,509.53	140.45
23 13 23 13-0025 EA 25 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,617.11	150.48
23 13 23 13-0026 EA 50 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,818.97	160.51
23 13 23 13-0027 EA 60 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,999.85	167.20
23 13 23 13-0028 EA 75 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	2,314.44	200.64
23 13 23 13-0029 EA 100 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	3,052.47	234.08
23 13 23 13-0030 EA 150 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	3,790.51	267.51
23 13 23 13-0031 EA 200 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	4,785.68	300.95
23 13 23 13-0032 EA 275 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	5,302.56	334.40
23 13 23 13-0033 EA 300 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	6,027.75	401.28
23 13 23 13-0034 EA 350 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	6,718.66	468.15
23 13 23 13-0035 EA 400 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	7,430.14	535.04
23 13 23 13-0036 EA 450 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	8,216.18	568.48
23 13 23 13-0037 EA 500 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	9,007.35	601.91
23 13 23 13-0038 EA 550 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	9,908.24	635.35
23 13 23 13-0039 EA 600 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	10,694.28	668.79
23 13 23 13-0040 EA 700 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	11,875.51	802.55
23 13 23 13-0041 EA 800 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	12,787.55	869.43
23 13 23 13-0042 EA 900 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	14,006.51	1,003.19
23 13 23 13-0043 EA 1,000 Gallon Double Wall Steel Day Tank (Tramont UTRX)..... Note: Includes rust-inhibitor coated interior and gray painted exterior.	15,230.61	1,136.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23	13-0044	EA	10 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,369.26	133.76
23 13 23	13-0045	EA	15 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,447.27	140.45
23 13 23	13-0046	EA	25 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,517.13	150.48
23 13 23	13-0047	EA	50 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,787.56	160.51
23 13 23	13-0048	EA	60 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,889.58	167.20
23 13 23	13-0049	EA	75 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,192.17	200.64
23 13 23	13-0050	EA	100 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,842.77	234.08
23 13 23	13-0051	EA	150 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,851.67	267.51
23 13 23	13-0052	EA	200 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	5,455.97	300.95
23 13 23	13-0053	EA	275 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	7,135.17	334.40
23 13 23	13-0054	EA	300 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,062.65	401.28
23 13 23	13-0055	EA	350 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,619.85	468.15
23 13 23	13-0056	EA	400 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	9,379.32	535.04
23 13 23	13-0057	EA	450 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,129.36	568.48
23 13 23	13-0058	EA	500 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,119.39	601.91
23 13 23	13-0059	EA	550 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,529.99	635.35
23 13 23	13-0060	EA	600 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,897.73	668.79
23 13 23	13-0061	EA	700 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	13,606.98	802.55
23 13 23	13-0062	EA	800 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	15,268.17	869.43
23 13 23	13-0063	EA	900 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	17,080.29	1,003.19
23 13 23	13-0064	EA	1,000 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	18,921.54	1,136.95
23 13 23	13-0065	EA	10 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,500.71	133.76
23 13 23	13-0066	EA	15 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,578.72	140.45
23 13 23	13-0067	EA	25 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,648.58	150.48
23 13 23	13-0068	EA	50 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,919.01	160.51
23 13 23	13-0069	EA	60 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,021.03	167.20
23 13 23	13-0070	EA	75 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,323.62	200.64
23 13 23	13-0071	EA	100 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,974.22	234.08
23 13 23	13-0072	EA	150 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	5,983.12	267.51
23 13 23	13-0073	EA	200 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	6,662.86	300.95
23 13 23	13-0074	EA	275 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	7,872.32	334.40
23 13 23	13-0075	EA	300 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,799.81	401.28
23 13 23	13-0076	EA	350 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	9,358.72	468.15
23 13 23	13-0077	EA	400 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,116.48	535.04
23 13 23	13-0078	EA	450 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,868.23	568.48
23 13 23	13-0079	EA	500 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,856.55	601.91
23 13 23	13-0080	EA	550 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	12,267.14	635.35
23 13 23	13-0081	EA	600 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	12,634.89	668.79
23 13 23	13-0082	EA	700 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	14,344.14	802.55
23 13 23	13-0083	EA	800 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	16,007.05	869.43
23 13 23	13-0084	EA	900 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	17,817.45	1,003.19
23 13 23	13-0085	EA	1,000 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	19,658.69	1,136.95



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Facility Fuel Systems			23 10	
Facility Fuel-Storage Tanks			23 13	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23	13-0086	EA	10 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,133.29	133.76
23 13 23	13-0087	EA	15 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,219.87	140.45
23 13 23	13-0088	EA	25 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,291.45	150.48
23 13 23	13-0089	EA	50 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,570.45	160.51
23 13 23	13-0090	EA	60 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,720.47	167.20
23 13 23	13-0091	EA	75 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,995.64	200.64
23 13 23	13-0092	EA	100 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,671.95	234.08
23 13 23	13-0093	EA	150 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,728.85	267.51
23 13 23	13-0094	EA	200 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	7,355.44	300.95
23 13 23	13-0095	EA	275 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	9,099.78	334.40
23 13 23	13-0096	EA	300 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,075.26	401.28
23 13 23	13-0097	EA	350 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,579.31	468.15
23 13 23	13-0098	EA	400 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	11,441.65	535.04
23 13 23	13-0099	EA	450 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	12,349.40	568.48
23 13 23	13-0100	EA	500 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,262.29	601.91
23 13 23	13-0101	EA	550 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,722.60	635.35
23 13 23	13-0102	EA	600 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,064.63	668.79
23 13 23	13-0103	EA	700 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	15,851.02	802.55
23 13 23	13-0104	EA	800 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	17,592.79	869.43
23 13 23	13-0105	EA	900 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	19,485.48	1,003.19
23 13 23	13-0106	EA	1,000 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	21,403.87	1,136.95
23 13 23	13-0107	EA	10 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,264.75	133.76
23 13 23	13-0108	EA	15 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,351.33	140.45
23 13 23	13-0109	EA	25 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,422.90	150.48
23 13 23	13-0110	EA	50 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,701.90	160.51
23 13 23	13-0111	EA	60 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,851.92	167.20
23 13 23	13-0112	EA	75 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,123.66	200.64
23 13 23	13-0113	EA	100 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,803.40	234.08

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 13-0114	EA	150 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	7,860.30	267.51
23 13 23 13-0115	EA	200 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	8,486.89	300.95
23 13 23 13-0116	EA	275 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	9,836.93	334.40
23 13 23 13-0117	EA	300 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,812.42	401.28
23 13 23 13-0118	EA	350 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	11,487.90	468.15
23 13 23 13-0119	EA	400 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	12,178.80	535.04
23 13 23 13-0120	EA	450 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,086.56	568.48
23 13 23 13-0121	EA	500 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,999.45	601.91
23 13 23 13-0122	EA	550 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,459.76	635.35
23 13 23 13-0123	EA	600 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,803.51	668.79
23 13 23 13-0124	EA	700 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	16,588.18	802.55
23 13 23 13-0125	EA	800 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	18,329.95	869.43
23 13 23 13-0126	EA	900 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	20,222.64	1,003.19
23 13 23 13-0127	EA	1,000 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS) Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	22,141.03	1,136.95
23 13 23 13-0128	EA	150% Containment Double Wall Open Top Basin For 10 Gallon Tank.....	1,159.77	133.76
23 13 23 13-0129	EA	150% Containment Double Wall Open Top Basin For 15 Gallon Tank.....	1,256.91	140.45
23 13 23 13-0130	EA	150% Containment Double Wall Open Top Basin For 25 Gallon Tank.....	1,364.15	150.48
23 13 23 13-0131	EA	150% Containment Double Wall Open Top Basin For 50 Gallon Tank.....	1,559.63	160.51
23 13 23 13-0132	EA	150% Containment Double Wall Open Top Basin For 60 Gallon Tank.....	2,075.41	167.20
23 13 23 13-0133	EA	150% Containment Double Wall Open Top Basin For 75 Gallon Tank.....	2,131.14	200.64
23 13 23 13-0134	EA	150% Containment Double Wall Open Top Basin For 100 Gallon Tank.....	2,680.19	234.08
23 13 23 13-0135	EA	150% Containment Double Wall Open Top Basin For 150 Gallon Tank.....	3,317.49	267.51
23 13 23 13-0136	EA	150% Containment Double Wall Open Top Basin For 200 Gallon Tank.....	4,359.84	300.95
23 13 23 13-0137	EA	150% Containment Double Wall Open Top Basin For 275 Gallon Tank.....	5,479.13	334.40
23 13 23 13-0138	EA	150% Containment Double Wall Open Top Basin For 300 Gallon Tank.....	6,577.23	401.28
23 13 23 13-0139	EA	150% Containment Double Wall Open Top Basin For 350 Gallon Tank.....	7,066.60	468.15
23 13 23 13-0140	EA	150% Containment Double Wall Open Top Basin For 400 Gallon Tank.....	7,558.23	535.04
23 13 23 13-0141	EA	150% Containment Double Wall Open Top Basin For 450 Gallon Tank.....	8,299.63	568.48
23 13 23 13-0142	EA	150% Containment Double Wall Open Top Basin For 500 Gallon Tank.....	9,043.28	601.91
23 13 23 13-0143	EA	150% Containment Double Wall Open Top Basin For 550 Gallon Tank.....	9,689.65	635.35
23 13 23 13-0144	EA	150% Containment Double Wall Open Top Basin For 600 Gallon Tank.....	10,342.78	668.79
23 13 23 13-0145	EA	150% Containment Double Wall Open Top Basin For 700 Gallon Tank.....	11,701.68	802.55
23 13 23 13-0146	EA	150% Containment Double Wall Open Top Basin For 800 Gallon Tank.....	12,989.84	869.43
23 13 23 13-0147	EA	150% Containment Double Wall Open Top Basin For 900 Gallon Tank.....	14,425.70	1,003.19
23 13 23 13-0148	EA	150% Containment Double Wall Open Top Basin For 1,000 Gallon Tank.....	15,811.76	1,136.95
23 13 23 13-0149	EA	200% Containment Double Wall Open Top Basin For 10 Gallon Tank.....	1,222.97	140.45
23 13 23 13-0150	EA	200% Containment Double Wall Open Top Basin For 15 Gallon Tank.....	1,330.46	150.48
23 13 23 13-0151	EA	200% Containment Double Wall Open Top Basin For 25 Gallon Tank.....	1,442.71	160.51
23 13 23 13-0152	EA	200% Containment Double Wall Open Top Basin For 50 Gallon Tank.....	1,642.57	167.20
23 13 23 13-0153	EA	200% Containment Double Wall Open Top Basin For 60 Gallon Tank.....	2,230.96	200.64
23 13 23 13-0154	EA	200% Containment Double Wall Open Top Basin For 75 Gallon Tank.....	2,286.69	234.08
23 13 23 13-0155	EA	200% Containment Double Wall Open Top Basin For 100 Gallon Tank.....	2,863.15	267.51
23 13 23 13-0156	EA	200% Containment Double Wall Open Top Basin For 150 Gallon Tank.....	3,532.75	300.95
23 13 23 13-0157	EA	200% Containment Double Wall Open Top Basin For 200 Gallon Tank.....	4,629.92	334.40
23 13 23 13-0158	EA	200% Containment Double Wall Open Top Basin For 275 Gallon Tank.....	5,808.31	367.84
23 13 23 13-0159	EA	200% Containment Double Wall Open Top Basin For 300 Gallon Tank.....	6,961.20	434.71
23 13 23 13-0160	EA	200% Containment Double Wall Open Top Basin For 350 Gallon Tank.....	7,471.57	501.59
23 13 23 13-0161	EA	200% Containment Double Wall Open Top Basin For 400 Gallon Tank.....	7,984.33	568.48
23 13 23 13-0162	EA	200% Containment Double Wall Open Top Basin For 450 Gallon Tank.....	8,763.81	601.91
23 13 23 13-0163	EA	200% Containment Double Wall Open Top Basin For 500 Gallon Tank.....	9,545.68	635.35
23 13 23 13-0164	EA	200% Containment Double Wall Open Top Basin For 550 Gallon Tank.....	10,224.87	668.79
23 13 23 13-0165	EA	200% Containment Double Wall Open Top Basin For 600 Gallon Tank.....	10,966.91	735.68
23 13 23 13-0166	EA	200% Containment Double Wall Open Top Basin For 700 Gallon Tank.....	12,388.92	869.43
23 13 23 13-0167	EA	200% Containment Double Wall Open Top Basin For 800 Gallon Tank.....	13,853.94	1,003.19
23 13 23 13-0168	EA	200% Containment Double Wall Open Top Basin For 900 Gallon Tank.....	15,357.17	1,136.95



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 13-0169	EA	200% Containment Double Wall Open Top Basin For 1,000 Gallon Tank.....	16,807.85	1,270.70	
23 13 23 13-0170	EA	150% Containment Double Wall Sealed Top Basin For 10 Gallon Tank.....	1,338.54	133.76	
23 13 23 13-0171	EA	150% Containment Double Wall Sealed Top Basin For 15 Gallon Tank.....	1,458.31	140.45	
23 13 23 13-0172	EA	150% Containment Double Wall Sealed Top Basin For 25 Gallon Tank.....	1,579.12	150.48	
23 13 23 13-0173	EA	150% Containment Double Wall Sealed Top Basin For 50 Gallon Tank.....	1,819.86	160.51	
23 13 23 13-0174	EA	150% Containment Double Wall Sealed Top Basin For 60 Gallon Tank.....	2,432.95	167.20	
23 13 23 13-0175	EA	150% Containment Double Wall Sealed Top Basin For 75 Gallon Tank.....	2,488.68	200.64	
23 13 23 13-0176	EA	150% Containment Double Wall Sealed Top Basin For 100 Gallon Tank.....	3,119.19	234.08	
23 13 23 13-0177	EA	150% Containment Double Wall Sealed Top Basin For 150 Gallon Tank.....	3,862.85	267.51	
23 13 23 13-0178	EA	150% Containment Double Wall Sealed Top Basin For 200 Gallon Tank.....	5,090.14	300.95	
23 13 23 13-0179	EA	150% Containment Double Wall Sealed Top Basin For 275 Gallon Tank.....	6,465.76	334.40	
23 13 23 13-0180	EA	150% Containment Double Wall Sealed Top Basin For 300 Gallon Tank.....	7,765.25	401.28	
23 13 23 13-0181	EA	150% Containment Double Wall Sealed Top Basin For 350 Gallon Tank.....	8,324.78	468.15	
23 13 23 13-0182	EA	150% Containment Double Wall Sealed Top Basin For 400 Gallon Tank.....	8,888.82	535.04	
23 13 23 13-0183	EA	150% Containment Double Wall Sealed Top Basin For 450 Gallon Tank.....	9,772.78	568.48	
23 13 23 13-0184	EA	150% Containment Double Wall Sealed Top Basin For 500 Gallon Tank.....	10,658.99	601.91	
23 13 23 13-0185	EA	150% Containment Double Wall Sealed Top Basin For 550 Gallon Tank.....	11,411.70	635.35	
23 13 23 13-0186	EA	150% Containment Double Wall Sealed Top Basin For 600 Gallon Tank.....	12,182.52	668.79	
23 13 23 13-0187	EA	150% Containment Double Wall Sealed Top Basin For 700 Gallon Tank.....	13,779.03	802.55	
23 13 23 13-0188	EA	150% Containment Double Wall Sealed Top Basin For 800 Gallon Tank.....	15,307.05	869.43	
23 13 23 13-0189	EA	150% Containment Double Wall Sealed Top Basin For 900 Gallon Tank.....	16,980.51	1,003.19	
23 13 23 13-0190	EA	150% Containment Double Wall Sealed Top Basin For 1,000 Gallon Tank.....	18,604.18	1,136.95	
23 13 23 13-0191	EA	200% Containment Double Wall Sealed Top Basin For 10 Gallon Tank.....	1,411.67	140.45	
23 13 23 13-0192	EA	200% Containment Double Wall Sealed Top Basin For 15 Gallon Tank.....	1,543.04	150.48	
23 13 23 13-0193	EA	200% Containment Double Wall Sealed Top Basin For 25 Gallon Tank.....	1,669.63	160.51	
23 13 23 13-0194	EA	200% Containment Double Wall Sealed Top Basin For 50 Gallon Tank.....	1,917.26	167.20	
23 13 23 13-0195	EA	200% Containment Double Wall Sealed Top Basin For 60 Gallon Tank.....	2,608.37	200.64	
23 13 23 13-0196	EA	200% Containment Double Wall Sealed Top Basin For 75 Gallon Tank.....	2,664.10	234.08	
23 13 23 13-0197	EA	200% Containment Double Wall Sealed Top Basin For 100 Gallon Tank.....	3,326.54	267.51	
23 13 23 13-0198	EA	200% Containment Double Wall Sealed Top Basin For 150 Gallon Tank.....	4,108.41	300.95	
23 13 23 13-0199	EA	200% Containment Double Wall Sealed Top Basin For 200 Gallon Tank.....	5,400.79	334.40	
23 13 23 13-0200	EA	200% Containment Double Wall Sealed Top Basin For 275 Gallon Tank.....	6,849.74	367.84	
23 13 23 13-0201	EA	200% Containment Double Wall Sealed Top Basin For 300 Gallon Tank.....	8,215.23	434.71	
23 13 23 13-0202	EA	200% Containment Double Wall Sealed Top Basin For 350 Gallon Tank.....	8,799.65	501.59	
23 13 23 13-0203	EA	200% Containment Double Wall Sealed Top Basin For 400 Gallon Tank.....	9,388.84	568.48	
23 13 23 13-0204	EA	200% Containment Double Wall Sealed Top Basin For 450 Gallon Tank.....	10,318.80	601.91	
23 13 23 13-0205	EA	200% Containment Double Wall Sealed Top Basin For 500 Gallon Tank.....	11,251.16	635.35	
23 13 23 13-0206	EA	200% Containment Double Wall Sealed Top Basin For 550 Gallon Tank.....	12,042.59	668.79	
23 13 23 13-0207	EA	200% Containment Double Wall Sealed Top Basin For 600 Gallon Tank.....	12,908.86	735.68	
23 13 23 13-0208	EA	200% Containment Double Wall Sealed Top Basin For 700 Gallon Tank.....	14,581.67	869.43	
23 13 23 13-0209	EA	200% Containment Double Wall Sealed Top Basin For 800 Gallon Tank.....	16,299.88	1,003.19	
23 13 23 13-0210	EA	200% Containment Double Wall Sealed Top Basin For 900 Gallon Tank.....	18,053.92	1,136.95	
23 13 23 13-0211	EA	200% Containment Double Wall Sealed Top Basin For 1,000 Gallon Tank.....	19,755.40	1,270.70	
23 13 23 16 Horizontal, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)					
23 13 23 16-0001 Single Wall Aboveground Storage Tanks (23 13 23 16)					
Note: Includes cradles, supports, coating, fittings, and 4" NPT connections as follows: up to 1000 gallon, 4 each: all others 6 each. Excludes pumps, piping, pad, foundation excavation and backfill.					
23 13 23 16-0002	EA	300 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	4,869.19	726.98	
23 13 23 16-0003	EA	550 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	5,853.24	880.02	
23 13 23 16-0004	EA	1,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	7,924.38	1,234.12	
23 13 23 16-0005	EA	1,500 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	10,246.73	1,542.65	
23 13 23 16-0006	EA	2,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	12,306.37	2,083.77	
23 13 23 16-0007	EA	3,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	18,599.72	2,145.06	
23 13 23 16-0008	EA	5,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	27,061.09	2,652.07	
23 13 23 16-0009	EA	8,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	37,187.56	3,038.77	
23 13 23 16-0010	EA	10,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	44,335.93	3,315.01	
23 13 23 16-0011	EA	12,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	51,474.66	3,646.52	
23 13 23 16-0012	EA	15,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	56,982.13	4,051.65	
23 13 23 16-0013	EA	20,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	71,169.47	5,209.27	
23 13 23 16-0014	EA	30,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	97,264.90	6,077.55	
23 13 23 16-0015 Double Wall Aboveground Storage Tanks (23 13 23 16)					
Note: Includes cradles, supports, coating, fittings, and 4" NPT connections as follows: up to 1000 gallon, 4 each: all others 6 each. Excludes pumps, piping, pad, foundation excavation and backfill.					
23 13 23 16-0016	EA	300 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	7,740.24	907.11	
23 13 23 16-0017	EA	550 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	9,300.48	1,097.71	
23 13 23 16-0018	EA	1,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	12,414.34	1,542.65	
23 13 23 16-0019	EA	1,500 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	16,285.70	1,928.32	
23 13 23 16-0020	EA	2,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	20,947.48	2,604.69	
23 13 23 16-0021	EA	3,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	29,876.01	2,681.24	
23 13 23 16-0022	EA	5,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	43,728.17	3,303.01	
23 13 23 16-0023	EA	8,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	60,473.43	3,798.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 16-0024 EA 10,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	72,280.30	4,143.81
23 13 23 16-0025 EA 12,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	84,038.34	4,558.10
23 13 23 16-0026 EA 15,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	93,021.02	5,064.66
23 13 23 16-0027 EA 20,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	116,093.08	6,511.62
23 13 23 16-0028 EA 30,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	159,277.74	7,596.87
23 13 23 16-0029 Horizontal Rectangular Double Wall Aboveground Fuel Day Tanks (23 13 23 16) Note: Includes solenoid valve. Excludes piping and concrete pad.		
23 13 23 16-0030 EA 550 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	15,097.98	1,097.71
23 13 23 16-0031 EA 750 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	15,979.95	1,272.68
23 13 23 16-0032 EA 1,000 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	17,953.90	1,542.65
23 13 23 16-0033 EA 1,500 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	21,479.59	1,928.32
23 13 23 16-0034 EA 2,000 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank..... Note: Includes 2" solenoid valve.	27,509.11	2,604.69
23 13 23 19 Containment-Dike, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)		
23 13 23 19-0001 Secondary Containment For Above Ground Tanks (23 13 23 19)		
23 13 23 19-0002 EA Steel Dike For 550 Gallon Tank, Uncoated.....	6,615.94	
23 13 23 19-0003 EA Steel Dike For 1,000 Gallon Tank, Uncoated.....	7,991.79	
23 13 23 19-0004 EA Steel Dike For 2,000 Gallon Tank, Uncoated.....	17,526.13	
23 13 23 19-0005 EA Steel Dike For 3,000 Gallon Tank, Uncoated.....	19,165.32	
23 13 23 19-0006 EA Steel Dike For 5,000 Gallon Tank, Uncoated.....	27,269.27	
23 13 23 19-0007 EA Steel Dike For 6,000 Gallon Tank, Uncoated.....	30,552.30	
23 13 23 19-0008 EA Steel Dike For 8,000 Gallon Tank, Uncoated.....	40,349.96	
23 13 23 19-0009 EA Steel Dike For 10,000 Gallon Tank, Uncoated.....	47,338.37	
23 13 23 19-0010 EA Steel Dike For 12,000 Gallon Tank, Uncoated.....	53,799.99	
23 13 23 19-0011 EA Steel Dike For 15,000 Gallon Tank, Uncoated.....	65,501.74	
23 13 23 19-0012 EA Steel Dike For 20,000 Gallon Tank, Uncoated.....	83,878.74	
23 13 23 26 Concrete-Vaulted, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)		
23 13 23 26-0001 Aboveground Concrete Vaulted Storage Tanks (23 13 23 26) Note: Includes setting in place with stand, NPT openings for an emergency vent, regular vent, gauge, fill with an internal 5 gallon minimum overflow containment, supply and return and leak detection. All tanks that are 2000 gallon and larger shall have a ladder for access. Excludes excavation, pad, pumps and piping.		
23 13 23 26-0002 EA 500 Gallon Concrete Vaulted Storage Tank.....	36,461.91	1,577.22
For Low Profile Tanks, Add	13,704.46	
23 13 23 26-0003 EA 1,000 Gallon Concrete Vaulted Storage Tank.....	46,008.05	1,780.52
For Low Profile Tanks, Add	17,409.44	
23 13 23 26-0004 EA 2,000 Gallon Concrete Vaulted Storage Tank.....	82,063.29	2,120.07
For Low Profile Tanks, Add	31,642.02	
23 13 23 26-0005 EA 4,000 Gallon Concrete Vaulted Storage Tank.....	129,471.43	4,663.14
23 13 23 26-0006 EA 5,000 Gallon Concrete Vaulted Storage Tank.....	148,032.25	5,092.92
23 13 23 26-0007 EA 6,000 Gallon Concrete Vaulted Storage Tank.....	166,681.99	5,499.98
23 13 23 26-0008 EA 8,000 Gallon Concrete Vaulted Storage Tank.....	185,309.75	5,968.20
23 13 23 26-0009 EA 10,000 Gallon Concrete Vaulted Storage Tank.....	203,930.25	6,352.87
23 13 33 Facility Fuel-Oil, Storage Tank Accessories (23 13)		
23 13 33 00-0001 EPA Requirements (23 13 33)		
23 13 33 00-0002 EA Fill Pipe Spill Containment Manhole (5 Gallon).....	2,341.36	
23 13 33 00-0003 EA Over-Fill Prevention Valve.....	1,420.20	
23 13 33 00-0004 EA Tank Manway With Cover, Fiberglass.....	4,628.15	
23 13 33 00-0005 EA Tank Manway With Cover, Steel.....	6,071.94	
23 13 33 00-0006 EA Vent Fill Alarm (Whistle Vent).....	217.39	
23 13 33 00-0007 EA Reservoir Sensor, Liquid Level.....	708.60	
23 13 33 00-0008 EA Manhole Spill Containment.....	2,609.92	260.25
23 13 33 00-0009 EA Fill Adapter, 4".....	456.46	173.53
23 13 33 00-0010 EA Fill Cap, 4".....	322.79	65.06
23 13 33 00-0011 EA 2" Vent Cap.....	184.56	43.41
23 13 33 00-0012 EA 4" x 2" Extractor Fitting.....	803.62	65.06
23 13 33 00-0013 EA Float Vent Valve.....	400.49	130.13
23 13 33 00-0014 EA Vapor Hose Adapter.....	716.10	86.72
23 13 33 00-0015 EA Dust Cap.....	287.30	47.37
23 13 33 00-0016 EA 1" Double Poppet Foot Valve.....	462.10	74.33
23 13 33 00-0017 EA 10" Wood Gage Stick.....	44.83	
23 13 33 00-0018 EA 1-1/4" Tank Filled Breather, NPT.....	293.55	
23 13 33 00-0019 EA 1-1/2" Tank Filled Breather, Bayonet.....	412.35	
23 13 33 00-0020 EA 2" Cast Iron Combination Fill Cap And Vent.....	92.00	
23 13 33 00-0021 EA 3" Cast Iron Combination Fill Cap And Vent.....	127.02	
23 13 33 00-0022 EA 4" Cast Iron Combination Fill Cap And Vent.....	204.92	
23 13 33 00-0023 EA Pressure And Vacuum Control Vent.....	1,979.28	
23 13 33 00-0024 EA 1/4 HP Fuel/Diesel Pump Set.....	1,877.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Facility Fuel Systems			23 10	
Facility Fuel-Storage Tanks			23 13	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 33 00-0025	EA	1/3 HP Fuel/Diesel Pump Set.....	2,224.19	
23 13 33 00-0026	EA	1/2 HP Fuel/Diesel Pump Set.....	2,422.18	
23 13 33 00-0027	EA	3/4 HP Fuel/Diesel Pump Set.....	2,653.49	
23 13 33 00-0028	EA	1 HP Fuel/Diesel Pump Set.....	3,822.31	
23 13 33 00-0029	EA	1-1/2 HP Fuel/Diesel Pump Set.....	4,729.96	
23 13 33 00-0030	EA	2 HP Fuel/Diesel Pump Set.....	5,235.22	
23 13 33 00-0031	EA	3 HP Fuel/Diesel Pump Set.....	6,446.51	
23 13 33 00-0032	EA	5 HP Fuel/Diesel Pump Set.....	7,639.18	
23 13 33 00-0033	EA	7.5 HP Fuel/Diesel Pump Set.....	8,550.93	
23 13 33 00-0034	EA	10 HP Fuel/Diesel Pump Set.....	9,881.40	
23 13 33 00-0035		Tank Bulkhead Fittings (23 13 33)		
23 13 33 00-0036		Tank Bulkhead Fittings (23 13 33 00-0035)		
23 13 33 00-0037		Polyvinyl Chloride (PVC) Tank Bulkhead Fittings, Socket x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0038	EA	1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	62.88	
23 13 33 00-0039	EA	3/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	70.46	
23 13 33 00-0040	EA	1" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	77.52	
23 13 33 00-0041	EA	1-1/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	95.81	
23 13 33 00-0042	EA	1-1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	98.03	
23 13 33 00-0043	EA	2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	133.74	
23 13 33 00-0044	EA	3" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	222.47	
23 13 33 00-0045	EA	4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread.....	405.38	
23 13 33 00-0046		Polyvinyl Chloride (PVC) Tank Bulkhead Fittings, Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0047	EA	1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	75.54	
23 13 33 00-0048	EA	3/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	83.07	
23 13 33 00-0049	EA	1" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	90.64	
23 13 33 00-0050	EA	1-1/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	116.18	
23 13 33 00-0051	EA	1-1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	123.74	
23 13 33 00-0052	EA	2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	157.04	
23 13 33 00-0053	EA	3" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	253.53	
23 13 33 00-0054	EA	4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread.....	449.51	
23 13 33 00-0055		Chlorinated Polyvinyl Chloride (CPVC) Tank Bulkhead Fittings, Socket x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0056	EA	1/2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	78.42	
23 13 33 00-0057	EA	3/4" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	91.35	
23 13 33 00-0058	EA	1" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	103.75	
23 13 33 00-0059	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	136.35	
23 13 33 00-0060	EA	2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	183.22	
23 13 33 00-0061	EA	3" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	295.76	
23 13 33 00-0062	EA	4" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	475.74	
23 13 33 00-0063		Polypropylene Tank Bulkhead Fitting Thread x Threaded Connection (23 13 33 00-0035)		
23 13 33 00-0064	EA	1/2" Polypropylene Bulkhead Fitting, Thread x Thread.....	94.47	
23 13 33 00-0065	EA	3/4" Polypropylene Bulkhead Fitting, Thread x Thread.....	112.69	
23 13 33 00-0066	EA	1" Polypropylene Bulkhead Fitting, Thread x Thread.....	141.09	
23 13 33 00-0067	EA	1-1/4" Polypropylene Bulkhead Fitting, Thread x Thread.....	174.40	
23 13 33 00-0068	EA	1-1/2" Polypropylene Bulkhead Fitting, Thread x Thread.....	176.62	
23 13 33 00-0069	EA	2" Polypropylene Bulkhead Fitting, Thread x Thread.....	260.38	
23 13 33 00-0070	EA	3" Polypropylene Bulkhead Fitting, Thread x Thread.....	482.06	
23 13 33 00-0071	EA	4" Polypropylene Bulkhead Fitting, Thread x Thread.....	878.49	
23 13 33 00-0072		Polyethylene Tank Bulkhead Fittings Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0073	EA	3/4" Polyethylene Bulkhead Fitting, Thread x Thread.....	79.67	
23 13 33 00-0074	EA	1" Polyethylene Bulkhead Fitting, Thread x Thread.....	106.01	
23 13 33 00-0075	EA	1-1/4" Polyethylene Bulkhead Fitting, Thread x Thread.....	108.25	
23 13 33 00-0076	EA	1-1/2" Polyethylene Bulkhead Fitting, Thread x Thread.....	110.47	
23 13 33 00-0077	EA	2" Polyethylene Bulkhead Fitting, Thread x Thread.....	160.90	
23 13 33 00-0078	EA	3" Polyethylene Bulkhead Fitting, Thread x Thread.....	207.09	
23 13 33 00-0079		TFE Teflon Tank Bulkhead Fittings, Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0080	EA	1/8" TFE Teflon Bulkhead Fitting, Thread x Thread.....	402.07	
23 13 33 00-0081	EA	1/4" TFE Teflon Bulkhead Fitting, Thread x Thread.....	459.75	
23 13 33 00-0082	EA	3/8" TFE Teflon Bulkhead Fitting, Thread x Thread.....	567.53	
23 13 33 00-0083	EA	1/2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	655.84	
23 13 33 00-0084	EA	3/4" TFE Teflon Bulkhead Fitting, Thread x Thread.....	756.36	
23 13 33 00-0085	EA	1" TFE Teflon Bulkhead Fitting, Thread x Thread.....	955.48	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 13 33 00-0086	EA	1-1/2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	1,243.46	
23 13 33 00-0087	EA	2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	1,374.48	

23 13 33 00-0088 Self-Aligning Bulkhead Fittings (23 13 33 00-0035)

23 13 33 00-0089	EA	3/4" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	407.32	
23 13 33 00-0090	EA	1" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	406.30	
23 13 33 00-0091	EA	1-1/2" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	598.14	
23 13 33 00-0092	EA	2" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	609.47	
23 13 33 00-0093	EA	3" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	828.61	

23 20 HVAC Piping and Pumps (23)

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

23 21 Hydronic Piping and Pumps (23 20)**23 21 13 Hydronic Piping (23 21)**

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

23 21 13 23 Aboveground Hydronic Piping (23 21 13)**23 21 13 23-0001 Threaded Black Steel Pipe (23 21 13 23)****23 21 13 23-0002 Threaded Black Steel Pipe Assemblies (23 21 13 23-0001)**

Note: ASTM A-53 pipe and A-105 fittings. Threaded and coupled. Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. Includes cutting and threading to length where necessary.

23 21 13 23-0003	LF	1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	22.31	4.10
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			5.77	
For Work In Restricted Working Space, Add			4.24	
23 21 13 23-0004	LF	3/4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	24.82	4.41
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			6.57	
For Work In Restricted Working Space, Add			4.43	
23 21 13 23-0005	LF	1" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	28.03	4.83
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			7.60	
For Work In Restricted Working Space, Add			4.68	
23 21 13 23-0006	LF	1-1/4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	34.56	5.03
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			9.75	
For Work In Restricted Working Space, Add			5.04	
23 21 13 23-0007	LF	1-1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	37.33	5.96
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			10.71	
For Work In Restricted Working Space, Add			5.12	
23 21 13 23-0008	LF	2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	45.42	7.18
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			13.28	
For Work In Restricted Working Space, Add			5.76	
23 21 13 23-0009	LF	2-1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	68.52	8.51
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			20.85	
For Work In Restricted Working Space, Add			7.15	
23 21 13 23-0010	LF	3" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	87.68	11.39
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			26.89	
For Work In Restricted Working Space, Add			8.76	
23 21 13 23-0011	LF	4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	129.98	13.45
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			41.61	
For Work In Restricted Working Space, Add			9.72	
23 21 13 23-0012	LF	5" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly	213.01	17.20
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			70.51	
For Work In Restricted Working Space, Add			11.58	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0013	LF	6" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	256.70 85.41 13.12	20.34
23 21 13 23-0014		Threaded Black Steel Pipe And Fittings (23 21 13 23-0001) Note: ASTM A-53 pipe and A-105 fittings. Threaded and coupled, schedule 40. Excludes hangers, elbow, tee, or reducer fittings.		
23 21 13 23-0015		Threaded And Coupled, Black Steel Piping (23 21 13 23-0014) Note: ASTM A-53. Includes coupling. Includes cutting and threading to length where necessary.		
23 21 13 23-0016	LF	3/8" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	8.31 1.93 1.55	2.57
23 21 13 23-0017	LF	1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	11.45 2.98 1.87	4.10
23 21 13 23-0018	LF	3/4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	13.40 3.71 1.99	4.41
23 21 13 23-0019	LF	1" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	16.21 4.79 2.15	4.83
23 21 13 23-0020	LF	1-1/4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	19.69 6.20 2.28	5.03
23 21 13 23-0021	LF	1-1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	23.38 7.40 2.68	5.96
23 21 13 23-0022	LF	2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	29.74 9.60 3.24	7.18
23 21 13 23-0023	LF	2-1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	42.75 14.75 3.85	8.51
23 21 13 23-0024	LF	3" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	56.29 19.35 5.13	11.39
23 21 13 23-0025	LF	4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	78.81 28.38 6.07	13.45
23 21 13 23-0026	LF	5" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	103.58 37.60 7.73	17.20
23 21 13 23-0027	LF	6" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	133.10 49.23 9.14	20.34
23 21 13 23-0028	LF	8" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	189.04 72.19 11.04	24.58
23 21 13 23-0029	LF	10" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	260.45 101.47 13.49	29.95
23 21 13 23-0030	LF	12" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	348.75 136.28 17.71	39.36
23 21 13 23-0031		Black Malleable Iron 90 Degree Elbows (23 21 13 23-0014)		
23 21 13 23-0032	EA	3/8", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	32.34 24.26 0.15 6.84	15.19
23 21 13 23-0033	EA	1/2", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	33.98 17.53 0.11 8.21	18.26
23 21 13 23-0034	EA	3/4", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	38.61 20.99 0.13 9.19	20.42
23 21 13 23-0035	EA	1", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	48.05 35.29 0.22 10.26	22.77
23 21 13 23-0036	EA	1-1/4", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	61.55 57.14 0.37 11.61	25.86
23 21 13 23-0037	EA	1-1/2", 150 LB, Black Malleable Iron 90 Degree Elbow For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	73.71 74.74 0.48 13.10	29.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0038	EA		2", 150 LB, Black Malleable Iron 90 Degree Elbow.....	107.29	37.04
			For 300 LB Rating, Add	127.72	
			For Standard Weight Cast Iron Fittings, Add	0.83	
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0039	EA		2-1/2", 150 LB, Black Malleable Iron 90 Degree Elbow	197.53	54.79
			For 300 LB Rating, Add	282.00	
			For Standard Weight Cast Iron Fittings, Add	1.85	
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0040	EA		3", 150 LB, Black Malleable Iron 90 Degree Elbow.....	276.94	72.03
			For 300 LB Rating, Add	411.94	
			For Standard Weight Cast Iron Fittings, Add	2.70	
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0041	EA		4", 150 LB, Black Malleable Iron 90 Degree Elbow.....	480.91	78.71
			For 300 LB Rating, Add	877.99	
			For Standard Weight Cast Iron Fittings, Add	5.81	
			For Work In Restricted Working Space, Add	35.41	
23 21 13 23-0042	EA		5", 150 LB, Black Malleable Iron 90 Degree Elbow.....	1,183.54	82.15
			For 300 LB Rating, Add	2,562.30	
			For Standard Weight Cast Iron Fittings, Add	16.97	
			For Work In Restricted Working Space, Add	36.95	
23 21 13 23-0043	EA		6", 150 LB, Black Malleable Iron 90 Degree Elbow.....	1,353.66	85.89
			For 300 LB Rating, Add	2,947.46	
			For Standard Weight Cast Iron Fittings, Add	19.60	
			For Work In Restricted Working Space, Add	38.63	
23 21 13 23-0044 Black Malleable Iron Reducing 90 Degree Elbows (23 21 13 23-0014)					
23 21 13 23-0045	EA		1/2" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	37.67	16.73
			For 300 LB Rating, Add	31.72	
			For Standard Weight Cast Iron Fittings, Add	0.20	
			For Work In Restricted Working Space, Add	7.52	
23 21 13 23-0046	EA		3/4" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	41.96	19.29
			For 300 LB Rating, Add	32.84	
			For Standard Weight Cast Iron Fittings, Add	0.21	
			For Work In Restricted Working Space, Add	8.70	
23 21 13 23-0047	EA		3/4" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	44.83	17.86
			For 300 LB Rating, Add	45.07	
			For Standard Weight Cast Iron Fittings, Add	0.29	
			For Work In Restricted Working Space, Add	8.02	
23 21 13 23-0048	EA		1" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	49.07	21.64
			For 300 LB Rating, Add	41.91	
			For Standard Weight Cast Iron Fittings, Add	0.27	
			For Work In Restricted Working Space, Add	9.73	
23 21 13 23-0049	EA		1" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	48.74	20.52
			For 300 LB Rating, Add	44.95	
			For Standard Weight Cast Iron Fittings, Add	0.29	
			For Work In Restricted Working Space, Add	9.23	
23 21 13 23-0050	EA		1" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	63.86	18.98
			For 300 LB Rating, Add	86.55	
			For Standard Weight Cast Iron Fittings, Add	0.57	
			For Work In Restricted Working Space, Add	8.55	
23 21 13 23-0051	EA		1-1/4" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	64.43	24.31
			For 300 LB Rating, Add	69.32	
			For Standard Weight Cast Iron Fittings, Add	0.45	
			For Work In Restricted Working Space, Add	10.94	
23 21 13 23-0052	EA		1-1/4" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	65.89	23.09
			For 300 LB Rating, Add	77.01	
			For Standard Weight Cast Iron Fittings, Add	0.50	
			For Work In Restricted Working Space, Add	10.40	
23 21 13 23-0053	EA		1-1/4" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	69.51	22.06
			For 300 LB Rating, Add	89.51	
			For Standard Weight Cast Iron Fittings, Add	0.58	
			For Work In Restricted Working Space, Add	9.91	
23 21 13 23-0054	EA		1-1/2" x 1-1/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	80.65	27.50
			For 300 LB Rating, Add	97.20	
			For Standard Weight Cast Iron Fittings, Add	0.63	
			For Work In Restricted Working Space, Add	12.35	
23 21 13 23-0055	EA		1-1/2" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	78.40	25.96
			For 300 LB Rating, Add	97.06	
			For Standard Weight Cast Iron Fittings, Add	0.63	
			For Work In Restricted Working Space, Add	11.68	
23 21 13 23-0056	EA		1-1/2" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	82.31	24.73
			For 300 LB Rating, Add	110.64	
			For Standard Weight Cast Iron Fittings, Add	0.72	
			For Work In Restricted Working Space, Add	11.14	
23 21 13 23-0057	EA		2" x 1-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	106.74	33.04
			For 300 LB Rating, Add	140.21	
			For Standard Weight Cast Iron Fittings, Add	0.91	
			For Work In Restricted Working Space, Add	14.87	
23 21 13 23-0058	EA		2" x 1-1/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	112.08	31.40
			For 300 LB Rating, Add	158.80	
			For Standard Weight Cast Iron Fittings, Add	1.04	
			For Work In Restricted Working Space, Add	14.13	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0059	EA	2" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	109.82	29.86
			For 300 LB Rating, Add	158.67	
			For Standard Weight Cast Iron Fittings, Add	1.04	
			For Work In Restricted Working Space, Add	13.45	
23 21	13 23-0060	EA	2" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	111.95	28.73
			For 300 LB Rating, Add	167.94	
			For Standard Weight Cast Iron Fittings, Add	1.10	
			For Work In Restricted Working Space, Add	12.92	
23 21	13 23-0061	EA	2-1/2" x 2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	225.70	45.87
			For 300 LB Rating, Add	380.76	
			For Standard Weight Cast Iron Fittings, Add	2.51	
			For Work In Restricted Working Space, Add	20.63	
23 21	13 23-0062	EA	2-1/2" x 1-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	229.05	41.97
			For 300 LB Rating, Add	402.58	
			For Standard Weight Cast Iron Fittings, Add	2.66	
			For Work In Restricted Working Space, Add	18.86	
23 21	13 23-0063	EA	3" x 2-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	388.73	63.41
			For 300 LB Rating, Add	710.56	
			For Standard Weight Cast Iron Fittings, Add	4.70	
			For Work In Restricted Working Space, Add	28.51	
23 21	13 23-0064	EA	3" x 2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	335.43	54.48
			For 300 LB Rating, Add	613.78	
			For Standard Weight Cast Iron Fittings, Add	4.06	
			For Work In Restricted Working Space, Add	24.52	
23 21	13 23-0065	EA	4" x 3", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	614.19	74.87
			For 300 LB Rating, Add	1,211.34	
			For Standard Weight Cast Iron Fittings, Add	8.03	
			For Work In Restricted Working Space, Add	33.68	
23 21	13 23-0066		Black Malleable Iron 45 Degree Elbows (23 21 13 23-0014)		
23 21	13 23-0067	EA	3/8", 150 LB, Black Malleable Iron 45 Degree Elbow	37.17	15.19
			For 300 LB Rating, Add	35.86	
			For Standard Weight Cast Iron Fittings, Add	0.23	
			For Work In Restricted Working Space, Add	6.84	
23 21	13 23-0068	EA	1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	38.29	18.26
			For 300 LB Rating, Add	27.87	
			For Standard Weight Cast Iron Fittings, Add	0.17	
			For Work In Restricted Working Space, Add	8.21	
23 21	13 23-0069	EA	3/4", 150 LB, Black Malleable Iron 45 Degree Elbow	44.13	20.42
			For 300 LB Rating, Add	34.24	
			For Standard Weight Cast Iron Fittings, Add	0.22	
			For Work In Restricted Working Space, Add	9.19	
23 21	13 23-0070	EA	1", 150 LB, Black Malleable Iron 45 Degree Elbow	51.20	22.77
			For 300 LB Rating, Add	42.85	
			For Standard Weight Cast Iron Fittings, Add	0.27	
			For Work In Restricted Working Space, Add	10.26	
23 21	13 23-0071	EA	1-1/4", 150 LB, Black Malleable Iron 45 Degree Elbow	68.79	25.86
			For 300 LB Rating, Add	74.51	
			For Standard Weight Cast Iron Fittings, Add	0.48	
			For Work In Restricted Working Space, Add	11.61	
23 21	13 23-0072	EA	1-1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	80.87	29.14
			For 300 LB Rating, Add	91.92	
			For Standard Weight Cast Iron Fittings, Add	0.60	
			For Work In Restricted Working Space, Add	13.10	
23 21	13 23-0073	EA	2", 150 LB, Black Malleable Iron 45 Degree Elbow	111.72	37.04
			For 300 LB Rating, Add	138.35	
			For Standard Weight Cast Iron Fittings, Add	0.90	
			For Work In Restricted Working Space, Add	16.64	
23 21	13 23-0074	EA	2-1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	244.88	54.79
			For 300 LB Rating, Add	395.64	
			For Standard Weight Cast Iron Fittings, Add	2.60	
			For Work In Restricted Working Space, Add	24.62	
23 21	13 23-0075	EA	3", 150 LB, Black Malleable Iron 45 Degree Elbow	319.46	72.03
			For 300 LB Rating, Add	513.98	
			For Standard Weight Cast Iron Fittings, Add	3.38	
			For Work In Restricted Working Space, Add	32.40	
23 21	13 23-0076	EA	4", 150 LB, Black Malleable Iron 45 Degree Elbow	532.69	78.71
			For 300 LB Rating, Add	1,002.27	
			For Standard Weight Cast Iron Fittings, Add	6.63	
			For Work In Restricted Working Space, Add	35.41	
23 21	13 23-0077	EA	5", 150 LB, Black Malleable Iron 45 Degree Elbow	1,761.10	82.15
			For 300 LB Rating, Add	3,938.45	
			For Standard Weight Cast Iron Fittings, Add	26.21	
			For Work In Restricted Working Space, Add	36.95	
23 21	13 23-0078	EA	6", 150 LB, Black Malleable Iron 45 Degree Elbow	1,804.56	85.89
			For 300 LB Rating, Add	4,029.62	
			For Standard Weight Cast Iron Fittings, Add	26.81	
			For Work In Restricted Working Space, Add	38.63	
23 21	13 23-0079		Black Malleable Iron Tees (23 21 13 23-0014)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0080	EA	3/8", 150 LB, Black Malleable Iron Tee.....	42.35	18.77
		For 300 LB Rating, Add	34.95	
		For Standard Weight Cast Iron Fittings, Add	0.22	
		For Work In Restricted Working Space, Add	8.55	
23 21 13 23-0081	EA	1/2", 150 LB, Black Malleable Iron Tee.....	43.04	22.77
		For 300 LB Rating, Add	23.27	
		For Standard Weight Cast Iron Fittings, Add	0.14	
		For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0082	EA	3/4", 150 LB, Black Malleable Iron Tee.....	52.14	26.37
		For 300 LB Rating, Add	32.80	
		For Standard Weight Cast Iron Fittings, Add	0.20	
		For Work In Restricted Working Space, Add	11.84	
23 21 13 23-0083	EA	1", 150 LB, Black Malleable Iron Tee.....	68.36	31.09
		For 300 LB Rating, Add	54.95	
		For Standard Weight Cast Iron Fittings, Add	0.35	
		For Work In Restricted Working Space, Add	13.99	
23 21 13 23-0084	EA	1-1/4", 150 LB, Black Malleable Iron Tee.....	90.64	37.04
		For 300 LB Rating, Add	87.76	
		For Standard Weight Cast Iron Fittings, Add	0.56	
		For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0085	EA	1-1/2", 150 LB, Black Malleable Iron Tee.....	109.94	44.12
		For 300 LB Rating, Add	108.97	
		For Standard Weight Cast Iron Fittings, Add	0.70	
		For Work In Restricted Working Space, Add	19.86	
23 21 13 23-0086	EA	2", 150 LB, Black Malleable Iron Tee.....	156.65	54.79
		For 300 LB Rating, Add	183.89	
		For Standard Weight Cast Iron Fittings, Add	1.19	
		For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0087	EA	2-1/2", 150 LB, Black Malleable Iron Tee.....	268.77	72.03
		For 300 LB Rating, Add	392.33	
		For Standard Weight Cast Iron Fittings, Add	2.57	
		For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0088	EA	3", 150 LB, Black Malleable Iron Tee.....	365.06	85.57
		For 300 LB Rating, Add	576.02	
		For Standard Weight Cast Iron Fittings, Add	3.79	
		For Work In Restricted Working Space, Add	38.48	
23 21 13 23-0089	EA	4", 150 LB, Black Malleable Iron Tee.....	721.46	99.46
		For 300 LB Rating, Add	1,382.61	
		For Standard Weight Cast Iron Fittings, Add	9.16	
		For Work In Restricted Working Space, Add	44.73	
23 21 13 23-0090	EA	5", 150 LB, Black Malleable Iron Tee.....	1,911.49	118.07
		For 300 LB Rating, Add	4,173.28	
		For Standard Weight Cast Iron Fittings, Add	27.75	
		For Work In Restricted Working Space, Add	53.12	
23 21 13 23-0091	EA	6", 150 LB, Black Malleable Iron Tee.....	2,063.70	134.96
		For 300 LB Rating, Add	4,479.40	
		For Standard Weight Cast Iron Fittings, Add	29.78	
		For Work In Restricted Working Space, Add	60.70	
23 21 13 23-0092		Black Malleable Iron Reducing Tees (23 21 13 23-0014)		
23 21 13 23-0093	EA	1/2", 150 LB, Black Malleable Iron Reducing Tee.....	49.24	22.77
		For 300 LB Rating, Add	38.15	
		For Standard Weight Cast Iron Fittings, Add	0.24	
		For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0094	EA	3/4", 150 LB, Black Malleable Iron Reducing Tee.....	59.08	26.37
		For 300 LB Rating, Add	49.46	
		For Standard Weight Cast Iron Fittings, Add	0.31	
		For Work In Restricted Working Space, Add	11.84	
23 21 13 23-0095	EA	1", 150 LB, Black Malleable Iron Reducing Tee.....	71.38	31.09
		For 300 LB Rating, Add	62.20	
		For Standard Weight Cast Iron Fittings, Add	0.40	
		For Work In Restricted Working Space, Add	13.99	
23 21 13 23-0096	EA	1-1/4", 150 LB, Black Malleable Iron Reducing Tee.....	104.12	37.04
		For 300 LB Rating, Add	120.11	
		For Standard Weight Cast Iron Fittings, Add	0.78	
		For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0097	EA	1-1/2", 150 LB, Black Malleable Iron Reducing Tee.....	120.10	44.12
		For 300 LB Rating, Add	133.36	
		For Standard Weight Cast Iron Fittings, Add	0.86	
		For Work In Restricted Working Space, Add	19.86	
23 21 13 23-0098	EA	2", 150 LB, Black Malleable Iron Reducing Tee.....	160.34	54.79
		For 300 LB Rating, Add	192.75	
		For Standard Weight Cast Iron Fittings, Add	1.25	
		For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0099	EA	2-1/2", 150 LB, Black Malleable Iron Reducing Tee.....	351.86	72.03
		For 300 LB Rating, Add	591.74	
		For Standard Weight Cast Iron Fittings, Add	3.90	
		For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0100	EA	3", 150 LB, Black Malleable Iron Reducing Tee.....	407.58	85.57
		For 300 LB Rating, Add	678.06	
		For Standard Weight Cast Iron Fittings, Add	4.47	
		For Work In Restricted Working Space, Add	38.48	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0101 EA 4", 150 LB, Black Malleable Iron Reducing Tee..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	826.50 1,634.71 10.64 44.73	99.46
23 21 13 23-0102 EA 5", 150 LB, Black Malleable Iron Reducing Tee..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	1,748.27 3,781.55 25.14 53.12	118.07
23 21 13 23-0103 EA 6", 150 LB, Black Malleable Iron Reducing Tee..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	1,984.47 4,289.25 28.51 60.70	134.96
23 21 13 23-0104 Black Malleable Iron Couplings (23 21 13 23-0014)		
23 21 13 23-0105 EA 3/8", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	34.67 29.86 0.19 5.84	15.19
23 21 13 23-0106 EA 1/2", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	36.50 23.58 0.15 8.21	18.26
23 21 13 23-0107 EA 3/4", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	41.33 27.52 0.17 9.19	20.42
23 21 13 23-0108 EA 1", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	50.23 40.52 0.26 10.26	22.77
23 21 13 23-0109 EA 1-1/4", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	59.47 52.15 0.33 11.61	25.86
23 21 13 23-0110 EA 1-1/2", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	71.71 69.94 0.45 13.10	29.14
23 21 13 23-0111 EA 2", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	97.03 103.10 0.67 16.64	37.04
23 21 13 23-0112 EA 2-1/2", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	196.79 280.23 1.64 24.62	54.79
23 21 13 23-0113 EA 3", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	263.09 378.70 2.48 32.40	72.03
23 21 13 23-0114 EA 4", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	430.37 756.70 5.00 35.41	78.71
23 21 13 23-0115 EA 5", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	1,002.65 2,118.17 14.07 36.95	82.15
23 21 13 23-0116 EA 6", 150 LB, Black Malleable Iron Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	1,130.73 2,412.43 16.03 38.63	85.89
23 21 13 23-0117 Black Malleable Iron Reducing Couplings (23 21 13 23-0014)		
23 21 13 23-0118 EA 1/2", 150 LB, Black Malleable Iron Reducing Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	38.71 28.88 0.18 8.21	18.26
23 21 13 23-0119 EA 3/4", 150 LB, Black Malleable Iron Reducing Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	42.65 30.69 0.19 9.19	20.42
23 21 13 23-0120 EA 1", 150 LB, Black Malleable Iron Reducing Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	52.91 46.96 0.30 10.26	22.77
23 21 13 23-0121 EA 1-1/4", 150 LB, Black Malleable Iron Reducing Coupling..... For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	62.77 60.07 0.38 11.61	25.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0122	EA	1-1/2"	150 LB, Black Malleable Iron Reducing Coupling.....	74.06	29.14
			For 300 LB Rating, Add	75.58	
			For Standard Weight Cast Iron Fittings, Add	0.49	
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-0123	EA	2"	150 LB, Black Malleable Iron Reducing Coupling.....	99.51	37.04
			For 300 LB Rating, Add	109.05	
			For Standard Weight Cast Iron Fittings, Add	0.70	
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0124	EA	2-1/2"	150 LB, Black Malleable Iron Reducing Coupling.....	212.27	54.79
			For 300 LB Rating, Add	317.38	
			For Standard Weight Cast Iron Fittings, Add	2.08	
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0125	EA	3"	150 LB, Black Malleable Iron Reducing Coupling.....	266.26	72.03
			For 300 LB Rating, Add	386.30	
			For Standard Weight Cast Iron Fittings, Add	2.53	
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0126	EA	4"	150 LB, Black Malleable Iron Reducing Coupling.....	435.25	78.71
			For 300 LB Rating, Add	768.41	
			For Standard Weight Cast Iron Fittings, Add	5.08	
			For Work In Restricted Working Space, Add	35.41	
23 21 13 23-0127	EA	5"	150 LB, Black Malleable Iron Reducing Coupling.....	836.17	82.15
			For 300 LB Rating, Add	1,718.61	
			For Standard Weight Cast Iron Fittings, Add	11.41	
			For Work In Restricted Working Space, Add	36.95	
23 21 13 23-0128	EA	6"	150 LB, Black Malleable Iron Reducing Coupling.....	1,044.56	85.89
			For 300 LB Rating, Add	2,205.62	
			For Standard Weight Cast Iron Fittings, Add	14.65	
			For Work In Restricted Working Space, Add	38.63	
23 21 13 23-0129 Black Malleable Iron Caps (23 21 13 23-0014)					
23 21 13 23-0130	EA	1/2"	150 LB, Black Malleable Iron Cap	19.00	8.10
			For 300 LB Rating, Add	16.79	
			For Standard Weight Cast Iron Fittings, Add	0.11	
			For Work In Restricted Working Space, Add	3.69	
23 21 13 23-0131	EA	3/4"	150 LB, Black Malleable Iron Cap	22.82	9.13
			For 300 LB Rating, Add	22.52	
			For Standard Weight Cast Iron Fittings, Add	0.14	
			For Work In Restricted Working Space, Add	4.13	
23 21 13 23-0132	EA	1"	150 LB, Black Malleable Iron Cap	26.34	10.16
			For 300 LB Rating, Add	27.20	
			For Standard Weight Cast Iron Fittings, Add	0.18	
			For Work In Restricted Working Space, Add	4.62	
23 21 13 23-0133	EA	1-1/4"	150 LB, Black Malleable Iron Cap	31.84	11.49
			For 300 LB Rating, Add	35.65	
			For Standard Weight Cast Iron Fittings, Add	0.23	
			For Work In Restricted Working Space, Add	5.23	
23 21 13 23-0134	EA	1-1/2"	150 LB, Black Malleable Iron Cap	39.47	12.93
			For 300 LB Rating, Add	48.75	
			For Standard Weight Cast Iron Fittings, Add	0.32	
			For Work In Restricted Working Space, Add	5.90	
23 21 13 23-0135	EA	2"	150 LB, Black Malleable Iron Cap	53.89	16.52
			For 300 LB Rating, Add	70.95	
			For Standard Weight Cast Iron Fittings, Add	0.46	
			For Work In Restricted Working Space, Add	7.49	
23 21 13 23-0136	EA	2-1/2"	150 LB, Black Malleable Iron Cap	103.34	24.42
			For 300 LB Rating, Add	161.58	
			For Standard Weight Cast Iron Fittings, Add	1.06	
			For Work In Restricted Working Space, Add	11.08	
23 21 13 23-0137	EA	3"	150 LB, Black Malleable Iron Cap	146.51	32.11
			For 300 LB Rating, Add	237.90	
			For Standard Weight Cast Iron Fittings, Add	1.57	
			For Work In Restricted Working Space, Add	14.58	
23 21 13 23-0138	EA	4"	150 LB, Black Malleable Iron Cap	221.01	35.11
			For 300 LB Rating, Add	406.15	
			For Standard Weight Cast Iron Fittings, Add	2.69	
			For Work In Restricted Working Space, Add	15.93	
23 21 13 23-0139	EA	5"	150 LB, Black Malleable Iron Cap	455.59	36.62
			For 300 LB Rating, Add	963.73	
			For Standard Weight Cast Iron Fittings, Add	6.40	
			For Work In Restricted Working Space, Add	16.63	
23 21 13 23-0140	EA	6"	150 LB, Black Malleable Iron Cap	791.48	38.25
			For 300 LB Rating, Add	1,763.97	
			For Standard Weight Cast Iron Fittings, Add	11.74	
			For Work In Restricted Working Space, Add	17.38	
23 21 13 23-0141 Black Malleable Iron Unions (23 21 13 23-0014)					
23 21 13 23-0142	EA	3/8"	150 LB, Black Malleable Iron Union.....	54.86	15.19
			For Work In Restricted Working Space, Add	6.84	
23 21 13 23-0143	EA	1/2"	150 LB, Black Malleable Iron Union.....	63.21	22.77
			For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0144	EA	3/4"	150 LB, Black Malleable Iron Union.....	72.81	26.37
			For Work In Restricted Working Space, Add	11.84	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0145	EA	1", 150 LB, Black Malleable Iron Union.....	90.11	31.09
			For Work In Restricted Working Space, Add	13.99	
23 21	13 23-0146	EA	1-1/4", 150 LB, Black Malleable Iron Union.....	117.82	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21	13 23-0147	EA	1-1/2", 150 LB, Black Malleable Iron Union.....	143.93	44.12
			For Work In Restricted Working Space, Add	19.86	
23 21	13 23-0148	EA	2", 150 LB, Black Malleable Iron Union.....	172.48	54.79
			For Work In Restricted Working Space, Add	24.82	
23 21	13 23-0149	EA	2-1/2", 150 LB, Black Malleable Iron Union.....	390.50	80.75
			For Work In Restricted Working Space, Add	36.35	
23 21	13 23-0150	EA	3", 150 LB, Black Malleable Iron Union.....	483.66	106.20
			For Work In Restricted Working Space, Add	47.83	
23 21	13 23-0151	EA	3/8", 250 LB, Black Malleable Iron Union.....	65.17	15.19
			For Work In Restricted Working Space, Add	6.84	
23 21	13 23-0152	EA	1/2", 250 LB, Black Malleable Iron Union.....	82.81	22.77
			For Work In Restricted Working Space, Add	10.26	
23 21	13 23-0153	EA	3/4", 250 LB, Black Malleable Iron Union.....	87.28	26.37
			For Work In Restricted Working Space, Add	11.84	
23 21	13 23-0154	EA	1", 250 LB, Black Malleable Iron Union.....	105.30	31.09
			For Work In Restricted Working Space, Add	13.99	
23 21	13 23-0155	EA	1-1/4", 250 LB, Black Malleable Iron Union.....	153.89	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21	13 23-0156	EA	1-1/2", 250 LB, Black Malleable Iron Union.....	179.52	44.12
			For Work In Restricted Working Space, Add	19.86	
23 21	13 23-0157	EA	2", 250 LB, Black Malleable Iron Union.....	227.46	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21	13 23-0158	EA	2-1/2", 250 LB, Black Malleable Iron Union.....	576.86	80.75
			For Work In Restricted Working Space, Add	36.35	
23 21	13 23-0159	EA	3", 250 LB, Black Malleable Iron Union.....	692.74	106.20
			For Work In Restricted Working Space, Add	47.83	
23 21	13 23-0160	EA	4", 250 LB, Black Malleable Iron Union.....	1,119.54	116.14
			For Work In Restricted Working Space, Add	52.27	
23 21	13 23-0161	EA	3/8", 300 LB, Black Malleable Iron Union.....	91.55	15.19
			For Work In Restricted Working Space, Add	6.84	
23 21	13 23-0162	EA	1/2", 300 LB, Black Malleable Iron Union.....	89.82	22.77
			For Work In Restricted Working Space, Add	10.26	
23 21	13 23-0163	EA	3/4", 300 LB, Black Malleable Iron Union.....	101.05	26.37
			For Work In Restricted Working Space, Add	11.84	
23 21	13 23-0164	EA	1", 300 LB, Black Malleable Iron Union.....	127.05	31.09
			For Work In Restricted Working Space, Add	13.99	
23 21	13 23-0165	EA	1-1/4", 300 LB, Black Malleable Iron Union.....	186.62	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21	13 23-0166	EA	1-1/2", 300 LB, Black Malleable Iron Union.....	203.55	44.12
			For Work In Restricted Working Space, Add	19.86	
23 21	13 23-0167	EA	2", 300 LB, Black Malleable Iron Union.....	252.21	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21	13 23-0168	EA	2-1/2", 300 LB, Black Malleable Iron Union.....	669.69	80.75
			For Work In Restricted Working Space, Add	36.35	
23 21	13 23-0169	EA	3", 300 LB, Black Malleable Iron Union.....	869.04	106.20
			For Work In Restricted Working Space, Add	47.83	
23 21	13 23-0170	EA	4", 300 LB, Black Malleable Iron Union.....	2,426.48	116.14
			For Work In Restricted Working Space, Add	52.27	
23 21	13 23-0171		Black Steel Nipples (23 21 13 23-0014)		
23 21	13 23-0172	EA	3/8" x Close, Schedule 40 Black Steel Nipple.....	19.56	9.74
			For Schedule 80 Nipples, Add	2.45	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0173	EA	1/2" x Close, Schedule 40 Black Steel Nipple.....	18.79	9.74
			For Schedule 80 Nipples, Add	2.07	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0174	EA	3/4" x Close, Schedule 40 Black Steel Nipple.....	19.41	9.74
			For Schedule 80 Nipples, Add	2.38	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0175	EA	1" x Close, Schedule 40 Black Steel Nipple.....	22.68	10.57
			For Schedule 80 Nipples, Add	3.45	
			For Work In Restricted Working Space, Add	4.74	
23 21	13 23-0176	EA	1-1/4" x Close, Schedule 40 Black Steel Nipple.....	25.83	11.39
			For Schedule 80 Nipples, Add	4.37	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0177	EA	1-1/2" x Close, Schedule 40 Black Steel Nipple.....	27.97	11.39
			For Schedule 80 Nipples, Add	5.44	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0178	EA	2" x Close, Schedule 40 Black Steel Nipple.....	36.87	14.67
			For Schedule 80 Nipples, Add	7.40	
			For Work In Restricted Working Space, Add	6.62	
23 21	13 23-0179	EA	2-1/2" x Close, Schedule 40 Black Steel Nipple.....	73.70	18.26
			For Schedule 80 Nipples, Add	23.17	
			For Work In Restricted Working Space, Add	8.21	
23 21	13 23-0180	EA	3" x Close, Schedule 40 Black Steel Nipple.....	88.16	22.06
			For Schedule 80 Nipples, Add	27.53	
			For Work In Restricted Working Space, Add	9.93	
23 21	13 23-0181	EA	4" x Close, Schedule 40 Black Steel Nipple.....	123.39	27.01
			For Schedule 80 Nipples, Add	41.46	
			For Work In Restricted Working Space, Add	12.14	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0182	EA	3/8" x 1-1/2" Long, Schedule 40 Black Steel Nipple	20.22	9.74
		For Schedule 80 Nipples, Add	2.78	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0183	EA	1/2" x 1-1/2" Long, Schedule 40 Black Steel Nipple.....	18.79	9.74
		For Schedule 80 Nipples, Add	2.07	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0184	EA	3/4" x 1-1/2" Long, Schedule 40 Black Steel Nipple.....	19.76	9.74
		For Schedule 80 Nipples, Add	2.55	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0185	EA	3/8" x 2" Long, Schedule 40 Black Steel Nipple.....	20.22	9.74
		For Schedule 80 Nipples, Add	2.78	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0186	EA	1/2" x 2" Long, Schedule 40 Black Steel Nipple.....	18.79	9.74
		For Schedule 80 Nipples, Add	2.07	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0187	EA	3/4" x 2" Long, Schedule 40 Black Steel Nipple.....	19.76	9.74
		For Schedule 80 Nipples, Add	2.55	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0188	EA	1" x 2" Long, Schedule 40 Black Steel Nipple.....	23.34	10.57
		For Schedule 80 Nipples, Add	3.78	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0189	EA	1-1/4" x 2" Long, Schedule 40 Black Steel Nipple	27.00	11.39
		For Schedule 80 Nipples, Add	4.95	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0190	EA	1-1/2" x 2" Long, Schedule 40 Black Steel Nipple	28.84	11.39
		For Schedule 80 Nipples, Add	5.87	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0191	EA	3/8" x 2-1/2" Long, Schedule 40 Black Steel Nipple	21.80	9.74
		For Schedule 80 Nipples, Add	3.57	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0192	EA	1/2" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	19.56	9.74
		For Schedule 80 Nipples, Add	2.45	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0193	EA	3/4" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	20.43	9.74
		For Schedule 80 Nipples, Add	2.89	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0194	EA	1" x 2-1/2" Long, Schedule 40 Black Steel Nipple	23.80	10.57
		For Schedule 80 Nipples, Add	4.01	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0195	EA	1-1/4" x 2-1/2" Long, Schedule 40 Black Steel Nipple	27.61	11.39
		For Schedule 80 Nipples, Add	5.26	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0196	EA	1-1/2" x 2-1/2" Long, Schedule 40 Black Steel Nipple	30.21	11.39
		For Schedule 80 Nipples, Add	6.56	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0197	EA	2" x 2-1/2" Long, Schedule 40 Black Steel Nipple	39.06	14.67
		For Schedule 80 Nipples, Add	8.50	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0198	EA	3/8" x 3" Long, Schedule 40 Black Steel Nipple.....	21.80	9.74
		For Schedule 80 Nipples, Add	3.57	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0199	EA	1/2" x 3" Long, Schedule 40 Black Steel Nipple.....	19.56	9.74
		For Schedule 80 Nipples, Add	2.45	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0200	EA	3/4" x 3" Long, Schedule 40 Black Steel Nipple.....	20.43	9.74
		For Schedule 80 Nipples, Add	2.89	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0201	EA	1" x 3" Long, Schedule 40 Black Steel Nipple.....	23.80	10.57
		For Schedule 80 Nipples, Add	4.01	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0202	EA	1-1/4" x 3" Long, Schedule 40 Black Steel Nipple	27.61	11.39
		For Schedule 80 Nipples, Add	5.26	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0203	EA	1-1/2" x 3" Long, Schedule 40 Black Steel Nipple	30.21	11.39
		For Schedule 80 Nipples, Add	6.56	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0204	EA	2" x 3" Long, Schedule 40 Black Steel Nipple.....	39.06	14.67
		For Schedule 80 Nipples, Add	8.50	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0205	EA	2-1/2" x 3" Long, Schedule 40 Black Steel Nipple	74.92	18.26
		For Schedule 80 Nipples, Add	23.78	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0206	EA	3" x 3" Long, Schedule 40 Black Steel Nipple.....	92.96	22.06
		For Schedule 80 Nipples, Add	29.93	
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-0207	EA	3/8" x 3-1/2" Long, Schedule 40 Black Steel Nipple	23.08	9.74
		For Schedule 80 Nipples, Add	4.21	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0208	EA	1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple.....	20.53	9.74
		For Schedule 80 Nipples, Add	2.94	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0209	EA	3/4" x 3-1/2" Long, Schedule 40 Black Steel Nipple.....	21.80	9.74
		For Schedule 80 Nipples, Add	3.57	
		For Work In Restricted Working Space, Add	4.40	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0210	EA	1" x 3-1/2" Long, Schedule 40 Black Steel Nipple	25.69	10.57
			For Schedule 80 Nipples, Add	4.95	
			For Work In Restricted Working Space, Add	4.74	
23 21	13 23-0211	EA	1-1/4" x 3-1/2" Long, Schedule 40 Black Steel Nipple	29.55	11.39
			For Schedule 80 Nipples, Add	6.23	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0212	EA	1-1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	31.80	11.39
			For Schedule 80 Nipples, Add	7.35	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0213	EA	2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	42.64	14.67
			For Schedule 80 Nipples, Add	10.29	
			For Work In Restricted Working Space, Add	6.62	
23 21	13 23-0214	EA	2-1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	83.29	18.26
			For Schedule 80 Nipples, Add	27.97	
			For Work In Restricted Working Space, Add	8.21	
23 21	13 23-0215	EA	3" x 3-1/2" Long, Schedule 40 Black Steel Nipple	103.98	22.06
			For Schedule 80 Nipples, Add	35.44	
			For Work In Restricted Working Space, Add	9.93	
23 21	13 23-0216	EA	3/8" x 4" Long, Schedule 40 Black Steel Nipple.....	23.08	9.74
			For Schedule 80 Nipples, Add	4.21	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0217	EA	1/2" x 4" Long, Schedule 40 Black Steel Nipple.....	20.53	9.74
			For Schedule 80 Nipples, Add	2.94	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0218	EA	3/4" x 4" Long, Schedule 40 Black Steel Nipple.....	21.80	9.74
			For Schedule 80 Nipples, Add	3.57	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0219	EA	1" x 4" Long, Schedule 40 Black Steel Nipple.....	25.69	10.57
			For Schedule 80 Nipples, Add	4.95	
			For Work In Restricted Working Space, Add	4.74	
23 21	13 23-0220	EA	1-1/4" x 4" Long, Schedule 40 Black Steel Nipple	29.55	11.39
			For Schedule 80 Nipples, Add	6.23	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0221	EA	1-1/2" x 4" Long, Schedule 40 Black Steel Nipple	31.80	11.39
			For Schedule 80 Nipples, Add	7.35	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0222	EA	2" x 4" Long, Schedule 40 Black Steel Nipple.....	42.64	14.67
			For Schedule 80 Nipples, Add	10.29	
			For Work In Restricted Working Space, Add	6.62	
23 21	13 23-0223	EA	2-1/2" x 4" Long, Schedule 40 Black Steel Nipple	83.29	18.26
			For Schedule 80 Nipples, Add	27.97	
			For Work In Restricted Working Space, Add	8.21	
23 21	13 23-0224	EA	3" x 4" Long, Schedule 40 Black Steel Nipple.....	103.98	22.06
			For Schedule 80 Nipples, Add	35.44	
			For Work In Restricted Working Space, Add	9.93	
23 21	13 23-0225	EA	4" x 4" Long, Schedule 40 Black Steel Nipple.....	136.41	27.01
			For Schedule 80 Nipples, Add	47.97	
			For Work In Restricted Working Space, Add	12.14	
23 21	13 23-0226	EA	3/8" x 4-1/2" Long, Schedule 40 Black Steel Nipple	26.81	9.74
			For Schedule 80 Nipples, Add	6.08	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0227	EA	1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	21.55	9.74
			For Schedule 80 Nipples, Add	3.45	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0228	EA	3/4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	23.64	9.74
			For Schedule 80 Nipples, Add	4.49	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0229	EA	1" x 4-1/2" Long, Schedule 40 Black Steel Nipple	27.53	10.57
			For Schedule 80 Nipples, Add	5.87	
			For Work In Restricted Working Space, Add	4.74	
23 21	13 23-0230	EA	1-1/4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	32.00	11.39
			For Schedule 80 Nipples, Add	7.45	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0231	EA	1-1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	35.06	11.39
			For Schedule 80 Nipples, Add	8.98	
			For Work In Restricted Working Space, Add	5.13	
23 21	13 23-0232	EA	2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	45.75	14.67
			For Schedule 80 Nipples, Add	11.84	
			For Work In Restricted Working Space, Add	6.62	
23 21	13 23-0233	EA	2-1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	88.80	18.26
			For Schedule 80 Nipples, Add	30.72	
			For Work In Restricted Working Space, Add	8.21	
23 21	13 23-0234	EA	3" x 4-1/2" Long, Schedule 40 Black Steel Nipple	111.28	22.06
			For Schedule 80 Nipples, Add	39.09	
			For Work In Restricted Working Space, Add	9.93	
23 21	13 23-0235	EA	4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	150.08	27.01
			For Schedule 80 Nipples, Add	54.81	
			For Work In Restricted Working Space, Add	12.14	
23 21	13 23-0236	EA	3/8" x 5" Long, Schedule 40 Black Steel Nipple.....	26.81	9.74
			For Schedule 80 Nipples, Add	6.08	
			For Work In Restricted Working Space, Add	4.40	
23 21	13 23-0237	EA	1/2" x 5" Long, Schedule 40 Black Steel Nipple.....	21.55	9.74
			For Schedule 80 Nipples, Add	3.45	
			For Work In Restricted Working Space, Add	4.40	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13	23-0238	EA	3/4" x 5" Long, Schedule 40 Black Steel Nipple.....	23.64	9.74
			<i>For Schedule 80 Nipples, Add</i>	4.49	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0239	EA	1" x 5" Long, Schedule 40 Black Steel Nipple.....	27.53	10.57
			<i>For Schedule 80 Nipples, Add</i>	5.87	
			<i>For Work In Restricted Working Space, Add</i>	4.74	
23 21 13	23-0240	EA	1-1/4" x 5" Long, Schedule 40 Black Steel Nipple	32.00	11.39
			<i>For Schedule 80 Nipples, Add</i>	7.45	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0241	EA	1-1/2" x 5" Long, Schedule 40 Black Steel Nipple	35.06	11.39
			<i>For Schedule 80 Nipples, Add</i>	8.98	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0242	EA	2" x 5" Long, Schedule 40 Black Steel Nipple.....	45.75	14.67
			<i>For Schedule 80 Nipples, Add</i>	11.84	
			<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13	23-0243	EA	2-1/2" x 5" Long, Schedule 40 Black Steel Nipple	88.80	18.26
			<i>For Schedule 80 Nipples, Add</i>	30.72	
			<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13	23-0244	EA	3" x 5" Long, Schedule 40 Black Steel Nipple.....	111.28	22.06
			<i>For Schedule 80 Nipples, Add</i>	39.09	
			<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13	23-0245	EA	4" x 5" Long, Schedule 40 Black Steel Nipple.....	150.08	27.01
			<i>For Schedule 80 Nipples, Add</i>	54.81	
			<i>For Work In Restricted Working Space, Add</i>	12.14	
23 21 13	23-0246	EA	3/8" x 6" Long, Schedule 40 Black Steel Nipple.....	28.18	9.74
			<i>For Schedule 80 Nipples, Add</i>	6.76	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0247	EA	1/2" x 6" Long, Schedule 40 Black Steel Nipple.....	22.37	9.74
			<i>For Schedule 80 Nipples, Add</i>	3.86	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0248	EA	3/4" x 6" Long, Schedule 40 Black Steel Nipple.....	24.87	9.74
			<i>For Schedule 80 Nipples, Add</i>	5.11	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0249	EA	1" x 6" Long, Schedule 40 Black Steel Nipple.....	29.67	10.57
			<i>For Schedule 80 Nipples, Add</i>	6.94	
			<i>For Work In Restricted Working Space, Add</i>	4.74	
23 21 13	23-0250	EA	1-1/4" x 6" Long, Schedule 40 Black Steel Nipple	34.76	11.39
			<i>For Schedule 80 Nipples, Add</i>	8.83	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0251	EA	1-1/2" x 6" Long, Schedule 40 Black Steel Nipple	37.72	11.39
			<i>For Schedule 80 Nipples, Add</i>	10.31	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0252	EA	2" x 6" Long, Schedule 40 Black Steel Nipple.....	49.83	14.67
			<i>For Schedule 80 Nipples, Add</i>	13.88	
			<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13	23-0253	EA	2-1/2" x 6" Long, Schedule 40 Black Steel Nipple	91.40	18.26
			<i>For Schedule 80 Nipples, Add</i>	32.02	
			<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13	23-0254	EA	3" x 6" Long, Schedule 40 Black Steel Nipple.....	118.07	22.06
			<i>For Schedule 80 Nipples, Add</i>	42.49	
			<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13	23-0255	EA	4" x 6" Long, Schedule 40 Black Steel Nipple.....	157.64	27.01
			<i>For Schedule 80 Nipples, Add</i>	58.59	
			<i>For Work In Restricted Working Space, Add</i>	12.14	
23 21 13	23-0256	EA	3/8" x 8" Long, Schedule 40 Black Steel Nipple.....	38.39	9.74
			<i>For Schedule 80 Nipples, Add</i>	11.87	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0257	EA	1/2" x 8" Long, Schedule 40 Black Steel Nipple.....	28.54	9.74
			<i>For Schedule 80 Nipples, Add</i>	6.94	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0258	EA	3/4" x 8" Long, Schedule 40 Black Steel Nipple.....	31.65	9.74
			<i>For Schedule 80 Nipples, Add</i>	8.50	
			<i>For Work In Restricted Working Space, Add</i>	4.40	
23 21 13	23-0259	EA	1" x 8" Long, Schedule 40 Black Steel Nipple.....	38.50	10.57
			<i>For Schedule 80 Nipples, Add</i>	11.36	
			<i>For Work In Restricted Working Space, Add</i>	4.74	
23 21 13	23-0260	EA	1-1/4" x 8" Long, Schedule 40 Black Steel Nipple	45.63	11.39
			<i>For Schedule 80 Nipples, Add</i>	14.27	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0261	EA	1-1/2" x 8" Long, Schedule 40 Black Steel Nipple	49.81	11.39
			<i>For Schedule 80 Nipples, Add</i>	16.36	
			<i>For Work In Restricted Working Space, Add</i>	5.13	
23 21 13	23-0262	EA	2" x 8" Long, Schedule 40 Black Steel Nipple.....	68.61	14.67
			<i>For Schedule 80 Nipples, Add</i>	23.27	
			<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13	23-0263	EA	2-1/2" x 8" Long, Schedule 40 Black Steel Nipple	108.86	18.26
			<i>For Schedule 80 Nipples, Add</i>	40.75	
			<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13	23-0264	EA	3" x 8" Long, Schedule 40 Black Steel Nipple.....	147.71	22.06
			<i>For Schedule 80 Nipples, Add</i>	57.31	
			<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13	23-0265	EA	4" x 8" Long, Schedule 40 Black Steel Nipple.....	175.70	27.01
			<i>For Schedule 80 Nipples, Add</i>	67.62	
			<i>For Work In Restricted Working Space, Add</i>	12.14	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
23 21 13 23-0266	EA	3/8" x 10" Long, Schedule 40 Black Steel Nipple.....	41.30	9.74
		For Schedule 80 Nipples, Add	13.32	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0267	EA	1/2" x 10" Long, Schedule 40 Black Steel Nipple.....	31.35	9.74
		For Schedule 80 Nipples, Add	8.35	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0268	EA	3/4" x 10" Long, Schedule 40 Black Steel Nipple.....	34.41	9.74
		For Schedule 80 Nipples, Add	9.88	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0269	EA	1" x 10" Long, Schedule 40 Black Steel Nipple.....	42.33	10.57
		For Schedule 80 Nipples, Add	13.27	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0270	EA	1-1/4" x 10" Long, Schedule 40 Black Steel Nipple.....	51.29	11.39
		For Schedule 80 Nipples, Add	17.10	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0271	EA	1-1/2" x 10" Long, Schedule 40 Black Steel Nipple.....	55.37	11.39
		For Schedule 80 Nipples, Add	19.14	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0272	EA	2" x 10" Long, Schedule 40 Black Steel Nipple.....	76.77	14.67
		For Schedule 80 Nipples, Add	27.35	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0273	EA	2-1/2" x 10" Long, Schedule 40 Black Steel Nipple.....	118.91	18.26
		For Schedule 80 Nipples, Add	45.78	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0274	EA	3" x 10" Long, Schedule 40 Black Steel Nipple.....	161.85	22.06
		For Schedule 80 Nipples, Add	64.38	
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-0275	EA	4" x 10" Long, Schedule 40 Black Steel Nipple.....	194.48	27.01
		For Schedule 80 Nipples, Add	77.01	
		For Work In Restricted Working Space, Add	12.14	
23 21 13 23-0276	EA	3/8" x 12" Long, Schedule 40 Black Steel Nipple.....	44.97	9.74
		For Schedule 80 Nipples, Add	15.16	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0277	EA	1/2" x 12" Long, Schedule 40 Black Steel Nipple.....	34.46	9.74
		For Schedule 80 Nipples, Add	9.90	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0278	EA	3/4" x 12" Long, Schedule 40 Black Steel Nipple.....	36.60	9.74
		For Schedule 80 Nipples, Add	10.97	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0279	EA	1" x 12" Long, Schedule 40 Black Steel Nipple.....	46.26	10.57
		For Schedule 80 Nipples, Add	15.24	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0280	EA	1-1/4" x 12" Long, Schedule 40 Black Steel Nipple.....	55.88	11.39
		For Schedule 80 Nipples, Add	19.39	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0281	EA	1-1/2" x 12" Long, Schedule 40 Black Steel Nipple.....	61.19	11.39
		For Schedule 80 Nipples, Add	22.05	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0282	EA	2" x 12" Long, Schedule 40 Black Steel Nipple.....	85.04	14.67
		For Schedule 80 Nipples, Add	31.49	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0283	EA	2-1/2" x 12" Long, Schedule 40 Black Steel Nipple.....	129.22	18.26
		For Schedule 80 Nipples, Add	50.93	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0284	EA	3" x 12" Long, Schedule 40 Black Steel Nipple.....	175.99	22.06
		For Schedule 80 Nipples, Add	71.45	
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-0285	EA	4" x 12" Long, Schedule 40 Black Steel Nipple.....	221.02	27.01
		For Schedule 80 Nipples, Add	90.28	
		For Work In Restricted Working Space, Add	12.14	
23 21 13 23-0286		Black Malleable Iron Bushing (23 21 13 23-0014)		
23 21 13 23-0287	EA	1/2" x 3/8", 150 LB, Black Malleable Iron Bushing.....	35.24	16.73
		For Work In Restricted Working Space, Add	7.52	
23 21 13 23-0288	EA	3/4" x 3/8", 150 LB, Black Malleable Iron Bushing.....	41.58	17.96
		For Work In Restricted Working Space, Add	8.08	
23 21 13 23-0289	EA	3/4" x 1/2", 150 LB, Black Malleable Iron Bushing.....	43.64	19.29
		For Work In Restricted Working Space, Add	8.70	
23 21 13 23-0290	EA	1" x 3/8", 150 LB, Black Malleable Iron Bushing.....	48.92	19.19
		For Work In Restricted Working Space, Add	8.62	
23 21 13 23-0291	EA	1" x 1/2", 150 LB, Black Malleable Iron Bushing.....	45.87	20.52
		For Work In Restricted Working Space, Add	9.23	
23 21 13 23-0292	EA	1" x 3/4", 150 LB, Black Malleable Iron Bushing.....	47.51	21.64
		For Work In Restricted Working Space, Add	9.73	
23 21 13 23-0293	EA	1-1/4" x 3/8", 150 LB, Black Malleable Iron Bushing.....	53.63	20.63
		For Work In Restricted Working Space, Add	9.30	
23 21 13 23-0294	EA	1-1/4" x 1/2", 150 LB, Black Malleable Iron Bushing.....	54.67	22.06
		For Work In Restricted Working Space, Add	9.91	
23 21 13 23-0295	EA	1-1/4" x 3/4", 150 LB, Black Malleable Iron Bushing.....	54.14	23.09
		For Work In Restricted Working Space, Add	10.40	
23 21 13 23-0296	EA	1-1/4" x 1", 150 LB, Black Malleable Iron Bushing.....	55.93	24.31
		For Work In Restricted Working Space, Add	10.94	
23 21 13 23-0297	EA	1-1/2" x 3/8", 150 LB, Black Malleable Iron Bushing.....	63.33	22.37
		For Work In Restricted Working Space, Add	10.04	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0298	EA	1-1/2" x 1/2", 150 LB, Black Malleable Iron Bushing.....	60.14	23.70
		<i>For Work In Restricted Working Space, Add</i>	10.65	
23 21 13 23-0299	EA	1-1/2" x 3/4", 150 LB, Black Malleable Iron Bushing.....	61.77	24.73
		<i>For Work In Restricted Working Space, Add</i>	11.14	
23 21 13 23-0300	EA	1-1/2" x 1", 150 LB, Black Malleable Iron Bushing.....	60.56	25.96
		<i>For Work In Restricted Working Space, Add</i>	11.68	
23 21 13 23-0301	EA	1-1/2" x 1-1/4", 150 LB, Black Malleable Iron Bushing.....	65.88	27.50
		<i>For Work In Restricted Working Space, Add</i>	12.35	
23 21 13 23-0302	EA	2" x 3/8", 150 LB, Black Malleable Iron Bushing.....	81.55	26.27
		<i>For Work In Restricted Working Space, Add</i>	11.81	
23 21 13 23-0303	EA	2" x 1/2", 150 LB, Black Malleable Iron Bushing.....	78.61	27.60
		<i>For Work In Restricted Working Space, Add</i>	12.43	
23 21 13 23-0304	EA	2" x 3/4", 150 LB, Black Malleable Iron Bushing.....	74.51	28.73
		<i>For Work In Restricted Working Space, Add</i>	12.92	
23 21 13 23-0305	EA	2" x 1", 150 LB, Black Malleable Iron Bushing.....	74.31	29.86
		<i>For Work In Restricted Working Space, Add</i>	13.45	
23 21 13 23-0306	EA	2" x 1-1/4", 150 LB, Black Malleable Iron Bushing.....	76.57	31.40
		<i>For Work In Restricted Working Space, Add</i>	14.13	
23 21 13 23-0307	EA	2" x 1-1/2", 150 LB, Black Malleable Iron Bushing.....	82.36	33.04
		<i>For Work In Restricted Working Space, Add</i>	14.87	
23 21 13 23-0308	EA	2-1/2" x 3/4", 150 LB, Black Malleable Iron Bushing.....	109.92	37.56
		<i>For Work In Restricted Working Space, Add</i>	16.91	
23 21 13 23-0309	EA	2-1/2" x 1", 150 LB, Black Malleable Iron Bushing.....	111.70	38.79
		<i>For Work In Restricted Working Space, Add</i>	17.44	
23 21 13 23-0310	EA	2-1/2" x 1-1/4", 150 LB, Black Malleable Iron Bushing.....	113.96	40.23
		<i>For Work In Restricted Working Space, Add</i>	18.12	
23 21 13 23-0311	EA	2-1/2" x 1-1/2", 150 LB, Black Malleable Iron Bushing.....	112.78	41.97
		<i>For Work In Restricted Working Space, Add</i>	18.86	
23 21 13 23-0312	EA	2-1/2" x 2", 150 LB, Black Malleable Iron Bushing.....	118.27	45.87
		<i>For Work In Restricted Working Space, Add</i>	20.63	
23 21 13 23-0313	EA	3" x 3/4", 150 LB, Black Malleable Iron Bushing.....	143.40	46.17
		<i>For Work In Restricted Working Space, Add</i>	20.80	
23 21 13 23-0314	EA	3" x 1", 150 LB, Black Malleable Iron Bushing.....	145.18	47.40
		<i>For Work In Restricted Working Space, Add</i>	21.33	
23 21 13 23-0315	EA	3" x 1-1/4", 150 LB, Black Malleable Iron Bushing.....	147.44	48.94
		<i>For Work In Restricted Working Space, Add</i>	22.01	
23 21 13 23-0316	EA	3" x 1-1/2", 150 LB, Black Malleable Iron Bushing.....	148.48	50.58
		<i>For Work In Restricted Working Space, Add</i>	22.75	
23 21 13 23-0317	EA	3" x 2", 150 LB, Black Malleable Iron Bushing.....	149.61	54.48
		<i>For Work In Restricted Working Space, Add</i>	24.52	
23 21 13 23-0318	EA	3" x 2-1/2", 150 LB, Black Malleable Iron Bushing.....	163.94	63.41
		<i>For Work In Restricted Working Space, Add</i>	28.51	
23 21 13 23-0319	EA	4" x 3/4", 150 LB, Black Malleable Iron Bushing.....	216.21	49.37
		<i>For Work In Restricted Working Space, Add</i>	22.24	
23 21 13 23-0320	EA	4" x 1", 150 LB, Black Malleable Iron Bushing.....	217.97	50.59
		<i>For Work In Restricted Working Space, Add</i>	22.76	
23 21 13 23-0321	EA	4" x 1-1/4", 150 LB, Black Malleable Iron Bushing.....	220.20	52.10
		<i>For Work In Restricted Working Space, Add</i>	23.43	
23 21 13 23-0322	EA	4" x 1-1/2", 150 LB, Black Malleable Iron Bushing.....	222.63	53.73
		<i>For Work In Restricted Working Space, Add</i>	24.16	
23 21 13 23-0323	EA	4" x 2", 150 LB, Black Malleable Iron Bushing.....	220.82	57.57
		<i>For Work In Restricted Working Space, Add</i>	25.91	
23 21 13 23-0324	EA	4" x 2-1/2", 150 LB, Black Malleable Iron Bushing.....	233.95	66.37
		<i>For Work In Restricted Working Space, Add</i>	29.85	
23 21 13 23-0325	EA	4" x 3", 150 LB, Black Malleable Iron Bushing.....	246.73	74.87
		<i>For Work In Restricted Working Space, Add</i>	33.68	
23 21 13 23-0326 Black Malleable Iron Square Head Plugs (23 21 13 23-0014)				
23 21 13 23-0327	EA	3/8", 150 LB, Black Malleable Iron Square Head Plug.....	16.87	6.06
		<i>For Work In Restricted Working Space, Add</i>	2.74	
23 21 13 23-0328	EA	1/2", 150 LB, Black Malleable Iron Square Head Plug.....	19.21	7.29
		<i>For Work In Restricted Working Space, Add</i>	3.28	
23 21 13 23-0329	EA	3/4", 150 LB, Black Malleable Iron Square Head Plug.....	20.52	8.21
		<i>For Work In Restricted Working Space, Add</i>	3.68	
23 21 13 23-0330	EA	1", 150 LB, Black Malleable Iron Square Head Plug.....	24.08	9.13
		<i>For Work In Restricted Working Space, Add</i>	4.10	
23 21 13 23-0331	EA	1-1/4", 150 LB, Black Malleable Iron Square Head Plug.....	28.60	10.36
		<i>For Work In Restricted Working Space, Add</i>	4.65	
23 21 13 23-0332	EA	1-1/2", 150 LB, Black Malleable Iron Square Head Plug.....	35.74	11.60
		<i>For Work In Restricted Working Space, Add</i>	5.24	
23 21 13 23-0333	EA	2", 150 LB, Black Malleable Iron Square Head Plug.....	48.17	14.77
		<i>For Work In Restricted Working Space, Add</i>	6.65	
23 21 13 23-0334	EA	2-1/2", 150 LB, Black Malleable Iron Square Head Plug.....	80.13	21.86
		<i>For Work In Restricted Working Space, Add</i>	9.85	
23 21 13 23-0335	EA	3", 150 LB, Black Malleable Iron Square Head Plug.....	108.15	28.83
		<i>For Work In Restricted Working Space, Add</i>	12.96	
23 21 13 23-0336	EA	4", 150 LB, Black Malleable Iron Square Head Plug.....	183.42	31.46
		<i>For Work In Restricted Working Space, Add</i>	14.16	
23 21 13 23-0337	EA	5", 150 LB, Black Malleable Iron Square Head Plug.....	341.84	32.88
		<i>For Work In Restricted Working Space, Add</i>	14.78	
23 21 13 23-0338	EA	6", 150 LB, Black Malleable Iron Square Head Plug.....	413.90	34.29
		<i>For Work In Restricted Working Space, Add</i>	15.45	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0339 125 LB Black Cast Iron Screwed Flanges (23 21 13 23-0014) Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0340 EA 3/4", 125 LB, Black Cast Iron Flange.....	209.86	41.04
For Work In Restricted Working Space, Add	18.47	
23 21 13 23-0341 EA 1", 125 LB, Black Cast Iron Flange.....	163.88	46.37
For Work In Restricted Working Space, Add	20.87	
23 21 13 23-0342 EA 1-1/4", 125 LB, Black Cast Iron Flange.....	184.85	48.02
For Work In Restricted Working Space, Add	21.60	
23 21 13 23-0343 EA 1-1/2", 125 LB, Black Cast Iron Flange.....	182.61	52.23
For Work In Restricted Working Space, Add	23.50	
23 21 13 23-0344 EA 2", 125 LB, Black Cast Iron Flange.....	185.82	54.48
For Work In Restricted Working Space, Add	24.53	
23 21 13 23-0345 EA 2-1/2", 125 LB, Black Cast Iron Flange.....	216.30	63.10
For Work In Restricted Working Space, Add	28.37	
23 21 13 23-0346 EA 3", 125 LB, Black Cast Iron Flange.....	276.83	80.03
For Work In Restricted Working Space, Add	36.00	
23 21 13 23-0347 EA 4", 125 LB, Black Cast Iron Flange.....	373.23	107.95
For Work In Restricted Working Space, Add	48.56	
23 21 13 23-0348 EA 5", 125 LB, Black Cast Iron Flange.....	491.28	128.59
For Work In Restricted Working Space, Add	57.81	
23 21 13 23-0349 EA 6", 125 LB, Black Cast Iron Flange.....	559.13	147.61
For Work In Restricted Working Space, Add	66.40	
23 21 13 23-0350 150 LB, Black Malleable Iron Flanges (23 21 13 23-0014) Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0351 EA 1/2", 150 LB, Black Malleable Iron Flange.....	89.02	37.45
For Work In Restricted Working Space, Add	16.87	
23 21 13 23-0352 EA 3/4", 150 LB, Black Malleable Iron Flange.....	96.91	41.04
For Work In Restricted Working Space, Add	18.47	
23 21 13 23-0353 EA 1", 150 LB, Black Malleable Iron Flange.....	115.48	46.37
For Work In Restricted Working Space, Add	20.87	
23 21 13 23-0354 EA 1-1/4", 150 LB, Black Malleable Iron Flange.....	121.10	48.02
For Work In Restricted Working Space, Add	21.60	
23 21 13 23-0355 EA 1-1/2", 150 LB, Black Malleable Iron Flange.....	131.89	52.23
For Work In Restricted Working Space, Add	23.50	
23 21 13 23-0356 EA 2", 150 LB, Black Malleable Iron Flange.....	151.61	54.48
For Work In Restricted Working Space, Add	24.52	
23 21 13 23-0357 EA 2-1/2", 150 LB, Black Malleable Iron Flange.....	204.11	63.10
For Work In Restricted Working Space, Add	28.37	
23 21 13 23-0358 EA 3", 150 LB, Black Malleable Iron Flange.....	258.44	80.03
For Work In Restricted Working Space, Add	35.99	
23 21 13 23-0359 EA 4", 150 LB, Black Malleable Iron Flange.....	397.03	107.95
For Work In Restricted Working Space, Add	48.55	
23 21 13 23-0360 Cut And Thread Existing In-Place Black Steel Pipe (23 21 13 23-0014) Note: For use when connecting pipe to an existing in-place system.		
23 21 13 23-0361 EA 1/2", Cut And Thread Existing In Place Black Steel Pipe.....	33.43	
For Work In Restricted Working Space, Add	10.03	
23 21 13 23-0362 EA 3/4", Cut And Thread Existing In Place Black Steel Pipe.....	36.77	
For Work In Restricted Working Space, Add	11.03	
23 21 13 23-0363 EA 1", Cut And Thread Existing In Place Black Steel Pipe.....	40.12	
For Work In Restricted Working Space, Add	12.04	
23 21 13 23-0364 EA 1-1/4", Cut And Thread Existing In Place Black Steel Pipe.....	43.45	
For Work In Restricted Working Space, Add	13.04	
23 21 13 23-0365 EA 1-1/2", Cut And Thread Existing In Place Black Steel Pipe.....	45.68	
For Work In Restricted Working Space, Add	13.70	
23 21 13 23-0366 EA 2", Cut And Thread Existing In Place Black Steel Pipe.....	47.91	
For Work In Restricted Working Space, Add	14.37	
23 21 13 23-0367 EA 2-1/2", Cut And Thread Existing In Place Black Steel Pipe.....	50.14	
For Work In Restricted Working Space, Add	15.04	
23 21 13 23-0368 EA 3", Cut And Thread Existing In Place Black Steel Pipe.....	52.36	
For Work In Restricted Working Space, Add	15.71	
23 21 13 23-0369 EA 4", Cut And Thread Existing In Place Black Steel Pipe.....	54.60	
For Work In Restricted Working Space, Add	16.38	
23 21 13 23-0370 EA 6", Cut And Thread Existing In Place Black Steel Pipe.....	59.05	
For Work In Restricted Working Space, Add	17.72	
23 21 13 23-0371 EA 8", Cut And Thread Existing In Place Black Steel Pipe.....	63.50	
For Work In Restricted Working Space, Add	19.05	
23 21 13 23-0372 EA 10", Cut And Thread Existing In Place Black Steel Pipe.....	69.08	
For Work In Restricted Working Space, Add	20.72	
23 21 13 23-0373 EA 12", Cut And Thread Existing In Place Black Steel Pipe.....	73.53	
For Work In Restricted Working Space, Add	22.06	
23 21 13 23-0374 Welded Black Steel Pipe (23 21 13 23)		
23 21 13 23-0375 Welded Plain End Black Steel Pipe Assemblies (23 21 13 23-0374) Note: ASTM A-53 pipe and A-234 WPB fittings. Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0376	LF	3/4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	29.12	7.82
		<i>For Work In Restricted Working Space, Add</i>	5.71	
23 21 13 23-0377	LF	1" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	33.05	8.34
		<i>For Work In Restricted Working Space, Add</i>	6.40	
23 21 13 23-0378	LF	1-1/4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	41.25	8.86
		<i>For Work In Restricted Working Space, Add</i>	7.34	
23 21 13 23-0379	LF	1-1/2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	45.82	8.86
		<i>For Work In Restricted Working Space, Add</i>	7.67	
23 21 13 23-0380	LF	2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	52.70	8.86
		<i>For Work In Restricted Working Space, Add</i>	8.88	
23 21 13 23-0381	LF	2-1/2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	60.97	8.86
		<i>For Work In Restricted Working Space, Add</i>	10.30	
23 21 13 23-0382	LF	3" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	76.72	8.64
		<i>For Work In Restricted Working Space, Add</i>	10.87	
23 21 13 23-0383	LF	4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	108.39	11.13
		<i>For Work In Restricted Working Space, Add</i>	13.81	
23 21 13 23-0384	LF	6" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	156.78	16.59
		<i>For Work In Restricted Working Space, Add</i>	15.90	
23 21 13 23-0385	LF	8" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	236.81	20.60
		<i>For Work In Restricted Working Space, Add</i>	23.59	
23 21 13 23-0386	LF	10" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	321.77	25.76
		<i>For Work In Restricted Working Space, Add</i>	28.13	
23 21 13 23-0387	LF	12" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	411.51	31.12
		<i>For Work In Restricted Working Space, Add</i>	32.51	
23 21 13 23-0388	LF	14" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	424.67	40.59
		<i>For Work In Restricted Working Space, Add</i>	36.26	
23 21 13 23-0389	LF	16" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	488.41	51.51
		<i>For Work In Restricted Working Space, Add</i>	40.52	
23 21 13 23-0390	LF	18" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	634.46	63.77
		<i>For Work In Restricted Working Space, Add</i>	44.46	
23 21 13 23-0391	LF	20" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	784.40	78.81
		<i>For Work In Restricted Working Space, Add</i>	50.90	
23 21 13 23-0392	LF	24" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.	980.40	89.32
		<i>For Work In Restricted Working Space, Add</i>	55.96	
23 21 13 23-0393		Welded Black Steel Pipe And Fittings (23 21 13 23-0374) Note: ASTM A-53 pipe and A-234 WPB fittings. Excludes hangers or fittings.		
23 21 13 23-0394		Welded Plain End (A-53) Black Steel Piping (23 21 13 23-0393)		
23 21 13 23-0395	LF	3/4" Schedule 40, Welded Plain End Black Steel Pipe	14.26	4.16
		<i>For Schedule 80 Pipe, Add</i>	2.44	
		<i>For Work In Restricted Working Space, Add</i>	2.50	
23 21 13 23-0396	LF	1" Schedule 40, Welded Plain End Black Steel Pipe	18.27	5.21
		<i>For Schedule 80 Pipe, Add</i>	3.13	
		<i>For Work In Restricted Working Space, Add</i>	3.12	
23 21 13 23-0397	LF	1-1/4" Schedule 40, Welded Plain End Black Steel Pipe	24.04	6.25
		<i>For Schedule 80 Pipe, Add</i>	4.18	
		<i>For Work In Restricted Working Space, Add</i>	3.75	
23 21 13 23-0398	LF	1-1/2" Schedule 40, Welded Plain End Black Steel Pipe	29.91	7.29
		<i>For Schedule 80 Pipe, Add</i>	5.25	
		<i>For Work In Restricted Working Space, Add</i>	4.38	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0399	LF	2"	Schedule 40, Welded Plain End Black Steel Pipe	35.62	8.64
			For Schedule 80 Pipe, Add	6.26	
			For Work In Restricted Working Space, Add	5.19	
23 21 13 23-0400	LF	2-1/2"	Schedule 40, Welded Plain End Black Steel Pipe	40.96	9.79
			For Schedule 80 Pipe, Add	10.91	
			For Work In Restricted Working Space, Add	5.87	
23 21 13 23-0401	LF	3"	Schedule 40, Welded Plain End Black Steel Pipe	54.99	10.52
			For Schedule 80 Pipe, Add	15.56	
			For Work In Restricted Working Space, Add	6.31	
23 21 13 23-0402	LF	4"	Schedule 40, Welded Plain End Black Steel Pipe	80.45	13.02
			For Schedule 80 Pipe, Add	23.60	
			For Work In Restricted Working Space, Add	7.81	
23 21 13 23-0403	LF	6"	Schedule 40, Welded Plain End Black Steel Pipe	123.49	21.09
			For Schedule 80 Pipe, Add	37.57	
			For Work In Restricted Working Space, Add	9.69	
23 21 13 23-0404	LF	8"	Schedule 40, Welded Plain End Black Steel Pipe	131.80	22.15
			For Schedule 80 Pipe, Add	55.88	
			For Schedule 30 Pipe, Deduct	-31.93	
			For Work In Restricted Working Space, Add	13.29	
23 21 13 23-0405	LF	10"	Schedule 40, Welded Plain End Black Steel Pipe	247.99	26.68
			For Schedule 80 Pipe, Add	77.46	
			For Schedule 30 Pipe, Deduct	-44.26	
			For Work In Restricted Working Space, Add	16.01	
23 21 13 23-0406	LF	12"	Schedule 40, Welded Plain End Black Steel Pipe	321.87	32.25
			For Schedule 80 Pipe, Add	101.37	
			For Schedule 30 Pipe, Deduct	-57.93	
			For Work In Restricted Working Space, Add	19.35	
23 21 13 23-0407	LF	14"	Schedule 40, Welded Plain End Black Steel Pipe	302.68	34.00
			For Schedule 80 Pipe, Add	94.04	
			For Schedule 30 Pipe, Deduct	-53.74	
			For Schedule 20 Pipe, Deduct	-95.74	
			For Work In Restricted Working Space, Add	20.40	
23 21 13 23-0408	LF	16"	Schedule 40, Welded Plain End Black Steel Pipe	335.47	36.57
			For Schedule 80 Pipe, Add	104.62	
			For Schedule 30 Pipe, Deduct	-59.78	
			For Schedule 20 Pipe, Deduct	-106.44	
			For Work In Restricted Working Space, Add	21.94	
23 21 13 23-0409	LF	18"	Schedule 40, Welded Plain End Black Steel Pipe	442.69	39.56
			For Schedule 80 Pipe, Add	141.10	
			For Schedule 30 Pipe, Deduct	-80.63	
			For Schedule 20 Pipe, Deduct	-143.07	
			For Work In Restricted Working Space, Add	23.74	
23 21 13 23-0410	LF	20"	Schedule 40, Welded Plain End Black Steel Pipe	521.67	47.39
			For Schedule 80 Pipe, Add	166.00	
			For Work In Restricted Working Space, Add	28.43	
23 21 13 23-0411	LF	24"	Schedule 40, Welded Plain End Black Steel Pipe	660.48	54.50
			For Schedule 80 Pipe, Add	212.09	
			For Work In Restricted Working Space, Add	32.70	
23 21 13 23-0412			Welded Plain End (A-106) Seamless Carbon Steel Piping (23 21 13 23-0393)		
23 21 13 23-0413	LF	1/4"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	10.78	2.92
			For Work In Restricted Working Space, Add	1.75	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	2.71	
23 21 13 23-0414	LF	1/2"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	10.89	3.23
			For Work In Restricted Working Space, Add	1.91	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	2.63	
23 21 13 23-0415	LF	3/4"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	13.75	4.16
			For Work In Restricted Working Space, Add	2.50	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	3.25	
23 21 13 23-0416	LF	1"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	16.84	5.21
			For Work In Restricted Working Space, Add	3.12	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	3.94	
23 21 13 23-0417	LF	1-1/4"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	21.31	6.25
			For Work In Restricted Working Space, Add	3.75	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	5.13	
23 21 13 23-0418	LF	1-1/2"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	24.89	7.29
			For Work In Restricted Working Space, Add	4.38	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	6.00	
23 21 13 23-0419	LF	2"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	29.57	8.64
			For Work In Restricted Working Space, Add	5.19	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	7.14	
23 21 13 23-0420	LF	2-1/2"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	39.22	9.79
			For Work In Restricted Working Space, Add	5.87	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	13.94	
23 21 13 23-0421	LF	3"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	45.08	10.52
			For Work In Restricted Working Space, Add	6.31	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	16.62	
23 21 13 23-0422	LF	4"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	56.04	13.02
			For Work In Restricted Working Space, Add	7.81	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	20.71	
23 21 13 23-0423	LF	6"	Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	88.17	21.14
			For Work In Restricted Working Space, Add	9.69	
			For Schedule 80 (A-106) Carbon Steel Pipe, Add	36.14	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0424 LF 8" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	128.40 13.29 53.74	22.15
23 21 13 23-0425 LF 10" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	173.31 16.01 75.17	26.68
23 21 13 23-0426 LF 12" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	211.34 19.35 91.91	32.25
23 21 13 23-0427 LF 14" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	248.59 20.40 111.33	34.00
23 21 13 23-0428 LF 16" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	287.47 21.94 131.00	36.57
23 21 13 23-0429 LF 18" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	349.52 23.74 163.29	39.56
23 21 13 23-0430 LF 20" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	421.24 28.43 197.03	47.39
23 21 13 23-0431 LF 24" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe..... For Work In Restricted Working Space, Add For Schedule 80 (A-106) Carbon Steel Pipe, Add	531.95 32.70 253.20	54.50
23 21 13 23-0432 Welded Plain End Black Steel 90 Degree Elbows (23 21 13 23-0393)		
23 21 13 23-0433 EA 3/4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	118.80 25.36 29.36	65.31
23 21 13 23-0434 EA 1" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	123.94 26.37 30.90	68.72
23 21 13 23-0435 EA 1-1/4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	138.36 29.18 35.23	78.30
23 21 13 23-0436 EA 1-1/2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	147.63 30.99 38.01	84.48
23 21 13 23-0437 EA 2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	185.73 38.42 49.44	109.92
23 21 13 23-0438 EA 2-1/2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	233.91 48.54 61.80	137.43
23 21 13 23-0439 EA 3" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	244.40 51.16 63.32	140.83
23 21 13 23-0440 EA 4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	419.96 87.68 109.44	243.31
23 21 13 23-0441 EA 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	737.68 158.09 180.62	401.53
23 21 13 23-0442 EA 8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,088.73 238.73 251.11	558.27
23 21 13 23-0443 EA 10" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,418.75 325.18 286.99	638.12
23 21 13 23-0444 EA 12" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,921.75 445.10 375.50	834.89
23 21 13 23-0445 EA 14" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,386.50 560.60 443.86	986.84
23 21 13 23-0446 EA 16" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,969.09 709.32 518.30	1,152.40
23 21 13 23-0447 EA 18" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,524.25 855.00 577.94	1,284.98
23 21 13 23-0448 EA 20" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,508.53 1,125.75 648.04	1,440.76
23 21 13 23-0449 EA 24" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,301.26 1,356.00 669.64	1,488.86
23 21 13 23-0450 Welded Plain End Black Steel Reducing 90 Degree Elbows (23 21 13 23-0393)		
23 21 13 23-0451 EA 4" x 3" 90 Standard Weight, Welded Plain End Black Steel Reducing 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	592.36 139.33 109.64	243.73



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0452	EA	6" x 4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,039.00 249.21 178.56	396.95
23 21	13 23-0453	EA	6" x 3" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,115.09 272.03 178.56	396.95
23 21	13 23-0454	EA	8" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,773.23 444.08 251.11	558.27
23 21	13 23-0455	EA	8" x 4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,954.66 498.51 251.11	558.27
23 21	13 23-0456	EA	10" x 8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,453.06 635.47 286.99	638.12
23 21	13 23-0457	EA	10" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,453.06 635.47 286.99	638.12
23 21	13 23-0458	EA	12" x 10" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,053.84 1,082.22 382.65	850.75
23 21	13 23-0459	EA	12" x 8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,053.84 1,082.22 382.65	850.75
23 21	13 23-0460	EA	12" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,547.35 1,230.28 382.65	850.75
23 21	13 23-0461		Welded Plain End Black Steel 45 Degree Elbows (23 21 13 23-0393)		
23 21	13 23-0462	EA	3/4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	105.14 22.25 26.56	59.05
23 21	13 23-0463	EA	1" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	108.27 22.86 27.50	61.14
23 21	13 23-0464	EA	1-1/4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	121.81 25.50 31.56	70.20
23 21	13 23-0465	EA	1-1/2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	130.14 27.12 34.06	75.73
23 21	13 23-0466	EA	2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	163.48 33.62 44.06	97.90
23 21	13 23-0467	EA	2-1/2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	203.70 41.75 55.31	123.01
23 21	13 23-0468	EA	3" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	235.38 48.46 63.31	140.71
23 21	13 23-0469	EA	4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	404.97 83.20 109.41	243.21
23 21	13 23-0470	EA	6" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	700.40 146.98 180.41	401.12
23 21	13 23-0471	EA	8" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,020.81 218.35 251.11	558.27
23 21	13 23-0472	EA	10" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,294.05 287.77 286.99	638.12
23 21	13 23-0473	EA	12" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,738.59 390.40 374.80	833.34
23 21	13 23-0474	EA	14" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,143.72 487.56 444.45	988.18
23 21	13 23-0475	EA	16" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,632.31 608.48 517.76	1,151.16
23 21	13 23-0476	EA	18" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,090.87 725.21 577.28	1,283.44
23 21	13 23-0477	EA	20" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,874.81 935.63 648.04	1,440.76
23 21	13 23-0478	EA	24" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,473.05 1,107.54 669.64	1,488.86
23 21	13 23-0479		Welded Plain End Black Steel Tee (23 21 13 23-0393)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0480 EA 3/4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.83 47.55 50.00	111.14
23 21 13 23-0481 EA 1" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.77 47.54 49.98	111.14
23 21 13 23-0482 EA 1-1/4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	245.80 54.28 55.60	123.64
23 21 13 23-0483 EA 1-1/2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	268.79 58.76 62.50	138.94
23 21 13 23-0484 EA 2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	331.60 70.28 83.43	185.51
23 21 13 23-0485 EA 2-1/2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	378.94 80.87 93.75	208.42
23 21 13 23-0486 EA 3" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	452.70 96.00 113.74	253.10
23 21 13 23-0487 EA 4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	650.55 137.60 164.46	365.71
23 21 13 23-0488 EA 6" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,092.00 232.50 271.72	604.12
23 21 13 23-0489 EA 8" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,620.39 352.19 382.65	850.75
23 21 13 23-0490 EA 10" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,066.35 463.66 446.42	992.51
23 21 13 23-0491 EA 12" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,792.75 636.93 573.98	1,276.13
23 21 13 23-0492 EA 14" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,646.17 859.48 669.64	1,488.86
23 21 13 23-0493 EA 16" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,388.04 1,035.16 803.57	1,786.59
23 21 13 23-0494 EA 18" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,768.57 1,418.07 892.85	1,985.12
23 21 13 23-0495 EA 20" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	7,659.29 1,946.23 1,004.46	2,233.30
23 21 13 23-0496 EA 24" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	8,864.12 2,280.63 1,081.72	2,405.08
23 21 13 23-0497 Welded Plain End Black Steel Reducing Tees (23 21 13 23-0393)		
23 21 13 23-0498 EA 3/4" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	211.62 46.53 48.44	107.70
23 21 13 23-0499 EA 1" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.77 47.54 49.98	111.14
23 21 13 23-0500 EA 1-1/4" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	242.60 53.32 55.60	123.64
23 21 13 23-0501 EA 1-1/2" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	265.59 57.80 62.50	138.94
23 21 13 23-0502 EA 2" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	338.82 72.43 83.46	185.51
23 21 13 23-0503 EA 2-1/2" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	379.07 80.90 93.78	208.52
23 21 13 23-0504 EA 3" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	453.04 96.10 113.74	253.10
23 21 13 23-0505 EA 4" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	651.02 137.74 164.46	365.71
23 21 13 23-0506 EA 6" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,092.81 232.74 271.72	604.12
23 21 13 23-0507 EA 8" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,621.94 352.65 382.65	850.75



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0508	EA	10" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,068.99 464.45 446.42	992.51
23 21 13 23-0509	EA	12" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,796.74 638.13 573.98	1,276.13
23 21 13 23-0510	EA	14" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,652.60 867.47 669.64	1,488.86
23 21 13 23-0511	EA	16" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,395.82 1,037.50 803.57	1,786.59
23 21 13 23-0512	EA	18" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,781.29 1,421.89 892.85	1,985.12
23 21 13 23-0513	EA	20" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	7,782.87 1,983.30 1,004.46	2,233.30
23 21 13 23-0514	EA	24" Standard Weight, Welded Plain End Black Steel Reducing Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	9,416.10 2,446.23 1,081.72	2,405.08
23 21 13 23-0515 Welded Plain End Black Steel Eccentric Reducers (23 21 13 23-0393)				
23 21 13 23-0516	EA	1" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	160.71 37.55 30.47	67.74
23 21 13 23-0517	EA	1-1/4" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	170.59 39.48 33.43	74.33
23 21 13 23-0518	EA	1-1/4" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	168.00 38.97 32.65	72.60
23 21 13 23-0519	EA	1-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	182.57 41.81 37.02	82.31
23 21 13 23-0520	EA	1-1/2" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	175.27 40.39 34.83	77.46
23 21 13 23-0521	EA	1-1/2" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	172.68 39.88 34.06	75.73
23 21 13 23-0522	EA	2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	183.20 39.49 44.21	98.28
23 21 13 23-0523	EA	2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	200.72 45.23 42.80	95.16
23 21 13 23-0524	EA	2" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	193.42 43.81 40.61	90.30
23 21 13 23-0525	EA	2-1/2" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	229.02 49.02 56.24	125.03
23 21 13 23-0526	EA	2-1/2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.92 47.42 50.46	112.17
23 21 13 23-0527	EA	2-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	251.64 58.33 49.05	109.05
23 21 13 23-0528	EA	3" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	255.94 54.69 63.13	140.30
23 21 13 23-0529	EA	3" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	259.16 55.65 63.13	140.30
23 21 13 23-0530	EA	3" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	265.97 57.70 63.13	140.30
23 21 13 23-0531	EA	4" x 3" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	424.95 89.11 109.64	243.73
23 21 13 23-0532	EA	4" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	428.17 90.08 109.64	243.73
23 21 13 23-0533	EA	4" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	437.85 92.98 109.64	243.73
23 21 13 23-0534	EA	6" x 4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	717.74 152.83 178.56	396.95
23 21 13 23-0535	EA	6" x 3" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	787.26 173.68 178.56	396.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0536	EA		8" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,061.96	604.12
			For Schedule 80 Or Extra Heavy Fittings, Add	223.49	
			For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0537	EA		8" x 4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,191.31	604.12
			For Schedule 80 Or Extra Heavy Fittings, Add	262.29	
			For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0538	EA		10" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,246.18	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	264.49	
			For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0539	EA		10" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,401.69	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	311.14	
			For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0540	EA		10" x 4" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	1,606.29	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	372.52	
			For Concentric Reducers, Deduct	-180.71	
			For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0541	EA		12" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,592.33	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	344.03	
			For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0542	EA		12" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,774.00	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	398.53	
			For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0543	EA		12" x 6" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	2,081.09	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	490.65	
			For Concentric Reducers, Deduct	-258.56	
			For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0544	EA		12" x 4" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	1,587.19	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	342.48	
			For Concentric Reducers, Deduct	-100.52	
			For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0545	EA		14" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,048.49	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	458.30	
			For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0546	EA		14" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,144.16	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	487.00	
			For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0547	EA		14" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	3,097.96	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	773.14	
			For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0548	EA		16" x 14" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,531.19	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	583.58	
			For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0549	EA		16" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,812.83	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	668.07	
			For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0550	EA		16" x 10" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	2,922.47	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	700.96	
			For Concentric Reducers, Deduct	-399.48	
			For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0551	EA		16" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	4,157.59	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	1,071.50	
			For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0552	EA		16" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	4,772.20	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	1,255.88	
			For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0553	EA		18" x 16" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	3,457.23	1,276.13
			For Schedule 80 Or Extra Heavy Fittings, Add	836.28	
			For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0554	EA		18" x 14" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	2,190.10	1,276.13
			For Schedule 80 Or Extra Heavy Fittings, Add	456.14	
			For Concentric Reducers, Deduct	-88.59	
			For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0555	EA		18" x 12" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	3,605.22	1,276.13
			For Schedule 80 Or Extra Heavy Fittings, Add	880.67	
			For Concentric Reducers, Deduct	-541.43	
			For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0556	EA		18" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	3,823.43	1,276.13
			For Schedule 80 Or Extra Heavy Fittings, Add	946.14	
			For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0557	EA		18" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	5,668.21	1,276.13
			For Schedule 80 Or Extra Heavy Fittings, Add	1,499.57	
			For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0558	EA		20" x 18" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	4,099.33	1,440.76
			For Schedule 80 Or Extra Heavy Fittings, Add	1,002.99	
			For Concentric Reducers, Deduct	-620.55	
			For Work In Restricted Working Space, Add	648.04	
23 21 13 23-0559	EA		20" x 16" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	4,094.32	1,440.76
			For Schedule 80 Or Extra Heavy Fittings, Add	1,001.48	
			For Concentric Reducers, Deduct	-618.94	
			For Work In Restricted Working Space, Add	648.04	
23 21 13 23-0560	EA		20" x 14" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	6,534.81	1,440.76
			For Schedule 80 Or Extra Heavy Fittings, Add	1,733.63	
			For Concentric Reducers, Deduct	-1,399.90	
			For Work In Restricted Working Space, Add	648.04	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0561	EA	20" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	7,513.71 2,027.30 648.03	1,440.76
23 21	13 23-0562	EA	20" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	8,982.12 2,467.82 648.03	1,440.76
23 21	13 23-0563	EA	24" x 20" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	4,774.75 1,198.05 -873.64 669.64	1,488.86
23 21	13 23-0564	EA	24" x 18" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	5,070.61 1,286.81 -908.31 669.64	1,488.86
23 21	13 23-0565	EA	24" x 16" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	6,445.21 1,699.19 -1,348.19 669.64	1,488.86
23 21	13 23-0566	EA	24" x 14" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	9,003.23 2,466.60 669.64	1,488.86
23 21	13 23-0567	EA	24" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	10,921.28 3,042.01 669.64	1,488.86
23 21	13 23-0568		Welded Plain End Black Steel Concentric Reducers (23 21 13 23-0393)		
23 21	13 23-0569	EA	1" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	145.22 32.90 30.47	67.74
23 21	13 23-0570	EA	1-1/4" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	155.10 34.83 33.43	74.33
23 21	13 23-0571	EA	1-1/4" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	152.51 34.32 32.65	72.60
23 21	13 23-0572	EA	1-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	167.08 37.17 37.02	82.31
23 21	13 23-0573	EA	1-1/2" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	159.78 35.74 34.83	77.46
23 21	13 23-0574	EA	1-1/2" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	157.19 35.24 34.06	75.73
23 21	13 23-0575	EA	2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	175.30 37.12 44.21	98.28
23 21	13 23-0576	EA	2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	170.62 36.20 42.80	95.16
23 21	13 23-0577	EA	2" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	174.08 38.01 40.61	90.30
23 21	13 23-0578	EA	2-1/2" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	223.29 47.30 56.24	125.03
23 21	13 23-0579	EA	2-1/2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	213.70 46.45 50.46	112.17
23 21	13 23-0580	EA	2-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	224.40 50.15 49.05	109.05
23 21	13 23-0581	EA	3" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	239.46 49.74 63.13	140.30
23 21	13 23-0582	EA	3" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	241.61 50.39 63.13	140.30
23 21	13 23-0583	EA	3" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	246.27 51.79 63.13	140.30
23 21	13 23-0584	EA	4" x 3" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	402.74 82.45 109.64	243.73
23 21	13 23-0585	EA	4" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	410.98 84.92 109.64	243.73
23 21	13 23-0586	EA	4" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	410.98 84.92 109.64	243.73
23 21	13 23-0587	EA	6" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	673.33 139.50 178.56	396.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0588	EA	6" x 3" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	689.80	396.95
		For Schedule 80 Or Extra Heavy Fittings, Add	144.44	
		For Work In Restricted Working Space, Add	178.56	
23 21 13 23-0589	EA	8" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,008.21	604.12
		For Schedule 80 Or Extra Heavy Fittings, Add	207.36	
		For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0590	EA	8" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,037.60	604.12
		For Schedule 80 Or Extra Heavy Fittings, Add	216.18	
		For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0591	EA	10" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,240.45	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	262.77	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0592	EA	10" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,228.27	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	259.12	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0593	EA	10" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,381.63	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	305.12	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0594	EA	12" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,518.88	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	321.99	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0595	EA	12" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,555.70	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	333.04	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0596	EA	12" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,569.04	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	337.04	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0597	EA	12" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,959.96	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	454.32	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0598	EA	14" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,857.86	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	401.11	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0599	EA	14" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,994.38	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	442.07	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0600	EA	14" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,112.98	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	477.65	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0601	EA	14" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,571.36	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	615.16	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0602	EA	16" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,321.22	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	520.59	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0603	EA	16" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,321.22	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	520.59	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0604	EA	16" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,389.30	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	541.01	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0605	EA	16" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,615.39	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	608.84	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0606	EA	16" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,551.76	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	889.75	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0607	EA	18" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,620.21	1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	585.17	
		For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0608	EA	18" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,794.71	1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	637.52	
		For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0609	EA	18" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,867.81	1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	659.45	
		For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0610	EA	18" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,066.66	1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	719.11	
		For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0611	EA	18" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	5,351.94	1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	1,404.69	
		For Work In Restricted Working Space, Add	573.98	
23 21 13 23-0612	EA	20" x 18" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,373.37	1,440.76
		For Schedule 80 Or Extra Heavy Fittings, Add	785.20	
		For Work In Restricted Working Space, Add	648.03	
23 21 13 23-0613	EA	20" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,373.37	1,440.76
		For Schedule 80 Or Extra Heavy Fittings, Add	785.20	
		For Work In Restricted Working Space, Add	648.03	
23 21 13 23-0614	EA	20" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,423.18	1,440.76
		For Schedule 80 Or Extra Heavy Fittings, Add	800.14	
		For Work In Restricted Working Space, Add	648.03	
23 21 13 23-0615	EA	20" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	3,718.07	1,440.76
		For Schedule 80 Or Extra Heavy Fittings, Add	888.61	
		For Work In Restricted Working Space, Add	648.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0616	EA	20" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,231.17 1,042.54 648.03	1,440.76
23 21	13 23-0617	EA	24" x 20" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,604.49 846.97 669.64	1,488.86
23 21	13 23-0618	EA	24" x 18" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,635.65 856.32 669.64	1,488.86
23 21	13 23-0619	EA	24" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,696.56 874.59 669.64	1,488.86
23 21	13 23-0620	EA	24" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,106.90 1,297.70 669.64	1,488.86
23 21	13 23-0621	EA	24" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer..... For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,385.31 1,381.22 669.64	1,488.86
23 21 13 23-0622 Welded Plain End Black Steel Caps (23 21 13 23-0393)					
23 21	13 23-0623	EA	1" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	62.71 12.30 15.62	34.79
23 21	13 23-0624	EA	1-1/4" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	68.58 13.41 17.18	38.23
23 21	13 23-0625	EA	1-1/2" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	71.33 13.98 17.81	39.58
23 21	13 23-0626	EA	2" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	88.61 17.08 22.82	50.73
23 21	13 23-0627	EA	2-1/2" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	104.82 19.99 27.50	61.14
23 21	13 23-0628	EA	3" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	123.03 23.69 31.73	70.52
23 21	13 23-0629	EA	4" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	205.73 38.88 54.82	121.86
23 21	13 23-0630	EA	6" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	345.57 65.93 90.57	201.34
23 21	13 23-0631	EA	8" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	488.67 93.71 126.94	282.27
23 21	13 23-0632	EA	10" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	649.12 127.97 160.25	356.33
23 21	13 23-0633	EA	12" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	766.67 152.14 186.88	415.48
23 21	13 23-0634	EA	14" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,014.27 211.27 223.22	496.26
23 21	13 23-0635	EA	16" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,177.93 245.37 259.22	576.30
23 21	13 23-0636	EA	18" Standard Weight, Welded Plain End Black Steel Cap..... For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,317.63 275.71 286.99	638.12
23 21 13 23-0637 150 LB, Welded Plain End Black Steel Neck Flanges (23 21 13 23-0393)					
Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.					
23 21	13 23-0638	EA	2", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	153.75 37.56 35.33	78.54
23 21	13 23-0639	EA	2-1/2", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	182.92 40.63 44.08	98.02
23 21	13 23-0640	EA	3", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	204.05 42.88 50.40	112.07
23 21	13 23-0641	EA	4", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	267.54 55.41 66.49	147.80
23 21	13 23-0642	EA	6", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	406.66 84.74 100.80	224.15
23 21	13 23-0643	EA	8", 150 LB, Welded Plain End Black Steel Neck Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	472.63 115.47 108.59	241.48

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0644 EA 10", 150 LB, Welded Plain End Black Steel Neck Flange.....	615.68	302.78
For 300 LB Rating, Add	160.85	
For Work In Restricted Working Space, Add	136.20	
23 21 13 23-0645 EA 12", 150 LB, Welded Plain End Black Steel Neck Flange.....	750.86	343.58
For 300 LB Rating, Add	219.11	
For Work In Restricted Working Space, Add	154.53	
23 21 13 23-0646 EA 14", 150 LB, Welded Plain End Black Steel Neck Flange.....	980.81	415.48
For 300 LB Rating, Add	315.93	
For Work In Restricted Working Space, Add	186.88	
23 21 13 23-0647 EA 16", 150 LB, Welded Plain End Black Steel Neck Flange.....	1,283.09	482.86
For 300 LB Rating, Add	467.42	
For Work In Restricted Working Space, Add	217.18	
23 21 13 23-0648 EA 18", 150 LB, Welded Plain End Black Steel Neck Flange.....	1,587.94	541.37
For 300 LB Rating, Add	628.61	
For Work In Restricted Working Space, Add	243.50	
23 21 13 23-0649 EA 20", 150 LB, Welded Plain End Black Steel Neck Flange.....	2,013.39	687.15
For 300 LB Rating, Add	796.40	
For Work In Restricted Working Space, Add	309.06	
23 21 13 23-0650 EA 24", 150 LB, Welded Plain End Black Steel Neck Flange.....	2,283.56	744.43
For 300 LB Rating, Add	934.44	
For Work In Restricted Working Space, Add	334.82	
23 21 13 23-0651 150 LB, Welded Black Steel Slip-On Flanges (23 21 13 23-0393)		
Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0652 EA 2", 150 LB, Welded Black Steel Slip-On Flanges.....	118.53	78.54
For 300 LB Rating, Add	32.15	
For Work In Restricted Working Space, Add	28.12	
23 21 13 23-0653 EA 2-1/2", 150 LB, Welded Black Steel Slip-On Flange.....	146.41	98.02
For 300 LB Rating, Add	40.68	
For Work In Restricted Working Space, Add	34.37	
23 21 13 23-0654 EA 3", 150 LB, Welded Black Steel Slip-On Flange.....	172.86	112.07
For 300 LB Rating, Add	47.93	
For Work In Restricted Working Space, Add	40.62	
23 21 13 23-0655 EA 4", 150 LB, Welded Black Steel Slip-On Flange.....	228.18	147.80
For 300 LB Rating, Add	64.59	
For Work In Restricted Working Space, Add	53.12	
23 21 13 23-0656 EA 6", 150 LB, Welded Black Steel Slip-On Flange.....	339.06	224.15
For 300 LB Rating, Add	98.14	
For Work In Restricted Working Space, Add	78.12	
23 21 13 23-0657 EA 8", 150 LB, Welded Black Steel Slip-On Flange.....	449.34	241.48
For 300 LB Rating, Add	142.32	
For Work In Restricted Working Space, Add	98.90	
23 21 13 23-0658 EA 10", 150 LB, Welded Black Steel Slip-On Flange.....	618.68	302.78
For 300 LB Rating, Add	229.21	
For Work In Restricted Working Space, Add	123.62	
23 21 13 23-0659 EA 12", 150 LB, Welded Black Steel Slip-On Flange.....	820.47	343.58
For 300 LB Rating, Add	345.29	
For Work In Restricted Working Space, Add	148.35	
23 21 13 23-0660 EA 14", 150 LB, Welded Black Steel Slip-On Flange.....	1,053.16	415.48
For 300 LB Rating, Add	489.19	
For Work In Restricted Working Space, Add	173.08	
23 21 13 23-0661 EA 16", 150 LB, Welded Black Steel Slip-On Flange.....	1,279.95	482.86
For 300 LB Rating, Add	644.16	
For Work In Restricted Working Space, Add	191.62	
23 21 13 23-0662 EA 18", 150 LB, Welded Black Steel Slip-On Flange.....	1,419.51	541.37
For 300 LB Rating, Add	720.62	
For Work In Restricted Working Space, Add	210.17	
23 21 13 23-0663 EA 20", 150 LB, Welded Black Steel Slip-On Flange.....	1,579.57	687.15
For 300 LB Rating, Add	815.54	
For Work In Restricted Working Space, Add	228.71	
23 21 13 23-0664 EA 24", 150 LB, Welded Black Steel Slip-On Flange.....	1,804.20	744.43
For 300 LB Rating, Add	919.42	
For Work In Restricted Working Space, Add	265.80	
23 21 13 23-0665 150 LB, Forged Steel Blind Flanges (23 21 13 23-0393)		
23 21 13 23-0666 EA 2", 150 LB, Forged Steel Blind Flange.....	76.05	27.87
For 300 LB Rating, Add	22.11	
For 600 LB Rating, Add	57.13	
For Work In Restricted Working Space, Add	16.72	
23 21 13 23-0667 EA 2-1/2", 150 LB, Forged Steel Blind Flange.....	99.83	33.44
For 300 LB Rating, Add	33.38	
For 600 LB Rating, Add	89.11	
For Work In Restricted Working Space, Add	20.06	
23 21 13 23-0668 EA 3", 150 LB, Forged Steel Blind Flange.....	123.25	44.59
For 300 LB Rating, Add	36.63	
For 600 LB Rating, Add	95.17	
For Work In Restricted Working Space, Add	26.75	
23 21 13 23-0669 EA 4", 150 LB, Forged Steel Blind Flange.....	158.45	55.73
For 300 LB Rating, Add	49.29	
For 600 LB Rating, Add	129.47	
For Work In Restricted Working Space, Add	33.44	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-0670	EA	6", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For 600 LB Rating, Add For Work In Restricted Working Space, Add	216.08 72.16 192.57 43.47	72.46
23 21	13 23-0671	EA	8", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For 600 LB Rating, Add For Work In Restricted Working Space, Add	280.12 107.89 296.09 50.16	83.60
23 21	13 23-0672	EA	10", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For 600 LB Rating, Add For Work In Restricted Working Space, Add	421.14 197.47 559.30 60.19	100.31
23 21	13 23-0673	EA	12", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For 600 LB Rating, Add For Work In Restricted Working Space, Add	546.17 274.25 784.13 70.22	117.04
23 21	13 23-0674	EA	14", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	910.09 542.15 80.25	133.76
23 21	13 23-0675	EA	16", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	978.27 573.46 90.29	150.48
23 21	13 23-0676	EA	18", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,103.50 627.15 110.35	183.91
23 21	13 23-0677	EA	20", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,408.52 847.93 120.38	200.64
23 21	13 23-0678	EA	24", 150 LB, Forged Steel Blind Flange..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,910.18 1,202.78 140.45	234.08
23 21	13 23-0679		3,000 LB, Forge Steel Thread-O-Lets (23 21 13 23-0393)		
23 21	13 23-0680	EA	1/2", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	72.06 19.69	
23 21	13 23-0681	EA	3/4", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	76.30 20.62	
23 21	13 23-0682	EA	1", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	81.39 21.87	
23 21	13 23-0683	EA	1-1/4", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	90.15 23.44	
23 21	13 23-0684	EA	1-1/2", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	101.16 26.56	
23 21	13 23-0685	EA	2", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	130.77 34.72	
23 21	13 23-0686	EA	2-1/2", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	203.38 44.64	
23 21	13 23-0687	EA	3", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	280.53 62.50	
23 21	13 23-0688	EA	4", 3,000 LB, Forge Steel Thread-O-Let..... For Work In Restricted Working Space, Add	373.25 78.12	
23 21	13 23-0689		3,000 LB, Forge Steel Weld-O-Lets (23 21 13 23-0393)		
23 21	13 23-0690	EA	1/2", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	91.84 22.72	
23 21	13 23-0691	EA	3/4", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	98.29 23.81	
23 21	13 23-0692	EA	1", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	104.54 25.00	
23 21	13 23-0693	EA	1-1/4", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	122.68 27.78	
23 21	13 23-0694	EA	1-1/2", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	135.73 31.25	
23 21	13 23-0695	EA	2", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	181.46 41.65	
23 21	13 23-0696	EA	2-1/2", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	303.16 50.00	
23 21	13 23-0697	EA	3", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	399.31 65.62	
23 21	13 23-0698	EA	4", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	560.03 83.34	
23 21	13 23-0699	EA	6", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	790.99 124.99	
23 21	13 23-0700	EA	8", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	1,263.81 166.64	
23 21	13 23-0701	EA	10", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	1,648.09 192.30	
23 21	13 23-0702	EA	12", 3,000 LB, Forge Steel Weld-O-Let..... For Work In Restricted Working Space, Add	2,670.42 227.27	
23 21	13 23-0703		3,000 LB, Forge Steel Sock-O-Lets (23 21 13 23-0393)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0704	EA	1/2", 3,000 LB, Forge Steel Sock-O-Let.....	105.88	
		<i>For Work In Restricted Working Space, Add</i>	27.16	
23 21 13 23-0705	EA	3/4", 3,000 LB, Forge Steel Sock-O-Let.....	112.93	
		<i>For Work In Restricted Working Space, Add</i>	28.47	
23 21 13 23-0706	EA	1", 3,000 LB, Forge Steel Sock-O-Let.....	120.84	
		<i>For Work In Restricted Working Space, Add</i>	30.19	
23 21 13 23-0707	EA	1-1/4", 3,000 LB, Forge Steel Sock-O-Let.....	136.49	
		<i>For Work In Restricted Working Space, Add</i>	32.34	
23 21 13 23-0708	EA	1-1/2", 3,000 LB, Forge Steel Sock-O-Let.....	152.28	
		<i>For Work In Restricted Working Space, Add</i>	36.65	
23 21 13 23-0709	EA	2", 3,000 LB, Forge Steel Sock-O-Let.....	197.28	
		<i>For Work In Restricted Working Space, Add</i>	47.90	
23 21 13 23-0710	EA	2-1/2", 3,000 LB, Forge Steel Sock-O-Let.....	335.42	
		<i>For Work In Restricted Working Space, Add</i>	61.59	
23 21 13 23-0711	EA	3", 3,000 LB, Forge Steel Sock-O-Let.....	459.63	
		<i>For Work In Restricted Working Space, Add</i>	86.24	
23 21 13 23-0712	EA	4", 3,000 LB, Forge Steel Sock-O-Let.....	628.38	
		<i>For Work In Restricted Working Space, Add</i>	107.80	
23 21 13 23-0713 Class 150 Flange, Steel Bolt And Gasket Sets (23 21 13 23-0393)				
		Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21 13 23-0714	EA	3/4" To 1-1/2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	16.02	
		Note: Includes rubber gasket, and four (4) 1/2" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	4.49	
		<i>For Hot Dip Galvanized, Add</i>	6.41	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	11.21	
23 21 13 23-0715	EA	2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	20.33	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	5.69	
		<i>For Hot Dip Galvanized, Add</i>	8.13	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	14.23	
23 21 13 23-0716	EA	2-1/2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	20.56	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	5.76	
		<i>For Hot Dip Galvanized, Add</i>	8.22	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	14.39	
23 21 13 23-0717	EA	3" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	20.66	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	5.78	
		<i>For Hot Dip Galvanized, Add</i>	8.26	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	14.46	
23 21 13 23-0718	EA	4" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	47.10	
		Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	13.19	
		<i>For Hot Dip Galvanized, Add</i>	18.84	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	32.97	
23 21 13 23-0719	EA	5" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	65.90	
		Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	18.45	
		<i>For Hot Dip Galvanized, Add</i>	26.36	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	46.13	
23 21 13 23-0720	EA	6" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	72.76	
		Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	20.37	
		<i>For Hot Dip Galvanized, Add</i>	29.10	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	50.93	
23 21 13 23-0721	EA	8" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	80.12	
		Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	22.43	
		<i>For Hot Dip Galvanized, Add</i>	32.05	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	56.08	
23 21 13 23-0722	EA	10" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	175.76	
		Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	49.21	
		<i>For Hot Dip Galvanized, Add</i>	70.30	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	123.03	
23 21 13 23-0723	EA	12" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	180.05	
		Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	50.41	
		<i>For Hot Dip Galvanized, Add</i>	72.02	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	126.04	
23 21 13 23-0724	EA	14" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	202.05	
		Note: Includes rubber gasket, and twelve (12) 1" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	56.57	
		<i>For Hot Dip Galvanized, Add</i>	80.82	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	141.44	
23 21 13 23-0725	EA	16" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	333.64	
		Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut.		
		<i>For Zinc Plated, Add</i>	93.42	
		<i>For Hot Dip Galvanized, Add</i>	133.46	
		<i>For Advanced Fluoropolymer (Blue Coating), Add</i>	233.55	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13	23-0726	EA 18" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	479.24 134.19 191.70 335.47	
23 21	13	23-0727	EA 20" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	605.67 169.59 242.27 423.97	
23 21	13	23-0728	EA 24" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	861.49 241.22 344.60 603.04	
23 21	13	23-0729	EA 30" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty-eight (28) 1-1/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	1,359.35 380.62 543.74 951.55	
23 21	13	23-0730	EA 36" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and thirty-two (32) 1-1/2" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	1,912.06 535.38 764.82 1,338.44	
23 21	13	23-0731	Class 300 Flange, Steel Bolt And Gasket Sets (23 21-13 23-0393) Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21	13	23-0732	EA 3/4" To 1-1/2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	25.72 7.20 10.29 18.00	
23 21	13	23-0733	EA 2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	47.13 13.20 18.85 32.99	
23 21	13	23-0734	EA 2-1/2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	73.32 20.53 29.33 51.32	
23 21	13	23-0735	EA 3" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	79.66 22.30 31.86 55.76	
23 21	13	23-0736	EA 4" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	84.23 23.58 33.69 58.96	
23 21	13	23-0737	EA 5" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	93.06 26.06 37.22 65.14	
23 21	13	23-0738	EA 6" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twelve (12) 3/4" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	131.41 36.79 52.56 91.99	
23 21	13	23-0739	EA 8" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	203.08 56.86 81.23 142.16	
23 21	13	23-0740	EA 10" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	366.91 102.73 146.76 256.84	
23 21	13	23-0741	EA 12" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	526.86 147.52 210.74 368.80	
23 21	13	23-0742	EA 14" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut. For Zinc Plated, Add For Hot Dip Galvanized, Add For Advanced Fluoropolymer (Blue Coating), Add	719.37 201.42 287.75 503.56	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0743	EA		16" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	989.96	
			Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	277.19	
			For Hot Dip Galvanized, Add	395.98	
			For Advanced Fluoropolymer (Blue Coating), Add	692.97	
23 21 13 23-0744	EA		18" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,273.22	
			Note: Includes rubber gasket, and twenty-four (24) 1-1/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	356.50	
			For Hot Dip Galvanized, Add	509.29	
			For Advanced Fluoropolymer (Blue Coating), Add	891.25	
23 21 13 23-0745	EA		20" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,352.97	
			Note: Includes rubber gasket, and twenty-four (24) 1-1/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	378.83	
			For Hot Dip Galvanized, Add	541.19	
			For Advanced Fluoropolymer (Blue Coating), Add	947.08	
23 21 13 23-0746	EA		24" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,718.93	
			Note: Includes rubber gasket, and twenty-four (24) 1-1/2" diameter bolts with washers and nut.		
			For Zinc Plated, Add	481.30	
			For Hot Dip Galvanized, Add	687.57	
			For Advanced Fluoropolymer (Blue Coating), Add	1,203.25	
23 21 13 23-0747	EA		30" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	2,707.71	
			Note: Includes rubber gasket, and twenty-eight (28) 1-3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	758.16	
			For Hot Dip Galvanized, Add	1,083.08	
			For Advanced Fluoropolymer (Blue Coating), Add	1,895.40	
23 21 13 23-0748	EA		36" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	4,002.82	
			Note: Includes rubber gasket, and thirty-two (32) 2" diameter bolts with washers and nut.		
			For Zinc Plated, Add	1,120.79	
			For Hot Dip Galvanized, Add	1,601.13	
			For Advanced Fluoropolymer (Blue Coating), Add	2,801.97	
23 21 13 23-0749			Class 150 Flange, Stainless Steel Bolt And Gasket Sets (23 21 13 23-0393)		
			Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21 13 23-0750	EA		3/4" To 1-1/2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	16.02	
			Note: Includes rubber gasket, and four (4) 1/2" diameter bolts with washers and nut.		
23 21 13 23-0751	EA		2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	57.99	
			Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0752	EA		2-1/2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	58.10	
			Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0753	EA		3" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	58.20	
			Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0754	EA		4" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	123.96	
			Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0755	EA		5" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	156.12	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
23 21 13 23-0756	EA		6" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	177.62	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
23 21 13 23-0757	EA		8" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	179.12	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
23 21 13 23-0758	EA		10" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	459.97	
			Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
23 21 13 23-0759	EA		12" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	462.80	
			Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
23 21 13 23-0760	EA		14" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	698.97	
			Note: Includes rubber gasket, and twelve (12) 1" diameter bolts with washers and nut.		
23 21 13 23-0761	EA		16" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	930.74	
			Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut.		
23 21 13 23-0762	EA		18" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	2,410.02	
			Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut.		
23 21 13 23-0763	EA		20" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	2,793.10	
			Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut.		
23 21 13 23-0764	EA		24" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set	3,225.47	
			Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut.		
23 21 13 23-0765			150 LB, Rubber Flange Gasket Replacement (23 21 13 23-0393)		
			Note: Includes unbolting, removal of old gaskets, new 150 LB rubber gasket and rebolting.		
23 21 13 23-0766	EA		1/2", 150 LB, Rubber Flange Gasket Replacement	31.41	
			For 300 LB Rating Gasket Set, Add	0.21	
			For Work In Restricted Working Space, Add	9.24	
23 21 13 23-0767	EA		3/4", 150 LB, Rubber Flange Gasket Replacement	33.66	
			For 300 LB Rating Gasket Set, Add	0.28	
			For Work In Restricted Working Space, Add	9.86	
23 21 13 23-0768	EA		1", 150 LB, Rubber Flange Gasket Replacement	37.35	
			For 300 LB Rating Gasket Set, Add	0.50	
			For Work In Restricted Working Space, Add	10.78	
23 21 13 23-0769	EA		1-1/4", 150 LB, Rubber Flange Gasket Replacement	40.63	
			For 300 LB Rating Gasket Set, Add	0.57	
			For Work In Restricted Working Space, Add	11.70	
23 21 13 23-0770	EA		1-1/2", 150 LB, Rubber Flange Gasket Replacement	45.15	
			For 300 LB Rating Gasket Set, Add	0.71	
			For Work In Restricted Working Space, Add	12.94	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 21 13 23-0771	EA	2", 150 LB, Rubber Flange Gasket Replacement	50.07	
		For 300 LB Rating Gasket Set, Add	0.99	
		For Work In Restricted Working Space, Add	14.17	
23 21 13 23-0772	EA	2-1/2", 150 LB, Rubber Flange Gasket Replacement	59.29	
		For 300 LB Rating Gasket Set, Add	1.35	
		For Work In Restricted Working Space, Add	16.63	
23 21 13 23-0773	EA	3", 150 LB, Rubber Flange Gasket Replacement	62.98	
		For 300 LB Rating Gasket Set, Add	1.56	
		For Work In Restricted Working Space, Add	17.56	
23 21 13 23-0774	EA	4", 150 LB, Rubber Flange Gasket Replacement	84.30	
		For 300 LB Rating Gasket Set, Add	2.56	
		For Work In Restricted Working Space, Add	23.10	
23 21 13 23-0775	EA	5", 150 LB, Rubber Flange Gasket Replacement	97.43	
		For 300 LB Rating Gasket Set, Add	2.84	
		For Work In Restricted Working Space, Add	26.80	
23 21 13 23-0776	EA	6", 150 LB, Rubber Flange Gasket Replacement	121.8	
		For 300 LB Rating Gasket Set, Add	3.69	
		For Work In Restricted Working Space, Add	30.49	
23 21 13 23-0777	EA	8", 150 LB, Rubber Flange Gasket Replacement	138.60	
		For 300 LB Rating Gasket Set, Add	5.39	
		For Work In Restricted Working Space, Add	36.96	
23 21 13 23-0778	EA	10", 150 LB, Rubber Flange Gasket Replacement	153.30	
		For 300 LB Rating Gasket Set, Add	7.66	
		For Work In Restricted Working Space, Add	39.42	
23 21 13 23-0779	EA	12", 150 LB, Rubber Flange Gasket Replacement	176.83	
		For 300 LB Rating Gasket Set, Add	9.79	
		For Work In Restricted Working Space, Add	44.66	
23 21 13 23-0780	EA	14", 150 LB, Rubber Flange Gasket Replacement	187.44	
		For 300 LB Rating Gasket Set, Add	11.70	
		For Work In Restricted Working Space, Add	46.20	
23 21 13 23-0781	EA	16", 150 LB, Rubber Flange Gasket Replacement	242.62	
		For 300 LB Rating Gasket Set, Add	13.05	
		For Work In Restricted Working Space, Add	61.60	
23 21 13 23-0782	EA	18", 150 LB, Rubber Flange Gasket Replacement	263.74	
		For 300 LB Rating Gasket Set, Add	13.62	
		For Work In Restricted Working Space, Add	67.45	
23 21 13 23-0783	EA	20", 150 LB, Rubber Flange Gasket Replacement	315.83	
		For 300 LB Rating Gasket Set, Add	14.61	
		For Work In Restricted Working Space, Add	82.23	
23 21 13 23-0784		Cut And Prepare For Welding Existing In-Place Black Steel Pipe (23 21 13 23-0393)		
		Note: For use when connecting pipe to an existing in-place system.		
23 21 13 23-0785	EA	1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	22.29	
		For Work In Restricted Working Space, Add	6.69	
23 21 13 23-0786	EA	3/4", Cut And Prepare For Welding Existing In Place Black Steel Pipe	24.07	
		For Work In Restricted Working Space, Add	7.22	
23 21 13 23-0787	EA	1", Cut And Prepare For Welding Existing In Place Black Steel Pipe	27.07	
		For Work In Restricted Working Space, Add	8.12	
23 21 13 23-0788	EA	1-1/4", Cut And Prepare For Welding Existing In Place Black Steel Pipe	28.41	
		For Work In Restricted Working Space, Add	8.52	
23 21 13 23-0789	EA	1-1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	30.08	
		For Work In Restricted Working Space, Add	9.02	
23 21 13 23-0790	EA	2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	32.31	
		For Work In Restricted Working Space, Add	9.69	
23 21 13 23-0791	EA	2-1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	34.55	
		For Work In Restricted Working Space, Add	10.37	
23 21 13 23-0792	EA	3", Cut And Prepare For Welding Existing In Place Black Steel Pipe	37.88	
		For Work In Restricted Working Space, Add	11.36	
23 21 13 23-0793	EA	4", Cut And Prepare For Welding Existing In Place Black Steel Pipe	41.22	
		For Work In Restricted Working Space, Add	12.37	
23 21 13 23-0794	EA	6", Cut And Prepare For Welding Existing In Place Black Steel Pipe	44.57	
		For Work In Restricted Working Space, Add	13.37	
23 21 13 23-0795	EA	8", Cut And Prepare For Welding Existing In Place Black Steel Pipe	47.91	
		For Work In Restricted Working Space, Add	14.37	
23 21 13 23-0796	EA	10", Cut And Prepare For Welding Existing In Place Black Steel Pipe	52.37	
		For Work In Restricted Working Space, Add	15.71	
23 21 13 23-0797	EA	12", Cut And Prepare For Welding Existing In Place Black Steel Pipe	56.82	
		For Work In Restricted Working Space, Add	17.05	
23 21 13 23-0798	EA	14", Cut And Prepare For Welding Existing In Place Black Steel Pipe	61.28	
		For Work In Restricted Working Space, Add	18.38	
23 21 13 23-0799	EA	16", Cut And Prepare For Welding Existing In Place Black Steel Pipe	65.74	
		For Work In Restricted Working Space, Add	19.72	
23 21 13 23-0800	EA	18", Cut And Prepare For Welding Existing In Place Black Steel Pipe	69.08	
		For Work In Restricted Working Space, Add	20.72	
23 21 13 23-0801	EA	20", Cut And Prepare For Welding Existing In Place Black Steel Pipe	72.42	
		For Work In Restricted Working Space, Add	21.73	
23 21 13 23-0802	EA	24", Cut And Prepare For Welding Existing In Place Black Steel Pipe	76.88	
		For Work In Restricted Working Space, Add	23.06	
23 21 13 23-0803		Welded Plain End Electric Resistance Black Steel Pipe (23 21 13 23-0393)		
		Note: ASTM A-135.		
23 21 13 23-0804	LF	2" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	31.21	11.46
		For Work In Restricted Working Space, Add	5.63	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0805	LF	2-1/2" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	37.88	12.50
		<i>For Work In Restricted Working Space, Add</i>	5.63	
23 21 13 23-0806	LF	3" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	41.96	12.30
		<i>For Work In Restricted Working Space, Add</i>	5.51	
23 21 13 23-0807	LF	4" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	51.89	15.62
		<i>For Work In Restricted Working Space, Add</i>	7.02	
23 21 13 23-0808	LF	6" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	89.83	23.12
		<i>For Work In Restricted Working Space, Add</i>	10.40	
23 21 13 23-0809	LF	8.322" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	120.11	28.12
		<i>For Work In Restricted Working Space, Add</i>	12.67	
23 21 13 23-0810	LF	10.365" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	168.23	35.03
		<i>For Work In Restricted Working Space, Add</i>	15.76	
23 21 13 23-0811	LF	12.375" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	204.81	42.24
		<i>For Work In Restricted Working Space, Add</i>	18.99	
23 21 13 23-0812	LF	14.375" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings.....	259.73	54.81
		<i>For Work In Restricted Working Space, Add</i>	24.66	
23 21 13 23-0813 150 LB, Spiral Wound Metal Flange Gasket Replacement (23 21 13 23-0393)				
Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (1/8" thick carbon steel outer ring with spiral wound 304 stainless steel inner ring) and rebolting.				
23 21 13 23-0814	EA	1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	34.90	
		<i>For 300 Lb., Add</i>	0.31	
		<i>For Work In Restricted Working Space, Add</i>	9.24	
23 21 13 23-0815	EA	3/4", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	37.01	
		<i>For 300 Lb., Add</i>	0.31	
		<i>For Work In Restricted Working Space, Add</i>	9.86	
23 21 13 23-0816	EA	1", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	40.13	
		<i>For 300 Lb., Add</i>	0.32	
		<i>For Work In Restricted Working Space, Add</i>	10.78	
23 21 13 23-0817	EA	1-1/4", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	43.85	
		<i>For 300 Lb., Add</i>	0.36	
		<i>For Work In Restricted Working Space, Add</i>	11.70	
23 21 13 23-0818	EA	1-1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	48.06	
		<i>For 300 Lb., Add</i>	0.37	
		<i>For Work In Restricted Working Space, Add</i>	12.94	
23 21 13 23-0819	EA	2", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	52.40	
		<i>For 300 Lb., Add</i>	0.39	
		<i>For Work In Restricted Working Space, Add</i>	14.17	
23 21 13 23-0820	EA	2-1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	61.06	
		<i>For 300 Lb., Add</i>	0.42	
		<i>For Work In Restricted Working Space, Add</i>	16.63	
23 21 13 23-0821	EA	3", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	64.59	
		<i>For 300 Lb., Add</i>	0.46	
		<i>For Work In Restricted Working Space, Add</i>	17.56	
23 21 13 23-0822	EA	4", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	84.76	
		<i>For 300 Lb., Add</i>	0.58	
		<i>For Work In Restricted Working Space, Add</i>	23.10	
23 21 13 23-0823	EA	5", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	98.89	
		<i>For 300 Lb., Add</i>	0.72	
		<i>For Work In Restricted Working Space, Add</i>	26.79	
23 21 13 23-0824	EA	6", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	112.29	
		<i>For 300 Lb., Add</i>	0.80	
		<i>For Work In Restricted Working Space, Add</i>	30.50	
23 21 13 23-0825	EA	8", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	135.92	
		<i>For 300 Lb., Add</i>	0.95	
		<i>For Work In Restricted Working Space, Add</i>	36.97	
23 21 13 23-0826	EA	10", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	148.92	
		<i>For 300 Lb., Add</i>	1.31	
		<i>For Work In Restricted Working Space, Add</i>	39.42	
23 21 13 23-0827	EA	12", 150 LB, Spiral Wound Metal Flange Gasket Replacement.....	175.26	
		<i>For 300 Lb., Add</i>	1.98	
		<i>For Work In Restricted Working Space, Add</i>	44.66	
23 21 13 23-0828 150 LB, Flexible Graphite Flange Gasket Replacement (23 21 13 23-0393)				
Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (flexible graphite outer ring with 316 stainless steel inner ring) and rebolting.				
23 21 13 23-0829	EA	1/2", 150 LB, Flexible Graphite Flange Gasket Replacement.....	31.62	
		<i>For Work In Restricted Working Space, Add</i>	9.24	
23 21 13 23-0830	EA	3/4", 150 LB, Flexible Graphite Flange Gasket Replacement.....	34.21	
		<i>For Work In Restricted Working Space, Add</i>	9.86	
23 21 13 23-0831	EA	1", 150 LB, Flexible Graphite Flange Gasket Replacement.....	37.49	
		<i>For Work In Restricted Working Space, Add</i>	10.78	
23 21 13 23-0832	EA	1-1/4", 150 LB, Flexible Graphite Flange Gasket Replacement.....	41.23	
		<i>For Work In Restricted Working Space, Add</i>	11.70	
23 21 13 23-0833	EA	1-1/2", 150 LB, Flexible Graphite Flange Gasket Replacement.....	45.49	
		<i>For Work In Restricted Working Space, Add</i>	12.94	
23 21 13 23-0834	EA	2", 150 LB, Flexible Graphite Flange Gasket Replacement.....	50.34	
		<i>For Work In Restricted Working Space, Add</i>	14.17	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0835 EA 2-1/2", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	59.64 16.63	
23 21 13 23-0836 EA 3", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	62.94 17.56	
23 21 13 23-0837 EA 4", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	84.16 23.10	
23 21 13 23-0838 EA 5", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	97.84 26.79	
23 21 13 23-0839 EA 6", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	111.16 30.50	
23 21 13 23-0840 EA 8", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	139.21 36.97	
23 21 13 23-0841 EA 10", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	154.62 39.42	
23 21 13 23-0842 EA 12", 150 LB, Flexible Graphite Flange Gasket Replacement..... For Work In Restricted Working Space, Add	177.59 44.66	
23 21 13 23-0843 150 LB, Teflon, Spiral Wound, Flange Gasket Replacement (23 21 13 23-0835) Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (teflon outer ring with 304 stainless steel inner ring) and rebolting.		
23 21 13 23-0844 EA 1/2", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	51.11 9.24	
23 21 13 23-0845 EA 3/4", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	54.55 9.86	
23 21 13 23-0846 EA 1", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	59.04 10.78	
23 21 13 23-0847 EA 1-1/4", Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	67.00 11.70	
23 21 13 23-0848 EA 1-1/2", Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	72.04 12.94	
23 21 13 23-0849 EA 2", Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	78.56 14.17	
23 21 13 23-0850 EA 2-1/2", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	91.25 16.63	
23 21 13 23-0851 EA 3", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	103.96 17.56	
23 21 13 23-0852 EA 4", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	131.11 23.10	
23 21 13 23-0853 EA 5", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	156.71 26.79	
23 21 13 23-0854 EA 6", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	206.11 30.50	
23 21 13 23-0855 EA 8", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	226.38 36.97	
23 21 13 23-0856 EA 10", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	258.32 39.42	
23 21 13 23-0857 EA 12", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... For Work In Restricted Working Space, Add	340.55 44.66	
23 21 13 23-0858 Flanged Steel Fittings (23 21 13 23) See CSI section 23 21 13 23-0394 for steel pipe, 23 21 13 23-0637 for welded neck flange ends.		
23 21 13 23-0859 Flanged Steel Fittings, Standard Weight (23 21 13 23-0858) Note: Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets. See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0860 Flanged Steel, 90 Degree Elbows (23 21 13 23-0859)		
23 21 13 23-0861 EA 2" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	385.81 251.18 376.78	47.91
23 21 13 23-0862 EA 2-1/2" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	430.30 280.22 420.32	53.36
23 21 13 23-0863 EA 3" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	429.05 272.65 408.97	58.90
23 21 13 23-0864 EA 4" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	542.81 352.17 528.25	68.44
23 21 13 23-0865 EA 5" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	753.93 511.21 766.81	76.64
23 21 13 23-0866 EA 6" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	799.22 532.67 799.01	88.96
23 21 13 23-0867 EA 8" Standard Weight, Flanged Steel, 90 Degree Elbow..... For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	1,010.33 690.06 1,035.10	98.50
23 21 13 23-0868 Flanged Steel, Reducing 90 Degree Elbows (23 21 13 23-0859)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0869	EA	2-1/2" x 2" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	710.21	50.69
		For Galvanized Fittings, Add	507.42	
		For Extra Heavy Weight Fittings, Add	761.14	
23 21 13 23-0870	EA	3" x 2-1/2" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	740.51	56.13
		For Galvanized Fittings, Add	525.10	
		For Extra Heavy Weight Fittings, Add	787.64	
23 21 13 23-0871	EA	4" x 3" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	920.62	63.61
		For Galvanized Fittings, Add	660.15	
		For Extra Heavy Weight Fittings, Add	990.23	
23 21 13 23-0872	EA	5" x 3" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,136.61	67.72
		For Galvanized Fittings, Add	828.03	
		For Extra Heavy Weight Fittings, Add	1,242.05	
23 21 13 23-0873	EA	6" x 4" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,295.05	78.70
		For Galvanized Fittings, Add	941.64	
		For Extra Heavy Weight Fittings, Add	1,412.46	
23 21 13 23-0874	EA	8" x 6" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,802.00	93.78
		For Galvanized Fittings, Add	1,329.14	
		For Extra Heavy Weight Fittings, Add	1,993.72	
23 21 13 23-0875 Flanged Steel, 45 Degree Elbows (23 21 13 23-0859)				
23 21 13 23-0876	EA	2" Standard Weight, Flanged Steel, 45 Degree Elbow	499.42	47.91
		For Galvanized Fittings, Add	342.07	
		For Extra Heavy Weight Fittings, Add	513.11	
23 21 13 23-0877	EA	2-1/2" Standard Weight, Flanged Steel, 45 Degree Elbow	521.82	53.36
		For Galvanized Fittings, Add	353.43	
		For Extra Heavy Weight Fittings, Add	530.15	
23 21 13 23-0878	EA	3" Standard Weight, Flanged Steel, 45 Degree Elbow	542.65	58.90
		For Galvanized Fittings, Add	363.53	
		For Extra Heavy Weight Fittings, Add	545.29	
23 21 13 23-0879	EA	4" Standard Weight, Flanged Steel, 45 Degree Elbow	675.35	68.44
		For Galvanized Fittings, Add	458.20	
		For Extra Heavy Weight Fittings, Add	687.30	
23 21 13 23-0880	EA	5" Standard Weight, Flanged Steel, 45 Degree Elbow	968.52	76.64
		For Galvanized Fittings, Add	682.88	
		For Extra Heavy Weight Fittings, Add	1,024.32	
23 21 13 23-0881	EA	6" Standard Weight, Flanged Steel, 45 Degree Elbow	947.53	88.96
		For Galvanized Fittings, Add	651.32	
		For Extra Heavy Weight Fittings, Add	976.98	
23 21 13 23-0882	EA	8" Standard Weight, Flanged Steel, 45 Degree Elbow	1,115.95	98.50
		For Galvanized Fittings, Add	774.56	
		For Extra Heavy Weight Fittings, Add	1,161.84	
23 21 13 23-0883 Flanged Steel, Tees (23 21 13 23-0859)				
23 21 13 23-0884	EA	2" Standard Weight, Flanged Steel, Tee	497.45	71.83
		For Galvanized Fittings, Add	311.78	
		For Extra Heavy Weight Fittings, Add	467.66	
23 21 13 23-0885	EA	2-1/2" Standard Weight, Flanged Steel, Tee	639.14	80.03
		For Galvanized Fittings, Add	415.28	
		For Extra Heavy Weight Fittings, Add	622.92	
23 21 13 23-0886	EA	3" Standard Weight, Flanged Steel, Tee	586.78	88.24
		For Galvanized Fittings, Add	363.54	
		For Extra Heavy Weight Fittings, Add	545.30	
23 21 13 23-0887	EA	4" Standard Weight, Flanged Steel, Tee	832.34	102.71
		For Galvanized Fittings, Add	542.75	
		For Extra Heavy Weight Fittings, Add	814.13	
23 21 13 23-0888	EA	5" Standard Weight, Flanged Steel, Tee	1,226.93	115.02
		For Galvanized Fittings, Add	843.65	
		For Extra Heavy Weight Fittings, Add	1,265.47	
23 21 13 23-0889	EA	6" Standard Weight, Flanged Steel, Tee	1,495.66	133.49
		For Galvanized Fittings, Add	1,036.47	
		For Extra Heavy Weight Fittings, Add	1,554.71	
23 21 13 23-0890	EA	8" Standard Weight, Flanged Steel, Tee	1,657.77	154.63
		For Galvanized Fittings, Add	1,140.71	
		For Extra Heavy Weight Fittings, Add	1,711.07	
23 21 13 23-0891 Flanged Steel, Reducing Tees (23 21 13 23-0859)				
23 21 13 23-0892	EA	2-1/2" Standard Weight, Flanged Steel, Reducing Tee	777.04	77.37
		For Galvanized Fittings, Add	528.88	
		For Extra Heavy Weight Fittings, Add	793.32	
23 21 13 23-0893	EA	3" Standard Weight, Flanged Steel, Reducing Tee	896.65	85.57
		For Galvanized Fittings, Add	614.71	
		For Extra Heavy Weight Fittings, Add	922.07	
23 21 13 23-0894	EA	4" Standard Weight, Flanged Steel, Reducing Tee	1,530.36	97.88
		For Galvanized Fittings, Add	1,106.91	
		For Extra Heavy Weight Fittings, Add	1,660.37	
23 21 13 23-0895	EA	5" Standard Weight, Flanged Steel, Reducing Tee	1,655.48	110.91
		For Galvanized Fittings, Add	1,191.41	
		For Extra Heavy Weight Fittings, Add	1,787.11	
23 21 13 23-0896	EA	6" Standard Weight, Flanged Steel, Reducing Tee	2,077.95	127.33
		For Galvanized Fittings, Add	1,509.69	
		For Extra Heavy Weight Fittings, Add	2,264.53	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0897 EA 8" Standard Weight, Flanged Steel, Reducing Tee For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	2,590.62 1,900.94 2,851.42	143.03
23 21 13 23-0898 Flanged Steel, Concentric Reducers (23 21 13 23-0899)		
23 21 13 23-0899 EA 3" x 2-1/2" Standard Weight, Flanged Steel, Concentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	731.04 517.52 776.28	56.13
23 21 13 23-0900 EA 4" x 3" Standard Weight, Flanged Steel, Concentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	830.69 588.21 882.31	63.61
23 21 13 23-0901 EA 5" x 4" Standard Weight, Flanged Steel, Concentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	1,227.43 894.94 1,342.40	72.54
23 21 13 23-0902 EA 6" x 4" Standard Weight, Flanged Steel, Concentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	1,353.43 988.34 1,482.52	78.70
23 21 13 23-0903 EA 8" x 6" Standard Weight, Flanged Steel, Concentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	1,585.84 1,156.22 1,734.32	93.78
23 21 13 23-0904 Flanged Steel, Eccentric Reducers (23 21 13 23-0899)		
23 21 13 23-0905 EA 4" x 3" Standard Weight, Flanged Steel, Eccentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	790.93 556.40 834.60	63.61
23 21 13 23-0906 EA 5" x 4" Standard Weight, Flanged Steel, Eccentric Reducer For Galvanized Fittings, Add For Extra Heavy Weight Fittings, Add	1,071.86 770.48 1,155.72	72.54
23 21 13 23-0907 Plain End Couplings And Fittings (23 21 13 23)		
Note: For use on standard weight steel pipe (Schedule 40), but may be used on lightwall steel or other metallic pipe such as aluminum or stainless steel.		
23 21 13 23-0908 Plain End Piping System Couplings (23 21 13 23-0907)		
23 21 13 23-0909 Plainlock Plain End Piping System Couplings (23 21 13 23-0908)		
Note: Ductile iron body with gasket, bolts and nuts.		
23 21 13 23-0910 EA 1" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	171.85 32.52	6.16
23 21 13 23-0911 EA 1-1/2" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	175.44 32.52	8.51
23 21 13 23-0912 EA 2" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	179.60 32.52	11.29
23 21 13 23-0913 EA 2-1/2" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	183.14 32.52	13.64
23 21 13 23-0914 EA 3" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	216.54 38.38	16.41
23 21 13 23-0915 EA 4" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	298.73 53.18	21.86
23 21 13 23-0916 EA 6" Plainlock Plain End Piping System Coupling For Galvanized Fittings, Add	502.35 89.80	35.60
23 21 13 23-0917 Roust-A-Bout Plain End Piping System Couplings (23 21 13 23-0908)		
Note: Ductile iron body with gasket, bolts and nuts.		
23 21 13 23-0918 EA 1-1/2" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	207.03 48.55	8.51
23 21 13 23-0919 EA 2" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	211.19 48.55	11.29
23 21 13 23-0920 EA 2-1/2" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	214.74 48.55	13.74
23 21 13 23-0921 EA 3" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	312.29 71.92	16.41
23 21 13 23-0922 EA 3-1/2" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	361.67 83.23	19.19
23 21 13 23-0923 EA 4" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	365.73 83.23	21.86
23 21 13 23-0924 EA 5" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	516.68 118.90	27.40
23 21 13 23-0925 EA 6" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	634.26 145.22	35.60
23 21 13 23-0926 EA 8" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	1,093.69 257.51	42.48
23 21 13 23-0927 EA 10" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	1,415.48 335.01	50.27
23 21 13 23-0928 EA 12" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	1,770.76 420.37	59.51
23 21 13 23-0929 EA 14" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	2,486.38 596.93	65.77
23 21 13 23-0930 EA 16" Roust-A-Bout Plain End Piping System Coupling For Galvanized Fittings, Add	3,381.32 817.45	74.39

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0931		Plain End Piping System Fittings (23 21 13 23-0907) Note: Cast ductile iron bodies.		
23 21 13 23-0932		Plain End Piping System, 90 Degree Elbows (23 21 13 23-0931)		
23 21 13 23-0933	EA	1" Plain End Piping System, 90 Degree Elbow	170.28	11.19
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0934	EA	1-1/2" Plain End Piping System, 90 Degree Elbow	178.90	16.93
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0935	EA	2" Plain End Piping System, 90 Degree Elbow	187.05	22.37
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0936	EA	2-1/2" Plain End Piping System, 90 Degree Elbow	194.36	27.30
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0937	EA	3" Plain End Piping System, 90 Degree Elbow	233.90	33.04
		For Galvanized Fittings, Add	36.88	
23 21 13 23-0938	EA	4" Plain End Piping System, 90 Degree Elbow	334.16	43.50
		For Galvanized Fittings, Add	53.78	
23 21 13 23-0939	EA	5" Plain End Piping System, 90 Degree Elbow	1,012.42	54.48
		For Galvanized Fittings, Add	186.15	
23 21 13 23-0940	EA	6" Plain End Piping System, 90 Degree Elbow	846.97	71.31
		For Galvanized Fittings, Add	148.02	
23 21 13 23-0941	EA	8" Plain End Piping System, 90 Degree Elbow	1,690.11	84.65
		For Galvanized Fittings, Add	312.62	
23 21 13 23-0942	EA	10" Plain End Piping System, 90 Degree Elbow	2,112.89	98.91
		For Galvanized Fittings, Add	392.92	
23 21 13 23-0943	EA	12" Plain End Piping System, 90 Degree Elbow	2,679.53	118.81
		For Galvanized Fittings, Add	500.28	
23 21 13 23-0944		Plain End Piping System, 45 Degree Elbows (23 21 13 23-0931)		
23 21 13 23-0945	EA	1" Plain End Piping System, 45 Degree Elbow	170.28	11.19
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0946	EA	1-1/2" Plain End Piping System, 45 Degree Elbow	178.90	16.93
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0947	EA	2" Plain End Piping System, 45 Degree Elbow	187.05	22.37
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0948	EA	2-1/2" Plain End Piping System, 45 Degree Elbow	194.36	27.30
		For Galvanized Fittings, Add	30.70	
23 21 13 23-0949	EA	3" Plain End Piping System, 45 Degree Elbow	233.90	33.04
		For Galvanized Fittings, Add	36.88	
23 21 13 23-0950	EA	4" Plain End Piping System, 45 Degree Elbow	334.16	43.50
		For Galvanized Fittings, Add	53.78	
23 21 13 23-0951	EA	5" Plain End Piping System, 45 Degree Elbow	1,012.42	54.48
		For Galvanized Fittings, Add	186.15	
23 21 13 23-0952	EA	6" Plain End Piping System, 45 Degree Elbow	849.81	71.31
		For Galvanized Fittings, Add	148.59	
23 21 13 23-0953	EA	8" Plain End Piping System, 45 Degree Elbow	985.87	84.65
		For Galvanized Fittings, Add	171.78	
23 21 13 23-0954	EA	10" Plain End Piping System, 45 Degree Elbow	1,346.90	98.91
		For Galvanized Fittings, Add	239.72	
23 21 13 23-0955	EA	12" Plain End Piping System, 45 Degree Elbow	1,726.61	118.81
		For Galvanized Fittings, Add	309.69	
23 21 13 23-0956		Plain End Piping System, Tees (23 21 13 23-0931)		
23 21 13 23-0957	EA	1" Plain End Piping System, Tee	232.11	16.93
		For Galvanized Fittings, Add	41.34	
23 21 13 23-0958	EA	1-1/2" Plain End Piping System, Tee	244.83	25.44
		For Galvanized Fittings, Add	41.34	
23 21 13 23-0959	EA	2" Plain End Piping System, Tee	256.05	32.94
		For Galvanized Fittings, Add	41.34	
23 21 13 23-0960	EA	2-1/2" Plain End Piping System, Tee	267.22	40.33
		For Galvanized Fittings, Add	41.34	
23 21 13 23-0961	EA	3" Plain End Piping System, Tee	371.85	49.56
		For Galvanized Fittings, Add	59.50	
23 21 13 23-0962	EA	4" Plain End Piping System, Tee	509.79	64.13
		For Galvanized Fittings, Add	82.74	
23 21 13 23-0963	EA	5" Plain End Piping System, Tee	1,034.56	83.83
		For Galvanized Fittings, Add	181.76	
23 21 13 23-0964	EA	6" Plain End Piping System, Tee	1,279.03	104.97
		For Galvanized Fittings, Add	224.33	
23 21 13 23-0965	EA	8" Plain End Piping System, Tee	1,745.59	127.64
		For Galvanized Fittings, Add	310.83	
23 21 13 23-0966	EA	10" Plain End Piping System, Tee	2,596.41	148.78
		For Galvanized Fittings, Add	474.67	
23 21 13 23-0967	EA	12" Plain End Piping System, Tee	3,477.81	178.23
		For Galvanized Fittings, Add	642.12	
23 21 13 23-0968		Plain End Piping System, Reducing Tees (23 21 13 23-0931)		
23 21 13 23-0969	EA	1-1/2" Plain End Piping System, Reducing Tee	449.49	27.30
		For Galvanized Fittings, Add	81.72	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0970 EA 2" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	457.93 81.72	32.94
23 21 13 23-0971 EA 2-1/2" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	469.10 81.72	40.33
23 21 13 23-0972 EA 3" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	482.96 81.72	49.56
23 21 13 23-0973 EA 4" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	699.29 120.84	64.13
23 21 13 23-0974 EA 6" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	1,181.71 204.87	104.97
23 21 13 23-0975 EA 8" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	1,540.43 269.80	127.64
23 21 13 23-0976 EA 10" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	2,302.76 415.94	148.78
23 21 13 23-0977 EA 12" Plain End Piping System, Reducing Tee..... For Galvanized Fittings, Add	3,393.78 625.32	178.23
23 21 13 23-0978 Plain End Piping System, Wyes (23 21 13 23-0931)		
23 21 13 23-0979 EA 2" Plain End Piping System, Wye..... For Galvanized Fittings, Add	654.83 121.10	32.94
23 21 13 23-0980 EA 2-1/2" Plain End Piping System, Wye..... For Galvanized Fittings, Add	666.00 121.10	40.33
23 21 13 23-0981 EA 3" Plain End Piping System, Wye..... For Galvanized Fittings, Add	754.98 136.12	49.56
23 21 13 23-0982 EA 4" Plain End Piping System, Wye..... For Galvanized Fittings, Add	1,106.33 202.05	64.13
23 21 13 23-0983 EA 5" Plain End Piping System, Wye..... For Galvanized Fittings, Add	1,355.10 245.87	83.83
23 21 13 23-0984 EA 6" Plain End Piping System, Wye..... For Galvanized Fittings, Add	1,850.24 338.57	104.97
23 21 13 23-0985 EA 8" Plain End Piping System, Wye..... For Galvanized Fittings, Add	2,383.81 438.48	127.64
23 21 13 23-0986 EA 10" Plain End Piping System, Wye..... For Galvanized Fittings, Add	3,456.00 646.59	148.78
23 21 13 23-0987 EA 12" Plain End Piping System, Wye..... For Galvanized Fittings, Add	5,251.06 996.77	178.23
23 21 13 23-0988 Plain End Piping System, Laterals (23 21 13 23-0931)		
23 21 13 23-0989 EA 2" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	697.65 129.66	32.94
23 21 13 23-0990 EA 2-1/2" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	708.82 129.66	40.33
23 21 13 23-0991 EA 3" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	797.52 144.63	49.56
23 21 13 23-0992 EA 4" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	1,187.57 218.30	64.13
23 21 13 23-0993 EA 5" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	1,548.58 284.57	83.83
23 21 13 23-0994 EA 6" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	1,974.73 363.47	104.97
23 21 13 23-0995 EA 8" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	2,841.07 529.93	127.64
23 21 13 23-0996 EA 10" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	3,963.34 748.06	148.78
23 21 13 23-0997 EA 12" Plain End Piping System, Lateral..... For Galvanized Fittings, Add	5,326.46 1,011.85	178.23
23 21 13 23-0998 Plain End Piping System, Crosses (23 21 13 23-0931)		
23 21 13 23-0999 EA 2" Plain End Piping System, Cross..... For Galvanized Fittings, Add	777.87 87.99	49.36
23 21 13 23-1000 EA 2-1/2" Plain End Piping System, Cross..... For Galvanized Fittings, Add	794.59 87.99	60.43
23 21 13 23-1001 EA 3" Plain End Piping System, Cross..... For Galvanized Fittings, Add	928.02 102.06	74.39
23 21 13 23-1002 EA 4" Plain End Piping System, Cross..... For Galvanized Fittings, Add	1,265.77 140.21	96.14
23 21 13 23-1003 EA 5" Plain End Piping System, Cross..... For Galvanized Fittings, Add	1,781.75 199.14	125.80
23 21 13 23-1004 EA 6" Plain End Piping System, Cross..... For Galvanized Fittings, Add	2,338.93 262.95	156.98
23 21 13 23-1005 EA 8" Plain End Piping System, Cross..... For Galvanized Fittings, Add	2,983.74 337.34	190.13
23 21 13 23-1006 EA 10" Plain End Piping System, Cross..... For Galvanized Fittings, Add	4,270.74 492.20	222.24
23 21 13 23-1007 EA 12" Plain End Piping System, Cross..... For Galvanized Fittings, Add	6,078.51 709.71	267.38
23 21 13 23-1008 Plain End Piping System, Adapter Nipples (23 21 13 23-0931)		
Note: Plain to threaded, plain to beveled or plain to grooved.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1009	EA	1" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	73.85 16.15	6.16
23 21 13 23-1010	EA	1-1/2" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	79.22 16.60	8.51
23 21 13 23-1011	EA	2" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	83.27 16.60	11.29
23 21 13 23-1012	EA	2-1/2" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	98.30 19.45	13.64
23 21 13 23-1013	EA	3" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	120.74 24.03	16.41
23 21 13 23-1014	EA	4" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	193.55 40.18	21.86
23 21 13 23-1015	EA	6" Plain End Piping System, Adapter Nipple..... <i>For Galvanized Fittings, Add</i>	475.69 108.66	27.40
23 21 13 23-1016 Plain End Piping System, Reducing (Swaged) Nipples (23 21 13 23-0931)				
23 21 13 23-1017	EA	1-1/2" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	239.21 54.29	14.67
23 21 13 23-1018	EA	2" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	243.33 54.29	17.44
23 21 13 23-1019	EA	2" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	247.47 54.29	20.21
23 21 13 23-1020	EA	2-1/2" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	246.46 54.29	19.60
23 21 13 23-1021	EA	2-1/2" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	250.50 54.29	22.27
23 21 13 23-1022	EA	2-1/2" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	254.59 54.29	24.93
23 21 13 23-1023	EA	3" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	298.26 66.12	22.57
23 21 13 23-1024	EA	3" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	301.90 66.12	24.93
23 21 13 23-1025	EA	3" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	244.98 50.85	27.70
23 21 13 23-1026	EA	3" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	252.92 50.85	33.04
23 21 13 23-1027	EA	3-1/2" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	296.55 60.81	35.60
23 21 13 23-1028	EA	4" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	413.94 92.97	28.01
23 21 13 23-1029	EA	4" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	417.54 92.97	30.47
23 21 13 23-1030	EA	4" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	331.42 70.40	33.24
23 21 13 23-1031	EA	4" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	334.94 70.40	35.60
23 21 13 23-1032	EA	4" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	339.13 70.40	38.37
23 21 13 23-1033	EA	4" x 3-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	343.13 70.40	41.04
23 21 13 23-1034	EA	5" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,093.61 258.90	38.68
23 21 13 23-1035	EA	5" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	864.93 199.83	43.71
23 21 13 23-1036	EA	5" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	731.69 164.44	49.36
23 21 13 23-1037	EA	6" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	2,035.79 493.31	41.76
23 21 13 23-1038	EA	6" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	2,039.33 493.31	44.12
23 21 13 23-1039	EA	6" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,529.73 364.87	46.89
23 21 13 23-1040	EA	6" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,533.38 364.87	49.36
23 21 13 23-1041	EA	6" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,023.81 236.46	52.02
23 21 13 23-1042	EA	6" x 3-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,027.54 236.46	54.48
23 21 13 23-1043	EA	6" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	803.40 179.33	57.46
23 21 13 23-1044	EA	6" x 5" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	916.77 205.62	62.90
23 21 13 23-1045	EA	8" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,228.84 285.17	58.80
23 21 13 23-1046	EA	8" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,237.12 285.17	64.33
23 21 13 23-1047	EA	8" x 5" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,402.38 324.42	69.87
23 21 13 23-1048	EA	8" x 6" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,571.74 363.65	78.08

23 21 13 23-1049 Plain End Piping System, Bull Plugs (23 21 13 23-0931)



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1050 EA 1" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	343.00 100.13	6.16
23 21 13 23-1051 EA 1-1/2" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	346.60 100.13	8.51
23 21 13 23-1052 EA 2" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	350.65 100.13	11.29
23 21 13 23-1053 EA 2-1/2" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	354.29 100.13	13.64
23 21 13 23-1054 EA 3" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	513.89 146.78	16.41
23 21 13 23-1055 EA 4" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	664.79 189.59	21.86
23 21 13 23-1056 EA 5" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	1,157.85 335.05	27.40
23 21 13 23-1057 EA 6" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	1,542.92 446.87	35.60
23 21 13 23-1058 EA 8" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	2,864.04 840.73	42.37
23 21 13 23-1059 EA 10" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	5,158.09 1,525.12	49.56
23 21 13 23-1060 EA 12" Plain End Piping System, Bull Plug For Galvanized Fittings, Add	7,907.13 2,345.36	59.51
23 21 13 23-1061 Carbon Steel Piping Systems (23 21 13 23)		
23 21 13 23-1062 Class 3,000 LB Carbon Steel Socket Weld Fittings (23 21 13 23-1061) Note: ASTM A105		
23 21 13 23-1063 90 Degree Elbows, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1064 EA 1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	48.09	20.31
23 21 13 23-1065 EA 3/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	54.24	22.67
23 21 13 23-1066 EA 1" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	75.27	25.34
23 21 13 23-1067 EA 1-1/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	112.51	28.73
23 21 13 23-1068 EA 1-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	129.37	32.32
23 21 13 23-1069 EA 2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	180.39	41.14
23 21 13 23-1070 EA 2-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	392.53	60.84
23 21 13 23-1071 EA 3" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	569.78	80.03
23 21 13 23-1072 EA 4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	1,086.29	87.52
23 21 13 23-1073 45 Degree Elbows, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1074 EA 1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	55.88	20.31
23 21 13 23-1075 EA 3/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	66.04	22.67
23 21 13 23-1076 EA 1" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	78.89	25.34
23 21 13 23-1077 EA 1-1/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	117.11	28.73
23 21 13 23-1078 EA 1-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	140.37	32.32
23 21 13 23-1079 EA 2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	180.16	41.14
23 21 13 23-1080 EA 2-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	459.84	60.84
23 21 13 23-1081 EA 3" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	626.73	80.03
23 21 13 23-1082 EA 4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	1,061.65	87.52
23 21 13 23-1083 Straight Tees, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1084 EA 1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	58.10	25.34
23 21 13 23-1085 EA 3/4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	72.87	29.24
23 21 13 23-1086 EA 1" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	103.18	34.57
23 21 13 23-1087 EA 1-1/4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	145.37	41.14
23 21 13 23-1088 EA 1-1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	177.38	49.04
23 21 13 23-1089 EA 2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	241.93	60.84
23 21 13 23-1090 EA 2-1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	482.86	80.03
23 21 13 23-1091 EA 3" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	687.35	95.01
23 21 13 23-1092 EA 4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	1,445.72	110.48
23 21 13 23-1093 Reducing Tees, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1094 EA 1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	60.24	25.34
23 21 13 23-1095 EA 3/4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	75.07	29.24
23 21 13 23-1096 EA 1" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	105.82	34.57
23 21 13 23-1097 EA 1-1/4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	151.63	41.14
23 21 13 23-1098 EA 1-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	184.72	49.04
23 21 13 23-1099 EA 2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	253.19	60.84
23 21 13 23-1100 EA 2-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	509.63	80.03
23 21 13 23-1101 EA 3" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	725.88	95.01
23 21 13 23-1102 EA 4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	1,308.60	110.48
23 21 13 23-1103 Straight Couplings, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1104 EA 1/2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	38.48	20.31
23 21 13 23-1105 EA 3/4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	43.60	22.67
23 21 13 23-1106 EA 1" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	52.67	25.34
23 21 13 23-1107 EA 1-1/4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	61.52	28.73

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1108	EA	1-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	73.39	32.32
23 21 13 23-1109	EA	2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	98.00	41.14
23 21 13 23-1110	EA	2-1/2" Coupling, Straight, Carbon Steel, Socket, Weld, 3,000 LB.....	182.65	60.84
23 21 13 23-1111	EA	3" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	246.11	80.03
23 21 13 23-1112	EA	4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB.....	382.73	87.52
23 21 13 23-1113 Reducing Couplings, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)				
23 21 13 23-1114	EA	1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	42.83	20.31
23 21 13 23-1115	EA	3/4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	48.37	22.67
23 21 13 23-1116	EA	1" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	60.31	25.34
23 21 13 23-1117	EA	1-1/4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	70.75	28.73
23 21 13 23-1118	EA	1-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	87.07	32.32
23 21 13 23-1119	EA	2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	112.62	41.14
23 21 13 23-1120	EA	2-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	214.86	60.84
23 21 13 23-1121	EA	3" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	310.91	80.03
23 21 13 23-1122	EA	4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB.....	517.42	87.52
23 21 13 23-1123 Caps, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)				
23 21 13 23-1124	EA	1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	27.02	9.54
23 21 13 23-1125	EA	3/4" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	31.95	10.16
23 21 13 23-1126	EA	1" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	37.80	11.70
23 21 13 23-1127	EA	1-1/4" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	45.43	12.73
23 21 13 23-1128	EA	1-1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	55.12	12.73
23 21 13 23-1129	EA	2" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	71.65	16.31
23 21 13 23-1130	EA	2-1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	141.39	20.31
23 21 13 23-1131	EA	3" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	211.64	24.53
23 21 13 23-1132	EA	4" Cap, Carbon Steel, Socket Weld, 3,000 LB.....	317.60	29.95
23 21 13 23-1133 Black Cast Iron Square Head Plug (23 21 13 23-1062)				
23 21 13 23-1134	EA	1/2" Square Head Plug, Black, Cast Iron.....	14.85	8.10
23 21 13 23-1135	EA	3/4" Square Head Plug, Black, Cast Iron.....	18.99	8.10
23 21 13 23-1136	EA	1" Square Head Plug, Black, Cast Iron.....	26.08	12.31
23 21 13 23-1137	EA	1-1/4" Square Head Plug, Black, Cast Iron.....	26.91	12.31
23 21 13 23-1138	EA	1-1/2" Square Head Plug, Black, Cast Iron.....	30.35	12.31
23 21 13 23-1139	EA	2" Square Head Plug, Black, Cast Iron.....	40.03	16.31
23 21 13 23-1140	EA	2-1/2" Square Head Plug, Black, Cast Iron.....	52.89	20.31
23 21 13 23-1141	EA	3" Square Head Plug, Black, Cast Iron.....	72.88	24.53
23 21 13 23-1142	EA	4" Square Head Plug, Black, Cast Iron.....	87.33	29.95
23 21 13 23-1143 Unions, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)				
23 21 13 23-1144	EA	1/2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	83.28	25.34
23 21 13 23-1145	EA	3/4" Union, Carbon Steel, Socket Weld, 3,000 LB.....	90.31	29.24
23 21 13 23-1146	EA	1" Union, Carbon Steel, Socket Weld, 3,000 LB.....	119.74	34.57
23 21 13 23-1147	EA	1-1/4" Union, Carbon Steel, Socket Weld, 3,000 LB.....	155.36	41.14
23 21 13 23-1148	EA	1-1/2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	187.94	49.04
23 21 13 23-1149	EA	2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	235.77	60.84
23 21 13 23-1150	EA	2-1/2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	469.30	66.07
23 21 13 23-1151	EA	3" Union, Carbon Steel, Socket Weld, 3,000 LB.....	644.67	80.03
23 21 13 23-1152 Class 6,000 LB Carbon Steel Socket Weld Fittings (23 21 13 23-1061)				
Note: ASTM A105				
23 21 13 23-1153 90 Degree Elbow, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)				
23 21 13 23-1154	EA	1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	57.48	20.31
23 21 13 23-1155	EA	3/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	64.98	22.67
23 21 13 23-1156	EA	1" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	95.07	25.34
23 21 13 23-1157	EA	1-1/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	149.42	28.73
23 21 13 23-1158	EA	1-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	172.31	32.32
23 21 13 23-1159	EA	2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	243.47	41.14
23 21 13 23-1160	EA	2-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	552.56	60.84
23 21 13 23-1161	EA	3" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	808.65	80.03
23 21 13 23-1162	EA	4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	1,593.57	87.52
23 21 13 23-1163 45 Degree Elbow, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)				
23 21 13 23-1164	EA	1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	70.31	20.31
23 21 13 23-1165	EA	3/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	84.16	22.67
23 21 13 23-1166	EA	1" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	102.05	25.34
23 21 13 23-1167	EA	1-1/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	159.05	28.73
23 21 13 23-1168	EA	1-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	192.39	32.32
23 21 13 23-1169	EA	2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	247.28	41.14
23 21 13 23-1170	EA	2-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	668.57	60.84
23 21 13 23-1171	EA	3" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	913.65	80.03
23 21 13 23-1172	EA	4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	1,588.50	87.52



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1173 Straight Tees, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1174 EA 1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	76.71	25.34
23 21 13 23-1175 EA 3/4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	99.75	29.24
23 21 13 23-1176 EA 1" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	150.74	34.57
23 21 13 23-1177 EA 1-1/4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	222.93	41.14
23 21 13 23-1178 EA 1-1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	273.55	49.04
23 21 13 23-1179 EA 2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	381.53	60.84
23 21 13 23-1180 EA 2-1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	818.94	80.03
23 21 13 23-1181 EA 3" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	1,191.99	95.01
23 21 13 23-1182 EA 4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	2,631.31	110.48
23 21 13 23-1183 Reducing Tees, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1184 EA 1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	60.24	25.34
23 21 13 23-1185 EA 3/4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	75.07	29.24
23 21 13 23-1186 EA 1" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	105.82	34.57
23 21 13 23-1187 EA 1-1/4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	151.63	41.14
23 21 13 23-1188 EA 1-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	184.72	49.04
23 21 13 23-1189 EA 2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	253.19	60.84
23 21 13 23-1190 EA 2-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	509.63	80.03
23 21 13 23-1191 EA 3" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	725.88	95.01
23 21 13 23-1192 EA 4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	1,308.60	110.48
23 21 13 23-1193 Straight Couplings, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1194 EA 1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	42.39	20.31
23 21 13 23-1195 EA 3/4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	48.23	22.67
23 21 13 23-1196 EA 1" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	59.77	25.34
23 21 13 23-1197 EA 1-1/4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	70.47	28.73
23 21 13 23-1198 EA 1-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	85.42	32.32
23 21 13 23-1199 EA 2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	115.58	41.14
23 21 13 23-1200 EA 2-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	226.87	60.84
23 21 13 23-1201 EA 3" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	307.10	80.03
23 21 13 23-1202 EA 4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	504.40	87.52
23 21 13 23-1203 Reducing Couplings, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1204 EA 1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	48.80	20.31
23 21 13 23-1205 EA 3/4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	55.26	22.67
23 21 13 23-1206 EA 1" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	71.02	25.34
23 21 13 23-1207 EA 1-1/4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	84.05	28.73
23 21 13 23-1208 EA 1-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	105.58	32.32
23 21 13 23-1209 EA 2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	137.10	41.14
23 21 13 23-1210 EA 2-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	274.21	60.84
23 21 13 23-1211 EA 3" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	402.54	80.03
23 21 13 23-1212 EA 4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	702.83	87.52
23 21 13 23-1213 Caps, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1214 EA 1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	35.59	9.54
23 21 13 23-1215 EA 3/4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	43.18	10.16
23 21 13 23-1216 EA 1" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	51.40	11.70
23 21 13 23-1217 EA 1-1/4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	63.16	12.73
23 21 13 23-1218 EA 1-1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	79.36	12.73
23 21 13 23-1219 EA 2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	103.27	16.31
23 21 13 23-1220 EA 2-1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	215.88	20.31
23 21 13 23-1221 EA 3" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	328.99	24.53
23 21 13 23-1222 EA 4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	500.57	29.95
23 21 13 23-1223 Black Cast Iron Square Head Plug (23 21 13 23-1152)		
23 21 13 23-1224 EA 1/2" Square Head Plug, Black Cast Iron.....	14.87	8.10
23 21 13 23-1225 EA 3/4" Square Head Plug, Black Cast Iron.....	19.03	8.10
23 21 13 23-1226 EA 1" Square Head Plug, Black Cast Iron.....	26.12	12.31
23 21 13 23-1227 EA 1-1/4" Square Head Plug, Black Cast Iron.....	26.95	12.31
23 21 13 23-1228 EA 1-1/2" Square Head Plug, Black Cast Iron.....	30.40	12.31
23 21 13 23-1229 EA 2" Square Head Plug, Black Cast Iron.....	40.10	16.31
23 21 13 23-1230 EA 2-1/2" Square Head Plug, Black Cast Iron.....	53.00	20.31
23 21 13 23-1231 EA 3" Square Head Plug, Black Cast Iron.....	73.06	24.53
23 21 13 23-1232 EA 4" Square Head Plug, Black Cast Iron.....	87.55	29.95
23 21 13 23-1233 Unions, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1234 EA 1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	110.97	25.34
23 21 13 23-1235 EA 3/4" Union, Carbon Steel, Socket Weld, 6,000 LB.....	118.73	29.24
23 21 13 23-1236 EA 1" Union, Carbon Steel, Socket Weld, 6,000 LB.....	161.27	34.57
23 21 13 23-1237 EA 1-1/4" Union, Carbon Steel, Socket Weld, 6,000 LB.....	212.68	41.14
23 21 13 23-1238 EA 1-1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	257.89	49.04
23 21 13 23-1239 EA 2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	324.18	60.84

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-1240	EA	2-1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	695.65	66.07
23 21 13 23-1241	EA	3" Union, Carbon Steel, Socket Weld, 6,000 LB.....	965.50	80.03

23 21 13 23-1242 Carbon Steel, Seamless Piping System (23 21 13 23-1061)
Note: ASTM A106 Excludes hangers or fittings. Demolition Note applies to all pipe demolition.

23 21 13 23-1243 Schedule 40, Carbon Steel, Seamless Piping (23 21 13 23-1242)
Note: ASTM A106 Excludes hangers, elbow, tee, or reducer fittings.

23 21 13 23-1244	LF	1/4" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	12.26	3.80
		For Schedule 80, Add	2.36	
23 21 13 23-1245	LF	1/2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	12.22	4.10
		For Schedule 80, Add	2.16	
		For Schedule 160, Add	9.00	
23 21 13 23-1246	LF	3/4" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	13.97	4.41
		For Schedule 80, Add	2.65	
		For Schedule 160, Add	11.03	
23 21 13 23-1247	LF	1" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	14.74	4.83
		For Schedule 80, Add	2.73	
		For Schedule 160, Add	11.36	
23 21 13 23-1248	LF	1-1/2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	21.20	5.96
		For Schedule 80, Add	4.42	
		For Schedule 160, Add	18.42	
23 21 13 23-1249	LF	2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	25.49	7.18
		For Schedule 80, Add	5.29	
		For Schedule 160, Add	22.04	

23 21 13 23-1250 90 Degree Elbows, Screwed Carbon Steel (23 21 13 23-1242)

23 21 13 23-1251	EA	1/4" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	34.61	15.60
23 21 13 23-1252	EA	1/2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	42.67	18.26
23 21 13 23-1253	EA	3/4" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	47.62	20.42
23 21 13 23-1254	EA	1" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	55.61	22.77
23 21 13 23-1255	EA	1-1/2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	98.94	29.14
23 21 13 23-1256	EA	2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	125.23	37.04
23 21 13 23-1257	EA	1/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	38.16	15.60
23 21 13 23-1258	EA	1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	44.00	18.26
23 21 13 23-1259	EA	3/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	52.01	20.42
23 21 13 23-1260	EA	1" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	65.17	22.77
23 21 13 23-1261	EA	1-1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	121.77	29.14
23 21 13 23-1262	EA	2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	150.45	37.04
23 21 13 23-1263	EA	1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	56.42	18.26
23 21 13 23-1264	EA	3/4" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	67.66	20.42
23 21 13 23-1265	EA	1" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	81.61	22.77
23 21 13 23-1266	EA	1-1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	167.96	29.14
23 21 13 23-1267	EA	2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	272.95	37.04

23 21 13 23-1268 45 Degree Elbows, Screwed Carbon Steel (23 21 13 23-1242)

23 21 13 23-1269	EA	1/4" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	41.77	15.60
23 21 13 23-1270	EA	1/2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	45.53	18.26
23 21 13 23-1271	EA	3/4" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	51.33	20.42
23 21 13 23-1272	EA	1" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	58.42	22.77
23 21 13 23-1273	EA	1-1/2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	89.82	29.14
23 21 13 23-1274	EA	2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	139.29	37.04
23 21 13 23-1275	EA	1/4" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	42.35	15.60
23 21 13 23-1276	EA	1/2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	48.79	18.26
23 21 13 23-1277	EA	3/4" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	55.08	20.42
23 21 13 23-1278	EA	1" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	68.19	22.77
23 21 13 23-1279	EA	1-1/2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	118.24	29.14
23 21 13 23-1280	EA	2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	158.33	37.04
23 21 13 23-1281	EA	1/2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	65.01	18.26
23 21 13 23-1282	EA	3/4" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	83.14	20.42
23 21 13 23-1283	EA	1" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	87.42	22.77
23 21 13 23-1284	EA	1-1/2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	200.90	29.14
23 21 13 23-1285	EA	2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	275.13	37.04

23 21 13 23-1286 Straight Tees, Screwed Carbon Steel (23 21 13 23-1242)

23 21 13 23-1287	EA	1/4" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	46.49	21.64
23 21 13 23-1288	EA	1/2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	54.03	22.77
23 21 13 23-1289	EA	3/4" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	66.50	26.37
23 21 13 23-1290	EA	1" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	83.61	31.09
23 21 13 23-1291	EA	1-1/2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	143.97	44.12
23 21 13 23-1292	EA	2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	178.49	54.79
23 21 13 23-1293	EA	1/4" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	49.53	21.64
23 21 13 23-1294	EA	1/2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	56.01	22.77
23 21 13 23-1295	EA	3/4" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	73.11	26.37
23 21 13 23-1296	EA	1" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	89.27	31.09
23 21 13 23-1297	EA	1-1/2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	163.56	44.12
23 21 13 23-1298	EA	2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	210.90	54.79
23 21 13 23-1299	EA	1/2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	70.91	22.77



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1300 EA 3/4" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	89.13	26.37
23 21 13 23-1301 EA 1" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	128.87	31.09
23 21 13 23-1302 EA 1-1/2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	208.54	44.12
23 21 13 23-1303 EA 2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	354.32	54.79
23 21 13 23-1304 Crosses, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1305 EA 1/4" Cross, 2,000 LB, Screwed Carbon Steel.....	75.71	27.40
23 21 13 23-1306 EA 1/2" Cross, 2,000 LB, Screwed Carbon Steel.....	92.12	30.78
23 21 13 23-1307 EA 3/4" Cross, 2,000 LB, Screwed Carbon Steel.....	99.54	32.83
23 21 13 23-1308 EA 1" Cross, 2,000 LB, Screwed Carbon Steel.....	124.80	39.60
23 21 13 23-1309 EA 1-1/2" Cross, 2,000 LB, Screwed Carbon Steel.....	240.70	55.41
23 21 13 23-1310 EA 2" Cross, 2,000 LB, Screwed Carbon Steel.....	316.21	68.44
23 21 13 23-1311 EA 1/2" Cross, 3,000 LB, Screwed Carbon Steel.....	95.85	30.78
23 21 13 23-1312 EA 3/4" Cross, 3,000 LB, Screwed Carbon Steel.....	120.95	32.83
23 21 13 23-1313 EA 1" Cross, 3,000 LB, Screwed Carbon Steel.....	143.54	39.60
23 21 13 23-1314 EA 1-1/2" Cross, 3,000 LB, Screwed Carbon Steel.....	267.74	55.41
23 21 13 23-1315 EA 2" Cross, 3,000 LB, Screwed Carbon Steel.....	365.57	68.44
23 21 13 23-1316 EA 1/2" Cross, 6,000 LB, Screwed Carbon Steel.....	165.61	30.78
23 21 13 23-1317 EA 3/4" Cross, 6,000 LB, Screwed Carbon Steel.....	311.38	32.83
23 21 13 23-1318 EA 1" Cross, 6,000 LB, Screwed Carbon Steel.....	436.97	39.60
23 21 13 23-1319 EA 1-1/2" Cross, 6,000 LB, Screwed Carbon Steel.....	704.07	55.41
23 21 13 23-1320 EA 2" Cross, 6,000 LB, Screwed Carbon Steel.....	757.92	68.44
23 21 13 23-1321 Straight Couplings, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1322 EA 1/4" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	29.79	15.60
23 21 13 23-1323 EA 1/2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	33.55	18.26
23 21 13 23-1324 EA 3/4" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	39.15	20.42
23 21 13 23-1325 EA 1" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	47.02	22.77
23 21 13 23-1326 EA 1-1/2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	75.92	29.14
23 21 13 23-1327 EA 2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	96.30	37.04
23 21 13 23-1328 EA 1/4" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	38.73	15.60
23 21 13 23-1329 EA 1/2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	39.21	18.26
23 21 13 23-1330 EA 3/4" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	43.50	20.42
23 21 13 23-1331 EA 1" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	52.81	22.77
23 21 13 23-1332 EA 1-1/2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	84.77	29.14
23 21 13 23-1333 EA 2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	128.62	37.04
23 21 13 23-1334 Reducing Couplings, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1335 EA 1/4" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	31.03	16.63
23 21 13 23-1336 EA 1/2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	36.48	18.26
23 21 13 23-1337 EA 3/4" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	43.63	20.42
23 21 13 23-1338 EA 1" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	53.23	22.77
23 21 13 23-1339 EA 1-1/2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	77.53	29.14
23 21 13 23-1340 EA 2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	105.02	37.04
23 21 13 23-1341 EA 1/2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	150.99	18.26
23 21 13 23-1342 EA 3/4" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	154.26	20.42
23 21 13 23-1343 EA 1" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	182.19	22.77
23 21 13 23-1344 EA 1-1/2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	268.27	29.14
23 21 13 23-1345 EA 2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	393.72	37.04
23 21 13 23-1346 Caps, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1347 EA 1/4" Cap, 3,000 LB, Screwed Carbon Steel.....	15.76	6.97
23 21 13 23-1348 EA 1/2" Cap, 3,000 LB, Screwed Carbon Steel.....	18.01	8.10
23 21 13 23-1349 EA 3/4" Cap, 3,000 LB, Screwed Carbon Steel.....	21.77	9.13
23 21 13 23-1350 EA 1" Cap, 3,000 LB, Screwed Carbon Steel.....	27.64	10.16
23 21 13 23-1351 EA 1-1/2" Cap, 3,000 LB, Screwed Carbon Steel.....	39.22	12.93
23 21 13 23-1352 EA 2" Cap, 3,000 LB, Screwed Carbon Steel.....	55.39	16.52
23 21 13 23-1353 EA 1/4" Cap, 6,000 LB, Screwed Carbon Steel.....	26.49	6.97
23 21 13 23-1354 EA 1/2" Cap, 6,000 LB, Screwed Carbon Steel.....	24.89	8.10
23 21 13 23-1355 EA 3/4" Cap, 6,000 LB, Screwed Carbon Steel.....	32.97	9.13
23 21 13 23-1356 EA 1" Cap, 6,000 LB, Screwed Carbon Steel.....	35.82	10.16
23 21 13 23-1357 EA 1-1/2" Cap, 6,000 LB, Screwed Carbon Steel.....	72.56	12.93
23 21 13 23-1358 EA 2" Cap, 6,000 LB, Screwed Carbon Steel.....	87.86	16.52
23 21 13 23-1359 Nipples, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1360 EA 1/4" Nipple, 2" Long, Screwed Carbon Steel.....	18.59	9.34
23 21 13 23-1361 EA 1/2" Nipple, 2" Long, Screwed Carbon Steel.....	18.73	9.74
23 21 13 23-1362 EA 3/4" Nipple, 2" Long, Screwed Carbon Steel.....	18.47	9.74
23 21 13 23-1363 EA 1" Nipple, 2" Long, Screwed Carbon Steel.....	21.22	10.57
23 21 13 23-1364 EA 1-1/2" Nipple, 2" Long, Screwed Carbon Steel.....	25.30	11.39
23 21 13 23-1365 EA 2" Nipple, 2" Long, Screwed Carbon Steel.....	28.25	14.67
23 21 13 23-1366 EA 1/4" Nipple, 4" Long, Screwed Carbon Steel.....	20.64	9.34
23 21 13 23-1367 EA 1/2" Nipple, 4" Long, Screwed Carbon Steel.....	20.36	9.74
23 21 13 23-1368 EA 3/4" Nipple, 4" Long, Screwed Carbon Steel.....	20.30	9.74
23 21 13 23-1369 EA 1" Nipple, 4" Long, Screwed Carbon Steel.....	23.70	10.57

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1370	EA	1-1/2" Nipple, 4" Long, Screwed Carbon Steel	29.72	11.39
23 21 13 23-1371	EA	2" Nipple, 4" Long, Screwed Carbon Steel	34.72	14.67
23 21 13 23-1372	EA	1/4" Nipple, 6" Long, Screwed Carbon Steel	25.54	9.34
23 21 13 23-1373	EA	1/2" Nipple, 6" Long, Screwed Carbon Steel	22.94	9.74
23 21 13 23-1374	EA	3/4" Nipple, 6" Long, Screwed Carbon Steel	23.18	9.74
23 21 13 23-1375	EA	1" Nipple, 6" Long, Screwed Carbon Steel	27.26	10.57
23 21 13 23-1376	EA	1-1/2" Nipple, 6" Long, Screwed Carbon Steel	35.76	11.39
23 21 13 23-1377	EA	2" Nipple, 6" Long, Screwed Carbon Steel	40.07	14.67
23 21 13 23-1378 Unions, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1379	EA	1/4" Union, 3,000 LB, Screwed Carbon Steel	38.04	22.67
23 21 13 23-1380	EA	1/2" Union, 3,000 LB, Screwed Carbon Steel	37.70	22.77
23 21 13 23-1381	EA	3/4" Union, 3,000 LB, Screwed Carbon Steel	43.06	26.37
23 21 13 23-1382	EA	1" Union, 3,000 LB, Screwed Carbon Steel	51.89	31.09
23 21 13 23-1383	EA	1-1/2" Union, 3,000 LB, Screwed Carbon Steel	75.05	44.12
23 21 13 23-1384	EA	2" Union, 3,000 LB, Screwed Carbon Steel	93.27	54.79
23 21 13 23-1385	EA	1/4" Union, 6,000 LB, Screwed Carbon Steel	85.53	22.67
23 21 13 23-1386	EA	1/2" Union, 6,000 LB, Screwed Carbon Steel	95.12	22.77
23 21 13 23-1387	EA	3/4" Union, 6,000 LB, Screwed Carbon Steel	112.60	26.37
23 21 13 23-1388	EA	1" Union, 6,000 LB, Screwed Carbon Steel	137.59	31.09
23 21 13 23-1389	EA	1-1/2" Union, 6,000 LB, Screwed Carbon Steel	250.27	44.12
23 21 13 23-1390	EA	2" Union, 6,000 LB, Screwed Carbon Steel	308.93	54.79
23 21 13 23-1391 Weld Neck Flanges, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1392	EA	1/2" Flange, 150 LB, Screwed Carbon Steel	88.84	42.37
23 21 13 23-1393	EA	3/4" Flange, 150 LB, Screwed Carbon Steel	92.72	44.43
23 21 13 23-1394	EA	1" Flange, 150 LB, Screwed Carbon Steel	95.61	46.37
23 21 13 23-1395	EA	1-1/2" Flange, 150 LB, Screwed Carbon Steel	105.30	52.23
23 21 13 23-1396	EA	2" Flange, 150 LB, Screwed Carbon Steel	108.71	54.48
23 21 13 23-1397	EA	1/2" Flange, 300 LB, Screwed Carbon Steel	90.44	42.37
		For Ring Type Joint, Add	26.86	
		For Blind Flange, Deduct	-30.80	
23 21 13 23-1398	EA	3/4" Flange, 300 LB, Screwed Carbon Steel	94.43	44.43
		For Ring Type Joint, Add	27.77	
		For Blind Flange, Deduct	-32.22	
23 21 13 23-1399	EA	1" Flange, 300 LB, Screwed Carbon Steel	98.19	46.37
		For Ring Type Joint, Add	28.64	
		For Blind Flange, Deduct	-33.55	
23 21 13 23-1400	EA	1-1/2" Flange, 300 LB, Screwed Carbon Steel	111.47	52.23
		For Ring Type Joint, Add	33.14	
		For Blind Flange, Deduct	-37.96	
23 21 13 23-1401	EA	2" Flange, 300 LB, Screwed Carbon Steel	114.88	54.48
		For Ring Type Joint, Add	33.14	
		For Blind Flange, Deduct	-39.32	
23 21 13 23-1402	EA	1/2" Flange, 600 LB, Screwed Carbon Steel	101.01	42.37
		For Ring Type Joint, Add	37.43	
		For Blind Flange, Deduct	-32.92	
23 21 13 23-1403	EA	3/4" Flange, 600 LB, Screwed Carbon Steel	104.09	44.43
		For Ring Type Joint, Add	37.43	
		For Blind Flange, Deduct	-34.15	
23 21 13 23-1404	EA	1" Flange, 600 LB, Screwed Carbon Steel	108.68	46.37
		For Ring Type Joint, Add	39.13	
		For Blind Flange, Deduct	-35.65	
23 21 13 23-1405	EA	1-1/2" Flange, 600 LB, Screwed Carbon Steel	124.46	52.23
		For Ring Type Joint, Add	46.13	
		For Blind Flange, Deduct	-40.56	
23 21 13 23-1406	EA	2" Flange, 600 LB, Screwed Carbon Steel	124.68	54.48
		For Ring Type Joint, Add	42.94	
		For Blind Flange, Deduct	-41.28	
23 21 13 23-1407 Square Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1408	EA	1/4" Square Head Plug, Screwed Carbon Steel	6.69	2.87
23 21 13 23-1409	EA	1/2" Square Head Plug, Screwed Carbon Steel	7.99	3.39
23 21 13 23-1410	EA	3/4" Square Head Plug, Screwed Carbon Steel	9.42	3.90
23 21 13 23-1411	EA	1" Square Head Plug, Screwed Carbon Steel	13.67	5.74
23 21 13 23-1412	EA	1-1/2" Square Head Plug, Screwed Carbon Steel	19.91	5.74
23 21 13 23-1413	EA	2" Square Head Plug, Screwed Carbon Steel	30.03	7.49
23 21 13 23-1414 Hex Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1415	EA	1/4" Hex Head Plug, Screwed Carbon Steel	6.07	2.87
23 21 13 23-1416	EA	1/2" Hex Head Plug, Screwed Carbon Steel	7.42	3.39
23 21 13 23-1417	EA	3/4" Hex Head Plug, Screwed Carbon Steel	9.05	3.90
23 21 13 23-1418	EA	1" Hex Head Plug, Screwed Carbon Steel	13.34	5.74
23 21 13 23-1419	EA	1-1/2" Hex Head Plug, Screwed Carbon Steel	18.53	5.74
23 21 13 23-1420	EA	2" Hex Head Plug, Screwed Carbon Steel	31.00	7.49
23 21 13 23-1421 Round Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)				



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1422	EA		1/4" Round Head Plug, Screwed Carbon Steel	8.09	2.87
23 21 13 23-1423	EA		1/2" Round Head Plug, Screwed Carbon Steel	8.08	3.39
23 21 13 23-1424	EA		3/4" Round Head Plug, Screwed Carbon Steel	9.16	3.90
23 21 13 23-1425	EA		1" Round Head Plug, Screwed Carbon Steel	13.90	5.74
23 21 13 23-1426	EA		1-1/2" Round Head Plug, Screwed Carbon Steel	21.64	5.74
23 21 13 23-1427	EA		2" Round Head Plug, Screwed Carbon Steel	30.63	7.49
23 21 13 23-1428 Hexagon Bushings, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1429	EA		1/4" Hex Bushing, Screwed Carbon Steel	6.53	2.87
23 21 13 23-1430	EA		1/2" Hex Bushing, Screwed Carbon Steel	7.39	3.39
23 21 13 23-1431	EA		3/4" Hex Bushing, Screwed Carbon Steel	8.89	3.90
23 21 13 23-1432	EA		1" Hex Bushing, Screwed Carbon Steel	13.79	5.74
23 21 13 23-1433	EA		1-1/2" Hex Bushing, Screwed Carbon Steel	18.42	5.74
23 21 13 23-1434	EA		2" Hex Bushing, Screwed Carbon Steel	29.56	7.49
23 21 13 23-1435 90 Degree Street Elbows, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1436	EA		1/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	45.97	15.60
23 21 13 23-1437	EA		1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	51.58	18.26
23 21 13 23-1438	EA		3/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	61.78	20.42
23 21 13 23-1439	EA		1" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	74.04	22.77
23 21 13 23-1440	EA		1-1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	128.94	29.14
23 21 13 23-1441	EA		2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	177.25	37.04
23 21 13 23-1442	EA		1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	84.04	18.26
23 21 13 23-1443	EA		3/4" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	127.77	20.42
23 21 13 23-1444	EA		1" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	184.47	22.77
23 21 13 23-1445	EA		1-1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	432.72	29.14
23 21 13 23-1446 Screwed Carbon Steel Laterals (23 21 13 23-1242)					
23 21 13 23-1447	EA		1/2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	257.77	22.77
23 21 13 23-1448	EA		3/4" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	311.64	26.37
23 21 13 23-1449	EA		1" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	382.96	31.09
23 21 13 23-1450	EA		1-1/2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	486.13	44.12
23 21 13 23-1451	EA		2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	607.02	54.79
23 21 13 23-1452	EA		1/2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	333.60	22.77
23 21 13 23-1453	EA		3/4" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	424.40	26.37
23 21 13 23-1454	EA		1" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	503.53	31.09
23 21 13 23-1455	EA		1-1/2" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	707.80	44.12
23 21 13 23-1456 Grooved-Joint Pipe (23 21 13 23)					
Note: Includes grooving of pipe. Excludes hangers, elbow, tee, reducer fitting or couplings.					
23 21 13 23-1457 Schedule 10 Black Grooved Pipe (23 21 13 23-1456)					
23 21 13 23-1458	LF		2" Black Schedule 10 Grooved Pipe	35.94	13.03
23 21 13 23-1459	LF		2-1/2" Black Schedule 10 Grooved Pipe	48.12	17.86
23 21 13 23-1460	LF		3" Black Schedule 10 Grooved Pipe	54.32	19.80
23 21 13 23-1461	LF		3-1/2" Black Schedule 10 Grooved Pipe	62.35	20.52
23 21 13 23-1462	LF		4" Black Schedule 10 Grooved Pipe	65.72	22.27
23 21 13 23-1463	LF		5" Black Schedule 10 Grooved Pipe	97.72	27.30
23 21 13 23-1464	LF		6" Black Schedule 10 Grooved Pipe	121.72	38.79
23 21 13 23-1465	LF		8" Black Schedule 10 Grooved Pipe	177.51	43.50
23 21 13 23-1466	LF		10" Black Schedule 10 Grooved Pipe	224.99	52.43
23 21 13 23-1467	LF		12" Black Schedule 10 Grooved Pipe	260.81	59.41
23 21 13 23-1468 Schedule 40 Black Grooved Pipe (23 21 13 23-1456)					
23 21 13 23-1469	LF		3/4" Black Schedule 40 Grooved Pipe	21.47	7.90
23 21 13 23-1470	LF		1" Black Schedule 40 Grooved Pipe	24.26	8.93
23 21 13 23-1471	LF		1-1/4" Black Schedule 40 Grooved Pipe	28.12	9.64
23 21 13 23-1472	LF		1-1/2" Black Schedule 40 Grooved Pipe	32.00	10.98
23 21 13 23-1473	LF		2" Black Schedule 40 Grooved Pipe	40.17	13.96
23 21 13 23-1474	LF		2-1/2" Black Schedule 40 Grooved Pipe	56.34	19.09
23 21 13 23-1475	LF		3" Black Schedule 40 Grooved Pipe	67.40	21.76
23 21 13 23-1476	LF		4" Black Schedule 40 Grooved Pipe	85.68	24.21
23 21 13 23-1477	LF		5" Black Schedule 40 Grooved Pipe	122.56	29.44
23 21 13 23-1478	LF		6" Black Schedule 40 Grooved Pipe	161.55	42.48
23 21 13 23-1479	LF		8" Black Schedule 40 Grooved Pipe	224.13	48.13
23 21 13 23-1480	LF		10" Black Schedule 40 Grooved Pipe	319.49	57.46
23 21 13 23-1481	LF		12" Black Schedule 40 Grooved Pipe	378.36	65.97
23 21 13 23-1482	LF		14" Black Schedule 40 Grooved Pipe	497.09	89.17
23 21 13 23-1483	LF		16" Black Schedule 40 Grooved Pipe	574.93	104.86
23 21 13 23-1484	LF		18" Black Schedule 40 Grooved Pipe	717.11	127.33
23 21 13 23-1485	LF		20" Black Schedule 40 Grooved Pipe	824.87	148.47
23 21 13 23-1486	LF		24" Black Schedule 40 Grooved Pipe	1,097.27	178.23
23 21 13 23-1487 Schedule 80 Black Grooved Pipe (23 21 13 23-1456)					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1488	LF	3/4" Black Schedule 80 Grooved Pipe.....	23.55	8.62
23 21 13 23-1489	LF	1" Black Schedule 80 Grooved Pipe.....	26.60	9.13
23 21 13 23-1490	LF	1-1/4" Black Schedule 80 Grooved Pipe.....	31.94	10.16
23 21 13 23-1491	LF	1-1/2" Black Schedule 80 Grooved Pipe.....	36.55	11.39
23 21 13 23-1492	LF	2" Black Schedule 80 Grooved Pipe.....	47.34	14.67
23 21 13 23-1493	LF	2-1/2" Black Schedule 80 Grooved Pipe.....	67.32	20.21
23 21 13 23-1494	LF	3" Black Schedule 80 Grooved Pipe.....	81.90	22.67
23 21 13 23-1495	LF	4" Black Schedule 80 Grooved Pipe.....	107.32	24.73
23 21 13 23-1496	LF	5" Black Schedule 80 Grooved Pipe.....	171.85	31.09
23 21 13 23-1497	LF	6" Black Schedule 80 Grooved Pipe.....	218.96	44.53
23 21 13 23-1498	LF	8" Black Schedule 80 Grooved Pipe.....	346.30	50.89
23 21 13 23-1499	LF	10" Black Schedule 80 Grooved Pipe.....	433.27	61.46
23 21 13 23-1500	LF	12" Black Schedule 80 Grooved Pipe.....	445.11	74.29
23 21 13 23-1501 Schedule 40 Galvanized Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1502	LF	3/4" Galvanized Schedule 40 Grooved Pipe.....	19.35	7.90
23 21 13 23-1503	LF	1" Galvanized Schedule 40 Grooved Pipe.....	22.54	8.93
23 21 13 23-1504	LF	1-1/4" Galvanized Schedule 40 Grooved Pipe.....	25.24	9.64
23 21 13 23-1505	LF	1-1/2" Galvanized Schedule 40 Grooved Pipe.....	28.74	10.98
23 21 13 23-1506	LF	2" Galvanized Schedule 40 Grooved Pipe.....	36.30	13.96
23 21 13 23-1507	LF	2-1/2" Galvanized Schedule 40 Grooved Pipe.....	51.05	19.09
23 21 13 23-1508	LF	3" Galvanized Schedule 40 Grooved Pipe.....	61.01	21.76
23 21 13 23-1509	LF	4" Galvanized Schedule 40 Grooved Pipe.....	76.56	24.21
23 21 13 23-1510	LF	5" Galvanized Schedule 40 Grooved Pipe.....	109.67	29.44
23 21 13 23-1511	LF	6" Galvanized Schedule 40 Grooved Pipe.....	146.64	42.48
23 21 13 23-1512	LF	8" Galvanized Schedule 40 Grooved Pipe.....	198.55	48.13
23 21 13 23-1513	LF	10" Galvanized Schedule 40 Grooved Pipe.....	284.72	57.46
23 21 13 23-1514	LF	12" Galvanized Schedule 40 Grooved Pipe.....	337.18	65.97
23 21 13 23-1515 Schedule 80 Galvanized Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1516	LF	3/4" Galvanized Schedule 80 Grooved Pipe.....	20.72	8.62
23 21 13 23-1517	LF	1" Galvanized Schedule 80 Grooved Pipe.....	27.95	9.13
23 21 13 23-1518	LF	1-1/4" Galvanized Schedule 80 Grooved Pipe.....	27.86	10.16
23 21 13 23-1519	LF	1-1/2" Galvanized Schedule 80 Grooved Pipe.....	36.93	12.11
23 21 13 23-1520	LF	2" Galvanized Schedule 80 Grooved Pipe.....	41.33	14.67
23 21 13 23-1521	LF	2-1/2" Galvanized Schedule 80 Grooved Pipe.....	58.82	20.21
23 21 13 23-1522	LF	3" Galvanized Schedule 80 Grooved Pipe.....	71.46	22.67
23 21 13 23-1523	LF	4" Galvanized Schedule 80 Grooved Pipe.....	91.72	24.73
23 21 13 23-1524	LF	5" Galvanized Schedule 80 Grooved Pipe.....	140.95	31.09
23 21 13 23-1525	LF	6" Galvanized Schedule 80 Grooved Pipe.....	180.76	44.53
23 21 13 23-1526	LF	8" Galvanized Schedule 80 Grooved Pipe.....	277.52	50.89
23 21 13 23-1527	LF	10" Galvanized Schedule 80 Grooved Pipe.....	329.90	61.46
23 21 13 23-1528	LF	12" Galvanized Schedule 80 Grooved Pipe.....	358.95	74.29
23 21 13 23-1529 Painted Grooved-Joint Pipe Fittings (23 21 13 23)				
Note: Couplings are not included with fittings.				
23 21 13 23-1530 Grooved Elbows (23 21 13 23-1529)				
23 21 13 23-1531 90 Degree Grooved Elbows (23 21 13 23-1530)				
Note: Victaulic No. 10				
23 21 13 23-1532	EA	3/4", Ductile Iron, Grooved 90 Degree Elbow	89.88	11.19
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1533	EA	1", Ductile Iron, Grooved 90 Degree Elbow	89.88	11.19
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1534	EA	1-1/4", Ductile Iron, Grooved 90 Degree Elbow	94.07	13.96
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1535	EA	1-1/2", Ductile Iron, Grooved 90 Degree Elbow	98.51	16.93
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1536	EA	2", Ductile Iron, Grooved 90 Degree Elbow	106.65	22.37
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1537	EA	2-1/2", Ductile Iron, Grooved 90 Degree Elbow	113.96	27.30
		For Galvanized Fittings, Add	24.13	
23 21 13 23-1538	EA	3", Ductile Iron, Grooved 90 Degree Elbow	179.39	33.04
		For Galvanized Fittings, Add	42.86	
23 21 13 23-1539	EA	4", Ductile Iron, Grooved 90 Degree Elbow	206.82	43.61
		For Galvanized Fittings, Add	46.68	
23 21 13 23-1540	EA	5", Ductile Iron, Grooved 90 Degree Elbow	426.04	54.48
		For Galvanized Fittings, Add	113.64	
23 21 13 23-1541	EA	6", Ductile Iron, Grooved 90 Degree Elbow	507.07	71.31
		For Galvanized Fittings, Add	132.06	
23 21 13 23-1542	EA	8", Ductile Iron, Grooved 90 Degree Elbow	969.50	84.86
		For Galvanized Fittings, Add	277.95	
23 21 13 23-1543	EA	10", Ductile Iron, Grooved 90 Degree Elbow	1,460.71	99.01
		For Galvanized Fittings, Add	433.05	
23 21 13 23-1544	EA	12", Ductile Iron, Grooved 90 Degree Elbow	2,281.47	118.81
		For Galvanized Fittings, Add	694.10	
23 21 13 23-1545	EA	14", Steel, Grooved 90 Degree Elbow	4,575.30	134.10
		For Galvanized Fittings, Add	1,443.48	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-1546	EA	16", Steel, Grooved 90 Degree Elbow For Galvanized Fittings, Add	5,946.32 1,888.81	148.47
23 21	13 23-1547	EA	18", Steel, Grooved 90 Degree Elbow For Galvanized Fittings, Add	7,502.46 2,395.57	162.21
23 21	13 23-1548	EA	20", Steel, Grooved 90 Degree Elbow For Galvanized Fittings, Add	9,792.43 3,148.02	168.68
23 21	13 23-1549	EA	24", Steel, Grooved 90 Degree Elbow For Galvanized Fittings, Add	14,026.47 4,530.08	199.47
23 21 13 23-1550 45 Degree Grooved Elbows (23 21 13 23-1530)					
Note: Victaulic No. 11					
23 21	13 23-1551	EA	3/4", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	89.83 17.53	11.19
23 21	13 23-1552	EA	1", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	89.83 17.53	11.19
23 21	13 23-1553	EA	1-1/4", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	94.02 17.53	13.96
23 21	13 23-1554	EA	1-1/2", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	98.46 17.53	16.93
23 21	13 23-1555	EA	2", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	106.60 17.53	22.37
23 21	13 23-1556	EA	2-1/2", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	113.91 17.53	27.30
23 21	13 23-1557	EA	3", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	179.34 31.16	33.04
23 21	13 23-1558	EA	4", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	206.82 33.95	43.61
23 21	13 23-1559	EA	5", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	426.04 82.64	54.48
23 21	13 23-1560	EA	6", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	507.07 96.05	71.31
23 21	13 23-1561	EA	8", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	969.50 202.14	84.86
23 21	13 23-1562	EA	10", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	1,460.71 314.94	99.01
23 21	13 23-1563	EA	12", Ductile Iron, Grooved 45 Degree Elbow For Galvanized Fittings, Add	2,281.47 504.80	118.81
23 21	13 23-1564	EA	14", Steel, Grooved 45 Degree Elbow For Galvanized Fittings, Add	4,575.30 1,049.81	134.10
23 21	13 23-1565	EA	16", Steel, Grooved 45 Degree Elbow For Galvanized Fittings, Add	5,946.32 1,373.68	148.47
23 21	13 23-1566	EA	18", Steel, Grooved 45 Degree Elbow For Galvanized Fittings, Add	7,502.46 1,742.23	162.21
23 21	13 23-1567	EA	20", Steel, Grooved 45 Degree Elbow For Galvanized Fittings, Add	9,792.88 2,289.47	168.99
23 21	13 23-1568	EA	24", Steel, Grooved 45 Degree Elbow For Galvanized Fittings, Add	14,026.47 3,294.60	199.47
23 21 13 23-1569 22-1/2 Degree Grooved Elbows (23 21 13 23-1530)					
Note: Victaulic No. 12					
23 21	13 23-1570	EA	1", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	94.64 18.69	11.19
23 21	13 23-1571	EA	1-1/4", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	98.83 18.69	13.96
23 21	13 23-1572	EA	1-1/2", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	103.27 18.69	16.93
23 21	13 23-1573	EA	2", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	111.41 18.69	22.37
23 21	13 23-1574	EA	2-1/2", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	118.72 18.69	27.30
23 21	13 23-1575	EA	3", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	163.41 27.34	33.04
23 21	13 23-1576	EA	4", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	218.08 36.65	43.61
23 21	13 23-1577	EA	5", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	555.28 113.66	54.48
23 21	13 23-1578	EA	6", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	539.52 103.83	71.31
23 21	13 23-1579	EA	8", Ductile Iron, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	1,032.47 217.26	84.86
23 21	13 23-1580	EA	10", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	1,391.22 298.26	99.01
23 21	13 23-1581	EA	12", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	1,858.26 403.23	118.81
23 21	13 23-1582	EA	14", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	2,141.68 465.74	134.10
23 21	13 23-1583	EA	16", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	2,550.10 558.59	148.47
23 21	13 23-1584	EA	18", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	3,061.89 676.50	162.21
23 21	13 23-1585	EA	20", Steel, Grooved 22-1/2 Degree Elbow For Galvanized Fittings, Add	3,585.45 799.80	168.68

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1586	EA	24", Steel, Grooved 22-1/2 Degree Elbow <i>For Galvanized Fittings, Add</i>	4,777.10 1,074.75	199.47
23 21 13 23-1587		11-1/4 Degree Grooved Elbows (23 21 13 23-1530) Note: Victaulic No. 13		
23 21 13 23-1588	EA	1", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	94.64 18.69	11.19
23 21 13 23-1589	EA	1-1/4", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	98.83 18.69	13.96
23 21 13 23-1590	EA	1-1/2", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	103.27 18.69	16.93
23 21 13 23-1591	EA	2", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	111.41 18.69	22.37
23 21 13 23-1592	EA	2-1/2", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	118.72 18.69	27.30
23 21 13 23-1593	EA	3", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	163.40 27.33	33.04
23 21 13 23-1594	EA	4", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	218.07 36.65	43.61
23 21 13 23-1595	EA	5", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	555.26 113.66	54.48
23 21 13 23-1596	EA	6", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	539.50 103.83	71.31
23 21 13 23-1597	EA	8", Ductile Iron, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	1,032.41 217.24	84.86
23 21 13 23-1598	EA	10", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	1,391.15 298.25	99.01
23 21 13 23-1599	EA	12", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	1,858.16 403.20	118.81
23 21 13 23-1600	EA	14", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	2,141.58 465.71	134.10
23 21 13 23-1601	EA	16", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	2,550.01 558.56	148.57
23 21 13 23-1602	EA	18", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	3,061.71 676.46	162.21
23 21 13 23-1603	EA	20", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	3,585.27 799.75	168.68
23 21 13 23-1604	EA	24", Steel, Grooved 11-1/4 Degree Elbow <i>For Galvanized Fittings, Add</i>	4,776.86 1,074.70	199.47
23 21 13 23-1605		90 Degree Grooved Long Radius Elbows (23 21 13 23-1530) Note: Victaulic No. 100		
23 21 13 23-1606	EA	2", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	200.69 40.12	22.37
23 21 13 23-1607	EA	2-1/2", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	525.84 116.40	27.30
23 21 13 23-1608	EA	3", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	216.66 40.12	33.04
23 21 13 23-1609	EA	4", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	315.74 60.09	43.61
23 21 13 23-1610	EA	5", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	1,365.05 308.01	54.48
23 21 13 23-1611	EA	6", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	839.35 175.79	71.31
23 21 13 23-1612	EA	8", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	1,884.18 421.67	84.86
23 21 13 23-1613	EA	10", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	3,791.32 874.29	99.01
23 21 13 23-1614	EA	12", Ductile Iron, Grooved 90 Degree Long Radius Elbow <i>For Galvanized Fittings, Add</i>	4,522.26 1,042.59	118.81
23 21 13 23-1615		Grooved Tees, Wyes And Crosses (23 21 13 23-1529)		
23 21 13 23-1616		Grooved Tees (23 21 13 23-1615) Note: Victaulic No. 20		
23 21 13 23-1617	EA	3/4", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	133.78 33.52	14.67
23 21 13 23-1618	EA	1", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	137.12 33.52	16.93
23 21 13 23-1619	EA	1-1/4", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	142.77 33.52	20.73
23 21 13 23-1620	EA	1-1/2", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	149.82 33.52	25.44
23 21 13 23-1621	EA	2", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	161.04 33.52	32.94
23 21 13 23-1622	EA	2-1/2", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	172.23 33.52	40.33
23 21 13 23-1623	EA	3", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	230.76 46.95	49.56
23 21 13 23-1624	EA	4", Ductile Iron, Grooved Tee <i>For Galvanized Fittings, Add</i>	336.17 72.02	64.13



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-1625	EA	5", Ductile Iron, Grooved Tee	688.89	83.83
			For Galvanized Fittings, Add	168.96	
23 21	13 23-1626	EA	6", Ductile Iron, Grooved Tee	808.10	104.86
			For Galvanized Fittings, Add	195.28	
23 21	13 23-1627	EA	8", Ductile Iron, Grooved Tee	1,612.73	127.33
			For Galvanized Fittings, Add	426.56	
23 21	13 23-1628	EA	10", Ductile Iron, Grooved Tee	2,761.72	148.47
			For Galvanized Fittings, Add	761.72	
23 21	13 23-1629	EA	12", Ductile Iron, Grooved Tee	3,821.89	178.23
			For Galvanized Fittings, Add	1,066.41	
23 21	13 23-1630	EA	14", Steel, Grooved Tee	4,174.73	198.03
			For Galvanized Fittings, Add	1,163.35	
23 21	13 23-1631	EA	16", Steel, Grooved Tee	5,238.21	199.15
			For Galvanized Fittings, Add	1,481.89	
23 21	13 23-1632	EA	18", Steel, Grooved Tee	6,515.41	219.68
			For Galvanized Fittings, Add	1,855.82	
23 21	13 23-1633	EA	20", Steel, Grooved Tee	9,198.15	223.17
			For Galvanized Fittings, Add	2,659.09	
23 21	13 23-1634	EA	24", Steel, Grooved Tee	14,029.68	274.16
			For Galvanized Fittings, Add	4,085.58	
23 21	13 23-1635		Grooved Wyes (90 Degree True Wye) (23 21 13 23-1615)		
			Note: Victaulic No. 33		
23 21	13 23-1636	EA	1", Steel, Grooved Wye	496.77	16.93
			For Galvanized Fittings, Add	75.42	
23 21	13 23-1637	EA	1-1/4", Steel, Grooved Wye	502.42	20.73
			For Galvanized Fittings, Add	75.42	
23 21	13 23-1638	EA	1-1/2", Steel, Grooved Wye	509.47	25.44
			For Galvanized Fittings, Add	75.42	
23 21	13 23-1639	EA	2", Steel, Grooved Wye	520.69	32.94
			For Galvanized Fittings, Add	75.42	
23 21	13 23-1640	EA	2-1/2", Steel, Grooved Wye	531.88	40.33
			For Galvanized Fittings, Add	75.42	
23 21	13 23-1641	EA	3", Steel, Grooved Wye	637.72	49.56
			For Galvanized Fittings, Add	90.15	
23 21	13 23-1642	EA	4", Steel, Grooved Wye	834.13	64.13
			For Galvanized Fittings, Add	118.08	
23 21	13 23-1643	EA	5", Steel, Grooved Wye	1,183.53	83.83
			For Galvanized Fittings, Add	169.26	
23 21	13 23-1644	EA	6", Steel, Grooved Wye	1,466.04	104.86
			For Galvanized Fittings, Add	209.42	
23 21	13 23-1645	EA	8", Steel, Grooved Wye	2,075.98	127.33
			For Galvanized Fittings, Add	301.62	
23 21	13 23-1646	EA	10", Steel, Grooved Wye	3,476.35	148.47
			For Galvanized Fittings, Add	520.59	
23 21	13 23-1647	EA	12", Steel, Grooved Wye	3,861.77	178.23
			For Galvanized Fittings, Add	575.13	
23 21	13 23-1648	EA	14", Steel, Grooved Wye	4,401.49	198.03
			For Galvanized Fittings, Add	656.74	
23 21	13 23-1649	EA	16", Steel, Grooved Wye	5,629.62	198.95
			For Galvanized Fittings, Add	853.02	
23 21	13 23-1650	EA	18", Steel, Grooved Wye	6,428.13	219.88
			For Galvanized Fittings, Add	975.75	
23 21	13 23-1651	EA	20", Steel, Grooved Wye	9,178.80	222.75
			For Galvanized Fittings, Add	1,415.17	
23 21	13 23-1652	EA	24", Steel, Grooved Wye	14,162.26	274.16
			For Galvanized Fittings, Add	2,200.19	
23 21	13 23-1653		Grooved Crosses (23 21 13 23-1615)		
			Note: Victaulic No. 35		
23 21	13 23-1654	EA	3/4", Steel, Grooved Cross	338.27	22.06
			For Galvanized Fittings, Add	45.78	
23 21	13 23-1655	EA	1", Steel, Grooved Cross	343.28	25.44
			For Galvanized Fittings, Add	45.78	
23 21	13 23-1656	EA	1-1/4", Steel, Grooved Cross	414.90	31.09
			For Galvanized Fittings, Add	55.25	
23 21	13 23-1657	EA	1-1/2", Steel, Grooved Cross	454.04	38.17
			For Galvanized Fittings, Add	59.53	
23 21	13 23-1658	EA	2", Steel, Grooved Cross	298.26	49.36
			For Galvanized Fittings, Add	33.65	
23 21	13 23-1659	EA	2-1/2", Steel, Grooved Cross	315.07	60.54
			For Galvanized Fittings, Add	33.65	
23 21	13 23-1660	EA	3", Steel, Grooved Cross	514.45	74.29
			For Galvanized Fittings, Add	60.46	
23 21	13 23-1661	EA	4", Steel, Grooved Cross	815.10	96.14
			For Galvanized Fittings, Add	100.64	
23 21	13 23-1662	EA	5", Steel, Grooved Cross	1,559.17	125.69
			For Galvanized Fittings, Add	205.60	
23 21	13 23-1663	EA	6", Steel, Grooved Cross	1,999.25	157.30
			For Galvanized Fittings, Add	264.52	
23 21	13 23-1664	EA	8", Steel, Grooved Cross	2,608.81	190.95
			For Galvanized Fittings, Add	348.38	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1665	EA		10", Steel, Grooved Cross	4,295.18	222.75
			<i>For Galvanized Fittings, Add</i>	594.18	
23 21 13 23-1666	EA		12", Steel, Grooved Cross	6,117.10	267.38
			<i>For Galvanized Fittings, Add</i>	857.45	
23 21 13 23-1667	EA		14", Steel, Grooved Cross	6,367.72	297.04
			<i>For Galvanized Fittings, Add</i>	888.36	
23 21 13 23-1668	EA		16", Steel, Grooved Cross	8,195.33	298.78
			<i>For Galvanized Fittings, Add</i>	1,162.11	
23 21 13 23-1669	EA		18", Steel, Grooved Cross	9,990.48	329.47
			<i>For Galvanized Fittings, Add</i>	1,424.48	
23 21 13 23-1670	EA		20", Steel, Grooved Cross	13,955.57	334.60
			<i>For Galvanized Fittings, Add</i>	2,018.08	
23 21 13 23-1671	EA		24", Steel, Grooved Cross	21,386.44	411.24
			<i>For Galvanized Fittings, Add</i>	3,115.47	
23 21 13 23-1672 Grooved Reducing Tees (23 21 13 23-1615)					
			Note: Victaulic No. 25		
23 21 13 23-1673	EA		1", Steel, Grooved Reducing Tee	240.96	16.93
			<i>For Galvanized Fittings, Add</i>	43.11	
23 21 13 23-1674	EA		1-1/4", Steel, Grooved Reducing Tee	253.38	20.73
			<i>For Galvanized Fittings, Add</i>	44.47	
23 21 13 23-1675	EA		1-1/2", Steel, Grooved Reducing Tee	265.97	25.44
			<i>For Galvanized Fittings, Add</i>	45.57	
23 21 13 23-1676	EA		2", Steel, Grooved Reducing Tee	316.09	32.94
			<i>For Galvanized Fittings, Add</i>	53.35	
23 21 13 23-1677	EA		2-1/2", Steel, Grooved Reducing Tee	354.73	40.33
			<i>For Galvanized Fittings, Add</i>	58.84	
23 21 13 23-1678	EA		3", Steel, Grooved Reducing Tee	396.31	49.56
			<i>For Galvanized Fittings, Add</i>	64.41	
23 21 13 23-1679	EA		4", Steel, Grooved Reducing Tee	530.43	64.13
			<i>For Galvanized Fittings, Add</i>	86.86	
23 21 13 23-1680	EA		5", Steel, Grooved Reducing Tee	699.17	83.83
			<i>For Galvanized Fittings, Add</i>	114.70	
23 21 13 23-1681	EA		6", Steel, Grooved Reducing Tee	963.93	104.86
			<i>For Galvanized Fittings, Add</i>	161.35	
23 21 13 23-1682	EA		8", Steel, Grooved Reducing Tee	1,522.00	127.33
			<i>For Galvanized Fittings, Add</i>	266.23	
23 21 13 23-1683	EA		10", Steel, Grooved Reducing Tee	2,185.04	148.47
			<i>For Galvanized Fittings, Add</i>	392.48	
23 21 13 23-1684	EA		12", Steel, Grooved Reducing Tee	3,162.04	178.23
			<i>For Galvanized Fittings, Add</i>	578.97	
23 21 13 23-1685	EA		14", Steel, Grooved Reducing Tee	3,584.80	198.03
			<i>For Galvanized Fittings, Add</i>	657.58	
23 21 13 23-1686	EA		16", Steel, Grooved Reducing Tee	4,569.54	199.15
			<i>For Galvanized Fittings, Add</i>	854.18	
23 21 13 23-1687	EA		18", Steel, Grooved Reducing Tee	5,557.96	219.68
			<i>For Galvanized Fittings, Add</i>	1,045.74	
23 21 13 23-1688	EA		20", Steel, Grooved Reducing Tee	7,812.38	223.07
			<i>For Galvanized Fittings, Add</i>	1,495.59	
23 21 13 23-1689	EA		24", Steel, Grooved Reducing Tee	12,456.51	274.16
			<i>For Galvanized Fittings, Add</i>	2,409.09	
23 21 13 23-1690 Grooved 45 Degree Lateral Wyes (23 21 13 23-1615)					
			Note: Victaulic No. 30		
23 21 13 23-1691	EA		3/4", Steel, Grooved, 45 Degree Lateral Wye	468.45	14.67
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1692	EA		1", Steel, Grooved, 45 Degree Lateral Wye	471.79	16.93
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1693	EA		1-1/4", Steel, Grooved, 45 Degree Lateral Wye	477.44	20.73
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1694	EA		1-1/2", Steel, Grooved, 45 Degree Lateral Wye	484.49	25.44
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1695	EA		2", Steel, Grooved, 45 Degree Lateral Wye	495.71	32.94
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1696	EA		2-1/2", Steel, Grooved, 45 Degree Lateral Wye	506.90	40.33
			<i>For Galvanized Fittings, Add</i>	80.35	
23 21 13 23-1697	EA		3", Steel, Grooved, 45 Degree Lateral Wye	459.90	49.56
			<i>For Galvanized Fittings, Add</i>	69.42	
23 21 13 23-1698	EA		3-1/2", Steel, Grooved, 45 Degree Lateral Wye	738.99	57.15
			<i>For Galvanized Fittings, Add</i>	117.61	
23 21 13 23-1699	EA		4", Steel, Grooved, 45 Degree Lateral Wye	856.66	64.13
			<i>For Galvanized Fittings, Add</i>	136.90	
23 21 13 23-1700	EA		5", Steel, Grooved, 45 Degree Lateral Wye	1,237.19	83.83
			<i>For Galvanized Fittings, Add</i>	200.07	
23 21 13 23-1701	EA		6", Steel, Grooved, 45 Degree Lateral Wye	1,948.02	104.86
			<i>For Galvanized Fittings, Add</i>	322.35	
23 21 13 23-1702	EA		8", Steel, Grooved, 45 Degree Lateral Wye	2,770.32	127.33
			<i>For Galvanized Fittings, Add</i>	464.30	
23 21 13 23-1703	EA		10", Steel, Grooved, 45 Degree Lateral Wye	3,863.51	148.47
			<i>For Galvanized Fittings, Add</i>	655.35	
23 21 13 23-1704	EA		12", Steel, Grooved, 45 Degree Lateral Wye	4,669.16	178.23
			<i>For Galvanized Fittings, Add</i>	792.35	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1705 EA 14", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	6,721.83 1,156.49	198.03
23 21 13 23-1706 EA 16", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	8,325.10 1,444.77	199.15
23 21 13 23-1707 EA 18", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	9,301.91 1,615.07	219.68
23 21 13 23-1708 EA 20", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	13,944.42 2,449.80	223.07
23 21 13 23-1709 EA 24", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	21,559.98 3,806.80	274.16
23 21 13 23-1710 Grooved 45 Degree Lateral Reducing Wyes (23 21 13 23-1615) Note: Victaulic No. 30R		
23 21 13 23-1711 EA 3", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	459.90 50.13	49.56
23 21 13 23-1712 EA 4", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	856.66 98.87	64.13
23 21 13 23-1713 EA 5", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	1,237.19 144.50	83.83
23 21 13 23-1714 EA 6", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	1,593.25 186.69	104.86
23 21 13 23-1715 EA 8", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	2,263.96 269.50	127.33
23 21 13 23-1716 EA 10", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	2,761.62 330.06	148.47
23 21 13 23-1717 EA 12", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	3,352.67 401.11	178.23
23 21 13 23-1718 EA 14", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	3,753.39 449.35	198.03
23 21 13 23-1719 EA 16", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	4,766.46 580.82	199.15
23 21 13 23-1720 EA 18", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	7,189.65 891.85	219.68
23 21 13 23-1721 EA 20", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	10,376.22 1,305.43	223.07
23 21 13 23-1722 EA 24", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	16,669.11 2,113.54	274.16
23 21 13 23-1723 Mechanical-T Outlet (23 21 13 23-1615) Note: Includes making opening in pipe. Grooved or treaded branch outlets. Victaulic Styles 920 or 921.		
23 21 13 23-1724 EA 2" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	148.11 18.41	36.94
23 21 13 23-1725 EA 2" x 1" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	148.11 18.41	36.94
23 21 13 23-1726 EA 2" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	159.69 21.28	36.94
23 21 13 23-1727 EA 2" x 1-1/2" Mechanical-T Outlet With Threaded Branch Outlet.....	159.69	36.94
23 21 13 23-1728 EA 2-1/2" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	157.35	41.56
23 21 13 23-1729 EA 2-1/2" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	157.35	41.56
23 21 13 23-1730 EA 2-1/2" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	187.94	41.56
23 21 13 23-1731 EA 3" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	177.82	46.17
23 21 13 23-1732 EA 3" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	177.82	46.17
23 21 13 23-1733 EA 3" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	202.46	46.17
23 21 13 23-1734 EA 3" x 1-1/2" Mechanical-T Outlet With Threaded Branch Outlet.....	202.46	46.17
23 21 13 23-1735 EA 3" x 2" Mechanical-T Outlet With Threaded Branch Outlet.....	219.33	46.17
23 21 13 23-1736 EA 4" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	232.12	61.56
23 21 13 23-1737 EA 4" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	232.12	61.56
23 21 13 23-1738 EA 4" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	251.36	61.56
23 21 13 23-1739 EA 4" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	256.76	61.56
23 21 13 23-1740 EA 4" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	256.76	61.56
23 21 13 23-1741 EA 4" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	262.16	61.56
23 21 13 23-1742 EA 4" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	272.50	61.56
23 21 13 23-1743 EA 5" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	333.41	84.65
23 21 13 23-1744 EA 5" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	333.41	84.65
23 21 13 23-1745 EA 5" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	342.74	84.65
23 21 13 23-1746 EA 5" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	354.44	84.65
23 21 13 23-1747 EA 6" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	383.40	107.74
23 21 13 23-1748 EA 6" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	383.40	107.74
23 21 13 23-1749 EA 6" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	397.13	107.74
23 21 13 23-1750 EA 6" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	408.71	107.74
23 21 13 23-1751 EA 6" x 4" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	429.29	107.74
23 21 13 23-1752 EA 8" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	582.41	142.62
23 21 13 23-1753 EA 8" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	582.41	142.62
23 21 13 23-1754 EA 8" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	598.95	142.62
23 21 13 23-1755 EA 8" x 4" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	608.73	142.62
23 21 13 23-1756 Installation-Ready™ Grooved Fittings (23 21 13 23-1529)		
23 21 13 23-1757 Installation-Ready™ 90 Degree Grooved Elbows (23 21 13 23-1756) Note: Victaulic No. 101		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1758	EA	1-1/4" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow	262.91	10.16
		For Galvanized Fittings, Add	81.68	
		For Galvanized Fittings, Add	63.37	
23 21 13 23-1759	EA	1-1/2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow	273.27	12.19
		For Galvanized Fittings, Add	84.08	
		For Galvanized Fittings, Add	65.23	
23 21 13 23-1760	EA	2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow	281.25	16.25
		For Galvanized Fittings, Add	84.68	
		For Galvanized Fittings, Add	65.69	
23 21 13 23-1761	EA	2-1/2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow	340.18	20.31
		For Galvanized Fittings, Add	102.10	
		For Galvanized Fittings, Add	79.21	
23 21 13 23-1762 Installation-Ready™ 45 Degree Grooved Elbows (23 21 13 23-1756)				
		Note: Victaulic No. 103		
23 21 13 23-1763	EA	1-1/4" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow	262.91	10.16
		For Galvanized Fittings, Add	59.40	
		For Galvanized Fittings, Add	63.37	
23 21 13 23-1764	EA	1-1/2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow	273.27	12.19
		For Galvanized Fittings, Add	61.15	
		For Galvanized Fittings, Add	65.23	
23 21 13 23-1765	EA	2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow	281.25	16.25
		For Galvanized Fittings, Add	61.59	
		For Galvanized Fittings, Add	65.69	
23 21 13 23-1766	EA	2-1/2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow	340.18	20.31
		For Galvanized Fittings, Add	74.26	
		For Galvanized Fittings, Add	79.21	
23 21 13 23-1767 Installation-Ready™ Grooved Tees (23 21 13 23-1756)				
		Note: Victaulic No. 102		
23 21 13 23-1768	EA	1-1/4" Ductile Iron, Grooved, Installation-Ready™ Tee	402.72	13.54
		For Galvanized Fittings, Add	114.66	
		For Galvanized Fittings, Add	97.84	
23 21 13 23-1769	EA	1-1/2" Ductile Iron, Grooved, Installation-Ready™ Tee	419.57	16.25
		For Galvanized Fittings, Add	118.48	
		For Galvanized Fittings, Add	101.10	
23 21 13 23-1770	EA	2" Ductile Iron, Grooved, Installation-Ready™ Tee	433.23	21.67
		For Galvanized Fittings, Add	120.12	
		For Galvanized Fittings, Add	102.50	
23 21 13 23-1771	EA	2-1/2" Ductile Iron, Grooved, Installation-Ready™ Tee	503.31	27.09
		For Galvanized Fittings, Add	138.68	
		For Galvanized Fittings, Add	118.34	
23 21 13 23-1772 Grooved Fittings (23 21 13 23-1529)				
23 21 13 23-1773 Flanged Adapter Nipple, Grooved (23 21 13 23-1772)				
		Note: Victaulic No. 41 and 45		
23 21 13 23-1774	EA	1" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	332.62	12.31
		For Galvanized Fittings, Add	56.55	
		For 300 LB Rating, Add	47.12	
23 21 13 23-1775	EA	1-1/4" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	334.68	13.64
		For Galvanized Fittings, Add	56.55	
		For 300 LB Rating, Add	47.12	
23 21 13 23-1776	EA	1-1/2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	339.81	17.13
		For Galvanized Fittings, Add	56.55	
		For 300 LB Rating, Add	47.12	
23 21 13 23-1777	EA	2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	350.60	24.31
		For Galvanized Fittings, Add	56.55	
		For 300 LB Rating, Add	47.12	
23 21 13 23-1778	EA	2-1/2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	358.31	29.44
		For Galvanized Fittings, Add	56.55	
		For 300 LB Rating, Add	47.12	
23 21 13 23-1779	EA	3" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	454.68	35.20
		For Galvanized Fittings, Add	72.36	
		For 300 LB Rating, Add	60.30	
23 21 13 23-1780	EA	4" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	550.44	47.40
		For Galvanized Fittings, Add	86.29	
		For 300 LB Rating, Add	71.91	
23 21 13 23-1781	EA	5" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	771.02	57.36
		For Galvanized Fittings, Add	123.31	
		For 300 LB Rating, Add	102.75	
23 21 13 23-1782	EA	6" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	897.75	77.47
		For Galvanized Fittings, Add	140.68	
		For 300 LB Rating, Add	117.24	
23 21 13 23-1783	EA	8" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	1,236.02	104.86
		For Galvanized Fittings, Add	194.19	
		For 300 LB Rating, Add	161.83	
23 21 13 23-1784	EA	10" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	1,951.38	127.33
		For Galvanized Fittings, Add	316.89	
		For 300 LB Rating, Add	264.08	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-1785	EA	12" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	2,629.83 433.29 361.08	148.47
23 21	13 23-1786	EA	14" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	3,105.91 510.97 425.81	178.23
23 21	13 23-1787	EA	16" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	4,668.55 786.90 655.75	198.03
23 21	13 23-1788	EA	18" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	5,580.22 924.28 770.23	297.04
23 21	13 23-1789	EA	20" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	5,886.61 963.40 802.83	356.45
23 21	13 23-1790	EA	24" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150..... For Galvanized Fittings, Add For 300 LB Rating, Add	9,827.00 1,661.98 1,364.98	396.05
23 21 13 23-1791 Grooved Concentric Reducers (23 21 13 23-1772)					
Note: Victaulic No. 50					
23 21	13 23-1792	EA	1-1/4" x 3/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	353.55 14.74	12.31
23 21	13 23-1793	EA	1-1/4" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	369.68 15.41	13.03
23 21	13 23-1794	EA	1-1/2" x 3/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	416.52 47.54	14.06
23 21	13 23-1795	EA	1-1/2" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	106.75 10.18	14.67
23 21	13 23-1796	EA	1-1/2" x 1-1/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	350.89 39.40	15.39
23 21	13 23-1797	EA	2" x 3/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	109.83 10.18	16.73
23 21	13 23-1798	EA	2" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	110.85 10.18	17.44
23 21	13 23-1799	EA	2" x 1-1/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	120.38 11.20	18.16
23 21	13 23-1800	EA	2" x 1-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	115.02 10.18	20.21
23 21	13 23-1801	EA	2-1/2" x 3/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	717.59 82.85	18.88
23 21	13 23-1802	EA	2-1/2" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	570.02 64.99	19.60
23 21	13 23-1803	EA	2-1/2" x 1-1/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	519.80 58.83	20.21
23 21	13 23-1804	EA	2-1/2" x 1-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	118.03 10.18	22.27
23 21	13 23-1805	EA	2-1/2" x 2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	122.13 10.18	24.93
23 21	13 23-1806	EA	3" x 3/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	726.64 105.45	21.96
23 21	13 23-1807	EA	3" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	127.35 14.22	22.57
23 21	13 23-1808	EA	3" x 1-1/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	572.21 81.68	23.29
23 21	13 23-1809	EA	3" x 1-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	536.75 75.90	24.93
23 21	13 23-1810	EA	3" x 2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	115.85 11.29	27.70
23 21	13 23-1811	EA	3" x 2-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	151.88 15.56	33.04
23 21	13 23-1812	EA	3-1/2" x 3", Grooved Concentric Reducer..... For Galvanized Fittings, Add	162.44 16.58	35.60
23 21	13 23-1813	EA	4" x 1", Grooved Concentric Reducer..... For Galvanized Fittings, Add	154.51 19.28	28.01
23 21	13 23-1814	EA	4" x 1-1/4", Grooved Concentric Reducer..... For Galvanized Fittings, Add	931.97 152.44	28.73
23 21	13 23-1815	EA	4" x 1-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	725.22 116.54	30.47
23 21	13 23-1816	EA	4" x 2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	148.67 16.96	33.24
23 21	13 23-1817	EA	4" x 2-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	177.33 21.26	35.60
23 21	13 23-1818	EA	4" x 3", Grooved Concentric Reducer..... For Galvanized Fittings, Add	181.43 21.26	38.37
23 21	13 23-1819	EA	4" x 3-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	185.53 21.26	41.04
23 21	13 23-1820	EA	5" x 2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	1,308.89 214.53	38.68
23 21	13 23-1821	EA	5" x 2-1/2", Grooved Concentric Reducer..... For Galvanized Fittings, Add	1,032.11 166.45	41.04
23 21	13 23-1822	EA	5" x 3", Grooved Concentric Reducer..... For Galvanized Fittings, Add	210.78 24.89	43.81

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1823	EA	5" x 4", Grooved Concentric Reducer	247.18	49.25
		For Galvanized Fittings, Add	29.72	
23 21 13 23-1824	EA	6" x 4", Grooved Concentric Reducer	293.07	41.76
		For Galvanized Fittings, Add	43.01	
23 21 13 23-1825	EA	6" x 1-1/2", Grooved Concentric Reducer	1,381.42	44.12
		For Galvanized Fittings, Add	245.42	
23 21 13 23-1826	EA	6" x 2", Grooved Concentric Reducer	300.74	46.89
		For Galvanized Fittings, Add	43.01	
23 21 13 23-1827	EA	6" x 2-1/2", Grooved Concentric Reducer	1,396.62	49.25
		For Galvanized Fittings, Add	246.82	
23 21 13 23-1828	EA	6" x 3", Grooved Concentric Reducer	308.46	52.02
		For Galvanized Fittings, Add	43.01	
23 21 13 23-1829	EA	6" x 4", Grooved Concentric Reducer	286.91	57.46
		For Galvanized Fittings, Add	37.45	
23 21 13 23-1830	EA	6" x 5", Grooved Concentric Reducer	391.33	63.00
		For Galvanized Fittings, Add	55.41	
23 21 13 23-1831	EA	8" x 3", Grooved Concentric Reducer	500.06	58.90
		For Galvanized Fittings, Add	76.85	
23 21 13 23-1832	EA	8" x 4", Grooved Concentric Reducer	508.25	64.33
		For Galvanized Fittings, Add	76.85	
23 21 13 23-1833	EA	8" x 5", Grooved Concentric Reducer	516.48	69.77
		For Galvanized Fittings, Add	76.85	
23 21 13 23-1834	EA	8" x 6", Grooved Concentric Reducer	642.13	77.98
		For Galvanized Fittings, Add	97.99	
23 21 13 23-1835	EA	10" x 4", Grooved Concentric Reducer	1,087.74	71.51
		For Galvanized Fittings, Add	182.96	
23 21 13 23-1836	EA	10" x 5", Grooved Concentric Reducer	2,276.82	76.96
		For Galvanized Fittings, Add	403.31	
23 21 13 23-1837	EA	10" x 6", Grooved Concentric Reducer	1,199.98	85.16
		For Galvanized Fittings, Add	200.08	
23 21 13 23-1838	EA	10" x 8", Grooved Concentric Reducer	1,210.22	92.04
		For Galvanized Fittings, Add	200.08	
23 21 13 23-1839	EA	12" x 4", Grooved Concentric Reducer	3,367.90	81.47
		For Galvanized Fittings, Add	486.87	
23 21 13 23-1840	EA	12" x 6", Grooved Concentric Reducer	1,421.46	95.11
		For Galvanized Fittings, Add	191.83	
23 21 13 23-1841	EA	12" x 8", Grooved Concentric Reducer	2,073.92	101.99
		For Galvanized Fittings, Add	288.16	
23 21 13 23-1842	EA	12" x 10", Grooved Concentric Reducer	2,084.76	109.17
		For Galvanized Fittings, Add	288.16	
23 21 13 23-1843	EA	14" x 6", Grooved Concentric Reducer	6,671.83	102.50
		For Galvanized Fittings, Add	200.11	
23 21 13 23-1844	EA	14" x 8", Grooved Concentric Reducer	3,989.91	109.37
		For Galvanized Fittings, Add	117.46	
23 21 13 23-1845	EA	14" x 10", Grooved Concentric Reducer	3,405.11	116.56
		For Galvanized Fittings, Add	99.17	
23 21 13 23-1846	EA	14" x 12", Grooved Concentric Reducer	3,419.96	126.41
		For Galvanized Fittings, Add	99.17	
23 21 13 23-1847	EA	16" x 8", Grooved Concentric Reducer	6,069.72	116.66
		For Galvanized Fittings, Add	180.97	
23 21 13 23-1848	EA	16" x 10", Grooved Concentric Reducer	5,635.78	123.84
		For Galvanized Fittings, Add	167.32	
23 21 13 23-1849	EA	16" x 12", Grooved Concentric Reducer	5,214.72	133.80
		For Galvanized Fittings, Add	153.93	
23 21 13 23-1850	EA	16" x 14", Grooved Concentric Reducer	5,225.80	141.18
		For Galvanized Fittings, Add	153.93	
23 21 13 23-1851	EA	18" x 10", Grooved Concentric Reducer	7,891.84	130.71
		For Galvanized Fittings, Add	236.26	
23 21 13 23-1852	EA	18" x 12", Grooved Concentric Reducer	7,149.79	140.57
		For Galvanized Fittings, Add	213.03	
23 21 13 23-1853	EA	18" x 14", Grooved Concentric Reducer	6,503.75	147.96
		For Galvanized Fittings, Add	192.85	
23 21 13 23-1854	EA	18" x 16", Grooved Concentric Reducer	6,514.83	155.44
		For Galvanized Fittings, Add	192.85	
23 21 13 23-1855	EA	20" x 10", Grooved Concentric Reducer	8,684.42	134.10
		For Galvanized Fittings, Add	260.44	
23 21 13 23-1856	EA	20" x 12", Grooved Concentric Reducer	7,448.62	144.06
		For Galvanized Fittings, Add	222.04	
23 21 13 23-1857	EA	20" x 14", Grooved Concentric Reducer	7,459.71	151.44
		For Galvanized Fittings, Add	222.04	
23 21 13 23-1858	EA	20" x 16", Grooved Concentric Reducer	6,654.61	158.73
		For Galvanized Fittings, Add	196.99	
23 21 13 23-1859	EA	20" x 18", Grooved Concentric Reducer	7,090.90	165.60
		For Galvanized Fittings, Add	210.07	
23 21 13 23-1860	EA	24" x 10", Grooved Concentric Reducer	19,127.70	149.18
		For Galvanized Fittings, Add	580.35	
23 21 13 23-1861	EA	24" x 12", Grooved Concentric Reducer	18,686.11	159.14
		For Galvanized Fittings, Add	566.34	
23 21 13 23-1862	EA	24" x 14", Grooved Concentric Reducer	16,288.28	166.43
		For Galvanized Fittings, Add	492.39	
23 21 13 23-1863	EA	24" x 16", Grooved Concentric Reducer	16,299.43	173.91
		For Galvanized Fittings, Add	492.39	
23 21 13 23-1864	EA	24" x 18", Grooved Concentric Reducer	13,960.85	180.68
		For Galvanized Fittings, Add	420.28	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-1865	EA	24" x 20", Grooved Concentric Reducer For Galvanized Fittings, Add	12,753.45 383.05	184.17
23 21	13 23-1866		Grooved Eccentric Reducers (23 21 13 23-1772) Note: Victaulic No. 51		
23 21	13 23-1867	EA	1-1/2" x 3/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	430.17 49.18	14.06
23 21	13 23-1868	EA	1-1/2" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	391.37 44.39	14.67
23 21	13 23-1869	EA	1-1/2" x 1-1/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	384.34 43.42	15.39
23 21	13 23-1870	EA	2" x 3/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	820.15 95.56	16.73
23 21	13 23-1871	EA	2" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	433.96 49.02	17.44
23 21	13 23-1872	EA	2" x 1-1/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	474.26 53.74	18.16
23 21	13 23-1873	EA	2" x 1-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	404.56 44.98	20.21
23 21	13 23-1874	EA	2-1/2" x 3/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,066.09 124.74	18.88
23 21	13 23-1875	EA	2-1/2" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	996.16 116.22	19.60
23 21	13 23-1876	EA	2-1/2" x 1-1/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	591.85 67.49	20.21
23 21	13 23-1877	EA	2-1/2" x 1-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	478.28 53.48	22.27
23 21	13 23-1878	EA	2-1/2" x 2", Grooved Eccentric Reducer For Galvanized Fittings, Add	216.67 21.54	24.93
23 21	13 23-1879	EA	3" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,070.93 124.66	22.57
23 21	13 23-1880	EA	3" x 1-1/4", Grooved Eccentric Reducer For Galvanized Fittings, Add	973.74 112.85	23.29
23 21	13 23-1881	EA	3" x 1-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	552.08 61.86	24.93
23 21	13 23-1882	EA	3" x 2", Grooved Eccentric Reducer For Galvanized Fittings, Add	247.53 24.76	27.70
23 21	13 23-1883	EA	3" x 2-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	255.48 24.76	33.04
23 21	13 23-1884	EA	3-1/2" x 3", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,192.84 136.97	35.60
23 21	13 23-1885	EA	4" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,144.26 360.53	28.01
23 21	13 23-1886	EA	4" x 1-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,317.05 218.04	30.47
23 21	13 23-1887	EA	4" x 2", Grooved Eccentric Reducer For Galvanized Fittings, Add	301.61 43.19	33.24
23 21	13 23-1888	EA	4" x 2-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	305.21 43.19	35.60
23 21	13 23-1889	EA	4" x 3", Grooved Eccentric Reducer For Galvanized Fittings, Add	309.31 43.19	38.37
23 21	13 23-1890	EA	5" x 2", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,459.93 240.43	38.68
23 21	13 23-1891	EA	5" x 2-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,255.98 204.84	41.04
23 21	13 23-1892	EA	5" x 3", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,219.36 197.86	43.81
23 21	13 23-1893	EA	5" x 4", Grooved Eccentric Reducer For Galvanized Fittings, Add	416.90 58.83	49.25
23 21	13 23-1894	EA	6" x 1", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,241.99 406.67	41.76
23 21	13 23-1895	EA	6" x 2", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,057.79 370.87	46.89
23 21	13 23-1896	EA	6" x 2-1/2", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,440.55 441.62	49.25
23 21	13 23-1897	EA	6" x 3", Grooved Eccentric Reducer For Galvanized Fittings, Add	534.68 85.22	52.02
23 21	13 23-1898	EA	6" x 4", Grooved Eccentric Reducer For Galvanized Fittings, Add	485.94 74.59	57.46
23 21	13 23-1899	EA	6" x 5", Grooved Eccentric Reducer For Galvanized Fittings, Add	573.92 89.48	63.00
23 21	13 23-1900	EA	8" x 3", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,397.52 430.91	58.90
23 21	13 23-1901	EA	8" x 4", Grooved Eccentric Reducer For Galvanized Fittings, Add	2,114.60 376.59	64.33
23 21	13 23-1902	EA	8" x 5", Grooved Eccentric Reducer For Galvanized Fittings, Add	1,983.65 350.62	69.77
23 21	13 23-1903	EA	8" x 6", Grooved Eccentric Reducer For Galvanized Fittings, Add	927.53 151.25	77.98
23 21	13 23-1904	EA	10" x 4", Grooved Eccentric Reducer For Galvanized Fittings, Add	3,810.63 691.05	71.51
23 21	13 23-1905	EA	10" x 5", Grooved Eccentric Reducer For Galvanized Fittings, Add	3,604.59 651.08	76.96

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1906	EA	10" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,758.89 490.97	85.16
23 21 13 23-1907	EA	10" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,364.92 415.55	92.04
23 21 13 23-1908	EA	12" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,887.80 568.25	81.47
23 21 13 23-1909	EA	12" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,657.57 530.41	95.11
23 21 13 23-1910	EA	12" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,577.90 516.84	101.99
23 21 13 23-1911	EA	12" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,231.51 462.93	109.17
23 21 13 23-1912	EA	14" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,022.61 272.28	102.50
23 21 13 23-1913	EA	14" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,834.11 174.07	109.37
23 21 13 23-1914	EA	14" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,572.31 165.71	116.56
23 21 13 23-1915	EA	14" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,587.16 165.71	126.41
23 21 13 23-1916	EA	16" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,969.57 300.69	116.66
23 21 13 23-1917	EA	16" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,236.69 277.86	123.84
23 21 13 23-1918	EA	16" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	8,705.21 261.09	133.80
23 21 13 23-1919	EA	16" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	8,716.29 261.09	141.18
23 21 13 23-1920	EA	18" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	12,506.15 377.92	130.71
23 21 13 23-1921	EA	18" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,770.03 354.87	140.57
23 21 13 23-1922	EA	18" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,724.02 322.42	147.96
23 21 13 23-1923	EA	18" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,735.10 322.42	155.44
23 21 13 23-1924	EA	20" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	16,422.93 498.01	134.10
23 21 13 23-1925	EA	20" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	12,215.08 368.37	144.06
23 21 13 23-1926	EA	20" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,476.03 345.34	151.44
23 21 13 23-1927	EA	20" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,304.94 339.76	158.73
23 21 13 23-1928	EA	20" x 18", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,891.30 326.74	165.60
23 21 13 23-1929	EA	24" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	23,721.86 720.94	159.14
23 21 13 23-1930	EA	24" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	20,263.99 614.44	166.43
23 21 13 23-1931	EA	24" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	20,275.14 614.44	173.91
23 21 13 23-1932	EA	24" x 18", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	19,149.20 579.56	180.68
23 21 13 23-1933	EA	24" x 20", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	17,503.58 528.88	184.17
23 21 13 23-1934		Grooved, Close Nipple (23 21 13 23-1772) Note: Victaulic No. 143		
23 21 13 23-1935	EA	1-1/4" Ductile Iron, Grooved, Close Nipple <i>For Galvanized Fittings, Add</i> <i>For 300 LB Rating, Add</i> <i>For Galvanized Fittings, Add</i>	61.17 7.32 6.10 10.41	13.54
23 21 13 23-1936	EA	1-1/2" Ductile Iron, Grooved, Close Nipple <i>For Galvanized Fittings, Add</i> <i>For 300 LB Rating, Add</i> <i>For Galvanized Fittings, Add</i>	69.95 7.97 6.64 11.34	16.93
23 21 13 23-1937	EA	2" Ductile Iron, Grooved, Close Nipple <i>For Galvanized Fittings, Add</i> <i>For 300 LB Rating, Add</i> <i>For Galvanized Fittings, Add</i>	87.25 9.61 8.01 13.67	22.35
23 21 13 23-1938	EA	2-1/2" Ductile Iron, Grooved, Close Nipple <i>For Galvanized Fittings, Add</i> <i>For 300 LB Rating, Add</i> <i>For Galvanized Fittings, Add</i>	104.13 11.36 9.46 16.15	27.09
23 21 13 23-1939		Grooved Caps (23 21 13 23-1772) Note: Victaulic No. 60		
23 21 13 23-1940	EA	1" Carbon Steel Grooved Cap	141.75	4.20
23 21 13 23-1941	EA	1-1/4" Carbon Steel Grooved Cap	143.81	5.23
23 21 13 23-1942	EA	1-1/2" Carbon Steel Grooved Cap	146.07	6.36
23 21 13 23-1943	EA	2" Carbon Steel Grooved Cap	150.07	8.41



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1944	EA		2-1/2" Carbon Steel Grooved Cap	153.76	10.26
23 21 13 23-1945	EA		3" Carbon Steel Grooved Cap	158.07	12.41
23 21 13 23-1946	EA		4" Carbon Steel Grooved Cap	174.79	16.41
23 21 13 23-1947	EA		5" Carbon Steel Grooved Cap	367.31	20.42
23 21 13 23-1948	EA		6" Carbon Steel Grooved Cap	379.48	26.78
23 21 13 23-1949	EA		8" Carbon Steel Grooved Cap	683.54	31.81
23 21 13 23-1950	EA		10" Carbon Steel Grooved Cap	1,155.34	37.14
23 21 13 23-1951	EA		12" Carbon Steel Grooved Cap	1,979.40	44.63
23 21 13 23-1952			Grooved Couplings (23 21 13 23-1529)		
23 21 13 23-1953			Flexible Grooved Coupling (23 21 13 23-1952)		
			Note: Victaulic Style 77		
23 21 13 23-1954	EA		3/4" Grooved Standard Coupling	25.36	5.54
			For Galvanized Fittings, Add	4.75	
23 21 13 23-1955	EA		1" Grooved Standard Coupling	25.36	5.54
			For Galvanized Fittings, Add	4.75	
23 21 13 23-1956	EA		1-1/4" Grooved Standard Coupling	33.06	6.97
			For Galvanized Fittings, Add	6.32	
23 21 13 23-1957	EA		1-1/2" Grooved Standard Coupling	37.20	8.31
			For Galvanized Fittings, Add	6.91	
23 21 13 23-1958	EA		2" Grooved Standard Coupling	42.85	11.19
			For Galvanized Fittings, Add	7.30	
23 21 13 23-1959	EA		2-1/2" Grooved Standard Coupling	51.65	13.64
			For Galvanized Fittings, Add	8.74	
23 21 13 23-1960	EA		3" Grooved Standard Coupling	55.61	16.31
			For Galvanized Fittings, Add	8.74	
23 21 13 23-1961	EA		3-1/2" Grooved Standard Coupling	78.97	19.09
			For Galvanized Fittings, Add	14.08	
23 21 13 23-1962	EA		4" Grooved Standard Coupling	82.98	21.76
			For Galvanized Fittings, Add	14.08	
23 21 13 23-1963	EA		5" Grooved Standard Coupling	117.96	27.30
			For Galvanized Fittings, Add	21.59	
23 21 13 23-1964	EA		6" Grooved Standard Coupling	144.60	35.60
			For Galvanized Fittings, Add	25.52	
23 21 13 23-1965	EA		8" Grooved Standard Coupling	212.21	42.48
			For Galvanized Fittings, Add	41.61	
23 21 13 23-1966	EA		10" Grooved Standard Coupling	323.29	50.89
			For Galvanized Fittings, Add	69.15	
23 21 13 23-1967	EA		12" Grooved Standard Coupling	364.67	55.71
			For Galvanized Fittings, Add	78.73	
23 21 13 23-1968	EA		14" Grooved Standard Coupling	452.91	74.29
			For Galvanized Fittings, Add	95.64	
23 21 13 23-1969	EA		16" Grooved Standard Coupling	581.64	89.17
			For Galvanized Fittings, Add	125.45	
23 21 13 23-1970	EA		18" Grooved Standard Coupling	673.17	99.01
			For Galvanized Fittings, Add	146.92	
23 21 13 23-1971	EA		20" Grooved Standard Coupling	992.47	111.43
			For Galvanized Fittings, Add	231.13	
23 21 13 23-1972	EA		24" Grooved Standard Coupling	1,110.79	137.08
			For Galvanized Fittings, Add	253.47	
23 21 13 23-1973			Zero-Flex® Rigid Coupling (23 21 13 23-1952)		
			Note: Victaulic Style 07		
23 21 13 23-1974	EA		1" Grooved Rigid Coupling	31.99	5.54
			For Galvanized Fittings, Add	5.78	
23 21 13 23-1975	EA		1-1/4" Grooved Rigid Coupling	34.09	6.97
			For Galvanized Fittings, Add	5.78	
23 21 13 23-1976	EA		1-1/2" Grooved Rigid Coupling	36.13	8.31
			For Galvanized Fittings, Add	5.78	
23 21 13 23-1977	EA		2" Grooved Rigid Coupling	40.98	11.19
			For Galvanized Fittings, Add	5.93	
23 21 13 23-1978	EA		2-1/2" Grooved Rigid Coupling	48.35	13.64
			For Galvanized Fittings, Add	6.84	
23 21 13 23-1979	EA		3" Grooved Rigid Coupling	52.31	16.31
			For Galvanized Fittings, Add	6.84	
23 21 13 23-1980	EA		3-1/2" Grooved Rigid Coupling	61.29	19.09
			For Galvanized Fittings, Add	7.99	
23 21 13 23-1981	EA		4" Grooved Rigid Coupling	78.91	21.76
			For Galvanized Fittings, Add	11.33	
23 21 13 23-1982	EA		5" Grooved Rigid Coupling	100.89	27.30
			For Galvanized Fittings, Add	14.71	
23 21 13 23-1983	EA		6" Grooved Rigid Coupling	133.69	35.60
			For Galvanized Fittings, Add	19.66	
23 21 13 23-1984	EA		8" Grooved Rigid Coupling	190.05	42.48
			For Galvanized Fittings, Add	30.98	
23 21 13 23-1985	EA		10" Grooved Rigid Coupling	302.88	50.89
			For Galvanized Fittings, Add	55.50	
23 21 13 23-1986	EA		12" Grooved Rigid Coupling	337.00	55.71
			For Galvanized Fittings, Add	62.11	
23 21 13 23-1987	EA		14" Grooved Rigid Coupling	442.54	74.29
			For Galvanized Fittings, Add	81.14	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1988 EA 16" Grooved Rigid Coupling.....	565.56	89.17
For Galvanized Fittings, Add	105.83	
23 21 13 23-1989 EA 18" Grooved Rigid Coupling.....	647.80	99.01
For Galvanized Fittings, Add	122.34	
23 21 13 23-1990 EA 20" Grooved Rigid Coupling.....	761.51	111.43
For Galvanized Fittings, Add	145.65	
23 21 13 23-1991 EA 24" Grooved Rigid Coupling.....	1,081.22	137.08
For Galvanized Fittings, Add	214.54	
23 21 13 23-1992 Large Diameter Grooved Coupling (23 21 13 23-1952)		
Note: Victaulic Style 770		
23 21 13 23-1993 EA 28" Grooved Coupling.....	1,091.63	27.30
For Galvanized Fittings, Add	147.11	
23 21 13 23-1994 EA 30" Grooved Coupling.....	1,263.22	35.60
For Galvanized Fittings, Add	169.37	
23 21 13 23-1995 EA 32" Grooved Coupling.....	1,875.34	42.48
For Galvanized Fittings, Add	253.64	
23 21 13 23-1996 EA 36" Grooved Coupling.....	2,490.00	50.89
For Galvanized Fittings, Add	337.91	
23 21 13 23-1997 EA 42" Grooved Coupling.....	4,964.90	55.71
For Galvanized Fittings, Add	683.40	
23 21 13 23-1998 Flexible Coupling (23 21 13 23-1952)		
Note: Victaulic Style 75		
23 21 13 23-1999 EA 1-1/2" Grooved Flexible Coupling.....	33.98	8.31
For Galvanized Fittings, Add	5.49	
23 21 13 23-2000 EA 2" Grooved Flexible Coupling.....	38.78	11.19
For Galvanized Fittings, Add	5.63	
23 21 13 23-2001 EA 2-1/2" Grooved Flexible Coupling.....	45.95	13.64
For Galvanized Fittings, Add	6.53	
23 21 13 23-2002 EA 3" Grooved Flexible Coupling.....	54.06	16.31
For Galvanized Fittings, Add	7.60	
23 21 13 23-2003 EA 3-1/2" Grooved Flexible Coupling.....	70.70	19.09
For Galvanized Fittings, Add	10.76	
23 21 13 23-2004 EA 4" Grooved Flexible Coupling.....	74.71	21.76
For Galvanized Fittings, Add	10.76	
23 21 13 23-2005 EA 5" Grooved Flexible Coupling.....	101.49	27.30
For Galvanized Fittings, Add	15.52	
23 21 13 23-2006 EA 6" Grooved Flexible Coupling.....	126.48	35.60
For Galvanized Fittings, Add	18.70	
23 21 13 23-2007 EA 8" Grooved Flexible Coupling.....	178.44	42.48
For Galvanized Fittings, Add	29.39	
23 21 13 23-2008 Installation-Ready™ Coupling (23 21 13 23-1952)		
Note: Victaulic Style 009N		
23 21 13 23-2009 EA 1-1/4" Ductile Iron, Installation-Ready™ Coupling.....	79.46	5.18
For Galvanized Fittings, Add	18.33	
23 21 13 23-2010 EA 1-1/2" Ductile Iron, Installation-Ready™ Coupling.....	82.47	6.20
For Galvanized Fittings, Add	18.71	
23 21 13 23-2011 EA 2" Ductile Iron, Installation-Ready™ Coupling.....	95.29	8.33
For Galvanized Fittings, Add	21.16	
23 21 13 23-2012 EA 2-1/2" Ductile Iron, Installation-Ready™ Coupling.....	110.52	10.09
For Galvanized Fittings, Add	24.38	
23 21 13 23-2013 EA 3" Ductile Iron, Installation-Ready™ Coupling.....	126.13	12.12
For Galvanized Fittings, Add	27.59	
23 21 13 23-2014 EA 4" Ductile Iron, Installation-Ready™ Coupling.....	175.85	16.18
For Galvanized Fittings, Add	38.74	
23 21 13 23-2015 EA 5" Ductile Iron, Installation-Ready™ Coupling.....	278.20	20.24
For Galvanized Fittings, Add	63.37	
23 21 13 23-2016 EA 6" Ductile Iron, Installation-Ready™ Coupling.....	335.87	26.48
For Galvanized Fittings, Add	75.71	
23 21 13 23-2017 EA 8" Ductile Iron, Installation-Ready™ Coupling.....	541.83	31.49
For Galvanized Fittings, Add	126.49	
23 21 13 23-2018 Grooved Strainers And Suction Diffusers (23 21 13 23-1529)		
23 21 13 23-2019 Grooved Wye Strainers (23 21 13 23-2018)		
Note: Victaulic Style 732		
23 21 13 23-2020 EA 2" Grooved Wye Strainer.....	2,518.48	22.57
23 21 13 23-2021 EA 2-1/2" Grooved Wye Strainer.....	2,651.05	27.40
23 21 13 23-2022 EA 3" Grooved Wye Strainer.....	2,981.20	32.83
23 21 13 23-2023 EA 4" Grooved Wye Strainer.....	3,383.84	43.81
23 21 13 23-2024 EA 5" Grooved Wye Strainer.....	4,888.76	54.79
23 21 13 23-2025 EA 6" Grooved Wye Strainer.....	5,325.55	71.21
23 21 13 23-2026 EA 8" Grooved Wye Strainer.....	8,127.71	84.86
23 21 13 23-2027 EA 10" Grooved Wye Strainer.....	13,009.57	99.21
23 21 13 23-2028 EA 12" Grooved Wye Strainer.....	22,645.46	119.13



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2029		Grooved Tee Type Strainers (23 21 13 23-2018) Note: Victaulic Style 730		
23 21 13 23-2030	EA	1-1/2" Grooved Tee Type Strainer	1,942.99	17.13
23 21 13 23-2031	EA	2" Grooved Tee Type Strainer	2,487.81	22.57
23 21 13 23-2032	EA	2-1/2" Grooved Tee Type Strainer	2,619.17	27.40
23 21 13 23-2033	EA	3" Grooved Tee Type Strainer	2,945.19	32.83
23 21 13 23-2034	EA	4" Grooved Tee Type Strainer	3,343.01	43.81
23 21 13 23-2035	EA	5" Grooved Tee Type Strainer	4,829.32	54.79
23 21 13 23-2036	EA	6" Grooved Tee Type Strainer	5,261.46	71.21
23 21 13 23-2037	EA	8" Grooved Tee Type Strainer	8,028.47	84.86
23 21 13 23-2038	EA	10" Grooved Tee Type Strainer	11,753.57	99.21
23 21 13 23-2039	EA	12" Grooved Tee Type Strainer	15,117.07	119.13
23 21 13 23-2040	EA	14" Grooved Tee Type Strainer	53,448.67	134.10
23 21 13 23-2041	EA	16" Grooved Tee Type Strainer	66,401.55	148.47
23 21 13 23-2042	EA	18" Grooved Tee Type Strainer	87,287.74	162.21
23 21 13 23-2043		Grooved Suction Diffuser (23 21 13 23-2018) Note: Victaulic Style 731		
23 21 13 23-2044	EA	2-1/2" Grooved x 2" Flanged Suction Diffuser	5,133.44	25.34
23 21 13 23-2045	EA	3" Grooved x 2" Flanged Suction Diffuser	5,449.40	28.01
23 21 13 23-2046	EA	3" Grooved x 2-1/2" Flanged Suction Diffuser	3,936.38	32.83
23 21 13 23-2047	EA	3" Grooved x 3" Flanged Suction Diffuser	3,991.91	35.60
23 21 13 23-2048	EA	4" Grooved x 2-1/2" Flanged Suction Diffuser	4,324.27	35.60
23 21 13 23-2049	EA	4" Grooved x 3" Flanged Suction Diffuser	4,665.37	38.37
23 21 13 23-2050	EA	4" Grooved x 4" Flanged Suction Diffuser	5,394.15	38.37
23 21 13 23-2051	EA	5" Grooved x 4" Flanged Suction Diffuser	6,022.37	49.25
23 21 13 23-2052	EA	5" Grooved x 5" Flanged Suction Diffuser	6,328.33	52.02
23 21 13 23-2053	EA	6" Grooved x 4" Flanged Suction Diffuser	6,428.54	57.46
23 21 13 23-2054	EA	6" Grooved x 5" Flanged Suction Diffuser	7,681.38	63.00
23 21 13 23-2055	EA	6" Grooved x 6" Flanged Suction Diffuser	7,978.17	67.10
23 21 13 23-2056	EA	8" Grooved x 5" Flanged Suction Diffuser	8,186.10	69.77
23 21 13 23-2057	EA	8" Grooved x 6" Flanged Suction Diffuser	8,638.79	77.98
23 21 13 23-2058	EA	8" Grooved x 8" Flanged Suction Diffuser	14,792.22	84.86
23 21 13 23-2059	EA	10" Grooved x 8" Flanged Suction Diffuser	16,685.59	91.73
23 21 13 23-2060	EA	10" Grooved x 10" Flanged Suction Diffuser	20,082.58	95.11
23 21 13 23-2061	EA	12" Grooved x 10" Flanged Suction Diffuser	23,766.42	109.48
23 21 13 23-2062	EA	12" Grooved x 12" Flanged Suction Diffuser	33,004.44	116.36
23 21 13 23-2063	EA	14" Grooved x 10" Flanged Suction Diffuser	30,728.50	116.36
23 21 13 23-2064	EA	14" Grooved x 12" Flanged Suction Diffuser	34,320.27	126.61
23 21 13 23-2065	EA	14" Grooved x 14" Flanged Suction Diffuser	41,647.89	134.10
23 21 13 23-2066	EA	16" Grooved x 14" Flanged Suction Diffuser	42,875.85	140.98
23 21 13 23-2067		Grooved Steel Valves (23 21 13 23-1529)		
23 21 13 23-2068		Grooved Butterfly Valves With Standard Trim (23 21 13 23-2067)		
23 21 13 23-2069	EA	1-1/2" Butterfly Valve, Grooved, With Standard Trim	288.98	11.19
23 21 13 23-2070	EA	2" Butterfly Valve, Grooved, With Standard Trim	294.27	14.67
23 21 13 23-2071	EA	3" Butterfly Valve, Grooved, With Standard Trim	483.12	21.76
23 21 13 23-2072	EA	4" Butterfly Valve, Grooved, With Standard Trim	648.99	28.63
23 21 13 23-2073	EA	6" Butterfly Valve, Grooved, With Standard Trim	1,418.39	46.89
23 21 13 23-2074	EA	8" Butterfly Valve, Grooved, With Standard Trim	1,965.53	65.97
23 21 13 23-2075	EA	10" Butterfly Valve, Grooved, With Standard Trim	2,952.90	89.17
23 21 13 23-2076		Grooved Butterfly Valves With Stainless Steel Trim (23 21 13 23-2067)		
23 21 13 23-2077	EA	1-1/2" Butterfly Valve, Grooved, With Stainless Steel Trim	434.80	11.19
23 21 13 23-2078	EA	2" Butterfly Valve, Grooved, With Stainless Steel Trim	440.09	14.67
23 21 13 23-2079	EA	3" Butterfly Valve, Grooved, With Stainless Steel Trim	680.79	21.76
23 21 13 23-2080	EA	4" Butterfly Valve, Grooved, With Stainless Steel Trim	866.11	28.63
23 21 13 23-2081	EA	6" Butterfly Valve, Grooved, With Stainless Steel Trim	1,658.19	46.89
23 21 13 23-2082	EA	8" Butterfly Valve, Grooved, With Stainless Steel Trim	2,756.23	65.97
23 21 13 23-2083	EA	10" Butterfly Valve, Grooved, With Stainless Steel Trim	4,346.34	89.17
23 21 13 23-2084		Grooved Ball Valves With Standard Trim And Handle (23 21 13 23-2067) Note: Victaulic No. 721		
23 21 13 23-2085	EA	1-1/2" Ball Valve, Grooved, With Standard Trim	243.65	10.98
23 21 13 23-2086	EA	2" Ball Valve, Grooved, With Standard Trim	278.91	15.08
23 21 13 23-2087	EA	2-1/2" Ball Valve, Grooved, With Standard Trim	638.32	18.47
23 21 13 23-2088	EA	3" Ball Valve, Grooved, With Standard Trim	1,047.67	21.86
23 21 13 23-2089	EA	4" Ball Valve, Grooved, With Standard Trim	1,632.05	28.73
23 21 13 23-2090	EA	6" Ball Valve, Grooved, With Standard Trim	5,079.02	47.20
23 21 13 23-2091		Grooved Ball Valves With Stainless Steel Trim And Handle (23 21 13 23-2067) Note: Victaulic No. 721		
23 21 13 23-2092	EA	1-1/2" Ball Valve, Grooved, With Stainless Steel Trim	259.62	10.98
23 21 13 23-2093	EA	2" Ball Valve, Grooved, With Stainless Steel Trim	444.70	15.08
23 21 13 23-2094	EA	2-1/2" Ball Valve, Grooved, With Stainless Steel Trim	1,161.09	18.47

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2095 EA 3" Ball Valve, Grooved, With Stainless Steel Trim.....	1,501.72	21.86
23 21 13 23-2096 EA 4" Ball Valve, Grooved, With Stainless Steel Trim.....	2,051.64	28.73
23 21 13 23-2097 EA 6" Ball Valve, Grooved, With Stainless Steel Trim.....	5,598.95	47.20
23 21 13 23-2098 Grooved Check Valves (23 21 13 23-2067)		
Note: Victaulic No. 712		
23 21 13 23-2099 EA 2" Check Valve, Grooved.....	370.18	15.08
23 21 13 23-2100 EA 2-1/2" Check Valve, Grooved.....	601.46	18.47
23 21 13 23-2101 EA 3" Check Valve, Grooved.....	700.78	21.86
23 21 13 23-2102 EA 4" Check Valve, Grooved.....	993.56	28.73
23 21 13 23-2103 Grooved Vic-Check Check Valves (23 21 13 23-2067)		
Note: Victaulic No. 716		
23 21 13 23-2104 EA 2-1/2" "Vic-Check" Check Valve, Grooved.....	480.22	18.47
23 21 13 23-2105 EA 3" "Vic-Check" Check Valve, Grooved.....	485.21	21.86
23 21 13 23-2106 EA 4" "Vic-Check" Check Valve, Grooved.....	607.92	28.73
23 21 13 23-2107 EA 6" "Vic-Check" Check Valve, Grooved.....	1,186.08	47.20
23 21 13 23-2108 EA 8" "Vic-Check" Check Valve, Grooved.....	1,622.82	65.67
23 21 13 23-2109 EA 10" "Vic-Check" Check Valve, Grooved.....	4,545.64	88.96
23 21 13 23-2110 EA 12" "Vic-Check" Check Valve, Grooved.....	5,383.14	102.71
23 21 13 23-2111 Grooved Plug Valves With Lever Operator (23 21 13 23-2067)		
Note: Victaulic No. 377		
23 21 13 23-2112 EA 3" Balancing Plug Valve, Grooved, With Lever Handle.....	1,040.13	21.86
23 21 13 23-2113 EA 4" Balancing Plug Valve, Grooved, With Lever Handle.....	1,151.59	28.73
23 21 13 23-2114 EA 6" Balancing Plug Valve, Grooved, With Lever Handle.....	2,058.61	47.20
23 21 13 23-2115 Grooved Plug Valve With Gear Operator (23 21 13 23-2067)		
Note: Victaulic No. 377		
23 21 13 23-2116 EA 3" Balancing Plug Valve, Grooved, With Gear Operator.....	1,852.62	21.86
23 21 13 23-2117 EA 4" Balancing Plug Valve, Grooved, With Gear Operator.....	1,964.16	28.73
23 21 13 23-2118 EA 6" Balancing Plug Valve, Grooved, With Gear Operator.....	2,871.18	47.20
23 21 13 23-2119 EA 8" Balancing Plug Valve, Grooved, With Gear Operator.....	3,839.17	65.67
23 21 13 23-2120 EA 10" Balancing Plug Valve, Grooved, With Gear Operator.....	6,032.60	88.96
23 21 13 23-2121 EA 12" Balancing Plug Valve, Grooved, With Gear Operator.....	8,746.81	102.71
23 21 13 23-2122 Prepare Pipe For Groove (23 21 13 23-1529)		
23 21 13 23-2123 Cut Grooved Pipe (23 21 13 23-2122)		
Note: For use where connecting ungrooved pipe with grooved pipe, coupling to grooved pipe, or for field groove preparation on existing cut pipe.		
23 21 13 23-2124 EA Cut 3/4" Groove Pipe.....	10.75	
23 21 13 23-2125 EA Cut 1" Groove Pipe.....	11.67	
23 21 13 23-2126 EA Cut 1-1/4" Groove Pipe.....	13.18	
23 21 13 23-2127 EA Cut 1-1/2" Groove Pipe.....	14.33	
23 21 13 23-2128 EA Cut 2" Groove Pipe.....	15.71	
23 21 13 23-2129 EA Cut 2-1/2" Groove Pipe.....	17.02	
23 21 13 23-2130 EA Cut 3" Groove Pipe.....	18.57	
23 21 13 23-2131 EA Cut 3-1/2" Groove Pipe.....	19.69	
23 21 13 23-2132 EA Cut 4" Groove Pipe.....	20.95	
23 21 13 23-2133 EA Cut 5" Groove Pipe.....	22.69	
23 21 13 23-2134 EA Cut 6" Groove Pipe.....	23.34	
23 21 13 23-2135 EA Cut 8" Groove Pipe.....	30.26	
23 21 13 23-2136 EA Cut 10" Groove Pipe.....	43.00	
23 21 13 23-2137 EA Cut 12" Groove Pipe.....	54.46	
23 21 13 23-2138 EA Cut 14" Groove Pipe.....	81.69	
23 21 13 23-2139 EA Cut 16" Groove Pipe.....	85.99	
23 21 13 23-2140 EA Cut 18" Groove Pipe.....	90.77	
23 21 13 23-2141 EA Cut 20" Groove Pipe.....	96.11	
23 21 13 23-2142 EA Cut 24" Groove Pipe.....	108.92	
23 21 13 23-2143 Roll Grooved Pipe (23 21 13 23-2122)		
Note: For use where connecting ungrooved pipe with grooved pipe, coupling to grooved pipe, or for field groove preparation on existing cut pipe.		
23 21 13 23-2144 EA Roll 3/4" Groove.....	6.15	
23 21 13 23-2145 EA Roll 1" Groove.....	7.16	
23 21 13 23-2146 EA Roll 1-1/4" Groove.....	8.17	
23 21 13 23-2147 EA Roll 1-1/2" Groove.....	9.18	
23 21 13 23-2148 EA Roll 2" Groove.....	14.09	
23 21 13 23-2149 EA Roll 2-1/2" Groove.....	14.85	
23 21 13 23-2150 EA Roll 3" Groove.....	16.33	
23 21 13 23-2151 EA Roll 3-1/2" Groove.....	17.38	
23 21 13 23-2152 EA Roll 4" Groove.....	18.99	
23 21 13 23-2153 EA Roll 5" Groove.....	19.45	
23 21 13 23-2154 EA Roll 6" Groove.....	20.43	
23 21 13 23-2155 EA Roll 8" Groove.....	24.76	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2156	EA	Roll 10" Groove		28.17	
23 21 13 23-2157	EA	Roll 12" Groove		35.52	
23 21 13 23-2158	EA	Roll 14" Groove		54.46	
23 21 13 23-2159	EA	Roll 16" Groove		58.35	
23 21 13 23-2160	EA	Roll 18" Groove		60.51	
23 21 13 23-2161	EA	Roll 20" Groove		65.36	
23 21 13 23-2162	EA	Roll 24" Groove		71.04	
23 21 13 23-2163 Standard Gaskets (23 21 13 23-2122)					
Note: For use on replacement of existing gaskets.					
23 21 13 23-2164	EA	3/4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		16.52	
23 21 13 23-2165	EA	1" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		17.38	
23 21 13 23-2166	EA	1-1/4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		18.29	
23 21 13 23-2167	EA	1-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		20.11	
23 21 13 23-2168	EA	2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		20.72	
23 21 13 23-2169	EA	2-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		23.99	
23 21 13 23-2170	EA	3" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		26.38	
23 21 13 23-2171	EA	3-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		32.10	
23 21 13 23-2172	EA	4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		32.60	
23 21 13 23-2173	EA	5" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		39.95	
23 21 13 23-2174	EA	6" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		42.88	
23 21 13 23-2175	EA	8" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		57.87	
23 21 13 23-2176	EA	10" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		72.00	
23 21 13 23-2177	EA	12" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		85.41	
23 21 13 23-2178	EA	14" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		119.76	
23 21 13 23-2179	EA	16" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		157.65	
23 21 13 23-2180	EA	18" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		185.38	
23 21 13 23-2181	EA	20" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		270.84	
23 21 13 23-2182	EA	24" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"		368.52	
23 21 13 23-2183 Copper Grooved-Joint Pipe Fittings (23 21 13 23-2183)					
Note: Couplings are not included with fittings.					
23 21 13 23-2184 Grooved Fittings (23 21 13 23-2183)					
23 21 13 23-2185 Grooved 90 Degree Elbows (23 21 13 23-2184)					
23 21 13 23-2186	EA	2" Copper 90 Degree Elbow, Grooved		147.11	16.73
23 21 13 23-2187	EA	2-1/2" Copper 90 Degree Elbow, Grooved		163.75	20.42
23 21 13 23-2188	EA	3" Copper 90 Degree Elbow, Grooved		221.69	24.73
23 21 13 23-2189	EA	4" Copper 90 Degree Elbow, Grooved		460.56	32.63
23 21 13 23-2190	EA	5" Copper 90 Degree Elbow, Grooved		1,201.89	40.84
23 21 13 23-2191	EA	6" Copper 90 Degree Elbow, Grooved		1,894.54	53.46
23 21 13 23-2192	EA	8" Copper 90 Degree Elbow, Grooved		3,483.21	63.61
23 21 13 23-2193 Grooved 45 Degree Elbows (23 21 13 23-2184)					
23 21 13 23-2194	EA	2" Copper 45 Degree Elbow, Grooved		147.11	16.73
23 21 13 23-2195	EA	2-1/2" Copper 45 Degree Elbow, Grooved		163.75	20.42
23 21 13 23-2196	EA	3" Copper 45 Degree Elbow, Grooved		221.69	24.73
23 21 13 23-2197	EA	4" Copper 45 Degree Elbow, Grooved		460.56	32.63
23 21 13 23-2198	EA	5" Copper 45 Degree Elbow, Grooved		1,201.89	40.84
23 21 13 23-2199	EA	6" Copper 45 Degree Elbow, Grooved		1,894.54	53.46
23 21 13 23-2200	EA	8" Copper 45 Degree Elbow, Grooved		3,483.21	63.61
23 21 13 23-2201 Grooved Tees (23 21 13 23-2184)					
23 21 13 23-2202	EA	2" Copper Tee, Grooved		235.51	24.63
23 21 13 23-2203	EA	2-1/2" Copper Tee, Grooved		258.10	30.27
23 21 13 23-2204	EA	3" Copper Tee, Grooved		368.32	37.14
23 21 13 23-2205	EA	4" Copper Tee, Grooved		740.75	48.02
23 21 13 23-2206	EA	5" Copper Tee, Grooved		2,962.39	62.80
23 21 13 23-2207	EA	6" Copper Tee, Grooved		2,385.67	78.60
23 21 13 23-2208	EA	8" Copper Tee, Grooved		4,170.19	95.43
23 21 13 23-2209 Grooved Reducing Tees (23 21 13 23-2184)					
23 21 13 23-2210	EA	2-1/2" Copper Tee, Reducing, Grooved		355.07	30.27
23 21 13 23-2211	EA	3" Copper Tee, Reducing, Grooved		574.21	37.14
23 21 13 23-2212	EA	4" Copper Tee, Reducing, Grooved		943.01	48.13
23 21 13 23-2213	EA	5" Copper Tee, Reducing, Grooved		2,710.46	62.90
23 21 13 23-2214	EA	6" Copper Tee, Reducing, Grooved		3,312.95	78.60
23 21 13 23-2215 Grooved X Cup Reducing Tees (23 21 13 23-2184)					
23 21 13 23-2216	EA	2" Copper Tee, Reducing, Grooved X Cup		287.37	24.63
23 21 13 23-2217	EA	2-1/2" Copper Tee, Reducing, Grooved X Cup		356.12	30.27
23 21 13 23-2218	EA	3" Copper Tee, Reducing, Grooved X Cup		620.88	37.14
23 21 13 23-2219	EA	4" Copper Tee, Reducing, Grooved X Cup		943.01	48.02

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-220		Grooved Flanged Adapter Nipples (23 21 13 23-2184)			
23 21 13 23-2221	EA	2" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	526.44	18.16	
23 21 13 23-2222	EA	2-1/2" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	554.40	22.06	
23 21 13 23-2223	EA	3" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	587.24	26.37	
23 21 13 23-2224	EA	4" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	657.04	35.50	
23 21 13 23-2225	EA	5" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	873.72	42.99	
23 21 13 23-2226	EA	6" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150	973.34	58.07	
23 21 13 23-2227		Grooved Concentric Reducers (23 21 13 23-2184)			
23 21 13 23-2228	EA	2-1/2" x 2" Copper Concentric Reducer, Grooved	200.28	18.67	
23 21 13 23-2229	EA	3" x 2" Copper Concentric Reducer, Grooved	204.40	20.83	
23 21 13 23-2230	EA	3" x 2-1/2" Copper Concentric Reducer, Grooved	212.35	24.73	
23 21 13 23-2231	EA	4" x 2" Copper Concentric Reducer, Grooved	382.74	24.93	
23 21 13 23-2232	EA	4" x 2-1/2" Copper Concentric Reducer, Grooved	386.34	26.67	
23 21 13 23-2233	EA	4" x 3" Copper Concentric Reducer, Grooved	390.44	28.73	
23 21 13 23-2234	EA	5" x 3" Copper Concentric Reducer, Grooved	1,002.29	32.83	
23 21 13 23-2235	EA	5" x 4" Copper Concentric Reducer, Grooved	1,010.50	36.94	
23 21 13 23-2236	EA	6" x 3" Copper Concentric Reducer, Grooved	1,091.88	38.99	
23 21 13 23-2237	EA	6" x 4" Copper Concentric Reducer, Grooved	1,100.09	43.10	
23 21 13 23-2238	EA	6" x 5" Copper Concentric Reducer, Grooved	1,108.30	47.20	
23 21 13 23-2239	EA	8" x 6" Copper Concentric Reducer, Grooved	1,896.35	58.48	
23 21 13 23-2240		Grooved X Cup Concentric Reducers (23 21 13 23-2184)			
23 21 13 23-2241	EA	2" x 1" Copper Concentric Reducer, Grooved X Cup	161.01	13.13	
23 21 13 23-2242	EA	2" x 1-1/4" Copper Concentric Reducer, Grooved X Cup	162.04	13.64	
23 21 13 23-2243	EA	2" x 1-1/2" Copper Concentric Reducer, Grooved X Cup	165.18	15.19	
23 21 13 23-2244	EA	2-1/2" x 1" Copper Concentric Reducer, Grooved X Cup	194.24	14.67	
23 21 13 23-2245	EA	2-1/2" x 1-1/4" Copper Concentric Reducer, Grooved X Cup	195.26	15.19	
23 21 13 23-2246	EA	2-1/2" x 1-1/2" Copper Concentric Reducer, Grooved X Cup	198.27	16.73	
23 21 13 23-2247	EA	2-1/2" x 2" Copper Concentric Reducer, Grooved X Cup	202.37	18.67	
23 21 13 23-2248	EA	3" x 1-1/2" Copper Concentric Reducer, Grooved X Cup	242.28	18.67	
23 21 13 23-2249	EA	3" x 2" Copper Concentric Reducer, Grooved X Cup	246.40	20.83	
23 21 13 23-2250	EA	4" x 2" Copper Concentric Reducer, Grooved X Cup	429.93	24.83	
23 21 13 23-2251		Grooved Standard Couplings (23 21 13 23-2184)			
23 21 13 23-2252	EA	2" Copper Standard Coupling, Grooved	55.93	8.41	
23 21 13 23-2253	EA	2-1/2" Copper Standard Coupling, Grooved	65.31	10.26	
23 21 13 23-2254	EA	3" Copper Standard Coupling, Grooved	73.79	12.21	
23 21 13 23-2255	EA	4" Copper Standard Coupling, Grooved	108.29	16.41	
23 21 13 23-2256	EA	5" Copper Standard Coupling, Grooved	169.48	20.42	
23 21 13 23-2257	EA	6" Copper Standard Coupling, Grooved	223.34	26.67	
23 21 13 23-2258	EA	8" Copper Standard Coupling, Grooved	328.11	31.81	
23 21 13 23-2259		Grooved Caps (23 21 13 23-2184)			
23 21 13 23-2260	EA	2" Copper Cap, Grooved	95.07	8.41	
23 21 13 23-2261	EA	2-1/2" Copper Cap, Grooved	136.61	10.26	
23 21 13 23-2262	EA	3" Copper Cap, Grooved	168.56	12.21	
23 21 13 23-2263	EA	4" Copper Cap, Grooved	248.94	16.31	
23 21 13 23-2264	EA	5" Copper Cap, Grooved	424.30	20.42	
23 21 13 23-2265	EA	6" Copper Cap, Grooved	494.78	26.67	
23 21 13 23-2266		Grooved Valves (23 21 13 23-2183)			
23 21 13 23-2267		Grooved Butterfly Valves, Standard Trim, Without Operator (23 21 13 23-2266)			
Note: Copper body.					
23 21 13 23-2268	EA	2" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	477.56	10.98	
		For Chain Wheel, Add	43.45		
		For Valve Bracket Insulation, Add	38.20		
23 21 13 23-2269	EA	3" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	542.87	16.31	
		For Chain Wheel, Add	43.45		
		For Valve Bracket Insulation, Add	38.20		
23 21 13 23-2270	EA	4" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	717.62	21.44	
		For Chain Wheel, Add	43.45		
		For Valve Bracket Insulation, Add	38.20		
23 21 13 23-2271	EA	6" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	957.04	35.20	
		For Chain Wheel, Add	43.45		
		For Valve Bracket Insulation, Add	38.20		
23 21 13 23-2272	EA	8" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	1,054.18	49.46	
		For Chain Wheel, Add	43.45		
		For Valve Bracket Insulation, Add	38.20		
23 21 13 23-2273		Grooved Butterfly Valves, Standard Trim, With Operator (23 21 13 23-2266)			
Note: Copper body.					



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-2274	EA	2" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body..... <i>For Chain Wheel, Add</i> <i>For Valve Bracket Insulation, Add</i>	583.62 43.45 38.20	10.98
23 21	13 23-2275	EA	3" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body..... <i>For Chain Wheel, Add</i> <i>For Valve Bracket Insulation, Add</i>	649.00 43.45 38.20	16.31
23 21	13 23-2276	EA	4" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body..... <i>For Chain Wheel, Add</i> <i>For Valve Bracket Insulation, Add</i>	823.75 43.45 38.20	21.44
23 21	13 23-2277	EA	6" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body..... <i>For Chain Wheel, Add</i> <i>For Valve Bracket Insulation, Add</i>	1,063.24 43.45 38.20	35.20
23 21	13 23-2278	EA	8" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body..... <i>For Chain Wheel, Add</i> <i>For Valve Bracket Insulation, Add</i>	1,160.31 43.45 38.20	49.46
23 21	13 23-2279		Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23)		
			Note: Socket or back weld.		
23 21	13 23-2280		Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23-2279)		
			Note: ASTM D1785 with D2466 fittings.		
23 21	13 23-2281		Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2280)		
23 21	13 23-2282	LF	1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	5.12 1.32	2.93
23 21	13 23-2283	LF	3/4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	6.43 1.65	3.67
23 21	13 23-2284	LF	1" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	7.20 1.76	3.91
23 21	13 23-2285	LF	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	8.07 1.90	4.20
23 21	13 23-2286	LF	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	8.42 1.92	4.28
23 21	13 23-2287	LF	2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	10.42 2.31	5.12
23 21	13 23-2288	LF	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	13.44 2.74	6.09
23 21	13 23-2289	LF	3" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	16.64 3.31	7.36
23 21	13 23-2290	LF	4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	24.63 4.97	11.03
23 21	13 23-2291	LF	6" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	36.16 6.62	14.71
23 21	13 23-2292	LF	8" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	47.71 7.89	17.53
23 21	13 23-2293	LF	10" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	94.87 8.80	19.59
23 21	13 23-2294		Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows (23 21 13 23-2280)		
23 21	13 23-2295	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	17.38 4.97	11.08
23 21	13 23-2296	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	23.24 6.62	14.67
23 21	13 23-2297	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	29.44 8.21	18.26
23 21	13 23-2298	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	42.54 11.61	25.86
23 21	13 23-2299	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	47.74 13.10	29.14
23 21	13 23-2300	EA	2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	61.87 16.64	37.04
23 21	13 23-2301	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	101.56 24.62	54.79
23 21	13 23-2302	EA	3" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	131.39 32.40	72.03
23 21	13 23-2303	EA	4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	170.05 38.48	85.57
23 21	13 23-2304	EA	6" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	246.65 43.97	97.78
23 21	13 23-2305	EA	8" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	428.68 51.30	114.10
23 21	13 23-2306	EA	10" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	641.11 76.49	170.11
23 21	13 23-2307		Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows (23 21 13 23-2280)		
23 21	13 23-2308	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	17.80 4.97	11.08
23 21	13 23-2309	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	24.07 6.62	14.67
23 21	13 23-2310	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows..... <i>For Work In Restricted Working Space, Add</i>	30.61 8.21	18.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2311 EA 1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	43.29 11.61	25.86
23 21 13 23-2312 EA 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	49.40 13.10	29.14
23 21 13 23-2313 EA 2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	62.95 16.64	37.04
23 21 13 23-2314 EA 2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	101.56 24.62	54.79
23 21 13 23-2315 EA 3" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	138.39 32.40	72.03
23 21 13 23-2316 EA 4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	182.79 38.48	85.57
23 21 13 23-2317 EA 6" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	247.82 43.97	97.78
23 21 13 23-2318 EA 8" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	414.61 51.30	114.10
23 21 13 23-2319 EA 10" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows <i>For Work In Restricted Working Space, Add</i>	641.11 76.49	170.11
23 21 13 23-2320 Schedule 40 Polyvinyl Chloride (PVC) Tees (23 21 13 23-2280)		
23 21 13 23-2321 EA 1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	28.36 8.21	18.26
23 21 13 23-2322 EA 3/4" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	34.18 9.93	22.06
23 21 13 23-2323 EA 1" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	45.74 13.10	29.14
23 21 13 23-2324 EA 1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	58.79 16.64	37.04
23 21 13 23-2325 EA 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	70.27 19.86	44.12
23 21 13 23-2326 EA 2" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	87.99 24.62	54.79
23 21 13 23-2327 EA 2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	127.65 32.40	72.03
23 21 13 23-2328 EA 3" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	153.99 38.48	85.57
23 21 13 23-2329 EA 4" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	217.63 51.30	114.10
23 21 13 23-2330 EA 6" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	377.84 66.20	147.14
23 21 13 23-2331 EA 8" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	638.26 82.08	182.54
23 21 13 23-2332 EA 10" Schedule 40 Polyvinyl Chloride (PVC) Tees <i>For Work In Restricted Working Space, Add</i>	1,835.77 122.67	272.72
23 21 13 23-2333 Schedule 40 Polyvinyl Chloride (PVC) Crosses (23 21 13 23-2280)		
23 21 13 23-2334 EA 1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	35.77 10.26	22.77
23 21 13 23-2335 EA 3/4" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	43.07 12.41	27.60
23 21 13 23-2336 EA 1" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	57.85 16.37	36.43
23 21 13 23-2337 EA 1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	74.55 20.80	46.27
23 21 13 23-2338 EA 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	89.14 24.83	55.20
23 21 13 23-2339 EA 2" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	111.87 30.78	68.44
23 21 13 23-2340 EA 2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	165.81 40.50	90.09
23 21 13 23-2341 EA 3" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	200.64 48.10	106.91
23 21 13 23-2342 EA 4" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	286.85 64.13	142.62
23 21 13 23-2343 EA 6" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	522.10 82.71	183.87
23 21 13 23-2344 EA 8" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	913.45 102.55	227.98
23 21 13 23-2345 EA 10" Schedule 40 Polyvinyl Chloride (PVC) Crosses <i>For Work In Restricted Working Space, Add</i>	2,748.15 153.42	341.05
23 21 13 23-2346 Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts (23 21 13 23-2280)		
23 21 13 23-2347 EA 3/4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	17.92 5.15	11.29
23 21 13 23-2348 EA 1" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	23.55 6.59	14.47
23 21 13 23-2349 EA 1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	31.44 8.81	19.39
23 21 13 23-2350 EA 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	38.77 10.98	24.11



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2351	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	47.72	29.04
			For Work In Restricted Working Space, Add	13.22	
23 21 13 23-2352	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts	66.96	40.33
			For Work In Restricted Working Space, Add	18.34	
23 21 13 23-2353	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	93.22	55.71
			For Work In Restricted Working Space, Add	25.34	
23 21 13 23-2354	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	124.74	69.26
			For Work In Restricted Working Space, Add	31.50	
23 21 13 23-2355	EA		6" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	171.18	80.64
			For Work In Restricted Working Space, Add	36.65	
23 21 13 23-2356	EA		8" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	423.09	93.17
			For Work In Restricted Working Space, Add	42.35	
23 21 13 23-2357	EA		10" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	502.32	124.97
			For Work In Restricted Working Space, Add	56.80	
23 21 13 23-2358			Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts (23 21 13 23-2280)		
23 21 13 23-2359	EA		1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	18.30	11.08
			For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2360	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	23.82	14.67
			For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2361	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	29.52	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2362	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	42.04	25.86
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-2363	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	47.49	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2364	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	60.70	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2365	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	89.66	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2366	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	116.74	72.03
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2367	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	147.99	85.57
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2368			Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters (23 21 13 23-2280)		
23 21 13 23-2369	EA		1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	18.88	11.08
			For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2370	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	24.40	14.67
			For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2371	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	30.69	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2372	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	42.71	25.86
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-2373	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	48.99	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2374	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	62.04	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2375	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	91.15	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2376	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	121.32	72.03
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2377	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	145.33	85.57
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2378			Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters (23 21 13 23-2280)		
23 21 13 23-2379	EA		1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	17.38	11.08
			For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2380	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	23.15	14.67
			For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2381	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	28.61	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2382	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	40.71	25.86
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-2383	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	45.99	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2384	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	58.62	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2385	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	95.81	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2386	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	126.48	72.03
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2387	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	158.81	85.57
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2388			Schedule 40 Polyvinyl Chloride (PVC) P-Traps (23 21 13 23-2280)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2389	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) P-Traps..... <i>For Work In Restricted Working Space, Add</i>	28.65 6.77	15.08
23 21 13 23-2390 Schedule 40 Polyvinyl Chloride (PVC) Couplings (23 21 13 23-2280)				
23 21 13 23-2391	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	17.05 4.97	11.08
23 21 13 23-2392	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	22.74 6.62	14.67
23 21 13 23-2393	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	28.61 8.21	18.26
23 21 13 23-2394	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	40.38 11.61	25.86
23 21 13 23-2395	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	45.49 13.10	29.14
23 21 13 23-2396	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	58.29 16.64	37.04
23 21 13 23-2397	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	88.41 24.62	54.79
23 21 13 23-2398	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	117.91 32.40	72.03
23 21 13 23-2399	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	142.66 38.48	85.57
23 21 13 23-2400	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	192.20 43.97	97.78
23 21 13 23-2401	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	256.26 51.30	114.10
23 21 13 23-2402	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Couplings..... <i>For Work In Restricted Working Space, Add</i>	574.58 54.99	122.30
23 21 13 23-2403 Schedule 40 Polyvinyl Chloride (PVC) Unions (23 21 13 23-2280)				
23 21 13 23-2404	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	35.79 8.21	18.26
23 21 13 23-2405	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	47.17 9.93	22.06
23 21 13 23-2406	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	59.39 13.10	29.14
23 21 13 23-2407	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	93.76 16.64	37.04
23 21 13 23-2408	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	106.15 19.86	44.12
23 21 13 23-2409	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	135.94 24.62	54.79
23 21 13 23-2410	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	205.74 32.40	72.03
23 21 13 23-2411	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	231.83 38.48	85.57
23 21 13 23-2412	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	376.39 51.30	114.10
23 21 13 23-2413	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	495.87 66.17	147.14
23 21 13 23-2414	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	727.68 82.04	182.43
23 21 13 23-2415	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Unions..... <i>For Work In Restricted Working Space, Add</i>	1,088.24 101.87	226.45
23 21 13 23-2416 Schedule 40 Polyvinyl Chloride (PVC) Caps (23 21 13 23-2280)				
23 21 13 23-2417	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	8.23 2.27	5.00
23 21 13 23-2418	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	10.77 2.98	6.57
23 21 13 23-2419	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	13.64 3.69	8.10
23 21 13 23-2420	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	19.51 5.30	11.65
23 21 13 23-2421	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	21.65 5.90	12.93
23 21 13 23-2422	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	27.36 7.49	16.52
23 21 13 23-2423	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	44.85 11.08	24.42
23 21 13 23-2424	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	57.17 14.58	32.11
23 21 13 23-2425	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	77.37 17.32	38.07
23 21 13 23-2426	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	113.00 19.79	43.50
23 21 13 23-2427	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	234.31 23.09	50.79
23 21 13 23-2428	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Caps..... <i>For Work In Restricted Working Space, Add</i>	696.93 34.42	75.73



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR				TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION				UNIT COST		UNIT COST	
23 21 13 23-2429 Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges (23 21 13 23-2280)							
23 21 13 23-2430	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Socket Weld Flanges	44.09		18.26		
		For Work In Restricted Working Space, Add	8.21				
23 21 13 23-2431	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	58.74		22.06		
		For Work In Restricted Working Space, Add	9.93				
23 21 13 23-2432	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	72.21		29.14		
		For Work In Restricted Working Space, Add	13.10				
23 21 13 23-2433	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	84.85		37.04		
		For Work In Restricted Working Space, Add	16.64				
23 21 13 23-2434	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	96.24		44.12		
		For Work In Restricted Working Space, Add	19.86				
23 21 13 23-2435	EA	2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	122.04		54.79		
		For Work In Restricted Working Space, Add	24.62				
23 21 13 23-2436	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	169.69		72.03		
		For Work In Restricted Working Space, Add	32.40				
23 21 13 23-2437	EA	3" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	196.36		85.57		
		For Work In Restricted Working Space, Add	38.48				
23 21 13 23-2438	EA	4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	257.26		114.10		
		For Work In Restricted Working Space, Add	51.30				
23 21 13 23-2439	EA	6" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	356.17		147.14		
		For Work In Restricted Working Space, Add	66.17				
23 21 13 23-2440	EA	8" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	579.41		182.43		
		For Work In Restricted Working Space, Add	82.04				
23 21 13 23-2441	EA	10" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	1,028.59		226.14		
		For Work In Restricted Working Space, Add	101.71				
23 21 13 23-2442 Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23-2279)							
Note: ASTM D1785 with D2467 fittings.							
23 21 13 23-2443 Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2442)							
23 21 13 23-2444	LF	1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	5.33		2.97		
		For Work In Restricted Working Space, Add	1.32				
23 21 13 23-2445	LF	3/4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	6.68		3.70		
		For Work In Restricted Working Space, Add	1.65				
23 21 13 23-2446	LF	1" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	8.35		4.41		
		For Work In Restricted Working Space, Add	1.98				
23 21 13 23-2447	LF	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	10.09		5.13		
		For Work In Restricted Working Space, Add	2.32				
23 21 13 23-2448	LF	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	11.64		5.84		
		For Work In Restricted Working Space, Add	2.64				
23 21 13 23-2449	LF	2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	15.14		7.39		
		For Work In Restricted Working Space, Add	3.31				
23 21 13 23-2450	LF	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	18.26		8.10		
		For Work In Restricted Working Space, Add	3.64				
23 21 13 23-2451	LF	3" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	21.37		8.83		
		For Work In Restricted Working Space, Add	3.97				
23 21 13 23-2452	LF	4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	28.48		11.08		
		For Work In Restricted Working Space, Add	4.97				
23 21 13 23-2453	LF	6" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	44.75		14.67		
		For Work In Restricted Working Space, Add	6.62				
23 21 13 23-2454	LF	8" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	60.87		17.54		
		For Work In Restricted Working Space, Add	7.89				
23 21 13 23-2455	LF	10" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	134.81		18.88		
		For Work In Restricted Working Space, Add	8.50				
23 21 13 23-2456 Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows (23 21 13 23-2442)							
23 21 13 23-2457	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	19.55		11.08		
		For Work In Restricted Working Space, Add	4.97				
		For Threaded Fittings, Add	2.48				
23 21 13 23-2458	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	25.98		14.67		
		For Work In Restricted Working Space, Add	6.62				
		For Threaded Fittings, Add	3.31				
23 21 13 23-2459	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	33.69		18.26		
		For Work In Restricted Working Space, Add	8.21				
		For Threaded Fittings, Add	4.10				
23 21 13 23-2460	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	47.12		25.86		
		For Work In Restricted Working Space, Add	11.61				
		For Threaded Fittings, Add	5.81				
23 21 13 23-2461	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	52.65		29.14		
		For Work In Restricted Working Space, Add	13.10				
		For Threaded Fittings, Add	6.55				
23 21 13 23-2462	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	66.37		37.04		
		For Work In Restricted Working Space, Add	16.64				
		For Threaded Fittings, Add	8.32				
23 21 13 23-2463	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	107.64		54.79		
		For Work In Restricted Working Space, Add	24.62				
		For Threaded Fittings, Add	12.31				
23 21 13 23-2464	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	136.72		72.03		
		For Work In Restricted Working Space, Add	32.40				
		For Threaded Fittings, Add	16.20				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2465	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	171.88	85.57
		For Work In Restricted Working Space, Add	38.48	
		For Threaded Fittings, Add	19.24	
23 21 13 23-2466	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	304.18	97.78
		For Work In Restricted Working Space, Add	43.97	
		For Threaded Fittings, Add	21.99	
23 21 13 23-2467	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	513.60	114.10
		For Work In Restricted Working Space, Add	51.30	
		For Threaded Fittings, Add	25.65	
23 21 13 23-2468	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	641.11	170.11
		For Work In Restricted Working Space, Add	76.49	
		For Threaded Fittings, Add	38.25	
23 21 13 23-2469 Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows (23 21 13 23-2442)				
23 21 13 23-2470	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	22.29	11.08
		For Work In Restricted Working Space, Add	4.97	
		For Threaded Fittings, Add	2.48	
23 21 13 23-2471	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	30.81	14.67
		For Work In Restricted Working Space, Add	6.62	
		For Threaded Fittings, Add	3.31	
23 21 13 23-2472	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	40.51	18.26
		For Work In Restricted Working Space, Add	8.21	
		For Threaded Fittings, Add	4.10	
23 21 13 23-2473	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	55.53	25.86
		For Work In Restricted Working Space, Add	11.61	
		For Threaded Fittings, Add	5.81	
23 21 13 23-2474	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	63.47	29.14
		For Work In Restricted Working Space, Add	13.10	
		For Threaded Fittings, Add	6.55	
23 21 13 23-2475	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	81.19	37.04
		For Work In Restricted Working Space, Add	16.64	
		For Threaded Fittings, Add	8.32	
23 21 13 23-2476	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	136.20	54.79
		For Work In Restricted Working Space, Add	24.62	
		For Threaded Fittings, Add	12.31	
23 21 13 23-2477	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	173.86	72.03
		For Work In Restricted Working Space, Add	32.40	
		For Threaded Fittings, Add	16.20	
23 21 13 23-2478	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	246.90	85.57
		For Work In Restricted Working Space, Add	38.48	
		For Threaded Fittings, Add	19.24	
23 21 13 23-2479	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	295.95	97.78
		For Work In Restricted Working Space, Add	43.97	
		For Threaded Fittings, Add	21.99	
23 21 13 23-2480	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	494.88	114.10
		For Work In Restricted Working Space, Add	51.30	
		For Threaded Fittings, Add	25.65	
23 21 13 23-2481	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	620.07	170.11
		For Work In Restricted Working Space, Add	76.49	
		For Threaded Fittings, Add	38.25	
23 21 13 23-2482 Schedule 80 Polyvinyl Chloride (PVC) Tees (23 21 13 23-2442)				
23 21 13 23-2483	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Tees	34.56	17.34
		For Work In Restricted Working Space, Add	7.79	
		For Threaded Fittings, Add	3.90	
23 21 13 23-2484	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Tees	42.09	22.06
		For Work In Restricted Working Space, Add	9.93	
		For Threaded Fittings, Add	4.97	
23 21 13 23-2485	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Tees	54.90	29.14
		For Work In Restricted Working Space, Add	13.10	
		For Threaded Fittings, Add	6.55	
23 21 13 23-2486	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Tees	86.52	37.04
		For Work In Restricted Working Space, Add	16.64	
		For Threaded Fittings, Add	8.32	
23 21 13 23-2487	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Tees	97.25	44.12
		For Work In Restricted Working Space, Add	19.86	
		For Threaded Fittings, Add	9.93	
23 21 13 23-2488	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Tees	120.96	54.79
		For Work In Restricted Working Space, Add	24.62	
		For Threaded Fittings, Add	12.31	
23 21 13 23-2489	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Tees	150.30	72.03
		For Work In Restricted Working Space, Add	32.40	
		For Threaded Fittings, Add	16.20	
23 21 13 23-2490	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Tees	181.05	85.57
		For Work In Restricted Working Space, Add	38.48	
		For Threaded Fittings, Add	19.24	
23 21 13 23-2491	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Tees	232.20	114.10
		For Work In Restricted Working Space, Add	51.30	
		For Threaded Fittings, Add	25.65	
23 21 13 23-2492	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Tees	429.72	147.14
		For Work In Restricted Working Space, Add	66.20	
		For Threaded Fittings, Add	33.10	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13 23-2493	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Tees For Work In Restricted Working Space, Add For Threaded Fittings, Add	758.51 82.08 41.04	182.54
23 21	13 23-2494	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Tees For Work In Restricted Working Space, Add For Threaded Fittings, Add	1,835.87 122.67 61.34	272.72
23 21	13 23-2495		Schedule 80 Polyvinyl Chloride (PVC) Crosses (23 21 13 23-2442)		
23 21	13 23-2496	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	45.91 9.74 4.87	21.64
23 21	13 23-2497	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	55.46 12.41 6.21	27.60
23 21	13 23-2498	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	72.20 16.37 8.19	36.43
23 21	13 23-2499	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	118.01 20.80 10.40	46.27
23 21	13 23-2500	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	131.43 24.83 12.41	55.20
23 21	13 23-2501	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	163.55 30.78 15.39	68.44
23 21	13 23-2502	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	201.32 40.50 20.25	90.09
23 21	13 23-2503	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	243.07 48.10 24.05	106.91
23 21	13 23-2504	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	309.69 64.13 32.06	142.62
23 21	13 23-2505	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	603.43 82.71 41.36	183.87
23 21	13 23-2506	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	1,101.95 102.55 51.27	227.98
23 21	13 23-2507	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Crosses For Work In Restricted Working Space, Add For Threaded Fittings, Add	2,748.30 153.42 76.71	341.05
23 21	13 23-2508		Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts (23 21 13 23-2442)		
23 21	13 23-2509	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	23.82 6.62	14.67
23 21	13 23-2510	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	32.44 8.21	18.26
23 21	13 23-2511	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	46.70 11.61	25.86
23 21	13 23-2512	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	54.57 13.10	29.14
23 21	13 23-2513	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	71.03 16.64	37.04
23 21	13 23-2514	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	109.05 24.62	54.79
23 21	13 23-2515	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	150.87 32.40	72.03
23 21	13 23-2516	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	187.70 38.48	85.57
23 21	13 23-2517	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	212.51 43.97	97.78
23 21	13 23-2518	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	317.36 51.30	114.10
23 21	13 23-2519	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts For Work In Restricted Working Space, Add	511.68 59.60	132.47
23 21	13 23-2520		Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts (23 21 13 23-2442)		
23 21	13 23-2521	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts For Work In Restricted Working Space, Add	17.13 4.97	11.08
23 21	13 23-2522	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts For Work In Restricted Working Space, Add	25.32 6.62	14.67
23 21	13 23-2523	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts For Work In Restricted Working Space, Add	32.44 8.21	18.26
23 21	13 23-2524	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts For Work In Restricted Working Space, Add	49.03 11.61	25.86
23 21	13 23-2525	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts For Work In Restricted Working Space, Add	56.65 13.10	29.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2526	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	71.36	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2527	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	115.71	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2528	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	170.27	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2529	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	224.00	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2530 Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters (23 21 13 23-2442)				
23 21 13 23-2531	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	23.63	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
23 21 13 23-2532	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	29.90	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2533	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	41.01	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2534	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	54.70	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2535	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	66.64	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2536	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	85.43	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2537	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	116.21	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2538	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	145.88	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2539	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters	195.61	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2540 Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters (23 21 13 23-2442)				
23 21 13 23-2541	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	21.71	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
23 21 13 23-2542	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	29.73	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2543	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	38.68	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2544	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	57.11	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2545	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	66.22	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2546	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	94.75	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2547	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	144.19	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2548	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	177.93	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2549	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	248.47	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2550 Schedule 80 Polyvinyl Chloride (PVC) Couplings (23 21 13 23-2442)				
23 21 13 23-2551	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	22.04	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
		<i>For Threaded Fittings, Add</i>	2.48	
23 21 13 23-2552	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Couplings	29.48	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
		<i>For Threaded Fittings, Add</i>	3.31	
23 21 13 23-2553	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Couplings	35.02	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
		<i>For Threaded Fittings, Add</i>	4.10	
23 21 13 23-2554	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Couplings	50.45	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
		<i>For Threaded Fittings, Add</i>	5.81	
23 21 13 23-2555	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	56.31	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
		<i>For Threaded Fittings, Add</i>	6.55	
23 21 13 23-2556	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	68.95	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
		<i>For Threaded Fittings, Add</i>	8.32	
23 21 13 23-2557	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	115.46	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
		<i>For Threaded Fittings, Add</i>	12.31	
23 21 13 23-2558	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Couplings	146.38	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
		<i>For Threaded Fittings, Add</i>	16.20	
23 21 13 23-2559	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Couplings	176.38	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
		<i>For Threaded Fittings, Add</i>	19.24	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2560	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Couplings	250.06	97.78
		For Work In Restricted Working Space, Add	43.97	
		For Threaded Fittings, Add	21.99	
23 21 13 23-2561	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Couplings	311.87	114.10
		For Work In Restricted Working Space, Add	51.30	
		For Threaded Fittings, Add	25.65	
23 21 13 23-2562	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Couplings	599.55	122.30
		For Work In Restricted Working Space, Add	54.99	
		For Threaded Fittings, Add	27.50	
23 21 13 23-2563 Schedule 80 Polyvinyl Chloride (PVC) Unions (23 21 13 23-2442)				
23 21 13 23-2564	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	39.68	18.26
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2565	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Unions	47.34	22.06
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-2566	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Unions	59.89	29.14
		For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2567	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Unions	96.09	37.04
		For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2568	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	118.47	44.12
		For Work In Restricted Working Space, Add	19.86	
23 21 13 23-2569	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Unions	152.93	54.79
		For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2570	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	239.91	72.03
		For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2571	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Unions	298.29	85.57
		For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2572	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Unions	376.89	114.10
		For Work In Restricted Working Space, Add	51.30	
23 21 13 23-2573	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Unions	495.87	147.14
		For Work In Restricted Working Space, Add	66.17	
23 21 13 23-2574	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Unions	727.68	182.43
		For Work In Restricted Working Space, Add	82.04	
23 21 13 23-2575	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Unions	1,087.70	226.14
		For Work In Restricted Working Space, Add	101.71	
23 21 13 23-2576 Schedule 80 Polyvinyl Chloride (PVC) Threaded Unions (23 21 13 23-2442)				
23 21 13 23-2577	EA	1/2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	41.67	22.80
23 21 13 23-2578	EA	3/4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	49.96	26.37
23 21 13 23-2579	EA	1", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	60.68	31.09
23 21 13 23-2580	EA	1-1/4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	82.17	37.04
23 21 13 23-2581	EA	1-1/2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	99.11	44.12
23 21 13 23-2582	EA	2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	132.34	54.79
23 21 13 23-2583	EA	3", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	286.50	106.20
23 21 13 23-2584	EA	4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	310.12	117.79
23 21 13 23-2585 Schedule 80 Polyvinyl Chloride (PVC) Caps (23 21 13 23-2442)				
23 21 13 23-2586	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	15.19	4.93
		For Work In Restricted Working Space, Add	2.24	
		For Threaded Fittings, Add	1.12	
23 21 13 23-2587	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Caps	18.10	6.57
		For Work In Restricted Working Space, Add	2.98	
		For Threaded Fittings, Add	1.49	
23 21 13 23-2588	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Caps	26.80	8.10
		For Work In Restricted Working Space, Add	3.69	
		For Threaded Fittings, Add	1.85	
23 21 13 23-2589	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Caps	34.90	11.49
		For Work In Restricted Working Space, Add	5.23	
		For Threaded Fittings, Add	2.61	
23 21 13 23-2590	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	37.13	12.93
		For Work In Restricted Working Space, Add	5.90	
		For Threaded Fittings, Add	2.95	
23 21 13 23-2591	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Caps	51.17	16.52
		For Work In Restricted Working Space, Add	7.49	
		For Threaded Fittings, Add	3.74	
23 21 13 23-2592	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	90.80	24.42
		For Work In Restricted Working Space, Add	11.08	
		For Threaded Fittings, Add	5.54	
23 21 13 23-2593	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Caps	114.45	32.11
		For Work In Restricted Working Space, Add	14.58	
		For Threaded Fittings, Add	7.29	
23 21 13 23-2594	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Caps	163.62	38.07
		For Work In Restricted Working Space, Add	17.32	
		For Threaded Fittings, Add	8.66	
23 21 13 23-2595	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Caps	329.04	43.50
		For Work In Restricted Working Space, Add	19.79	
		For Threaded Fittings, Add	9.89	
23 21 13 23-2596	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Caps	438.36	50.79
		For Work In Restricted Working Space, Add	23.09	
		For Threaded Fittings, Add	11.54	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2597	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Caps <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	780.18 34.42 17.21	75.73
23 21 13 23-2598		Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges (23 21 13 23-2442)		
23 21 13 23-2599	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	51.25 8.21 4.10	18.26
23 21 13 23-2600	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	58.74 9.93 4.97	22.06
23 21 13 23-2601	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	72.22 13.10 6.55	29.14
23 21 13 23-2602	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	84.85 16.64 8.32	37.04
23 21 13 23-2603	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	96.24 19.86 9.93	44.12
23 21 13 23-2604	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	122.04 24.62 12.31	54.79
23 21 13 23-2605	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	169.69 32.40 16.20	72.03
23 21 13 23-2606	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	196.36 38.48 19.24	85.57
23 21 13 23-2607	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	257.26 51.30 25.65	114.10
23 21 13 23-2608	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	356.18 66.17 33.08	147.14
23 21 13 23-2609	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	579.42 82.04 41.02	182.43
23 21 13 23-2610	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i> <i>For Threaded Fittings, Add</i>	1,028.59 101.71 50.85	226.14
23 21 13 23-2611		Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2279) Note: In place pipe.		
23 21 13 23-2612	EA	1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	5.57 1.67	
23 21 13 23-2613	EA	3/4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	6.01 1.80	
23 21 13 23-2614	EA	1", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	6.77 2.03	
23 21 13 23-2615	EA	1-1/4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	7.10 2.13	
23 21 13 23-2616	EA	1-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	7.52 2.26	
23 21 13 23-2617	EA	2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	8.28 2.48	
23 21 13 23-2618	EA	2-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	8.91 2.67	
23 21 13 23-2619	EA	3", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	10.52 3.16	
23 21 13 23-2620	EA	4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	14.20 4.26	
23 21 13 23-2621	EA	6", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	20.30 6.09	
23 21 13 23-2622	EA	8", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	27.07 8.12	
23 21 13 23-2623	EA	10", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe <i>For Work In Restricted Working Space, Add</i>	33.10 9.93	
23 21 13 23-2624		Polyvinylidene Fluoride (PVDF), Socket Weld (23 21 13 23-2624)		
23 21 13 23-2625		Pipe (23 21 13 23-2624)		
23 21 13 23-2626	LF	1/2" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	34.58	2.97
23 21 13 23-2627	LF	3/4" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	46.27	3.70
23 21 13 23-2628	LF	1" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	65.26	3.90
23 21 13 23-2629	LF	1-1/2" Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	91.24	4.31
23 21 13 23-2630	LF	2" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	115.61	5.13
23 21 13 23-2631		90 Degree Elbows (23 21 13 23-2624)		
23 21 13 23-2632	EA	1/2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	47.51	10.98



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2633	EA	3/4" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	63.44	14.67	
23 21 13 23-2634	EA	1" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	106.20	18.26	
23 21 13 23-2635	EA	1-1/2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	184.86	29.14	
23 21 13 23-2636	EA	2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	241.21	37.04	
23 21 13 23-2637 45 Degree Elbows (23 21 13 23-2624)					
23 21 13 23-2638	EA	1/2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	55.32	11.08	
23 21 13 23-2639	EA	3/4" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	74.44	14.67	
23 21 13 23-2640	EA	1" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	106.20	18.26	
23 21 13 23-2641	EA	1-1/2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	158.53	29.14	
23 21 13 23-2642	EA	2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	234.27	37.04	
23 21 13 23-2643 Tees (23 21 13 23-2624)					
23 21 13 23-2644	EA	1/2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	88.70	18.26	
23 21 13 23-2645	EA	3/4" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	98.20	22.06	
23 21 13 23-2646	EA	1" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	142.90	29.14	
23 21 13 23-2647	EA	1-1/2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	236.03	44.12	
23 21 13 23-2648	EA	2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	349.43	54.79	
23 21 13 23-2649 Reducing Tees (23 21 13 23-2624)					
23 21 13 23-2650	EA	3/4" x 1/2" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	101.08	20.52	
23 21 13 23-2651	EA	1" x 1/2" Reducing Insert, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	142.66	23.91	
23 21 13 23-2652	EA	1" x 3/4" Reducing Insert, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	145.75	25.96	
23 21 13 23-2653	EA	1-1/2" x 1" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	252.16	36.94	
23 21 13 23-2654	EA	2" x 1-1/2" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	379.13	49.25	
23 21 13 23-2655 Socket Weld Reducing Couplings (23 21 13 23-2624)					
23 21 13 23-2656	EA	3/4" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	53.92	13.03	
23 21 13 23-2657	EA	1" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	69.44	15.08	
23 21 13 23-2658	EA	1" x 3/4" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	76.28	17.13	
23 21 13 23-2659	EA	1-1/2" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	117.58	20.52	
23 21 13 23-2660	EA	1-1/2" x 3/4" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	125.58	22.57	
23 21 13 23-2661	EA	1-1/2" x 1" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	127.63	23.91	
23 21 13 23-2662	EA	2" x 1-1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	179.90	33.56	
23 21 13 23-2663 Male Adapters, Socket Weld X Male Thread (23 21 13 23-2624)					
23 21 13 23-2664	EA	1/2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	77.89	11.08	
23 21 13 23-2665	EA	3/4" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	99.32	14.67	
23 21 13 23-2666	EA	1" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	114.16	18.26	
23 21 13 23-2667	EA	1-1/2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	145.51	29.14	
23 21 13 23-2668	EA	2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	198.05	36.94	
23 21 13 23-2669 Female Adapters, Socket Weld X Female Thread (23 21 13 23-2624)					
23 21 13 23-2670	EA	1/2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	77.89	11.08	
23 21 13 23-2671	EA	3/4" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	99.61	14.67	
23 21 13 23-2672	EA	1" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	114.16	18.26	
23 21 13 23-2673	EA	1-1/2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	145.51	29.14	
23 21 13 23-2674	EA	2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	198.10	37.04	
23 21 13 23-2675 Socket Weld Couplings (23 21 13 23-2624)					
23 21 13 23-2676	EA	1/2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	38.25	11.08	
23 21 13 23-2677	EA	3/4" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	48.98	14.67	
23 21 13 23-2678	EA	1" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	63.53	18.26	
23 21 13 23-2679	EA	1-1/2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	118.89	29.14	
23 21 13 23-2680	EA	2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	163.96	37.04	
23 21 13 23-2681 Socket Weld Unions (23 21 13 23-2624)					
23 21 13 23-2682	EA	1/2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	161.90	18.26	
23 21 13 23-2683	EA	3/4" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	193.97	22.06	
23 21 13 23-2684	EA	1" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	280.05	29.14	
23 21 13 23-2685	EA	1-1/2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	492.96	44.12	
23 21 13 23-2686	EA	2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	607.22	54.79	
23 21 13 23-2687 Caps (23 21 13 23-2624)					
23 21 13 23-2688	EA	1/2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	29.74	5.52	
23 21 13 23-2689	EA	3/4" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	42.13	7.35	
23 21 13 23-2690	EA	1" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	52.99	9.09	
23 21 13 23-2691	EA	1-1/2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	94.17	14.54	
23 21 13 23-2692	EA	2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	134.18	18.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-2693		150 LB Socket Weld Flanges (23 21 13 23-2624)		
23 21 13 23-2694	EA	1/2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	108.66	18.47
23 21 13 23-2695	EA	3/4" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	137.26	21.86
23 21 13 23-2696	EA	1" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	180.80	29.44
23 21 13 23-2697	EA	1-1/2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	260.04	44.53
23 21 13 23-2698	EA	2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	414.82	54.79
23 21 13 23-2699		Polyethylene Pipe And Fittings (23 21 13 23)		
23 21 13 23-2700		Small Diameter Tubing (23 21 13 23-2699)		
23 21 13 23-2701		Tubing (23 21 13 23-2700)		
23 21 13 23-2702	LF	1/4" Polyethylene Tubing.....	3.37	
		<i>For Work In Restricted Working Space, Add</i>	0.93	
23 21 13 23-2703	LF	5/16" Polyethylene Tubing.....	3.68	
		<i>For Work In Restricted Working Space, Add</i>	0.95	
23 21 13 23-2704	LF	3/8" Polyethylene Tubing.....	3.89	
		<i>For Work In Restricted Working Space, Add</i>	0.97	
23 21 13 23-2705	LF	1/2" Polyethylene Tubing.....	3.98	
		<i>For Work In Restricted Working Space, Add</i>	1.04	
23 21 13 23-2706		Female Copper Thread x Straight Compression Connection (23 21 13 23-2700)		
		Note: Ford C04.		
23 21 13 23-2707	EA	3/4" Copper X 3/4" P.E. Straight Compression Connection.....	28.03	7.80
		<i>For Work In Restricted Working Space, Add</i>	4.68	
23 21 13 23-2708	EA	3/4" Copper X 1" P.E. Straight Compression Connection.....	32.22	8.91
		<i>For Work In Restricted Working Space, Add</i>	5.35	
23 21 13 23-2709	EA	1" Copper X 1" P.E. Straight Compression Connection.....	37.84	10.03
		<i>For Work In Restricted Working Space, Add</i>	6.02	
23 21 13 23-2710	EA	1-1/4" Copper X 1" P.E. Straight Compression Connection.....	43.87	10.59
		<i>For Work In Restricted Working Space, Add</i>	6.35	
23 21 13 23-2711	EA	1-1/4" Copper X 1-1/4" P.E. Straight Compression Connection.....	49.92	11.14
		<i>For Work In Restricted Working Space, Add</i>	6.69	
23 21 13 23-2712	EA	1-1/2" Copper X 1-1/2" P.E. Straight Compression Connection.....	68.53	12.26
		<i>For Work In Restricted Working Space, Add</i>	7.35	
23 21 13 23-2713	EA	2" Copper X 2" P.E. Straight Compression Connection.....	79.20	13.38
		<i>For Work In Restricted Working Space, Add</i>	8.02	
23 21 13 23-2714		Female Copper Thread x Compression Connection (23 21 13 23-2700)		
		Note: Ford L04.		
23 21 13 23-2715	EA	3/4" Copper X 3/4" P.E. Compression Connection.....	33.54	7.80
		<i>For Work In Restricted Working Space, Add</i>	4.68	
23 21 13 23-2716	EA	3/4" Copper X 1" P.E. Compression Connection.....	39.37	8.91
		<i>For Work In Restricted Working Space, Add</i>	5.35	
23 21 13 23-2717	EA	1" Copper X 1" P.E. Compression Connection.....	46.98	10.03
		<i>For Work In Restricted Working Space, Add</i>	6.02	
23 21 13 23-2718	EA	1-1/2" Copper X 1-1/2" P.E. Compression Connection.....	86.68	12.26
		<i>For Work In Restricted Working Space, Add</i>	7.35	
23 21 13 23-2719	EA	2" Copper X 2" P.E. Compression Connection.....	98.45	13.38
		<i>For Work In Restricted Working Space, Add</i>	8.02	
23 21 13 23-2720		Male Iron Pipe Thread x Straight Compression Connection (23 21 13 23-2700)		
		Note: Ford C84.		
23 21 13 23-2721	EA	3/4" M.I.P. X 3/4" P.E. Straight Compression Connection.....	29.43	8.91
		<i>For Work In Restricted Working Space, Add</i>	5.35	
23 21 13 23-2722	EA	3/4" M.I.P. X 1" P.E. Straight Compression Connection.....	30.47	8.91
		<i>For Work In Restricted Working Space, Add</i>	5.35	
23 21 13 23-2723	EA	1" M.I.P. X 1" P.E. Straight Compression Connection.....	33.77	10.03
		<i>For Work In Restricted Working Space, Add</i>	6.02	
23 21 13 23-2724	EA	1-1/4" M.I.P. X 1-1/4" P.E. Straight Compression Connection.....	46.34	11.14
		<i>For Work In Restricted Working Space, Add</i>	6.69	
23 21 13 23-2725	EA	1-1/2" M.I.P. X 1-1/2" P.E. Straight Compression Connection.....	58.94	12.26
		<i>For Work In Restricted Working Space, Add</i>	7.35	
23 21 13 23-2726	EA	2" M.I.P. X 2" P.E. Straight Compression Connection.....	76.90	13.38
		<i>For Work In Restricted Working Space, Add</i>	8.02	
23 21 13 23-2727		Male Iron Pipe Thread x Compression Connection (23 21 13 23-2700)		
		Note: Ford L84.		
23 21 13 23-2728	EA	3/4" M.I.P. X 3/4" P.E. Compression Connection.....	27.67	8.91
		<i>For Work In Restricted Working Space, Add</i>	4.68	
23 21 13 23-2729	EA	3/4" M.I.P. X 1" P.E. Compression Connection.....	34.30	8.91
		<i>For Work In Restricted Working Space, Add</i>	5.35	
23 21 13 23-2730	EA	1" M.I.P. X 1" P.E. Compression Connection.....	40.91	10.03
		<i>For Work In Restricted Working Space, Add</i>	6.02	
23 21 13 23-2731	EA	1-1/2" M.I.P. X 1-1/2" P.E. Compression Connection.....	80.68	12.26
		<i>For Work In Restricted Working Space, Add</i>	7.35	
23 21 13 23-2732	EA	2" M.I.P. X 2" P.E. Compression Connection.....	107.22	13.38
		<i>For Work In Restricted Working Space, Add</i>	8.02	

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2733 Straight Couplings, Compression Connection (23 21 13 23-2700) Note: Ford C44.		
23 21 13 23-2734 EA 3/4" X 3/4" Compression Connection.....	29.77	7.80
For Work In Restricted Working Space, Add	4.68	
23 21 13 23-2735 EA 1" X 1" Compression Connection.....	35.51	10.03
For Work In Restricted Working Space, Add	6.02	
23 21 13 23-2736 EA 1-1/4" X 1-1/4" Compression Connection.....	62.45	11.14
For Work In Restricted Working Space, Add	6.69	
23 21 13 23-2737 EA 1-1/2" X 1-1/2" Compression Connection.....	73.97	12.26
For Work In Restricted Working Space, Add	7.35	
23 21 13 23-2738 EA 2" X 2" Compression Connection.....	93.53	13.38
For Work In Restricted Working Space, Add	8.02	
23 21 13 23-2739 Elbow Couplings x Compression Connection (23 21 13 23-2700) Note: Ford L44.		
23 21 13 23-2740 EA 3/4" X 3/4" Compression Connection.....	33.00	7.80
For Work In Restricted Working Space, Add	4.68	
23 21 13 23-2741 EA 1" X 1" Compression Connection.....	42.40	10.03
For Work In Restricted Working Space, Add	6.02	
23 21 13 23-2742 EA 1-1/2" X 1-1/2" Compression Connection.....	93.41	12.26
For Work In Restricted Working Space, Add	7.35	
23 21 13 23-2743 EA 2" X 2" Compression Connection.....	166.14	13.38
For Work In Restricted Working Space, Add	8.02	
23 21 13 23-2744 Stainless Steel Insert Stiffeners (23 21 13 23-2700) Note: Ford insert.		
23 21 13 23-2745 EA 3/4" Stainless Steel Insert Stiffeners.....	7.93	2.34
For Work In Restricted Working Space, Add	1.39	
23 21 13 23-2746 EA 1" Stainless Steel Insert Stiffeners.....	10.14	2.68
For Work In Restricted Working Space, Add	1.61	
23 21 13 23-2747 EA 1-1/4" Stainless Steel Insert Stiffeners.....	14.41	2.90
For Work In Restricted Working Space, Add	1.74	
23 21 13 23-2748 EA 1-1/2" Stainless Steel Insert Stiffeners.....	18.04	3.12
For Work In Restricted Working Space, Add	1.90	
23 21 13 23-2749 EA 2" Stainless Steel Insert Stiffeners.....	28.09	3.45
For Work In Restricted Working Space, Add	2.09	
23 21 13 23-2750 Flanged Lead Corporation Stop Coupling (23 21 13 23-2700) Note: Lead flange x copper tube thread (Mueller)		
23 21 13 23-2751 EA 3/4" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	57.53	13.38
For Work In Restricted Working Space, Add	8.02	
23 21 13 23-2752 EA 1" x 3/4" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	77.97	13.93
For Work In Restricted Working Space, Add	8.36	
23 21 13 23-2753 EA 1" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	80.19	15.04
For Work In Restricted Working Space, Add	9.02	
23 21 13 23-2754 EA 1-1/4" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	121.76	16.71
For Work In Restricted Working Space, Add	10.03	
23 21 13 23-2755 EA 1-1/2" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	164.12	17.83
For Work In Restricted Working Space, Add	10.70	
23 21 13 23-2756 EA 2" Flanged Lead Corporation Stop Couplings, XS Lead Flange X Copper Tube Thread (H-15505).....	281.47	19.50
For Work In Restricted Working Space, Add	11.70	
23 21 13 23-2757 EA 2" Flanged Lead Corporation Stop Couplings, XXS Lead Flange X Copper Tube Thread (H-15510).....	348.28	21.72
For Work In Restricted Working Space, Add	13.04	
23 21 13 23-2758 Chrome Plated Pipe (23 21 13 23)		
23 21 13 23-2759 Chrome Plated Nipples (23 21 13 23-2758)		
23 21 13 23-2760 Close (23 21 13 23-2759)		
23 21 13 23-2761 EA 1/4" Diameter Chrome Plated Nipple, Close.....	19.93	8.91
23 21 13 23-2762 EA 3/8" Diameter Chrome Plated Nipple, Close.....	19.04	9.69
23 21 13 23-2763 EA 1/2" Diameter Chrome Plated Nipple, Close.....	23.69	11.14
23 21 13 23-2764 EA 3/4" Diameter Chrome Plated Nipple, Close.....	31.09	14.15
23 21 13 23-2765 EA 1" Diameter Chrome Plated Nipple, Close.....	41.64	18.60
23 21 13 23-2766 EA 1-1/4" Diameter Chrome Plated Nipple, Close.....	58.99	25.96
23 21 13 23-2767 EA 1-1/2" Diameter Chrome Plated Nipple, Close.....	72.01	30.42
23 21 13 23-2768 EA 2" Diameter Chrome Plated Nipple, Close.....	92.84	37.88
23 21 13 23-2769 1-1/2" Nipples (23 21 13 23-2759)		
23 21 13 23-2770 EA 1/4" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	21.30	9.25
23 21 13 23-2771 EA 3/8" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	20.11	10.03
23 21 13 23-2772 EA 1/2" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	24.27	11.47
23 21 13 23-2773 EA 3/4" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	32.20	14.48
23 21 13 23-2774 2" Nipples (23 21 13 23-2759)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-2775	EA	1/4" Diameter, 2" Length, Chrome Plated Nipple.....	22.16	9.69
23 21 13 23-2776	EA	3/8" Diameter, 2" Length, Chrome Plated Nipple.....	20.80	10.36
23 21 13 23-2777	EA	1/2" Diameter, 2" Length, Chrome Plated Nipple.....	26.16	11.92
23 21 13 23-2778	EA	3/4" Diameter, 2" Length, Chrome Plated Nipple.....	33.80	14.82
23 21 13 23-2779	EA	1" Diameter, 2" Length, Chrome Plated Nipple.....	44.05	19.28
23 21 13 23-2780	EA	1-1/4" Diameter, 2" Length, Chrome Plated Nipple.....	62.93	26.74
23 21 13 23-2781	EA	1-1/2" Diameter, 2" Length, Chrome Plated Nipple.....	76.58	31.20

23 21 13 23-2782 2-1/2" Nipples (23 21 13 23-2759)

23 21 13 23-2783	EA	1/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	23.43	10.03
23 21 13 23-2784	EA	3/8" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	21.56	10.81
23 21 13 23-2785	EA	1/2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	27.29	12.26
23 21 13 23-2786	EA	3/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	34.61	15.27
23 21 13 23-2787	EA	1" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	45.30	19.72
23 21 13 23-2788	EA	1-1/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	66.76	27.07
23 21 13 23-2789	EA	1-1/2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	81.68	31.53
23 21 13 23-2790	EA	2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	103.94	39.00

23 21 13 23-2791 3" Nipples (23 21 13 23-2759)

23 21 13 23-2792	EA	1/4" Diameter, 3" Length, Chrome Plated Nipple.....	24.41	10.36
23 21 13 23-2793	EA	3/8" Diameter, 3" Length, Chrome Plated Nipple.....	22.85	11.14
23 21 13 23-2794	EA	1/2" Diameter, 3" Length, Chrome Plated Nipple.....	26.95	11.92
23 21 13 23-2795	EA	3/4" Diameter, 3" Length, Chrome Plated Nipple.....	37.39	15.60
23 21 13 23-2796	EA	1" Diameter, 3" Length, Chrome Plated Nipple.....	50.99	20.05
23 21 13 23-2797	EA	1-1/4" Diameter, 3" Length, Chrome Plated Nipple.....	70.92	27.52
23 21 13 23-2798	EA	1-1/2" Diameter, 3" Length, Chrome Plated Nipple.....	93.70	31.98
23 21 13 23-2799	EA	2" Diameter, 3" Length, Chrome Plated Nipple.....	113.36	39.44

23 21 13 23-2800 3-1/2" Nipples (23 21 13 23-2759)

23 21 13 23-2801	EA	1/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	25.53	10.81
23 21 13 23-2802	EA	3/8" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	25.06	11.47
23 21 13 23-2803	EA	1/2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	29.70	13.03
23 21 13 23-2804	EA	3/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	41.51	15.93
23 21 13 23-2805	EA	1" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	53.17	20.38
23 21 13 23-2806	EA	1-1/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	79.12	27.86
23 21 13 23-2807	EA	1-1/2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	97.30	32.31
23 21 13 23-2808	EA	2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	120.86	39.77

23 21 13 23-2809 4" Nipples (23 21 13 23-2759)

23 21 13 23-2810	EA	1/4" Diameter, 4" Length, Chrome Plated Nipple.....	26.64	11.14
23 21 13 23-2811	EA	3/8" Diameter, 4" Length, Chrome Plated Nipple.....	25.69	11.92
23 21 13 23-2812	EA	1/2" Diameter, 4" Length, Chrome Plated Nipple.....	29.98	12.59
23 21 13 23-2813	EA	3/4" Diameter, 4" Length, Chrome Plated Nipple.....	43.13	16.38
23 21 13 23-2814	EA	1" Diameter, 4" Length, Chrome Plated Nipple.....	55.26	20.84
23 21 13 23-2815	EA	1-1/4" Diameter, 4" Length, Chrome Plated Nipple.....	85.35	28.19
23 21 13 23-2816	EA	1-1/2" Diameter, 4" Length, Chrome Plated Nipple.....	104.69	32.64
23 21 13 23-2817	EA	2" Diameter, 4" Length, Chrome Plated Nipple.....	130.01	40.12

23 21 13 23-2818 4-1/2" Nipples (23 21 13 23-2759)

23 21 13 23-2819	EA	1/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	27.62	11.47
23 21 13 23-2820	EA	3/8" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	27.89	12.26
23 21 13 23-2821	EA	1/2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	32.89	13.71
23 21 13 23-2822	EA	3/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	44.98	16.71
23 21 13 23-2823	EA	1" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	62.48	21.17
23 21 13 23-2824	EA	1-1/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	91.34	28.63
23 21 13 23-2825	EA	1-1/2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	107.99	33.10
23 21 13 23-2826	EA	2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	138.43	40.56

23 21 13 23-2827 5" Nipples (23 21 13 23-2759)

23 21 13 23-2828	EA	1/4" Diameter, 5" Length, Chrome Plated Nipple.....	31.04	11.92
23 21 13 23-2829	EA	3/8" Diameter, 5" Length, Chrome Plated Nipple.....	29.27	12.59
23 21 13 23-2830	EA	1/2" Diameter, 5" Length, Chrome Plated Nipple.....	34.08	14.15
23 21 13 23-2831	EA	3/4" Diameter, 5" Length, Chrome Plated Nipple.....	46.76	17.05
23 21 13 23-2832	EA	1" Diameter, 5" Length, Chrome Plated Nipple.....	66.86	21.50
23 21 13 23-2833	EA	1-1/4" Diameter, 5" Length, Chrome Plated Nipple.....	96.77	28.97
23 21 13 23-2834	EA	1-1/2" Diameter, 5" Length, Chrome Plated Nipple.....	115.42	33.43
23 21 13 23-2835	EA	2" Diameter, 5" Length, Chrome Plated Nipple.....	143.86	40.89

23 21 13 23-2836 5-1/2" Nipples (23 21 13 23-2759)

23 21 13 23-2837	EA	1/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	32.04	12.26
23 21 13 23-2838	EA	3/8" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	30.35	13.03
23 21 13 23-2839	EA	1/2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	37.48	14.48
23 21 13 23-2840	EA	3/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	48.53	17.49



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2841	EA	1" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	69.14	21.95
23 21 13 23-2842	EA	1-1/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	103.36	29.30
23 21 13 23-2843	EA	1-1/2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	121.34	33.76
23 21 13 23-2844	EA	2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	150.78	41.22
23 21 13 23-2845 6" Nipples (23 21 13 23-2759)				
23 21 13 23-2846	EA	1/4" Diameter, 6" Length, Chrome Plated Nipple.....	33.24	12.59
23 21 13 23-2847	EA	3/8" Diameter, 6" Length, Chrome Plated Nipple.....	30.94	13.38
23 21 13 23-2848	EA	1/2" Diameter, 6" Length, Chrome Plated Nipple.....	38.58	14.82
23 21 13 23-2849	EA	3/4" Diameter, 6" Length, Chrome Plated Nipple.....	49.98	17.83
23 21 13 23-2850	EA	1" Diameter, 6" Length, Chrome Plated Nipple.....	76.14	22.29
23 21 13 23-2851	EA	1-1/4" Diameter, 6" Length, Chrome Plated Nipple.....	107.41	29.75
23 21 13 23-2852	EA	1-1/2" Diameter, 6" Length, Chrome Plated Nipple.....	130.46	34.20
23 21 13 23-2853	EA	2" Diameter, 6" Length, Chrome Plated Nipple.....	157.12	41.67
23 21 13 23-2854 8" Nipples (23 21 13 23-2759)				
23 21 13 23-2855	EA	3/8" Diameter, 8" Length, Chrome Plated Nipple.....	37.13	14.15
23 21 13 23-2856	EA	1/2" Diameter, 8" Length, Chrome Plated Nipple.....	55.50	15.60
23 21 13 23-2857	EA	3/4" Diameter, 8" Length, Chrome Plated Nipple.....	67.52	18.60
23 21 13 23-2858	EA	1" Diameter, 8" Length, Chrome Plated Nipple.....	89.94	23.06
23 21 13 23-2859	EA	1-1/4" Diameter, 8" Length, Chrome Plated Nipple.....	129.35	30.42
23 21 13 23-2860	EA	1-1/2" Diameter, 8" Length, Chrome Plated Nipple.....	159.18	34.88
23 21 13 23-2861	EA	2" Diameter, 8" Length, Chrome Plated Nipple.....	196.22	42.34
23 21 13 23-2862 10" Nipples (23 21 13 23-2759)				
23 21 13 23-2863	EA	3/8" Diameter, 10" Length, Chrome Plated Nipple.....	43.09	14.15
23 21 13 23-2864	EA	1/2" Diameter, 10" Length, Chrome Plated Nipple.....	63.01	15.60
23 21 13 23-2865	EA	3/4" Diameter, 10" Length, Chrome Plated Nipple.....	76.22	18.60
23 21 13 23-2866	EA	1" Diameter, 10" Length, Chrome Plated Nipple.....	103.11	23.06
23 21 13 23-2867	EA	1-1/4" Diameter, 10" Length, Chrome Plated Nipple.....	157.54	30.42
23 21 13 23-2868	EA	1-1/2" Diameter, 10" Length, Chrome Plated Nipple.....	180.65	34.88
23 21 13 23-2869	EA	2" Diameter, 10" Length, Chrome Plated Nipple.....	230.54	42.34
23 21 13 23-2870 12" Nipples (23 21 13 23-2759)				
23 21 13 23-2871	EA	3/8" Diameter, 12" Length, Chrome Plated Nipple.....	48.10	15.60
23 21 13 23-2872	EA	1/2" Diameter, 12" Length, Chrome Plated Nipple.....	65.96	16.38
23 21 13 23-2873	EA	3/4" Diameter, 12" Length, Chrome Plated Nipple.....	84.34	19.28
23 21 13 23-2874	EA	1" Diameter, 12" Length, Chrome Plated Nipple.....	121.34	24.51
23 21 13 23-2875	EA	1-1/4" Diameter, 12" Length, Chrome Plated Nipple.....	177.02	31.98
23 21 13 23-2876	EA	2" Diameter, 12" Length, Chrome Plated Nipple.....	260.24	43.90
23 21 13 23-2877 18" Nipples (23 21 13 23-2759)				
23 21 13 23-2878	EA	3/8" Diameter, 18" Length, Chrome Plated Nipple.....	61.76	16.38
23 21 13 23-2879 24" Nipples (23 21 13 23-2759)				
23 21 13 23-2880	EA	3/8" Diameter, 24" Length, Chrome Plated Nipple.....	74.85	17.05
23 21 13 23-2881 30" Nipples (23 21 13 23-2759)				
23 21 13 23-2882	EA	3/8" Diameter, 30" Length, Chrome Plated Nipple.....	83.16	17.83
23 21 13 23-2883 36" Nipples (23 21 13 23-2759)				
23 21 13 23-2884	EA	3/8" Diameter, 36" Length, Chrome Plated Nipple.....	91.48	18.60
23 21 13 23-2885 Chrome Plated Fittings (23 21 13 23-2758)				
23 21 13 23-2886 Chrome Plated 90 Degree Elbows (23 21 13 23-2885)				
23 21 13 23-2887	EA	1/4" 90 Degree Elbow, Chrome Plated.....	25.63	10.36
23 21 13 23-2888	EA	3/8" 90 Degree Elbow, Chrome Plated.....	26.10	11.14
23 21 13 23-2889	EA	1/2" 90 Degree Elbow, Chrome Plated.....	29.43	11.92
23 21 13 23-2890	EA	3/4" 90 Degree Elbow, Chrome Plated.....	37.52	15.60
23 21 13 23-2891	EA	1" 90 Degree Elbow, Chrome Plated.....	51.04	20.05
23 21 13 23-2892	EA	1-1/4" 90 Degree Elbow, Chrome Plated.....	78.80	27.52
23 21 13 23-2893	EA	1-1/2" 90 Degree Elbow, Chrome Plated.....	94.76	31.98
23 21 13 23-2894	EA	2" 90 Degree Elbow, Chrome Plated.....	130.10	39.44
23 21 13 23-2895 Chrome Plated Street 90 Degree Elbows (23 21 13 23-2885)				
23 21 13 23-2896	EA	1/4" Street 90 Degree Elbow, Chrome Plated.....	29.84	10.36
23 21 13 23-2897	EA	3/8" Street 90 Degree Elbow, Chrome Plated.....	30.71	11.14
23 21 13 23-2898	EA	1/2" Street 90 Degree Elbow, Chrome Plated.....	32.64	11.92

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2899	EA	3/4" Street 90 Degree Elbow, Chrome Plated.....	42.25	15.60
23 21 13 23-2900	EA	1" Street 90 Degree Elbow, Chrome Plated.....	59.77	20.05
23 21 13 23-2901	EA	1-1/4" Street 90 Degree Elbow, Chrome Plated.....	87.75	27.52
23 21 13 23-2902	EA	1-1/2" Street 90 Degree Elbow, Chrome Plated.....	107.29	31.98
23 21 13 23-2903	EA	2" Street 90 Degree Elbow, Chrome Plated.....	159.58	39.44
23 21 13 23-2904		Chrome Plated 45 Degree Elbows (23 21 13 23-2885)		
23 21 13 23-2905	EA	1/4" 45 Degree Elbow, Chrome Plated.....	26.56	10.36
23 21 13 23-2906	EA	3/8" 45 Degree Elbow, Chrome Plated.....	27.43	11.14
23 21 13 23-2907	EA	1/2" 45 Degree Elbow, Chrome Plated.....	30.38	11.92
23 21 13 23-2908	EA	3/4" 45 Degree Elbow, Chrome Plated.....	41.13	15.60
23 21 13 23-2909	EA	1" 45 Degree Elbow, Chrome Plated.....	55.08	20.05
23 21 13 23-2910	EA	1-1/4" 45 Degree Elbow, Chrome Plated.....	83.66	27.52
23 21 13 23-2911	EA	1-1/2" 45 Degree Elbow, Chrome Plated.....	101.25	31.98
23 21 13 23-2912	EA	2" 45 Degree Elbow, Chrome Plated.....	147.94	39.44
23 21 13 23-2913		Chrome Plated Street 45 Degree Elbows (23 21 13 23-2885)		
23 21 13 23-2914	EA	1/2" Street 45 Degree Elbow, Chrome Plated.....	36.16	11.92
23 21 13 23-2915		Chrome Plated Couplings (23 21 13 23-2885)		
23 21 13 23-2916	EA	1/4" Coupling, Chrome Plated.....	25.06	10.36
23 21 13 23-2917	EA	3/8" Coupling, Chrome Plated.....	26.17	11.14
23 21 13 23-2918	EA	1/2" Coupling, Chrome Plated.....	29.67	11.92
23 21 13 23-2919	EA	3/4" Coupling, Chrome Plated.....	37.61	15.60
23 21 13 23-2920	EA	1" Coupling, Chrome Plated.....	49.05	20.05
23 21 13 23-2921	EA	1-1/4" Coupling, Chrome Plated.....	71.54	27.52
23 21 13 23-2922	EA	1-1/2" Coupling, Chrome Plated.....	88.67	31.98
23 21 13 23-2923	EA	2" Coupling, Chrome Plated.....	122.67	39.44
23 21 13 23-2924		Chrome Plated Unions (23 21 13 23-2885)		
23 21 13 23-2925	EA	1/4" Union, Chrome Plated.....	40.67	11.92
23 21 13 23-2926	EA	3/8" Union, Chrome Plated.....	41.81	12.59
23 21 13 23-2927	EA	1/2" Union, Chrome Plated.....	50.64	14.15
23 21 13 23-2928	EA	3/4" Union, Chrome Plated.....	62.70	18.60
23 21 13 23-2929	EA	1" Union, Chrome Plated.....	79.27	23.73
23 21 13 23-2930	EA	1-1/4" Union, Chrome Plated.....	129.13	31.98
23 21 13 23-2931	EA	1-1/2" Union, Chrome Plated.....	160.95	37.88
23 21 13 23-2932	EA	2" Union, Chrome Plated.....	210.34	46.13
23 21 13 23-2933		Chrome Plated Caps (23 21 13 23-2885)		
23 21 13 23-2934	EA	1/4" Cap, Chrome Plated.....	17.02	5.24
23 21 13 23-2935	EA	3/8" Cap, Chrome Plated.....	17.57	5.57
23 21 13 23-2936	EA	1/2" Cap, Chrome Plated.....	20.11	5.90
23 21 13 23-2937	EA	3/4" Cap, Chrome Plated.....	25.05	7.80
23 21 13 23-2938	EA	1" Cap, Chrome Plated.....	29.71	10.03
23 21 13 23-2939	EA	1-1/4" Cap, Chrome Plated.....	43.94	13.71
23 21 13 23-2940	EA	1-1/2" Cap, Chrome Plated.....	58.08	15.93
23 21 13 23-2941	EA	2" Cap, Chrome Plated.....	85.15	20.84
23 21 13 23-2942		Chrome Plated Plugs (23 21 13 23-2885)		
23 21 13 23-2943	EA	1/4" Plug, Chrome Plated.....	13.81	5.24
23 21 13 23-2944	EA	3/8" Plug, Chrome Plated.....	14.36	5.57
23 21 13 23-2945	EA	1/2" Plug, Chrome Plated.....	16.73	5.90
23 21 13 23-2946	EA	3/4" Plug, Chrome Plated.....	22.65	7.80
23 21 13 23-2947	EA	1" Plug, Chrome Plated.....	27.88	10.03
23 21 13 23-2948	EA	1-1/4" Plug, Chrome Plated.....	37.61	13.71
23 21 13 23-2949	EA	1-1/2" Plug, Chrome Plated.....	46.51	15.93
23 21 13 23-2950	EA	2" Plug, Chrome Plated.....	65.02	20.84
23 21 13 23-2951		Chrome Plated Tees (23 21 13 23-2885)		
23 21 13 23-2952	EA	1/4" Chrome Plated Tee.....	35.50	15.60
23 21 13 23-2953	EA	3/8" Chrome Plated Tee.....	37.72	17.05
23 21 13 23-2954	EA	1/2" Chrome Plated Tee.....	42.10	18.60
23 21 13 23-2955	EA	3/4" Chrome Plated Tee.....	52.44	23.06
23 21 13 23-2956	EA	1" Chrome Plated Tee.....	74.85	29.75
23 21 13 23-2957	EA	1-1/4" Chrome Plated Tee.....	103.19	40.89
23 21 13 23-2958	EA	1-1/2" Chrome Plated Tee.....	132.56	47.58
23 21 13 23-2959	EA	2" Chrome Plated Tee.....	182.49	58.72
23 21 13 23-2960		Chrome Plated Reducing 90 Degree Elbows (23 21 13 23-2885)		
23 21 13 23-2961	EA	1/2" x 3/8" Reducing 90 Degree Elbow, Chrome Plated.....	39.95	18.60



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2962	EA	3/4" x 1/2" Reducing 90 Degree Elbow, Chrome Plated		46.64	23.06
23 21 13 23-2963		Chrome Plated Bell Reducers (23 21 13 23-2885)			
23 21 13 23-2964	EA	1/2" x 3/8" Bell Reducer, Chrome Plated		43.83	18.60
23 21 13 23-2965	EA	3/4" x 1/2" Bell Reducer, Chrome Plated		53.32	23.06
23 21 13 23-2966	EA	1" x 1/2" Bell Reducer, Chrome Plated		67.70	29.75
23 21 13 23-2967		Chrome Plated Reducing Tees (23 21 13 23-2885)			
23 21 13 23-2968	EA	3/4" x 1/2" Reducing Tee, Chrome Plated		58.24	23.06
23 21 13 23-2969		Chrome Plated Bushings (23 21 13 23-2885)			
23 21 13 23-2970	EA	3/8" x 1/4" Bushing, Chrome Plated		13.72	5.24
23 21 13 23-2971	EA	1/2" x 1/4" Bushing, Chrome Plated		14.77	5.57
23 21 13 23-2972	EA	1/2" x 3/8" Bushing, Chrome Plated		15.33	5.90
23 21 13 23-2973	EA	3/4" x 1/2" Bushing, Chrome Plated		19.46	7.80
23 21 13 23-2974	EA	1" x 3/4" Bushing, Chrome Plated		28.49	10.03
23 21 13 23-2975	EA	1-1/4" x 1" Bushing, Chrome Plated		41.77	13.71
23 21 13 23-2976		Aluminum Tubing Assemblies (23 21 13 23)			
		Note: ASTM B210 (Tubing), ASTM B26 (Fittings). Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2977	LF	1/8" Inside Diameter Aluminum Pipe/Tubing Assembly		10.41	3.90
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2978	LF	3/16" Inside Diameter Aluminum Pipe/Tubing Assembly		11.84	4.46
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2979	LF	1/4" Inside Diameter Aluminum Pipe/Tubing Assembly		13.17	5.02
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2980	LF	5/16" Inside Diameter Aluminum Pipe/Tubing Assembly		14.34	5.57
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2981	LF	3/8" Inside Diameter Aluminum Pipe/Tubing Assembly		15.93	6.12
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2982	LF	1/2" Inside Diameter Aluminum Pipe/Tubing Assembly		18.49	6.69
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2983	LF	5/8" Inside Diameter Aluminum Pipe/Tubing Assembly		21.71	7.70
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2984	LF	3/4" Inside Diameter Aluminum Pipe/Tubing Assembly		27.14	8.73
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2985	LF	7/8" Inside Diameter Aluminum Pipe/Tubing Assembly		31.65	9.74
		Note: Includes all hangers and aluminum fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies.			
23 21 13 23-2986	LF	1" Inside Diameter Aluminum Pipe/Tubing Assembly		38.72	10.26
23 21 16		Hydronic Piping Specialties (23 21)			
23 21 16 00-0001		Air Vents (23 21 16)			
23 21 16 00-0002		Screwed Ends, Cast Iron, Automatic Air Vents (23 21 16 00-0001)			
		Note: With guided free floating lever.			
23 21 16 00-0003	EA	1/2" NPT, Cast Iron, Automatic Air Vent		382.13	32.32
23 21 16 00-0004	EA	3/4" NPT, Cast Iron, Automatic Air Vent		466.12	42.91
23 21 16 00-0005	EA	1" NPT, Cast Iron, Automatic Air Vent		1,095.99	44.59
23 21 16 00-0006	EA	1-1/4" NPT, Cast Iron, Automatic Air Vent		1,623.50	68.89
23 21 16 00-0007	EA	1-1/2" NPT, Cast Iron, Automatic Air Vent		2,732.50	74.13
23 21 16 00-0008	EA	2" NPT, Cast Iron, Automatic Air Vent		3,129.65	97.76
23 21 16 00-0009		Forged Steel, Stainless Steel Internals, Automatic Air Vents (23 21 16 00-0001)			
		Note: With guided free floating lever.			
23 21 16 00-0010	EA	1/2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		2,694.43	37.34
23 21 16 00-0011	EA	3/4" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		3,379.97	42.91
23 21 16 00-0012	EA	1" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		4,038.41	44.59
23 21 16 00-0013	EA	1-1/4" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		6,629.66	69.11
23 21 16 00-0014	EA	1-1/2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		7,661.37	74.13
23 21 16 00-0015	EA	2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent		11,272.48	97.53
23 21 16 00-0016		Automatic Air Vent (23 21 16 00-0001)			
23 21 16 00-0017	EA	3/4" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)		244.22	42.91
23 21 16 00-0018	EA	1" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)		267.74	44.59

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0019	EA		1-1/4" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	378.30	68.89
23 21 16 00-0020	EA		1-1/2" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	469.28	74.13
23 21 16 00-0021	EA		2" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	601.22	79.87
23 21 16 00-0022			Manual Air Vent (23 21 16 00-0001)		
23 21 16 00-0023	EA		Manual Air Vent	77.24	40.24
23 21 16 00-0024			Air Release Valves (23 21 16 00-0001)		
23 21 16 00-0025			Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50) (23 21 16 00-0024)		
			Note: Up to 175 psi. Stainless steel float.		
23 21 16 00-0026	EA		1/2" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	196.44	16.72
23 21 16 00-0027	EA		3/4" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	200.90	18.95
23 21 16 00-0028	EA		1" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	209.81	23.41
23 21 16 00-0029			Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200) (23 21 16 00-0024)		
			Note: Up to 175 psi. Stainless steel float.		
23 21 16 00-0030	EA		1" NPT, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200A)	808.51	23.41
23 21 16 00-0031	EA		2" NPT, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200)	968.81	40.69
23 21 16 00-0032	EA		3" Flanged, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200)	1,269.93	94.86
23 21 16 00-0033			Cast Iron, Air/Vacuum Valves (23 21 16 00-0024)		
			Note: Up to 150 psi. Stainless steel float.		
23 21 16 00-0034	EA		1/2" NPT, Cast Iron, Air/Vacuum Valve (Apco 141)	390.49	16.72
23 21 16 00-0035	EA		1" NPT, Cast Iron, Air/Vacuum Valve (Apco 142)	481.48	23.41
23 21 16 00-0036	EA		2" NPT, Cast Iron, Air/Vacuum Valve (Apco 144)	831.69	40.69
23 21 16 00-0037	EA		3" Flanged, Cast Iron, Air/Vacuum Valve (Apco 146)	1,207.83	94.86
23 21 16 00-0038	EA		4" Flanged, Cast Iron, Air/Vacuum Valve (Apco 152)	1,888.56	159.24
23 21 16 00-0039	EA		6" Flanged, Cast Iron, Air/Vacuum Valve (Apco 153)	2,877.80	201.36
23 21 16 00-0040			Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (23 21 16 00-0024)		
			Note: Up to 150 psi. Stainless Steel float.		
23 21 16 00-0041	EA		1" NPT, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 143C)	698.81	23.41
23 21 16 00-0042	EA		2" NPT, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 145C)	1,072.31	40.69
23 21 16 00-0043	EA		3" Flanged, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 147C)	1,971.09	94.86
23 21 16 00-0044	EA		4" Flanged, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 149C)	2,553.49	159.24
23 21 16 00-0045			Vent Valves (23 21 16)		
23 21 16 00-0046	EA		1/8", 1.5 PSIG Operating Pressure, Non-Vacuum Adjustable Angle Radiator Steam Vent Valve (Hoffman 1A)	80.28	16.72
23 21 16 00-0047	EA		1/2" x 3/4", 35 PSIG Operating Pressure, Straight Steam Unit Heater Air Vent Valve (Hoffman 74)	197.84	17.98
23 21 16 00-0048	EA		1/2" x 3/4", 3 PSIG Operating Pressure, Non-Vacuum Main Steam Air Vent Valve (Hoffman 75)	188.45	17.98
23 21 16 00-0049	EA		1/2" x 3/4", 10 PSIG Operating Pressure, Non Vacuum Straight Non-Vacuum Main Steam Air Vent Valve (Hoffman 75H)	195.02	17.98
23 21 16 00-0050	EA		3/4", 150 PSIG Operating Pressure, Straight Water Main Vent Valve (Hoffman 78)	252.54	17.98
23 21 16 00-0051	EA		1/2" x 3/4", 75 PSIG Operating Pressure, Straight Water Main Vent Valve (Hoffman 79)	185.87	17.98
23 21 16 00-0052			Threaded Inlet, Drip-Pan Elbow (23 21 16)		
23 21 16 00-0053			Cast Iron, Threaded Inlet, Drip-Pan Elbow (23 21 16 00-0052)		
23 21 16 00-0054	EA		2-1/2" Cast Iron, Threaded Inlet, Drip-Pan Elbow	282.50	28.12
			For Flanged Inlet, Add	116.35	
23 21 16 00-0055	EA		3" Cast Iron, Threaded Inlet, Drip-Pan Elbow	318.08	33.33
			For Flanged Inlet, Add	124.90	
23 21 16 00-0056	EA		3-1/2" Cast Iron, Threaded Inlet, Drip-Pan Elbow	403.26	38.54
			For Flanged Inlet, Add	168.50	
23 21 16 00-0057	EA		4" Cast Iron, Threaded Inlet, Drip-Pan Elbow	612.53	43.75
			For Flanged Inlet, Add	296.47	
23 21 16 00-0058	EA		5" Cast Iron, Threaded Inlet, Drip-Pan Elbow	690.28	52.08
			For Flanged Inlet, Add	327.73	
23 21 16 00-0059	EA		6" Cast Iron, Threaded Inlet, Drip-Pan Elbow	964.73	65.62
			For Flanged Inlet, Add	478.94	
23 21 16 00-0060	EA		8" Cast Iron, Threaded Inlet, Drip-Pan Elbow	2,221.39	86.45
			For Flanged Inlet, Add	1,274.46	
23 21 16 00-0061			Cast Steel, Threaded Inlet, Drip-Pan Elbow (23 21 16 00-0052)		
23 21 16 00-0062	EA		2-1/2" Cast Steel, Threaded Inlet, Drip-Pan Elbow	1,254.99	28.12
			For Flanged Inlet, Add	777.64	
23 21 16 00-0063	EA		3" Cast Steel, Threaded Inlet, Drip-Pan Elbow	1,520.12	33.33
			For Flanged Inlet, Add	942.29	
23 21 16 00-0064	EA		3-1/2" Cast Steel, Threaded Inlet, Drip-Pan Elbow	2,220.65	38.54
			For Flanged Inlet, Add	1,404.33	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0065	EA	4" Cast Steel, Threaded Inlet, Drip-Pan Elbow	2,241.73	43.75
		For Flanged Inlet, Add	1,404.33	
23 21 16 00-0066	EA	5" Cast Steel, Threaded Inlet, Drip-Pan Elbow	3,289.61	52.08
		For Flanged Inlet, Add	2,095.28	
23 21 16 00-0067	EA	6" Cast Steel, Threaded Inlet, Drip-Pan Elbow	3,341.69	65.62
		For Flanged Inlet, Add	2,095.28	
23 21 16 00-0068	EA	8" Cast Steel, Threaded Inlet, Drip-Pan Elbow	5,638.52	86.45
		For Flanged Inlet, Add	3,598.10	
23 21 16 00-0069		Y-Type Strainers (23 21 16)		
23 21 16 00-0070		Screwed Ends, 250 LB, Iron Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0071	EA	1/4" Or 3/8" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	79.20	12.48
		For Galvanized Body, Add	21.77	
		For Work In Restricted Working Space, Add	10.70	
23 21 16 00-0072	EA	1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	79.75	12.71
		For Galvanized Body, Add	21.77	
		For Work In Restricted Working Space, Add	10.87	
23 21 16 00-0073	EA	3/4" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	101.01	17.17
		For Galvanized Body, Add	25.98	
		For Work In Restricted Working Space, Add	14.72	
23 21 16 00-0074	EA	1" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	128.73	20.51
		For Galvanized Body, Add	35.11	
		For Work In Restricted Working Space, Add	17.56	
23 21 16 00-0075	EA	1-1/4" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	168.65	25.36
		For Galvanized Body, Add	48.10	
		For Work In Restricted Working Space, Add	21.74	
23 21 16 00-0076	EA	1-1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	193.88	27.31
		For Galvanized Body, Add	57.93	
		For Work In Restricted Working Space, Add	23.41	
23 21 16 00-0077	EA	2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	267.51	31.21
		For Galvanized Body, Add	89.17	
		For Work In Restricted Working Space, Add	26.75	
23 21 16 00-0078	EA	2-1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	512.39	39.01
		For Galvanized Body, Add	200.46	
		For Work In Restricted Working Space, Add	33.44	
23 21 16 00-0079	EA	3" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer.....	663.13	48.82
		For Galvanized Body, Add	261.90	
		For Work In Restricted Working Space, Add	41.80	
23 21 16 00-0080		Flanged, 125 LB, Iron Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0081	EA	1-1/2" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	407.38	117.04
		For Galvanized Body, Add	130.36	
		For Work In Restricted Working Space, Add	44.00	
23 21 16 00-0082	EA	2" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	467.92	148.59
		For Galvanized Body, Add	141.07	
		For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0083	EA	3" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	909.77	189.50
		For Galvanized Body, Add	336.31	
		For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0084	EA	4" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	1,161.37	317.68
		For Galvanized Body, Add	381.64	
		For Work In Restricted Working Space, Add	119.43	
23 21 16 00-0085	EA	5" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	1,253.31	319.99
		For Galvanized Body, Add	426.97	
		For Work In Restricted Working Space, Add	119.81	
23 21 16 00-0086	EA	6" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	1,506.56	355.55
		For Galvanized Body, Add	530.27	
		For Work In Restricted Working Space, Add	133.81	
23 21 16 00-0087	EA	8" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	2,653.09	454.31
		For Galvanized Body, Add	1,044.37	
		For Work In Restricted Working Space, Add	169.31	
23 21 16 00-0088	EA	10" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	5,346.74	553.07
		For Galvanized Body, Add	2,327.71	
		For Work In Restricted Working Space, Add	207.40	
23 21 16 00-0089	EA	12" Flanged, 125 LB, Iron Body, Y-Type Strainer.....	5,828.22	493.81
		For Galvanized Body, Add	2,420.30	
		For Work In Restricted Working Space, Add	296.29	
23 21 16 00-0090		Screwed Ends, 150 LB, Bronze Body, Y-Type Strainers (23 21 16 00-0069)		
		Note: With screwed cap (4" size has bolted cap).		
23 21 16 00-0091	EA	1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer.....	70.32	12.71
		For 300 LB Rating, Add	57.97	
		For Work In Restricted Working Space, Add	10.87	
23 21 16 00-0092	EA	3/4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer.....	93.38	17.17
		For 300 LB Rating, Add	75.36	
		For Work In Restricted Working Space, Add	14.72	
23 21 16 00-0093	EA	1" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer.....	114.36	20.51
		For 300 LB Rating, Add	94.93	
		For Work In Restricted Working Space, Add	17.56	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0094 EA 1-1/4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	156.35 142.61 21.74	25.36
23 21 16 00-0095 EA 1-1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	186.99 185.23 23.41	27.31
23 21 16 00-0096 EA 2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	251.41 275.81 26.75	31.21
23 21 16 00-0097 EA 2-1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	354.88 413.80 33.44	39.01
23 21 16 00-0098 EA 3" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	644.00 857.94 41.80	48.82
23 21 16 00-0099 EA 4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,124.99 1,628.24 50.16	58.52
23 21 16 00-0100 Flanged, 150 LB, Bronze Body, Y-Type Strainers (23 21 16 00-0069) Note: With bolted cap.		
23 21 16 00-0101 EA 2" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	609.42 254.18 55.73	148.59
23 21 16 00-0102 EA 2-1/2" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	634.28 258.97 60.80	161.63
23 21 16 00-0103 EA 3" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	731.41 296.55 71.15	189.50
23 21 16 00-0104 EA 4" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,599.03 720.56 119.43	317.68
23 21 16 00-0105 EA 6" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	2,266.44 1,092.25 133.81	355.55
23 21 16 00-0106 EA 8" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	3,671.05 1,864.01 169.31	454.31
23 21 16 00-0107 EA 10" Flanged, 150 LB, Bronze Body, Y-Type Strainer For 300 LB Rating, Add For Work In Restricted Working Space, Add	11,841.66 6,690.20 207.40	553.07
23 21 16 00-0108 Class 125, Crimped Bronze Body, Y-Type Strainers (23 21 16 00-0069) Note: Nibco®		
23 21 16 00-0109 EA 1/2" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	177.78 7.52	11.14
23 21 16 00-0110 EA 3/4" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	206.04 8.57	12.26
23 21 16 00-0111 EA 1" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	294.66 10.24	13.93
23 21 16 00-0112 EA 1-1/4" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	396.75 11.28	14.82
23 21 16 00-0113 EA 1-1/2" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	478.39 12.53	17.16
23 21 16 00-0114 EA 2" Class 125, Crimped Bronze Body, Y-Type Strainer For Work In Restricted Working Space, Add	710.89 15.04	20.27
23 21 16 00-0115 250 PSI, Crimped Bronze Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0116 EA 1/2" 250 PSI, Crimped Bronze Body, Y-Type Strainer 23 21 16 00-0117 EA 3/4" 250 PSI, Crimped Bronze Body, Y-Type Strainer 23 21 16 00-0118 EA 1" 250 PSI, Crimped Bronze Body, Y-Type Strainer 23 21 16 00-0119 EA 1-1/4" 250 PSI, Crimped Bronze Body, Y-Type Strainer 23 21 16 00-0120 EA 1-1/2" 250 PSI, Crimped Bronze Body, Y-Type Strainer 23 21 16 00-0121 EA 2" 250 PSI, Crimped Bronze Body, Y-Type Strainer	74.43 90.78 132.83 162.25 193.52 254.01	11.14 12.26 13.93 14.82 17.16 20.27
23 21 16 00-0122 Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0123 Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0122)		
23 21 16 00-0124 EA 1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	153.95 10.70	12.26
23 21 16 00-0125 EA 3/4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	180.10 14.37	16.82
23 21 16 00-0126 EA 1" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	210.02 19.72	22.84
23 21 16 00-0127 EA 1-1/4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	335.10 21.06	24.51
23 21 16 00-0128 EA 1-1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	338.35 22.73	26.52



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 21 16 00-0129	EA 2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	396.98	25.74	30.08	
23 21 16 00-0130	EA 2-1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	852.10	33.43	39.00	
23 21 16 00-0131	EA 3" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	833.66	41.78	48.80	
23 21 16 00-0132	EA 4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	1,364.64	44.45	51.92	
23 21 16 00-0133 Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0122)					
23 21 16 00-0134	EA 2" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	656.20	41.78	69.64	
23 21 16 00-0135	EA 2-1/2" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	1,310.62	54.48	90.81	
23 21 16 00-0136	EA 3" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	1,399.51	71.12	189.41	
23 21 16 00-0137	EA 4" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer For Work In Restricted Working Space, Add	2,126.17	119.38	317.55	
23 21 16 00-0138 Cast Iron Body, Suction Diffusers (23 21 16)					
Note: 175 PSI, steel inlet vanes, steel orifice cylinder and 16 mesh bronze startup strainer.					
23 21 16 00-0139	EA 2" x 1-1/2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	535.57	21.50	43.92	
23 21 16 00-0140	EA 2" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	562.07	23.89	48.71	
23 21 16 00-0141	EA 2-1/2" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	570.72	25.09	51.16	
23 21 16 00-0142	EA 2-1/2" x 2-1/2" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,074.78	60.80	161.63	
23 21 16 00-0143	EA 3" x 1-1/2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	588.86	29.14	59.52	
23 21 16 00-0144	EA 3" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	667.72	29.14	59.52	
23 21 16 00-0145	EA 3" x 2-1/2" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,124.51	65.97	175.93	
23 21 16 00-0146	EA 3" x 3" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,146.40	71.15	189.50	
23 21 16 00-0147	EA 4" x 3" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,389.23	95.29	254.10	
23 21 16 00-0148	EA 4" x 4" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,632.05	119.43	317.68	
23 21 16 00-0149	EA 6" x 4" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	1,874.57	119.81	319.50	
23 21 16 00-0150	EA 6" x 6" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	2,269.13	133.81	355.55	
23 21 16 00-0151	EA 8" x 6" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	2,559.11	169.31	454.31	
23 21 16 00-0152	EA 8" x 8" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	3,992.55	169.31	454.31	
23 21 16 00-0153	EA 10" x 8" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	4,555.58	207.40	553.07	
23 21 16 00-0154	EA 10" x 10" Flanged, 175 LB, Cast Iron Body, Suction Diffuser For Work In Restricted Working Space, Add	5,339.57	207.40	553.07	
23 21 16 00-0155 Duplex Strainers (23 21 16)					
23 21 16 00-0156 Iron Body, Duplex Strainers (23 21 16 00-0155)					
23 21 16 00-0157 Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainers (23 21 16 00-0156)					
Note: With brass or stainless steel basket.					
23 21 16 00-0158	EA 3/4" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	925.16	16.67	27.76	
23 21 16 00-0159	EA 1" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	1,032.84	19.08	31.77	
23 21 16 00-0160	EA 1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	1,401.70	22.39	37.34	
23 21 16 00-0161	EA 1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	1,766.24	24.41	40.69	
23 21 16 00-0162	EA 2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	2,368.66	29.86	49.60	
23 21 16 00-0163	EA 2-1/2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	2,980.45	38.11	63.54	
23 21 16 00-0164 Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainers (23 21 16 00-0156)					
Note: With brass or stainless steel basket.					
23 21 16 00-0165	EA 2" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	3,220.36	55.73	148.59	
23 21 16 00-0166	EA 2-1/2" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer For Work In Restricted Working Space, Add	3,327.83	60.80	161.63	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0167 EA 3" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	4,268.17 71.15	189.50
23 21 16 00-0168 EA 4" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	6,693.64 105.82	281.47
23 21 16 00-0169 EA 6" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	13,127.85 133.81	355.55
23 21 16 00-0170 EA 8" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	25,022.18 169.31	454.31
23 21 16 00-0171 EA 10" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	34,569.93 207.40	553.07
23 21 16 00-0172 EA 12" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	39,078.10 118.49	697.27
23 21 16 00-0173 EA 14" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	46,642.22 296.29	790.10
23 21 16 00-0174 EA 16" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	58,335.79 325.92	869.11
23 21 16 00-0175 Bronze Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0176 Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainers (23 21 16 00-0175)		
Note: With brass or stainless steel basket.		
23 21 16 00-0177 EA 3/4" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,731.36 16.67	27.87
23 21 16 00-0178 EA 1" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,920.57 19.08	31.77
23 21 16 00-0179 EA 1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,814.82 22.39	37.34
23 21 16 00-0180 EA 1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,704.75 24.41	40.69
23 21 16 00-0181 EA 2" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	4,787.27 29.86	49.60
23 21 16 00-0182 EA 2-1/2" Screwed, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	5,879.16 38.11	63.54
23 21 16 00-0183 Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainers (23 21 16 00-0175)		
Note: With brass or stainless steel basket.		
23 21 16 00-0184 EA 2" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	6,707.86 55.73	148.59
23 21 16 00-0185 EA 2-1/2" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	6,905.91 60.80	161.63
23 21 16 00-0186 EA 3" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	9,476.78 71.15	189.50
23 21 16 00-0187 EA 4" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	14,936.82 105.82	281.47
23 21 16 00-0188 EA 6" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	32,512.93 133.81	355.55
23 21 16 00-0189 Cast Steel Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0190 Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainers (23 21 16 00-0189)		
Note: With brass or stainless steel basket.		
23 21 16 00-0191 EA 1" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,701.20 19.08	31.77
23 21 16 00-0192 EA 1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,327.68 22.39	37.34
23 21 16 00-0193 EA 1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,949.87 24.41	40.69
23 21 16 00-0194 EA 2" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	6,693.54 29.86	49.60
23 21 16 00-0195 Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainers (23 21 16 00-0189)		
Note: With brass or stainless steel basket.		
23 21 16 00-0196 EA 2" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	6,823.76 55.73	148.59
23 21 16 00-0197 EA 2-1/2" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	7,500.04 60.80	161.63
23 21 16 00-0198 EA 3" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	9,864.43 71.15	189.50
23 21 16 00-0199 EA 4" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	14,463.92 105.82	281.47
23 21 16 00-0200 EA 6" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	24,712.01 133.81	355.55
23 21 16 00-0201 EA 8" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer..... <i>For Work In Restricted Working Space, Add</i>	48,217.14 169.31	454.31
23 21 16 00-0202 Stainless Steel Body, Duplex Strainers (23 21 16 00-0155)		



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
23 21 16 00-0203	Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainers (23 21 16 00-0202) Note: With stainless steel basket.			
23 21 16 00-0204	EA 1" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	6,487.48		31.77
	For Work In Restricted Working Space, Add	19.08		
23 21 16 00-0205	EA 1-1/4" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer	8,199.66		37.34
	For Work In Restricted Working Space, Add	22.39		
23 21 16 00-0206	EA 1-1/2" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer	9,895.65		40.69
	For Work In Restricted Working Space, Add	24.41		
23 21 16 00-0207	EA 2" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	15,861.84		49.60
	For Work In Restricted Working Space, Add	29.86		
23 21 16 00-0208	Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainers (23 21 16 00-0202) Note: With stainless steel basket.			
23 21 16 00-0209	EA 2" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	16,602.38		148.59
	For Work In Restricted Working Space, Add	55.73		
23 21 16 00-0210	EA 2-1/2" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	17,451.99		161.63
	For Work In Restricted Working Space, Add	60.80		
23 21 16 00-0211	EA 3" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	27,360.24		189.50
	For Work In Restricted Working Space, Add	71.15		
23 21 16 00-0212	EA 4" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	33,423.84		281.47
	For Work In Restricted Working Space, Add	105.82		
23 21 16 00-0213	EA 6" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	58,736.85		355.55
	For Work In Restricted Working Space, Add	133.81		
23 21 16 00-0214	EA 8" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer.....	108,580.83		454.31
	For Work In Restricted Working Space, Add	169.31		
23 21 16 00-0215	Pressure Regulating Valve (23 21 16)			
23 21 16 00-0216	Screwed Ends, Iron Body, Water Pressure Reducing Valves (23 21 16 00-0215) Note: For building services, 25 - 75 PSI, up to 300 Lbs. rating			
23 21 16 00-0217	EA 1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	225.63		13.93
	For Work In Restricted Working Space, Add	16.71		
23 21 16 00-0218	EA 3/4" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	278.47		15.60
	For Work In Restricted Working Space, Add	18.57		
23 21 16 00-0219	EA 1" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	367.48		16.71
	For Work In Restricted Working Space, Add	19.66		
23 21 16 00-0220	EA 1-1/4" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	632.40		18.72
	For Work In Restricted Working Space, Add	22.28		
23 21 16 00-0221	EA 1-1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	859.04		22.29
	For Work In Restricted Working Space, Add	26.74		
23 21 16 00-0222	EA 2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	1,230.51		34.17
	For Work In Restricted Working Space, Add	41.04		
23 21 16 00-0223	EA 2-1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	1,338.24		38.47
	For Work In Restricted Working Space, Add	46.17		
23 21 16 00-0224	EA 3" Screwed Ends, Iron Construction, Water Pressure Reducing Valve	1,470.34		111.33
	For Work In Restricted Working Space, Add	51.30		
23 21 16 00-0225	Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0215) Note: Single seated, spring loaded, direct acting diaphragm valve.			
23 21 16 00-0226	Screwed Ends, Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0225) 21 16 00-0225)			
23 21 16 00-0227	EA 1/2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	380.83		18.73
	For Work In Restricted Working Space, Add	22.44		
23 21 16 00-0228	EA 3/4" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	476.36		26.53
	For Work In Restricted Working Space, Add	31.85		
23 21 16 00-0229	EA 1" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	612.60		32.32
	For Work In Restricted Working Space, Add	38.89		
23 21 16 00-0230	EA 1-1/4" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	820.63		39.24
	For Work In Restricted Working Space, Add	45.19		
23 21 16 00-0231	EA 1-1/2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	1,102.91		44.59
	For Work In Restricted Working Space, Add	51.44		
23 21 16 00-0232	EA 2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	1,289.85		62.49
	For Work In Restricted Working Space, Add	62.50		
23 21 16 00-0233	Flanged, Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0225) Note: Single seated, spring loaded, direct acting diaphragm valve.			
23 21 16 00-0234	EA 2-1/2" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer.....	2,985.12		151.03
	For Work In Restricted Working Space, Add	56.81		
23 21 16 00-0235	EA 3" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer	3,712.36		177.07
	For Work In Restricted Working Space, Add	66.49		
23 21 16 00-0236	EA 4" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer	4,771.59		296.85
	For Work In Restricted Working Space, Add	111.60		
23 21 16 00-0237	EA 6" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer	11,915.34		364.23
	For Work In Restricted Working Space, Add	137.07		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 16 00-0238	Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0215)		
23 21 16 00-0239	Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0238)		
23 21 16 00-0240	EA 1/2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	2,165.98 20.40	13.60
23 21 16 00-0241	EA 3/4" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	2,211.48 20.40	13.80
23 21 16 00-0242	EA 1" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	2,355.71 25.75	17.17
23 21 16 00-0243	EA 1-1/4" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	2,768.37 32.77	21.84
23 21 16 00-0244	EA 1-1/2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	3,169.32 37.79	25.19
23 21 16 00-0245	EA 2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	3,929.71 44.48	29.65
23 21 16 00-0246	Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0238)		
23 21 16 00-0247	EA 2-1/2" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	4,855.52 56.81	151.03
23 21 16 00-0248	EA 3" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	5,989.84 66.49	177.07
23 21 16 00-0249	EA 4" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	9,072.36 111.60	296.85
23 21 16 00-0250	EA 6" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve For Work In Restricted Working Space, Add	19,975.84 137.07	364.23
23 21 16 00-0251	Screwed Ends, Cast Iron Body, Air Pressure Reducing Valves (23 21 16 00-0215)		
23 21 16 00-0252	EA 1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	253.57 20.40	14.48
23 21 16 00-0253	EA 3/4" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	314.08 20.40	16.04
23 21 16 00-0254	EA 1" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	417.13 20.40	17.05
23 21 16 00-0255	EA 1-1/4" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	724.17 32.77	19.39
23 21 16 00-0256	EA 1-1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	985.60 37.79	23.17
23 21 16 00-0257	EA 2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	1,410.34 44.48	35.50
23 21 16 00-0258	EA 2-1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	1,527.85 56.81	38.68
23 21 16 00-0259	EA 3" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve For Work In Restricted Working Space, Add	1,683.99 66.49	44.53
23 21 16 00-0260	Screwed Ends, Bronze Body, Water Pressure Reducing Valves (23 21 16 00-0215) Note: For building services, bronze construction, pressure adjustment, union and strainer, factory set at 45 PSI (Watts 25AUB)		
23 21 16 00-0261	EA 1/2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	206.61 20.40	13.93
23 21 16 00-0262	EA 3/4" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	226.96 20.40	15.60
23 21 16 00-0263	EA 1" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	283.71 20.40	17.27
23 21 16 00-0264	EA 1-1/4" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	684.46 32.77	18.72
23 21 16 00-0265	EA 1-1/2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	740.57 37.79	22.29
23 21 16 00-0266	EA 2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	1,164.23 44.48	34.17
23 21 16 00-0267	Plastic Pressure Regulator (23 21 16 00-0215)		
23 21 16 00-0268	Polyvinyl Chloride (PVC) Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0269	EA 1/4" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	271.31 20.40	16.71
23 21 16 00-0270	EA 1/2" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	300.22 20.40	23.17
23 21 16 00-0271	EA 3/4" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	533.44 20.40	27.86
23 21 16 00-0272	EA 1" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	601.78 32.77	37.21
23 21 16 00-0273	EA 1-1/2" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	711.15 37.79	44.57
23 21 16 00-0274	EA 2" Polyvinyl Chloride (PVC) Pressure Regulator Valve For Work In Restricted Working Space, Add	870.80 44.48	69.64
23 21 16 00-0275	Polypropylene Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0276	EA 1/4" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	345.95 20.40	16.71
23 21 16 00-0277	EA 1/2" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	424.63 20.40	23.40
23 21 16 00-0278	EA 3/4" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	651.88 20.40	27.86
23 21 16 00-0279	EA 1" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	770.98 32.77	37.21
23 21 16 00-0280	EA 1-1/2" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	900.25 37.79	44.57
23 21 16 00-0281	EA 2" Polypropylene Pressure Regulator Valve For Work In Restricted Working Space, Add	1,113.65 44.48	69.64
23 21 16 00-0282	Teflon (PTFE) Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0283	EA 1/4" Teflon (PTFE) Pressure Regulator Valve For Work In Restricted Working Space, Add	739.09 20.40	16.71
23 21 16 00-0284	EA 1/2" Teflon (PTFE) Pressure Regulator Valve For Work In Restricted Working Space, Add	847.62 20.40	23.17
23 21 16 00-0285	EA 3/4" Teflon Pressure Regulator Valve For Work In Restricted Working Space, Add	1,429.20 20.40	27.86
23 21 16 00-0286	EA 1" Teflon (PTFE) Pressure Regulator Valve For Work In Restricted Working Space, Add	1,975.26 32.77	37.21
23 21 16 00-0287	EA 1-1/2" Teflon (PTFE) Pressure Regulator Valve For Work In Restricted Working Space, Add	2,383.22 37.79	44.57
23 21 16 00-0288	EA 2" Teflon (PTFE) Pressure Regulator Valve For Work In Restricted Working Space, Add	3,334.12 44.48	69.64



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
23 21 16 00-0289	Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valves (23 21 16 00-0267)			
23 21 16 00-0290	EA 1/4" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	242.05		16.71
23 21 16 00-0291	EA 1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	277.47		23.17
23 21 16 00-0292	EA 3/4" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	446.64		27.86
23 21 16 00-0293	EA 1" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	530.52		37.10
23 21 16 00-0294	EA 1-1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	617.48		44.57
23 21 16 00-0295	Dual Unit Reducing And Relief Valve (23 21 16)			
23 21 16 00-0296	EA 1/2" Dual Unit Reducing And Relief Valve	232.49		34.00
23 21 16 00-0297	Safety Relief Valve (23 21 16)			
Note: Used in water heater and hot water storage tank applications.				
23 21 16 00-0298	Threaded Inlet, Bronze Body Safety Valves (23 21 16 00-0297)			
Note: Variable set points to 150 psig pressure, 210 Degree F temperature range.				
23 21 16 00-0299	EA 1/2" x 1/2" Threaded Inlet, Bronze Body Safety Valve	81.83		13.93
23 21 16 00-0300	EA 3/4" x 3/4" Threaded Inlet, Bronze Body Safety Valve	116.28		15.32
23 21 16 00-0301	EA 1" x 1" Threaded Inlet, Bronze Body Safety Valve	170.51		18.66
23 21 16 00-0302	EA 1-1/4" x 1-1/4" Threaded Inlet, Bronze Body Safety Valve	223.67		19.78
23 21 16 00-0303	EA 1-1/2" x 1-1/2" Threaded Inlet, Bronze Body Safety Valve	308.56		26.46
23 21 16 00-0304	EA 2" x 2" Threaded Inlet, Bronze Body Safety Valve	417.07		31.20
23 21 16 00-0305	EA 2-1/2" x 2-1/2" Threaded Inlet, Bronze Body Safety Valve	470.27		39.00
23 21 16 00-0306	Plastic Pressure Relief Valves (23 21 16 00-0297)			
23 21 16 00-0307	Polyvinyl Chloride (PVC) Pressure Relief Valves (23 21 16 00-0306)			
23 21 16 00-0308	EA 1/4" Polyvinyl Chloride (PVC) Pressure Relief Valve	223.20		16.71
23 21 16 00-0309	EA 1/2" Polyvinyl Chloride (PVC) Pressure Relief Valve	245.48		23.40
23 21 16 00-0310	EA 3/4" Polyvinyl Chloride (PVC) Pressure Relief Valve	462.12		27.86
23 21 16 00-0311	EA 1" Polyvinyl Chloride (PVC) Pressure Relief Valve	547.04		37.33
23 21 16 00-0312	EA 1-1/2" Polyvinyl Chloride (PVC) Pressure Relief Valve	711.15		44.57
23 21 16 00-0313	EA 2" Polyvinyl Chloride (PVC) Pressure Relief Valve	885.73		69.64
23 21 16 00-0314	Polypropylene Pressure Relief Valves (23 21 16 00-0306)			
23 21 16 00-0315	EA 1/4" Polypropylene Pressure Relief Valve	256.38		16.71
23 21 16 00-0316	EA 1/2" Polypropylene Pressure Relief Valve	295.24		23.17
23 21 16 00-0317	EA 3/4" Polypropylene Pressure Relief Valve	578.23		27.86
23 21 16 00-0318	EA 1" Polypropylene Pressure Relief Valve	671.45		37.21
23 21 16 00-0319	EA 1-1/2" Polypropylene Pressure Relief Valve	1,183.91		44.57
23 21 16 00-0320	EA 2" Polypropylene Pressure Relief Valve	1,449.72		69.64
23 21 16 00-0321	Teflon (PTFE) Pressure Relief Valves (23 21 16 00-0306)			
23 21 16 00-0322	EA 1/4" Teflon (PTFE) Pressure Relief Valve	455.43		16.71
23 21 16 00-0323	EA 1/2" Teflon (PTFE) Pressure Relief Valve	502.59		23.17
23 21 16 00-0324	EA 3/4" Teflon (PTFE) Pressure Relief Valve	951.46		27.86
23 21 16 00-0325	EA 1" Teflon (PTFE) Pressure Relief Valve	1,119.32		37.21
23 21 16 00-0326	EA 1-1/2" Teflon (PTFE) Pressure Relief Valve	1,830.84		44.57
23 21 16 00-0327	EA 2" Teflon (PTFE) Pressure Relief Valve	2,362.06		69.64
23 21 16 00-0328	Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valves (23 21 16 00-0306)			
23 21 16 00-0329	EA 1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valve	231.64		23.17
23 21 16 00-0330	EA 3/4" Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valve	264.34		27.86
23 21 16 00-0331	EA 1" Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valve	321.91		37.10
23 21 16 00-0332	EA 1-1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valve	412.77		44.57
23 21 16 00-0333	EA 2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Relief Valve	522.40		69.64
23 21 16 00-0334	Threaded, Bronze Body, Temperature And Pressure Relief Valves (23 21 16)			
23 21 16 00-0335	EA 1/2" x 1/2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	94.77		28.41
For Cast Iron Body, Add		60.44		
23 21 16 00-0336	EA 3/4" x 3/4" Threaded, Bronze Body, Temperature And Pressure Relief Valve	123.06		34.09
For Cast Iron Body, Add		84.19		
23 21 16 00-0337	EA 1" x 1" Threaded, Bronze Body, Temperature And Pressure Relief Valve	181.55		45.46
For Cast Iron Body, Add		134.09		
23 21 16 00-0338	EA 1-1/4" x 1-1/4" Threaded, Bronze Body, Temperature And Pressure Relief Valve	307.57		48.69
For Cast Iron Body, Add		284.98		
23 21 16 00-0339	EA 1-1/2" x 1-1/2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	525.21		54.60
For Cast Iron Body, Add		545.14		
23 21 16 00-0340	EA 2" x 2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	603.14		78.50
For Cast Iron Body, Add		593.60		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 16 00-0341		Thermostatic Radiator Valves (23 21 16)	
		Note: For hot water or two pipe low pressure steam.	
23 21 16 00-0342	EA	1/2" Straight Thermostatic Radiator Valve (Danfoss 013G8015).....	83.76 17.98
23 21 16 00-0343	EA	3/4" Straight Thermostatic Radiator Valve (Danfoss 013G8020).....	102.12 24.23
23 21 16 00-0344	EA	1" Straight Thermostatic Radiator Valve (Danfoss 013G8025).....	135.73 29.34
23 21 16 00-0345	EA	1-1/4" Straight Thermostatic Radiator Valve (Danfoss 013G8032).....	209.91 37.16
23 21 16 00-0346	EA	1/2" Angle Thermostatic Radiator Valve (Danfoss 013G8014).....	83.76 17.98
23 21 16 00-0347	EA	3/4" Angle Thermostatic Radiator Valve (Danfoss 013G8019).....	102.12 24.23
23 21 16 00-0348	EA	1" Angle Thermostatic Radiator Valve (Danfoss 013G8024).....	135.73 29.34
23 21 16 00-0349	EA	1-1/4" Angle Thermostatic Radiator Valve (Danfoss 013G8031).....	209.91 37.16
23 21 16 00-0350	EA	Tamper Resistant Valve Mounted Dial And Sensor Thermostatic Operator (Danfoss 013G8240).....	85.23 13.93
23 21 16 00-0351	EA	Tamper Resistant Valve Mounted Dial With Remote Sensor Thermostatic Operator (Danfoss 013G2922).....	143.07 19.51
23 21 16 00-0352		Radiator Trap Repair Kits (23 21 16)	
		Note: For hot water or two pipe low pressure steam.	
23 21 16 00-0353	EA	1/2" Trap (Spirax-Sarco TH-125), Straight, Radiator Trap Repair Kit (Spirax-Sarco SH1031).....	150.07
23 21 16 00-0354	EA	3/4" Trap (Spirax-Sarco TH-125), Straight, Radiator Trap Repair Kit (Spirax-Sarco SH1032).....	187.62
23 21 16 00-0355	EA	1/2" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1026).....	190.78
23 21 16 00-0356	EA	3/4" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1027).....	216.72
23 21 16 00-0357	EA	1" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1028).....	516.11
23 21 16 00-0358		Horizontal Steel Expansion Tanks (23 21 16)	
		Note: ASME Code Stamp. 150 PSI with glass gauge and cocks.	
23 21 16 00-0359	EA	10 Gallon Horizontal Steel Expansion Tank.....	828.40 111.47
23 21 16 00-0360	EA	15 Gallon Horizontal Steel Expansion Tank.....	1,186.87 139.33
23 21 16 00-0361	EA	30 Gallon Horizontal Steel Expansion Tank.....	1,568.09 167.20
23 21 16 00-0362	EA	40 Gallon Horizontal Steel Expansion Tank.....	1,802.88 195.07
23 21 16 00-0363	EA	60 Gallon Horizontal Steel Expansion Tank.....	2,096.01 197.52
23 21 16 00-0364		Horizontal Diaphragm Type (Bladder) Steel Expansion Tanks (23 21 16)	
		Note: ASME. Precharged with working pressure 125 psi. Armstrong AX Series.	
23 21 16 00-0365	EA	7.8 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	1,583.78 83.60
23 21 16 00-0366	EA	10.9 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	1,652.81 97.53
23 21 16 00-0367	EA	21.7 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	2,467.66 111.47
23 21 16 00-0368	EA	33.6 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	2,568.18 125.39
23 21 16 00-0369	EA	44.4 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	3,484.74 139.33
23 21 16 00-0370	EA	55.7 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	3,674.84 153.26
23 21 16 00-0371	EA	68.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	4,371.04 167.20
23 21 16 00-0372	EA	77.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	4,677.38 181.13
23 21 16 00-0373	EA	90.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	5,155.64 195.07
23 21 16 00-0374	EA	110.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	5,298.55 222.93
23 21 16 00-0375	EA	132.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	6,649.78 250.80
23 21 16 00-0376	EA	158.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	7,625.68 278.67
23 21 16 00-0377	EA	211.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank.....	8,851.04 334.40
23 21 16 00-0378		Vertical Diaphragm Type (Bladder) Steel Expansion Tanks (Armstrong AX)	
		Note: ASME. Precharged with working pressure 125 psi	
23 21 16 00-0379	EA	8.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	1,806.56 83.60
23 21 16 00-0380	EA	11.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	1,863.48 97.53
23 21 16 00-0381	EA	22.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	2,671.07 111.47
23 21 16 00-0382	EA	34.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	2,851.49 125.39
23 21 16 00-0383	EA	44.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	3,627.60 139.33
23 21 16 00-0384	EA	56.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	3,815.28 153.26
23 21 16 00-0385	EA	67.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	4,654.36 167.20
23 21 16 00-0386	EA	77.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,030.92 181.13
23 21 16 00-0387	EA	91.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,564.88 195.07
23 21 16 00-0388	EA	111.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,700.52 222.93
23 21 16 00-0389	EA	132.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	7,015.43 250.80
23 21 16 00-0390	EA	158.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	8,141.46 278.67
23 21 16 00-0391	EA	211.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	9,376.50 334.40
23 21 16 00-0392		Diaphragm Type (Residential Style) Steel Expansion Tanks (23 21 16)	
23 21 16 00-0393	EA	2.1 Gallon Diaphragm Type (Residential Style) Steel Expansion Tank (Watts DET-5-M1).....	102.66 10.26
23 21 16 00-0394	EA	4.5 Gallon Diaphragm Type (Residential Style) Steel Expansion Tank (Watts DET-12-M1).....	147.95 10.26
23 21 16 00-0395		Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tanks (23 21 16)	
23 21 16 00-0396	EA	15 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,189.16 334.51
23 21 16 00-0397	EA	20 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,242.07 334.51
23 21 16 00-0398	EA	30 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,294.98 334.51
23 21 16 00-0399	EA	40 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,432.52 334.51
23 21 16 00-0400	EA	47 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,702.66 445.75
23 21 16 00-0401	EA	60 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,019.34 445.98



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0402	EA		80 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,082.18	445.98
23 21 16 00-0403	EA		87 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,145.03	445.98
23 21 16 00-0404	EA		120 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,731.38	557.32
23 21 16 00-0405	EA		187 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	8,059.55	557.32
23 21 16 00-0406	EA		264 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	10,258.71	668.57
23 21 16 00-0407 ASME Construction Compression Tanks (23 21 16)					
Note: With gauge glass taps, 125 PSI, 240 degree F tanks below are sized by capacity and diameter and height.					
23 21 16 00-0408	EA		15 Gallon, 13" x 34-1/2" ASME Construction Compression Tank.....	1,164.28	196.18
			For Galvanized Steel Tanks, Add	433.52	
23 21 16 00-0409	EA		24 Gallon, 13" x 51" ASME Construction Compression Tank.....	1,186.34	201.75
			For Galvanized Steel Tanks, Add	439.91	
23 21 16 00-0410	EA		30 Gallon, 13" x 61-1/2" ASME Construction Compression Tank.....	1,298.38	208.44
			For Galvanized Steel Tanks, Add	490.91	
23 21 16 00-0411	EA		40 Gallon, 16-1/4" x 53" ASME Construction Compression Tank.....	1,425.37	216.25
			For Galvanized Steel Tanks, Add	548.28	
23 21 16 00-0412	EA		60 Gallon, 16-1/4" x 76-1/2" ASME Construction Compression Tank.....	1,671.60	228.50
			For Galvanized Steel Tanks, Add	663.03	
23 21 16 00-0413	EA		80 Gallon, 20-1/4" x 68" ASME Construction Compression Tank.....	1,736.64	237.42
			For Galvanized Steel Tanks, Add	688.54	
23 21 16 00-0414	EA		100 Gallon, 20-1/4" x 82" ASME Construction Compression Tank.....	2,163.46	258.60
			For Galvanized Steel Tanks, Add	886.18	
23 21 16 00-0415	EA		120 Gallon, 24-1/4" x 71-1/2" ASME Construction Compression Tank.....	2,358.71	277.55
			For Galvanized Steel Tanks, Add	969.04	
23 21 16 00-0416	EA		144 Gallon, 24-1/4" x 83-1/2" ASME Construction Compression Tank.....	2,946.83	313.22
			For Galvanized Steel Tanks, Add	1,236.26	
23 21 16 00-0417	EA		180 Gallon, 30" x 60" ASME Construction Compression Tank.....	3,756.89	358.92
			For Galvanized Steel Tanks, Add	1,606.58	
23 21 16 00-0418	EA		202 Gallon, 30" x 72" ASME Construction Compression Tank.....	4,512.17	397.93
			For Galvanized Steel Tanks, Add	1,954.83	
23 21 16 00-0419	EA		230 Gallon, 30" x 84" ASME Construction Compression Tank.....	4,935.11	432.48
			For Galvanized Steel Tanks, Add	2,139.72	
23 21 16 00-0420	EA		280 Gallon, 30" x 96" ASME Construction Compression Tank.....	6,260.87	474.84
			For Galvanized Steel Tanks, Add	2,770.87	
23 21 16 00-0421	EA		306 Gallon, 30" x 108" ASME Construction Compression Tank.....	6,452.96	507.17
			For Galvanized Steel Tanks, Add	2,842.12	
23 21 16 00-0422	EA		340 Gallon, 36" x 84" ASME Construction Compression Tank.....	8,355.67	545.06
			For Galvanized Steel Tanks, Add	3,765.00	
23 21 16 00-0423	EA		550 Gallon, 36" x 96" ASME Construction Compression Tank.....	14,015.40	639.81
			For Galvanized Steel Tanks, Add	6,523.07	
23 21 16 00-0424 Compression Tank Air Fittings (23 21 16)					
23 21 16 00-0425	EA		9" To 24" Diameter Compression Tank Air Fittings.....	432.24	31.21
23 21 16 00-0426	EA		>100 Gallon Compression Tank Air Fittings	1,515.50	36.79
23 21 16 00-0427 Vortex Air Separators With Strainer (23 21 16)					
Note: Separators are priced by capacity in gallons per minute and by boiler connection sizes and types.					
23 21 16 00-0428	EA		2" Threaded, 56 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-2N)	1,852.40	237.42
			For 300 PSIG, Add	223.92	
23 21 16 00-0429	EA		2-1/2" Threaded, 90 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-2-1/2N).....	2,303.17	271.98
			For 300 PSIG, Add	283.55	
23 21 16 00-0430	EA		3" Threaded, 190 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-3N)	3,593.96	319.91
			For 300 PSIG, Add	466.40	
23 21 16 00-0431	EA		3" Flanged, 190 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-3F)	3,843.47	338.79
			For 300 PSIG, Add	499.52	
23 21 16 00-0432	EA		4" Flanged, 300 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-4F)	4,950.91	451.72
			For 300 PSIG, Add	639.97	
23 21 16 00-0433	EA		5" Flanged, 500 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-5F)	6,263.50	537.27
			For 300 PSIG, Add	817.52	
23 21 16 00-0434	EA		6" Flanged, 700 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-6F)	7,449.60	608.37
			For 300 PSIG, Add	979.17	
23 21 16 00-0435	EA		8" Flanged, 1,300 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-8F)	10,805.13	729.86
			For 300 PSIG, Add	1,454.85	
23 21 16 00-0436	EA		10" Flanged, 2,000 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-10F)	16,821.29	829.61
			For 300 PSIG, Add	2,334.65	
23 21 16 00-0437	EA		12" Flanged, 2,750 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-12F)	22,719.55	1,073.55
			For 300 PSIG, Add	3,163.93	
23 21 16 00-0438	EA		14" Flanged, 3400 GPM With Strainer, Vortex Air Separator (Rolairtrol R-14F)	47,930.30	1,303.66
			For 300 PSIG, Add	6,893.26	
23 21 16 00-0439	EA		16" Flanged, 4400 GPM With Strainer, Vortex Air Separator (Rolairtrol R-16F)	59,200.75	1,564.40
			For 300 PSIG, Add	8,524.57	
23 21 16 00-0440	EA		18" Flanged, 5200 GPM With Strainer, Vortex Air Separator (Rolairtrol R-16F)	77,381.00	1,825.13
			For 300 PSIG, Add	11,192.35	
23 21 16 00-0441	EA		20" Flanged, 6300 GPM With Strainer, Vortex Air Separator (Rolairtrol R-20F)	90,570.62	2,085.87
			For 300 PSIG, Add	13,111.53	
23 21 16 00-0442 Vortex Air Separators (23 21 16)					
Note: Without system strainer.					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0443 EA 2" Threaded, 56 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-2N)..... For 300 PSIG, Add	1,560.90 180.20	237.42
23 21 16 00-0444 EA 2-1/2" Threaded, 90 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-2-1/2N)..... For 300 PSIG, Add	1,985.17 235.85	271.98
23 21 16 00-0445 EA 3" Threaded, 190 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-3N)..... For 300 PSIG, Add	3,514.46 454.47	319.91
23 21 16 00-0446 EA 3" Flanged, 190 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-3F)..... For 300 PSIG, Add	3,145.64 394.85	338.79
23 21 16 00-0447 EA 4" Flanged, 300 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-4F)..... For 300 PSIG, Add	4,217.75 580.00	451.72
23 21 16 00-0448 EA 5" Flanged, 530 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-5F)..... For 300 PSIG, Add	5,495.00 702.25	537.27
23 21 16 00-0449 EA 6" Flanged, 850 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-6F)..... For 300 PSIG, Add	6,407.27 822.82	608.37
23 21 16 00-0450 EA 8" Flanged, 1,900 GPM Vortex Air Separator (Rolairtrol RL-8F)..... For 300 PSIG, Add	8,579.13 1,120.95	729.86
23 21 16 00-0451 EA 10" Flanged, 3,600 GPM Vortex Air Separator (Rolairtrol RL-10F)..... For 300 PSIG, Add	12,060.13 1,620.47	829.61
23 21 16 00-0452 EA 12" Flanged, 4,800 GPM Vortex Air Separator (Rolairtrol RL-12F)..... For 300 PSIG, Add	18,719.15 2,563.87	1,073.55
23 21 16 00-0453 EA 14" Flanged, 6,100 GPM Vortex Air Separator (Rolairtrol RL-14F)..... For 300 PSIG, Add	32,209.69 4,535.17	1,303.66
23 21 16 00-0454 EA 16" Flanged, 8,000 GPM Vortex Air Separator (Rolairtrol RL-16F)..... For 300 PSIG, Add	40,863.07 5,773.91	1,564.40
23 21 16 00-0455 EA 18" Flanged, 9,700 GPM Vortex Air Separator (Rolairtrol RL-16F)..... For 300 PSIG, Add	54,808.75 7,806.51	1,825.13
23 21 16 00-0456 EA 20" Flanged, 12,000 GPM Vortex Air Separator (Rolairtrol RL-20F)..... For 300 PSIG, Add	75,220.76 10,809.05	2,085.87
23 21 16 00-0457 EA 22" Flanged, 15,000 GPM Vortex Air Separator (Rolairtrol RL-22F)..... For 300 PSIG, Add	92,250.57 13,304.27	2,346.60
23 21 16 00-0458 EA 24" Flanged, 17,000 GPM Vortex Air Separator (Rolairtrol RL-24F)..... For 300 PSIG, Add	109,280.39 15,799.48	2,607.33
23 21 16 00-0459 Grooved, With Strainer, Vortex Air Separators (23 21 16)		
23 21 16 00-0460 EA 3" Grooved, 190 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-3G).....	3,387.49	271.03
23 21 16 00-0461 EA 4" Grooved, 300 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-4G).....	4,813.68	361.15
23 21 16 00-0462 EA 5" Grooved, 500 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-5G).....	6,100.81	429.41
23 21 16 00-0463 EA 6" Grooved, 700 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-6G).....	7,265.18	486.71
23 21 16 00-0464 EA 8" Grooved, 1,300 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-8G).....	10,566.23	584.05
23 21 16 00-0465 EA 10" Grooved, 2,000 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-10G).....	17,258.87	663.69
23 21 16 00-0466 EA 12" Grooved, 2,750 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-12G).....	26,374.38	858.94
23 21 16 00-0467 Grooved Vortex Air Separators (23 21 16)		
Note: Without system strainer.		
23 21 16 00-0468 EA 3" Grooved, 190 GPM Vortex Air Separator (Rolairtrol RL-3G).....	2,663.16	271.03
23 21 16 00-0469 EA 4" Grooved, 300 GPM Vortex Air Separator (Rolairtrol RL-4G).....	4,080.52	361.15
23 21 16 00-0470 EA 5" Grooved, 530 GPM Vortex Air Separator (Rolairtrol RL-5G).....	5,332.31	429.41
23 21 16 00-0471 EA 6" Grooved, 850 GPM Vortex Air Separator (Rolairtrol RL-6G).....	6,222.85	486.71
23 21 16 00-0472 EA 8" Grooved, 1,900 GPM Vortex Air Separator (Rolairtrol RL-8G).....	8,357.90	584.05
23 21 16 00-0473 EA 10" Grooved, 3,600 GPM Vortex Air Separator (Rolairtrol RL-10G).....	12,427.04	663.69
23 21 16 00-0474 EA 12" Grooved, 4,800 GPM Vortex Air Separator (Rolairtrol RL-12G).....	20,802.19	858.94
23 21 16 00-0475 Removable Head, Air Eliminator And Dirt Separator (23 21 16)		
Note: Spirovent VDN.		
23 21 16 00-0476 EA 2", 45 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	3,606.56	237.42
23 21 16 00-0477 EA 2-1/2", 70 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	3,906.09	271.98
23 21 16 00-0478 EA 3", 95 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	5,213.09	319.91
23 21 16 00-0479 EA 4", 170 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	5,965.38	490.45
23 21 16 00-0480 EA 5", 260 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	8,708.38	606.37
23 21 16 00-0481 EA 6", 375 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	11,202.16	686.63
23 21 16 00-0482 EA 8", 625 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	17,479.45	154.94
23 21 16 00-0483 EA 10", 950 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	25,793.22	936.31
23 21 16 00-0484 EA 12", 1,400 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN).....	33,337.67	1,211.63
23 21 16 00-0485 Air Eliminator And Dirt Separator (23 21 16)		
Note: Spirovent VDT.		
23 21 16 00-0486 EA 2", 45 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	3,545.09	237.42
23 21 16 00-0487 EA 2-1/2", 70 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	3,916.74	271.98
23 21 16 00-0488 EA 3", 95 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	4,300.68	294.65
23 21 16 00-0489 EA 4", 170 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	4,854.21	451.72
23 21 16 00-0490 EA 5", 260 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	5,608.55	537.27
23 21 16 00-0491 EA 6", 375 GPM, Air Eliminator And Dirt Separator (Spirotherm VDT).....	6,076.62	608.37
23 21 16 00-0492 High Velocity, Air Eliminator And Dirt Separator (Spirotherm) (23 21 16)		
23 21 16 00-0493 EA 2", 105 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	3,863.47	237.42
23 21 16 00-0494 EA 2-1/2", 155 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	7,066.24	271.98
23 21 16 00-0495 EA 3", 225 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	7,324.48	294.65



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0496 EA 4", 405 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	8,250.35	451.72
23 21 16 00-0497 EA 5", 630 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	9,638.65	619.56
23 21 16 00-0498 EA 6", 910 GPM, High Velocity, Flanged, Air Eliminator And Dirt Separator (Spirotherm VHT).....	10,416.26	701.56
23 21 16 00-0499 Swivel Joints (23 21 16)		
23 21 16 00-0500 Carbon Steel, Straight Through Swivel Joint (Dixon Style 20) (23 21 16 00-0499)		
Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0501 EA 1" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	357.16	29.31
23 21 16 00-0502 EA 1-1/2" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	513.14	42.91
23 21 16 00-0503 EA 2" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	720.37	50.16
23 21 16 00-0504 EA 3" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	1,073.41	85.83
23 21 16 00-0505 EA 4" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	1,362.10	97.53
For Stainless Steel, Add	1,750.55	
23 21 16 00-0506 EA 2" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	1,001.39	148.59
For Stainless Steel, Add	1,223.42	
23 21 16 00-0507 EA 3" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	1,353.94	118.54
23 21 16 00-0508 EA 4" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	1,718.91	317.68
23 21 16 00-0509 EA 6" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20).....	3,202.41	401.28
23 21 16 00-0510 Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30) (23 21 16 00-0499)		
Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0511 EA 1" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	455.34	29.31
For Stainless Steel, Add	595.02	
23 21 16 00-0512 EA 1-1/2" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	559.51	42.91
For Stainless Steel, Add	710.64	
23 21 16 00-0513 EA 2" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	754.77	50.16
For Stainless Steel, Add	980.16	
23 21 16 00-0514 EA 3" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	1,212.53	85.83
For Stainless Steel, Add	1,561.58	
23 21 16 00-0515 EA 4" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	1,589.32	97.53
For Stainless Steel, Add	2,091.38	
23 21 16 00-0516 EA 2" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	1,032.83	148.59
For Stainless Steel, Add	1,270.58	
23 21 16 00-0517 EA 3" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	1,534.03	118.54
For Stainless Steel, Add	1,945.31	
23 21 16 00-0518 EA 4" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	1,926.81	317.68
For Stainless Steel, Add	2,293.08	
23 21 16 00-0519 EA 6" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30).....	3,345.98	401.28
For Stainless Steel, Add	4,263.89	
23 21 16 00-0520 Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40) (23 21 16 00-0499)		
Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0521 EA 1" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	536.36	29.31
For Stainless Steel, Add	716.55	
23 21 16 00-0522 EA 1-1/2" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	621.34	42.91
For Stainless Steel, Add	803.39	
23 21 16 00-0523 EA 2" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	910.18	50.16
For Stainless Steel, Add	1,213.28	
23 21 16 00-0524 EA 3" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	1,399.56	85.83
For Stainless Steel, Add	1,842.12	
23 21 16 00-0525 EA 4" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	1,651.15	97.53
For Stainless Steel, Add	2,184.12	
23 21 16 00-0526 EA 2" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	1,187.41	148.59
For Stainless Steel, Add	1,502.45	
23 21 16 00-0527 EA 3" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	1,725.69	118.54
For Stainless Steel, Add	2,232.80	
23 21 16 00-0528 EA 4" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	2,124.66	317.68
For Stainless Steel, Add	2,589.86	
23 21 16 00-0529 EA 6" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40).....	3,771.05	401.28
For Stainless Steel, Add	4,901.49	
23 21 16 00-0530 Ball Joints (23 21 16)		
23 21 16 00-0531 EA 1" Steel Threaded Ball Joint (Hyspan BB-33004-16-11).....	1,164.61	
23 21 16 00-0532 EA 2" Steel Threaded Ball Joint (Hyspan BB-33001-32-11).....	1,697.01	
23 21 16 00-0533 EA 3" Steel Threaded Ball Joint (Hyspan BB-41533-48-21).....	2,919.76	
23 21 16 00-0534 EA 8" Steel Welding Type Ball Joint (Hyspan BB-41533-68-21).....	9,222.42	
23 21 16 00-0535 EA 10" Steel Welding Type Ball Joint (Hyspan BB-41533-70-21).....	10,762.02	
23 21 16 00-0536 EA 3" Steel Flanged Ball Joint (Hyspan BB-41533-48-21).....	2,731.12	174.43
23 21 16 00-0537 EA 4" Steel Flanged Ball Joint (Hyspan BB-41533-64-21).....	4,228.30	292.42
23 21 16 00-0538 EA 6" Steel Flanged Ball Joint (Hyspan BB-31533-66-11).....	5,083.31	364.23
23 21 16 00-0539 EA 8" Steel Flanged Ball Joint (Hyspan BB-41533-68-21).....	8,461.01	465.40
23 21 16 00-0540 EA 10" Steel Flanged Ball Joint (Hyspan BB-31533-70-11).....	9,919.24	566.57
23 21 16 00-0541 EA 4" Stainless Steel Flanged Ball Joint (Hyspan BB-31524-64).....	16,505.34	292.42
23 21 16 00-0542 EA 6" Stainless Steel Flanged Joint (Hyspan BB-31524-66-24).....	24,932.71	364.23
23 21 16 00-0543 EA 6" Carbon Steel Flanged Ball Joint (Hyspan BB-41528-66-21).....	7,525.67	364.23
23 21 16 00-0544 EA 8" Carbon Steel Flanged Ball Joint (Hyspan BB-41528-68-21).....	9,690.02	465.40
23 21 16 00-0545 EA 12" Carbon Steel Flanged Ball Joint (Hyspan BB-41533-72-21).....	16,799.03	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 16 00-0546	Basket Strainers (23 21 16)		
23 21 16 00-0547	Bronze Body Basket Strainers (23 21 16 00-0546)		
23 21 16 00-0548	Screwed Ends, Bronze Body Basket Strainers (23 21 16 00-0547)		
23 21 16 00-0549	EA 1/2" Screwed Ends, Bronze Body Basket Strainer.....	321.42	22.30
	For Work In Restricted Working Space, Add	13.27	
23 21 16 00-0550	EA 3/4" Screwed Ends, Bronze Body Basket Strainer.....	379.89	26.20
	For Work In Restricted Working Space, Add	15.59	
23 21 16 00-0551	EA 1" Screwed Ends, Bronze Body Basket Strainer.....	440.57	31.21
	For Work In Restricted Working Space, Add	18.58	
23 21 16 00-0552	EA 1-1/4" Screwed Ends, Bronze Body Basket Strainer.....	549.14	34.55
	For Work In Restricted Working Space, Add	20.71	
23 21 16 00-0553	EA 1-1/2" Screwed Ends, Bronze Body Basket Strainer.....	648.63	39.01
	For Work In Restricted Working Space, Add	23.39	
23 21 16 00-0554	EA 2" Screwed Ends, Bronze Body Basket Strainer.....	967.93	44.59
	For Work In Restricted Working Space, Add	26.78	
23 21 16 00-0555	EA 2-1/2" Screwed Ends, Bronze Body Basket Strainer.....	1,369.64	59.64
	For Work In Restricted Working Space, Add	35.87	
23 21 16 00-0556	EA 3" Screwed Ends, Bronze Body Basket Strainer.....	1,929.44	63.54
	For Work In Restricted Working Space, Add	38.04	
23 21 16 00-0557	Flanged, Bronze Body Basket Strainers (23 21 16 00-0547)		
23 21 16 00-0558	EA 2" Flanged, Bronze Body Basket Strainer.....	1,517.37	148.59
	For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0559	EA 2-1/2" Flanged, Bronze Body Basket Strainer.....	2,286.10	161.63
	For Work In Restricted Working Space, Add	60.80	
23 21 16 00-0560	EA 3" Flanged, Bronze Body Basket Strainer.....	2,592.36	189.50
	For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0561	EA 4" Flanged, Bronze Body Basket Strainer.....	4,383.81	317.68
	For Work In Restricted Working Space, Add	119.43	
23 21 16 00-0562	EA 6" Flanged, Bronze Body Basket Strainer.....	8,326.87	355.55
	For Work In Restricted Working Space, Add	133.81	
23 21 16 00-0563	EA 8" Flanged, Bronze Body Basket Strainer.....	15,193.76	454.31
	For Work In Restricted Working Space, Add	169.31	
23 21 16 00-0564	Iron Body Basket Strainers (23 21 16 00-0548)		
23 21 16 00-0565	Screwed Ends, Iron Body Basket Strainers (23 21 16 00-0564)		
23 21 16 00-0566	EA 1/2" Screwed Ends, Iron Body Basket Strainer.....	369.50	22.30
	For Work In Restricted Working Space, Add	13.27	
23 21 16 00-0567	EA 3/4" Screwed Ends, Iron Body Basket Strainer.....	416.03	26.20
	For Work In Restricted Working Space, Add	15.59	
23 21 16 00-0568	EA 1" Screwed Ends, Iron Body Basket Strainer.....	491.64	31.21
	For Work In Restricted Working Space, Add	18.58	
23 21 16 00-0569	EA 1-1/4" Screwed Ends, Iron Body Basket Strainer.....	644.97	34.55
	For Work In Restricted Working Space, Add	20.71	
23 21 16 00-0570	EA 1-1/2" Screwed Ends, Iron Body Basket Strainer.....	707.59	39.01
	For Work In Restricted Working Space, Add	23.39	
23 21 16 00-0571	EA 2" Screwed Ends, Iron Body Basket Strainer.....	841.25	44.59
	For Work In Restricted Working Space, Add	26.78	
23 21 16 00-0572	EA 2-1/2" Screwed Ends, Iron Body Basket Strainer.....	1,193.84	59.64
	For Work In Restricted Working Space, Add	35.87	
23 21 16 00-0573	EA 3" Screwed Ends, Iron Body Basket Strainer.....	1,350.29	63.54
	For Work In Restricted Working Space, Add	38.04	
23 21 16 00-0574	Flanged, Iron Body Basket Strainers (23 21 16 00-0564)		
23 21 16 00-0575	EA 2" Flanged, Iron Body Basket Strainer.....	1,311.13	148.59
	For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0576	EA 2-1/2" Flanged, Iron Body Basket Strainer.....	1,719.43	161.63
	For Work In Restricted Working Space, Add	60.80	
23 21 16 00-0577	EA 3" Flanged, Iron Body Basket Strainer.....	1,851.79	189.50
	For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0578	EA 4" Flanged, Iron Body Basket Strainer.....	2,828.19	317.68
	For Work In Restricted Working Space, Add	119.43	
23 21 16 00-0579	EA 6" Flanged, Iron Body Basket Strainer.....	5,175.74	355.55
	For Work In Restricted Working Space, Add	133.81	
23 21 16 00-0580	EA 8" Flanged, Iron Body Basket Strainer.....	9,289.88	454.31
	For Work In Restricted Working Space, Add	169.31	
23 21 16 00-0581	EA 10" Flanged, Iron Body Basket Strainer.....	13,820.38	553.07
	For Work In Restricted Working Space, Add	207.40	
23 21 16 00-0582	EA 12" Flanged, Iron Body Basket Strainer.....	16,969.84	697.27
	For Work In Restricted Working Space, Add	418.32	
23 21 16 00-0583	EA 14" Flanged, Iron Body Basket Strainer.....	20,640.43	790.10
	For Work In Restricted Working Space, Add	296.29	
23 21 16 00-0584	EA 16" Flanged, Iron Body Basket Strainer.....	21,636.20	869.11
	For Work In Restricted Working Space, Add	325.92	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0585 Cast Steel Body Basket Strainers (23 21 16 00-0546)		
23 21 16 00-0586 Screwed Ends, Cast Steel Body Basket Strainers (23 21 16 00-0585)		
23 21 16 00-0587 EA 1" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	1,847.17 18.58	31.21
23 21 16 00-0588 EA 1-1/4" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	2,451.88 20.71	34.55
23 21 16 00-0589 EA 1-1/2" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	2,763.35 23.38	39.01
23 21 16 00-0590 EA 2" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	3,909.37 26.78	44.59
23 21 16 00-0591 EA 2-1/2" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	5,490.40 35.87	59.64
23 21 16 00-0592 EA 3" Screwed Ends, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	7,161.88 38.05	63.54
23 21 16 00-0593 Flanged, Cast Steel Body Basket Strainers (23 21 16 00-0585)		
23 21 16 00-0594 EA 2" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	5,745.74 55.73	148.59
23 21 16 00-0595 EA 2-1/2" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	8,334.58 60.80	161.63
23 21 16 00-0596 EA 3" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	9,125.54 71.15	189.50
23 21 16 00-0597 EA 4" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	12,879.64 119.43	317.68
23 21 16 00-0598 EA 6" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	22,950.63 133.81	355.55
23 21 16 00-0599 EA 8" Flanged, Cast Steel Body Basket Strainer For Work In Restricted Working Space, Add	37,441.66 169.31	454.31
23 21 16 00-0600 Stainless Steel Body Basket Strainers (23 21 16 00-0546)		
23 21 16 00-0601 Screwed Ends, Stainless Steel Body Basket Strainers (23 21 16 00-0600)		
23 21 16 00-0602 EA 1" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	564.65 18.58	31.21
23 21 16 00-0603 EA 1-1/4" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	813.16 20.71	34.55
23 21 16 00-0604 EA 1-1/2" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	839.48 23.38	39.01
23 21 16 00-0605 EA 2" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	1,241.53 26.78	44.59
23 21 16 00-0606 EA 2-1/2" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	1,754.63 35.87	59.64
23 21 16 00-0607 EA 3" Screwed Ends, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	2,478.66 38.05	63.54
23 21 16 00-0608 Flanged, Stainless Steel Body Basket Strainers (23 21 16 00-0600)		
23 21 16 00-0609 EA 2" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	1,900.50 55.73	148.59
23 21 16 00-0610 EA 2-1/2" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	2,873.05 60.80	161.63
23 21 16 00-0611 EA 3" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	3,253.48 71.15	189.50
23 21 16 00-0612 EA 4" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	5,499.95 119.43	317.68
23 21 16 00-0613 EA 6" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	8,409.89 133.81	355.55
23 21 16 00-0614 EA 8" Flanged, Stainless Steel Body Basket Strainer For Work In Restricted Working Space, Add	14,600.68 169.31	454.31
23 21 16 00-0615 Plastic Basket Strainers (23 21 16 00-0546)		
23 21 16 00-0616 Screwed Or Socket Ends, Simplex, Plastic Basket Strainers (23 21 16 00-0615)		
23 21 16 00-0617 Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0616)		
23 21 16 00-0618 EA 1/2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	520.01 13.27	15.61
23 21 16 00-0619 EA 3/4" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	527.75 15.59	18.17
23 21 16 00-0620 EA 1" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	537.71 18.58	21.62
23 21 16 00-0621 EA 1-1/2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	895.76 23.38	27.31
23 21 16 00-0622 EA 2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	922.52 26.78	31.21
23 21 16 00-0623 EA 3" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer For Work In Restricted Working Space, Add	2,014.53 38.05	44.59

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0624	EA	4" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	2,666.96 50.15	58.52
23 21 16 00-0625		Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0616)		
23 21 16 00-0626	EA	1/2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	817.18 13.27	15.61
23 21 16 00-0627	EA	3/4" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	824.92 15.59	18.17
23 21 16 00-0628	EA	1" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	834.88 18.58	21.62
23 21 16 00-0629	EA	1-1/2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	1,454.16 23.38	27.31
23 21 16 00-0630	EA	2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,492.42 26.78	31.21
23 21 16 00-0631	EA	3" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,625.07 38.05	44.59
23 21 16 00-0632	EA	4" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	4,050.76 50.15	58.52
23 21 16 00-0633		Flanged, Simplex, Plastic Basket Strainers (23 21 16 00-0615)		
23 21 16 00-0634		Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0633)		
23 21 16 00-0635	EA	1" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	740.23 58.50	97.53
23 21 16 00-0636	EA	1-1/2" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	1,197.64 66.88	111.47
23 21 16 00-0637	EA	2" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	1,252.41 77.91	129.86
23 21 16 00-0638	EA	3" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	2,502.92 71.15	189.50
23 21 16 00-0639	EA	4" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	3,353.09 119.43	317.68
23 21 16 00-0640	EA	6" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	6,806.87 151.02	401.28
23 21 16 00-0641	EA	8" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	8,943.85 191.08	512.74
23 21 16 00-0642		Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0633)		
23 21 16 00-0643	EA	1-1/2" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer <i>For Work In Restricted Working Space, Add</i>	1,771.52 66.88	111.47
23 21 16 00-0644	EA	2" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,840.61 77.91	129.86
23 21 16 00-0645	EA	3" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,980.71 71.15	189.50
23 21 16 00-0646	EA	4" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	4,984.61 119.43	317.68
23 21 16 00-0647		Screwed Or Socket Ends, Duplex, Plastic Basket Strainers (23 21 16 00-0615)		
23 21 16 00-0648		Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0647)		
23 21 16 00-0649	EA	1/2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,302.27 13.27	15.61
23 21 16 00-0650	EA	3/4" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,310.01 15.59	18.17
23 21 16 00-0651	EA	1" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,319.97 18.58	21.62
23 21 16 00-0652	EA	1-1/2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,593.58 23.38	27.31
23 21 16 00-0653	EA	2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,604.91 26.78	31.21
23 21 16 00-0654	EA	3" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	8,065.98 38.05	44.59
23 21 16 00-0655	EA	4" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	10,639.54 50.15	58.52
23 21 16 00-0656		Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0647)		
23 21 16 00-0657	EA	1/2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,585.79 13.27	15.61
23 21 16 00-0658	EA	3/4" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,593.53 15.59	18.17
23 21 16 00-0659	EA	1" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,603.49 18.58	21.62
23 21 16 00-0660	EA	1-1/2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	5,601.68 23.38	27.31

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21**23**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0661 EA 2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	5,613.01 26.78	31.21
23 21 16 00-0662 EA 3" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	10,961.57 38.05	44.59
23 21 16 00-0663 EA 4" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	16,490.66 50.15	58.52
23 21 16 00-0664 Flanged, Duplex, Plastic Basket Strainers (23 21 16 00-0615)		
23 21 16 00-0665 Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0664)		
23 21 16 00-0666 EA 1/2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,393.09 25.08	41.79
23 21 16 00-0667 EA 3/4" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,420.95 33.44	55.73
23 21 16 00-0668 EA 1" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,504.49 58.50	97.53
23 21 16 00-0669 EA 1-1/2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,872.31 66.88	111.47
23 21 16 00-0670 EA 2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,909.08 77.91	129.86
23 21 16 00-0671 EA 3" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	8,459.20 71.15	189.50
23 21 16 00-0672 EA 4" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	11,227.94 119.43	317.68
23 21 16 00-0673 Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0664)		
23 21 16 00-0674 EA 1/2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,700.55 25.07	41.79
23 21 16 00-0675 EA 3/4" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,728.39 33.43	55.73
23 21 16 00-0676 EA 1" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	3,811.98 58.50	97.53
23 21 16 00-0677 EA 1-1/2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	5,945.98 66.88	111.47
23 21 16 00-0678 EA 2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	5,982.75 77.91	129.86
23 21 16 00-0679 EA 3" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	13,425.76 71.15	189.50
23 21 16 00-0680 EA 4" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... <i>For Work In Restricted Working Space, Add</i>	17,429.89 119.43	317.68
23 21 16 00-0681 Plastic Strainer Baskets (23 21 16 00-0546)		
23 21 16 00-0682 Polyvinyl Chloride (PVC) Strainer Baskets (23 21 16 00-0681)		
23 21 16 00-0683 EA 1/2", 3/4" Or 1" Polyvinyl Chloride (PVC) Strainer Basket.....	200.86	
23 21 16 00-0684 EA 1-1/2", Or 2" Polyvinyl Chloride (PVC) Strainer Basket.....	246.38	
23 21 16 00-0685 EA 3" Polyvinyl Chloride (PVC) Strainer Basket.....	552.94	
23 21 16 00-0686 EA 4" Polyvinyl Chloride (PVC) Strainer Basket.....	627.52	
23 21 16 00-0687 Chlorinated Polyvinyl Chloride (CPVC) Strainer Baskets (23 21 16 00-0681)		
23 21 16 00-0688 EA 1/2", 3/4" Or 1" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	309.72	
23 21 16 00-0689 EA 1-1/2" Or 2" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	387.82	
23 21 16 00-0690 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	861.82	
23 21 16 00-0691 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	956.09	
23 21 23 Hydronic Pumps (23 21)		
23 21 23 13 In-Line Centrifugal Hydronic Pumps (23 21 23)		
23 21 23 13-0001 Cast Iron Single Stage In-Line Centrifugal Pump (23 21 23 13) Note: For general service, 125 LB flanged, 3550 RPM TEFC motor. Includes packed stuffing boxes and ductile iron case.		
23 21 23 13-0002 EA 3 HP, 50 GPM At 100' Head, Single Stage Cast Iron In-Line Circulating Pump..... <i>For Mechanical Seal, Add</i> <i>For Cast Steel Case, Add</i>	6,124.15 418.51 941.66	297.72
23 21 23 13-0003 EA 5 HP, 75 GPM At 100' Head, Single Stage Cast Iron In-Line Circulating Pump..... <i>For Mechanical Seal, Add</i> <i>For Cast Steel Case, Add</i>	6,688.88 448.66 1,009.48	360.34
23 21 23 13-0004 EA 7-1/2 HP, 100 GPM At 150' Head, Single Stage Cast Iron In-Line Circulating Pump..... <i>For Mechanical Seal, Add</i> <i>For Cast Steel Case, Add</i>	7,731.99 515.90 1,160.77	428.11
23 21 23 13-0005 EA 10 HP, 125 GPM At 150' Head, Single Stage Cast Iron In-Line Circulating Pump..... <i>For Mechanical Seal, Add</i> <i>For Cast Steel Case, Add</i>	8,664.79 556.30 1,251.67	570.80
23 21 23 13-0006 EA 15 HP, 150 GPM At 200' Head, Single Stage Cast Iron In-Line Circulating Pump..... <i>For Mechanical Seal, Add</i> <i>For Cast Steel Case, Add</i>	9,931.72 645.21 1,451.72	622.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 13-0007 EA 30 HP, 200 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump For Mechanical Seal, Add For Cast Steel Case, Add	14,834.76 1,022.52 2,300.67	684.76
23 21 23 13-0008 EA 40 HP, 250 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump For Mechanical Seal, Add For Cast Steel Case, Add	17,434.65 1,189.45 2,676.25	855.19
23 21 23 13-0009 EA 50 HP, 300 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump For Mechanical Seal, Add For Cast Steel Case, Add	24,243.18 1,704.80 3,835.79	977.35
23 21 23 13-0010 EA 75 HP, 400 GPM At 400' Head, Single Stage Cast Iron In-Line Circulating Pump For Mechanical Seal, Add For Cast Steel Case, Add	30,824.43 2,220.14 4,995.33	1,024.17
23 21 23 13-0011 EA 100 HP, 600 GPM At 400' Head, Single Stage Cast Iron In-Line Circulating Pump For Mechanical Seal, Add For Cast Steel Case, Add	33,667.48 2,377.36 5,349.05	1,316.51
23 21 23 13-0012 Cast Iron, Single Stage, Vertical In-Line, Close Coupled, Pump (23 21 23 13) Note: For general service, 125 LB flanged, 1,800 RPM TEFC motor.		
23 21 23 13-0013 EA 1/2 HP, 1-1/2" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0014 EA 3/4 HP, 2" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0015 EA 1 HP, 3" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0016 EA 1-1/2 HP, 3" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0017 EA 2 HP, 4" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0018 EA 3 HP, 5" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0019 EA 5 HP, 6" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0020 EA 7-1/2 HP, 6" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0021 EA 10 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0022 EA 15 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0023 EA 20 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0024 EA 25 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0025 EA 30 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0026 EA 40 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0027 EA 50 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0028 EA 60 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0029 EA 75 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump 23 21 23 13-0030 EA 100 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	2,067.36 3,645.38 3,962.49 4,167.68 5,444.35 5,600.68 6,404.15 7,455.11 9,583.08 11,193.06 14,367.05 15,158.40 15,949.76 18,928.54 20,538.44 22,748.74 27,046.06 31,113.41	170.94 195.37 218.78 237.87 260.46 287.87 341.87 420.82 455.82 482.62 512.80 529.95 546.99 586.11 695.04 1,003.90 2,007.79 2,409.35
23 21 23 13-0031 Cast Iron Construction Straight Centrifugal Circulating Pump (23 21 23 13) Note: Includes stainless steel impeller and buna-N elastomer.		
23 21 23 13-0032 1-1/4" x 1" High Head (23 21 23 13-0031)		
23 21 23 13-0033 EA 3/4 HP High Head Straight Cast Iron Centrifugal Pump, 1 Phase 23 21 23 13-0034 EA 3/4 HP High Head Straight Cast Iron Centrifugal Pump, 3 Phase 23 21 23 13-0035 EA 1.5 HP High Head Straight Cast Iron Centrifugal Pump, 1 Phase 23 21 23 13-0036 EA 1.5 HP High Head Straight Cast Iron Centrifugal Pump, 3 Phase	964.94 989.03 1,082.05 1,122.79	326.38 326.38 377.18 377.18
23 21 23 13-0037 1-1/2" x 1-1/4" High Head (23 21 23 13-0031)		
23 21 23 13-0038 EA 2 HP High Head Straight Cast Iron Centrifugal Pump, 1 Phase 23 21 23 13-0039 EA 2 HP High Head Straight Cast Iron Centrifugal Pump, 3 Phase 23 21 23 13-0040 EA 3 HP High Head Straight Cast Iron Centrifugal Pump, 1 Phase 23 21 23 13-0041 EA 3 HP High Head Straight Cast Iron Centrifugal Pump, 3 Phase	1,209.81 1,243.30 1,359.14 1,391.72	395.85 395.85 434.74 434.74
23 21 23 13-0042 Stainless Steel Construction Straight Centrifugal Circulating Pump (23 21 23 13) Note: Includes stainless steel impeller and viton elastomer.		
23 21 23 13-0043 1-1/4" x 1" High Head (23 21 23 13-0042)		
23 21 23 13-0044 EA 3/4 HP High Head Straight Stainless Steel Centrifugal Pump, 1 Phase 23 21 23 13-0045 EA 3/4 HP High Head Straight Stainless Steel Centrifugal Pump, 3 Phase 23 21 23 13-0046 EA 1.5 HP High Head Straight Stainless Steel Centrifugal Pump, 1 Phase 23 21 23 13-0047 EA 1.5 HP High Head Straight Stainless Steel Centrifugal Pump, 3 Phase	1,185.58 1,202.80 1,304.91 1,344.81	326.38 326.38 377.18 377.18
23 21 23 13-0048 1-1/2" x 1-1/4" High Head (23 21 23 13-0042)		
23 21 23 13-0049 EA 2 HP High Head Straight Stainless Steel Centrifugal Pump, 1 Phase 23 21 23 13-0050 EA 2 HP High Head Straight Stainless Steel Centrifugal Pump, 3 Phase 23 21 23 13-0051 EA 3 HP High Head Straight Stainless Steel Centrifugal Pump, 1 Phase 23 21 23 13-0052 EA 3 HP High Head Straight Stainless Steel Centrifugal Pump, 3 Phase	1,501.46 1,535.13 1,650.94 1,684.57	395.85 395.85 434.74 434.74
23 21 23 16 Base-Mounted, Centrifugal Hydronic Pumps (23 21 23) See CSI section 26 29 23 00-0000 for variable frequency motor controllers.		
23 21 23 16-0001 Single Stage, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16) Note: 1800 RPM, welded steel baseplate, internally flushed mechanical seal, bronze wear ring, galvanized drip pan, and 3 phase 230/460V premium efficiency motor. Bell & Gossett 1510 Series.		
23 21 23 16-0002 EA 5 HP, 50 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 1-1/4 BC, BF, 184T) 23 21 23 16-0003 EA 7.5 HP, 100 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 1-1/2 BC, BF, 213T)	6,372.64 7,154.50	325.44 325.85



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 16-0004	EA	10 HP, 225 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 2 E, BF, 215T).....	9,438.80	428.11
23 21 23 16-0005	EA	15 HP, 250 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 2 E, BF, 254T).....	10,327.52	526.66
23 21 23 16-0006	EA	15 HP, 300 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 3 G, BF, 254T).....	11,577.25	526.66
23 21 23 16-0007	EA	20 HP, 350 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 3 E, BF, 256T).....	11,245.48	570.80
23 21 23 16-0008	EA	20 HP, 500 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 4 E, BF, 256T).....	11,956.00	570.80
23 21 23 16-0009	EA	25 HP, 600 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 4 E, BF, 284T).....	13,064.44	598.53
23 21 23 16-0010	EA	30 HP, 750 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 5 E, BF, 286T).....	14,523.11	760.74
23 21 23 16-0011	EA	40 HP, 1,050 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 5 E, BF, 324T).....	15,355.92	855.19
23 21 23 16-0012	EA	60 HP, 1,500 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 6 E, BF, 364T).....	23,613.66	2,110.67
23 21 23 16-0013	EA	75 HP, 2,000 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 8 G, BF, 365T).....	34,288.47	2,532.35
23 21 23 16-0014	EA	100 HP, 3,000 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 8 G, BF, 404TS).....	38,856.53	3,165.43
23 21 23 16-0015 Single Stage, Vertical Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)				
Note: 125 LB flanged, 1750 RPM drip-proof motor, common base plate 100' head. Standard seal and motor. For general service.				
23 21 23 16-0016	EA	1-1/2 HP, 40 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	6,120.07	239.20
		For 300 LB Flanges, Add	1,422.18	
23 21 23 16-0017	EA	2 HP, 50 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	7,802.35	256.66
		For 300 LB Flanges, Add	1,854.34	
23 21 23 16-0018	EA	3 HP, 90 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	9,780.85	274.11
		For 300 LB Flanges, Add	2,331.14	
23 21 23 16-0019	EA	5 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	11,406.65	325.44
		For 300 LB Flanges, Add	2,705.00	
23 21 23 16-0020	EA	7-1/2 HP, 150 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	11,988.19	325.85
		For 300 LB Flanges, Add	2,843.05	
23 21 23 16-0021	EA	10 HP, 200 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	12,524.90	428.11
		For 300 LB Flanges, Add	2,938.73	
23 21 23 16-0022	EA	10 HP, 225 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	12,805.02	428.11
		For 300 LB Flanges, Add	3,008.76	
23 21 23 16-0023	EA	10 HP, 250 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	13,425.50	428.11
		For 300 LB Flanges, Add	3,163.88	
23 21 23 16-0024	EA	15 HP, 300 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	15,583.22	526.66
		For 300 LB Flanges, Add	3,658.89	
23 21 23 16-0025	EA	17-1/2 HP, 350 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	15,823.97	526.25
		For 300 LB Flanges, Add	3,709.52	
23 21 23 16-0026	EA	20 HP, 500 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	16,680.62	570.80
		For 300 LB Flanges, Add	3,913.50	
23 21 23 16-0027	EA	25 HP, 600 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	18,304.66	598.53
		For 300 LB Flanges, Add	4,299.00	
23 21 23 16-0028	EA	30 HP, 750 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	20,225.57	760.74
		For 300 LB Flanges, Add	4,714.18	
23 21 23 16-0029	EA	40 HP, 1,050 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	22,944.52	855.19
		For 300 LB Flanges, Add	5,351.14	
23 21 23 16-0030	EA	60 HP, 1,500 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	35,904.20	2,110.67
		For 300 LB Flanges, Add	7,958.59	
23 21 23 16-0031	EA	75 HP, 2,000 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	42,702.99	2,532.35
		For 300 LB Flanges, Add	9,454.79	
23 21 23 16-0032	EA	100 HP, 3,000 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case.....	52,081.68	3,165.43
		For 300 LB Flanges, Add	11,494.23	
23 21 23 16-0033 Single Stage, Horizontal Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)				
Note: 125 LB flanged, 1750 RPM drip-proof motor, common base plate 100' head. Standard seal and motor. For general service.				
23 21 23 16-0034	EA	1-1/2 HP, 40 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	5,879.38	239.20
		For 300 LB Flanges, Add	1,362.01	
23 21 23 16-0035	EA	2 HP, 50 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	6,035.48	256.66
		For 300 LB Flanges, Add	1,393.36	
23 21 23 16-0036	EA	3 HP, 90 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	6,191.71	274.11
		For 300 LB Flanges, Add	1,424.73	
23 21 23 16-0037	EA	5 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	6,725.75	280.27
		For 300 LB Flanges, Add	1,555.21	
23 21 23 16-0038	EA	7-1/2 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	10,972.67	325.44
		For 300 LB Flanges, Add	2,596.51	
23 21 23 16-0039	EA	10 HP, 250 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	13,292.52	428.11
		For 300 LB Flanges, Add	3,156.68	
23 21 23 16-0040	EA	15 HP, 350 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	14,946.85	461.98
		For 300 LB Flanges, Add	3,544.22	
23 21 23 16-0041	EA	20 HP, 500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	15,806.58	513.31
		For 300 LB Flanges, Add	3,714.73	
23 21 23 16-0042	EA	25 HP, 750 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	17,603.32	512.58
		For 300 LB Flanges, Add	4,170.38	
23 21 23 16-0043	EA	40 HP, 1,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	19,721.90	658.74
		For 300 LB Flanges, Add	4,634.19	
23 21 23 16-0044	EA	50 HP, 1,500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	25,134.12	844.49
		For 300 LB Flanges, Add	5,876.55	
23 21 23 16-0045	EA	75 HP, 2,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case.....	32,079.27	1,054.76
		For 300 LB Flanges, Add	7,511.09	
23 21 23 16-0046	EA	3,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case, 100 HP.....	40,342.17	1,266.17
		For 300 LB Flanges, Add	9,475.07	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 16-0047	EA		150 HP, 3,500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case	47,810.17	1,406.35
			<i>For 300 LB Flanges, Add</i>	11,274.24	
23 21 23 16-0048	EA		200 HP, 4,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case	55,025.92	1,808.82
			<i>For 300 LB Flanges, Add</i>	12,884.37	
23 21 23 16-0049			Two Stage, Horizontal Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)		
			Note: 3500 RPM drip-proof motor, common base plate 500' head. Packed stuffing box and boiler feed water service.		
23 21 23 16-0050	EA		40 HP, 100 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case	37,391.15	526.66
			<i>For 300 LB Flanges, Add</i>	9,110.87	
23 21 23 16-0051	EA		50 HP, 200 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case	40,364.97	570.80
			<i>For 300 LB Flanges, Add</i>	9,834.59	
23 21 23 16-0052	EA		75 HP, 300 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case	53,901.98	774.23
			<i>For 300 LB Flanges, Add</i>	13,120.98	
23 21 23 16-0053	EA		100 HP, 400 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case	62,935.91	1,063.85
			<i>For 300 LB Flanges, Add</i>	15,246.52	
23 21 23 16-0054	EA		200 HP, 800 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case	87,325.18	1,418.46
			<i>For 300 LB Flanges, Add</i>	21,181.35	
23 21 23 16-0055			Cast Iron Close Coupling Pumps (23 21 23 16)		
23 21 23 16-0056			Foot Mounted Cast Iron Close Coupled Pumps (23 21 23 16-0055)		
23 21 23 16-0057	EA		3 HP, 90 GPM At 50' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 1-1/2 AC, BF, 182JM)	5,701.02	307.99
23 21 23 16-0058	EA		3 HP, 150 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 2-1/2 AB, BF, 182JM)	6,212.14	307.99
23 21 23 16-0059	EA		5 HP, 225 GPM At 50' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 2-1/2 BB, BF, 184JM)	6,912.20	325.11
23 21 23 16-0060	EA		5 HP, 350 GPM At 25' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 4 AC, BF, 184JM)	7,364.35	325.11
23 21 23 16-0061	EA		7.5 HP, 350 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 4 AC, BF, 213JM)	8,471.63	341.87
23 21 23 16-0062	EA		10 HP, 600 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 5 A, BF, 215JM)	10,038.79	411.52
23 21 23 16-0063	EA		15 HP, 1,000 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 254JP)	13,186.93	506.95
23 21 23 16-0064	EA		20 HP, 1,350 GPM At 30' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 256JP)	14,115.26	548.69
23 21 23 16-0065	EA		25 HP, 1,550 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 284JP)	16,358.81	592.57
23 21 23 16-0066			Pumps, Polypropylene Body, Housing And Impeller, 115/230 Volt (23 21 23 16)		
23 21 23 16-0067	EA		1/3 HP, Centrifugal Pump, Polypropylene Body	1,430.22	159.06
23 21 23 16-0068	EA		1/2 HP, Centrifugal Pump, Polypropylene Body	1,525.87	168.65
23 21 23 16-0069	EA		3/4 HP, Centrifugal Pump, Polypropylene Body	1,781.26	179.57
23 21 23 16-0070	EA		1 HP, Centrifugal Pump, Polypropylene Body	1,229.36	195.07
23 21 23 16-0071			Pumps, Polyvinylidene Fluoride (PVDF) Body, Housing And Impeller, 115/230 Volt (23 21 23 16)		
23 21 23 16-0072	EA		1/2 HP, Centrifugal Pump, Polyvinylidene Fluoride (PVDF) Body	1,171.09	168.65
23 21 23 16-0073	EA		3/4 HP, Centrifugal Pump, Polyvinylidene Fluoride (PVDF) Body	1,255.46	179.57
23 21 23 16-0074	EA		1 HP, Centrifugal Pump, Polyvinylidene Fluoride (PVDF) Body	1,372.69	195.07
23 21 23 16-0075			Multi Stage, Stainless Steel, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)		
			Note: 3500RPM, 3 phase 208 to 240/480 Volt. (Goulds EHM)		
23 21 23 16-0076	EA		2 HP, 30 GPM At 140' Head, Stainless Steel Booster Pump (Goulds 5HM05N15T6PBQE)	2,670.32	307.99
23 21 23 16-0077			Multi Stage, Stainless Steel, Vertical Centrifugal Pump (23 21 23 16)		
			Note: Suction And Discharge Ports On The Same Level		
23 21 23 16-0078	EA		7.5 HP, 90.3 GPM @ 206' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN15-4)	9,055.00	438.37
23 21 23 16-0079	EA		15 HP, 159 GPM @ 250' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN32-4)	12,411.97	542.06
23 21 23 16-0080	EA		25 HP, 239 GPM @ 212' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN64-2)	15,204.99	683.74
23 21 23 16-0081			Pump, Stainless Steel Centrifugal Pump (23 21 23 16)		
23 21 23 16-0082			Pump, 304 Stainless Steel Centrifugal Pump (23 21 23 16-0081)		
			Note: Carbon/ceramic seals with viton elastomer, 3450 RPM.		
23 21 23 16-0083	EA		3/4 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 1 Phase	914.17	165.29
23 21 23 16-0084	EA		1 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 1 Phase	1,032.39	210.46
23 21 23 16-0085	EA		1-1/2 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 1 Phase	1,183.17	256.66
23 21 23 16-0086	EA		2 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 1 Phase	1,369.02	320.82
23 21 23 16-0087	EA		1-1/2 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 3 Phase	1,189.09	256.66



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 16-0088	EA	2 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 3 Phase	1,366.48	320.82	
23 21 23 16-0089	EA	3 HP Stainless Steel Centrifugal Pump, 1-1/4" In, 1" Discharge, Threaded, 3 Phase	1,526.13	380.37	
23 21 23 16-0090	EA	3 HP Stainless Steel Centrifugal Pump, 2" In, 1-1/4" Discharge, Flanged, 3 Phase	2,165.90	513.31	
23 21 23 16-0091	EA	5 HP Stainless Steel Centrifugal Pump, 2" In, 1-1/4" Discharge, Flanged, 3 Phase	2,792.14	756.63	
23 21 23 16-0092	EA	7-1/2 HP Stainless Steel Centrifugal Pump, 2" In, 1-1/4" Discharge, Flanged, 3 Phase	3,577.64	1,061.43	
23 21 23 16-0093	EA	5 HP Stainless Steel Centrifugal Pump, 2-1/2" In, 1-1/2" Discharge, Flanged, 3 Phase	2,755.77	756.63	
23 21 23 16-0094	EA	7-1/2 HP Stainless Steel Centrifugal Pump, 2-1/2" In, 1-1/2" Discharge, Flanged, 3 Phase	3,495.61	1,061.43	
23 21 23 16-0095	EA	7-1/2 HP Stainless Steel Centrifugal Pump, 2-1/2" In, 2" Discharge, Flanged, 3 Phase	3,508.29	1,061.43	
23 21 23 16-0096 Pump, 316 Stainless Steel Centrifugal Pump With Viton Elastomer (23 21 23 16-0081)					
23 21 23 16-0097	EA	1/2 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 1 Phase	830.94	128.33	
23 21 23 16-0098	EA	3/4 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 1 Phase	929.03	165.29	
23 21 23 16-0099	EA	3/4 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 3 Phase	961.09	165.29	
23 21 23 16-0100	EA	1 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 1 Phase	1,037.50	210.46	
23 21 23 16-0101	EA	1 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 3 Phase	1,068.91	210.46	
23 21 23 16-0102	EA	1-1/2 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 1 Phase	1,152.52	256.66	
23 21 23 16-0103	EA	1-1/2 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 3 Phase	1,196.01	256.66	
23 21 23 16-0104	EA	2 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 1 Phase	1,301.24	320.82	
23 21 23 16-0105	EA	2 HP Stainless Steel Centrifugal Pump, 1" In/Out, Threaded, 3 Phase	1,342.47	320.82	
23 21 23 23 Vertical-Turbine Hydronic Pumps (23 21 23)					
See CSI section 26 29 23 00-0000 for variable frequency motor controllers.					
23 21 23 23-0001 Cast Iron, Bronze Fitted Vertical Turbine Wet Sump Pumps (23 21 23 23)					
Note: For water supply, cooling towers and process liquids. Multi-stage 1750 RPM drip-proof motor. For 1' to 5' sump depth.					
23 21 23 23-0002	EA	2 HP, 50 GPM Cast Iron Turbine Pump, 3" Discharge 100' Head, 10 Stage	11,919.84	760.74	
For Each Extra Column Assembly <60", Add			999.22		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			431.17		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			311.97		
23 21 23 23-0003	EA	3 HP, 100 GPM Cast Iron Turbine Pump, 4" Discharge 100' Head, 7 Stage	13,762.66	855.19	
For Each Extra Column Assembly <60", Add			1,147.01		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			504.51		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			366.88		
23 21 23 23-0004	EA	15 HP, 250 GPM Cast Iron Turbine Pump, 6" Discharge 150' Head, 5 Stage	16,659.67	844.49	
For Each Extra Column Assembly <60", Add			1,393.34		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			605.82		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			439.23		
23 21 23 23-0005	EA	25 HP, 500 GPM Cast Iron Turbine Pump, 6" Discharge 150' Head, 3 Stage	19,653.68	974.51	
For Each Extra Column Assembly <60", Add			1,634.91		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			723.53		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			527.00		
23 21 23 23-0006	EA	50 HP, 1,000 GPM Cast Iron Turbine Pump, 8" Discharge 150' Head, 2 Stage	24,217.46	1,054.76	
For Each Extra Column Assembly <60", Add			2,005.23		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			900.87		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			658.69		
23 21 23 23-0007	EA	100 HP, 2,000 GPM Cast Iron Turbine Pump, 10" Discharge 150' Head, 3 Stage	31,853.02	1,266.17	
For Each Extra Column Assembly <60", Add			2,629.64		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			1,192.72		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			874.19		
23 21 23 23-0008	EA	150 HP, 3,000 GPM Cast Iron Turbine Pump, 10" Discharge 150' Head, 2 Stage	38,120.89	1,582.72	
For Each Extra Column Assembly <60", Add			3,151.42		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			1,423.09		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			1,041.88		
23 21 23 23-0009	EA	200 HP, 4,000 GPM Cast Iron Turbine Pump, 12" Discharge 150' Head, 2 Stage	61,095.68	1,808.82	
For Each Extra Column Assembly <60", Add			5,003.94		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			2,327.55		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			1,716.59		
23 21 23 23-0010	EA	250 HP, 6,000 GPM Cast Iron Turbine Pump, 14" Discharge 150' Head, 2 Stage	80,126.38	2,110.67	
For Each Extra Column Assembly <60", Add			6,545.77		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			3,069.39		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			2,268.13		
23 21 23 23-0011	EA	300 HP, 10,000 GPM Cast Iron Turbine Pump, 18" Discharge 100' Head, 2 Stage	112,196.12	2,532.35	
For Each Extra Column Assembly <60", Add			9,138.48		
For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add			4,325.05		
For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add			3,203.09		
23 21 29 Automatic Condensate Pump Units (23 21)					
23 21 29 00-0001 Automatic Shallow Pan Condensate Pump (23 21 29)					
23 21 29 00-0002	EA	1/150 HP, 205 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 1-ABS)	213.99	33.36	
23 21 29 00-0003	EA	1/40 HP, 300 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 2-ABS)	232.40	33.36	
23 21 29 00-0004	EA	1/12 HP, 310 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 3-ABS)	363.87	38.49	
23 21 29 00-0005 Automatic Condensate Pump With Tank (23 21 29)					
23 21 29 00-0006	EA	1/20 HP Automatic Condensate Pump With Tank (Hartell KT-15-1UL)	116.54	25.67	
23 21 29 00-0007	EA	1/30 HP Automatic Condensate Pump With Tank (Little Giant VCMX-20)	124.41	25.67	
23 21 29 00-0008	EA	1/50 HP, 200 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-14ULS)	207.96	33.36	
23 21 29 00-0009	EA	1/18 HP, 270 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-24ULS)	224.25	38.49	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 29 00-0010	EA	1/5 HP, 450 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-45ULS) Condensate Pump.....	416.99	43.64

23 22 Steam and Condensate Piping and Pumps (23 20)**23 22 16 Steam and Condensate Heating Piping Specialties (23 22)**

23 22 16 00-0001		High Temperature Safety Relief Valve (23 22 16) Note: Used in steam or water boiler, heating systems and unfired pressure vessel applications.		
23 22 16 00-0002		Cast Iron Body Safety Valve, Steam Or Water (23 22 16 00-0001) Note: Variable set points to 500 psig pressure, 400 Degree F temperature range.		
23 22 16 00-0003		Threaded (23 22 16 00-0002)		
23 22 16 00-0004	EA	3/4" x 1" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	498.15	16.71
23 22 16 00-0005	EA	1" x 1-1/4" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	520.92	19.78
23 22 16 00-0006	EA	1-1/4" x 1-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	574.04	25.07
23 22 16 00-0007	EA	1-1/2" x 2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	708.59	27.86
23 22 16 00-0008	EA	2" x 2-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	907.43	34.26
23 22 16 00-0009	EA	2-1/2" x 2-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	1,410.57	39.00
23 22 16 00-0010	EA	3" x 3" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	1,528.20	44.85

23 22 16 00-0011		Flanged (23 22 16 00-0002)		
23 22 16 00-0012	EA	1-1/2" x 2-1/2" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	3,523.40	116.99
23 22 16 00-0013	EA	2" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	4,099.49	175.86
23 22 16 00-0014	EA	2-1/2" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	4,531.19	161.94
23 22 16 00-0015	EA	2-1/2" x 4" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	5,501.23	233.90
23 22 16 00-0016	EA	3" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	5,876.22	174.43
23 22 16 00-0017	EA	3" x 4" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	6,902.25	233.90
23 22 16 00-0018	EA	4" x 6" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	11,554.55	331.92
23 22 16 00-0019	EA	6" x 8" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	23,001.71	370.70

23 22 16 00-0020		Bronze Body Safety Valve, Threaded, Steam (23 22 16 00-0001) Note: Variable set points to 250 psig pressure, 400 Degree F temperature range. Valve also can be set for Air or Gas with variable set points to 300 psig pressure.		
23 22 16 00-0021	EA	3/4" x 3/4" Threaded Bronze Body Safety Relief Valve, Steam	542.63	15.32
23 22 16 00-0022	EA	3/4" x 1" Threaded Bronze Body Safety Relief Valve, Steam	555.62	16.71
23 22 16 00-0023	EA	1" x 1" Threaded Bronze Body Safety Relief Valve, Steam	650.58	18.38
23 22 16 00-0024	EA	1" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Steam	718.54	19.78
23 22 16 00-0025	EA	1-1/4" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Steam	831.50	22.29
23 22 16 00-0026	EA	1-1/4" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Steam	835.06	25.07
23 22 16 00-0027	EA	1-1/2" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Steam	939.64	26.46
23 22 16 00-0028	EA	1-1/2" x 2" Threaded Bronze Body Safety Relief Valve, Steam	1,024.22	27.86
23 22 16 00-0029	EA	2" x 2" Threaded Bronze Body Safety Relief Valve, Steam	1,423.85	31.20
23 22 16 00-0030	EA	2" x 2-1/2" Threaded Bronze Body Safety Relief Valve, Steam	1,556.06	34.26
23 22 16 00-0031	EA	2-1/2" x 2-1/2" Threaded Bronze Body Safety Relief Valve, Steam	1,857.13	39.00

23 22 16 00-0032		Bronze Body Safety Valve, Threaded, Water (23 22 16 00-0001) Note: Variable set points to 160 psig pressure, 250 Degree F temperature range.		
23 22 16 00-0033	EA	3/4" x 3/4" Threaded Bronze Body Safety Relief Valve, Water	253.39	15.32
23 22 16 00-0034	EA	3/4" x 1" Threaded Bronze Body Safety Relief Valve, Water	288.95	16.71
23 22 16 00-0035	EA	1" x 1" Threaded Bronze Body Safety Relief Valve, Water	401.43	18.38
23 22 16 00-0036	EA	1" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Water	442.11	19.78
23 22 16 00-0037	EA	1-1/4" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Water	641.08	22.29
23 22 16 00-0038	EA	1-1/2" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Water	865.71	26.46
23 22 16 00-0039	EA	2" x 2" Threaded Bronze Body Safety Relief Valve, Water	1,264.61	31.20

23 22 16 00-0040		Steam Temperature Regulator, Iron Body (23 22 16)		
23 22 16 00-0041		Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040) Note: Up to 150 PSI.		
23 22 16 00-0042	EA	1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,344.97	16.04
23 22 16 00-0043	EA	3/4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,414.62	21.61
23 22 16 00-0044	EA	1" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,877.57	26.63
23 22 16 00-0045	EA	1-1/4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,072.71	33.65
23 22 16 00-0046	EA	1-1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,126.29	38.66
23 22 16 00-0047	EA	2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,512.95	42.07
23 22 16 00-0048	EA	2-1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,196.22	77.06
23 22 16 00-0049	EA	3" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	4,158.57	84.03
23 22 16 00-0050	EA	4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	6,083.46	196.70
23 22 16 00-0051	EA	6" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	10,133.41	230.86

23 22 16 00-0052		Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)		
23 22 16 00-0053	EA	1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,994.80	16.04



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Steam and Condensate Piping and Pumps			23 22	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 16 00-0054	EA	3/4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,065.45	21.61
23 22 16 00-0055	EA	1" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,157.04	26.63
23 22 16 00-0056	EA	1-1/4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,581.88	33.65
23 22 16 00-0057	EA	1-1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,765.64	38.66
23 22 16 00-0058	EA	2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,140.78	42.07
23 22 16 00-0059	EA	2-1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	4,811.81	77.06
23 22 16 00-0060	EA	3" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	5,761.33	84.03
23 22 16 00-0061	EA	4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	7,962.40	196.70
23 22 16 00-0062	EA	6" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	12,874.96	230.86
23 22 16 00-0063 Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)				
23 22 16 00-0064	EA	1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,719.34	16.04
23 22 16 00-0065	EA	3/4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	2,758.37	21.61
23 22 16 00-0066	EA	1" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,018.43	26.63
23 22 16 00-0067	EA	1-1/4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,286.32	33.65
23 22 16 00-0068	EA	1-1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,404.99	38.66
23 22 16 00-0069	EA	2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,841.41	42.07
23 22 16 00-0070	EA	2-1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	7,108.85	77.06
23 22 16 00-0071	EA	3" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	8,163.37	84.03
23 22 16 00-0072	EA	4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	10,314.25	196.70
23 22 16 00-0073	EA	6" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	14,473.51	230.86
23 22 16 00-0074 Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)				
23 22 16 00-0075	EA	1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,485.03	16.04
23 22 16 00-0076	EA	3/4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,520.24	21.61
23 22 16 00-0077	EA	1" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,822.39	26.63
23 22 16 00-0078	EA	1-1/4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	3,983.06	33.65
23 22 16 00-0079	EA	1-1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	4,136.20	38.66
23 22 16 00-0080	EA	2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	4,503.72	42.07
23 22 16 00-0081	EA	2-1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	7,491.69	77.06
23 22 16 00-0082	EA	3" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	8,581.84	84.03
23 22 16 00-0083	EA	4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	10,732.73	196.70
23 22 16 00-0084	EA	6" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body.....	14,891.99	230.86
23 22 16 00-0085 Steam Traps (23 22 16)				
23 22 16 00-0086 Inverted Bucket Steam Traps (23 22 16 00-0085)				
23 22 16 00-0087	EA	1/2" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	325.80	33.44
		For Work In Restricted Working Space, Add	20.06	
23 22 16 00-0088	EA	3/4" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	328.58	34.83
		For Work In Restricted Working Space, Add	20.90	
23 22 16 00-0089	EA	1" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	491.11	37.12
		For Work In Restricted Working Space, Add	22.29	
23 22 16 00-0090	EA	1-1/4" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	795.99	50.66
		For Work In Restricted Working Space, Add	30.40	
23 22 16 00-0091	EA	1-1/2" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	1,187.32	62.42
		For Work In Restricted Working Space, Add	37.15	
23 22 16 00-0092	EA	2" 250 PSI Inverted Bucket Cast Iron Steam Trap.....	1,512.74	92.89
		For Work In Restricted Working Space, Add	55.73	
23 22 16 00-0093 Float And Thermostatic Steam Traps (23 22 16 00-0085)				
23 22 16 00-0094	EA	3/4" 15 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	344.47	34.83
		For Work In Restricted Working Space, Add	20.90	
23 22 16 00-0095	EA	1" 15 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	455.31	37.15
		For Work In Restricted Working Space, Add	22.29	
23 22 16 00-0096	EA	1-1/4" 15 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	562.33	50.66
		For Work In Restricted Working Space, Add	30.40	
23 22 16 00-0097	EA	1-1/2" 15 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	825.45	61.92
		For Work In Restricted Working Space, Add	37.16	
23 22 16 00-0098	EA	2" 15 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	1,396.16	92.85
		For Work In Restricted Working Space, Add	55.73	
23 22 16 00-0099	EA	3" 30 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	440.14	34.83
		For Work In Restricted Working Space, Add	20.90	
23 22 16 00-0100	EA	1" 30 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	478.47	37.12
		For Work In Restricted Working Space, Add	22.29	
23 22 16 00-0101	EA	1-1/4" 30 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	625.47	50.66
		For Work In Restricted Working Space, Add	30.40	
23 22 16 00-0102	EA	1-1/2" 30 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	978.27	61.87
		For Work In Restricted Working Space, Add	37.16	
23 22 16 00-0103	EA	2" 30 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	1,537.20	92.88
		For Work In Restricted Working Space, Add	55.73	
23 22 16 00-0104	EA	3/4" 75 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	572.76	34.83
		For Work In Restricted Working Space, Add	20.90	
23 22 16 00-0105	EA	1" 75 PSI Maximum Pressure Float And Thermostatic Steam Trap.....	638.45	37.15
		For Work In Restricted Working Space, Add	22.29	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 22 Steam and Condensate Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 16 00-0106 EA 1-1/4" 75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	972.81 30.40	50.66
23 22 16 00-0107 EA 1-1/2" 75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,169.63 37.16	61.87
23 22 16 00-0108 EA 2" 75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,935.04 55.73	92.89
23 22 16 00-0109 EA 3/4" 150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	581.18 20.90	34.83
23 22 16 00-0110 EA 1" 150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	638.45 22.29	37.15
23 22 16 00-0111 EA 1-1/4" 150 PSI Max Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	972.81 30.40	50.66
23 22 16 00-0112 EA 1-1/2" 150 PSI Max Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,169.63 37.16	61.87
23 22 16 00-0113 EA 2" 150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,935.04 55.73	92.88
23 22 16 00-0114 Thermostatic Steam Traps (23 22 16 00-0085)		
23 22 16 00-0115 EA 1/2" 25 PSI Maximum Pressure Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	164.54 20.06	33.44
23 22 16 00-0116 EA 3/4" 25 PSI Maximum Pressure Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	278.04 20.90	34.83
23 22 16 00-0117 EA 1" 25 PSI Maximum Pressure Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	344.23 22.29	37.12
23 22 16 00-0118 Thermodynamic Steam Traps (23 22 16 00-0085)		
23 22 16 00-0119 EA 3/8" 600 PSI Maximum Pressure Thermodynamic Steam Trap 23 22 16 00-0120 EA 1/2" 600 PSI Maximum Pressure Thermodynamic Steam Trap 23 22 16 00-0121 EA 3/4" 600 PSI Maximum Pressure Thermodynamic Steam Trap 23 22 16 00-0122 EA 1" 600 PSI Maximum Pressure Thermodynamic Steam Trap	369.31 525.78 652.74 876.31	30.10 33.44 34.83 37.12
23 22 16 00-0123 Steam Moisture Separator (23 22 16 00-0085)		
23 22 16 00-0124 EA 1/2" Steam Moisture Separator, Threaded (Spirax Sarco S1) 23 22 16 00-0125 EA 3/4" Steam Moisture Separator, Threaded (Spirax Sarco S1) 23 22 16 00-0126 EA 1" Steam Moisture Separator, Threaded (Spirax Sarco S1) 23 22 16 00-0127 EA 1-1/2" Steam Moisture Separator, Threaded (Spirax Sarco S2) 23 22 16 00-0128 EA 2" Steam Moisture Separator, Flanged (Spirax Sarco S3) 23 22 16 00-0129 EA 2-1/2" Steam Moisture Separator, Flanged (Spirax Sarco S3) 23 22 16 00-0130 EA 3" Steam Moisture Separator, Flanged (Spirax Sarco S3) 23 22 16 00-0131 EA 4" Steam Moisture Separator, Flanged (Spirax Sarco S3) 23 22 16 00-0132 EA 6" Steam Moisture Separator, Flanged (Spirax Sarco S3)	792.53 836.53 1,008.61 1,603.76 1,957.50 2,958.19 3,373.97 4,665.55 9,157.01	55.73 75.24 84.72 96.97 148.59 161.63 189.49 317.68 401.28
23 22 16 00-0133 Steam/Condensate Meter (23 22 16)		
Note: Meter shall be of the rotary volumetric type and sized on the maximum estimated steam demand.		
23 22 16 00-0134 EA 1" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	9,680.04 1,220.00 567.00 905.00 79.82 64.52	92.34
23 22 16 00-0135 EA 2" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	10,917.31 1,220.00 567.00 905.00 79.82 64.52	108.51
23 22 16 00-0136 EA 2-1/2" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	11,560.06 1,220.00 567.00 905.00 79.82 64.52	134.66
23 22 16 00-0137 EA 3" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	12,224.36 1,220.00 567.00 905.00 79.82 64.52	177.00
23 22 16 00-0138 EA 4" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	13,705.45 1,220.00 567.00 905.00 79.82 64.52	274.98
23 22 16 00-0139 EA 6" Steam/Condensate Meter <i>For Steam Meter Pressure-Compensated Counter, Add</i> <i>For Contactor Used For Dial Counter, Add</i> <i>For Wall Or Panel Mounted Remote Totalizer With Contactor, Add</i> <i>For Direct Reading Pressure Gauge, Add</i> <i>For Direct Reading Thermometer, Stainless Steel Case With Trim, Add</i>	23,596.23 1,220.00 567.00 905.00 79.82 64.52	347.83



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Steam and Condensate Piping and Pumps			23 22	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 22 16 00-0140	EA	8" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	24,359.96 1,220.00 567.00 905.00 79.82 64.52	439.15
23 22 16 00-0141	EA	10" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	25,404.10 1,220.00 567.00 905.00 79.82 64.52	538.68
23 22 16 00-0142	EA	12" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	26,537.34 1,220.00 567.00 905.00 79.82 64.52	654.11
23 22 16 00-0143	EA	14" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	28,177.12 1,220.00 567.00 905.00 79.82 64.52	769.53
23 22 16 00-0144	EA	16" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	29,123.99 1,220.00 567.00 905.00 79.82 64.52	846.49

23 22 23 Steam Condensate Pumps (23 22)

23 22 23 13 Electric-Driven Steam Condensate Pumps (23 22 23)

23 22 23 13-0001 Simplex Condensate Pumps And Motors (23 22 23 13)

Note: Cast iron receiver, float switch.

23 22 23 13-0002 20 PSI Discharge Pressure (23 22 23 13-0001)

23 22 23 13-0003	EA	3 To 6 GPM Simplex Condensate Pump And 1/3 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	1,892.20	522.56
23 22 23 13-0004	EA	9 To 12 GPM Simplex Condensate Pump And 1/3 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	2,407.94	536.93
23 22 23 13-0005	EA	15 GPM Simplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	2,520.23	572.86
23 22 23 13-0006	EA	22.5 GPM Simplex Condensate Pump And 1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	2,766.53	579.02
23 22 23 13-0007	EA	30 GPM Simplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	3,088.39	630.35
23 22 23 13-0008	EA	37.5 GPM Simplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	4,489.66	630.35
23 22 23 13-0009	EA	45 GPM Simplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	4,569.74	673.47
23 22 23 13-0010	EA	60 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	5,554.19	704.27
23 22 23 13-0011	EA	75 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure.....	5,614.86	735.07

23 22 23 13-0012 30 PSI Discharge Pressure (23 22 23 13-0001)

23 22 23 13-0013	EA	3 To 6 GPM Simplex Condensate Pump And 1/2 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	2,164.76	558.48
23 22 23 13-0014	EA	9 To 12 GPM Simplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	2,794.03	572.86
23 22 23 13-0015	EA	15 GPM Simplex Condensate Pump And 3/4 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	2,903.91	610.85
23 22 23 13-0016	EA	22.5 GPM Simplex Condensate Pump And 1 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	3,350.51	660.12
23 22 23 13-0017	EA	30 To 37.5 GPM Simplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	4,569.74	674.50
23 22 23 13-0018	EA	45 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	4,696.94	698.11
23 22 23 13-0019	EA	60 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	4,842.44	735.07
23 22 23 13-0020	EA	75 GPM Simplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure.....	5,605.48	782.29

23 22 23 13-0021 40 PSI Discharge Pressure (23 22 23 13-0001)

23 22 23 13-0022	EA	3 To 6 GPM Simplex Condensate Pump And 1 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure.....	2,415.96	640.61
23 22 23 13-0023	EA	9 To 15 GPM Simplex Condensate Pump And 1 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure.....	3,028.51	691.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 22 Steam and Condensate Piping and Pumps**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 23 13-0024	EA	22.5 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	3,533.36	683.74
23 22 23 13-0025	EA	30 To 37.5 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,674.68	698.11
23 22 23 13-0026	EA	45 GPM Simplex Condensate Pump And 2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,776.53	727.89
23 22 23 13-0027	EA	60 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,614.86	735.07
23 22 23 13-0028	EA	75 GPM Simplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,700.09	782.29
23 22 23 13-0029 50 PSI Discharge Pressure (23 22 23 13-0001)				
23 22 23 13-0030	EA	3 To 6 GPM Simplex Condensate Pump And 2 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	4,463.64	694.00
23 22 23 13-0031	EA	9 To 15 GPM Simplex Condensate Pump And 2 HP Motor With 13.6 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	3,268.69	708.38
23 22 23 13-0032	EA	22.5 GPM Simplex Condensate Pump And 2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	3,738.72	713.51
23 22 23 13-0033	EA	30 To 45 GPM Simplex Condensate Pump And 3 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	4,860.63	776.13
23 22 23 13-0034	EA	60 To 75 GPM Simplex Condensate Pump And 5 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	7,600.86	836.71
23 22 23 13-0035 Duplex Condensate Pumps And Motors (23 22 23 13)				
Note: Cast iron receiver, float switch, alternator assembly.				
23 22 23 13-0036 20 PSI Discharge Pressure (23 22 23 13-0035)				
23 22 23 13-0037	EA	9 To 12 GPM Duplex Condensate Pump And 1/3 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	3,093.78	701.19
23 22 23 13-0038	EA	15 GPM Duplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	3,283.19	769.97
23 22 23 13-0039	EA	22.5 GPM Duplex Condensate Pump And 1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	3,576.23	776.13
23 22 23 13-0040	EA	30 GPM Duplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	3,992.51	845.94
23 22 23 13-0041	EA	37.5 GPM Duplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	5,505.08	845.94
23 22 23 13-0042	EA	45 GPM Duplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	5,619.12	911.65
23 22 23 13-0043	EA	60 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	6,633.44	951.69
23 22 23 13-0044	EA	75 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	6,802.14	998.91
23 22 23 13-0045 30 PSI Discharge Pressure (23 22 23 13-0035)				
23 22 23 13-0046	EA	9 To 12 GPM Duplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	3,981.73	755.60
23 22 23 13-0047	EA	15 GPM Duplex Condensate Pump And 3/4 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	4,175.31	825.41
23 22 23 13-0048	EA	22.5 GPM Duplex Condensate Pump And 1 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	4,618.04	804.88
23 22 23 13-0049	EA	30 To 37.5 GPM Duplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	5,619.12	911.65
23 22 23 13-0050	EA	45 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	5,780.64	945.52
23 22 23 13-0051	EA	60 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	6,579.54	998.91
23 22 23 13-0052	EA	75 GPM Duplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	6,909.93	1,070.78
23 22 23 13-0053 40 PSI Discharge Pressure (23 22 23 13-0035)				
23 22 23 13-0054	EA	9 To 15 GPM Duplex Condensate Pump And 1 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,333.89	891.12
23 22 23 13-0055	EA	22.5 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,777.33	931.16
23 22 23 13-0056	EA	30 To 37.5 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,794.00	945.52
23 22 23 13-0057	EA	45 GPM Duplex Condensate Pump And 2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,963.81	992.75
23 22 23 13-0058	EA	60 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	6,803.26	998.91
23 22 23 13-0059	EA	75 GPM Duplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	6,936.65	1,070.78
23 22 23 13-0060 50 PSI Discharge Pressure (23 22 23 13-0035)				
23 22 23 13-0061	EA	9 To 15 GPM Duplex Condensate Pump And 2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	4,518.65	891.12



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Steam and Condensate Piping and Pumps			23 22

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 23 13-0062	EA		22.5 GPM Duplex Condensate Pump And 2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure.....	4,890.37	979.40
23 22 23 13-0063	EA		30 To 45 GPM Duplex Condensate Pump And 3 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure.....	6,098.31	1,063.59
23 22 23 13-0064	EA		60 To 75 GPM Duplex Condensate Pump And 5 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure.....	10,477.87	1,151.88

23 23 Refrigerant Piping (23 20)

23 23 13 Refrigerant Piping Valves (23 23)

23 23 13 00-0001 Ball Valves (23 23 13)

23 23 13 00-0002 Refrigeration Ball Valves, Sweat, 1400 Series (23 23 13 00-0001)

23 23 13 00-0003	EA	3/8" Refrigeration Ball Valve, Sweated.....	45.97	11.14
23 23 13 00-0004	EA	1/2" Refrigeration Ball Valve, Sweated.....	47.77	11.14
23 23 13 00-0005	EA	5/8" Refrigeration Ball Valve, Sweated.....	65.06	11.14
23 23 13 00-0006	EA	7/8" Refrigeration Ball Valve, Sweated.....	87.08	12.26
23 23 13 00-0007	EA	1-1/8" Refrigeration Ball Valve, Sweated.....	122.71	13.93
23 23 13 00-0008	EA	1-5/8" Refrigeration Ball Valve, Sweated.....	200.65	17.16

23 23 13 00-0009 Shut-Off Valves (23 23 13)

23 23 13 00-0010 Packless (23 23 13 00-0009)

23 23 13 00-0011	EA	1/2" Refrigeration Valve, Packless.....	63.04	11.60
23 23 13 00-0012	EA	5/8" Refrigeration Valve, Packless.....	79.11	12.71
23 23 13 00-0013	EA	7/8" Refrigeration Valve, Packless.....	163.55	17.39

23 23 13 00-0014 Packed (23 23 13 00-0009)

23 23 13 00-0015	EA	1-1/8" Refrigeration Valve, Packed.....	291.46	25.30
23 23 13 00-0016	EA	1 3/8" Refrigeration Valve, Packed.....	390.12	30.98
23 23 13 00-0017	EA	1-5/8" Refrigeration Valve, Packed.....	475.68	34.89
23 23 13 00-0018	EA	2-1/8" Refrigeration Valve, Packed.....	681.24	39.79
23 23 13 00-0019	EA	2-5/8" Refrigeration Valve, Packed.....	1,123.15	111.47
23 23 13 00-0020	EA	3-1/8" Refrigeration Valve, Packed.....	1,474.93	139.33
23 23 13 00-0021	EA	4-1/8" Refrigeration Valve, Packed.....	2,099.33	185.81

23 23 13 00-0022 Check Valves (23 23 13)

23 23 13 00-0023	EA	5/8" Check Valve, Refrigeration.....	79.17	11.14
23 23 13 00-0024	EA	7/8" Check Valve, Refrigeration.....	255.03	12.26
23 23 13 00-0025	EA	1-1/8" Check Valve, Refrigeration.....	295.59	13.93
23 23 13 00-0026	EA	1 3/8" Check Valve, Refrigeration.....	398.45	14.82
23 23 13 00-0027	EA	1-5/8" Check Valve, Refrigeration.....	525.53	17.17
23 23 13 00-0028	EA	2-1/8" Check Valve, Refrigeration.....	781.26	20.28
23 23 13 00-0029	EA	2-5/8" Check Valve, Refrigeration.....	1,093.26	29.76
23 23 13 00-0030	EA	3-1/8" Check Valve, Refrigeration.....	1,448.24	39.01

23 23 13 00-0031 Solenoid Valves (23 23 13)

23 23 13 00-0032 Solenoid Valve, 24 Volt Coil (23 23 13 00-0031)

23 23 13 00-0033	EA	1/2" Solenoid Valve, Refrigeration.....	217.87	11.14
23 23 13 00-0034	EA	5/8" Solenoid Valve, Refrigeration.....	223.16	11.14
23 23 13 00-0035	EA	3/4" Solenoid Valve, Refrigeration.....	275.67	12.26
23 23 13 00-0036	EA	7/8" Solenoid Valve, Refrigeration.....	275.67	12.26
23 23 13 00-0037	EA	1-1/8" Solenoid Valve, Refrigeration.....	386.48	13.93
23 23 13 00-0038	EA	1 3/8" Solenoid Valve, Refrigeration.....	621.55	14.82
23 23 13 00-0039	EA	1-5/8" Solenoid Valve, Refrigeration.....	1,147.17	17.17
23 23 13 00-0040	EA	2-1/8" Solenoid Valve, Refrigeration.....	1,162.75	20.28

23 23 16 Refrigerant Piping Specialties (23 23)

23 23 16 00-0001 Soft Refrigeration Copper Tubing (23 23 16)

Note: Based on outside diameter. Nitrogenized. Lengths up to 100' See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).

23 23 16 00-0002	LF	1/8" Outside Diameter Soft Refrigeration Copper Tubing.....	4.73	2.65
23 23 16 00-0003	LF	3/16" Outside Diameter Soft Refrigeration Copper Tubing.....	4.97	2.72
23 23 16 00-0004	LF	1/4" Outside Diameter Soft Refrigeration Copper Tubing.....	5.20	2.80
23 23 16 00-0005	LF	5/16" Outside Diameter Soft Refrigeration Copper Tubing.....	5.61	2.84
23 23 16 00-0006	LF	3/8" Outside Diameter Soft Refrigeration Copper Tubing.....	5.79	2.89
23 23 16 00-0007	LF	1/2" Outside Diameter Soft Refrigeration Copper Tubing.....	6.55	3.03
23 23 16 00-0008	LF	5/8" Outside Diameter Soft Refrigeration Copper Tubing.....	7.25	3.06
23 23 16 00-0009	LF	3/4" Outside Diameter Soft Refrigeration Copper Tubing.....	7.97	3.17
23 23 16 00-0010	LF	7/8" Outside Diameter Soft Refrigeration Copper Tubing.....	10.35	3.72
23 23 16 00-0011	LF	1-1/8" Outside Diameter Soft Refrigeration Copper Tubing.....	13.25	4.27
23 23 16 00-0012	LF	1-3/8" Outside Diameter Soft Refrigeration Copper Tubing.....	19.36	5.05
23 23 16 00-0013	LF	1-5/8" Outside Diameter Soft Refrigeration Copper Tubing.....	23.43	5.65

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 23 16 00-0014****Refrigeration Copper Tubing Assembly** (23 23 16)

Note: Based on outside diameter. Nitrogenized. Includes pipe, 1/2" thick flexible elastomeric foam insulation, coupling fittings and fastener straps. See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).

23 23 16 00-0015	LF	1/4" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	8.24	3.00
23 23 16 00-0016	LF	5/16" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	8.63	3.04
23 23 16 00-0017	LF	3/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	9.77	3.12
23 23 16 00-0018	LF	1/2" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	9.78	3.35
23 23 16 00-0019	LF	5/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	10.66	3.35
23 23 16 00-0020	LF	3/4" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	12.22	3.90
23 23 16 00-0021	LF	7/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	14.35	4.12
23 23 16 00-0022	LF	1-1/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	18.30	5.02
23 23 16 00-0023	LF	1-3/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	24.90	5.79
23 23 16 00-0024	LF	1-5/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation	29.47	6.25

23 23 16 00-0025**Type L Drawn, ACR Copper Tubing** (23 23 16)

Note: Nitrogenized. Lengths up to 20'. See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).

23 23 16 00-0026	LF	3/8" Outside Diameter Type L Drawn, ACR Copper Tubing	6.41	3.12
		For Medical Applications "Oxygen Clean", Add	0.56	
23 23 16 00-0027	LF	1/2" Outside Diameter Type L Drawn, ACR Copper Tubing	7.28	3.12
		For Medical Applications "Oxygen Clean", Add	0.60	
23 23 16 00-0028	LF	5/8" Outside Diameter Type L Drawn, ACR Copper Tubing	7.82	3.12
		For Medical Applications "Oxygen Clean", Add	0.63	
23 23 16 00-0029	LF	3/4" Outside Diameter Type L Drawn, ACR Copper Tubing	11.29	4.69
		For Medical Applications "Oxygen Clean", Add	0.91	
23 23 16 00-0030	LF	7/8" Outside Diameter Type L Drawn, ACR Copper Tubing	12.34	5.02
		For Medical Applications "Oxygen Clean", Add	0.99	
23 23 16 00-0031	LF	1-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing	14.51	5.02
		For Medical Applications "Oxygen Clean", Add	1.10	
23 23 16 00-0032	LF	1-3/8" Outside Diameter Type L Drawn, ACR Copper Tubing	18.14	5.79
		For Medical Applications "Oxygen Clean", Add	1.35	
23 23 16 00-0033	LF	1-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing	22.04	6.69
		For Medical Applications "Oxygen Clean", Add	1.60	
23 23 16 00-0034	LF	2-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing	31.38	8.36
		For Medical Applications "Oxygen Clean", Add	2.20	
23 23 16 00-0035	LF	2-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing	47.05	12.59
		For Medical Applications "Oxygen Clean", Add	3.30	
23 23 16 00-0036	LF	3-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing	61.01	15.61
		For Medical Applications "Oxygen Clean", Add	4.22	
23 23 16 00-0037	LF	3-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing	76.96	18.49
		For Medical Applications "Oxygen Clean", Add	5.24	
23 23 16 00-0038	LF	4-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing	95.26	22.30
		For Medical Applications "Oxygen Clean", Add	6.44	

23 23 16 00-0039**Refrigeration Fittings** (23 23 16)**23 23 16 00-0040****Brass Flare Fittings** (23 23 16 00-0039)**23 23 16 00-0041****Brass Flare Unions** (23 23 16 00-0040)

23 23 16 00-0042	EA	3/8" Brass Flare Union	26.46	12.04
23 23 16 00-0043	EA	1/2" Brass Flare Union	26.46	12.04
23 23 16 00-0044	EA	5/8" Brass Flare Union	28.64	12.04

23 23 16 00-0045**90 Degree Elbow Brass Flare Unions** (23 23 16 00-0040)

23 23 16 00-0046	EA	3/8" 90 Degree Brass Flare Elbow Union	27.78	12.04
23 23 16 00-0047	EA	1/2" 90 Degree Brass Flare Elbow Union	27.78	12.04
23 23 16 00-0048	EA	5/8" 90 Degree Brass Flare Elbow Union	35.10	12.04

23 23 16 00-0049**Brass Flare Tees** (23 23 16 00-0040)

23 23 16 00-0050	EA	3/8" Brass Flare Tee	42.57	20.05
23 23 16 00-0051	EA	1/2" Brass Flare Tee	45.83	20.05
23 23 16 00-0052	EA	5/8" Brass Flare Tee	63.58	20.05

23 23 16 00-0053**Male Connector, Half Brass Flare Unions** (23 23 16 00-0040)

23 23 16 00-0054	EA	3/8" Brass Flare Male Connector, Half Union	20.46	12.04
23 23 16 00-0055	EA	1/2" Brass Flare Male Connector, Half Union	22.64	12.04
23 23 16 00-0056	EA	5/8" Brass Flare Male Connector, Half Union	25.75	12.04

23 23 16 00-0057**Female Connector, Half Brass Flare Unions** (23 23 16 00-0040)

23 23 16 00-0058	EA	3/8" Brass Flare Female Connector, Half Union	23.27	12.04
23 23 16 00-0059	EA	1/2" Brass Flare Female Connector, Half Union	26.23	12.04
23 23 16 00-0060	EA	5/8" Brass Flare Female Connector, Half Union	26.23	12.04



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Refrigerant Piping

23 23

23

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 16 00-0061 Long Forged Nuts (23 23 16 00-0040)				
23 23 16 00-0062	EA	3/8" Brass Long Forged Nut	21.79	12.04
23 23 16 00-0063	EA	1/2" Brass Long Forged Nut	22.64	12.04
23 23 16 00-0064	EA	5/8" Brass Long Forged Nut	32.13	12.04
23 23 16 00-0065 Short Forged Nuts (23 23 16 00-0040)				
23 23 16 00-0066	EA	3/8" Brass Short Forged Nut.....	20.55	12.04
23 23 16 00-0067	EA	1/2" Brass Short Forged Nut.....	22.52	12.04
23 23 16 00-0068	EA	5/8" Brass Short Forged Nut.....	22.93	12.04
23 23 16 00-0069 ACR Wrought Copper Fittings (23 23 16 00-0039)				
Note: Soldered.				
23 23 16 00-0070 ACR Wrought Copper Coupling (23 23 16 00-0069)				
Note: C x C				
23 23 16 00-0071	EA	1/4" ACR Wrought Copper Coupling	19.95	12.04
23 23 16 00-0072	EA	3/8" ACR Wrought Copper Coupling	19.60	12.04
23 23 16 00-0073	EA	1/2" ACR Wrought Copper Coupling	20.12	12.04
23 23 16 00-0074	EA	5/8" ACR Wrought Copper Coupling	20.69	12.59
23 23 16 00-0075	EA	3/4" ACR Wrought Copper Coupling	29.66	16.60
23 23 16 00-0076	EA	7/8" ACR Wrought Copper Coupling	29.11	17.06
23 23 16 00-0077	EA	1-1/8" ACR Wrought Copper Coupling	38.84	21.18
23 23 16 00-0078	EA	1-3/8" ACR Wrought Copper Coupling	55.98	28.98
23 23 16 00-0079	EA	1-5/8" ACR Wrought Copper Coupling	67.56	34.00
23 23 16 00-0080	EA	2-1/8" ACR Wrought Copper Coupling	89.39	41.24
23 23 16 00-0081	EA	2-5/8" ACR Wrought Copper Coupling	156.07	62.64
23 23 16 00-0082	EA	3-1/8" ACR Wrought Copper Coupling	208.26	82.37
23 23 16 00-0083	EA	4-1/8" ACR Wrought Copper Coupling	339.37	97.87
23 23 16 00-0084 ACR Wrought Copper Short Radius 90 Degree Elbows (23 23 16 00-0069)				
Note: C x C				
23 23 16 00-0085	EA	1/4" ACR Wrought Copper Short Radius 90 Degree Elbow.....	24.64	12.04
23 23 16 00-0086	EA	3/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	24.99	12.04
23 23 16 00-0087	EA	1/2" ACR Wrought Copper Short Radius 90 Degree Elbow.....	24.64	12.04
23 23 16 00-0088	EA	5/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	26.78	12.59
23 23 16 00-0089	EA	3/4" ACR Wrought Copper Short Radius 90 Degree Elbow.....	39.23	16.60
23 23 16 00-0090	EA	7/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	39.72	17.06
23 23 16 00-0091	EA	1-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	50.68	21.18
23 23 16 00-0092	EA	1-3/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	62.80	28.98
23 23 16 00-0093	EA	1-5/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	81.17	34.00
23 23 16 00-0094	EA	2-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	116.73	41.24
23 23 16 00-0095	EA	2-5/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	203.85	62.64
23 23 16 00-0096	EA	3-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	261.70	82.37
23 23 16 00-0097	EA	4-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow.....	500.37	97.87
23 23 16 00-0098 ACR Wrought Copper Long Radius 90 Degree Elbows (23 23 16 00-0069)				
Note: C x C				
23 23 16 00-0099	EA	1/4" ACR Wrought Copper Long Radius 90 Degree Elbow	30.50	12.04
23 23 16 00-0100	EA	3/8" ACR Wrought Copper Long Radius 90 Degree Elbow	27.40	12.04
23 23 16 00-0101	EA	1/2" ACR Wrought Copper Long Radius 90 Degree Elbow	29.86	12.04
23 23 16 00-0102	EA	5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	29.60	12.59
23 23 16 00-0103	EA	3/4" ACR Wrought Copper Long Radius 90 Degree Elbow	35.78	16.60
23 23 16 00-0104	EA	7/8" ACR Wrought Copper Long Radius 90 Degree Elbow	39.35	17.06
23 23 16 00-0105	EA	1-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	53.93	21.18
23 23 16 00-0106	EA	1-3/8" ACR Wrought Copper Long Radius 90 Degree Elbow	79.51	28.98
23 23 16 00-0107	EA	1-5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	99.41	34.00
23 23 16 00-0108	EA	2-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	189.11	41.24
23 23 16 00-0109	EA	2-5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	295.47	62.64
23 23 16 00-0110	EA	3-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	390.44	82.37
23 23 16 00-0111	EA	4-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	861.72	97.87
23 23 16 00-0112 ACR Wrought Copper 45 Degree Elbow (23 23 16 00-0069)				
Note: C x C				
23 23 16 00-0113	EA	1/4" ACR Wrought Copper 45 Degree Elbow	34.76	12.04
23 23 16 00-0114	EA	3/8" ACR Wrought Copper 45 Degree Elbow	30.50	12.04
23 23 16 00-0115	EA	1/2" ACR Wrought Copper 45 Degree Elbow	28.69	12.04
23 23 16 00-0116	EA	5/8" ACR Wrought Copper 45 Degree Elbow	23.24	12.59
23 23 16 00-0117	EA	3/4" ACR Wrought Copper 45 Degree Elbow	43.76	16.60
23 23 16 00-0118	EA	7/8" ACR Wrought Copper 45 Degree Elbow	33.08	17.06
23 23 16 00-0119	EA	1-1/8" ACR Wrought Copper 45 Degree Elbow	50.64	21.18
23 23 16 00-0120	EA	1-3/8" ACR Wrought Copper 45 Degree Elbow	68.81	28.98
23 23 16 00-0121	EA	1-5/8" ACR Wrought Copper 45 Degree Elbow	81.55	34.00
23 23 16 00-0122	EA	2-1/8" ACR Wrought Copper 45 Degree Elbow	112.76	41.24
23 23 16 00-0123	EA	2-5/8" ACR Wrought Copper 45 Degree Elbow	202.52	62.64

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 23 16 00-0124	EA	3-1/8" ACR Wrought Copper 45 Degree Elbow	275.12		82.37
23 23 16 00-0125	EA	4-1/8" ACR Wrought Copper 45 Degree Elbow	469.69		97.87
23 23 16 00-0126		ACR Wrought Copper Tee (23 23 16 00-0069)			
		Note: C x C x C			
23 23 16 00-0127	EA	1/4" ACR Wrought Copper Tee	43.40		20.05
23 23 16 00-0128	EA	3/8" ACR Wrought Copper Tee	44.15		20.05
23 23 16 00-0129	EA	1/2" ACR Wrought Copper Tee	41.37		20.05
23 23 16 00-0130	EA	5/8" ACR Wrought Copper Tee	41.85		25.30
23 23 16 00-0131	EA	3/4" ACR Wrought Copper Tee	63.64		25.30
23 23 16 00-0132	EA	7/8" ACR Wrought Copper Tee	48.10		25.63
23 23 16 00-0133	EA	1-1/8" ACR Wrought Copper Tee	80.88		34.00
23 23 16 00-0134	EA	1-3/8" ACR Wrought Copper Tee	102.17		41.24
23 23 16 00-0135	EA	1-5/8" ACR Wrought Copper Tee	135.64		48.93
23 23 16 00-0136	EA	2-1/8" ACR Wrought Copper Tee	194.94		65.21
23 23 16 00-0137	EA	2-5/8" ACR Wrought Copper Tee	409.38		142.34
23 23 16 00-0138	EA	3-1/8" ACR Wrought Copper Tee	515.92		156.50
23 23 16 00-0139	EA	4-1/8" ACR Wrought Copper Tee	941.43		173.89
23 23 16 00-0140		ACR Wrought Copper Male Adapter (23 23 16 00-0069)			
		Note: C x M			
23 23 16 00-0141	EA	1/4" ACR Wrought Copper Male Adapter	38.99		12.04
23 23 16 00-0142	EA	3/8" ACR Wrought Copper Male Adapter	45.80		12.04
23 23 16 00-0143	EA	1/2" ACR Wrought Copper Male Adapter	34.49		12.04
23 23 16 00-0144		ACR Wrought Copper Female Adapter (23 23 16 00-0069)			
		Note: C x F			
23 23 16 00-0145	EA	1/4" ACR Wrought Copper Female Adapter	36.32		12.04
23 23 16 00-0146	EA	3/8" ACR Wrought Copper Female Adapter	32.41		12.04
23 23 16 00-0147	EA	1/2" ACR Wrought Copper Female Adapter	33.89		12.04
23 23 16 00-0148		ACR Wrought Copper Cap (23 23 16 00-0069)			
		Note: C			
23 23 16 00-0149	EA	1/4" ACR Wrought Copper Cap	15.27		8.03
23 23 16 00-0150	EA	3/8" ACR Wrought Copper Cap	14.04		8.03
23 23 16 00-0151	EA	1/2" ACR Wrought Copper Cap	15.24		8.03
23 23 16 00-0152		ACR Wrought Copper P-Trap (23 23 16 00-0069)			
23 23 16 00-0153	EA	5/8" ACR Wrought Copper P-Trap	108.77		10.26
23 23 16 00-0154	EA	3/4" ACR Wrought Copper P-Trap	150.09		11.29
23 23 16 00-0155	EA	7/8" ACR Wrought Copper P-Trap	127.61		11.29
23 23 16 00-0156	EA	1-1/8" ACR Wrought Copper P-Trap	176.66		12.32
23 23 16 00-0157	EA	1-3/8" ACR Wrought Copper P-Trap	308.63		12.32
23 23 16 00-0158	EA	1-5/8" ACR Wrought Copper P-Trap	440.95		13.35
23 23 16 00-0159	EA	2-1/8" ACR Wrought Copper P-Trap	815.83		14.38
23 23 16 00-0160		Sight Glass With Moisture And Liquid Indicator, Solder Connection (23 23 16)			
23 23 16 00-0161	EA	1/4" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	58.50		15.40
23 23 16 00-0162	EA	3/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	71.07		18.48
23 23 16 00-0163	EA	1/2" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	85.96		22.58
23 23 16 00-0164	EA	5/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	94.32		25.67
23 23 16 00-0165	EA	7/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	127.66		32.85
23 23 16 00-0166	EA	1-1/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	147.25		40.04
23 23 16 00-0167	EA	1-3/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	229.76		47.23
23 23 16 00-0168	EA	1-5/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	282.16		64.68
23 23 16 00-0169	EA	2-1/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	346.15		80.07
23 23 16 00-0170		Filter Driers, Solder Connections (23 23 16)			
23 23 16 00-0171		Replaceable Core Type Filter Driers, Solder Connections (23 23 16 00-0170)			
23 23 16 00-0172	EA	5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	540.63		9.24
23 23 16 00-0173	EA	7/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	541.24		11.29
23 23 16 00-0174	EA	1-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	690.92		11.29
23 23 16 00-0175	EA	1-3/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	685.78		12.32
23 23 16 00-0176	EA	1-5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	761.97		13.35
23 23 16 00-0177	EA	2-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	853.74		14.38
23 23 16 00-0178	EA	2-5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	996.77		15.40
23 23 16 00-0179	EA	3-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	1,244.34		15.40
23 23 16 00-0180		Sealed In-Line Filter Driers, Solder Connections (23 23 16 00-0170)			
23 23 16 00-0181	EA	1/4" Outside Diameter, 1/4 To 1 Ton, Sealed In-Line Filter Drier, Solder Connections	84.15		9.24
23 23 16 00-0182	EA	3/8" Outside Diameter, 1/2 To 2 Ton, Sealed In-Line Filter Drier, Solder Connections	107.51		9.24
23 23 16 00-0183	EA	1/2" Outside Diameter, 1 To 7 Ton, Sealed In-Line Filter Drier, Solder Connections	137.36		10.26



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Refrigerant Piping

23 23



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 16 00-0184 EA 1/2" Outside Diameter, 2 To 7-1/2 Ton, Sealed In-Line Filter Drier, Solder Connections	159.34	10.26
23 23 16 00-0185 EA 5/8" Outside Diameter, 2 To 10 Ton, Sealed In-Line Filter Drier, Solder Connections.....	175.05	10.26
23 23 16 00-0186 EA 5/8" Outside Diameter, 4 To 8 Ton, Sealed In-Line Filter Drier, Solder Connections.....	203.43	10.26
23 23 16 00-0187 EA 7/8" Outside Diameter, 5 To 20 Ton, Sealed In-Line Filter Drier, Solder Connections.....	228.81	11.29
23 23 16 00-0188 EA 7/8" Outside Diameter, 7-1/2 To 20 Ton, Sealed In-Line Filter Drier, Solder Connections	341.31	11.29
23 23 16 00-0189 EA 1-1/8" Outside Diameter, 15 To 25 Ton, Sealed In-Line Filter Drier, Solder Connections	370.73	11.29
23 23 16 00-0190 Bi-Flow Filter Driers, Solder Connections (23 23 16 00-0170)		
23 23 16 00-0191 EA 1/4" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections	119.37	9.24
23 23 16 00-0192 EA 3/8" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections	132.58	9.24
23 23 16 00-0193 EA 1/2" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections	157.87	10.26
23 23 16 00-0194 EA 3/8" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	142.52	9.24
23 23 16 00-0195 EA 1/2" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	178.38	10.26
23 23 16 00-0196 EA 5/8" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	206.95	10.26
23 23 16 00-0197 Refrigerant Compressor Discharge Mufflers (23 23 16)		
23 23 16 00-0198 EA 3/8" Outside Diameter, 2 Ton, Refrigerant Compressor Discharge Muffler	106.97	9.24
23 23 16 00-0199 EA 1/2" Outside Diameter, 3 Ton, Refrigerant Compressor Discharge Muffler	118.09	9.24
23 23 16 00-0200 EA 5/8" Outside Diameter, 5 Ton, Refrigerant Compressor Discharge Muffler	142.46	9.24
23 23 16 00-0201 EA 7/8" Outside Diameter, 7-1/2 To 10 Ton, Refrigerant Compressor Discharge Muffler	190.77	11.29
23 23 16 00-0202 EA 1-1/8" Outside Diameter, 10 To 15 Ton, Refrigerant Compressor Discharge Muffler	248.71	11.29
23 23 16 00-0203 EA 1-3/8" Outside Diameter, 15 To 25 Ton, Refrigerant Compressor Discharge Muffler	295.39	12.32
23 23 16 00-0204 EA 1-5/8" Outside Diameter, 25 To 50 Ton, Refrigerant Compressor Discharge Muffler	374.55	13.35
23 23 16 00-0205 EA 2-1/8" Outside Diameter, 50 To 75 Ton, Refrigerant Compressor Discharge Muffler	698.16	14.38
23 23 16 00-0206 EA 2-5/8" Outside Diameter, 75 To 100 Ton, Refrigerant Compressor Discharge Muffler	778.55	15.40
23 23 16 00-0207 EA 3-1/8" Outside Diameter, 100 To 125 Ton, Refrigerant Compressor Discharge Muffler	963.20	15.40
23 23 16 00-0208 Expansion Valves And Vibration Absorbers (23 23 16)		
23 23 16 00-0209 Thermostatic Expansion Valves (23 23 16 00-0208)		
Note: Outside diameter pipe sizes. Sporlan TP-S.		
23 23 16 00-0210 EA 3/8" In x 5/8" Out, 1/2 To 3 Ton, Thermostatic Expansion Valve	232.45	9.24
23 23 16 00-0211 EA 1/2" In x 7/8" Out, 4 To 5 Ton, Thermostatic Expansion Valve	323.80	10.26
23 23 16 00-0212 EA 5/8" In x 7/8" Out, 6 To 8 Ton, Thermostatic Expansion Valve	554.29	10.26
23 23 16 00-0213 EA 7/8" In x 1-1/8" Out, 7 To 12 Ton, Thermostatic Expansion Valve	656.88	11.29
23 23 16 00-0214 EA 7/8" In x 1-3/8" Out, 15 To 20 Ton, Thermostatic Expansion Valve	708.21	11.29
23 23 16 00-0215 Electric Expansion Valves (23 23 16 00-0208)		
Note: Sporlan SEI or SEH.		
23 23 16 00-0216 EA 1/2 To 11 Ton Electric Expansion Valve	569.45	12.83
Note: Sporlan SEI.		
23 23 16 00-0217 EA 25 Ton Electric Expansion Valve	660.28	13.35
Note: Sporlan SEI.		
23 23 16 00-0218 EA 50 Ton Electric Expansion Valve	751.63	13.86
Note: Sporlan SEI.		
23 23 16 00-0219 EA 100 Ton Electric Expansion Valve	881.60	13.86
Note: Sporlan SEH.		
23 23 16 00-0220 EA 175 Ton Electric Expansion Valve	993.25	14.38
Note: Sporlan SEH.		
23 23 16 00-0221 Braided Stainless Steel Over Copper Vibration Absorber (23 23 16 00-0208)		
23 23 16 00-0222 EA 1/4" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	61.62	13.35
23 23 16 00-0223 EA 3/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	61.60	15.40
23 23 16 00-0224 EA 1/2" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	79.98	19.51
23 23 16 00-0225 EA 5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	85.92	23.61
23 23 16 00-0226 EA 3/4" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	101.07	28.74
23 23 16 00-0227 EA 7/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	117.09	32.85
23 23 16 00-0228 EA 1-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	166.15	12.32
23 23 16 00-0229 EA 1-3/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	235.37	13.35
23 23 16 00-0230 EA 1-5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	295.63	13.35
23 23 16 00-0231 EA 2-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	406.57	14.38
23 23 16 00-0232 EA 2-5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	696.24	15.40
23 23 16 00-0233 EA 3-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber	913.32	15.40
23 23 16 00-0234 Accumulator, Refrigerant Suction Line (23 23 16)		
23 23 16 00-0235 EA 3/4" Accumulator, Refrigeration Suction Line	195.39	46.71
23 23 16 00-0236 EA 7/8" Accumulator, Refrigeration Suction Line	264.63	64.16
23 23 16 00-0237 EA 1-1/8" Accumulator, Refrigeration Suction Line	313.77	85.52
23 23 16 00-0238 EA 1 3/8" Accumulator, Refrigeration Suction Line	445.70	102.66
23 23 16 00-0239 EA 1-5/8" Accumulator, Refrigeration Suction Line	616.93	128.33
23 23 16 00-0240 EA 2-1/8" Accumulator, Refrigeration Suction Line	942.99	171.14
23 23 16 00-0241 Special Chemicals/Component (23 23 16)		
23 23 16 00-0242 GAL Special Chemical, Inhibited Propylene Glycol, 100%	41.18	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 23 16 00-0243	GAL	Removal And Storage For Reuse Of Inhibited Propylene Glycol	7.96	
23 23 16 00-0244	GAL	Special Chemical, Inhibited Ethylene Glycol, 100%	27.95	
23 23 16 00-0245	EA	Internal Coil/Refrigerant Piping Flush	339.46	
Note: Up to 10 ton AC system.				

23 23 16 00-0246 Copper Refrigeration Line Sets, Pre-Insulated (23 23 16)

Note: Includes fasteners and insulation on suction line only

23 23 16 00-0247	LF	5/16" Outside Diameter Liquid, And 5/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	14.59	0.86
23 23 16 00-0248	LF	5/16" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	15.41	0.86
23 23 16 00-0249	LF	3/8" Outside Diameter Liquid, And 5/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	13.73	0.87
23 23 16 00-0250	LF	3/8" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	16.21	0.88
23 23 16 00-0251	LF	3/8" Outside Diameter Liquid, And 7/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	19.62	0.91
23 23 16 00-0252	LF	3/8" Outside Diameter Liquid, And 1-1/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	23.12	0.96
23 23 16 00-0253	LF	1/2" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	17.10	0.91
23 23 16 00-0254	LF	1/2" Outside Diameter Liquid, And 7/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	21.73	0.97
23 23 16 00-0255	LF	1/2" Outside Diameter Liquid, And 1-1/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation	26.34	1.03

23 23 16 00-0256 Triple Copper Refrigeration Line Sets (23 23 16)

Note: Includes fasteners and insulation

23 23 16 00-0257	LF	1-3/8" / 1-1/8" / 3/4" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	55.59	8.43
23 23 16 00-0258	LF	1-1/8" / 7/8" / 3/4" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	45.36	7.55
23 23 16 00-0259	LF	1-1/8" / 7/8" / 5/8" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	43.80	7.27
23 23 16 00-0260	LF	1-1/8" / 3/4" / 1/2" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	40.93	7.12
23 23 16 00-0261	LF	7/8" / 3/4" / 1/2" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	36.25	6.60
23 23 16 00-0262	LF	5/8" / 1/2" / 3/8" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation	29.28	5.76

23 23 23 Refrigerants (23 23)**23 23 23 00-0001 Refrigerant (23 23 23)**

23 23 23 00-0002	LB	R-113 Refrigerant	49.68	
23 23 23 00-0003	LB	R-123 Refrigerant	36.44	
23 23 23 00-0004	LB	R-134A Refrigerant	12.99	
23 23 23 00-0005	LB	R-404A Refrigerant	23.24	
23 23 23 00-0006	LB	R-407C Refrigerant	22.99	
23 23 23 00-0007	LB	R-408A Refrigerant	52.41	
23 23 23 00-0008	LB	R-410A Refrigerant	22.53	
23 23 23 00-0009	LB	R-500 Refrigerant	44.53	
23 23 23 00-0010	LB	R-507 Refrigerant	14.33	

23 25 HVAC Water Treatment (23 20)**23 25 13 Water Treatment for Closed-Loop Hydronic Systems (23 25)****23 25 13 00-0001 Polyethylene Chemical Storage Tanks (23 25 13)**

23 25 13 00-0002	EA	15 Gallon Chemical Storage Tank, Polyethylene	502.30	85.71

23 25 13 00-0003 Gas Chlorinator (23 25 13)

23 25 13 00-0004	EA	Gas Chlorinator, Wall Or Cylinder Mounted (10 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit	1,130.10	389.96
For Booster Pump, Add			438.94	
23 25 13 00-0005	EA	Gas Chlorinator, Wall Or Cylinder Mounted (25 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit	1,291.10	445.68
For Booster Pump, Add			501.74	
23 25 13 00-0006	EA	Gas Chlorinator, Wall Or Cylinder Mounted (50 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit	1,786.02	337.60
For Booster Pump, Add			614.69	

23 25 13 00-0007 Bypass Shot Feeders (23 25 13)

Note: Includes up to 4 ports (in, out, fill and drain). Excludes valves.

23 25 13 00-0008 In Line Mount, 125 PSIG (23 25 13 00-0007)

23 25 13 00-0009	EA	1.7 Gallon Bypass Shot Chemical Feeder In Line Mount, 125 PSIG	1,026.12	290.53

23 25 13 00-0010 Floor Mount, 175 PSIG (23 25 13 00-0007)

23 25 13 00-0011	EA	5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 175 PSIG	1,508.71	437.34
23 25 13 00-0012	EA	12 Gallon Bypass Shot Chemical Feeder, Floor Mount, 175 PSIG	1,989.08	579.02

23 25 13 00-0013 Floor Mount, 150 LB ASME Code (23 25 13 00-0007)



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 25 13 00-0014	EA		5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 150 LB ASME Code	1,508.71	437.34
23 25 13 00-0015	EA		10 Gallon Bypass Shot Chemical Feeder, Floor Mount, 150 LB ASME Code	1,989.08	579.02
23 25 13 00-0016			Floor Mount, 300 LB ASME Code (23 25 13 00-0007)		
23 25 13 00-0017	EA		5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 300 LB ASME Code	1,893.42	437.34
23 25 13 00-0018	EA		10 Gallon Bypass Shot Chemical Feeder, Floor Mount, 300 LB ASME Code	2,388.55	579.02

23 30 HVAC Air Distribution (23)

23 31 HVAC Ducts and Casings (23 30)

Note: Excludes angle iron, threaded rod, anchor bolts or other external supporting devices other than normal sheet metal straps. See CSI section 05 12 23 00-0423 for angle iron, 23 05 29 00-0001 for threaded rod.

23 31 13 Metal Ducts (23 31)

23 31 13 13 Rectangular Metal Ducts (23 31 13)

23 31 13 13-0001 Steel Sheet Metal Duct (23 31 13 13)

Note: Includes all fittings, transitions, collars, straps, support straps, fabrication, installation and sealing the joints by tape, mastic, or spray on sealer. Duct Sealing: Class-C requires sealing transverse joints; Class-B requires sealing all transverse joint and longitudinal seams; Class-A requires sealing all transverse joints longitudinal seams and duct wall penetrations.

23 31 13 13-0002 Galvanized Steel Sheet Metal Ductwork And Sealant (23 31 13 13-0001)

Note: SMACNA weight for galvanized steel ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.906 LB/SF; 24 gauge - 1.156 LB/SF; 22 gauge - 1.406 LB/SF; 20 gauge - 1.656 LB/SF; 18 gauge - 2.166 LB/SF; 16 gauge - 2.656 LB/SF

23 31 13 13-0003	LB	Seal Class C, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork	12.08	3.18
		For Polyvinyl Chloride (PVC) Coated, Add	0.46	
		For Up To 200, Add	4.31	
		For >200 To 500, Add	2.75	
		For >500 To 1,000, Add	1.85	
		For >1,000 To 2,000, Add	1.04	
		For >2,000 To 5,000, Add	0.46	
		For Work In Restricted Working Space, Add	2.93	
		For Elevated Installation >10' To 15', Add	0.59	
		For Elevated Installation >15' To 20', Add	1.17	
		For Elevated Installation >20' To 25', Add	1.47	
		For Elevated Installation >25' To 30', Add	2.05	
		For Elevated Installation >30' To 35', Add	2.35	
		For Elevated Installation >35' To 40', Add	2.93	
		For Elevated Installation >40', Add	3.23	
23 31 13 13-0004	LB	Seal Class B, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork	13.79	3.18
		For Polyvinyl Chloride (PVC) Coated, Add	0.51	
		For Up To 200, Add	4.90	
		For >200 To 500, Add	3.12	
		For >500 To 1,000, Add	2.11	
		For >1,000 To 2,000, Add	1.18	
		For >2,000 To 5,000, Add	0.53	
		For Work In Restricted Working Space, Add	3.38	
		For Elevated Installation >10' To 15', Add	0.68	
		For Elevated Installation >15' To 20', Add	1.35	
		For Elevated Installation >20' To 25', Add	1.69	
		For Elevated Installation >25' To 30', Add	2.36	
		For Elevated Installation >30' To 35', Add	2.70	
		For Elevated Installation >35' To 40', Add	3.38	
		For Elevated Installation >40', Add	3.71	
23 31 13 13-0005	LB	Seal Class A, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork	16.47	3.18
		For Polyvinyl Chloride (PVC) Coated, Add	0.56	
		For Up To 200, Add	5.78	
		For >200 To 500, Add	3.66	
		For >500 To 1,000, Add	2.50	
		For >1,000 To 2,000, Add	1.40	
		For >2,000 To 5,000, Add	0.63	
		For Work In Restricted Working Space, Add	4.11	
		For Elevated Installation >10' To 15', Add	0.82	
		For Elevated Installation >15' To 20', Add	1.64	
		For Elevated Installation >20' To 25', Add	2.05	
		For Elevated Installation >25' To 30', Add	2.87	
		For Elevated Installation >30' To 35', Add	3.29	
		For Elevated Installation >35' To 40', Add	4.11	
		For Elevated Installation >40', Add	4.52	

23 31 13 13-0006 Alloy 3003-H14, Aluminum Sheet Metal Ductwork (23 31 13 13-0001)

Note: SMACNA weight for aluminum ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.224 LB/SF; 24 gauge - 0.282 LB/SF; 22 gauge - 0.352 LB/SF; 20 gauge - 0.451 LB/SF; 18 gauge - 0.563 LB/SF; 16 gauge - 0.718 LB/SF; 14 gauge - 0.901 LB/SF; 12 gauge - 0.141 LB/SF

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0007	LB	Seal Class C, Alloy 3003-H14, Aluminum Sheet Metal Ductwork	.....	23.46	3.18
		For Work In Restricted Working Space, Add	.....	5.80	
		For Up To 200, Add	.....	8.28	
		For >200 To 500, Add	.....	5.26	
		For >500 To 1,000, Add	.....	3.57	
		For >1,000 To 2,000, Add	.....	2.00	
		For >2,000 To 5,000, Add	.....	0.90	
		For Elevated Installation >10' To 15', Add	.....	1.16	
		For Elevated Installation >15' To 20', Add	.....	2.32	
		For Elevated Installation >20' To 25', Add	.....	2.90	
		For Elevated Installation >25' To 30', Add	.....	4.06	
		For Elevated Installation >30' To 35', Add	.....	4.64	
		For Elevated Installation >35' To 40', Add	.....	5.80	
		For Elevated Installation >40', Add	.....	6.38	
23 31 13 13-0008	LB	Seal Class B, Alloy 3003-H14, Aluminum Sheet Metal Ductwork	.....	26.60	3.18
		For Work In Restricted Working Space, Add	.....	6.67	
		For Up To 200, Add	.....	9.29	
		For >200 To 500, Add	.....	5.88	
		For >500 To 1,000, Add	.....	4.03	
		For >1,000 To 2,000, Add	.....	2.26	
		For >2,000 To 5,000, Add	.....	1.02	
		For Elevated Installation >10' To 15', Add	.....	1.33	
		For Elevated Installation >15' To 20', Add	.....	2.67	
		For Elevated Installation >20' To 25', Add	.....	3.33	
		For Elevated Installation >25' To 30', Add	.....	4.67	
		For Elevated Installation >30' To 35', Add	.....	5.34	
		For Elevated Installation >35' To 40', Add	.....	6.67	
		For Elevated Installation >40', Add	.....	7.34	
23 31 13 13-0009	LB	Seal Class A, Alloy 3003-H14, Aluminum Sheet Metal Ductwork	.....	31.67	3.18
		For Work In Restricted Working Space, Add	.....	8.12	
		For Up To 200, Add	.....	10.88	
		For >200 To 500, Add	.....	6.85	
		For >500 To 1,000, Add	.....	4.76	
		For >1,000 To 2,000, Add	.....	2.67	
		For >2,000 To 5,000, Add	.....	1.22	
		For Elevated Installation >10' To 15', Add	.....	1.62	
		For Elevated Installation >15' To 20', Add	.....	3.25	
		For Elevated Installation >20' To 25', Add	.....	4.06	
		For Elevated Installation >25' To 30', Add	.....	5.68	
		For Elevated Installation >30' To 35', Add	.....	6.49	
		For Elevated Installation >35' To 40', Add	.....	8.12	
		For Elevated Installation >40', Add	.....	8.93	
23 31 13 13-0010		Type 304, Stainless Steel Sheet Metal Ductwork (23 31 13 13-0001)			
		Note: SMACNA weight for stainless steel ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.748 LB/SF; 24 gauge - 0.987 LB/SF; 22 gauge - 1.231 LB/SF; 20 gauge - 1.491 LB/SF; 18 gauge - 2.016 LB/SF; 16 gauge - 2.499 LB/SF; 14 gauge - 3.154 LB/SF; 12 gauge - 4.427 LB/SF			
23 31 13 13-0011	LB	Seal Class C, Type 304, Stainless Steel Sheet Metal Ductwork	.....	17.37	4.23
		For Work In Restricted Working Space, Add	.....	3.56	
		For Welded Seams, Add	.....	6.21	
		For Up To 200, Add	.....	6.86	
		For >200 To 500, Add	.....	4.50	
		For >500 To 1,000, Add	.....	2.82	
		For >1,000 To 2,000, Add	.....	1.55	
		For >2,000 To 5,000, Add	.....	0.64	
		For Elevated Installation >10' To 15', Add	.....	0.71	
		For Elevated Installation >15' To 20', Add	.....	1.43	
		For Elevated Installation >20' To 25', Add	.....	1.78	
		For Elevated Installation >25' To 30', Add	.....	2.49	
		For Elevated Installation >30' To 35', Add	.....	2.85	
		For Elevated Installation >35' To 40', Add	.....	3.56	
		For Elevated Installation >40', Add	.....	3.92	
23 31 13 13-0012	LB	Seal Class B, Type 304, Stainless Steel Sheet Metal Ductwork	.....	20.06	4.23
		For Work In Restricted Working Space, Add	.....	4.30	
		For Welded Seams, Add	.....	7.45	
		For Up To 200, Add	.....	7.74	
		For >200 To 500, Add	.....	5.04	
		For >500 To 1,000, Add	.....	3.21	
		For >1,000 To 2,000, Add	.....	1.78	
		For >2,000 To 5,000, Add	.....	0.75	
		For Elevated Installation >10' To 15', Add	.....	0.86	
		For Elevated Installation >15' To 20', Add	.....	1.72	
		For Elevated Installation >20' To 25', Add	.....	2.15	
		For Elevated Installation >25' To 30', Add	.....	3.01	
		For Elevated Installation >30' To 35', Add	.....	3.44	
		For Elevated Installation >35' To 40', Add	.....	4.30	
		For Elevated Installation >40', Add	.....	4.73	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0013	LB	Seal Class A, Type 304, Stainless Steel Sheet Metal Ductwork.....	22.59	4.23
		For Work In Restricted Working Space, Add	4.99	
		For Welded Seams, Add	8.61	
		For Up To 200, Add	8.57	
		For >200 To 500, Add	5.56	
		For >500 To 1,000, Add	3.58	
		For >1,000 To 2,000, Add	1.99	
		For >2,000 To 5,000, Add	0.84	
		For Elevated Installation >10' To 15', Add	1.00	
		For Elevated Installation >15' To 20', Add	1.99	
		For Elevated Installation >20' To 25', Add	2.49	
		For Elevated Installation >25' To 30', Add	3.49	
		For Elevated Installation >30' To 35', Add	3.99	
		For Elevated Installation >35' To 40', Add	4.99	
		For Elevated Installation >40', Add	5.48	
23 31 13 13-0014		Galvanized Steel Sheet Metal Ductwork By LF (23 31 13 13-0001)		
		Note: Ductwork includes collars, straps, support straps, etc. Shop fabricated ductwork is designed and fabricated in shop with machines, delivered to site and installed. For fittings add the following equivalent lengths: 0.75' for duct end cap; 1.5' for tap-in; 2.5' for 45 degree elbows; 3' for 90 degree elbows, transition, taper, register box; 4' for 45 degree reducing elbow, offset, turning vanes installed in elbows; 5' for 90 degree reducing elbow, 135 degree angle gooseneck, boots; and 6' for transition/reducer.		
23 31 13 13-0015		30 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0016	LF	4" x 4", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	12.74	6.53
		For Seal Class B, Add	1.63	
		For Seal Class A, Add	3.48	
		For Work In Restricted Working Space, Add	3.27	
23 31 13 13-0017	LF	4" x 6", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	15.91	8.16
		For Seal Class B, Add	2.04	
		For Seal Class A, Add	4.36	
		For Work In Restricted Working Space, Add	4.08	
23 31 13 13-0018	LF	4" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	19.11	9.80
		For Seal Class B, Add	2.45	
		For Seal Class A, Add	5.23	
		For Work In Restricted Working Space, Add	4.90	
23 31 13 13-0019	LF	4" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	22.28	11.43
		For Seal Class B, Add	2.86	
		For Seal Class A, Add	6.10	
		For Work In Restricted Working Space, Add	5.72	
23 31 13 13-0020	LF	4" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	25.48	13.07
		For Seal Class B, Add	3.27	
		For Seal Class A, Add	6.97	
		For Work In Restricted Working Space, Add	6.53	
23 31 13 13-0021	LF	4" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	28.65	14.70
		For Seal Class B, Add	3.67	
		For Seal Class A, Add	7.84	
		For Work In Restricted Working Space, Add	7.35	
23 31 13 13-0022	LF	4" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	31.83	16.33
		For Seal Class B, Add	4.08	
		For Seal Class A, Add	8.71	
		For Work In Restricted Working Space, Add	8.17	
23 31 13 13-0023	LF	6" x 6", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	19.11	9.80
		For Seal Class B, Add	2.45	
		For Seal Class A, Add	5.23	
		For Work In Restricted Working Space, Add	4.90	
23 31 13 13-0024	LF	6" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	22.28	11.43
		For Seal Class B, Add	2.86	
		For Seal Class A, Add	6.10	
		For Work In Restricted Working Space, Add	5.72	
23 31 13 13-0025	LF	6" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	25.48	13.07
		For Seal Class B, Add	3.27	
		For Seal Class A, Add	6.97	
		For Work In Restricted Working Space, Add	6.53	
23 31 13 13-0026	LF	6" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	28.65	14.70
		For Seal Class B, Add	3.67	
		For Seal Class A, Add	7.84	
		For Work In Restricted Working Space, Add	7.35	
23 31 13 13-0027	LF	6" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	31.83	16.33
		For Seal Class B, Add	4.08	
		For Seal Class A, Add	8.71	
		For Work In Restricted Working Space, Add	8.17	
23 31 13 13-0028	LF	6" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.02	17.97
		For Seal Class B, Add	4.49	
		For Seal Class A, Add	9.58	
		For Work In Restricted Working Space, Add	8.98	
23 31 13 13-0029	LF	8" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	25.48	13.07
		For Seal Class B, Add	3.27	
		For Seal Class A, Add	6.97	
		For Work In Restricted Working Space, Add	6.53	
23 31 13 13-0030	LF	8" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	28.65	14.70
		For Seal Class B, Add	3.67	
		For Seal Class A, Add	7.84	
		For Work In Restricted Working Space, Add	7.35	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0031	LF	8" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	31.83	16.33
		For Seal Class B, Add	4.08	
		For Seal Class A, Add	8.71	
		For Work In Restricted Working Space, Add	8.17	
23 31 13 13-0032	LF	8" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.02	17.97
		For Seal Class B, Add	4.49	
		For Seal Class A, Add	9.58	
		For Work In Restricted Working Space, Add	8.98	
23 31 13 13-0033	LF	8" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	38.19	19.59
		For Seal Class B, Add	4.90	
		For Seal Class A, Add	10.45	
		For Work In Restricted Working Space, Add	9.80	
23 31 13 13-0034	LF	8" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.40	21.23
		For Seal Class B, Add	5.31	
		For Seal Class A, Add	11.32	
		For Work In Restricted Working Space, Add	10.62	
23 31 13 13-0035	LF	8" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13 13-0036	LF	8" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0037	LF	8" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13 13-0038	LF	10" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	31.83	16.33
		For Seal Class B, Add	4.08	
		For Seal Class A, Add	8.71	
		For Work In Restricted Working Space, Add	8.17	
23 31 13 13-0039	LF	10" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.02	17.97
		For Seal Class B, Add	4.49	
		For Seal Class A, Add	9.58	
		For Work In Restricted Working Space, Add	8.98	
23 31 13 13-0040	LF	10" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	38.19	19.59
		For Seal Class B, Add	4.90	
		For Seal Class A, Add	10.45	
		For Work In Restricted Working Space, Add	9.80	
23 31 13 13-0041	LF	10" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.40	21.23
		For Seal Class B, Add	5.31	
		For Seal Class A, Add	11.32	
		For Work In Restricted Working Space, Add	10.62	
23 31 13 13-0042	LF	10" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13 13-0043	LF	10" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0044	LF	10" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13 13-0045	LF	10" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13 13-0046	LF	12" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	38.19	19.59
		For Seal Class B, Add	4.90	
		For Seal Class A, Add	10.45	
		For Work In Restricted Working Space, Add	9.80	
23 31 13 13-0047	LF	12" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.40	21.23
		For Seal Class B, Add	5.31	
		For Seal Class A, Add	11.32	
		For Work In Restricted Working Space, Add	10.62	
23 31 13 13-0048	LF	12" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13 13-0049	LF	12" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0050	LF	12" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13 13-0051	LF	12" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 31 13 13-0052	LF	12" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13 13-0053	LF	14" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13 13-0054	LF	14" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0055	LF	14" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13 13-0056	LF	14" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13 13-0057	LF	14" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13 13-0058	LF	14" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	
23 31 13 13-0059	LF	16" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13 13-0060	LF	16" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13 13-0061	LF	16" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13 13-0062	LF	16" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	
23 31 13 13-0063	LF	16" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	63.67	32.66
		For Seal Class B, Add	8.16	
		For Seal Class A, Add	17.42	
		For Work In Restricted Working Space, Add	16.33	
23 31 13 13-0064	LF	18" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13 13-0065	LF	18" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	
23 31 13 13-0066	LF	18" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	63.67	32.66
		For Seal Class B, Add	8.16	
		For Seal Class A, Add	17.42	
		For Work In Restricted Working Space, Add	16.33	
23 31 13 13-0067	LF	18" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.84	34.30
		For Seal Class B, Add	8.57	
		For Seal Class A, Add	18.29	
		For Work In Restricted Working Space, Add	17.15	
23 31 13 13-0068	LF	20" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	63.67	32.66
		For Seal Class B, Add	8.16	
		For Seal Class A, Add	17.42	
		For Work In Restricted Working Space, Add	16.33	
23 31 13 13-0069	LF	20" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.84	34.30
		For Seal Class B, Add	8.57	
		For Seal Class A, Add	18.29	
		For Work In Restricted Working Space, Add	17.15	
23 31 13 13-0070	LF	20" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.03	35.92
		For Seal Class B, Add	8.98	
		For Seal Class A, Add	19.16	
		For Work In Restricted Working Space, Add	17.96	
23 31 13 13-0071	LF	22" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.03	35.92
		For Seal Class B, Add	8.98	
		For Seal Class A, Add	19.16	
		For Work In Restricted Working Space, Add	17.96	
23 31 13 13-0072	LF	22" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.21	37.56
		For Seal Class B, Add	9.39	
		For Seal Class A, Add	20.03	
		For Work In Restricted Working Space, Add	18.78	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0073	LF	24" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	76.42	39.20
		For Seal Class B, Add	9.80	
		For Seal Class A, Add	20.91	
		For Work In Restricted Working Space, Add	19.60	
23 31 13 13-0074		28 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0075	LF	4" x 4", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	15.15	7.78
		For Seal Class B, Add	1.94	
		For Seal Class A, Add	4.15	
		For Work In Restricted Working Space, Add	3.89	
23 31 13 13-0076	LF	4" x 6", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	18.96	9.72
		For Seal Class B, Add	2.43	
		For Seal Class A, Add	5.18	
		For Work In Restricted Working Space, Add	4.86	
23 31 13 13-0077	LF	4" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	22.75	11.66
		For Seal Class B, Add	2.92	
		For Seal Class A, Add	6.22	
		For Work In Restricted Working Space, Add	5.84	
23 31 13 13-0078	LF	4" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.52	13.61
		For Seal Class B, Add	3.40	
		For Seal Class A, Add	7.26	
		For Work In Restricted Working Space, Add	6.80	
23 31 13 13-0079	LF	4" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.32	15.56
		For Seal Class B, Add	3.89	
		For Seal Class A, Add	8.29	
		For Work In Restricted Working Space, Add	7.78	
23 31 13 13-0080	LF	4" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	34.11	17.49
		For Seal Class B, Add	4.37	
		For Seal Class A, Add	9.33	
		For Work In Restricted Working Space, Add	8.75	
23 31 13 13-0081	LF	4" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
		For Seal Class B, Add	4.86	
		For Seal Class A, Add	10.37	
		For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0082	LF	6" x 6", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	22.75	11.66
		For Seal Class B, Add	2.92	
		For Seal Class A, Add	6.22	
		For Work In Restricted Working Space, Add	5.84	
23 31 13 13-0083	LF	6" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.52	13.61
		For Seal Class B, Add	3.40	
		For Seal Class A, Add	7.26	
		For Work In Restricted Working Space, Add	6.80	
23 31 13 13-0084	LF	6" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.32	15.56
		For Seal Class B, Add	3.89	
		For Seal Class A, Add	8.29	
		For Work In Restricted Working Space, Add	7.78	
23 31 13 13-0085	LF	6" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	34.11	17.49
		For Seal Class B, Add	4.37	
		For Seal Class A, Add	9.33	
		For Work In Restricted Working Space, Add	8.75	
23 31 13 13-0086	LF	6" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
		For Seal Class B, Add	4.86	
		For Seal Class A, Add	10.37	
		For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0087	LF	6" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
		For Seal Class B, Add	5.35	
		For Seal Class A, Add	11.41	
		For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0088	LF	8" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.32	15.56
		For Seal Class B, Add	3.89	
		For Seal Class A, Add	8.29	
		For Work In Restricted Working Space, Add	7.78	
23 31 13 13-0089	LF	8" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	34.11	17.49
		For Seal Class B, Add	4.37	
		For Seal Class A, Add	9.33	
		For Work In Restricted Working Space, Add	8.75	
23 31 13 13-0090	LF	8" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
		For Seal Class B, Add	4.86	
		For Seal Class A, Add	10.37	
		For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0091	LF	8" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
		For Seal Class B, Add	5.35	
		For Seal Class A, Add	11.41	
		For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0092	LF	8" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
		For Seal Class B, Add	5.83	
		For Seal Class A, Add	12.44	
		For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0093	LF	8" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
		For Seal Class B, Add	6.32	
		For Seal Class A, Add	13.48	
		For Work In Restricted Working Space, Add	12.64	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0094	LF	8" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
		For Seal Class B, Add	6.81	
		For Seal Class A, Add	14.52	
		For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0095	LF	8" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
		For Seal Class B, Add	7.29	
		For Seal Class A, Add	15.55	
		For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0096	LF	8" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
		For Seal Class B, Add	7.78	
		For Seal Class A, Add	16.59	
		For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0097	LF	10" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
		For Seal Class B, Add	4.86	
		For Seal Class A, Add	10.37	
		For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0098	LF	10" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
		For Seal Class B, Add	5.35	
		For Seal Class A, Add	11.41	
		For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0099	LF	10" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
		For Seal Class B, Add	5.83	
		For Seal Class A, Add	12.44	
		For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0100	LF	10" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
		For Seal Class B, Add	6.32	
		For Seal Class A, Add	13.48	
		For Work In Restricted Working Space, Add	12.64	
23 31 13 13-0101	LF	10" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
		For Seal Class B, Add	6.81	
		For Seal Class A, Add	14.52	
		For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0102	LF	10" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
		For Seal Class B, Add	7.29	
		For Seal Class A, Add	15.55	
		For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0103	LF	10" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
		For Seal Class B, Add	7.78	
		For Seal Class A, Add	16.59	
		For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0104	LF	10" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
		For Seal Class B, Add	8.27	
		For Seal Class A, Add	17.63	
		For Work In Restricted Working Space, Add	16.53	
23 31 13 13-0105	LF	12" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
		For Seal Class B, Add	5.83	
		For Seal Class A, Add	12.44	
		For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0106	LF	12" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
		For Seal Class B, Add	6.32	
		For Seal Class A, Add	13.48	
		For Work In Restricted Working Space, Add	12.64	
23 31 13 13-0107	LF	12" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
		For Seal Class B, Add	6.81	
		For Seal Class A, Add	14.52	
		For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0108	LF	12" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
		For Seal Class B, Add	7.29	
		For Seal Class A, Add	15.55	
		For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0109	LF	12" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
		For Seal Class B, Add	7.78	
		For Seal Class A, Add	16.59	
		For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0110	LF	12" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
		For Seal Class B, Add	8.27	
		For Seal Class A, Add	17.63	
		For Work In Restricted Working Space, Add	16.53	
23 31 13 13-0111	LF	12" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0112	LF	14" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
		For Seal Class B, Add	6.81	
		For Seal Class A, Add	14.52	
		For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0113	LF	14" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
		For Seal Class B, Add	7.29	
		For Seal Class A, Add	15.55	
		For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0114	LF	14" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
		For Seal Class B, Add	7.78	
		For Seal Class A, Add	16.59	
		For Work In Restricted Working Space, Add	15.55	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0115	LF	14" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
		For Seal Class B, Add	8.27	
		For Seal Class A, Add	17.63	
		For Work In Restricted Working Space, Add	16.53	
23 31 13 13-0116	LF	14" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0117	LF	14" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
		For Seal Class B, Add	9.24	
		For Seal Class A, Add	19.70	
		For Work In Restricted Working Space, Add	18.47	
23 31 13 13-0118	LF	16" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
		For Seal Class B, Add	7.78	
		For Seal Class A, Add	16.59	
		For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0119	LF	16" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
		For Seal Class B, Add	8.27	
		For Seal Class A, Add	17.63	
		For Work In Restricted Working Space, Add	16.53	
23 31 13 13-0120	LF	16" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0121	LF	16" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
		For Seal Class B, Add	9.24	
		For Seal Class A, Add	19.70	
		For Work In Restricted Working Space, Add	18.47	
23 31 13 13-0122	LF	16" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
		For Seal Class B, Add	9.72	
		For Seal Class A, Add	20.74	
		For Work In Restricted Working Space, Add	19.44	
23 31 13 13-0123	LF	18" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0124	LF	18" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
		For Seal Class B, Add	9.24	
		For Seal Class A, Add	19.70	
		For Work In Restricted Working Space, Add	18.47	
23 31 13 13-0125	LF	18" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
		For Seal Class B, Add	9.72	
		For Seal Class A, Add	20.74	
		For Work In Restricted Working Space, Add	19.44	
23 31 13 13-0126	LF	18" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.59	40.83
		For Seal Class B, Add	10.21	
		For Seal Class A, Add	21.78	
		For Work In Restricted Working Space, Add	20.42	
23 31 13 13-0127	LF	20" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
		For Seal Class B, Add	9.72	
		For Seal Class A, Add	20.74	
		For Work In Restricted Working Space, Add	19.44	
23 31 13 13-0128	LF	20" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.59	40.83
		For Seal Class B, Add	10.21	
		For Seal Class A, Add	21.78	
		For Work In Restricted Working Space, Add	20.42	
23 31 13 13-0129	LF	20" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.39	42.77
		For Seal Class B, Add	10.69	
		For Seal Class A, Add	22.81	
		For Work In Restricted Working Space, Add	21.39	
23 31 13 13-0130	LF	22" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.39	42.77
		For Seal Class B, Add	10.69	
		For Seal Class A, Add	22.81	
		For Work In Restricted Working Space, Add	21.39	
23 31 13 13-0131	LF	22" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.17	44.72
		For Seal Class B, Add	11.18	
		For Seal Class A, Add	23.85	
		For Work In Restricted Working Space, Add	22.36	
23 31 13 13-0132	LF	24" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	90.96	46.67
		For Seal Class B, Add	11.67	
		For Seal Class A, Add	24.89	
		For Work In Restricted Working Space, Add	23.33	
23 31 13 13-0133		26 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0134	LF	4" x 4", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	17.59	9.01
		For Seal Class B, Add	2.26	
		For Seal Class A, Add	4.81	
		For Work In Restricted Working Space, Add	4.51	
23 31 13 13-0135	LF	4" x 6", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	21.99	11.27
		For Seal Class B, Add	2.82	
		For Seal Class A, Add	6.02	
		For Work In Restricted Working Space, Add	5.64	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0136	LF	4" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.38	13.54
		For Seal Class B, Add	3.38	
		For Seal Class A, Add	7.22	
		For Work In Restricted Working Space, Add	6.77	
23 31 13 13-0137	LF	4" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.77	15.79
		For Seal Class B, Add	3.95	
		For Seal Class A, Add	8.42	
		For Work In Restricted Working Space, Add	7.89	
23 31 13 13-0138	LF	4" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0139	LF	4" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0140	LF	4" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.96	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	
23 31 13 13-0141	LF	6" x 6", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.38	13.54
		For Seal Class B, Add	3.38	
		For Seal Class A, Add	7.22	
		For Work In Restricted Working Space, Add	6.77	
23 31 13 13-0142	LF	6" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.77	15.79
		For Seal Class B, Add	3.95	
		For Seal Class A, Add	8.42	
		For Work In Restricted Working Space, Add	7.89	
23 31 13 13-0143	LF	6" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0144	LF	6" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0145	LF	6" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.96	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	
23 31 13 13-0146	LF	6" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.37	24.81
		For Seal Class B, Add	6.20	
		For Seal Class A, Add	13.23	
		For Work In Restricted Working Space, Add	12.41	
23 31 13 13-0147	LF	8" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0148	LF	8" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0149	LF	8" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.97	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	
23 31 13 13-0150	LF	8" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.37	24.81
		For Seal Class B, Add	6.20	
		For Seal Class A, Add	13.23	
		For Work In Restricted Working Space, Add	12.41	
23 31 13 13-0151	LF	8" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	52.78	27.06
		For Seal Class B, Add	6.77	
		For Seal Class A, Add	14.44	
		For Work In Restricted Working Space, Add	13.54	
23 31 13 13-0152	LF	8" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.16	29.32
		For Seal Class B, Add	7.33	
		For Seal Class A, Add	15.64	
		For Work In Restricted Working Space, Add	14.66	
23 31 13 13-0153	LF	8" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.55	31.58
		For Seal Class B, Add	7.89	
		For Seal Class A, Add	16.84	
		For Work In Restricted Working Space, Add	15.79	
23 31 13 13-0154	LF	8" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	65.97	33.82
		For Seal Class B, Add	8.46	
		For Seal Class A, Add	18.04	
		For Work In Restricted Working Space, Add	16.92	
23 31 13 13-0155	LF	8" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
		For Seal Class B, Add	9.02	
		For Seal Class A, Add	19.24	
		For Work In Restricted Working Space, Add	18.04	
23 31 13 13-0156	LF	10" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.97	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 31 13 13-0157	LF 10" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.37	24.81
	For Seal Class B, Add	6.20	
	For Seal Class A, Add	13.23	
	For Work In Restricted Working Space, Add	12.41	
23 31 13 13-0158	LF 10" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	52.78	27.06
	For Seal Class B, Add	6.77	
	For Seal Class A, Add	14.44	
	For Work In Restricted Working Space, Add	13.54	
23 31 13 13-0159	LF 10" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.16	29.32
	For Seal Class B, Add	7.33	
	For Seal Class A, Add	15.64	
	For Work In Restricted Working Space, Add	14.66	
23 31 13 13-0160	LF 10" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.55	31.58
	For Seal Class B, Add	7.89	
	For Seal Class A, Add	16.84	
	For Work In Restricted Working Space, Add	15.79	
23 31 13 13-0161	LF 10" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	65.97	33.82
	For Seal Class B, Add	8.46	
	For Seal Class A, Add	18.04	
	For Work In Restricted Working Space, Add	16.92	
23 31 13 13-0162	LF 10" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
	For Seal Class B, Add	9.02	
	For Seal Class A, Add	19.24	
	For Work In Restricted Working Space, Add	18.04	
23 31 13 13-0163	LF 10" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
	For Seal Class B, Add	9.59	
	For Seal Class A, Add	20.45	
	For Work In Restricted Working Space, Add	19.17	
23 31 13 13-0164	LF 12" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	52.77	27.06
	For Seal Class B, Add	6.77	
	For Seal Class A, Add	14.44	
	For Work In Restricted Working Space, Add	13.54	
23 31 13 13-0165	LF 12" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.16	29.32
	For Seal Class B, Add	7.33	
	For Seal Class A, Add	15.64	
	For Work In Restricted Working Space, Add	14.66	
23 31 13 13-0166	LF 12" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.55	31.58
	For Seal Class B, Add	7.89	
	For Seal Class A, Add	16.84	
	For Work In Restricted Working Space, Add	15.79	
23 31 13 13-0167	LF 12" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	65.97	33.82
	For Seal Class B, Add	8.46	
	For Seal Class A, Add	18.04	
	For Work In Restricted Working Space, Add	16.92	
23 31 13 13-0168	LF 12" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
	For Seal Class B, Add	9.02	
	For Seal Class A, Add	19.24	
	For Work In Restricted Working Space, Add	18.04	
23 31 13 13-0169	LF 12" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
	For Seal Class B, Add	9.59	
	For Seal Class A, Add	20.45	
	For Work In Restricted Working Space, Add	19.17	
23 31 13 13-0170	LF 12" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
	For Seal Class B, Add	10.15	
	For Seal Class A, Add	21.65	
	For Work In Restricted Working Space, Add	20.30	
23 31 13 13-0171	LF 14" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.55	31.58
	For Seal Class B, Add	7.89	
	For Seal Class A, Add	16.84	
	For Work In Restricted Working Space, Add	15.79	
23 31 13 13-0172	LF 14" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	65.97	33.82
	For Seal Class B, Add	8.46	
	For Seal Class A, Add	18.04	
	For Work In Restricted Working Space, Add	16.92	
23 31 13 13-0173	LF 14" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
	For Seal Class B, Add	9.02	
	For Seal Class A, Add	19.24	
	For Work In Restricted Working Space, Add	18.04	
23 31 13 13-0174	LF 14" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
	For Seal Class B, Add	9.59	
	For Seal Class A, Add	20.45	
	For Work In Restricted Working Space, Add	19.17	
23 31 13 13-0175	LF 14" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
	For Seal Class B, Add	10.15	
	For Seal Class A, Add	21.65	
	For Work In Restricted Working Space, Add	20.30	
23 31 13 13-0176	LF 14" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
	For Seal Class B, Add	10.71	
	For Seal Class A, Add	22.85	
	For Work In Restricted Working Space, Add	21.43	
23 31 13 13-0177	LF 16" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
	For Seal Class B, Add	9.02	
	For Seal Class A, Add	19.24	
	For Work In Restricted Working Space, Add	18.04	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0178	LF	16" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
		For Seal Class B, Add	9.59	
		For Seal Class A, Add	20.45	
		For Work In Restricted Working Space, Add	19.17	
23 31 13 13-0179	LF	16" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
		For Seal Class B, Add	10.15	
		For Seal Class A, Add	21.65	
		For Work In Restricted Working Space, Add	20.30	
23 31 13 13-0180	LF	16" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
		For Seal Class B, Add	10.71	
		For Seal Class A, Add	22.85	
		For Work In Restricted Working Space, Add	21.43	
23 31 13 13-0181	LF	16" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13 13-0182	LF	18" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
		For Seal Class B, Add	10.15	
		For Seal Class A, Add	21.65	
		For Work In Restricted Working Space, Add	20.30	
23 31 13 13-0183	LF	18" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
		For Seal Class B, Add	10.71	
		For Seal Class A, Add	22.85	
		For Work In Restricted Working Space, Add	21.43	
23 31 13 13-0184	LF	18" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13 13-0185	LF	18" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	92.33	47.36
		For Seal Class B, Add	11.84	
		For Seal Class A, Add	25.26	
		For Work In Restricted Working Space, Add	23.68	
23 31 13 13-0186	LF	20" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13 13-0187	LF	20" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	92.33	47.36
		For Seal Class B, Add	11.84	
		For Seal Class A, Add	25.26	
		For Work In Restricted Working Space, Add	23.68	
23 31 13 13-0188	LF	20" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.72	49.62
		For Seal Class B, Add	12.41	
		For Seal Class A, Add	26.46	
		For Work In Restricted Working Space, Add	24.81	
23 31 13 13-0189	LF	22" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.72	49.62
		For Seal Class B, Add	12.41	
		For Seal Class A, Add	26.46	
		For Work In Restricted Working Space, Add	24.81	
23 31 13 13-0190	LF	22" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	101.13	51.87
		For Seal Class B, Add	12.97	
		For Seal Class A, Add	27.66	
		For Work In Restricted Working Space, Add	25.94	
23 31 13 13-0191	LF	24" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	105.53	54.13
		For Seal Class B, Add	13.53	
		For Seal Class A, Add	28.87	
		For Work In Restricted Working Space, Add	27.07	
23 31 13 13-0192		24 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0193	LF	4" x 4", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.59	14.00
		For Seal Class B, Add	3.50	
		For Seal Class A, Add	7.47	
		For Work In Restricted Working Space, Add	7.00	
23 31 13 13-0194	LF	4" x 6", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	33.24	17.49
		For Seal Class B, Add	4.38	
		For Seal Class A, Add	9.33	
		For Work In Restricted Working Space, Add	8.75	
23 31 13 13-0195	LF	4" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.88	21.00
		For Seal Class B, Add	5.25	
		For Seal Class A, Add	11.20	
		For Work In Restricted Working Space, Add	10.50	
23 31 13 13-0196	LF	4" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	46.53	24.50
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.07	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0197	LF	4" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
		For Seal Class B, Add	7.00	
		For Seal Class A, Add	14.93	
		For Work In Restricted Working Space, Add	14.00	
23 31 13 13-0198	LF	4" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
		For Seal Class B, Add	7.88	
		For Seal Class A, Add	16.80	
		For Work In Restricted Working Space, Add	15.75	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0199	LF	4" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0200	LF	6" x 6", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.88	21.00
		For Seal Class B, Add	5.25	
		For Seal Class A, Add	11.20	
		For Work In Restricted Working Space, Add	10.50	
23 31 13 13-0201	LF	6" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	46.53	24.50
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.07	
		For Work In Restricted Working Space, Add	12.25	
23 31 13 13-0202	LF	6" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
		For Seal Class B, Add	7.00	
		For Seal Class A, Add	14.93	
		For Work In Restricted Working Space, Add	14.00	
23 31 13 13-0203	LF	6" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
		For Seal Class B, Add	7.88	
		For Seal Class A, Add	16.80	
		For Work In Restricted Working Space, Add	15.75	
23 31 13 13-0204	LF	6" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0205	LF	6" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13 13-0206	LF	8" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
		For Seal Class B, Add	7.00	
		For Seal Class A, Add	14.93	
		For Work In Restricted Working Space, Add	14.00	
23 31 13 13-0207	LF	8" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
		For Seal Class B, Add	7.88	
		For Seal Class A, Add	16.80	
		For Work In Restricted Working Space, Add	15.75	
23 31 13 13-0208	LF	8" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0209	LF	8" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13 13-0210	LF	8" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13 13-0211	LF	8" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13 13-0212	LF	8" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13 13-0213	LF	8" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13 13-0214	LF	8" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13 13-0215	LF	10" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0216	LF	10" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13 13-0217	LF	10" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13 13-0218	LF	10" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13 13-0219	LF	10" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0220	LF	10" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0221	LF	10" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0222	LF	10" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0223	LF	10" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0224	LF	10" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0225	LF	10" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0226	LF	12" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
			For Seal Class B, Add	10.50	
			For Seal Class A, Add	22.40	
			For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0227	LF	12" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
			For Seal Class B, Add	11.37	
			For Seal Class A, Add	24.27	
			For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0228	LF	12" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0229	LF	12" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0230	LF	12" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0231	LF	12" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0232	LF	12" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0233	LF	12" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0234	LF	12" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0235	LF	12" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0236	LF	14" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0237	LF	14" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0238	LF	14" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0239	LF	14" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0240	LF	14" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0241	LF 14" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0242	LF 14" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0243	LF 14" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0244	LF 14" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0245	LF 16" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0246	LF 16" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0247	LF 16" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0248	LF 16" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0249	LF 16" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0250	LF 16" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0251	LF 16" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0252	LF 16" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0253	LF 18" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0254	LF 18" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0255	LF 18" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0256	LF 18" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0257	LF 18" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0258	LF 18" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0259	LF 18" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0260	LF 20" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0261	LF 20" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0262	LF	20" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13 13-0263	LF	20" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0264	LF	20" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13 13-0265	LF	20" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13 13-0266	LF	22" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13 13-0267	LF	22" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0268	LF	22" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13 13-0269	LF	22" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13 13-0270	LF	22" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13 13-0271	LF	24" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13 13-0272	LF	24" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13 13-0273	LF	24" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13 13-0274	LF	24" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	179.48	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13 13-0275	LF	26" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13 13-0276	LF	26" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	179.48	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13 13-0277	LF	26" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	186.11	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13 13-0278	LF	28" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	186.11	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13 13-0279	LF	28" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.77	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13 13-0280	LF	30" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	199.42	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13 13-0281		22 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0282	LF	4" x 4", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	27.30	14.00
		For Seal Class B, Add	3.50	
		For Seal Class A, Add	7.47	
		For Work In Restricted Working Space, Add	7.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0283	LF	4" x 6", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	34.12	17.49
			For Seal Class B, Add	4.38	
			For Seal Class A, Add	9.33	
			For Work In Restricted Working Space, Add	8.75	
23 31 13	13-0284	LF	4" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	40.94	21.00
			For Seal Class B, Add	5.25	
			For Seal Class A, Add	11.20	
			For Work In Restricted Working Space, Add	10.50	
23 31 13	13-0285	LF	4" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.76	24.50
			For Seal Class B, Add	6.12	
			For Seal Class A, Add	13.07	
			For Work In Restricted Working Space, Add	12.25	
23 31 13	13-0286	LF	4" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.59	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13-0287	LF	4" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.41	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13-0288	LF	4" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.24	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0289	LF	6" x 6", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	40.94	21.00
			For Seal Class B, Add	5.25	
			For Seal Class A, Add	11.20	
			For Work In Restricted Working Space, Add	10.50	
23 31 13	13-0290	LF	6" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.76	24.50
			For Seal Class B, Add	6.12	
			For Seal Class A, Add	13.07	
			For Work In Restricted Working Space, Add	12.25	
23 31 13	13-0291	LF	6" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.59	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13-0292	LF	6" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.41	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13-0293	LF	6" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.24	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0294	LF	6" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.06	38.50
			For Seal Class B, Add	9.63	
			For Seal Class A, Add	20.53	
			For Work In Restricted Working Space, Add	19.25	
23 31 13	13-0295	LF	8" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.59	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13-0296	LF	8" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.41	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13-0297	LF	8" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.24	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0298	LF	8" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.06	38.50
			For Seal Class B, Add	9.63	
			For Seal Class A, Add	20.53	
			For Work In Restricted Working Space, Add	19.25	
23 31 13	13-0299	LF	8" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
			For Seal Class B, Add	10.50	
			For Seal Class A, Add	22.40	
			For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0300	LF	8" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
			For Seal Class B, Add	11.37	
			For Seal Class A, Add	24.27	
			For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0301	LF	8" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0302	LF	8" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0303	LF	8" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0304	LF	10" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.24	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0305	LF	10" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.06	38.50
			For Seal Class B, Add	9.63	
			For Seal Class A, Add	20.53	
			For Work In Restricted Working Space, Add	19.25	
23 31 13	13-0306	LF	10" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
			For Seal Class B, Add	10.50	
			For Seal Class A, Add	22.40	
			For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0307	LF	10" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
			For Seal Class B, Add	11.37	
			For Seal Class A, Add	24.27	
			For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0308	LF	10" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0309	LF	10" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0310	LF	10" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0311	LF	10" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0312	LF	10" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0313	LF	10" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0314	LF	10" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0315	LF	10" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0316	LF	12" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
			For Seal Class B, Add	10.50	
			For Seal Class A, Add	22.40	
			For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0317	LF	12" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
			For Seal Class B, Add	11.37	
			For Seal Class A, Add	24.27	
			For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0318	LF	12" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0319	LF	12" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0320	LF	12" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0321	LF	12" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0322	LF	12" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0323	LF	12" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0324	LF	12" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0325	LF 12" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0326	LF 12" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0327	LF 12" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0328	LF 12" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0329	LF 14" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0330	LF 14" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0331	LF 14" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0332	LF 14" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0333	LF 14" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0334	LF 14" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0335	LF 14" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0336	LF 14" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0337	LF 14" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0338	LF 14" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0339	LF 14" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0340	LF 14" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0341	LF 16" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0342	LF 16" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0343	LF 16" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0344	LF 16" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0345	LF 16" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0346	LF	16" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13 13-0347	LF	16" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13 13-0348	LF	16" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0349	LF	16" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13 13-0350	LF	16" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13 13-0351	LF	16" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13 13-0352	LF	16" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13 13-0353	LF	16" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13 13-0354	LF	16" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13 13-0355	LF	16" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13 13-0356	LF	18" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13 13-0357	LF	18" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13 13-0358	LF	18" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13 13-0359	LF	18" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13 13-0360	LF	18" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13 13-0361	LF	18" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0362	LF	18" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13 13-0363	LF	18" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13 13-0364	LF	18" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13 13-0365	LF	18" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13 13-0366	LF	18" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0367	LF 18" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0368	LF 18" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0369	LF 18" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0370	LF 18" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0371	LF 20" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0372	LF 20" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0373	LF 20" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0374	LF 20" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0375	LF 20" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0376	LF 20" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0377	LF 20" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0378	LF 20" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13	13-0379	LF 20" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0380	LF 20" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0381	LF 20" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0382	LF 20" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0383	LF 20" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0384	LF 20" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0385	LF 20" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0386	LF 22" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0387	LF 22" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT	COST	
23 31 13 13-0388	LF	22" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76		84.01
		For Seal Class B, Add	21.00		
		For Seal Class A, Add	44.60		
		For Work In Restricted Working Space, Add	42.00		
23 31 13 13-0389	LF	22" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58		87.50
		For Seal Class B, Add	21.88		
		For Seal Class A, Add	46.67		
		For Work In Restricted Working Space, Add	43.75		
23 31 13 13-0390	LF	22" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41		91.01
		For Seal Class B, Add	22.75		
		For Seal Class A, Add	48.54		
		For Work In Restricted Working Space, Add	45.50		
23 31 13 13-0391	LF	22" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23		94.51
		For Seal Class B, Add	23.63		
		For Seal Class A, Add	50.40		
		For Work In Restricted Working Space, Add	47.25		
23 31 13 13-0392	LF	22" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04		98.00
		For Seal Class B, Add	24.50		
		For Seal Class A, Add	52.27		
		For Work In Restricted Working Space, Add	49.00		
23 31 13 13-0393	LF	22" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87		101.50
		For Seal Class B, Add	25.38		
		For Seal Class A, Add	54.13		
		For Work In Restricted Working Space, Add	50.75		
23 31 13 13-0394	LF	22" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70		105.01
		For Seal Class B, Add	26.25		
		For Seal Class A, Add	56.00		
		For Work In Restricted Working Space, Add	52.50		
23 31 13 13-0395	LF	22" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52		108.50
		For Seal Class B, Add	27.13		
		For Seal Class A, Add	57.87		
		For Work In Restricted Working Space, Add	54.25		
23 31 13 13-0396	LF	22" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34		112.01
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0397	LF	22" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17		115.51
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0398	LF	22" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99		119.01
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0399	LF	22" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81		122.50
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0400	LF	24" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76		84.01
		For Seal Class B, Add	21.00		
		For Seal Class A, Add	44.80		
		For Work In Restricted Working Space, Add	42.00		
23 31 13 13-0401	LF	24" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58		87.50
		For Seal Class B, Add	21.88		
		For Seal Class A, Add	46.67		
		For Work In Restricted Working Space, Add	43.75		
23 31 13 13-0402	LF	24" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41		91.01
		For Seal Class B, Add	22.75		
		For Seal Class A, Add	48.54		
		For Work In Restricted Working Space, Add	45.50		
23 31 13 13-0403	LF	24" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23		94.51
		For Seal Class B, Add	23.63		
		For Seal Class A, Add	50.40		
		For Work In Restricted Working Space, Add	47.25		
23 31 13 13-0404	LF	24" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04		98.00
		For Seal Class B, Add	24.50		
		For Seal Class A, Add	52.27		
		For Work In Restricted Working Space, Add	49.00		
23 31 13 13-0405	LF	24" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87		101.50
		For Seal Class B, Add	25.38		
		For Seal Class A, Add	54.13		
		For Work In Restricted Working Space, Add	50.75		
23 31 13 13-0406	LF	24" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70		105.01
		For Seal Class B, Add	26.25		
		For Seal Class A, Add	56.00		
		For Work In Restricted Working Space, Add	52.50		
23 31 13 13-0407	LF	24" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52		108.50
		For Seal Class B, Add	27.13		
		For Seal Class A, Add	57.87		
		For Work In Restricted Working Space, Add	54.25		
23 31 13 13-0408	LF	24" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34		112.01
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0409	LF 24" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0410	LF 24" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0411	LF 24" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13	13-0412	LF 24" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13	13-0413	LF 26" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0414	LF 26" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13	13-0415	LF 26" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0416	LF 26" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0417	LF 26" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0418	LF 26" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0419	LF 26" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0420	LF 26" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0421	LF 26" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0422	LF 26" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13	13-0423	LF 26" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13	13-0424	LF 26" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13	13-0425	LF 28" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0426	LF 28" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0427	LF 28" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0428	LF 28" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0429	LF 28" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0430	LF	28" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0431	LF	28" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0432	LF	28" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0433	LF	28" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0434	LF	28" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51	
		For Seal Class B, Add	32.38		
		For Seal Class A, Add	69.07		
		For Work In Restricted Working Space, Add	64.76		
23 31 13 13-0435	LF	28" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01	
		For Seal Class B, Add	33.25		
		For Seal Class A, Add	70.94		
		For Work In Restricted Working Space, Add	66.50		
23 31 13 13-0436	LF	30" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01	
		For Seal Class B, Add	26.25		
		For Seal Class A, Add	56.00		
		For Work In Restricted Working Space, Add	52.50		
23 31 13 13-0437	LF	30" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50	
		For Seal Class B, Add	27.13		
		For Seal Class A, Add	57.87		
		For Work In Restricted Working Space, Add	54.25		
23 31 13 13-0438	LF	30" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01	
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0439	LF	30" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0440	LF	30" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0441	LF	30" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0442	LF	30" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0443	LF	30" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51	
		For Seal Class B, Add	32.38		
		For Seal Class A, Add	69.07		
		For Work In Restricted Working Space, Add	64.76		
23 31 13 13-0444	LF	30" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01	
		For Seal Class B, Add	33.25		
		For Seal Class A, Add	70.94		
		For Work In Restricted Working Space, Add	66.50		
23 31 13 13-0445	LF	30" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51	
		For Seal Class B, Add	34.13		
		For Seal Class A, Add	72.80		
		For Work In Restricted Working Space, Add	68.25		
23 31 13 13-0446	LF	32" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01	
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0447	LF	32" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0448	LF	32" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0449	LF	32" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0450	LF	32" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0451	LF	32" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13 13-0452	LF	32" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13 13-0453	LF	32" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	
23 31 13 13-0454	LF	32" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13 13-0455	LF	34" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13 13-0456	LF	34" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13 13-0457	LF	34" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13 13-0458	LF	34" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13 13-0459	LF	34" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13 13-0460	LF	34" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	
23 31 13 13-0461	LF	34" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13 13-0462	LF	34" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13 13-0463	LF	36" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13 13-0464	LF	36" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13 13-0465	LF	36" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13 13-0466	LF	36" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	
23 31 13 13-0467	LF	36" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13 13-0468	LF	36" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13 13-0469	LF	36" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13 13-0470	LF	38" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13 13-0471	LF	38" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0472	LF	38" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13 13-0473	LF	38" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13 13-0474	LF	38" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13 13-0475	LF	38" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	
23 31 13 13-0476	LF	38" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	
23 31 13 13-0477	LF	40" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13 13-0478	LF	40" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13 13-0479	LF	40" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13 13-0480	LF	40" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	
23 31 13 13-0481	LF	40" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	
23 31 13 13-0482	LF	40" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
		For Seal Class B, Add	39.38	
		For Seal Class A, Add	84.01	
		For Work In Restricted Working Space, Add	78.76	
23 31 13 13-0483	LF	40" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.87	
		For Work In Restricted Working Space, Add	80.50	
23 31 13 13-0484	LF	40" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
		For Seal Class B, Add	41.13	
		For Seal Class A, Add	87.74	
		For Work In Restricted Working Space, Add	82.25	
23 31 13 13-0485	LF	42" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13 13-0486	LF	42" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	
23 31 13 13-0487	LF	42" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	
23 31 13 13-0488	LF	42" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
		For Seal Class B, Add	39.38	
		For Seal Class A, Add	84.01	
		For Work In Restricted Working Space, Add	78.76	
23 31 13 13-0489	LF	42" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.87	
		For Work In Restricted Working Space, Add	80.50	
23 31 13 13-0490	LF	42" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
		For Seal Class B, Add	41.13	
		For Seal Class A, Add	87.74	
		For Work In Restricted Working Space, Add	82.25	
23 31 13 13-0491	LF	42" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
		For Seal Class B, Add	42.00	
		For Seal Class A, Add	89.60	
		For Work In Restricted Working Space, Add	84.00	
23 31 13 13-0492	LF	44" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0493	LF	44" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
		For Seal Class B, Add	39.38	
		For Seal Class A, Add	84.01	
		For Work In Restricted Working Space, Add	78.76	
23 31 13 13-0494	LF	44" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.87	
		For Work In Restricted Working Space, Add	80.50	
23 31 13 13-0495	LF	44" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
		For Seal Class B, Add	41.13	
		For Seal Class A, Add	87.74	
		For Work In Restricted Working Space, Add	82.25	
23 31 13 13-0496	LF	44" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
		For Seal Class B, Add	42.00	
		For Seal Class A, Add	89.60	
		For Work In Restricted Working Space, Add	84.00	
23 31 13 13-0497	LF	44" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
		For Seal Class B, Add	42.88	
		For Seal Class A, Add	91.47	
		For Work In Restricted Working Space, Add	85.75	
23 31 13 13-0498	LF	46" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.87	
		For Work In Restricted Working Space, Add	80.50	
23 31 13 13-0499	LF	46" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
		For Seal Class B, Add	41.13	
		For Seal Class A, Add	87.74	
		For Work In Restricted Working Space, Add	82.25	
23 31 13 13-0500	LF	46" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
		For Seal Class B, Add	42.00	
		For Seal Class A, Add	89.60	
		For Work In Restricted Working Space, Add	84.00	
23 31 13 13-0501	LF	46" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
		For Seal Class B, Add	42.88	
		For Seal Class A, Add	91.47	
		For Work In Restricted Working Space, Add	85.75	
23 31 13 13-0502	LF	46" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
		For Seal Class B, Add	43.75	
		For Seal Class A, Add	93.34	
		For Work In Restricted Working Space, Add	87.50	
23 31 13 13-0503	LF	48" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
		For Seal Class B, Add	42.00	
		For Seal Class A, Add	89.60	
		For Work In Restricted Working Space, Add	84.00	
23 31 13 13-0504	LF	48" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
		For Seal Class B, Add	42.88	
		For Seal Class A, Add	91.47	
		For Work In Restricted Working Space, Add	85.75	
23 31 13 13-0505	LF	48" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
		For Seal Class B, Add	43.75	
		For Seal Class A, Add	93.34	
		For Work In Restricted Working Space, Add	87.50	
23 31 13 13-0506	LF	48" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	348.00	178.51
		For Seal Class B, Add	44.63	
		For Seal Class A, Add	95.21	
		For Work In Restricted Working Space, Add	89.26	
23 31 13 13-0507	LF	50" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
		For Seal Class B, Add	43.75	
		For Seal Class A, Add	93.34	
		For Work In Restricted Working Space, Add	87.50	
23 31 13 13-0508	LF	50" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	348.00	178.51
		For Seal Class B, Add	44.63	
		For Seal Class A, Add	95.21	
		For Work In Restricted Working Space, Add	89.26	
23 31 13 13-0509	LF	50" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	354.82	182.00
		For Seal Class B, Add	45.50	
		For Seal Class A, Add	97.07	
		For Work In Restricted Working Space, Add	91.01	
23 31 13 13-0510	LF	52" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	354.82	182.00
		For Seal Class B, Add	45.50	
		For Seal Class A, Add	97.07	
		For Work In Restricted Working Space, Add	91.01	
23 31 13 13-0511	LF	52" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.63	185.51
		For Seal Class B, Add	46.38	
		For Seal Class A, Add	98.94	
		For Work In Restricted Working Space, Add	92.75	
23 31 13 13-0512	LF	54" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	368.45	189.00
		For Seal Class B, Add	47.25	
		For Seal Class A, Add	100.80	
		For Work In Restricted Working Space, Add	94.50	

23 31 13 13-0513 20 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0514	LF	4" x 4", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	32.13	16.49
		For Seal Class B, Add	.....	4.12	
		For Seal Class A, Add	.....	8.79	
		For Work In Restricted Working Space, Add	.....	8.24	
23 31 13 13-0515	LF	4" x 6", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	40.19	20.61
		For Seal Class B, Add	.....	5.15	
		For Seal Class A, Add	.....	11.00	
		For Work In Restricted Working Space, Add	.....	10.31	
23 31 13 13-0516	LF	4" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	48.22	24.74
		For Seal Class B, Add	.....	6.18	
		For Seal Class A, Add	.....	13.19	
		For Work In Restricted Working Space, Add	.....	12.37	
23 31 13 13-0517	LF	4" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	56.25	28.85
		For Seal Class B, Add	.....	7.22	
		For Seal Class A, Add	.....	15.39	
		For Work In Restricted Working Space, Add	.....	14.43	
23 31 13 13-0518	LF	4" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	64.30	32.98
		For Seal Class B, Add	.....	8.25	
		For Seal Class A, Add	.....	17.59	
		For Work In Restricted Working Space, Add	.....	16.49	
23 31 13 13-0519	LF	4" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	72.33	37.10
		For Seal Class B, Add	.....	9.27	
		For Seal Class A, Add	.....	19.79	
		For Work In Restricted Working Space, Add	.....	18.55	
23 31 13 13-0520	LF	4" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	80.37	41.22
		For Seal Class B, Add	.....	10.31	
		For Seal Class A, Add	.....	21.99	
		For Work In Restricted Working Space, Add	.....	20.62	
23 31 13 13-0521	LF	6" x 6", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	48.22	24.74
		For Seal Class B, Add	.....	6.18	
		For Seal Class A, Add	.....	13.19	
		For Work In Restricted Working Space, Add	.....	12.37	
23 31 13 13-0522	LF	6" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	56.25	28.85
		For Seal Class B, Add	.....	7.22	
		For Seal Class A, Add	.....	15.39	
		For Work In Restricted Working Space, Add	.....	14.43	
23 31 13 13-0523	LF	6" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	64.30	32.98
		For Seal Class B, Add	.....	8.25	
		For Seal Class A, Add	.....	17.59	
		For Work In Restricted Working Space, Add	.....	16.49	
23 31 13 13-0524	LF	6" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	72.33	37.10
		For Seal Class B, Add	.....	9.27	
		For Seal Class A, Add	.....	19.79	
		For Work In Restricted Working Space, Add	.....	18.55	
23 31 13 13-0525	LF	6" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	80.37	41.22
		For Seal Class B, Add	.....	10.31	
		For Seal Class A, Add	.....	21.99	
		For Work In Restricted Working Space, Add	.....	20.62	
23 31 13 13-0526	LF	6" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	88.41	45.35
		For Seal Class B, Add	.....	11.34	
		For Seal Class A, Add	.....	24.19	
		For Work In Restricted Working Space, Add	.....	22.67	
23 31 13 13-0527	LF	8" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	64.30	32.98
		For Seal Class B, Add	.....	8.25	
		For Seal Class A, Add	.....	17.59	
		For Work In Restricted Working Space, Add	.....	16.49	
23 31 13 13-0528	LF	8" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	72.33	37.10
		For Seal Class B, Add	.....	9.27	
		For Seal Class A, Add	.....	19.79	
		For Work In Restricted Working Space, Add	.....	18.55	
23 31 13 13-0529	LF	8" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	80.37	41.22
		For Seal Class B, Add	.....	10.31	
		For Seal Class A, Add	.....	21.99	
		For Work In Restricted Working Space, Add	.....	20.62	
23 31 13 13-0530	LF	8" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	88.41	45.35
		For Seal Class B, Add	.....	11.34	
		For Seal Class A, Add	.....	24.19	
		For Work In Restricted Working Space, Add	.....	22.67	
23 31 13 13-0531	LF	8" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	96.43	49.47
		For Seal Class B, Add	.....	12.37	
		For Seal Class A, Add	.....	26.38	
		For Work In Restricted Working Space, Add	.....	24.74	
23 31 13 13-0532	LF	8" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	104.47	53.58
		For Seal Class B, Add	.....	13.40	
		For Seal Class A, Add	.....	28.58	
		For Work In Restricted Working Space, Add	.....	26.80	
23 31 13 13-0533	LF	8" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	112.52	57.72
		For Seal Class B, Add	.....	14.43	
		For Seal Class A, Add	.....	30.78	
		For Work In Restricted Working Space, Add	.....	28.86	
23 31 13 13-0534	LF	8" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	120.54	61.83
		For Seal Class B, Add	.....	15.46	
		For Seal Class A, Add	.....	32.98	
		For Work In Restricted Working Space, Add	.....	30.92	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0535	LF 8" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
		For Seal Class B, Add	16.49	
		For Seal Class A, Add	35.18	
		For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0536	LF 10" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	80.37	41.22
		For Seal Class B, Add	10.31	
		For Seal Class A, Add	21.99	
		For Work In Restricted Working Space, Add	20.62	
23 31 13	13-0537	LF 10" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.41	45.35
		For Seal Class B, Add	11.34	
		For Seal Class A, Add	24.19	
		For Work In Restricted Working Space, Add	22.67	
23 31 13	13-0538	LF 10" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.43	49.47
		For Seal Class B, Add	12.37	
		For Seal Class A, Add	26.38	
		For Work In Restricted Working Space, Add	24.74	
23 31 13	13-0539	LF 10" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.47	53.58
		For Seal Class B, Add	13.40	
		For Seal Class A, Add	28.58	
		For Work In Restricted Working Space, Add	26.80	
23 31 13	13-0540	LF 10" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
		For Seal Class B, Add	14.43	
		For Seal Class A, Add	30.78	
		For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0541	LF 10" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
		For Seal Class B, Add	15.46	
		For Seal Class A, Add	32.98	
		For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0542	LF 10" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
		For Seal Class B, Add	16.49	
		For Seal Class A, Add	35.18	
		For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0543	LF 10" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
		For Seal Class B, Add	17.52	
		For Seal Class A, Add	37.38	
		For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0544	LF 10" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
		For Seal Class B, Add	18.55	
		For Seal Class A, Add	39.58	
		For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0545	LF 10" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
		For Seal Class B, Add	19.58	
		For Seal Class A, Add	41.78	
		For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0546	LF 10" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
		For Seal Class B, Add	20.61	
		For Seal Class A, Add	43.97	
		For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0547	LF 10" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
		For Seal Class B, Add	21.64	
		For Seal Class A, Add	46.17	
		For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0548	LF 12" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.43	49.47
		For Seal Class B, Add	12.37	
		For Seal Class A, Add	26.38	
		For Work In Restricted Working Space, Add	24.74	
23 31 13	13-0549	LF 12" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.47	53.58
		For Seal Class B, Add	13.40	
		For Seal Class A, Add	28.58	
		For Work In Restricted Working Space, Add	26.80	
23 31 13	13-0550	LF 12" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
		For Seal Class B, Add	14.43	
		For Seal Class A, Add	30.78	
		For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0551	LF 12" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
		For Seal Class B, Add	15.46	
		For Seal Class A, Add	32.98	
		For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0552	LF 12" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
		For Seal Class B, Add	16.49	
		For Seal Class A, Add	35.18	
		For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0553	LF 12" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
		For Seal Class B, Add	17.52	
		For Seal Class A, Add	37.38	
		For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0554	LF 12" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
		For Seal Class B, Add	18.55	
		For Seal Class A, Add	39.58	
		For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0555	LF 12" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
		For Seal Class B, Add	19.58	
		For Seal Class A, Add	41.78	
		For Work In Restricted Working Space, Add	39.17	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST	UNIT COST	
23 31 13 13-0556	LF	12" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72		82.45
		For Seal Class B, Add	20.61		
		For Seal Class A, Add	43.97		
		For Work In Restricted Working Space, Add	41.22		
23 31 13 13-0557	LF	12" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77		86.57
		For Seal Class B, Add	21.64		
		For Seal Class A, Add	46.17		
		For Work In Restricted Working Space, Add	43.29		
23 31 13 13-0558	LF	12" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80		90.69
		For Seal Class B, Add	22.67		
		For Seal Class A, Add	48.37		
		For Work In Restricted Working Space, Add	45.35		
23 31 13 13-0559	LF	12" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83		94.82
		For Seal Class B, Add	23.70		
		For Seal Class A, Add	50.57		
		For Work In Restricted Working Space, Add	47.41		
23 31 13 13-0560	LF	12" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89		98.94
		For Seal Class B, Add	24.74		
		For Seal Class A, Add	52.77		
		For Work In Restricted Working Space, Add	49.47		
23 31 13 13-0561	LF	14" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52		57.72
		For Seal Class B, Add	14.43		
		For Seal Class A, Add	30.78		
		For Work In Restricted Working Space, Add	28.86		
23 31 13 13-0562	LF	14" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54		61.83
		For Seal Class B, Add	15.46		
		For Seal Class A, Add	32.98		
		For Work In Restricted Working Space, Add	30.92		
23 31 13 13-0563	LF	14" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58		65.96
		For Seal Class B, Add	16.49		
		For Seal Class A, Add	35.18		
		For Work In Restricted Working Space, Add	32.98		
23 31 13 13-0564	LF	14" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64		70.08
		For Seal Class B, Add	17.52		
		For Seal Class A, Add	37.38		
		For Work In Restricted Working Space, Add	35.04		
23 31 13 13-0565	LF	14" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66		74.21
		For Seal Class B, Add	18.55		
		For Seal Class A, Add	39.58		
		For Work In Restricted Working Space, Add	37.10		
23 31 13 13-0566	LF	14" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70		78.32
		For Seal Class B, Add	19.58		
		For Seal Class A, Add	41.78		
		For Work In Restricted Working Space, Add	39.17		
23 31 13 13-0567	LF	14" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72		82.45
		For Seal Class B, Add	20.61		
		For Seal Class A, Add	43.97		
		For Work In Restricted Working Space, Add	41.22		
23 31 13 13-0568	LF	14" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77		86.57
		For Seal Class B, Add	21.64		
		For Seal Class A, Add	46.17		
		For Work In Restricted Working Space, Add	43.29		
23 31 13 13-0569	LF	14" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80		90.69
		For Seal Class B, Add	22.67		
		For Seal Class A, Add	48.37		
		For Work In Restricted Working Space, Add	45.35		
23 31 13 13-0570	LF	14" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83		94.82
		For Seal Class B, Add	23.70		
		For Seal Class A, Add	50.57		
		For Work In Restricted Working Space, Add	47.41		
23 31 13 13-0571	LF	14" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89		98.94
		For Seal Class B, Add	24.74		
		For Seal Class A, Add	52.77		
		For Work In Restricted Working Space, Add	49.47		
23 31 13 13-0572	LF	14" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90		103.06
		For Seal Class B, Add	25.77		
		For Seal Class A, Add	54.97		
		For Work In Restricted Working Space, Add	51.53		
23 31 13 13-0573	LF	16" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58		65.96
		For Seal Class B, Add	16.49		
		For Seal Class A, Add	35.18		
		For Work In Restricted Working Space, Add	32.98		
23 31 13 13-0574	LF	16" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64		70.08
		For Seal Class B, Add	17.52		
		For Seal Class A, Add	37.38		
		For Work In Restricted Working Space, Add	35.04		
23 31 13 13-0575	LF	16" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66		74.21
		For Seal Class B, Add	18.55		
		For Seal Class A, Add	39.58		
		For Work In Restricted Working Space, Add	37.10		
23 31 13 13-0576	LF	16" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70		78.32
		For Seal Class B, Add	19.58		
		For Seal Class A, Add	41.78		
		For Work In Restricted Working Space, Add	39.17		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0577	LF	16" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
			For Seal Class B, Add	20.61	
			For Seal Class A, Add	43.97	
			For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0578	LF	16" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
			For Seal Class B, Add	21.64	
			For Seal Class A, Add	46.17	
			For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0579	LF	16" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
			For Seal Class B, Add	22.67	
			For Seal Class A, Add	48.37	
			For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0580	LF	16" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
			For Seal Class B, Add	23.70	
			For Seal Class A, Add	50.57	
			For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0581	LF	16" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0582	LF	16" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0583	LF	16" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
			For Seal Class B, Add	26.80	
			For Seal Class A, Add	57.17	
			For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0584	LF	16" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
			For Seal Class B, Add	27.83	
			For Seal Class A, Add	59.36	
			For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0585	LF	16" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
			For Seal Class B, Add	28.86	
			For Seal Class A, Add	61.56	
			For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0586	LF	16" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
			For Seal Class B, Add	29.89	
			For Seal Class A, Add	63.76	
			For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0587	LF	16" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0588	LF	18" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
			For Seal Class B, Add	18.55	
			For Seal Class A, Add	39.58	
			For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0589	LF	18" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
			For Seal Class B, Add	19.58	
			For Seal Class A, Add	41.78	
			For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0590	LF	16" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
			For Seal Class B, Add	20.61	
			For Seal Class A, Add	43.97	
			For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0591	LF	18" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
			For Seal Class B, Add	21.64	
			For Seal Class A, Add	46.17	
			For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0592	LF	18" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
			For Seal Class B, Add	22.67	
			For Seal Class A, Add	48.37	
			For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0593	LF	18" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
			For Seal Class B, Add	23.70	
			For Seal Class A, Add	50.57	
			For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0594	LF	18" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0595	LF	18" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0596	LF	18" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
			For Seal Class B, Add	26.80	
			For Seal Class A, Add	57.17	
			For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0597	LF	18" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
			For Seal Class B, Add	27.83	
			For Seal Class A, Add	59.36	
			For Work In Restricted Working Space, Add	55.65	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0598	LF	18" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13 13-0599	LF	18" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13 13-0600	LF	18" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13 13-0601	LF	18" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13 13-0602	LF	18" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0603	LF	20" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
		For Seal Class B, Add	20.61	
		For Seal Class A, Add	43.97	
		For Work In Restricted Working Space, Add	41.22	
23 31 13 13-0604	LF	20" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
		For Seal Class B, Add	21.64	
		For Seal Class A, Add	46.17	
		For Work In Restricted Working Space, Add	43.29	
23 31 13 13-0605	LF	20" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	
23 31 13 13-0606	LF	20" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
		For Seal Class B, Add	23.70	
		For Seal Class A, Add	50.57	
		For Work In Restricted Working Space, Add	47.41	
23 31 13 13-0607	LF	20" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
		For Seal Class B, Add	24.74	
		For Seal Class A, Add	52.77	
		For Work In Restricted Working Space, Add	49.47	
23 31 13 13-0608	LF	20" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
		For Seal Class B, Add	25.77	
		For Seal Class A, Add	54.97	
		For Work In Restricted Working Space, Add	51.53	
23 31 13 13-0609	LF	20" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13 13-0610	LF	20" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13 13-0611	LF	20" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13 13-0612	LF	20" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13 13-0613	LF	20" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13 13-0614	LF	20" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13 13-0615	LF	20" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0616	LF	20" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0617	LF	20" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0618	LF	22" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0619	LF	22" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
			For Seal Class B, Add	23.70	
			For Seal Class A, Add	50.57	
			For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0620	LF	22" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0621	LF	22" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0622	LF	22" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
			For Seal Class B, Add	26.80	
			For Seal Class A, Add	57.17	
			For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0623	LF	22" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
			For Seal Class B, Add	27.83	
			For Seal Class A, Add	59.36	
			For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0624	LF	22" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
			For Seal Class B, Add	28.86	
			For Seal Class A, Add	61.56	
			For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0625	LF	22" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
			For Seal Class B, Add	29.89	
			For Seal Class A, Add	63.76	
			For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0626	LF	22" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0627	LF	22" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
			For Seal Class B, Add	31.95	
			For Seal Class A, Add	68.16	
			For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0628	LF	22" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
			For Seal Class B, Add	32.98	
			For Seal Class A, Add	70.36	
			For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0629	LF	22" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
			For Seal Class B, Add	34.01	
			For Seal Class A, Add	72.56	
			For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0630	LF	22" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
			For Seal Class B, Add	35.04	
			For Seal Class A, Add	74.76	
			For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0631	LF	22" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
			For Seal Class B, Add	36.07	
			For Seal Class A, Add	76.95	
			For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0632	LF	24" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0633	LF	24" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0634	LF	24" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
			For Seal Class B, Add	26.80	
			For Seal Class A, Add	57.17	
			For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0635	LF	24" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
			For Seal Class B, Add	27.83	
			For Seal Class A, Add	59.36	
			For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0636	LF	24" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
			For Seal Class B, Add	28.86	
			For Seal Class A, Add	61.56	
			For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0637	LF	24" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
			For Seal Class B, Add	29.89	
			For Seal Class A, Add	63.76	
			For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0638	LF	24" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0639	LF	24" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
			For Seal Class B, Add	31.95	
			For Seal Class A, Add	68.16	
			For Work In Restricted Working Space, Add	63.90	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0640	LF	24" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0641	LF	24" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0642	LF	24" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0643	LF	24" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13 13-0644	LF	24" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13 13-0645	LF	26" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13 13-0646	LF	26" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13 13-0647	LF	26" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13 13-0648	LF	26" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13 13-0649	LF	26" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13 13-0650	LF	26" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13 13-0651	LF	26" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0652	LF	26" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0653	LF	26" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0654	LF	26" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13 13-0655	LF	26" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13 13-0656	LF	26" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	
23 31 13 13-0657	LF	28" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13 13-0658	LF	28" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13 13-0659	LF	28" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13 13-0660	LF	28" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0661	LF	28" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0662	LF	28" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0663	LF	28" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0664	LF	28" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13 13-0665	LF	28" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13 13-0666	LF	28" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	
23 31 13 13-0667	LF	28" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
		For Seal Class B, Add	39.16	
		For Seal Class A, Add	83.55	
		For Work In Restricted Working Space, Add	78.33	
23 31 13 13-0668	LF	30" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13 13-0669	LF	30" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13 13-0670	LF	30" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0671	LF	30" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0672	LF	30" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0673	LF	30" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13 13-0674	LF	30" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13 13-0675	LF	30" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	
23 31 13 13-0676	LF	30" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
		For Seal Class B, Add	39.16	
		For Seal Class A, Add	83.55	
		For Work In Restricted Working Space, Add	78.33	
23 31 13 13-0677	LF	30" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42	160.77
		For Seal Class B, Add	40.19	
		For Seal Class A, Add	85.75	
		For Work In Restricted Working Space, Add	80.39	
23 31 13 13-0678	LF	32" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13 13-0679	LF	32" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13 13-0680	LF	32" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13 13-0681	LF	32" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST		
23 31 13 13-0682	LF	32" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30		148.41
		For Seal Class B, Add	37.10		
		For Seal Class A, Add	79.15		
		For Work In Restricted Working Space, Add	74.20		
23 31 13 13-0683	LF	32" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36		152.54
		For Seal Class B, Add	38.13		
		For Seal Class A, Add	81.35		
		For Work In Restricted Working Space, Add	76.27		
23 31 13 13-0684	LF	32" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38		156.66
		For Seal Class B, Add	39.16		
		For Seal Class A, Add	83.55		
		For Work In Restricted Working Space, Add	78.33		
23 31 13 13-0685	LF	32" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42		160.77
		For Seal Class B, Add	40.19		
		For Seal Class A, Add	85.75		
		For Work In Restricted Working Space, Add	80.39		
23 31 13 13-0686	LF	32" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47		164.91
		For Seal Class B, Add	41.23		
		For Seal Class A, Add	87.95		
		For Work In Restricted Working Space, Add	82.45		
23 31 13 13-0687	LF	34" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24		140.17
		For Seal Class B, Add	35.04		
		For Seal Class A, Add	74.76		
		For Work In Restricted Working Space, Add	70.08		
23 31 13 13-0688	LF	34" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29		144.29
		For Seal Class B, Add	36.07		
		For Seal Class A, Add	76.95		
		For Work In Restricted Working Space, Add	72.14		
23 31 13 13-0689	LF	34" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30		148.41
		For Seal Class B, Add	37.10		
		For Seal Class A, Add	79.15		
		For Work In Restricted Working Space, Add	74.20		
23 31 13 13-0690	LF	34" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36		152.54
		For Seal Class B, Add	38.13		
		For Seal Class A, Add	81.35		
		For Work In Restricted Working Space, Add	76.27		
23 31 13 13-0691	LF	34" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38		156.66
		For Seal Class B, Add	39.16		
		For Seal Class A, Add	83.55		
		For Work In Restricted Working Space, Add	78.33		
23 31 13 13-0692	LF	34" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42		160.77
		For Seal Class B, Add	40.19		
		For Seal Class A, Add	85.75		
		For Work In Restricted Working Space, Add	80.39		
23 31 13 13-0693	LF	34" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47		164.91
		For Seal Class B, Add	41.23		
		For Seal Class A, Add	87.95		
		For Work In Restricted Working Space, Add	82.45		
23 31 13 13-0694	LF	34" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	329.49		169.02
		For Seal Class B, Add	42.26		
		For Seal Class A, Add	90.14		
		For Work In Restricted Working Space, Add	84.51		
23 31 13 13-0695	LF	36" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30		148.41
		For Seal Class B, Add	37.10		
		For Seal Class A, Add	79.15		
		For Work In Restricted Working Space, Add	74.20		
23 31 13 13-0696	LF	36" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36		152.54
		For Seal Class B, Add	38.13		
		For Seal Class A, Add	81.35		
		For Work In Restricted Working Space, Add	76.27		
23 31 13 13-0697	LF	36" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38		156.66
		For Seal Class B, Add	39.16		
		For Seal Class A, Add	83.55		
		For Work In Restricted Working Space, Add	78.33		
23 31 13 13-0698	LF	36" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42		160.77
		For Seal Class B, Add	40.19		
		For Seal Class A, Add	85.75		
		For Work In Restricted Working Space, Add	80.39		
23 31 13 13-0699	LF	36" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47		164.91
		For Seal Class B, Add	41.23		
		For Seal Class A, Add	87.95		
		For Work In Restricted Working Space, Add	82.45		
23 31 13 13-0700	LF	36" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	329.49		169.02
		For Seal Class B, Add	42.26		
		For Seal Class A, Add	90.14		
		For Work In Restricted Working Space, Add	84.51		
23 31 13 13-0701	LF	36" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	337.53		173.15
		For Seal Class B, Add	43.29		
		For Seal Class A, Add	92.34		
		For Work In Restricted Working Space, Add	86.57		
23 31 13 13-0702	LF	38" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38		156.66
		For Seal Class B, Add	39.16		
		For Seal Class A, Add	83.55		
		For Work In Restricted Working Space, Add	78.33		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0703	LF	38" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42	160.77
			For Seal Class B, Add	40.19	
			For Seal Class A, Add	85.75	
			For Work In Restricted Working Space, Add	80.39	
23 31 13	13-0704	LF	38" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47	164.91
			For Seal Class B, Add	41.23	
			For Seal Class A, Add	87.95	
			For Work In Restricted Working Space, Add	82.45	
23 31 13	13-0705	LF	38" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	329.49	169.02
			For Seal Class B, Add	42.26	
			For Seal Class A, Add	90.14	
			For Work In Restricted Working Space, Add	84.51	
23 31 13	13-0706	LF	38" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	337.53	173.15
			For Seal Class B, Add	43.29	
			For Seal Class A, Add	92.34	
			For Work In Restricted Working Space, Add	86.57	
23 31 13	13-0707	LF	38" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.58	177.27
			For Seal Class B, Add	44.32	
			For Seal Class A, Add	94.54	
			For Work In Restricted Working Space, Add	88.64	
23 31 13	13-0708	LF	38" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
			For Seal Class B, Add	45.35	
			For Seal Class A, Add	96.74	
			For Work In Restricted Working Space, Add	90.70	
23 31 13	13-0709	LF	40" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47	164.91
			For Seal Class B, Add	41.23	
			For Seal Class A, Add	87.95	
			For Work In Restricted Working Space, Add	82.45	
23 31 13	13-0710	LF	40" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	329.49	169.02
			For Seal Class B, Add	42.26	
			For Seal Class A, Add	90.14	
			For Work In Restricted Working Space, Add	84.51	
23 31 13	13-0711	LF	40" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	337.53	173.15
			For Seal Class B, Add	43.29	
			For Seal Class A, Add	92.34	
			For Work In Restricted Working Space, Add	86.57	
23 31 13	13-0712	LF	40" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.58	177.27
			For Seal Class B, Add	44.32	
			For Seal Class A, Add	94.54	
			For Work In Restricted Working Space, Add	88.64	
23 31 13	13-0713	LF	40" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
			For Seal Class B, Add	45.35	
			For Seal Class A, Add	96.74	
			For Work In Restricted Working Space, Add	90.70	
23 31 13	13-0714	LF	40" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.65	185.51
			For Seal Class B, Add	46.38	
			For Seal Class A, Add	98.94	
			For Work In Restricted Working Space, Add	92.76	
23 31 13	13-0715	LF	40" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
			For Seal Class B, Add	47.41	
			For Seal Class A, Add	101.14	
			For Work In Restricted Working Space, Add	94.82	
23 31 13	13-0716	LF	40" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
			For Seal Class B, Add	48.44	
			For Seal Class A, Add	103.33	
			For Work In Restricted Working Space, Add	96.88	
23 31 13	13-0717	LF	40" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
			For Seal Class B, Add	49.47	
			For Seal Class A, Add	105.54	
			For Work In Restricted Working Space, Add	98.94	
23 31 13	13-0718	LF	42" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	337.53	173.15
			For Seal Class B, Add	43.29	
			For Seal Class A, Add	92.34	
			For Work In Restricted Working Space, Add	86.57	
23 31 13	13-0719	LF	42" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.58	177.27
			For Seal Class B, Add	44.32	
			For Seal Class A, Add	94.54	
			For Work In Restricted Working Space, Add	88.64	
23 31 13	13-0720	LF	42" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
			For Seal Class B, Add	45.35	
			For Seal Class A, Add	96.74	
			For Work In Restricted Working Space, Add	90.70	
23 31 13	13-0721	LF	42" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.65	185.51
			For Seal Class B, Add	46.38	
			For Seal Class A, Add	98.94	
			For Work In Restricted Working Space, Add	92.76	
23 31 13	13-0722	LF	42" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
			For Seal Class B, Add	47.41	
			For Seal Class A, Add	101.14	
			For Work In Restricted Working Space, Add	94.82	
23 31 13	13-0723	LF	42" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
			For Seal Class B, Add	48.44	
			For Seal Class A, Add	103.33	
			For Work In Restricted Working Space, Add	96.88	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0724	LF	42" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13 13-0725	LF	42" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13 13-0726	LF	44" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
		For Seal Class B, Add	45.35	
		For Seal Class A, Add	96.74	
		For Work In Restricted Working Space, Add	90.70	
23 31 13 13-0727	LF	44" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.65	185.51
		For Seal Class B, Add	46.38	
		For Seal Class A, Add	98.94	
		For Work In Restricted Working Space, Add	92.76	
23 31 13 13-0728	LF	44" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
		For Seal Class B, Add	47.41	
		For Seal Class A, Add	101.14	
		For Work In Restricted Working Space, Add	94.82	
23 31 13 13-0729	LF	44" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
		For Seal Class B, Add	48.44	
		For Seal Class A, Add	103.33	
		For Work In Restricted Working Space, Add	96.88	
23 31 13 13-0730	LF	44" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13 13-0731	LF	44" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13 13-0732	LF	44" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13 13-0733	LF	46" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
		For Seal Class B, Add	47.41	
		For Seal Class A, Add	101.14	
		For Work In Restricted Working Space, Add	94.82	
23 31 13 13-0734	LF	46" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
		For Seal Class B, Add	48.44	
		For Seal Class A, Add	103.33	
		For Work In Restricted Working Space, Add	96.88	
23 31 13 13-0735	LF	46" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13 13-0736	LF	46" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13 13-0737	LF	46" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13 13-0738	LF	46" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	416.74	214.38
		For Seal Class B, Add	53.59	
		For Seal Class A, Add	114.33	
		For Work In Restricted Working Space, Add	107.18	
23 31 13 13-0739	LF	46" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	424.77	218.49
		For Seal Class B, Add	54.62	
		For Seal Class A, Add	116.53	
		For Work In Restricted Working Space, Add	109.25	
23 31 13 13-0740	LF	48" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13 13-0741	LF	48" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13 13-0742	LF	48" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13 13-0743	LF	48" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	409.88	210.24
		For Seal Class B, Add	52.56	
		For Seal Class A, Add	112.13	
		For Work In Restricted Working Space, Add	105.13	
23 31 13 13-0744	LF	48" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
		For Seal Class B, Add	53.59	
		For Seal Class A, Add	114.33	
		For Work In Restricted Working Space, Add	107.18	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0745	LF 48" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
		For Seal Class B, Add	54.62	
		For Seal Class A, Add	116.53	
		For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0746	LF 48" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
		For Seal Class B, Add	55.65	
		For Seal Class A, Add	118.73	
		For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0747	LF 50" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13	13-0748	LF 50" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	409.88	210.24
		For Seal Class B, Add	52.56	
		For Seal Class A, Add	112.13	
		For Work In Restricted Working Space, Add	105.13	
23 31 13	13-0749	LF 50" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
		For Seal Class B, Add	53.59	
		For Seal Class A, Add	114.33	
		For Work In Restricted Working Space, Add	107.18	
23 31 13	13-0750	LF 50" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
		For Seal Class B, Add	54.62	
		For Seal Class A, Add	116.53	
		For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0751	LF 50" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
		For Seal Class B, Add	55.65	
		For Seal Class A, Add	118.73	
		For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0752	LF 50" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
		For Seal Class B, Add	56.68	
		For Seal Class A, Add	120.92	
		For Work In Restricted Working Space, Add	113.37	
23 31 13	13-0753	LF 52" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
		For Seal Class B, Add	53.59	
		For Seal Class A, Add	114.33	
		For Work In Restricted Working Space, Add	107.18	
23 31 13	13-0754	LF 52" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
		For Seal Class B, Add	54.62	
		For Seal Class A, Add	116.53	
		For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0755	LF 52" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
		For Seal Class B, Add	55.65	
		For Seal Class A, Add	118.73	
		For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0756	LF 52" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
		For Seal Class B, Add	56.68	
		For Seal Class A, Add	120.92	
		For Work In Restricted Working Space, Add	113.37	
23 31 13	13-0757	LF 52" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
		For Seal Class B, Add	57.72	
		For Seal Class A, Add	123.13	
		For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0758	LF 54" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
		For Seal Class B, Add	55.65	
		For Seal Class A, Add	118.73	
		For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0759	LF 54" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
		For Seal Class B, Add	56.68	
		For Seal Class A, Add	120.92	
		For Work In Restricted Working Space, Add	113.37	
23 31 13	13-0760	LF 54" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
		For Seal Class B, Add	57.72	
		For Seal Class A, Add	123.13	
		For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0761	LF 54" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	458.08	234.98
		For Seal Class B, Add	58.75	
		For Seal Class A, Add	125.32	
		For Work In Restricted Working Space, Add	117.49	
23 31 13	13-0762	LF 54" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
		For Seal Class B, Add	59.78	
		For Seal Class A, Add	127.52	
		For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0763	LF 54" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
		For Seal Class B, Add	60.81	
		For Seal Class A, Add	129.72	
		For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0764	LF 56" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
		For Seal Class B, Add	57.72	
		For Seal Class A, Add	123.13	
		For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0765	LF 56" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	458.08	234.98
		For Seal Class B, Add	58.75	
		For Seal Class A, Add	125.32	
		For Work In Restricted Working Space, Add	117.49	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0766	LF	56" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
			For Seal Class B, Add	59.78	
			For Seal Class A, Add	127.52	
			For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0767	LF	56" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
			For Seal Class B, Add	60.81	
			For Seal Class A, Add	129.72	
			For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0768	LF	56" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
			For Seal Class B, Add	61.84	
			For Seal Class A, Add	131.92	
			For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0769	LF	58" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
			For Seal Class B, Add	59.78	
			For Seal Class A, Add	127.52	
			For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0770	LF	58" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
			For Seal Class B, Add	60.81	
			For Seal Class A, Add	129.72	
			For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0771	LF	58" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
			For Seal Class B, Add	61.84	
			For Seal Class A, Add	131.92	
			For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0772	LF	58" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	490.22	251.48
			For Seal Class B, Add	62.87	
			For Seal Class A, Add	134.12	
			For Work In Restricted Working Space, Add	125.73	
23 31 13	13-0773	LF	58" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
			For Seal Class B, Add	63.90	
			For Seal Class A, Add	136.32	
			For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0774	LF	60" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
			For Seal Class B, Add	61.84	
			For Seal Class A, Add	131.92	
			For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0775	LF	60" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	490.22	251.48
			For Seal Class B, Add	62.87	
			For Seal Class A, Add	134.12	
			For Work In Restricted Working Space, Add	125.73	
23 31 13	13-0776	LF	60" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
			For Seal Class B, Add	63.90	
			For Seal Class A, Add	136.32	
			For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0777	LF	60" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	506.31	259.72
			For Seal Class B, Add	64.93	
			For Seal Class A, Add	138.52	
			For Work In Restricted Working Space, Add	129.86	
23 31 13	13-0778	LF	60" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	514.35	263.84
			For Seal Class B, Add	65.96	
			For Seal Class A, Add	140.72	
			For Work In Restricted Working Space, Add	131.92	
23 31 13	13-0779	LF	62" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
			For Seal Class B, Add	63.90	
			For Seal Class A, Add	136.32	
			For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0780	LF	62" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	506.31	259.72
			For Seal Class B, Add	64.93	
			For Seal Class A, Add	138.52	
			For Work In Restricted Working Space, Add	129.86	
23 31 13	13-0781	LF	62" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	514.35	263.84
			For Seal Class B, Add	65.96	
			For Seal Class A, Add	140.72	
			For Work In Restricted Working Space, Add	131.92	
23 31 13	13-0782	LF	62" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	522.38	267.96
			For Seal Class B, Add	66.99	
			For Seal Class A, Add	142.92	
			For Work In Restricted Working Space, Add	133.98	
23 31 13	13-0783	LF	64" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	530.41	272.08
			For Seal Class B, Add	68.02	
			For Seal Class A, Add	145.11	
			For Work In Restricted Working Space, Add	136.04	
23 31 13	13-0784	LF	64" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	514.35	263.84
			For Seal Class B, Add	65.96	
			For Seal Class A, Add	140.72	
			For Work In Restricted Working Space, Add	131.92	
23 31 13	13-0785	LF	64" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	522.38	267.96
			For Seal Class B, Add	66.99	
			For Seal Class A, Add	142.92	
			For Work In Restricted Working Space, Add	133.98	
23 31 13	13-0786	LF	64" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	530.41	272.08
			For Seal Class B, Add	68.02	
			For Seal Class A, Add	145.11	
			For Work In Restricted Working Space, Add	136.04	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0787	LF 64" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	538.44	276.21
		For Seal Class B, Add	69.05	
		For Seal Class A, Add	147.31	
		For Work In Restricted Working Space, Add	138.11	
23 31 13	13-0788	LF 66" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	530.41	272.08
		For Seal Class B, Add	68.02	
		For Seal Class A, Add	145.11	
		For Work In Restricted Working Space, Add	136.04	
23 31 13	13-0789	LF 66" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	538.44	276.21
		For Seal Class B, Add	69.05	
		For Seal Class A, Add	147.31	
		For Work In Restricted Working Space, Add	138.11	
23 31 13	13-0790	LF 66" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	546.48	280.33
		For Seal Class B, Add	70.08	
		For Seal Class A, Add	149.51	
		For Work In Restricted Working Space, Add	140.16	
23 31 13	13-0791	LF 66" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	554.52	284.45
		For Seal Class B, Add	71.11	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.22	
23 31 13	13-0792	LF 68" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	546.48	280.33
		For Seal Class B, Add	70.08	
		For Seal Class A, Add	149.51	
		For Work In Restricted Working Space, Add	140.16	
23 31 13	13-0793	LF 68" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	554.52	284.45
		For Seal Class B, Add	71.11	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.22	
23 31 13	13-0794	LF 68" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	562.55	288.57
		For Seal Class B, Add	72.14	
		For Seal Class A, Add	153.91	
		For Work In Restricted Working Space, Add	144.29	
23 31 13	13-0795	LF 68" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	570.60	292.70
		For Seal Class B, Add	73.17	
		For Seal Class A, Add	156.11	
		For Work In Restricted Working Space, Add	146.35	
23 31 13	13-0796	LF 70" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	562.55	288.57
		For Seal Class B, Add	72.14	
		For Seal Class A, Add	153.91	
		For Work In Restricted Working Space, Add	144.29	
23 31 13	13-0797	LF 70" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	570.60	292.70
		For Seal Class B, Add	73.17	
		For Seal Class A, Add	156.11	
		For Work In Restricted Working Space, Add	146.35	
23 31 13	13-0798	LF 70" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	578.65	296.81
		For Seal Class B, Add	74.21	
		For Seal Class A, Add	158.31	
		For Work In Restricted Working Space, Add	148.41	
23 31 13	13-0799	LF 70" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	586.66	300.95
		For Seal Class B, Add	75.24	
		For Seal Class A, Add	160.50	
		For Work In Restricted Working Space, Add	150.47	
23 31 13	13-0800	LF 70" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	594.71	305.06
		For Seal Class B, Add	76.27	
		For Seal Class A, Add	162.70	
		For Work In Restricted Working Space, Add	152.53	
23 31 13	13-0801	LF 70" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	602.73	309.19
		For Seal Class B, Add	77.30	
		For Seal Class A, Add	164.90	
		For Work In Restricted Working Space, Add	154.59	
23 31 13	13-0802	LF 70" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13	13-0803	LF 70" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13	13-0804	LF 72" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	578.65	296.81
		For Seal Class B, Add	74.21	
		For Seal Class A, Add	158.31	
		For Work In Restricted Working Space, Add	148.41	
23 31 13	13-0805	LF 72" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	586.66	300.95
		For Seal Class B, Add	75.24	
		For Seal Class A, Add	160.50	
		For Work In Restricted Working Space, Add	150.47	
23 31 13	13-0806	LF 72" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	594.71	305.06
		For Seal Class B, Add	76.27	
		For Seal Class A, Add	162.70	
		For Work In Restricted Working Space, Add	152.53	
23 31 13	13-0807	LF 72" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	602.73	309.19
		For Seal Class B, Add	77.30	
		For Seal Class A, Add	164.90	
		For Work In Restricted Working Space, Add	154.59	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0808	LF	72" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13 13-0809	LF	72" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13 13-0810	LF	72" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13 13-0811	LF	74" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	594.71	305.06
		For Seal Class B, Add	76.27	
		For Seal Class A, Add	162.70	
		For Work In Restricted Working Space, Add	152.53	
23 31 13 13-0812	LF	74" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	602.73	309.19
		For Seal Class B, Add	77.30	
		For Seal Class A, Add	164.90	
		For Work In Restricted Working Space, Add	154.59	
23 31 13 13-0813	LF	74" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13 13-0814	LF	74" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13 13-0815	LF	74" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13 13-0816	LF	74" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	634.89	325.68
		For Seal Class B, Add	81.42	
		For Seal Class A, Add	173.70	
		For Work In Restricted Working Space, Add	162.84	
23 31 13 13-0817	LF	76" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13 13-0818	LF	76" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13 13-0819	LF	76" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13 13-0820	LF	76" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	634.89	325.68
		For Seal Class B, Add	81.42	
		For Seal Class A, Add	173.70	
		For Work In Restricted Working Space, Add	162.84	
23 31 13 13-0821	LF	76" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	642.91	329.80
		For Seal Class B, Add	82.45	
		For Seal Class A, Add	175.89	
		For Work In Restricted Working Space, Add	164.90	
23 31 13 13-0822	LF	78" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13 13-0823	LF	78" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	634.89	325.68
		For Seal Class B, Add	81.42	
		For Seal Class A, Add	173.70	
		For Work In Restricted Working Space, Add	162.84	
23 31 13 13-0824	LF	78" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	642.91	329.80
		For Seal Class B, Add	82.45	
		For Seal Class A, Add	175.89	
		For Work In Restricted Working Space, Add	164.90	
23 31 13 13-0825	LF	78" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	650.96	333.92
		For Seal Class B, Add	83.48	
		For Seal Class A, Add	178.09	
		For Work In Restricted Working Space, Add	166.96	
23 31 13 13-0826	LF	80" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	642.91	329.80
		For Seal Class B, Add	82.45	
		For Seal Class A, Add	175.89	
		For Work In Restricted Working Space, Add	164.90	
23 31 13 13-0827	LF	80" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	650.96	333.92
		For Seal Class B, Add	83.48	
		For Seal Class A, Add	178.09	
		For Work In Restricted Working Space, Add	166.96	
23 31 13 13-0828	LF	80" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	658.99	338.04
		For Seal Class B, Add	84.51	
		For Seal Class A, Add	180.29	
		For Work In Restricted Working Space, Add	169.02	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0829	LF	82" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	658.99	338.04
		For Seal Class B, Add	84.51	
		For Seal Class A, Add	180.29	
		For Work In Restricted Working Space, Add	169.02	
23 31 13 13-0830	LF	82" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	667.04	342.17
		For Seal Class B, Add	85.54	
		For Seal Class A, Add	182.49	
		For Work In Restricted Working Space, Add	171.09	
23 31 13 13-0831	LF	84" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	675.07	346.28
		For Seal Class B, Add	86.57	
		For Seal Class A, Add	184.69	
		For Work In Restricted Working Space, Add	173.15	
23 31 13 13-0832 18 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)				
23 31 13 13-0833	LF	4" x 4", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.86	21.46
		For Seal Class B, Add	5.37	
		For Seal Class A, Add	11.45	
		For Work In Restricted Working Space, Add	10.74	
23 31 13 13-0834	LF	4" x 6", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	52.32	26.83
		For Seal Class B, Add	6.71	
		For Seal Class A, Add	14.31	
		For Work In Restricted Working Space, Add	13.42	
23 31 13 13-0835	LF	4" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	62.77	32.21
		For Seal Class B, Add	8.05	
		For Seal Class A, Add	17.17	
		For Work In Restricted Working Space, Add	16.10	
23 31 13 13-0836	LF	4" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.23	37.57
		For Seal Class B, Add	9.39	
		For Seal Class A, Add	20.04	
		For Work In Restricted Working Space, Add	18.79	
23 31 13 13-0837	LF	4" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.71	42.94
		For Seal Class B, Add	10.73	
		For Seal Class A, Add	22.90	
		For Work In Restricted Working Space, Add	21.47	
23 31 13 13-0838	LF	4" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	94.16	48.31
		For Seal Class B, Add	12.08	
		For Seal Class A, Add	25.76	
		For Work In Restricted Working Space, Add	24.15	
23 31 13 13-0839	LF	4" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13 13-0840	LF	6" x 6", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	62.77	32.21
		For Seal Class B, Add	8.05	
		For Seal Class A, Add	17.17	
		For Work In Restricted Working Space, Add	16.10	
23 31 13 13-0841	LF	6" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.23	37.57
		For Seal Class B, Add	9.39	
		For Seal Class A, Add	20.04	
		For Work In Restricted Working Space, Add	18.79	
23 31 13 13-0842	LF	6" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.71	42.94
		For Seal Class B, Add	10.73	
		For Seal Class A, Add	22.90	
		For Work In Restricted Working Space, Add	21.47	
23 31 13 13-0843	LF	6" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	94.16	48.31
		For Seal Class B, Add	12.08	
		For Seal Class A, Add	25.76	
		For Work In Restricted Working Space, Add	24.15	
23 31 13 13-0844	LF	6" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13 13-0845	LF	6" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	
23 31 13 13-0846	LF	8" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.71	42.94
		For Seal Class B, Add	10.73	
		For Seal Class A, Add	22.90	
		For Work In Restricted Working Space, Add	21.47	
23 31 13 13-0847	LF	8" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	94.16	48.31
		For Seal Class B, Add	12.08	
		For Seal Class A, Add	25.76	
		For Work In Restricted Working Space, Add	24.15	
23 31 13 13-0848	LF	8" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13 13-0849	LF	8" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0850	LF	8" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
		For Seal Class B, Add	16.10	
		For Seal Class A, Add	34.35	
		For Work In Restricted Working Space, Add	32.21	
23 31 13 13-0851	LF	8" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
		For Seal Class B, Add	17.44	
		For Seal Class A, Add	37.21	
		For Work In Restricted Working Space, Add	34.89	
23 31 13 13-0852	LF	8" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13 13-0853	LF	8" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0854	LF	8" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13 13-0855	LF	10" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13 13-0856	LF	10" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	
23 31 13 13-0857	LF	10" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
		For Seal Class B, Add	16.10	
		For Seal Class A, Add	34.35	
		For Work In Restricted Working Space, Add	32.21	
23 31 13 13-0858	LF	10" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
		For Seal Class B, Add	17.44	
		For Seal Class A, Add	37.21	
		For Work In Restricted Working Space, Add	34.89	
23 31 13 13-0859	LF	10" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13 13-0860	LF	10" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	
23 31 13 13-0861	LF	10" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13 13-0862	LF	10" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13 13-0863	LF	10" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13 13-0864	LF	10" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13 13-0865	LF	10" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13 13-0866	LF	10" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13 13-0867	LF	12" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
		For Seal Class B, Add	16.10	
		For Seal Class A, Add	34.35	
		For Work In Restricted Working Space, Add	32.21	
23 31 13 13-0868	LF	12" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
		For Seal Class B, Add	17.44	
		For Seal Class A, Add	37.21	
		For Work In Restricted Working Space, Add	34.89	
23 31 13 13-0869	LF	12" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13 13-0870	LF	12" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0871	LF 12" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0872	LF 12" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0873	LF 12" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0874	LF 12" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13	13-0875	LF 12" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0876	LF 12" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0877	LF 12" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0878	LF 12" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0879	LF 12" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0880	LF 14" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13	13-0881	LF 14" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0882	LF 14" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0883	LF 14" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0884	LF 14" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0885	LF 14" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13	13-0886	LF 14" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0887	LF 14" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0888	LF 14" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0889	LF 14" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0890	LF 14" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0891	LF 14" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-0892	LF	16" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13 13-0893	LF	16" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13 13-0894	LF	16" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13 13-0895	LF	16" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13 13-0896	LF	16" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13 13-0897	LF	16" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13 13-0898	LF	16" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13 13-0899	LF	16" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13 13-0900	LF	16" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13 13-0901	LF	16" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13 13-0902	LF	16" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13 13-0903	LF	16" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13 13-0904	LF	16" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13 13-0905	LF	16" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13 13-0906	LF	16" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13 13-0907	LF	18" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13 13-0908	LF	18" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13 13-0909	LF	18" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13 13-0910	LF	18" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13 13-0911	LF	18" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13 13-0912	LF	18" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0913	LF 18" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0914	LF 18" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0915	LF 18" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0916	LF 18" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0917	LF 18" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0918	LF 18" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0919	LF 18" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0920	LF 18" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0921	LF 18" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0922	LF 20" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0923	LF 20" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0924	LF 20" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0925	LF 20" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0926	LF 20" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0927	LF 20" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0928	LF 20" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0929	LF 20" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0930	LF 20" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0931	LF 20" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0932	LF 20" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0933	LF 20" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 31 13 13-0934	LF	20" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13 13-0935	LF	20" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	
23 31 13 13-0936	LF	20" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
		For Seal Class B, Add	45.62	
		For Seal Class A, Add	97.32	
		For Work In Restricted Working Space, Add	91.24	
23 31 13 13-0937	LF	22" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13 13-0938	LF	22" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13 13-0939	LF	22" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13 13-0940	LF	22" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13 13-0941	LF	22" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13 13-0942	LF	22" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13 13-0943	LF	22" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13 13-0944	LF	22" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13 13-0945	LF	22" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13 13-0946	LF	22" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13 13-0947	LF	22" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13 13-0948	LF	22" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	
23 31 13 13-0949	LF	22" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
		For Seal Class B, Add	45.62	
		For Seal Class A, Add	97.32	
		For Work In Restricted Working Space, Add	91.24	
23 31 13 13-0950	LF	22" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
		For Seal Class B, Add	46.96	
		For Seal Class A, Add	100.19	
		For Work In Restricted Working Space, Add	93.93	
23 31 13 13-0951	LF	24" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13 13-0952	LF	24" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13 13-0953	LF	24" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13 13-0954	LF	24" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0955	LF	24" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
			For Seal Class B, Add	37.57	
			For Seal Class A, Add	80.15	
			For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0956	LF	24" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
			For Seal Class B, Add	38.91	
			For Seal Class A, Add	83.01	
			For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0957	LF	24" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.88	
			For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0958	LF	24" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
			For Seal Class B, Add	41.60	
			For Seal Class A, Add	88.74	
			For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0959	LF	24" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
			For Seal Class B, Add	42.94	
			For Seal Class A, Add	91.60	
			For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0960	LF	24" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
			For Seal Class B, Add	44.28	
			For Seal Class A, Add	94.46	
			For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0961	LF	24" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0962	LF	24" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0963	LF	24" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-0964	LF	26" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
			For Seal Class B, Add	34.89	
			For Seal Class A, Add	74.43	
			For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0965	LF	26" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
			For Seal Class B, Add	36.23	
			For Seal Class A, Add	77.29	
			For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0966	LF	26" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
			For Seal Class B, Add	37.57	
			For Seal Class A, Add	80.15	
			For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0967	LF	26" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
			For Seal Class B, Add	38.91	
			For Seal Class A, Add	83.01	
			For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0968	LF	26" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.88	
			For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0969	LF	26" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
			For Seal Class B, Add	41.60	
			For Seal Class A, Add	88.74	
			For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0970	LF	26" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
			For Seal Class B, Add	42.94	
			For Seal Class A, Add	91.60	
			For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0971	LF	26" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
			For Seal Class B, Add	44.28	
			For Seal Class A, Add	94.46	
			For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0972	LF	26" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0973	LF	26" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0974	LF	26" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-0975	LF	26" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
			For Seal Class B, Add	49.65	
			For Seal Class A, Add	105.91	
			For Work In Restricted Working Space, Add	99.29	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0976	LF	28" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29	
		For Seal Class B, Add	37.57		
		For Seal Class A, Add	80.15		
		For Work In Restricted Working Space, Add	75.14		
23 31 13 13-0977	LF	28" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65	
		For Seal Class B, Add	38.91		
		For Seal Class A, Add	83.01		
		For Work In Restricted Working Space, Add	77.82		
23 31 13 13-0978	LF	28" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02	
		For Seal Class B, Add	40.25		
		For Seal Class A, Add	85.88		
		For Work In Restricted Working Space, Add	80.51		
23 31 13 13-0979	LF	28" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39	
		For Seal Class B, Add	41.60		
		For Seal Class A, Add	88.74		
		For Work In Restricted Working Space, Add	83.19		
23 31 13 13-0980	LF	28" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75	
		For Seal Class B, Add	42.94		
		For Seal Class A, Add	91.60		
		For Work In Restricted Working Space, Add	85.88		
23 31 13 13-0981	LF	28" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11	
		For Seal Class B, Add	44.28		
		For Seal Class A, Add	94.46		
		For Work In Restricted Working Space, Add	88.56		
23 31 13 13-0982	LF	28" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49	
		For Seal Class B, Add	45.62		
		For Seal Class A, Add	97.32		
		For Work In Restricted Working Space, Add	91.24		
23 31 13 13-0983	LF	28" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85	
		For Seal Class B, Add	46.96		
		For Seal Class A, Add	100.19		
		For Work In Restricted Working Space, Add	93.93		
23 31 13 13-0984	LF	28" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21	
		For Seal Class B, Add	48.30		
		For Seal Class A, Add	103.05		
		For Work In Restricted Working Space, Add	96.61		
23 31 13 13-0985	LF	28" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59	
		For Seal Class B, Add	49.65		
		For Seal Class A, Add	105.91		
		For Work In Restricted Working Space, Add	99.29		
23 31 13 13-0986	LF	28" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95	
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-0987	LF	30" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02	
		For Seal Class B, Add	40.25		
		For Seal Class A, Add	85.88		
		For Work In Restricted Working Space, Add	80.51		
23 31 13 13-0988	LF	30" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39	
		For Seal Class B, Add	41.60		
		For Seal Class A, Add	88.74		
		For Work In Restricted Working Space, Add	83.19		
23 31 13 13-0989	LF	30" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75	
		For Seal Class B, Add	42.94		
		For Seal Class A, Add	91.60		
		For Work In Restricted Working Space, Add	85.88		
23 31 13 13-0990	LF	30" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11	
		For Seal Class B, Add	44.28		
		For Seal Class A, Add	94.46		
		For Work In Restricted Working Space, Add	88.56		
23 31 13 13-0991	LF	30" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49	
		For Seal Class B, Add	45.62		
		For Seal Class A, Add	97.32		
		For Work In Restricted Working Space, Add	91.24		
23 31 13 13-0992	LF	30" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85	
		For Seal Class B, Add	46.96		
		For Seal Class A, Add	100.19		
		For Work In Restricted Working Space, Add	93.93		
23 31 13 13-0993	LF	30" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21	
		For Seal Class B, Add	48.30		
		For Seal Class A, Add	103.05		
		For Work In Restricted Working Space, Add	96.61		
23 31 13 13-0994	LF	30" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59	
		For Seal Class B, Add	49.65		
		For Seal Class A, Add	105.91		
		For Work In Restricted Working Space, Add	99.29		
23 31 13 13-0995	LF	30" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95	
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-0996	LF	30" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33	
		For Seal Class B, Add	52.33		
		For Seal Class A, Add	111.64		
		For Work In Restricted Working Space, Add	104.66		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0997	LF	32" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
			For Seal Class B, Add	42.94	
			For Seal Class A, Add	91.60	
			For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0998	LF	32" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
			For Seal Class B, Add	44.28	
			For Seal Class A, Add	94.46	
			For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0999	LF	32" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-1000	LF	32" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-1001	LF	32" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-1002	LF	32" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
			For Seal Class B, Add	49.65	
			For Seal Class A, Add	105.91	
			For Work In Restricted Working Space, Add	99.29	
23 31 13	13-1003	LF	32" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
			For Seal Class B, Add	50.99	
			For Seal Class A, Add	108.77	
			For Work In Restricted Working Space, Add	101.98	
23 31 13	13-1004	LF	32" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33
			For Seal Class B, Add	52.33	
			For Seal Class A, Add	111.64	
			For Work In Restricted Working Space, Add	104.66	
23 31 13	13-1005	LF	32" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
			For Seal Class B, Add	53.67	
			For Seal Class A, Add	114.50	
			For Work In Restricted Working Space, Add	107.35	
23 31 13	13-1006	LF	34" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-1007	LF	34" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-1008	LF	34" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-1009	LF	34" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
			For Seal Class B, Add	49.65	
			For Seal Class A, Add	105.91	
			For Work In Restricted Working Space, Add	99.29	
23 31 13	13-1010	LF	34" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
			For Seal Class B, Add	50.99	
			For Seal Class A, Add	108.77	
			For Work In Restricted Working Space, Add	101.98	
23 31 13	13-1011	LF	34" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33
			For Seal Class B, Add	52.33	
			For Seal Class A, Add	111.64	
			For Work In Restricted Working Space, Add	104.66	
23 31 13	13-1012	LF	34" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
			For Seal Class B, Add	53.67	
			For Seal Class A, Add	114.50	
			For Work In Restricted Working Space, Add	107.35	
23 31 13	13-1013	LF	34" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	428.98	220.06
			For Seal Class B, Add	55.01	
			For Seal Class A, Add	117.36	
			For Work In Restricted Working Space, Add	110.03	
23 31 13	13-1014	LF	36" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-1015	LF	36" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
			For Seal Class B, Add	49.65	
			For Seal Class A, Add	105.91	
			For Work In Restricted Working Space, Add	99.29	
23 31 13	13-1016	LF	36" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
			For Seal Class B, Add	50.99	
			For Seal Class A, Add	108.77	
			For Work In Restricted Working Space, Add	101.98	
23 31 13	13-1017	LF	36" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33
			For Seal Class B, Add	52.33	
			For Seal Class A, Add	111.64	
			For Work In Restricted Working Space, Add	104.66	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1018	LF	36" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	418.52	214.69
		For Seal Class B, Add	53.67		
		For Seal Class A, Add	114.50		
		For Work In Restricted Working Space, Add	107.35		
23 31 13 13-1019	LF	36" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	428.98	220.06
		For Seal Class B, Add	55.01		
		For Seal Class A, Add	117.36		
		For Work In Restricted Working Space, Add	110.03		
23 31 13 13-1020	LF	36" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	439.45	225.43
		For Seal Class B, Add	56.36		
		For Seal Class A, Add	120.22		
		For Work In Restricted Working Space, Add	112.71		
23 31 13 13-1021	LF	38" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	397.60	203.95
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-1022	LF	38" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	408.06	209.33
		For Seal Class B, Add	52.33		
		For Seal Class A, Add	111.64		
		For Work In Restricted Working Space, Add	104.66		
23 31 13 13-1023	LF	38" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	418.52	214.69
		For Seal Class B, Add	53.67		
		For Seal Class A, Add	114.50		
		For Work In Restricted Working Space, Add	107.35		
23 31 13 13-1024	LF	38" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	428.98	220.06
		For Seal Class B, Add	55.01		
		For Seal Class A, Add	117.36		
		For Work In Restricted Working Space, Add	110.03		
23 31 13 13-1025	LF	38" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	439.45	225.43
		For Seal Class B, Add	56.36		
		For Seal Class A, Add	120.22		
		For Work In Restricted Working Space, Add	112.71		
23 31 13 13-1026	LF	38" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	449.91	230.79
		For Seal Class B, Add	57.70		
		For Seal Class A, Add	123.09		
		For Work In Restricted Working Space, Add	115.40		
23 31 13 13-1027	LF	38" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	460.38	236.16
		For Seal Class B, Add	59.04		
		For Seal Class A, Add	125.95		
		For Work In Restricted Working Space, Add	118.08		
23 31 13 13-1028	LF	40" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	418.52	214.69
		For Seal Class B, Add	53.67		
		For Seal Class A, Add	114.50		
		For Work In Restricted Working Space, Add	107.35		
23 31 13 13-1029	LF	40" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	428.98	220.06
		For Seal Class B, Add	55.01		
		For Seal Class A, Add	117.36		
		For Work In Restricted Working Space, Add	110.03		
23 31 13 13-1030	LF	40" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	439.45	225.43
		For Seal Class B, Add	56.36		
		For Seal Class A, Add	120.22		
		For Work In Restricted Working Space, Add	112.71		
23 31 13 13-1031	LF	40" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	449.91	230.79
		For Seal Class B, Add	57.70		
		For Seal Class A, Add	123.09		
		For Work In Restricted Working Space, Add	115.40		
23 31 13 13-1032	LF	40" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	460.38	236.16
		For Seal Class B, Add	59.04		
		For Seal Class A, Add	125.95		
		For Work In Restricted Working Space, Add	118.08		
23 31 13 13-1033	LF	40" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	470.83	241.53
		For Seal Class B, Add	60.38		
		For Seal Class A, Add	128.81		
		For Work In Restricted Working Space, Add	120.76		
23 31 13 13-1034	LF	40" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	481.29	246.89
		For Seal Class B, Add	61.72		
		For Seal Class A, Add	131.68		
		For Work In Restricted Working Space, Add	123.45		
23 31 13 13-1035	LF	40" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	491.77	252.25
		For Seal Class B, Add	63.06		
		For Seal Class A, Add	134.54		
		For Work In Restricted Working Space, Add	126.13		
23 31 13 13-1036	LF	40" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	502.23	257.63
		For Seal Class B, Add	64.41		
		For Seal Class A, Add	137.40		
		For Work In Restricted Working Space, Add	128.81		
23 31 13 13-1037	LF	42" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	439.45	225.43
		For Seal Class B, Add	56.36		
		For Seal Class A, Add	120.22		
		For Work In Restricted Working Space, Add	112.71		
23 31 13 13-1038	LF	42" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	449.91	230.79
		For Seal Class B, Add	57.70		
		For Seal Class A, Add	123.09		
		For Work In Restricted Working Space, Add	115.40		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1039	LF	42" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16
		For Seal Class B, Add	59.04	
		For Seal Class A, Add	125.95	
		For Work In Restricted Working Space, Add	118.08	
23 31 13 13-1040	LF	42" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	470.83	241.53
		For Seal Class B, Add	60.38	
		For Seal Class A, Add	128.81	
		For Work In Restricted Working Space, Add	120.76	
23 31 13 13-1041	LF	42" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89
		For Seal Class B, Add	61.72	
		For Seal Class A, Add	131.68	
		For Work In Restricted Working Space, Add	123.45	
23 31 13 13-1042	LF	42" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25
		For Seal Class B, Add	63.06	
		For Seal Class A, Add	134.54	
		For Work In Restricted Working Space, Add	126.13	
23 31 13 13-1043	LF	42" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	
23 31 13 13-1044	LF	42" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99
		For Seal Class B, Add	65.75	
		For Seal Class A, Add	140.26	
		For Work In Restricted Working Space, Add	131.50	
23 31 13 13-1045	LF	44" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16
		For Seal Class B, Add	59.04	
		For Seal Class A, Add	125.95	
		For Work In Restricted Working Space, Add	118.08	
23 31 13 13-1046	LF	44" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	470.83	241.53
		For Seal Class B, Add	60.38	
		For Seal Class A, Add	128.81	
		For Work In Restricted Working Space, Add	120.76	
23 31 13 13-1047	LF	44" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89
		For Seal Class B, Add	61.72	
		For Seal Class A, Add	131.68	
		For Work In Restricted Working Space, Add	123.45	
23 31 13 13-1048	LF	44" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25
		For Seal Class B, Add	63.06	
		For Seal Class A, Add	134.54	
		For Work In Restricted Working Space, Add	126.13	
23 31 13 13-1049	LF	44" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	
23 31 13 13-1050	LF	44" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99
		For Seal Class B, Add	65.75	
		For Seal Class A, Add	140.26	
		For Work In Restricted Working Space, Add	131.50	
23 31 13 13-1051	LF	44" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36
		For Seal Class B, Add	67.09	
		For Seal Class A, Add	143.13	
		For Work In Restricted Working Space, Add	134.18	
23 31 13 13-1052	LF	46" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89
		For Seal Class B, Add	61.72	
		For Seal Class A, Add	131.68	
		For Work In Restricted Working Space, Add	123.45	
23 31 13 13-1053	LF	46" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25
		For Seal Class B, Add	63.06	
		For Seal Class A, Add	134.54	
		For Work In Restricted Working Space, Add	126.13	
23 31 13 13-1054	LF	46" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	
23 31 13 13-1055	LF	46" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99
		For Seal Class B, Add	65.75	
		For Seal Class A, Add	140.26	
		For Work In Restricted Working Space, Add	131.50	
23 31 13 13-1056	LF	46" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36
		For Seal Class B, Add	67.09	
		For Seal Class A, Add	143.13	
		For Work In Restricted Working Space, Add	134.18	
23 31 13 13-1057	LF	46" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	542.55	279.10
		For Seal Class B, Add	69.77	
		For Seal Class A, Add	148.85	
		For Work In Restricted Working Space, Add	139.55	
23 31 13 13-1058	LF	46" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	553.03	284.46
		For Seal Class B, Add	71.12	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.23	
23 31 13 13-1059	LF	48" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1060	LF	48" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	512.69	262.99
		For Seal Class B, Add	.....	65.75	
		For Seal Class A, Add	.....	140.26	
		For Work In Restricted Working Space, Add	.....	131.50	
23 31 13 13-1061	LF	48" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	523.15	268.36
		For Seal Class B, Add	.....	67.09	
		For Seal Class A, Add	.....	143.13	
		For Work In Restricted Working Space, Add	.....	134.18	
23 31 13 13-1062	LF	48" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	533.60	273.74
		For Seal Class B, Add	.....	68.43	
		For Seal Class A, Add	.....	145.99	
		For Work In Restricted Working Space, Add	.....	136.86	
23 31 13 13-1063	LF	48" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	544.09	279.10
		For Seal Class B, Add	.....	69.77	
		For Seal Class A, Add	.....	148.85	
		For Work In Restricted Working Space, Add	.....	139.55	
23 31 13 13-1064	LF	48" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	554.54	284.46
		For Seal Class B, Add	.....	71.12	
		For Seal Class A, Add	.....	151.71	
		For Work In Restricted Working Space, Add	.....	142.23	
23 31 13 13-1065	LF	48" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	565.00	289.83
		For Seal Class B, Add	.....	72.46	
		For Seal Class A, Add	.....	154.58	
		For Work In Restricted Working Space, Add	.....	144.92	
23 31 13 13-1066	LF	50" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	523.15	268.36
		For Seal Class B, Add	.....	67.09	
		For Seal Class A, Add	.....	143.13	
		For Work In Restricted Working Space, Add	.....	134.18	
23 31 13 13-1067	LF	50" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	533.60	273.74
		For Seal Class B, Add	.....	68.43	
		For Seal Class A, Add	.....	145.99	
		For Work In Restricted Working Space, Add	.....	136.86	
23 31 13 13-1068	LF	50" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	544.09	279.10
		For Seal Class B, Add	.....	69.77	
		For Seal Class A, Add	.....	148.85	
		For Work In Restricted Working Space, Add	.....	139.55	
23 31 13 13-1069	LF	50" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	554.54	284.46
		For Seal Class B, Add	.....	71.12	
		For Seal Class A, Add	.....	151.71	
		For Work In Restricted Working Space, Add	.....	142.23	
23 31 13 13-1070	LF	50" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	565.00	289.83
		For Seal Class B, Add	.....	72.46	
		For Seal Class A, Add	.....	154.58	
		For Work In Restricted Working Space, Add	.....	144.92	
23 31 13 13-1071	LF	50" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	575.46	295.20
		For Seal Class B, Add	.....	73.80	
		For Seal Class A, Add	.....	157.44	
		For Work In Restricted Working Space, Add	.....	147.60	
23 31 13 13-1072	LF	52" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	544.09	279.10
		For Seal Class B, Add	.....	69.77	
		For Seal Class A, Add	.....	148.85	
		For Work In Restricted Working Space, Add	.....	139.55	
23 31 13 13-1073	LF	52" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	554.54	284.46
		For Seal Class B, Add	.....	71.12	
		For Seal Class A, Add	.....	151.71	
		For Work In Restricted Working Space, Add	.....	142.23	
23 31 13 13-1074	LF	52" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	565.00	289.83
		For Seal Class B, Add	.....	72.46	
		For Seal Class A, Add	.....	154.58	
		For Work In Restricted Working Space, Add	.....	144.92	
23 31 13 13-1075	LF	52" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	575.46	295.20
		For Seal Class B, Add	.....	73.80	
		For Seal Class A, Add	.....	157.44	
		For Work In Restricted Working Space, Add	.....	147.60	
23 31 13 13-1076	LF	52" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.93	300.56
		For Seal Class B, Add	.....	75.14	
		For Seal Class A, Add	.....	160.30	
		For Work In Restricted Working Space, Add	.....	150.29	
23 31 13 13-1077	LF	54" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	565.00	289.83
		For Seal Class B, Add	.....	72.46	
		For Seal Class A, Add	.....	154.58	
		For Work In Restricted Working Space, Add	.....	144.92	
23 31 13 13-1078	LF	54" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	575.46	295.20
		For Seal Class B, Add	.....	73.80	
		For Seal Class A, Add	.....	157.44	
		For Work In Restricted Working Space, Add	.....	147.60	
23 31 13 13-1079	LF	54" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.93	300.56
		For Seal Class B, Add	.....	75.14	
		For Seal Class A, Add	.....	160.30	
		For Work In Restricted Working Space, Add	.....	150.29	
23 31 13 13-1080	LF	54" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	596.41	305.93
		For Seal Class B, Add	.....	76.48	
		For Seal Class A, Add	.....	163.16	
		For Work In Restricted Working Space, Add	.....	152.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1081	LF	54" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	606.86	311.30
		For Seal Class B, Add	77.82	
		For Seal Class A, Add	166.03	
		For Work In Restricted Working Space, Add	155.65	
23 31 13 13-1082	LF	54" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	617.31	316.66
		For Seal Class B, Add	79.17	
		For Seal Class A, Add	168.89	
		For Work In Restricted Working Space, Add	158.33	
23 31 13 13-1083	LF	56" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	585.93	300.56
		For Seal Class B, Add	75.14	
		For Seal Class A, Add	160.30	
		For Work In Restricted Working Space, Add	150.29	
23 31 13 13-1084	LF	56" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	596.41	305.93
		For Seal Class B, Add	76.48	
		For Seal Class A, Add	163.16	
		For Work In Restricted Working Space, Add	152.97	
23 31 13 13-1085	LF	56" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	606.86	311.30
		For Seal Class B, Add	77.82	
		For Seal Class A, Add	166.03	
		For Work In Restricted Working Space, Add	155.65	
23 31 13 13-1086	LF	56" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	617.31	316.66
		For Seal Class B, Add	79.17	
		For Seal Class A, Add	168.89	
		For Work In Restricted Working Space, Add	158.33	
23 31 13 13-1087	LF	56" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	627.77	322.03
		For Seal Class B, Add	80.51	
		For Seal Class A, Add	171.75	
		For Work In Restricted Working Space, Add	161.02	
23 31 13 13-1088	LF	58" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	606.86	311.30
		For Seal Class B, Add	77.82	
		For Seal Class A, Add	166.03	
		For Work In Restricted Working Space, Add	155.65	
23 31 13 13-1089	LF	58" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	617.31	316.66
		For Seal Class B, Add	79.17	
		For Seal Class A, Add	168.89	
		For Work In Restricted Working Space, Add	158.33	
23 31 13 13-1090	LF	58" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	627.77	322.03
		For Seal Class B, Add	80.51	
		For Seal Class A, Add	171.75	
		For Work In Restricted Working Space, Add	161.02	
23 31 13 13-1091	LF	58" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	638.24	327.40
		For Seal Class B, Add	81.85	
		For Seal Class A, Add	174.61	
		For Work In Restricted Working Space, Add	163.70	
23 31 13 13-1092	LF	58" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	648.71	332.77
		For Seal Class B, Add	83.19	
		For Seal Class A, Add	177.48	
		For Work In Restricted Working Space, Add	166.38	
23 31 13 13-1093	LF	60" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	627.77	322.03
		For Seal Class B, Add	80.51	
		For Seal Class A, Add	171.75	
		For Work In Restricted Working Space, Add	161.02	
23 31 13 13-1094	LF	60" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	638.24	327.40
		For Seal Class B, Add	81.85	
		For Seal Class A, Add	174.61	
		For Work In Restricted Working Space, Add	163.70	
23 31 13 13-1095	LF	60" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	648.71	332.77
		For Seal Class B, Add	83.19	
		For Seal Class A, Add	177.48	
		For Work In Restricted Working Space, Add	166.38	
23 31 13 13-1096	LF	60" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	659.18	338.14
		For Seal Class B, Add	84.53	
		For Seal Class A, Add	180.34	
		For Work In Restricted Working Space, Add	169.07	
23 31 13 13-1097	LF	60" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13 13-1098	LF	62" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	648.71	332.77
		For Seal Class B, Add	83.19	
		For Seal Class A, Add	177.48	
		For Work In Restricted Working Space, Add	166.38	
23 31 13 13-1099	LF	62" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	659.18	338.14
		For Seal Class B, Add	84.53	
		For Seal Class A, Add	180.34	
		For Work In Restricted Working Space, Add	169.07	
23 31 13 13-1100	LF	62" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13 13-1101	LF	62" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	680.09	348.87
		For Seal Class B, Add	87.22	
		For Seal Class A, Add	186.06	
		For Work In Restricted Working Space, Add	174.44	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-1102	LF	62" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13 13-1103	LF	64" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13 13-1104	LF	64" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	680.09	348.87
		For Seal Class B, Add	87.22	
		For Seal Class A, Add	186.06	
		For Work In Restricted Working Space, Add	174.44	
23 31 13 13-1105	LF	64" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13 13-1106	LF	64" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	701.02	359.60
		For Seal Class B, Add	89.90	
		For Seal Class A, Add	191.79	
		For Work In Restricted Working Space, Add	179.80	
23 31 13 13-1107	LF	66" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13 13-1108	LF	66" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	701.02	359.60
		For Seal Class B, Add	89.90	
		For Seal Class A, Add	191.79	
		For Work In Restricted Working Space, Add	179.80	
23 31 13 13-1109	LF	66" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	711.49	364.97
		For Seal Class B, Add	91.24	
		For Seal Class A, Add	194.65	
		For Work In Restricted Working Space, Add	182.49	
23 31 13 13-1110	LF	66" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	721.95	370.34
		For Seal Class B, Add	92.58	
		For Seal Class A, Add	197.51	
		For Work In Restricted Working Space, Add	185.17	
23 31 13 13-1111	LF	68" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	711.49	364.97
		For Seal Class B, Add	91.24	
		For Seal Class A, Add	194.65	
		For Work In Restricted Working Space, Add	182.49	
23 31 13 13-1112	LF	68" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	721.95	370.34
		For Seal Class B, Add	92.58	
		For Seal Class A, Add	197.51	
		For Work In Restricted Working Space, Add	185.17	
23 31 13 13-1113	LF	68" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	732.41	375.70
		For Seal Class B, Add	93.93	
		For Seal Class A, Add	200.38	
		For Work In Restricted Working Space, Add	187.85	
23 31 13 13-1114	LF	68" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	742.86	381.07
		For Seal Class B, Add	95.27	
		For Seal Class A, Add	203.24	
		For Work In Restricted Working Space, Add	190.54	
23 31 13 13-1115	LF	70" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	732.41	375.70
		For Seal Class B, Add	93.93	
		For Seal Class A, Add	200.38	
		For Work In Restricted Working Space, Add	187.85	
23 31 13 13-1116	LF	70" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	742.86	381.07
		For Seal Class B, Add	95.27	
		For Seal Class A, Add	203.24	
		For Work In Restricted Working Space, Add	190.54	
23 31 13 13-1117	LF	70" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	753.35	386.45
		For Seal Class B, Add	96.61	
		For Seal Class A, Add	206.10	
		For Work In Restricted Working Space, Add	193.22	
23 31 13 13-1118	LF	70" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	763.80	391.81
		For Seal Class B, Add	97.95	
		For Seal Class A, Add	208.96	
		For Work In Restricted Working Space, Add	195.90	
23 31 13 13-1119	LF	70" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
		For Seal Class B, Add	99.29	
		For Seal Class A, Add	211.82	
		For Work In Restricted Working Space, Add	198.59	
23 31 13 13-1120	LF	70" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
		For Seal Class B, Add	100.64	
		For Seal Class A, Add	214.69	
		For Work In Restricted Working Space, Add	201.27	
23 31 13 13-1121	LF	70" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
		For Seal Class B, Add	101.98	
		For Seal Class A, Add	217.56	
		For Work In Restricted Working Space, Add	203.96	
23 31 13 13-1122	LF	70" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
		For Seal Class B, Add	103.32	
		For Seal Class A, Add	220.42	
		For Work In Restricted Working Space, Add	206.64	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-1123	LF	70" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
			For Seal Class B, Add	104.66	
			For Seal Class A, Add	223.28	
			For Work In Restricted Working Space, Add	209.32	
23 31 13	13-1124	LF	72" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	753.35	386.45
			For Seal Class B, Add	96.61	
			For Seal Class A, Add	206.10	
			For Work In Restricted Working Space, Add	193.22	
23 31 13	13-1125	LF	72" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	763.80	391.81
			For Seal Class B, Add	97.95	
			For Seal Class A, Add	208.96	
			For Work In Restricted Working Space, Add	195.90	
23 31 13	13-1126	LF	72" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
			For Seal Class B, Add	99.29	
			For Seal Class A, Add	211.82	
			For Work In Restricted Working Space, Add	198.59	
23 31 13	13-1127	LF	72" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
			For Seal Class B, Add	100.64	
			For Seal Class A, Add	214.69	
			For Work In Restricted Working Space, Add	201.27	
23 31 13	13-1128	LF	72" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
			For Seal Class B, Add	101.98	
			For Seal Class A, Add	217.56	
			For Work In Restricted Working Space, Add	203.96	
23 31 13	13-1129	LF	72" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
			For Seal Class B, Add	103.32	
			For Seal Class A, Add	220.42	
			For Work In Restricted Working Space, Add	206.64	
23 31 13	13-1130	LF	72" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
			For Seal Class B, Add	104.66	
			For Seal Class A, Add	223.28	
			For Work In Restricted Working Space, Add	209.32	
23 31 13	13-1131	LF	72" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
			For Seal Class B, Add	106.00	
			For Seal Class A, Add	226.14	
			For Work In Restricted Working Space, Add	212.00	
23 31 13	13-1132	LF	74" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
			For Seal Class B, Add	99.29	
			For Seal Class A, Add	211.82	
			For Work In Restricted Working Space, Add	198.59	
23 31 13	13-1133	LF	74" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
			For Seal Class B, Add	100.64	
			For Seal Class A, Add	214.69	
			For Work In Restricted Working Space, Add	201.27	
23 31 13	13-1134	LF	74" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
			For Seal Class B, Add	101.98	
			For Seal Class A, Add	217.56	
			For Work In Restricted Working Space, Add	203.96	
23 31 13	13-1135	LF	74" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
			For Seal Class B, Add	103.32	
			For Seal Class A, Add	220.42	
			For Work In Restricted Working Space, Add	206.64	
23 31 13	13-1136	LF	74" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
			For Seal Class B, Add	104.66	
			For Seal Class A, Add	223.28	
			For Work In Restricted Working Space, Add	209.32	
23 31 13	13-1137	LF	74" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
			For Seal Class B, Add	106.00	
			For Seal Class A, Add	226.14	
			For Work In Restricted Working Space, Add	212.00	
23 31 13	13-1138	LF	74" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
			For Seal Class B, Add	107.34	
			For Seal Class A, Add	229.00	
			For Work In Restricted Working Space, Add	214.69	
23 31 13	13-1139	LF	76" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
			For Seal Class B, Add	101.98	
			For Seal Class A, Add	217.56	
			For Work In Restricted Working Space, Add	203.96	
23 31 13	13-1140	LF	76" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
			For Seal Class B, Add	103.32	
			For Seal Class A, Add	220.42	
			For Work In Restricted Working Space, Add	206.64	
23 31 13	13-1141	LF	76" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
			For Seal Class B, Add	104.66	
			For Seal Class A, Add	223.28	
			For Work In Restricted Working Space, Add	209.32	
23 31 13	13-1142	LF	76" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
			For Seal Class B, Add	106.00	
			For Seal Class A, Add	226.14	
			For Work In Restricted Working Space, Add	212.00	
23 31 13	13-1143	LF	76" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
			For Seal Class B, Add	107.34	
			For Seal Class A, Add	229.00	
			For Work In Restricted Working Space, Add	214.69	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-1144	LF	76" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1145	LF	78" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1146	LF	78" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
		For Seal Class B, Add	106.00	
		For Seal Class A, Add	226.14	
		For Work In Restricted Working Space, Add	212.00	
23 31 13 13-1147	LF	78" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1148	LF	78" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1149	LF	78" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1150	LF	80" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1151	LF	80" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1152	LF	80" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1153	LF	80" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	877.38	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1154	LF	82" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1155	LF	82" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	868.44	445.49
		For Seal Class B, Add	111.37	
		For Seal Class A, Add	237.59	
		For Work In Restricted Working Space, Add	222.74	
23 31 13 13-1156	LF	82" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	878.89	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1157	LF	84" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	878.89	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1158	LF	84" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	889.35	456.21
		For Seal Class B, Add	114.05	
		For Seal Class A, Add	243.32	
		For Work In Restricted Working Space, Add	228.11	
23 31 13 13-1159	LF	86" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	899.81	461.58
		For Seal Class B, Add	115.40	
		For Seal Class A, Add	246.18	
		For Work In Restricted Working Space, Add	230.79	

23 31 13 16 Round and Flat-Oval Spiral Ducts (23 31 13)

23 31 13 16-0001 Low Pressure Round And Flat-Oval Duct (23 31 13 16)

Note: 7" diameter round = 4" x 11.85" flat oval. 8" diameter round = 4" x 15" flat oval. 10" diameter round = 4" x 25.99" or 6" x 15.42" or 8" x 11.14" flat oval. 12" diameter round = 6" x 23.28" or 8" x 15.85" flat oval. 14" diameter round = 6" x 32.70" or 8" x 22.14" or 10" x 17.85 or 12" x 15.14" flat oval. 16" diameter round = 6" x 43.70" or 8" x 29.99" or 10" x 24.14" or 12" x 19.85" or 14" x 17.14" flat oval. 18" diameter round = 6" x 59.41" or 8" x 39.42" or 10" x 30.42" or 12" x 24.57" or 14" x 21.85" or 16" x 19.14" flat oval. 20" diameter round = 8" x 51.98" or 10" x 38.27" or 12" x 30.85" or 14" x 26.57" or 16" x 23.85" or 18" x 21.14" flat oval. Includes sealing the joints by tape, mastic, or spray on sealer.

23 31 13 16-0002 Galvanized Sheet Metal Round And Flat-Oval Ducts (23 31 13 16-0001)

Note: Includes straps and supports.

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**
 MINOR
 CSI UOM DESCRIPTION

 TOTAL DIRECT DEMOLITION
 UNIT COST UNIT COST

23 31 13 16-0003	LF	4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	7.44	2.60
		For Seal Class B, Add	0.80	
		For Seal Class A, Add	2.13	
		For Up To 20', Add	0.64	
		For >20' To 50', Add	0.25	
		For >200' To 500', Deduct	-0.16	
		For >500', Deduct	-0.27	
		For 28 Gauge, Deduct	-0.29	
		For 24 Gauge, Add	0.29	
		For 22 Gauge, Add	0.58	
		For 20 Gauge, Add	0.88	
		For 18 Gauge, Add	1.17	
		For 16 Gauge, Add	1.43	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	1.57	
		For Work In Restricted Working Space, Add	1.60	
		For Elevated Installation >10' To 15', Add	0.53	
		For Elevated Installation >15' To 20', Add	1.06	
		For Elevated Installation >20' To 25', Add	1.33	
		For Elevated Installation >25' To 30', Add	1.86	
		For Elevated Installation >30' To 35', Add	2.13	
		For Elevated Installation >35' To 40', Add	2.66	
		For Elevated Installation >40', Add	2.93	
23 31 13 16-0004	LF	5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	8.59	2.96
		For Seal Class B, Add	0.89	
		For Seal Class A, Add	2.36	
		For Up To 20', Add	0.80	
		For >20' To 50', Add	0.32	
		For >200' To 500', Deduct	-0.20	
		For >500', Deduct	-0.34	
		For 28 Gauge, Deduct	-0.37	
		For 24 Gauge, Add	0.37	
		For 22 Gauge, Add	0.74	
		For 20 Gauge, Add	1.11	
		For 18 Gauge, Add	1.47	
		For 16 Gauge, Add	1.81	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	1.98	
		For Work In Restricted Working Space, Add	1.77	
		For Elevated Installation >10' To 15', Add	0.59	
		For Elevated Installation >15' To 20', Add	1.18	
		For Elevated Installation >20' To 25', Add	1.48	
		For Elevated Installation >25' To 30', Add	2.07	
		For Elevated Installation >30' To 35', Add	2.36	
		For Elevated Installation >35' To 40', Add	2.96	
		For Elevated Installation >40', Add	3.25	
23 31 13 16-0005	LF	6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	9.75	3.54
		For Seal Class B, Add	1.00	
		For Seal Class A, Add	2.66	
		For Up To 20', Add	0.93	
		For >20' To 50', Add	0.37	
		For >200' To 500', Deduct	-0.23	
		For >500', Deduct	-0.39	
		For 28 Gauge, Deduct	-0.43	
		For 24 Gauge, Add	0.43	
		For 22 Gauge, Add	0.85	
		For 20 Gauge, Add	1.28	
		For 18 Gauge, Add	1.70	
		For 16 Gauge, Add	2.09	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.29	
		For Work In Restricted Working Space, Add	2.00	
		For Elevated Installation >10' To 15', Add	0.67	
		For Elevated Installation >15' To 20', Add	1.33	
		For Elevated Installation >20' To 25', Add	1.67	
		For Elevated Installation >25' To 30', Add	2.33	
		For Elevated Installation >30' To 35', Add	2.66	
		For Elevated Installation >35' To 40', Add	3.33	
		For Elevated Installation >40', Add	3.66	
23 31 13 16-0006	LF	7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	10.94	4.14
		For Seal Class B, Add	1.14	
		For Seal Class A, Add	3.04	
		For Up To 20', Add	1.00	
		For >20' To 50', Add	0.40	
		For >200' To 500', Deduct	-0.25	
		For >500', Deduct	-0.42	
		For 28 Gauge, Deduct	-0.46	
		For 24 Gauge, Add	0.46	
		For 22 Gauge, Add	0.92	
		For 20 Gauge, Add	1.38	
		For 18 Gauge, Add	1.84	
		For 16 Gauge, Add	2.25	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.47	
		For Work In Restricted Working Space, Add	2.28	
		For Elevated Installation >10' To 15', Add	0.76	
		For Elevated Installation >15' To 20', Add	1.52	
		For Elevated Installation >20' To 25', Add	1.90	
		For Elevated Installation >25' To 30', Add	2.66	
		For Elevated Installation >30' To 35', Add	3.04	
		For Elevated Installation >35' To 40', Add	3.80	
		For Elevated Installation >40', Add	4.18	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Ducts and Casings

23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31	13 16-0007	LF	8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	12.45	4.73
			For Seal Class B, Add	1.33	
			For Seal Class A, Add	3.55	
			For Up To 20', Add	1.07	
			For >20' To 50', Add	0.43	
			For >200' To 500', Deduct	-0.27	
			For >500', Deduct	-0.45	
			For 28 Gauge, Deduct	-0.50	
			For 24 Gauge, Add	0.49	
			For 22 Gauge, Add	0.99	
			For 20 Gauge, Add	1.48	
			For 18 Gauge, Add	1.97	
			For 16 Gauge, Add	2.42	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.65	
			For Work In Restricted Working Space, Add	2.66	
			For Elevated Installation >10' To 15', Add	0.89	
			For Elevated Installation >15' To 20', Add	1.77	
			For Elevated Installation >20' To 25', Add	2.22	
			For Elevated Installation >25' To 30', Add	3.10	
			For Elevated Installation >30' To 35', Add	3.55	
			For Elevated Installation >35' To 40', Add	4.44	
			For Elevated Installation >40', Add	4.88	
23 31	13 16-0008	LF	10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	15.85	5.91
			For Seal Class B, Add	1.60	
			For Seal Class A, Add	4.26	
			For Up To 20', Add	1.56	
			For >20' To 50', Add	0.63	
			For >200' To 500', Deduct	-0.39	
			For >500', Deduct	-0.65	
			For 28 Gauge, Deduct	-0.72	
			For 24 Gauge, Add	0.72	
			For 22 Gauge, Add	1.44	
			For 20 Gauge, Add	2.16	
			For 18 Gauge, Add	2.87	
			For 16 Gauge, Add	3.52	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.86	
			For Work In Restricted Working Space, Add	3.19	
			For Elevated Installation >10' To 15', Add	1.06	
			For Elevated Installation >15' To 20', Add	2.13	
			For Elevated Installation >20' To 25', Add	2.66	
			For Elevated Installation >25' To 30', Add	3.72	
			For Elevated Installation >30' To 35', Add	4.26	
			For Elevated Installation >35' To 40', Add	5.32	
			For Elevated Installation >40', Add	5.85	
23 31	13 16-0009	LF	12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	19.39	7.93
			For Seal Class B, Add	2.00	
			For Seal Class A, Add	5.32	
			For Up To 20', Add	1.83	
			For >20' To 50', Add	0.73	
			For >200' To 500', Deduct	-0.46	
			For >500', Deduct	-0.76	
			For 28 Gauge, Deduct	-0.84	
			For 24 Gauge, Add	0.84	
			For 22 Gauge, Add	1.68	
			For 20 Gauge, Add	2.52	
			For 18 Gauge, Add	3.35	
			For 16 Gauge, Add	4.11	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.51	
			For Work In Restricted Working Space, Add	3.99	
			For Elevated Installation >10' To 15', Add	1.33	
			For Elevated Installation >15' To 20', Add	2.66	
			For Elevated Installation >20' To 25', Add	3.33	
			For Elevated Installation >25' To 30', Add	4.66	
			For Elevated Installation >30' To 35', Add	5.32	
			For Elevated Installation >35' To 40', Add	6.65	
			For Elevated Installation >40', Add	7.32	
23 31	13 16-0010	LF	14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	23.56	11.82
			For Seal Class B, Add	2.50	
			For Seal Class A, Add	6.66	
			For Up To 20', Add	2.08	
			For >20' To 50', Add	0.83	
			For >200' To 500', Deduct	-0.52	
			For >500', Deduct	-0.87	
			For 28 Gauge, Deduct	-0.96	
			For 24 Gauge, Add	0.95	
			For 22 Gauge, Add	1.91	
			For 20 Gauge, Add	2.86	
			For 18 Gauge, Add	3.81	
			For 16 Gauge, Add	4.67	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.12	
			For Work In Restricted Working Space, Add	4.99	
			For Elevated Installation >10' To 15', Add	1.66	
			For Elevated Installation >15' To 20', Add	3.33	
			For Elevated Installation >20' To 25', Add	4.16	
			For Elevated Installation >25' To 30', Add	5.82	
			For Elevated Installation >30' To 35', Add	6.66	
			For Elevated Installation >35' To 40', Add	8.32	
			For Elevated Installation >40', Add	9.15	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0011	LF		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	31.69	15.85
			For Seal Class B, Add	3.33	
			For Seal Class A, Add	8.87	
			For Up To 20', Add	2.85	
			For >20' To 50', Add	1.14	
			For >200' To 500', Deduct	-0.71	
			For >500', Deduct	-1.19	
			For 28 Gauge, Deduct	-1.32	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	2.62	
			For 20 Gauge, Add	3.94	
			For 18 Gauge, Add	5.23	
			For 16 Gauge, Add	6.42	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.04	
			For Work In Restricted Working Space, Add	6.65	
			For Elevated Installation >10' To 15', Add	2.22	
			For Elevated Installation >15' To 20', Add	4.44	
			For Elevated Installation >20' To 25', Add	5.55	
			For Elevated Installation >25' To 30', Add	7.76	
			For Elevated Installation >30' To 35', Add	8.87	
			For Elevated Installation >35' To 40', Add	11.09	
			For Elevated Installation >40', Add	12.20	
23 31 13 16-0012	LF		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	44.98	19.04
			For Up To 20', Add	5.51	
			For >20' To 50', Add	2.20	
			For >200' To 500', Deduct	-1.38	
			For >500', Deduct	-2.30	
			For 28 Gauge, Deduct	-2.54	
			For 24 Gauge, Add	2.54	
			For 22 Gauge, Add	5.06	
			For 20 Gauge, Add	7.61	
			For 18 Gauge, Add	10.10	
			For 16 Gauge, Add	12.40	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.59	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	
23 31 13 16-0013	LF		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	51.27	21.99
			For Up To 20', Add	6.15	
			For >20' To 50', Add	2.46	
			For >200' To 500', Deduct	-1.54	
			For >500', Deduct	-2.56	
			For 28 Gauge, Deduct	-2.84	
			For 24 Gauge, Add	2.83	
			For 22 Gauge, Add	5.65	
			For 20 Gauge, Add	8.49	
			For 18 Gauge, Add	11.28	
			For 16 Gauge, Add	13.84	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.18	
			For Work In Restricted Working Space, Add	9.23	
			For Elevated Installation >10' To 15', Add	3.08	
			For Elevated Installation >15' To 20', Add	6.15	
			For Elevated Installation >20' To 25', Add	7.69	
			For Elevated Installation >25' To 30', Add	10.77	
			For Elevated Installation >30' To 35', Add	12.30	
			For Elevated Installation >35' To 40', Add	15.38	
			For Elevated Installation >40', Add	16.92	
23 31 13 16-0014			Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbows (23 31 13 16-0001)		
			Note: Up to 90 degree.		
23 31 13 16-0015	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	37.63	15.79
			For Seal Class B, Add	4.74	
			For Seal Class A, Add	12.63	
			For 28 Gauge, Deduct	-0.84	
			For 24 Gauge, Add	0.83	
			For 22 Gauge, Add	1.67	
			For 20 Gauge, Add	2.50	
			For 18 Gauge, Add	3.33	
			For 16 Gauge, Add	4.08	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.48	
			For Work In Restricted Working Space, Add	9.47	
			For Elevated Installation >10' To 15', Add	3.16	
			For Elevated Installation >15' To 20', Add	6.32	
			For Elevated Installation >20' To 25', Add	7.90	
			For Elevated Installation >25' To 30', Add	11.05	
			For Elevated Installation >30' To 35', Add	12.63	
			For Elevated Installation >35' To 40', Add	15.79	
			For Elevated Installation >40', Add	17.37	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0016	EA	5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	43.02	18.22
		For Seal Class B, Add	5.46	
		For Seal Class A, Add	14.57	
		For 28 Gauge, Deduct	-0.91	
		For 24 Gauge, Add	0.91	
		For 22 Gauge, Add	1.82	
		For 20 Gauge, Add	2.73	
		For 18 Gauge, Add	3.62	
		For 16 Gauge, Add	4.45	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.88	
		For Work In Restricted Working Space, Add	10.93	
		For Elevated Installation >10' To 15', Add	3.64	
		For Elevated Installation >15' To 20', Add	7.29	
		For Elevated Installation >20' To 25', Add	9.11	
		For Elevated Installation >25' To 30', Add	12.75	
		For Elevated Installation >30' To 35', Add	14.57	
		For Elevated Installation >35' To 40', Add	18.22	
		For Elevated Installation >40', Add	20.04	
23 31 13 16-0017	EA	6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	50.46	21.52
		For Seal Class B, Add	6.46	
		For Seal Class A, Add	17.22	
		For 28 Gauge, Deduct	-1.03	
		For 24 Gauge, Add	1.02	
		For 22 Gauge, Add	2.04	
		For 20 Gauge, Add	3.07	
		For 18 Gauge, Add	4.08	
		For 16 Gauge, Add	5.00	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.48	
		For Work In Restricted Working Space, Add	12.92	
		For Elevated Installation >10' To 15', Add	4.31	
		For Elevated Installation >15' To 20', Add	8.61	
		For Elevated Installation >20' To 25', Add	10.76	
		For Elevated Installation >25' To 30', Add	15.07	
		For Elevated Installation >30' To 35', Add	17.22	
		For Elevated Installation >35' To 40', Add	21.53	
		For Elevated Installation >40', Add	23.68	
23 31 13 16-0018	EA	7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	64.46	27.67
		For Seal Class B, Add	8.30	
		For Seal Class A, Add	22.14	
		For 28 Gauge, Deduct	-1.26	
		For 24 Gauge, Add	1.26	
		For 22 Gauge, Add	2.51	
		For 20 Gauge, Add	3.77	
		For 18 Gauge, Add	5.01	
		For 16 Gauge, Add	6.15	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.74	
		For Work In Restricted Working Space, Add	16.61	
		For Elevated Installation >10' To 15', Add	5.54	
		For Elevated Installation >15' To 20', Add	11.07	
		For Elevated Installation >20' To 25', Add	13.84	
		For Elevated Installation >25' To 30', Add	19.37	
		For Elevated Installation >30' To 35', Add	22.14	
		For Elevated Installation >35' To 40', Add	27.68	
		For Elevated Installation >40', Add	30.44	
23 31 13 16-0019	EA	8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	77.25	33.71
		For Seal Class B, Add	10.11	
		For Seal Class A, Add	26.96	
		For 28 Gauge, Deduct	-1.36	
		For 24 Gauge, Add	1.36	
		For 22 Gauge, Add	2.71	
		For 20 Gauge, Add	4.07	
		For 18 Gauge, Add	5.41	
		For 16 Gauge, Add	6.64	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.28	
		For Work In Restricted Working Space, Add	20.22	
		For Elevated Installation >10' To 15', Add	6.74	
		For Elevated Installation >15' To 20', Add	13.48	
		For Elevated Installation >20' To 25', Add	16.85	
		For Elevated Installation >25' To 30', Add	23.59	
		For Elevated Installation >30' To 35', Add	26.96	
		For Elevated Installation >35' To 40', Add	33.71	
		For Elevated Installation >40', Add	37.08	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0020	EA		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	118.24	52.63
			For Seal Class B, Add	15.79	
			For Seal Class A, Add	42.10	
			For 28 Gauge, Deduct	-1.80	
			For 24 Gauge, Add	1.79	
			For 22 Gauge, Add	3.58	
			For 20 Gauge, Add	5.37	
			For 18 Gauge, Add	7.14	
			For 16 Gauge, Add	8.76	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.61	
			For Work In Restricted Working Space, Add	31.58	
			For Elevated Installation >10' To 15', Add	10.53	
			For Elevated Installation >15' To 20', Add	21.05	
			For Elevated Installation >20' To 25', Add	26.32	
			For Elevated Installation >25' To 30', Add	36.84	
			For Elevated Installation >30' To 35', Add	42.10	
			For Elevated Installation >35' To 40', Add	52.63	
			For Elevated Installation >40', Add	57.89	
23 31 13 16-0021	EA		12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	163.06	72.74
			For Seal Class B, Add	21.82	
			For Seal Class A, Add	58.19	
			For 28 Gauge, Deduct	-2.44	
			For 24 Gauge, Add	2.43	
			For 22 Gauge, Add	4.85	
			For 20 Gauge, Add	7.28	
			For 18 Gauge, Add	9.67	
			For 16 Gauge, Add	11.87	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.02	
			For Work In Restricted Working Space, Add	43.64	
			For Elevated Installation >10' To 15', Add	14.55	
			For Elevated Installation >15' To 20', Add	29.09	
			For Elevated Installation >20' To 25', Add	36.37	
			For Elevated Installation >25' To 30', Add	50.91	
			For Elevated Installation >30' To 35', Add	58.19	
			For Elevated Installation >35' To 40', Add	72.74	
			For Elevated Installation >40', Add	80.01	
23 31 13 16-0022	EA		14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	199.05	86.04
			For Seal Class B, Add	25.81	
			For Seal Class A, Add	68.84	
			For 28 Gauge, Deduct	-3.73	
			For 24 Gauge, Add	3.72	
			For 22 Gauge, Add	7.43	
			For 20 Gauge, Add	11.16	
			For 18 Gauge, Add	14.83	
			For 16 Gauge, Add	18.20	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	19.95	
			For Work In Restricted Working Space, Add	51.63	
			For Elevated Installation >10' To 15', Add	17.21	
			For Elevated Installation >15' To 20', Add	34.42	
			For Elevated Installation >20' To 25', Add	43.02	
			For Elevated Installation >25' To 30', Add	60.23	
			For Elevated Installation >30' To 35', Add	68.84	
			For Elevated Installation >35' To 40', Add	86.05	
			For Elevated Installation >40', Add	94.65	
23 31 13 16-0023	EA		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	227.88	94.61
			For Seal Class B, Add	28.39	
			For Seal Class A, Add	75.70	
			For 28 Gauge, Deduct	-5.35	
			For 24 Gauge, Add	5.33	
			For 22 Gauge, Add	10.65	
			For 20 Gauge, Add	16.00	
			For 18 Gauge, Add	21.25	
			For 16 Gauge, Add	26.08	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	28.59	
			For Work In Restricted Working Space, Add	56.77	
			For Elevated Installation >10' To 15', Add	18.92	
			For Elevated Installation >15' To 20', Add	37.85	
			For Elevated Installation >20' To 25', Add	47.31	
			For Elevated Installation >25' To 30', Add	66.23	
			For Elevated Installation >30' To 35', Add	75.70	
			For Elevated Installation >35' To 40', Add	94.62	
			For Elevated Installation >40', Add	104.08	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0024	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	254.77	98.46
			For Seal Class B, Add	29.54	
			For Seal Class A, Add	78.77	
			For 28 Gauge, Deduct	-8.01	
			For 24 Gauge, Add	7.98	
			For 22 Gauge, Add	15.94	
			For 20 Gauge, Add	23.95	
			For 18 Gauge, Add	31.82	
			For 16 Gauge, Add	39.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	42.81	
			For Work In Restricted Working Space, Add	59.08	
			For Elevated Installation >10' To 15', Add	19.69	
			For Elevated Installation >15' To 20', Add	39.38	
			For Elevated Installation >20' To 25', Add	49.23	
			For Elevated Installation >25' To 30', Add	68.92	
			For Elevated Installation >30' To 35', Add	78.77	
			For Elevated Installation >35' To 40', Add	98.46	
			For Elevated Installation >40', Add	108.31	
23 31 13 16-0025	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	280.55	101.71
			For Seal Class B, Add	30.51	
			For Seal Class A, Add	81.37	
			For 28 Gauge, Deduct	-10.68	
			For 24 Gauge, Add	10.64	
			For 22 Gauge, Add	21.25	
			For 20 Gauge, Add	31.93	
			For 18 Gauge, Add	42.42	
			For 16 Gauge, Add	52.06	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	57.08	
			For Work In Restricted Working Space, Add	61.03	
			For Elevated Installation >10' To 15', Add	20.34	
			For Elevated Installation >15' To 20', Add	40.68	
			For Elevated Installation >20' To 25', Add	50.86	
			For Elevated Installation >25' To 30', Add	71.20	
			For Elevated Installation >30' To 35', Add	81.37	
			For Elevated Installation >35' To 40', Add	101.71	
			For Elevated Installation >40', Add	111.88	
23 31 13 16-0026			Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbows (23 31 13 16-0001)		
23 31 13 16-0027	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	31.70	10.64
			For Seal Class B, Add	3.99	
			For Seal Class A, Add	10.64	
			For 28 Gauge, Deduct	-0.70	
			For 24 Gauge, Add	0.70	
			For 22 Gauge, Add	1.40	
			For 20 Gauge, Add	2.11	
			For 18 Gauge, Add	2.80	
			For 16 Gauge, Add	3.44	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.77	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	
23 31 13 16-0028	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	36.21	12.19
			For Seal Class B, Add	4.56	
			For Seal Class A, Add	12.16	
			For 28 Gauge, Deduct	-0.80	
			For 24 Gauge, Add	0.80	
			For 22 Gauge, Add	1.60	
			For 20 Gauge, Add	2.40	
			For 18 Gauge, Add	3.19	
			For 16 Gauge, Add	3.92	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.29	
			For Work In Restricted Working Space, Add	9.12	
			For Elevated Installation >10' To 15', Add	3.04	
			For Elevated Installation >15' To 20', Add	6.08	
			For Elevated Installation >20' To 25', Add	7.60	
			For Elevated Installation >25' To 30', Add	10.64	
			For Elevated Installation >30' To 35', Add	12.16	
			For Elevated Installation >35' To 40', Add	15.21	
			For Elevated Installation >40', Add	16.73	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0029	EA		6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	42.09	14.19
			For Seal Class B, Add	5.32	
			For Seal Class A, Add	14.19	
			For 28 Gauge, Deduct	-0.92	
			For 24 Gauge, Add	0.91	
			For 22 Gauge, Add	1.82	
			For 20 Gauge, Add	2.74	
			For 18 Gauge, Add	3.64	
			For 16 Gauge, Add	4.46	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.89	
			For Work In Restricted Working Space, Add	10.64	
			For Elevated Installation >10' To 15', Add	3.55	
			For Elevated Installation >15' To 20', Add	7.10	
			For Elevated Installation >20' To 25', Add	8.87	
			For Elevated Installation >25' To 30', Add	12.42	
			For Elevated Installation >30' To 35', Add	14.19	
			For Elevated Installation >35' To 40', Add	17.74	
			For Elevated Installation >40', Add	19.51	
23 31 13 16-0030	EA		7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	49.58	17.03
			For Seal Class B, Add	6.39	
			For Seal Class A, Add	17.03	
			For 28 Gauge, Deduct	-0.97	
			For 24 Gauge, Add	0.97	
			For 22 Gauge, Add	1.93	
			For 20 Gauge, Add	2.90	
			For 18 Gauge, Add	3.85	
			For 16 Gauge, Add	4.73	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.18	
			For Work In Restricted Working Space, Add	12.77	
			For Elevated Installation >10' To 15', Add	4.26	
			For Elevated Installation >15' To 20', Add	8.52	
			For Elevated Installation >20' To 25', Add	10.65	
			For Elevated Installation >25' To 30', Add	14.90	
			For Elevated Installation >30' To 35', Add	17.03	
			For Elevated Installation >35' To 40', Add	21.29	
			For Elevated Installation >40', Add	23.42	
23 31 13 16-0031	EA		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	61.34	21.29
			For Seal Class B, Add	7.98	
			For Seal Class A, Add	21.29	
			For 28 Gauge, Deduct	-1.12	
			For 24 Gauge, Add	1.12	
			For 22 Gauge, Add	2.24	
			For 20 Gauge, Add	3.36	
			For 18 Gauge, Add	4.47	
			For 16 Gauge, Add	5.48	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.01	
			For Work In Restricted Working Space, Add	15.97	
			For Elevated Installation >10' To 15', Add	5.32	
			For Elevated Installation >15' To 20', Add	10.64	
			For Elevated Installation >20' To 25', Add	13.31	
			For Elevated Installation >25' To 30', Add	18.63	
			For Elevated Installation >30' To 35', Add	21.29	
			For Elevated Installation >35' To 40', Add	26.61	
			For Elevated Installation >40', Add	29.27	
23 31 13 16-0032	EA		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	82.58	28.39
			For Seal Class B, Add	10.65	
			For Seal Class A, Add	28.39	
			For 28 Gauge, Deduct	-1.61	
			For 24 Gauge, Add	1.60	
			For 22 Gauge, Add	3.20	
			For 20 Gauge, Add	4.81	
			For 18 Gauge, Add	6.39	
			For 16 Gauge, Add	7.84	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.59	
			For Work In Restricted Working Space, Add	21.29	
			For Elevated Installation >10' To 15', Add	7.10	
			For Elevated Installation >15' To 20', Add	14.19	
			For Elevated Installation >20' To 25', Add	17.74	
			For Elevated Installation >25' To 30', Add	24.84	
			For Elevated Installation >30' To 35', Add	28.39	
			For Elevated Installation >35' To 40', Add	35.49	
			For Elevated Installation >40', Add	39.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0033	EA	12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	121.81	42.58
		For Seal Class B, Add	15.97	
		For Seal Class A, Add	42.58	
		For 28 Gauge, Deduct	-2.13	
		For 24 Gauge, Add	2.12	
		For 22 Gauge, Add	4.23	
		For 20 Gauge, Add	6.36	
		For 18 Gauge, Add	8.45	
		For 16 Gauge, Add	10.37	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.37	
		For Work In Restricted Working Space, Add	31.94	
		For Elevated Installation >10' To 15', Add	10.65	
		For Elevated Installation >15' To 20', Add	21.29	
		For Elevated Installation >20' To 25', Add	26.61	
		For Elevated Installation >25' To 30', Add	37.26	
		For Elevated Installation >30' To 35', Add	42.58	
		For Elevated Installation >35' To 40', Add	53.23	
		For Elevated Installation >40', Add	58.55	
23 31 13 16-0034	EA	14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	164.76	54.40
		For Seal Class B, Add	20.40	
		For Seal Class A, Add	54.40	
		For 28 Gauge, Deduct	-3.98	
		For 24 Gauge, Add	3.97	
		For 22 Gauge, Add	7.92	
		For 20 Gauge, Add	11.90	
		For 18 Gauge, Add	15.81	
		For 16 Gauge, Add	19.41	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	21.28	
		For Work In Restricted Working Space, Add	40.80	
		For Elevated Installation >10' To 15', Add	13.60	
		For Elevated Installation >15' To 20', Add	27.20	
		For Elevated Installation >20' To 25', Add	34.00	
		For Elevated Installation >25' To 30', Add	47.60	
		For Elevated Installation >30' To 35', Add	54.40	
		For Elevated Installation >35' To 40', Add	68.01	
		For Elevated Installation >40', Add	74.81	
23 31 13 16-0035	EA	16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	206.66	68.60
		For Seal Class B, Add	25.72	
		For Seal Class A, Add	68.60	
		For 28 Gauge, Deduct	-4.87	
		For 24 Gauge, Add	4.85	
		For 22 Gauge, Add	9.69	
		For 20 Gauge, Add	14.56	
		For 18 Gauge, Add	19.34	
		For 16 Gauge, Add	23.74	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.03	
		For Work In Restricted Working Space, Add	51.45	
		For Elevated Installation >10' To 15', Add	17.15	
		For Elevated Installation >15' To 20', Add	34.30	
		For Elevated Installation >20' To 25', Add	42.87	
		For Elevated Installation >25' To 30', Add	60.02	
		For Elevated Installation >30' To 35', Add	68.60	
		For Elevated Installation >35' To 40', Add	85.75	
		For Elevated Installation >40', Add	94.32	
23 31 13 16-0036	EA	18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	233.23	71.55
		For Seal Class B, Add	26.79	
		For Seal Class A, Add	71.44	
		For 28 Gauge, Deduct	-7.57	
		For 24 Gauge, Add	7.54	
		For 22 Gauge, Add	15.05	
		For 20 Gauge, Add	22.62	
		For 18 Gauge, Add	30.05	
		For 16 Gauge, Add	36.88	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.43	
		For Work In Restricted Working Space, Add	53.58	
		For Elevated Installation >10' To 15', Add	17.86	
		For Elevated Installation >15' To 20', Add	35.72	
		For Elevated Installation >20' To 25', Add	44.65	
		For Elevated Installation >25' To 30', Add	62.51	
		For Elevated Installation >30' To 35', Add	71.44	
		For Elevated Installation >35' To 40', Add	89.30	
		For Elevated Installation >40', Add	98.22	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0037	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	256.17	73.32
			For Seal Class B, Add	27.50	
			For Seal Class A, Add	73.33	
			For 28 Gauge, Deduct	-10.09	
			For 24 Gauge, Add	10.05	
			For 22 Gauge, Add	20.07	
			For 20 Gauge, Add	30.16	
			For 18 Gauge, Add	40.07	
			For 16 Gauge, Add	49.17	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	53.97	
			For Work In Restricted Working Space, Add	55.00	
			For Elevated Installation >10' To 15', Add	18.33	
			For Elevated Installation >15' To 20', Add	36.66	
			For Elevated Installation >20' To 25', Add	45.83	
			For Elevated Installation >25' To 30', Add	64.16	
			For Elevated Installation >30' To 35', Add	73.33	
			For Elevated Installation >35' To 40', Add	91.66	
			For Elevated Installation >40', Add	100.83	
23 31 13 16-0038			Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbows (23 31 13 16-0001)		
23 31 13 16-0039	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	29.81	10.64
			For Seal Class B, Add	3.99	
			For Seal Class A, Add	10.64	
			For 28 Gauge, Deduct	-0.44	
			For 24 Gauge, Add	0.44	
			For 22 Gauge, Add	0.88	
			For 20 Gauge, Add	1.32	
			For 18 Gauge, Add	1.76	
			For 16 Gauge, Add	2.16	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.37	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	
23 31 13 16-0040	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	34.52	12.19
			For Seal Class B, Add	4.56	
			For Seal Class A, Add	12.16	
			For 28 Gauge, Deduct	-0.57	
			For 24 Gauge, Add	0.57	
			For 22 Gauge, Add	1.13	
			For 20 Gauge, Add	1.70	
			For 18 Gauge, Add	2.26	
			For 16 Gauge, Add	2.77	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.04	
			For Work In Restricted Working Space, Add	9.12	
			For Elevated Installation >10' To 15', Add	3.04	
			For Elevated Installation >15' To 20', Add	6.08	
			For Elevated Installation >20' To 25', Add	7.60	
			For Elevated Installation >25' To 30', Add	10.64	
			For Elevated Installation >30' To 35', Add	12.16	
			For Elevated Installation >35' To 40', Add	15.21	
			For Elevated Installation >40', Add	16.73	
23 31 13 16-0041	EA		6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	39.96	14.19
			For Seal Class B, Add	5.32	
			For Seal Class A, Add	14.19	
			For 28 Gauge, Deduct	-0.62	
			For 24 Gauge, Add	0.62	
			For 22 Gauge, Add	1.23	
			For 20 Gauge, Add	1.85	
			For 18 Gauge, Add	2.46	
			For 16 Gauge, Add	3.02	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.32	
			For Work In Restricted Working Space, Add	10.64	
			For Elevated Installation >10' To 15', Add	3.55	
			For Elevated Installation >15' To 20', Add	7.10	
			For Elevated Installation >20' To 25', Add	8.87	
			For Elevated Installation >25' To 30', Add	12.42	
			For Elevated Installation >30' To 35', Add	14.19	
			For Elevated Installation >35' To 40', Add	17.74	
			For Elevated Installation >40', Add	19.51	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0042	EA	7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow.....	47.78	17.03
		For Seal Class B, Add	6.39	
		For Seal Class A, Add	17.03	
		For 28 Gauge, Deduct	-0.72	
		For 24 Gauge, Add	0.72	
		For 22 Gauge, Add	1.43	
		For 20 Gauge, Add	2.15	
		For 18 Gauge, Add	2.86	
		For 16 Gauge, Add	3.51	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.85	
		For Work In Restricted Working Space, Add	12.77	
		For Elevated Installation >10' To 15', Add	4.26	
		For Elevated Installation >15' To 20', Add	8.52	
		For Elevated Installation >20' To 25', Add	10.65	
		For Elevated Installation >25' To 30', Add	14.90	
		For Elevated Installation >30' To 35', Add	17.03	
		For Elevated Installation >35' To 40', Add	21.29	
		For Elevated Installation >40', Add	23.42	
23 31 13 16-0043	EA	8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow.....	59.13	21.29
		For Seal Class B, Add	7.98	
		For Seal Class A, Add	21.29	
		For 28 Gauge, Deduct	-0.82	
		For 24 Gauge, Add	0.82	
		For 22 Gauge, Add	1.63	
		For 20 Gauge, Add	2.45	
		For 18 Gauge, Add	3.25	
		For 16 Gauge, Add	3.99	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.37	
		For Work In Restricted Working Space, Add	15.97	
		For Elevated Installation >10' To 15', Add	5.32	
		For Elevated Installation >15' To 20', Add	10.64	
		For Elevated Installation >20' To 25', Add	13.31	
		For Elevated Installation >25' To 30', Add	18.63	
		For Elevated Installation >30' To 35', Add	21.29	
		For Elevated Installation >35' To 40', Add	26.61	
		For Elevated Installation >40', Add	29.27	
23 31 13 16-0044	EA	10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow.....	79.99	28.39
		For Seal Class B, Add	10.65	
		For Seal Class A, Add	28.39	
		For 28 Gauge, Deduct	-1.25	
		For 24 Gauge, Add	1.24	
		For 22 Gauge, Add	2.49	
		For 20 Gauge, Add	3.73	
		For 18 Gauge, Add	4.96	
		For 16 Gauge, Add	6.09	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.67	
		For Work In Restricted Working Space, Add	21.29	
		For Elevated Installation >10' To 15', Add	7.10	
		For Elevated Installation >15' To 20', Add	14.19	
		For Elevated Installation >20' To 25', Add	17.74	
		For Elevated Installation >25' To 30', Add	24.84	
		For Elevated Installation >30' To 35', Add	28.39	
		For Elevated Installation >35' To 40', Add	35.49	
		For Elevated Installation >40', Add	39.03	
23 31 13 16-0045	EA	12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow.....	118.06	42.58
		For Seal Class B, Add	15.97	
		For Seal Class A, Add	42.58	
		For 28 Gauge, Deduct	-1.61	
		For 24 Gauge, Add	1.60	
		For 22 Gauge, Add	3.20	
		For 20 Gauge, Add	4.81	
		For 18 Gauge, Add	6.39	
		For 16 Gauge, Add	7.84	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.59	
		For Work In Restricted Working Space, Add	31.94	
		For Elevated Installation >10' To 15', Add	10.65	
		For Elevated Installation >15' To 20', Add	21.29	
		For Elevated Installation >20' To 25', Add	26.61	
		For Elevated Installation >25' To 30', Add	37.26	
		For Elevated Installation >30' To 35', Add	42.58	
		For Elevated Installation >35' To 40', Add	53.23	
		For Elevated Installation >40', Add	58.55	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**
 MINOR
 CSI UOM DESCRIPTION

 TOTAL DIRECT DEMOLITION
 UNIT COST UNIT COST

23 31 13 16-0046	EA 14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	156.10	54.40
	For Seal Class B, Add	20.40	
	For Seal Class A, Add	54.40	
	For 28 Gauge, Deduct	-2.78	
	For 24 Gauge, Add	2.77	
	For 22 Gauge, Add	5.53	
	For 20 Gauge, Add	8.32	
	For 18 Gauge, Add	11.05	
	For 16 Gauge, Add	13.56	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	14.87	
	For Work In Restricted Working Space, Add	40.80	
	For Elevated Installation >10' To 15', Add	13.60	
	For Elevated Installation >15' To 20', Add	27.20	
	For Elevated Installation >20' To 25', Add	34.00	
	For Elevated Installation >25' To 30', Add	47.60	
	For Elevated Installation >30' To 35', Add	54.40	
	For Elevated Installation >35' To 40', Add	68.01	
	For Elevated Installation >40', Add	74.81	
23 31 13 16-0047	EA 16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	204.43	68.60
	For Seal Class B, Add	25.72	
	For Seal Class A, Add	68.60	
	For 28 Gauge, Deduct	-4.56	
	For 24 Gauge, Add	4.55	
	For 22 Gauge, Add	9.07	
	For 20 Gauge, Add	13.64	
	For 18 Gauge, Add	18.12	
	For 16 Gauge, Add	22.23	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.38	
	For Work In Restricted Working Space, Add	51.45	
	For Elevated Installation >10' To 15', Add	17.15	
	For Elevated Installation >15' To 20', Add	34.30	
	For Elevated Installation >20' To 25', Add	42.87	
	For Elevated Installation >25' To 30', Add	60.02	
	For Elevated Installation >30' To 35', Add	68.60	
	For Elevated Installation >35' To 40', Add	85.75	
	For Elevated Installation >40', Add	94.32	
23 31 13 16-0048	EA 18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	218.41	71.55
	For Seal Class B, Add	26.79	
	For Seal Class A, Add	71.44	
	For 28 Gauge, Deduct	-5.52	
	For 24 Gauge, Add	5.50	
	For 22 Gauge, Add	10.97	
	For 20 Gauge, Add	16.49	
	For 18 Gauge, Add	21.90	
	For 16 Gauge, Add	26.88	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	29.47	
	For Work In Restricted Working Space, Add	53.58	
	For Elevated Installation >10' To 15', Add	17.86	
	For Elevated Installation >15' To 20', Add	35.72	
	For Elevated Installation >20' To 25', Add	44.65	
	For Elevated Installation >25' To 30', Add	62.51	
	For Elevated Installation >30' To 35', Add	71.44	
	For Elevated Installation >35' To 40', Add	89.30	
	For Elevated Installation >40', Add	98.22	
23 31 13 16-0049	EA 20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	234.33	73.32
	For Seal Class B, Add	27.50	
	For Seal Class A, Add	73.33	
	For 28 Gauge, Deduct	-7.06	
	For 24 Gauge, Add	7.04	
	For 22 Gauge, Add	14.05	
	For 20 Gauge, Add	21.12	
	For 18 Gauge, Add	28.06	
	For 16 Gauge, Add	34.43	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	37.75	
	For Work In Restricted Working Space, Add	55.00	
	For Elevated Installation >10' To 15', Add	18.33	
	For Elevated Installation >15' To 20', Add	36.66	
	For Elevated Installation >20' To 25', Add	45.83	
	For Elevated Installation >25' To 30', Add	64.16	
	For Elevated Installation >30' To 35', Add	73.33	
	For Elevated Installation >35' To 40', Add	91.66	
	For Elevated Installation >40', Add	100.83	

23 31 13 16-0050 Galvanized Sheet Metal Round And Flat-Oval Tees (23 31 13 16-0001)



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0051	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	47.03	15.96
			For Seal Class B, Add	5.99	
			For Seal Class A, Add	15.96	
			For 28 Gauge, Deduct	-0.99	
			For 24 Gauge, Add	0.98	
			For 22 Gauge, Add	1.96	
			For 20 Gauge, Add	2.95	
			For 18 Gauge, Add	3.92	
			For 16 Gauge, Add	4.91	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.27	
			For Work In Restricted Working Space, Add	11.97	
			For Elevated Installation >10' To 15', Add	3.99	
			For Elevated Installation >15' To 20', Add	7.98	
			For Elevated Installation >20' To 25', Add	9.98	
			For Elevated Installation >25' To 30', Add	13.97	
			For Elevated Installation >30' To 35', Add	15.96	
			For Elevated Installation >35' To 40', Add	19.96	
			For Elevated Installation >40', Add	21.95	
23 31 13 16-0052	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	55.08	18.22
			For Seal Class B, Add	6.84	
			For Seal Class A, Add	18.25	
			For 28 Gauge, Deduct	-1.31	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	2.61	
			For 20 Gauge, Add	3.92	
			For 18 Gauge, Add	5.20	
			For 16 Gauge, Add	6.39	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.00	
			For Work In Restricted Working Space, Add	13.69	
			For Elevated Installation >10' To 15', Add	4.56	
			For Elevated Installation >15' To 20', Add	9.12	
			For Elevated Installation >20' To 25', Add	11.41	
			For Elevated Installation >25' To 30', Add	15.97	
			For Elevated Installation >30' To 35', Add	18.25	
			For Elevated Installation >35' To 40', Add	22.81	
			For Elevated Installation >40', Add	25.09	
23 31 13 16-0053	EA		6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	63.49	21.29
			For Seal Class B, Add	7.98	
			For Seal Class A, Add	21.29	
			For 28 Gauge, Deduct	-1.42	
			For 24 Gauge, Add	1.42	
			For 22 Gauge, Add	2.83	
			For 20 Gauge, Add	4.25	
			For 18 Gauge, Add	5.65	
			For 16 Gauge, Add	6.93	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.60	
			For Work In Restricted Working Space, Add	15.97	
			For Elevated Installation >10' To 15', Add	5.32	
			For Elevated Installation >15' To 20', Add	10.64	
			For Elevated Installation >20' To 25', Add	13.31	
			For Elevated Installation >25' To 30', Add	18.63	
			For Elevated Installation >30' To 35', Add	21.29	
			For Elevated Installation >35' To 40', Add	26.61	
			For Elevated Installation >40', Add	29.27	
23 31 13 16-0054	EA		7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	75.68	25.55
			For Seal Class B, Add	9.58	
			For Seal Class A, Add	25.54	
			For 28 Gauge, Deduct	-1.64	
			For 24 Gauge, Add	1.63	
			For 22 Gauge, Add	3.26	
			For 20 Gauge, Add	4.89	
			For 18 Gauge, Add	6.50	
			For 16 Gauge, Add	7.98	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.75	
			For Work In Restricted Working Space, Add	19.16	
			For Elevated Installation >10' To 15', Add	6.39	
			For Elevated Installation >15' To 20', Add	12.77	
			For Elevated Installation >20' To 25', Add	15.97	
			For Elevated Installation >25' To 30', Add	22.35	
			For Elevated Installation >30' To 35', Add	25.54	
			For Elevated Installation >35' To 40', Add	31.93	
			For Elevated Installation >40', Add	35.12	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0055	EA		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	98.94	31.93
			For Seal Class B, Add	11.98	
			For Seal Class A, Add	31.94	
			For 28 Gauge, Deduct	-2.65	
			For 24 Gauge, Add	2.64	
			For 22 Gauge, Add	5.26	
			For 20 Gauge, Add	7.91	
			For 18 Gauge, Add	10.51	
			For 16 Gauge, Add	12.89	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	14.13	
			For Work In Restricted Working Space, Add	23.95	
			For Elevated Installation >10' To 15', Add	7.98	
			For Elevated Installation >15' To 20', Add	15.97	
			For Elevated Installation >20' To 25', Add	19.96	
			For Elevated Installation >25' To 30', Add	27.94	
			For Elevated Installation >30' To 35', Add	31.94	
			For Elevated Installation >35' To 40', Add	39.92	
			For Elevated Installation >40', Add	43.91	
23 31 13 16-0056	EA		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	130.82	42.58
			For Seal Class B, Add	15.97	
			For Seal Class A, Add	42.58	
			For 28 Gauge, Deduct	-3.38	
			For 24 Gauge, Add	3.36	
			For 22 Gauge, Add	6.71	
			For 20 Gauge, Add	10.09	
			For 18 Gauge, Add	13.40	
			For 16 Gauge, Add	16.45	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.03	
			For Work In Restricted Working Space, Add	31.94	
			For Elevated Installation >10' To 15', Add	10.65	
			For Elevated Installation >15' To 20', Add	21.29	
			For Elevated Installation >20' To 25', Add	26.61	
			For Elevated Installation >25' To 30', Add	37.26	
			For Elevated Installation >30' To 35', Add	42.58	
			For Elevated Installation >35' To 40', Add	53.23	
			For Elevated Installation >40', Add	58.55	
23 31 13 16-0057	EA		12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	184.01	63.87
			For Seal Class B, Add	23.95	
			For Seal Class A, Add	63.86	
			For 28 Gauge, Deduct	-3.38	
			For 24 Gauge, Add	3.36	
			For 22 Gauge, Add	6.71	
			For 20 Gauge, Add	10.09	
			For 18 Gauge, Add	13.40	
			For 16 Gauge, Add	16.45	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.03	
			For Work In Restricted Working Space, Add	47.89	
			For Elevated Installation >10' To 15', Add	15.96	
			For Elevated Installation >15' To 20', Add	31.93	
			For Elevated Installation >20' To 25', Add	39.91	
			For Elevated Installation >25' To 30', Add	55.87	
			For Elevated Installation >30' To 35', Add	63.86	
			For Elevated Installation >35' To 40', Add	79.82	
			For Elevated Installation >40', Add	87.80	
23 31 13 16-0058	EA		14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	250.34	81.37
			For Seal Class B, Add	30.59	
			For Seal Class A, Add	81.57	
			For 28 Gauge, Deduct	-6.43	
			For 24 Gauge, Add	6.41	
			For 22 Gauge, Add	12.79	
			For 20 Gauge, Add	19.22	
			For 18 Gauge, Add	25.53	
			For 16 Gauge, Add	31.33	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	34.35	
			For Work In Restricted Working Space, Add	61.18	
			For Elevated Installation >10' To 15', Add	20.39	
			For Elevated Installation >15' To 20', Add	40.78	
			For Elevated Installation >20' To 25', Add	50.98	
			For Elevated Installation >25' To 30', Add	71.37	
			For Elevated Installation >30' To 35', Add	81.57	
			For Elevated Installation >35' To 40', Add	101.96	
			For Elevated Installation >40', Add	112.16	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Ducts and Casings

23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0059	EA		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	322.28	103.13
			For Seal Class B, Add	38.57	
			For Seal Class A, Add	102.84	
			For 28 Gauge, Deduct	-9.03	
			For 24 Gauge, Add	8.99	
			For 22 Gauge, Add	17.95	
			For 20 Gauge, Add	26.98	
			For 18 Gauge, Add	35.84	
			For 16 Gauge, Add	43.99	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	48.23	
			For Work In Restricted Working Space, Add	77.13	
			For Elevated Installation >10' To 15', Add	25.71	
			For Elevated Installation >15' To 20', Add	51.42	
			For Elevated Installation >20' To 25', Add	64.28	
			For Elevated Installation >25' To 30', Add	89.99	
			For Elevated Installation >30' To 35', Add	102.84	
			For Elevated Installation >35' To 40', Add	128.56	
			For Elevated Installation >40', Add	141.41	
23 31 13 16-0060	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	370.43	114.72
			For Seal Class B, Add	43.11	
			For Seal Class A, Add	114.96	
			For 28 Gauge, Deduct	-11.50	
			For 24 Gauge, Add	11.46	
			For 22 Gauge, Add	22.87	
			For 20 Gauge, Add	34.37	
			For 18 Gauge, Add	45.67	
			For 16 Gauge, Add	56.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	61.44	
			For Work In Restricted Working Space, Add	86.22	
			For Elevated Installation >10' To 15', Add	28.74	
			For Elevated Installation >15' To 20', Add	57.48	
			For Elevated Installation >20' To 25', Add	71.85	
			For Elevated Installation >25' To 30', Add	100.59	
			For Elevated Installation >30' To 35', Add	114.96	
			For Elevated Installation >35' To 40', Add	143.70	
			For Elevated Installation >40', Add	158.07	
23 31 13 16-0061	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	388.99	118.86
			For Seal Class B, Add	44.53	
			For Seal Class A, Add	118.74	
			For 28 Gauge, Deduct	-12.76	
			For 24 Gauge, Add	12.71	
			For 22 Gauge, Add	25.38	
			For 20 Gauge, Add	38.14	
			For 18 Gauge, Add	50.67	
			For 16 Gauge, Add	62.19	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	68.18	
			For Work In Restricted Working Space, Add	89.06	
			For Elevated Installation >10' To 15', Add	29.69	
			For Elevated Installation >15' To 20', Add	59.37	
			For Elevated Installation >20' To 25', Add	74.22	
			For Elevated Installation >25' To 30', Add	103.90	
			For Elevated Installation >30' To 35', Add	118.74	
			For Elevated Installation >35' To 40', Add	148.43	
			For Elevated Installation >40', Add	163.27	
23 31 13 16-0062			Galvanized Sheet Metal Round And Flat-Oval Connectors (23 31 13 16-0001)		
23 31 13 16-0063	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	21.31	
			For Seal Class B, Add	2.84	
			For Seal Class A, Add	7.57	
			For Work In Restricted Working Space, Add	5.68	
			For Elevated Installation >10' To 15', Add	1.89	
			For Elevated Installation >15' To 20', Add	3.78	
			For Elevated Installation >20' To 25', Add	4.73	
			For Elevated Installation >25' To 30', Add	6.62	
			For Elevated Installation >30' To 35', Add	7.57	
			For Elevated Installation >35' To 40', Add	9.46	
			For Elevated Installation >40', Add	10.41	
23 31 13 16-0064	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	22.46	
			For Seal Class B, Add	2.98	
			For Seal Class A, Add	7.96	
			For Work In Restricted Working Space, Add	5.97	
			For Elevated Installation >10' To 15', Add	1.99	
			For Elevated Installation >15' To 20', Add	3.98	
			For Elevated Installation >20' To 25', Add	4.97	
			For Elevated Installation >25' To 30', Add	6.96	
			For Elevated Installation >30' To 35', Add	7.96	
			For Elevated Installation >35' To 40', Add	9.95	
			For Elevated Installation >40', Add	10.94	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0065 EA 6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	24.06	
For Seal Class B, Add	3.19	
For Seal Class A, Add	8.52	
For Work In Restricted Working Space, Add	6.39	
For Elevated Installation >10' To 15', Add	2.13	
For Elevated Installation >15' To 20', Add	4.26	
For Elevated Installation >20' To 25', Add	5.32	
For Elevated Installation >25' To 30', Add	7.45	
For Elevated Installation >30' To 35', Add	8.52	
For Elevated Installation >35' To 40', Add	10.65	
For Elevated Installation >40', Add	11.71	
23 31 13 16-0066 EA 7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	25.63	
For Seal Class B, Add	3.37	
For Seal Class A, Add	8.99	
For Work In Restricted Working Space, Add	6.74	
For Elevated Installation >10' To 15', Add	2.25	
For Elevated Installation >15' To 20', Add	4.49	
For Elevated Installation >20' To 25', Add	5.62	
For Elevated Installation >25' To 30', Add	7.86	
For Elevated Installation >30' To 35', Add	8.99	
For Elevated Installation >35' To 40', Add	11.24	
For Elevated Installation >40', Add	12.36	
23 31 13 16-0067 EA 8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	27.81	
For Seal Class B, Add	3.64	
For Seal Class A, Add	9.70	
For Work In Restricted Working Space, Add	7.27	
For Elevated Installation >10' To 15', Add	2.42	
For Elevated Installation >15' To 20', Add	4.85	
For Elevated Installation >20' To 25', Add	6.06	
For Elevated Installation >25' To 30', Add	8.48	
For Elevated Installation >30' To 35', Add	9.70	
For Elevated Installation >35' To 40', Add	12.12	
For Elevated Installation >40', Add	13.33	
23 31 13 16-0068 EA 10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	32.71	
For Seal Class B, Add	4.06	
For Seal Class A, Add	10.84	
For Work In Restricted Working Space, Add	8.13	
For Elevated Installation >10' To 15', Add	2.71	
For Elevated Installation >15' To 20', Add	5.42	
For Elevated Installation >20' To 25', Add	6.77	
For Elevated Installation >25' To 30', Add	9.48	
For Elevated Installation >30' To 35', Add	10.84	
For Elevated Installation >35' To 40', Add	13.55	
For Elevated Installation >40', Add	14.90	
23 31 13 16-0069 EA 12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	44.63	
For Seal Class B, Add	5.68	
For Seal Class A, Add	15.14	
For Work In Restricted Working Space, Add	11.36	
For Elevated Installation >10' To 15', Add	3.79	
For Elevated Installation >15' To 20', Add	7.57	
For Elevated Installation >20' To 25', Add	9.46	
For Elevated Installation >25' To 30', Add	13.25	
For Elevated Installation >30' To 35', Add	15.14	
For Elevated Installation >35' To 40', Add	18.93	
For Elevated Installation >40', Add	20.82	
23 31 13 16-0070 EA 14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	50.96	
For Seal Class B, Add	6.46	
For Seal Class A, Add	17.23	
For Work In Restricted Working Space, Add	12.92	
For Elevated Installation >10' To 15', Add	4.31	
For Elevated Installation >15' To 20', Add	8.61	
For Elevated Installation >20' To 25', Add	10.77	
For Elevated Installation >25' To 30', Add	15.07	
For Elevated Installation >30' To 35', Add	17.23	
For Elevated Installation >35' To 40', Add	21.54	
For Elevated Installation >40', Add	23.69	
23 31 13 16-0071 EA 16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	56.04	
For Seal Class B, Add	7.08	
For Seal Class A, Add	18.88	
For Work In Restricted Working Space, Add	14.16	
For Elevated Installation >10' To 15', Add	4.72	
For Elevated Installation >15' To 20', Add	9.44	
For Elevated Installation >20' To 25', Add	11.80	
For Elevated Installation >25' To 30', Add	16.52	
For Elevated Installation >30' To 35', Add	18.88	
For Elevated Installation >35' To 40', Add	23.60	
For Elevated Installation >40', Add	25.96	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Ducts and Casings

23 31

23

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 31 13 16-0072	EA 18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	60.97		
	For Seal Class B, Add	7.67		
	For Seal Class A, Add	20.44		
	For Work In Restricted Working Space, Add	15.33		
	For Elevated Installation >10' To 15', Add	5.11		
	For Elevated Installation >15' To 20', Add	10.22		
	For Elevated Installation >20' To 25', Add	12.78		
	For Elevated Installation >25' To 30', Add	17.89		
	For Elevated Installation >30' To 35', Add	20.44		
	For Elevated Installation >35' To 40', Add	25.55		
	For Elevated Installation >40', Add	28.11		
23 31 13 16-0073	EA 20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	66.42		
	For Seal Class B, Add	8.36		
	For Seal Class A, Add	22.28		
	For Work In Restricted Working Space, Add	16.71		
	For Elevated Installation >10' To 15', Add	5.57		
	For Elevated Installation >15' To 20', Add	11.14		
	For Elevated Installation >20' To 25', Add	13.93		
	For Elevated Installation >25' To 30', Add	19.50		
	For Elevated Installation >30' To 35', Add	22.28		
	For Elevated Installation >35' To 40', Add	27.86		
	For Elevated Installation >40', Add	30.64		
23 31 13 16-0074	Slip Joint, Galvanized, Spiral Duct And Fittings (23 31 13 16)			
23 31 13 16-0075	Slip Joint, Galvanized, Spiral Duct (23 31 13 16-0074)			
23 31 13 16-0076	LF 4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	10.09		1.09
	For Seal Class B, Add	0.88		
	For Seal Class A, Add	2.34		
	For Up To 20', Add	1.27		
	For >20' To 50', Add	0.51		
	For >200' To 500', Deduct	-0.32		
	For >500', Deduct	-0.53		
	For 24 Gauge, Add	0.85		
	For 22 Gauge, Add	1.95		
	For 20 Gauge, Add	3.18		
	For 18 Gauge, Add	4.88		
	For 16 Gauge, Add	5.94		
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.14		
	For Work In Restricted Working Space, Add	1.76		
23 31 13 16-0077	LF 6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	13.15		2.19
	For Seal Class B, Add	1.05		
	For Seal Class A, Add	2.81		
	For Up To 20', Add	1.64		
	For >20' To 50', Add	0.74		
	For >200' To 500', Deduct	-0.46		
	For >500', Deduct	-0.77		
	For 24 Gauge, Add	1.23		
	For 22 Gauge, Add	2.82		
	For 20 Gauge, Add	4.60		
	For 18 Gauge, Add	7.05		
	For 16 Gauge, Add	8.58		
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.54		
	For Work In Restricted Working Space, Add	2.11		
23 31 13 16-0078	LF 8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	16.78		2.19
	For Seal Class B, Add	1.31		
	For Seal Class A, Add	3.48		
	For Up To 20', Add	2.42		
	For >20' To 50', Add	0.97		
	For >200' To 500', Deduct	-0.61		
	For >500', Deduct	-1.01		
	For 24 Gauge, Add	1.62		
	For 22 Gauge, Add	3.72		
	For 20 Gauge, Add	6.06		
	For 18 Gauge, Add	9.29		
	For 16 Gauge, Add	11.31		
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.98		
	For Work In Restricted Working Space, Add	2.61		
23 31 13 16-0079	LF 10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	20.43		2.19
	For Seal Class B, Add	1.57		
	For Seal Class A, Add	4.18		
	For Up To 20', Add	2.99		
	For >20' To 50', Add	1.20		
	For >200' To 500', Deduct	-0.75		
	For >500', Deduct	-1.25		
	For 24 Gauge, Add	1.99		
	For 22 Gauge, Add	4.59		
	For 20 Gauge, Add	7.48		
	For 18 Gauge, Add	11.47		
	For 16 Gauge, Add	13.96		
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.38		
	For Work In Restricted Working Space, Add	3.14		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0080	LF		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	25.37	3.27
			For Seal Class B, Add	1.97	
			For Seal Class A, Add	5.24	
			For Up To 20', Add	3.68	
			For >20' To 50', Add	1.47	
			For >200' To 500', Deduct	-0.92	
			For >500', Deduct	-1.53	
			For 24 Gauge, Add	2.45	
			For 22 Gauge, Add	5.64	
			For 20 Gauge, Add	9.20	
			For 18 Gauge, Add	14.11	
			For 16 Gauge, Add	17.18	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.08	
			For Work In Restricted Working Space, Add	3.93	
23 31 13 16-0081	LF		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	30.58	3.27
			For Seal Class B, Add	2.46	
			For Seal Class A, Add	6.55	
			For Up To 20', Add	4.26	
			For >20' To 50', Add	1.71	
			For >200' To 500', Deduct	-1.07	
			For >500', Deduct	-1.78	
			For 24 Gauge, Add	2.84	
			For 22 Gauge, Add	6.54	
			For 20 Gauge, Add	10.66	
			For 18 Gauge, Add	16.34	
			For 16 Gauge, Add	19.89	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.52	
			For Work In Restricted Working Space, Add	4.91	
23 31 13 16-0082	LF		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	42.44	3.27
			For Seal Class B, Add	3.27	
			For Seal Class A, Add	8.72	
			For Up To 20', Add	6.19	
			For >20' To 50', Add	2.48	
			For >200' To 500', Deduct	-1.55	
			For >500', Deduct	-2.58	
			For 24 Gauge, Add	4.13	
			For 22 Gauge, Add	9.49	
			For 20 Gauge, Add	15.48	
			For 18 Gauge, Add	23.74	
			For 16 Gauge, Add	28.90	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.27	
			For Work In Restricted Working Space, Add	6.54	
23 31 13 16-0083	LF		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	48.30	4.36
			For Seal Class B, Add	3.81	
			For Seal Class A, Add	10.16	
			For Up To 20', Add	6.87	
			For >20' To 50', Add	2.75	
			For >200' To 500', Deduct	-1.72	
			For >500', Deduct	-2.86	
			For 24 Gauge, Add	4.58	
			For 22 Gauge, Add	10.53	
			For 20 Gauge, Add	17.17	
			For 18 Gauge, Add	26.32	
			For 16 Gauge, Add	32.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	16.94	
			For Work In Restricted Working Space, Add	7.62	
23 31 13 16-0084	LF		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	54.39	4.36
			For Seal Class B, Add	4.33	
			For Seal Class A, Add	11.54	
			For Up To 20', Add	7.66	
			For >20' To 50', Add	3.06	
			For >200' To 500', Deduct	-1.91	
			For >500', Deduct	-3.19	
			For 24 Gauge, Add	5.11	
			For 22 Gauge, Add	11.74	
			For 20 Gauge, Add	19.15	
			For 18 Gauge, Add	29.36	
			For 16 Gauge, Add	35.74	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.89	
			For Work In Restricted Working Space, Add	8.66	
23 31 13 16-0085	LF		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	60.72	5.46
			For Seal Class B, Add	4.88	
			For Seal Class A, Add	13.00	
			For Up To 20', Add	8.47	
			For >20' To 50', Add	3.39	
			For >200' To 500', Deduct	-2.12	
			For >500', Deduct	-3.53	
			For 24 Gauge, Add	5.64	
			For 22 Gauge, Add	12.98	
			For 20 Gauge, Add	21.17	
			For 18 Gauge, Add	32.45	
			For 16 Gauge, Add	39.51	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	20.88	
			For Work In Restricted Working Space, Add	9.75	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0086	LF		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	67.05	6.55
			For Seal Class B, Add	5.46	
			For Seal Class A, Add	14.65	
			For Up To 20', Add	9.20	
			For >20' To 50', Add	3.68	
			For >200' To 500', Deduct	-2.30	
			For >500', Deduct	-3.83	
			For 24 Gauge, Add	6.13	
			For 22 Gauge, Add	14.11	
			For 20 Gauge, Add	23.00	
			For 18 Gauge, Add	35.27	
			For 16 Gauge, Add	42.94	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.70	
			For Work In Restricted Working Space, Add	10.91	
23 31 13 16-0087			Slip Joint, Galvanized, Spiral 90 Degree Elbows (23 31 13 16-0074)		
23 31 13 16-0088	EA		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	71.97	15.28
			For Seal Class B, Add	8.85	
			For Seal Class A, Add	23.60	
			For 24 Gauge, Add	2.60	
			For 22 Gauge, Add	5.97	
			For 20 Gauge, Add	9.74	
			For 18 Gauge, Add	14.93	
			For 16 Gauge, Add	18.17	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.61	
			For Work In Restricted Working Space, Add	17.70	
23 31 13 16-0089	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	105.73	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	3.68	
			For 22 Gauge, Add	8.47	
			For 20 Gauge, Add	13.82	
			For 18 Gauge, Add	21.18	
			For 16 Gauge, Add	25.79	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.63	
			For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0090	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	150.03	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	7.03	
			For 22 Gauge, Add	16.16	
			For 20 Gauge, Add	26.36	
			For 18 Gauge, Add	40.41	
			For 16 Gauge, Add	49.20	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.00	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0091	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	186.89	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	8.27	
			For 22 Gauge, Add	19.03	
			For 20 Gauge, Add	31.03	
			For 18 Gauge, Add	47.58	
			For 16 Gauge, Add	57.92	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.61	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0092	EA		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	230.48	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	9.71	
			For 22 Gauge, Add	22.34	
			For 20 Gauge, Add	36.43	
			For 18 Gauge, Add	55.86	
			For 16 Gauge, Add	68.00	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	35.94	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0093	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	252.51	50.21
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	10.81	
			For 22 Gauge, Add	24.87	
			For 20 Gauge, Add	40.55	
			For 18 Gauge, Add	62.18	
			For 16 Gauge, Add	75.70	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.01	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0094	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	298.00	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	12.66	
			For 22 Gauge, Add	29.11	
			For 20 Gauge, Add	47.46	
			For 18 Gauge, Add	72.77	
			For 16 Gauge, Add	88.59	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	46.83	
			For Work In Restricted Working Space, Add	70.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0095	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	363.87	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	14.56	
			For 22 Gauge, Add	33.50	
			For 20 Gauge, Add	54.62	
			For 18 Gauge, Add	83.74	
			For 16 Gauge, Add	101.95	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	53.89	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0096	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	436.04	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.83	
			For 24 Gauge, Add	17.19	
			For 22 Gauge, Add	39.54	
			For 20 Gauge, Add	64.47	
			For 18 Gauge, Add	98.85	
			For 16 Gauge, Add	120.34	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	63.61	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0097	EA		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	509.41	102.60
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	19.51	
			For 22 Gauge, Add	44.87	
			For 20 Gauge, Add	73.16	
			For 18 Gauge, Add	112.18	
			For 16 Gauge, Add	136.57	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	72.19	
			For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0098	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	584.83	116.78
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	24.08	
			For 22 Gauge, Add	55.38	
			For 20 Gauge, Add	90.29	
			For 18 Gauge, Add	138.45	
			For 16 Gauge, Add	168.55	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	89.09	
			For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0099			Slip Joint, Galvanized, Spiral Duct 45 Degree Elbows (23 31 13 16-0074)		
23 31 13 16-0100	EA		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	72.58	15.28
			For Seal Class B, Add	8.85	
			For Seal Class A, Add	23.60	
			For 24 Gauge, Add	2.72	
			For 22 Gauge, Add	6.25	
			For 20 Gauge, Add	10.19	
			For 18 Gauge, Add	15.63	
			For 16 Gauge, Add	19.03	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.06	
			For Work In Restricted Working Space, Add	17.70	
23 31 13 16-0101	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	102.57	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	3.05	
			For 22 Gauge, Add	7.02	
			For 20 Gauge, Add	11.45	
			For 18 Gauge, Add	17.55	
			For 16 Gauge, Add	21.36	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.29	
			For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0102	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	135.36	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	4.09	
			For 22 Gauge, Add	9.42	
			For 20 Gauge, Add	15.35	
			For 18 Gauge, Add	23.54	
			For 16 Gauge, Add	28.66	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.15	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0103	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	171.10	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	5.12	
			For 22 Gauge, Add	11.77	
			For 20 Gauge, Add	19.19	
			For 18 Gauge, Add	29.42	
			For 16 Gauge, Add	35.81	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.93	
			For Work In Restricted Working Space, Add	43.66	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0104	EA	12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	211.64	45.84
		For Seal Class B, Add	27.29	
		For Seal Class A, Add	72.76	
		For 24 Gauge, Add	5.95	
		For 22 Gauge, Add	13.68	
		For 20 Gauge, Add	22.30	
		For 18 Gauge, Add	34.19	
		For 16 Gauge, Add	41.62	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.00	
		For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0105	EA	14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	231.49	50.21
		For Seal Class B, Add	29.77	
		For Seal Class A, Add	79.38	
		For 24 Gauge, Add	6.61	
		For 22 Gauge, Add	15.20	
		For 20 Gauge, Add	24.79	
		For 18 Gauge, Add	38.01	
		For 16 Gauge, Add	46.27	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.46	
		For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0106	EA	16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	288.90	58.93
		For Seal Class B, Add	35.21	
		For Seal Class A, Add	93.89	
		For 24 Gauge, Add	10.84	
		For 22 Gauge, Add	24.92	
		For 20 Gauge, Add	40.64	
		For 18 Gauge, Add	62.31	
		For 16 Gauge, Add	75.85	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.09	
		For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0107	EA	18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	357.42	73.13
		For Seal Class B, Add	43.66	
		For Seal Class A, Add	116.42	
		For 24 Gauge, Add	13.27	
		For 22 Gauge, Add	30.53	
		For 20 Gauge, Add	49.78	
		For 18 Gauge, Add	76.33	
		For 16 Gauge, Add	92.92	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	49.11	
		For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0108	EA	20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	436.06	88.41
		For Seal Class B, Add	52.81	
		For Seal Class A, Add	140.83	
		For 24 Gauge, Add	16.80	
		For 22 Gauge, Add	38.63	
		For 20 Gauge, Add	62.99	
		For 18 Gauge, Add	96.58	
		For 16 Gauge, Add	117.57	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	62.15	
		For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0109	EA	22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	487.03	102.60
		For Seal Class B, Add	61.78	
		For Seal Class A, Add	164.74	
		For 24 Gauge, Add	15.03	
		For 22 Gauge, Add	34.58	
		For 20 Gauge, Add	56.38	
		For 18 Gauge, Add	86.45	
		For 16 Gauge, Add	105.24	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	55.63	
		For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0110	EA	24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	576.86	116.78
		For Seal Class B, Add	69.67	
		For Seal Class A, Add	185.78	
		For 24 Gauge, Add	22.48	
		For 22 Gauge, Add	51.71	
		For 20 Gauge, Add	84.32	
		For 18 Gauge, Add	129.28	
		For 16 Gauge, Add	157.39	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	83.19	
		For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0111		Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Laterals (23 31 13 16-0074)		
23 31 13 16-0112	EA	6" x 6" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	144.09	28.38
		For Seal Class B, Add	17.23	
		For Seal Class A, Add	45.96	
		For 24 Gauge, Add	5.84	
		For 22 Gauge, Add	13.43	
		For 20 Gauge, Add	21.90	
		For 18 Gauge, Add	33.58	
		For 16 Gauge, Add	40.88	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	21.61	
		For Work In Restricted Working Space, Add	34.47	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0113 EA 8" x 8" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	212.52	45.84
For Seal Class B, Add	27.29	
For Seal Class A, Add	72.76	
For 24 Gauge, Add	6.12	
For 22 Gauge, Add	14.08	
For 20 Gauge, Add	22.96	
For 18 Gauge, Add	35.20	
For 16 Gauge, Add	42.85	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.65	
For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0114 EA 10" x 10" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	268.33	58.93
For Seal Class B, Add	35.21	
For Seal Class A, Add	93.89	
For 24 Gauge, Add	6.72	
For 22 Gauge, Add	15.46	
For 20 Gauge, Add	25.21	
For 18 Gauge, Add	38.65	
For 16 Gauge, Add	47.05	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.87	
For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0115 EA 12" x 12" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	326.16	73.13
For Seal Class B, Add	43.66	
For Seal Class A, Add	116.42	
For 24 Gauge, Add	7.02	
For 22 Gauge, Add	16.15	
For 20 Gauge, Add	26.33	
For 18 Gauge, Add	40.38	
For 16 Gauge, Add	49.15	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	25.98	
For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0116 EA 14" x 14" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	388.34	88.41
For Seal Class B, Add	52.81	
For Seal Class A, Add	140.83	
For 24 Gauge, Add	7.25	
For 22 Gauge, Add	16.68	
For 20 Gauge, Add	27.20	
For 18 Gauge, Add	41.70	
For 16 Gauge, Add	50.76	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.83	
For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0117 EA 16" x 16" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	451.30	102.60
For Seal Class B, Add	61.78	
For Seal Class A, Add	164.74	
For 24 Gauge, Add	7.89	
For 22 Gauge, Add	18.14	
For 20 Gauge, Add	29.58	
For 18 Gauge, Add	45.36	
For 16 Gauge, Add	55.22	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	29.19	
For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0118 EA 18" x 18" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	505.46	116.78
For Seal Class B, Add	69.67	
For Seal Class A, Add	185.78	
For 24 Gauge, Add	8.20	
For 22 Gauge, Add	18.87	
For 20 Gauge, Add	30.77	
For 18 Gauge, Add	47.17	
For 16 Gauge, Add	57.43	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.35	
For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0119 EA 20" x 20" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	574.93	133.16
For Seal Class B, Add	79.86	
For Seal Class A, Add	212.96	
For 24 Gauge, Add	8.50	
For 22 Gauge, Add	19.56	
For 20 Gauge, Add	31.89	
For 18 Gauge, Add	48.90	
For 16 Gauge, Add	59.53	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	31.46	
For Work In Restricted Working Space, Add	159.72	
23 31 13 16-0120 EA 22" x 22" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	641.13	147.35
For Seal Class B, Add	88.49	
For Seal Class A, Add	235.98	
For 24 Gauge, Add	10.23	
For 22 Gauge, Add	23.54	
For 20 Gauge, Add	38.38	
For 18 Gauge, Add	58.85	
For 16 Gauge, Add	71.64	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	37.87	
For Work In Restricted Working Space, Add	176.99	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0121	EA	24" x 24" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	694.87	160.44
		For Seal Class B, Add	96.30	
		For Seal Class A, Add	256.61	
		For 24 Gauge, Add	10.57	
		For 22 Gauge, Add	24.31	
		For 20 Gauge, Add	39.63	
		For 18 Gauge, Add	60.77	
		For 16 Gauge, Add	73.98	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	39.10	
		For Work In Restricted Working Space, Add	192.61	
23 31 13 16-0122	EA	8" x 8" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	223.59	49.44
		For Seal Class B, Add	29.68	
		For Seal Class A, Add	79.15	
		For 24 Gauge, Add	5.14	
		For 22 Gauge, Add	11.83	
		For 20 Gauge, Add	19.29	
		For 18 Gauge, Add	29.58	
		For 16 Gauge, Add	36.07	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	19.03	
		For Work In Restricted Working Space, Add	59.36	
23 31 13 16-0123	EA	10" x 10" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	270.36	59.49
		For Seal Class B, Add	35.68	
		For Seal Class A, Add	95.16	
		For 24 Gauge, Add	6.49	
		For 22 Gauge, Add	14.94	
		For 20 Gauge, Add	24.35	
		For 18 Gauge, Add	37.34	
		For 16 Gauge, Add	45.46	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.03	
		For Work In Restricted Working Space, Add	71.37	
23 31 13 16-0124	EA	12" x 12" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	328.47	72.25
		For Seal Class B, Add	43.36	
		For Seal Class A, Add	115.62	
		For 24 Gauge, Add	7.88	
		For 22 Gauge, Add	18.13	
		For 20 Gauge, Add	29.57	
		For 18 Gauge, Add	45.33	
		For 16 Gauge, Add	55.19	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	29.17	
		For Work In Restricted Working Space, Add	86.72	
23 31 13 16-0125	EA	14" x 14" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	391.02	85.89
		For Seal Class B, Add	51.61	
		For Seal Class A, Add	137.63	
		For 24 Gauge, Add	9.39	
		For 22 Gauge, Add	21.59	
		For 20 Gauge, Add	35.21	
		For 18 Gauge, Add	53.98	
		For 16 Gauge, Add	65.72	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	34.74	
		For Work In Restricted Working Space, Add	103.22	
23 31 13 16-0126	EA	16" x 16" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	495.93	110.45
		For Seal Class B, Add	66.23	
		For Seal Class A, Add	176.61	
		For 24 Gauge, Add	10.88	
		For 22 Gauge, Add	25.03	
		For 20 Gauge, Add	40.81	
		For 18 Gauge, Add	62.57	
		For 16 Gauge, Add	76.17	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.26	
		For Work In Restricted Working Space, Add	132.46	
23 31 13 16-0127	EA	18" x 18" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	550.85	122.57
		For Seal Class B, Add	73.48	
		For Seal Class A, Add	195.95	
		For 24 Gauge, Add	12.19	
		For 22 Gauge, Add	28.05	
		For 20 Gauge, Add	45.73	
		For 18 Gauge, Add	70.12	
		For 16 Gauge, Add	85.36	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	45.12	
		For Work In Restricted Working Space, Add	146.96	
23 31 13 16-0128	EA	20" x 20" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	626.26	139.49
		For Seal Class B, Add	83.53	
		For Seal Class A, Add	222.74	
		For 24 Gauge, Add	13.88	
		For 22 Gauge, Add	31.92	
		For 20 Gauge, Add	52.05	
		For 18 Gauge, Add	79.81	
		For 16 Gauge, Add	97.16	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	51.36	
		For Work In Restricted Working Space, Add	167.06	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0129 EA 22" x 22" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	671.82	148.77
For Seal Class B, Add	89.17	
For Seal Class A, Add	237.79	
For 24 Gauge, Add	15.47	
For 22 Gauge, Add	35.58	
For 20 Gauge, Add	58.01	
For 18 Gauge, Add	88.95	
For 16 Gauge, Add	108.29	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	57.24	
For Work In Restricted Working Space, Add	178.34	
23 31 13 16-0130 EA 24" x 24" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	728.88	161.32
For Seal Class B, Add	96.76	
For Seal Class A, Add	258.02	
For 24 Gauge, Add	16.76	
For 22 Gauge, Add	38.56	
For 20 Gauge, Add	62.87	
For 18 Gauge, Add	96.39	
For 16 Gauge, Add	117.35	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	62.03	
For Work In Restricted Working Space, Add	193.52	
23 31 13 16-0131 EA 10" x 10" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	295.81	65.48
For Seal Class B, Add	39.24	
For Seal Class A, Add	104.64	
For 24 Gauge, Add	6.84	
For 22 Gauge, Add	15.73	
For 20 Gauge, Add	25.65	
For 18 Gauge, Add	39.33	
For 16 Gauge, Add	47.88	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	25.31	
For Work In Restricted Working Space, Add	78.48	
23 31 13 16-0132 EA 12" x 12" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	359.50	79.68
For Seal Class B, Add	47.70	
For Seal Class A, Add	127.21	
For 24 Gauge, Add	8.30	
For 22 Gauge, Add	19.08	
For 20 Gauge, Add	31.11	
For 18 Gauge, Add	47.70	
For 16 Gauge, Add	58.07	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.70	
For Work In Restricted Working Space, Add	95.41	
23 31 13 16-0133 EA 14" x 14" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	427.88	94.41
For Seal Class B, Add	56.77	
For Seal Class A, Add	151.38	
For 24 Gauge, Add	9.89	
For 22 Gauge, Add	22.74	
For 20 Gauge, Add	37.07	
For 18 Gauge, Add	56.84	
For 16 Gauge, Add	69.20	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	36.58	
For Work In Restricted Working Space, Add	113.54	
23 31 13 16-0134 EA 16" x 16" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	496.68	110.02
For Seal Class B, Add	65.91	
For Seal Class A, Add	175.76	
For 24 Gauge, Add	11.46	
For 22 Gauge, Add	26.35	
For 20 Gauge, Add	42.97	
For 18 Gauge, Add	65.88	
For 16 Gauge, Add	80.21	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	42.39	
For Work In Restricted Working Space, Add	131.82	
23 31 13 16-0135 EA 18" x 18" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	555.82	123.01
For Seal Class B, Add	73.75	
For Seal Class A, Add	196.66	
For 24 Gauge, Add	12.84	
For 22 Gauge, Add	29.52	
For 20 Gauge, Add	48.14	
For 18 Gauge, Add	73.81	
For 16 Gauge, Add	89.85	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	47.49	
For Work In Restricted Working Space, Add	147.49	
23 31 13 16-0136 EA 20" x 20" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	632.18	139.92
For Seal Class B, Add	83.87	
For Seal Class A, Add	223.66	
For 24 Gauge, Add	14.61	
For 22 Gauge, Add	33.60	
For 20 Gauge, Add	54.78	
For 18 Gauge, Add	84.00	
For 16 Gauge, Add	102.26	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	54.05	
For Work In Restricted Working Space, Add	167.74	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0137	EA		22" x 22" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	705.83	156.08
			For Seal Class B, Add	93.66	
			For Seal Class A, Add	249.76	
			For 24 Gauge, Add	16.29	
			For 22 Gauge, Add	37.46	
			For 20 Gauge, Add	61.07	
			For 18 Gauge, Add	93.64	
			For 16 Gauge, Add	114.00	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	60.26	
			For Work In Restricted Working Space, Add	187.32	
23 31 13 16-0138	EA		24" x 24" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	765.31	169.39
			For Seal Class B, Add	101.56	
			For Seal Class A, Add	270.83	
			For 24 Gauge, Add	17.65	
			For 22 Gauge, Add	40.59	
			For 20 Gauge, Add	66.17	
			For 18 Gauge, Add	101.46	
			For 16 Gauge, Add	123.52	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	65.29	
			For Work In Restricted Working Space, Add	203.12	
23 31 13 16-0139 Slip Joint, Galvanized, Spiral Duct Reducers (23 31 13 16-0074)					
23 31 13 16-0140	EA		6" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	97.81	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	2.10	
			For 22 Gauge, Add	4.83	
			For 20 Gauge, Add	7.88	
			For 18 Gauge, Add	12.08	
			For 16 Gauge, Add	14.70	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.77	
			For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0141	EA		8" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	126.45	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	2.31	
			For 22 Gauge, Add	5.32	
			For 20 Gauge, Add	8.67	
			For 18 Gauge, Add	13.29	
			For 16 Gauge, Add	16.18	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.55	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0142	EA		10" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	158.31	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	2.56	
			For 22 Gauge, Add	5.88	
			For 20 Gauge, Add	9.59	
			For 18 Gauge, Add	14.71	
			For 16 Gauge, Add	17.91	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.46	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0143	EA		12" x 10", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	195.94	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	2.81	
			For 22 Gauge, Add	6.45	
			For 20 Gauge, Add	10.52	
			For 18 Gauge, Add	16.13	
			For 16 Gauge, Add	19.64	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.38	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0144	EA		14" x 12", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	214.06	50.21
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	3.12	
			For 22 Gauge, Add	7.19	
			For 20 Gauge, Add	11.72	
			For 18 Gauge, Add	17.96	
			For 16 Gauge, Add	21.87	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.56	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0145	EA		16" x 14", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	261.72	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	5.40	
			For 22 Gauge, Add	12.42	
			For 20 Gauge, Add	20.25	
			For 18 Gauge, Add	31.05	
			For 16 Gauge, Add	37.80	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	19.98	
			For Work In Restricted Working Space, Add	70.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0146	EA		18" x 16", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	319.90	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	5.77	
			For 22 Gauge, Add	13.27	
			For 20 Gauge, Add	21.64	
			For 18 Gauge, Add	33.18	
			For 16 Gauge, Add	40.39	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	21.35	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0147	EA		20" x 18", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	382.87	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.83	
			For 24 Gauge, Add	6.16	
			For 22 Gauge, Add	14.16	
			For 20 Gauge, Add	23.09	
			For 18 Gauge, Add	35.41	
			For 16 Gauge, Add	43.11	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.78	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0148	EA		22" x 20", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	444.59	102.60
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	6.55	
			For 22 Gauge, Add	15.06	
			For 20 Gauge, Add	24.55	
			For 18 Gauge, Add	37.64	
			For 16 Gauge, Add	45.82	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.22	
			For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0149	EA		24" x 22", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	498.93	116.78
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	6.90	
			For 22 Gauge, Add	15.87	
			For 20 Gauge, Add	25.87	
			For 18 Gauge, Add	39.66	
			For 16 Gauge, Add	48.29	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	25.52	
			For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0150			Slip Joint, Galvanized, Spiral Duct Couplings (23 31 13 16-0074)		
23 31 13 16-0151	EA		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	63.96	15.28
			For Seal Class B, Add	8.85	
			For Seal Class A, Add	23.60	
			For 24 Gauge, Add	0.99	
			For 22 Gauge, Add	2.29	
			For 20 Gauge, Add	3.73	
			For 18 Gauge, Add	5.72	
			For 16 Gauge, Add	6.96	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.68	
			For Work In Restricted Working Space, Add	17.70	
23 31 13 16-0152	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	92.96	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	1.13	
			For 22 Gauge, Add	2.60	
			For 20 Gauge, Add	4.24	
			For 18 Gauge, Add	6.50	
			For 16 Gauge, Add	7.91	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.18	
			For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0153	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	120.98	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	1.22	
			For 22 Gauge, Add	2.80	
			For 20 Gauge, Add	4.57	
			For 18 Gauge, Add	7.00	
			For 16 Gauge, Add	8.53	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.51	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0154	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	152.05	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	3.00	
			For 20 Gauge, Add	4.90	
			For 18 Gauge, Add	7.51	
			For 16 Gauge, Add	9.14	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.83	
			For Work In Restricted Working Space, Add	43.66	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0155	EA	12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	188.88	45.84
		For Seal Class B, Add	27.29	
		For Seal Class A, Add	72.76	
		For 24 Gauge, Add	1.39	
		For 22 Gauge, Add	3.21	
		For 20 Gauge, Add	5.23	
		For 18 Gauge, Add	8.02	
		For 16 Gauge, Add	9.76	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.16	
		For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0156	EA	14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	205.85	50.21
		For Seal Class B, Add	29.77	
		For Seal Class A, Add	79.38	
		For 24 Gauge, Add	1.48	
		For 22 Gauge, Add	3.41	
		For 20 Gauge, Add	5.56	
		For 18 Gauge, Add	8.52	
		For 16 Gauge, Add	10.37	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.48	
		For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0157	EA	16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	242.92	58.93
		For Seal Class B, Add	35.21	
		For Seal Class A, Add	93.89	
		For 24 Gauge, Add	1.64	
		For 22 Gauge, Add	3.77	
		For 20 Gauge, Add	6.15	
		For 18 Gauge, Add	9.43	
		For 16 Gauge, Add	11.48	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.07	
		For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0158	EA	18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	299.70	73.13
		For Seal Class B, Add	43.66	
		For Seal Class A, Add	116.42	
		For 24 Gauge, Add	1.73	
		For 22 Gauge, Add	3.98	
		For 20 Gauge, Add	6.49	
		For 18 Gauge, Add	9.95	
		For 16 Gauge, Add	12.11	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.40	
		For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0159	EA	20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	361.26	88.41
		For Seal Class B, Add	52.81	
		For Seal Class A, Add	140.83	
		For 24 Gauge, Add	1.84	
		For 22 Gauge, Add	4.22	
		For 20 Gauge, Add	6.89	
		For 18 Gauge, Add	10.56	
		For 16 Gauge, Add	12.85	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.79	
		For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0160	EA	22 Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	421.39	206.28
		For Seal Class B, Add	61.78	
		For Seal Class A, Add	164.74	
		For 24 Gauge, Add	1.91	
		For 22 Gauge, Add	4.38	
		For 20 Gauge, Add	7.15	
		For 18 Gauge, Add	10.96	
		For 16 Gauge, Add	13.34	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.05	
		For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0161	EA	24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	474.50	232.48
		For Seal Class B, Add	69.67	
		For Seal Class A, Add	185.78	
		For 24 Gauge, Add	2.01	
		For 22 Gauge, Add	4.63	
		For 20 Gauge, Add	7.55	
		For 18 Gauge, Add	11.57	
		For 16 Gauge, Add	14.08	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.44	
		For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0162		Slip Joint, Galvanized, Spiral Duct Caps (23 31 13 16-0074)		
23 31 13 16-0163	EA	4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	35.32	15.28
		For Seal Class B, Add	4.43	
		For Seal Class A, Add	11.80	
		For 24 Gauge, Add	1.16	
		For 22 Gauge, Add	2.68	
		For 20 Gauge, Add	4.37	
		For 18 Gauge, Add	6.69	
		For 16 Gauge, Add	8.15	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.31	
		For Work In Restricted Working Space, Add	8.85	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0164	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	50.19	21.83
			For Seal Class B, Add	6.55	
			For Seal Class A, Add	17.46	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	3.00	
			For 20 Gauge, Add	4.90	
			For 18 Gauge, Add	7.51	
			For 16 Gauge, Add	9.14	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.83	
			For Work In Restricted Working Space, Add	13.10	
23 31 13 16-0165	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	64.59	29.47
			For Seal Class B, Add	8.62	
			For Seal Class A, Add	22.98	
			For 24 Gauge, Add	1.43	
			For 22 Gauge, Add	3.29	
			For 20 Gauge, Add	5.36	
			For 18 Gauge, Add	8.22	
			For 16 Gauge, Add	10.01	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.29	
			For Work In Restricted Working Space, Add	17.23	
23 31 13 16-0166	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	80.71	37.11
			For Seal Class B, Add	10.92	
			For Seal Class A, Add	29.11	
			For 24 Gauge, Add	1.59	
			For 22 Gauge, Add	3.65	
			For 20 Gauge, Add	5.96	
			For 18 Gauge, Add	9.13	
			For 16 Gauge, Add	11.12	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.88	
			For Work In Restricted Working Space, Add	21.83	
23 31 13 16-0167	EA		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	99.77	45.84
			For Seal Class B, Add	13.64	
			For Seal Class A, Add	36.38	
			For 24 Gauge, Add	1.76	
			For 22 Gauge, Add	4.06	
			For 20 Gauge, Add	6.62	
			For 18 Gauge, Add	10.14	
			For 16 Gauge, Add	12.35	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.53	
			For Work In Restricted Working Space, Add	27.29	
23 31 13 16-0168	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	108.92	50.21
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	39.69	
			For 24 Gauge, Add	1.94	
			For 22 Gauge, Add	4.46	
			For 20 Gauge, Add	7.28	
			For 18 Gauge, Add	11.16	
			For 16 Gauge, Add	13.58	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.18	
			For Work In Restricted Working Space, Add	29.77	
23 31 13 16-0169	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	126.09	57.85
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	2.24	
			For 22 Gauge, Add	5.15	
			For 20 Gauge, Add	8.40	
			For 18 Gauge, Add	12.88	
			For 16 Gauge, Add	15.68	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.29	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0170	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	183.28	73.13
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	7.55	
			For 22 Gauge, Add	17.37	
			For 20 Gauge, Add	28.32	
			For 18 Gauge, Add	43.42	
			For 16 Gauge, Add	52.86	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	27.94	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0171	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	222.85	90.59
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	8.19	
			For 22 Gauge, Add	18.83	
			For 20 Gauge, Add	30.71	
			For 18 Gauge, Add	47.08	
			For 16 Gauge, Add	57.32	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.30	
			For Work In Restricted Working Space, Add	54.57	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0172	EA		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	242.55	99.32
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	8.82	
			For 22 Gauge, Add	20.29	
			For 20 Gauge, Add	33.08	
			For 18 Gauge, Add	50.73	
			For 16 Gauge, Add	61.75	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	32.64	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0173	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	279.59	115.69
			For Seal Class B, Add	34.83	
			For Seal Class A, Add	92.89	
			For 24 Gauge, Add	9.47	
			For 22 Gauge, Add	21.79	
			For 20 Gauge, Add	35.53	
			For 18 Gauge, Add	54.48	
			For 16 Gauge, Add	66.32	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	35.05	
			For Work In Restricted Working Space, Add	69.67	
23 31 13 19 Metal Duct Fittings (23 31 13)					
23 31 13 19-0001 Sheet Metal Baffles (23 31 13 19)					
23 31 13 19-0002	LF		Sheet Metal Baffles Under Raised Floor	42.15	33.87
			For Work In Restricted Working Space, Add	12.38	
			For Elevated Installation >10' To 15', Add	4.13	
			For Elevated Installation >15' To 20', Add	8.25	
			For Elevated Installation >20' To 25', Add	10.32	
			For Elevated Installation >25' To 30', Add	14.44	
			For Elevated Installation >30' To 35', Add	16.51	
			For Elevated Installation >35' To 40', Add	20.64	
			For Elevated Installation >40', Add	22.70	
23 31 13 19-0003 Duct Register Boots (23 31 13 19)					
23 31 13 19-0004	EA		10" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0005	EA		10" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0006	EA		12" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0007	EA		12" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0008	EA		12" x 2-1/4" x 7" Register Boot, 90 Degree, Galvanized Steel	42.63	15.96
			For Stainless Steel, Add	13.91	
23 31 13 19-0009	EA		14" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0010	EA		14" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0011	EA		14" x 2-1/4" x 7" Register Boot, 90 Degree, Galvanized Steel	45.25	17.15
			For Stainless Steel, Add	14.24	
23 31 13 19-0012	EA		10" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	44.26	18.33
			For Stainless Steel, Add	9.87	
23 31 13 19-0013	EA		12" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	46.85	19.52
			For Stainless Steel, Add	10.17	
23 31 13 19-0014	EA		12" x 4" x 7" Register Boot, 90 Degree, Galvanized Steel	52.15	19.52
			For Stainless Steel, Add	17.06	
23 31 13 19-0015	EA		14" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	49.69	20.69
			For Stainless Steel, Add	10.78	
23 31 13 19-0016	EA		14" x 4" x 7" Register Boot, 90 Degree, Galvanized Steel	54.88	20.69
			For Stainless Steel, Add	17.52	
23 31 13 19-0017	EA		12" x 2-1/4" x 5" Register Boot, Center, Galvanized Steel	39.30	15.96
			For Stainless Steel, Add	9.58	
23 31 13 19-0018	EA		12" x 2-1/4" x 6" Register Boot, Center, Galvanized Steel	39.30	15.96
			For Stainless Steel, Add	9.58	
23 31 13 19-0019	EA		14" x 2-1/4" x 6" Register Boot, Center, Galvanized Steel	42.51	17.15
			For Stainless Steel, Add	10.67	
23 31 13 19-0020	EA		14" x 2-1/4" x 7" Register Boot, Center, Galvanized Steel	43.75	17.15
			For Stainless Steel, Add	12.29	
23 31 13 19-0021	EA		10" x 4" x 6" Register Boot, Center, Galvanized Steel	44.43	18.33
			For Stainless Steel, Add	10.09	
23 31 13 19-0022	EA		12" x 4" x 6" Register Boot, Center, Galvanized Steel	47.00	19.52
			For Stainless Steel, Add	10.36	
23 31 13 19-0023	EA		12" x 2-1/4" x 6" Register Boot, End, Galvanized Steel	40.14	15.96
			For Stainless Steel, Add	10.67	
23 31 13 19-0024	EA		14" x 2-1/4" x 6" Register Boot, End, Galvanized Steel	43.02	17.15
			For Stainless Steel, Add	11.34	
23 31 13 19-0025	EA		10" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0026	EA		12" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0027	EA		14" x 2-1/4" x 5" Register Boot, Universal, Galvanized Steel	43.96	17.15
			For Stainless Steel, Add	12.56	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 19-0028	EA	14" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel.....	43.96	17.15
		<i>For Stainless Steel, Add</i>	12.56	
23 31 13 19-0029	EA	10" x 4" x 6" Register Boot, Universal, Galvanized Steel.....	44.26	18.33
		<i>For Stainless Steel, Add</i>	9.87	
23 31 13 19-0030	EA	12" x 4" x 6" Register Boot, Universal, Galvanized Steel.....	46.85	19.52
		<i>For Stainless Steel, Add</i>	10.17	
23 31 13 19-0031	EA	12" x 4" x 7" Register Boot, Universal, Galvanized Steel.....	52.15	19.52
		<i>For Stainless Steel, Add</i>	17.06	
23 31 13 19-0032	EA	14" x 4" x 7" Register Boot, Universal, Galvanized Steel.....	54.52	20.69
		<i>For Stainless Steel, Add</i>	17.06	
23 31 13 23		Galvanized Steel Welded Duct (23 31 13)		
		Note: All field fabricated duct is assembled from flat duct sheets on site to fit to exact field conditions. Ductwork which is fabricated off site or snap-fitting duct is considered as shop fabricated.		
23 31 13 23-0001		Welded Steel Ductwork (23 31 13 23)		
		Note: Ductwork poundage includes all fittings, transitions, collars, straps, support straps, etc.		
23 31 13 23-0002		Galvanized Steel Welded Duct, For Kitchen (23 31 13 23-0001)		
		Note: Also includes special exhaust systems and waste.		
23 31 13 23-0003	LB	Galvanized Steel Welded Duct.....	24.16	10.26
		<i>For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add</i>	2.65	
		<i>For Work In Restricted Working Space, Add</i>	6.17	
		<i>For Elevated Installation >10' To 15', Add</i>	2.06	
		<i>For Elevated Installation >15' To 20', Add</i>	4.12	
		<i>For Elevated Installation >20' To 25', Add</i>	5.15	
		<i>For Elevated Installation >25' To 30', Add</i>	7.20	
		<i>For Elevated Installation >30' To 35', Add</i>	8.23	
		<i>For Elevated Installation >35' To 40', Add</i>	10.29	
		<i>For Elevated Installation >40', Add</i>	11.32	
23 31 13 23-0004		Black Steel Ductwork (23 31 13 23-0001)		
23 31 13 23-0005	LB	Black Steel Ductwork.....	21.97	10.59
		<i>For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add</i>	0.59	
		<i>For Work In Restricted Working Space, Add</i>	6.35	
		<i>For Elevated Installation >10' To 15', Add</i>	2.12	
		<i>For Elevated Installation >15' To 20', Add</i>	4.23	
		<i>For Elevated Installation >20' To 25', Add</i>	5.29	
		<i>For Elevated Installation >25' To 30', Add</i>	7.41	
		<i>For Elevated Installation >30' To 35', Add</i>	8.47	
		<i>For Elevated Installation >35' To 40', Add</i>	10.59	
		<i>For Elevated Installation >40', Add</i>	11.64	
23 31 16		Non-metal Ducts (23 31)		
23 31 16 13		Fibrous-Glass Ducts (23 31 16)		
23 31 16 13-0001		Glass Fiber Duct Board (23 31 16 13)		
		Note: Rigid, rectangular boards faced on one side with a fire-resistant foil-scrim-kraft (FSK) vapor retarder and a lightweight fiber glass mat on the airstream surface.		
23 31 16 13-0002	SF	1" Glass Fiber Duct Board (EI-475).....	10.77	2.12
23 31 16 13-0003	SF	1-1/2" Glass Fiber Duct Board (EI-800).....	12.77	2.33
23 31 16 13-0004	SF	2" Glass Fiber Duct Board (EI-800).....	14.83	2.56
23 31 16 16		Thermoset Fiberglass-Reinforced Plastic Ducts (23 31 16)		
23 31 16 16-0001		Fiber Reinforced Round Plastic Duct (23 31 16 16)		
23 31 16 16-0002		Fiber Reinforced Round Plastic Duct (23 31 16 16-0001)		
23 31 16 16-0003	LF	2" Fiber Reinforced Plastic Duct.....	17.76	5.44
23 31 16 16-0004	LF	3" Fiber Reinforced Plastic Duct.....	22.31	6.36
23 31 16 16-0005	LF	4" Fiber Reinforced Plastic Duct.....	30.15	9.34
23 31 16 16-0006	LF	6" Fiber Reinforced Plastic Duct.....	40.07	11.80
23 31 16 16-0007	LF	8" Fiber Reinforced Plastic Duct.....	50.82	14.77
23 31 16 16-0008	LF	10" Fiber Reinforced Plastic Duct.....	61.29	17.76
23 31 16 16-0009	LF	12" Fiber Reinforced Plastic Duct.....	68.86	20.73
23 31 16 16-0010	LF	14" Fiber Reinforced Plastic Duct.....	78.76	22.67
23 31 16 16-0011	LF	16" Fiber Reinforced Plastic Duct.....	85.20	24.11
23 31 16 16-0012	LF	18" Fiber Reinforced Plastic Duct.....	106.51	27.09
23 31 16 16-0013	LF	20" Fiber Reinforced Plastic Duct.....	111.91	29.04
23 31 16 16-0014	LF	24" Fiber Reinforced Plastic Duct.....	139.00	30.99
23 31 16 16-0015	LF	30" Fiber Reinforced Plastic Duct.....	159.12	35.91
23 31 16 16-0016	LF	36" Fiber Reinforced Plastic Duct.....	183.34	43.30
23 31 16 16-0017	LF	42" Fiber Reinforced Plastic Duct.....	247.09	48.23
23 31 16 16-0018	LF	48" Fiber Reinforced Plastic Duct.....	276.79	54.17
23 31 16 16-0019	LF	54" Fiber Reinforced Plastic Duct.....	307.11	62.07
23 31 16 16-0020	LF	60" Fiber Reinforced Plastic Duct.....	348.15	72.44
23 31 16 16-0021	LF	66" Fiber Reinforced Plastic Duct.....	371.27	88.65
23 31 16 16-0022	LF	72" Fiber Reinforced Plastic Duct.....	453.03	108.35



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Ducts and Casings

23 31

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 16-0023 Fiber Reinforced Plastic Bell (23 31 16 16-0001)		
23 31 16 16-0024 EA 2" Fiber Reinforced Plastic Bell	60.51	22.06
23 31 16 16-0025 EA 3" Fiber Reinforced Plastic Bell	72.82	26.17
23 31 16 16-0026 EA 4" Fiber Reinforced Plastic Bell	84.09	30.78
23 31 16 16-0027 EA 6" Fiber Reinforced Plastic Bell	110.76	41.04
23 31 16 16-0028 EA 8" Fiber Reinforced Plastic Bell	135.38	51.30
23 31 16 16-0029 EA 10" Fiber Reinforced Plastic Bell	157.96	61.56
23 31 16 16-0030 EA 12" Fiber Reinforced Plastic Bell	195.89	76.44
23 31 16 16-0031 EA 14" Fiber Reinforced Plastic Bell	209.23	82.08
23 31 16 16-0032 EA 16" Fiber Reinforced Plastic Bell	226.66	87.73
23 31 16 16-0033 EA 18" Fiber Reinforced Plastic Bell	244.11	94.40
23 31 16 16-0034 EA 20" Fiber Reinforced Plastic Bell	266.67	102.60
23 31 16 16-0035 EA 24" Fiber Reinforced Plastic Bell	307.67	112.87
23 31 16 16-0036 EA 30" Fiber Reinforced Plastic Bell	354.81	123.13
23 31 16 16-0037 EA 36" Fiber Reinforced Plastic Bell	402.00	138.51
23 31 16 16-0038 EA 42" Fiber Reinforced Plastic Bell	449.18	153.91
23 31 16 16-0039 EA 48" Fiber Reinforced Plastic Bell	496.33	169.30
23 31 16 16-0040 EA 54" Fiber Reinforced Plastic Bell	615.28	205.21
23 31 16 16-0041 EA 60" Fiber Reinforced Plastic Bell	738.36	256.51
23 31 16 16-0042 EA 66" Fiber Reinforced Plastic Bell	885.99	307.81
23 31 16 16-0043 EA 72" Fiber Reinforced Plastic Bell	1,013.28	348.85
23 31 16 16-0044 Fiber Reinforced Plastic Flange (23 31 16 16-0001)		
23 31 16 16-0045 EA 2" Fiber Reinforced Plastic Flange	93.29	22.06
23 31 16 16-0046 EA 3" Fiber Reinforced Plastic Flange	107.64	26.17
23 31 16 16-0047 EA 4" Fiber Reinforced Plastic Flange	123.02	30.78
23 31 16 16-0048 EA 6" Fiber Reinforced Plastic Flange	159.93	41.04
23 31 16 16-0049 EA 8" Fiber Reinforced Plastic Flange	194.79	51.30
23 31 16 16-0050 EA 10" Fiber Reinforced Plastic Flange	229.66	61.56
23 31 16 16-0051 EA 12" Fiber Reinforced Plastic Flange	271.69	76.44
23 31 16 16-0052 EA 14" Fiber Reinforced Plastic Flange	301.41	82.08
23 31 16 16-0053 EA 16" Fiber Reinforced Plastic Flange	329.09	87.73
23 31 16 16-0054 EA 18" Fiber Reinforced Plastic Flange	350.64	94.40
23 31 16 16-0055 EA 20" Fiber Reinforced Plastic Flange	369.10	102.60
23 31 16 16-0056 EA 24" Fiber Reinforced Plastic Flange	430.59	112.87
23 31 16 16-0057 EA 30" Fiber Reinforced Plastic Flange	473.63	123.13
23 31 16 16-0058 EA 36" Fiber Reinforced Plastic Flange	580.23	138.51
23 31 16 16-0059 EA 42" Fiber Reinforced Plastic Flange	645.85	153.91
23 31 16 16-0060 EA 48" Fiber Reinforced Plastic Flange	731.92	169.30
23 31 16 16-0061 EA 54" Fiber Reinforced Plastic Flange	861.11	205.21
23 31 16 16-0062 EA 60" Fiber Reinforced Plastic Flange	1,031.31	256.51
23 31 16 16-0063 EA 66" Fiber Reinforced Plastic Flange	1,201.47	307.81
23 31 16 16-0064 EA 72" Fiber Reinforced Plastic Flange	1,373.83	348.85
23 31 16 16-0065 Fiber Reinforced Plastic 90 Degree Elbow (23 31 16 16-0001)		
23 31 16 16-0066 EA 2" Fiber Reinforced Plastic 90 Degree Elbow	156.25	53.14
23 31 16 16-0067 EA 3" Fiber Reinforced Plastic 90 Degree Elbow	183.74	63.51
23 31 16 16-0068 EA 4" Fiber Reinforced Plastic 90 Degree Elbow	213.27	73.87
23 31 16 16-0069 EA 6" Fiber Reinforced Plastic 90 Degree Elbow	276.84	98.50
23 31 16 16-0070 EA 8" Fiber Reinforced Plastic 90 Degree Elbow	340.42	123.13
23 31 16 16-0071 EA 10" Fiber Reinforced Plastic 90 Degree Elbow	404.00	147.75
23 31 16 16-0072 EA 12" Fiber Reinforced Plastic 90 Degree Elbow	496.73	183.77
23 31 16 16-0073 EA 14" Fiber Reinforced Plastic 90 Degree Elbow	559.84	194.54
23 31 16 16-0074 EA 16" Fiber Reinforced Plastic 90 Degree Elbow	634.86	211.27
23 31 16 16-0075 EA 18" Fiber Reinforced Plastic 90 Degree Elbow	750.45	226.55
23 31 16 16-0076 EA 20" Fiber Reinforced Plastic 90 Degree Elbow	861.17	246.25
23 31 16 16-0077 EA 24" Fiber Reinforced Plastic 90 Degree Elbow	994.39	270.88
23 31 16 16-0078 EA 30" Fiber Reinforced Plastic 90 Degree Elbow	1,322.21	295.50
23 31 16 16-0079 EA 36" Fiber Reinforced Plastic 90 Degree Elbow	1,680.87	332.44
23 31 16 16-0080 EA 42" Fiber Reinforced Plastic 90 Degree Elbow	2,193.13	369.48
23 31 16 16-0081 EA 48" Fiber Reinforced Plastic 90 Degree Elbow	2,592.77	406.42
23 31 16 16-0082 EA 54" Fiber Reinforced Plastic 90 Degree Elbow	3,074.28	492.51
23 31 16 16-0083 EA 60" Fiber Reinforced Plastic 90 Degree Elbow	3,730.17	615.63
23 31 16 16-0084 EA 66" Fiber Reinforced Plastic 90 Degree Elbow	4,385.67	738.55
23 31 16 16-0085 EA 72" Fiber Reinforced Plastic 90 Degree Elbow	5,000.35	836.95
23 31 16 16-0086 Fiber Reinforced Plastic 45 Degree Elbow (23 31 16 16-0001)		
23 31 16 16-0087 EA 2" Fiber Reinforced Plastic 45 Degree Elbow	133.71	53.14
23 31 16 16-0088 EA 3" Fiber Reinforced Plastic 45 Degree Elbow	157.10	63.51
23 31 16 16-0089 EA 4" Fiber Reinforced Plastic 45 Degree Elbow	182.51	73.87
23 31 16 16-0090 EA 6" Fiber Reinforced Plastic 45 Degree Elbow	231.77	98.50
23 31 16 16-0091 EA 8" Fiber Reinforced Plastic 45 Degree Elbow	281.01	123.13
23 31 16 16-0092 EA 10" Fiber Reinforced Plastic 45 Degree Elbow	334.42	147.75
23 31 16 16-0093 EA 12" Fiber Reinforced Plastic 45 Degree Elbow	412.81	183.77
23 31 16 16-0094 EA 14" Fiber Reinforced Plastic 45 Degree Elbow	447.08	194.54
23 31 16 16-0095 EA 16" Fiber Reinforced Plastic 45 Degree Elbow	528.15	211.16
23 31 16 16-0096 EA 18" Fiber Reinforced Plastic 45 Degree Elbow	603.23	226.75

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 31 16 16-0097	EA	20" Fiber Reinforced Plastic 45 Degree Elbow	693.12	246.25
23 31 16 16-0098	EA	24" Fiber Reinforced Plastic 45 Degree Elbow	795.21	270.67
23 31 16 16-0099	EA	30" Fiber Reinforced Plastic 45 Degree Elbow	994.05	295.30
23 31 16 16-0100	EA	36" Fiber Reinforced Plastic 45 Degree Elbow	1,208.12	332.75
23 31 16 16-0101	EA	42" Fiber Reinforced Plastic 45 Degree Elbow	1,523.69	369.68
23 31 16 16-0102	EA	48" Fiber Reinforced Plastic 45 Degree Elbow	1,783.58	406.42
23 31 16 16-0103	EA	54" Fiber Reinforced Plastic 45 Degree Elbow	2,127.83	492.51
23 31 16 16-0104	EA	60" Fiber Reinforced Plastic 45 Degree Elbow	2,558.38	615.63
23 31 16 16-0105	EA	66" Fiber Reinforced Plastic 45 Degree Elbow	3,010.76	737.12
23 31 16 16-0106	EA	72" Fiber Reinforced Plastic 45 Degree Elbow	3,403.97	837.77

23 31 16 16-0107 Fiber Reinforced Plastic Tee (23 31 16 16-0001)

23 31 16 16-0108	EA	2" Fiber Reinforced Plastic Tee	203.86	79.31
23 31 16 16-0109	EA	3" Fiber Reinforced Plastic Tee	241.17	95.53
23 31 16 16-0110	EA	4" Fiber Reinforced Plastic Tee	276.87	110.81
23 31 16 16-0111	EA	6" Fiber Reinforced Plastic Tee	358.93	147.75
23 31 16 16-0112	EA	8" Fiber Reinforced Plastic Tee	439.37	183.77
23 31 16 16-0113	EA	10" Fiber Reinforced Plastic Tee	524.64	222.65
23 31 16 16-0114	EA	12" Fiber Reinforced Plastic Tee	634.15	269.85
23 31 16 16-0115	EA	14" Fiber Reinforced Plastic Tee	691.60	292.01
23 31 16 16-0116	EA	16" Fiber Reinforced Plastic Tee	794.99	317.25
23 31 16 16-0117	EA	18" Fiber Reinforced Plastic Tee	894.15	339.82
23 31 16 16-0118	EA	20" Fiber Reinforced Plastic Tee	1,025.44	369.48
23 31 16 16-0119	EA	24" Fiber Reinforced Plastic Tee	1,169.01	406.42
23 31 16 16-0120	EA	30" Fiber Reinforced Plastic Tee	1,383.89	443.15
23 31 16 16-0121	EA	36" Fiber Reinforced Plastic Tee	1,650.91	498.86
23 31 16 16-0122	EA	42" Fiber Reinforced Plastic Tee	2,152.86	554.28
23 31 16 16-0123	EA	48" Fiber Reinforced Plastic Tee	2,552.73	609.78
23 31 16 16-0124	EA	54" Fiber Reinforced Plastic Tee	3,075.77	739.26
23 31 16 16-0125	EA	60" Fiber Reinforced Plastic Tee	3,690.70	923.86
23 31 16 16-0126	EA	66" Fiber Reinforced Plastic Tee	4,305.04	1,108.03
23 31 16 16-0127	EA	72" Fiber Reinforced Plastic Tee	4,859.56	1,256.40

23 31 16 16-0128 Fiber Reinforced Plastic Lateral Joint (23 31 16 16-0001)

23 31 16 16-0129	EA	2" Fiber Reinforced Plastic Lateral Joint	173.12	79.31
23 31 16 16-0130	EA	3" Fiber Reinforced Plastic Lateral Joint	204.27	95.53
23 31 16 16-0131	EA	4" Fiber Reinforced Plastic Lateral Joint	233.89	110.81
23 31 16 16-0132	EA	6" Fiber Reinforced Plastic Lateral Joint	299.59	147.75
23 31 16 16-0133	EA	8" Fiber Reinforced Plastic Lateral Joint	363.64	183.77
23 31 16 16-0134	EA	10" Fiber Reinforced Plastic Lateral Joint	436.61	222.65
23 31 16 16-0135	EA	12" Fiber Reinforced Plastic Lateral Joint	523.77	270.05
23 31 16 16-0136	EA	14" Fiber Reinforced Plastic Lateral Joint	568.22	291.81
23 31 16 16-0137	EA	16" Fiber Reinforced Plastic Lateral Joint	623.12	317.35
23 31 16 16-0138	EA	18" Fiber Reinforced Plastic Lateral Joint	673.41	340.14
23 31 16 16-0139	EA	20" Fiber Reinforced Plastic Lateral Joint	734.99	369.68
23 31 16 16-0140	EA	24" Fiber Reinforced Plastic Lateral Joint	812.56	406.42
23 31 16 16-0141	EA	30" Fiber Reinforced Plastic Lateral Joint	895.91	442.95
23 31 16 16-0142	EA	36" Fiber Reinforced Plastic Lateral Joint	1,011.22	498.55
23 31 16 16-0143	EA	42" Fiber Reinforced Plastic Lateral Joint	1,129.23	554.58
23 31 16 16-0144	EA	48" Fiber Reinforced Plastic Lateral Joint	1,241.23	609.58
23 31 16 16-0145	EA	54" Fiber Reinforced Plastic Lateral Joint	1,484.57	737.12
23 31 16 16-0146	EA	60" Fiber Reinforced Plastic Lateral Joint	1,819.02	925.50
23 31 16 16-0147	EA	66" Fiber Reinforced Plastic Lateral Joint	2,196.33	1,108.85
23 31 16 16-0148	EA	72" Fiber Reinforced Plastic Lateral Joint	2,462.72	1,256.40

23 31 16 16-0149 Fiber Reinforced Plastic One Piece Reducer (23 31 16 16-0001)

23 31 16 16-0150	EA	2" Fiber Reinforced Plastic One Piece Reducer	141.94	53.26
23 31 16 16-0151	EA	3" Fiber Reinforced Plastic One Piece Reducer	167.40	63.61
23 31 16 16-0152	EA	4" Fiber Reinforced Plastic One Piece Reducer	196.93	73.87
23 31 16 16-0153	EA	6" Fiber Reinforced Plastic One Piece Reducer	254.31	98.50
23 31 16 16-0154	EA	8" Fiber Reinforced Plastic One Piece Reducer	307.64	123.13
23 31 16 16-0155	EA	10" Fiber Reinforced Plastic One Piece Reducer	370.15	148.37
23 31 16 16-0156	EA	12" Fiber Reinforced Plastic One Piece Reducer	441.49	183.77
23 31 16 16-0157	EA	14" Fiber Reinforced Plastic One Piece Reducer	471.67	194.54
23 31 16 16-0158	EA	16" Fiber Reinforced Plastic One Piece Reducer	519.95	211.16
23 31 16 16-0159	EA	18" Fiber Reinforced Plastic One Piece Reducer	570.46	226.75
23 31 16 16-0160	EA	20" Fiber Reinforced Plastic One Piece Reducer	635.76	246.25
23 31 16 16-0161	EA	24" Fiber Reinforced Plastic One Piece Reducer	722.42	271.18
23 31 16 16-0162	EA	30" Fiber Reinforced Plastic One Piece Reducer	808.77	296.01
23 31 16 16-0163	EA	36" Fiber Reinforced Plastic One Piece Reducer	915.17	332.75
23 31 16 16-0164	EA	42" Fiber Reinforced Plastic One Piece Reducer	1,021.79	369.68
23 31 16 16-0165	EA	48" Fiber Reinforced Plastic One Piece Reducer	1,148.52	406.42
23 31 16 16-0166	EA	54" Fiber Reinforced Plastic One Piece Reducer	1,363.71	492.51
23 31 16 16-0167	EA	60" Fiber Reinforced Plastic One Piece Reducer	1,634.47	615.63
23 31 16 16-0168	EA	66" Fiber Reinforced Plastic One Piece Reducer	1,843.07	737.12
23 31 16 16-0169	EA	72" Fiber Reinforced Plastic One Piece Reducer	2,072.39	837.77



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
23 31 16 16-0170 Fiber Reinforced Plastic Two Piece Reducer (23 31 16 16-0001)				
23 31 16 16-0171	EA	2" Fiber Reinforced Plastic Two Piece Reducer	166.53	53.26
23 31 16 16-0172	EA	3" Fiber Reinforced Plastic Two Piece Reducer	183.79	63.61
23 31 16 16-0173	EA	4" Fiber Reinforced Plastic Two Piece Reducer	213.32	73.87
23 31 16 16-0174	EA	6" Fiber Reinforced Plastic Two Piece Reducer	276.84	98.50
23 31 16 16-0175	EA	8" Fiber Reinforced Plastic Two Piece Reducer	340.42	123.13
23 31 16 16-0176	EA	10" Fiber Reinforced Plastic Two Piece Reducer	404.98	148.37
23 31 16 16-0177	EA	12" Fiber Reinforced Plastic Two Piece Reducer	486.56	183.77
23 31 16 16-0178	EA	14" Fiber Reinforced Plastic Two Piece Reducer	529.03	194.54
23 31 16 16-0179	EA	16" Fiber Reinforced Plastic Two Piece Reducer	577.31	211.16
23 31 16 16-0180	EA	18" Fiber Reinforced Plastic Two Piece Reducer	648.30	226.75
23 31 16 16-0181	EA	20" Fiber Reinforced Plastic Two Piece Reducer	807.84	246.25
23 31 16 16-0182	EA	24" Fiber Reinforced Plastic Two Piece Reducer	974.40	271.18
23 31 16 16-0183	EA	30" Fiber Reinforced Plastic Two Piece Reducer	1,046.41	296.01
23 31 16 16-0184	EA	36" Fiber Reinforced Plastic Two Piece Reducer	1,189.68	332.75
23 31 16 16-0185	EA	42" Fiber Reinforced Plastic Two Piece Reducer	1,292.20	369.68
23 31 16 16-0186	EA	48" Fiber Reinforced Plastic Two Piece Reducer	1,414.84	406.42
23 31 16 16-0187	EA	54" Fiber Reinforced Plastic Two Piece Reducer	1,578.81	492.51
23 31 16 16-0188	EA	60" Fiber Reinforced Plastic Two Piece Reducer	1,837.28	615.63
23 31 16 16-0189	EA	66" Fiber Reinforced Plastic Two Piece Reducer	2,068.42	737.12
23 31 16 16-0190	EA	72" Fiber Reinforced Plastic Two Piece Reducer	2,277.25	837.77
23 31 16 16-0191 Fiber Reinforced Plastic Butterfly Dampers (23 31 16 16-0001)				
23 31 16 16-0192	EA	2" Fiber Reinforced Plastic Damper.....	423.69	53.14
23 31 16 16-0193	EA	3" Fiber Reinforced Plastic Damper.....	476.22	63.51
23 31 16 16-0194	EA	4" Fiber Reinforced Plastic Damper.....	528.73	73.87
23 31 16 16-0195	EA	6" Fiber Reinforced Plastic Damper.....	622.67	98.50
23 31 16 16-0196	EA	8" Fiber Reinforced Plastic Damper.....	734.25	123.13
23 31 16 16-0197	EA	10" Fiber Reinforced Plastic Damper.....	828.20	147.75
23 31 16 16-0198	EA	12" Fiber Reinforced Plastic Damper.....	941.06	183.77
23 31 16 16-0199	EA	14" Fiber Reinforced Plastic Damper.....	1,047.27	194.54
23 31 16 16-0200	EA	16" Fiber Reinforced Plastic Damper.....	1,163.35	211.27
23 31 16 16-0201	EA	18" Fiber Reinforced Plastic Damper.....	1,276.97	226.55
23 31 16 16-0202	EA	20" Fiber Reinforced Plastic Damper.....	1,362.75	246.25
23 31 16 16-0203	EA	24" Fiber Reinforced Plastic Damper.....	1,544.87	270.88
23 31 16 16-0204	EA	30" Fiber Reinforced Plastic Damper.....	1,797.50	295.50
23 31 16 16-0205	EA	36" Fiber Reinforced Plastic Damper.....	2,070.73	332.44
23 31 16 16-0206	EA	42" Fiber Reinforced Plastic Damper.....	2,379.18	369.48
23 31 16 16-0207	EA	48" Fiber Reinforced Plastic Damper.....	2,652.43	406.42
23 31 16 16-0208	EA	54" Fiber Reinforced Plastic Damper.....	3,113.34	492.51
23 31 16 16-0209	EA	60" Fiber Reinforced Plastic Damper.....	3,635.96	615.63
23 31 16 16-0210	EA	66" Fiber Reinforced Plastic Damper.....	4,122.93	738.55
23 31 16 16-0211	EA	72" Fiber Reinforced Plastic Damper.....	4,745.42	836.95
23 31 16 23 Fabric Ducts (23 31 16)				
23 31 16 23-0001 Heavy Duty Fabric Ducts (Zip-A-Duct™) (23 31 16 23)				
23 31 16 23-0002 Heavy Duty Fabric Duct Without Vents (23 31 16 23-0001)				
Note: Includes fabric loops for cable hooks. Requires Suspension Hardware as well as an Inlet Section and Endcap per complete run. See CSI section 23 31 16 23-0064 for suspension hardware.				
23 31 16 23-0003	EA	12" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	188.14	8.21
Note: Excludes suspension cable and hardware.				
23 31 16 23-0004	EA	12" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	294.44	10.95
Note: Excludes suspension cable and hardware.				
23 31 16 23-0005	EA	16" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	226.51	13.69
Note: Excludes suspension cable and hardware.				
23 31 16 23-0006	EA	16" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	337.55	17.99
Note: Excludes suspension cable and hardware.				
23 31 16 23-0007	EA	20" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	274.58	18.78
Note: Excludes suspension cable and hardware.				
23 31 16 23-0008	EA	20" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	393.73	25.03
Note: Excludes suspension cable and hardware.				
23 31 16 23-0009	EA	24" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	319.49	24.24
Note: Excludes suspension cable and hardware.				
23 31 16 23-0010	EA	24" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	449.91	32.06
Note: Excludes suspension cable and hardware.				
23 31 16 23-0011	EA	28" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	356.28	27.77
Note: Excludes suspension cable and hardware.				
23 31 16 23-0012	EA	28" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	535.01	37.15
Note: Excludes suspension cable and hardware.				
23 31 16 23-0013	EA	32" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	391.91	30.90
Note: Excludes suspension cable and hardware.				
23 31 16 23-0014	EA	32" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	596.96	41.06
Note: Excludes suspension cable and hardware.				
23 31 16 23-0015	EA	36" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents.....	426.72	35.20
Note: Excludes suspension cable and hardware.				
23 31 16 23-0016	EA	36" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents.....	688.79	46.92
Note: Excludes suspension cable and hardware.				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 23-0017		Heavy Duty Fabric Duct With Vents (23 31 16 23-0001)		
23 31 16 23-0018	EA	12" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	512.25	10.95
23 31 16 23-0019	EA	16" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	568.43	17.99
23 31 16 23-0020	EA	20" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	635.50	25.03
23 31 16 23-0021	EA	24" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	704.75	32.06
23 31 16 23-0022	EA	28" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	846.66	37.15
23 31 16 23-0023	EA	32" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	910.61	41.06
23 31 16 23-0024	EA	36" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents Note: Excludes suspension cable and hardware.	1,028.58	46.92
23 31 16 23-0025		Heavy Duty Fabric Duct 90 Degree Elbow (23 31 16 23-0001)		
23 31 16 23-0026	EA	12" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	381.76	11.73
23 31 16 23-0027	EA	16" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	427.05	18.78
23 31 16 23-0028	EA	20" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	577.72	20.34
23 31 16 23-0029	EA	24" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	705.78	27.37
23 31 16 23-0030	EA	28" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	891.68	30.50
23 31 16 23-0031	EA	32" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	1,111.25	33.24
23 31 16 23-0032	EA	36" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow Note: Excludes suspension cable and hardware.	1,262.61	37.15
23 31 16 23-0033		Heavy Duty Fabric Duct 45 Degree Elbow (23 31 16 23-0001)		
23 31 16 23-0034	EA	12" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	292.46	11.73
23 31 16 23-0035	EA	16" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	344.28	18.78
23 31 16 23-0036	EA	20" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	386.05	20.34
23 31 16 23-0037	EA	24" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	450.94	27.37
23 31 16 23-0038	EA	28" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	521.41	30.50
23 31 16 23-0039	EA	32" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	625.53	33.24
23 31 16 23-0040	EA	36" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow Note: Excludes suspension cable and hardware.	713.62	37.15
23 31 16 23-0041		Heavy Duty Fabric Duct Tee (23 31 16 23-0001)		
23 31 16 23-0042	EA	16" x 12" x 12" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	932.30	27.37
23 31 16 23-0043	EA	20" x 16" x 16" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	981.78	29.33
23 31 16 23-0044	EA	24" x 16" x 16" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	1,064.88	39.49
23 31 16 23-0045	EA	28" x 20" x 20" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	1,120.48	44.19
23 31 16 23-0046	EA	32" x 24" x 24" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	1,162.81	48.10
23 31 16 23-0047	EA	36" x 28" x 28" Gray Heavy Duty Fabric Duct Tee Note: Excludes suspension cable and hardware.	1,219.80	53.96
23 31 16 23-0048		Heavy Duty Fabric Duct Inlets (23 31 16 23-0001)		
23 31 16 23-0049	EA	12" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	150.88	11.73
23 31 16 23-0050	EA	16" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	178.74	18.78
23 31 16 23-0051	EA	20" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	192.20	20.34
23 31 16 23-0052	EA	24" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	222.24	27.37
23 31 16 23-0053	EA	28" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	238.25	30.50
23 31 16 23-0054	EA	32" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	255.26	33.24
23 31 16 23-0055	EA	36" Diameter Gray Heavy Duty Fabric Duct Transition Inlet Note: Excludes suspension cable and hardware.	280.17	37.15



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Ducts and Casings

23 31

23

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 23-0056		Heavy Duty Fabric Duct Cap (23 31 16 23-0001)		
23 31 16 23-0057	EA	12" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	88.74	7.04
23 31 16 23-0058	EA	16" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	112.67	11.34
23 31 16 23-0059	EA	20" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	132.47	12.12
23 31 16 23-0060	EA	24" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	184.70	16.42
23 31 16 23-0061	EA	28" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	221.12	18.38
23 31 16 23-0062	EA	32" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	275.95	19.94
23 31 16 23-0063	EA	36" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	311.38	22.29
23 31 16 23-0064		Heavy Duty Fabric Duct Suspension Hardware (23 31 16 23-0001)		
23 31 16 23-0065	EA	12 To 20 Inch Diameter Ducts Fixing Strap With Galvanized Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	34.53	5.93
23 31 16 23-0066	EA	20 To 36 Inch Diameter Ducts Fixing Strap With Galvanized Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	53.85	8.89
23 31 16 23-0067	EA	Galvanized Cable Locks For Horizontal Cables..... Note: Requires two (2) cable locks per support point or per stretcher.	12.79	2.96
23 31 16 23-0068	LF	Galvanized Plastic Coated Cable For Fabric Duct..... Note: Excludes anchor bolts or anchors.	0.78	0.12
23 31 16 23-0069	EA	Galvanized Stretcher For Straight Fabric Duct Runs.....	29.71	5.93
23 31 16 23-0070	EA	12 To 20 Inch Diameter Ducts Fixing Strap With Stainless Steel Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	63.45	5.93
23 31 16 23-0071	EA	20 To 36 Inch Diameter Ducts Fixing Strap With Stainless Steel Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	86.74	8.89
23 31 16 23-0072	EA	Stainless Steel Cable Locks For Horizontal Cables..... Note: Requires two (2) cable locks per support point or per stretcher.	16.86	2.96
23 31 16 23-0073	LF	Stainless Steel Plastic Coated Cable For Fabric Duct..... Note: Excludes anchor bolts or anchors.	2.44	0.12
23 31 16 23-0074	EA	Stainless Steel Stretcher For Straight Fabric Duct Runs	40.25	5.93
23 33		Air Duct Accessories (23 30)		
23 33 13		Dampers (23 33)		
23 33 13 13		Volume-Control Dampers (23 33 13)		
23 33 13 13-0001		Radial Opposed Blade Damper Steel Construction (Ruskin CDR) (23 33 13 13)		
23 33 13 13-0002	EA	6" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	140.91	9.47
		For Stainless Steel, Add	135.46	
		For Parallel Blade Damper, Add	41.68	
23 33 13 13-0003	EA	7" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	148.28	10.64
		For Stainless Steel, Add	137.41	
		For Parallel Blade Damper, Add	42.28	
23 33 13 13-0004	EA	8" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	156.33	11.82
		For Stainless Steel, Add	138.87	
		For Parallel Blade Damper, Add	42.73	
23 33 13 13-0005	EA	10" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	168.07	14.19
		For Stainless Steel, Add	147.54	
		For Parallel Blade Damper, Add	45.40	
23 33 13 13-0006	EA	12" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	181.00	15.38
		For Stainless Steel, Add	156.22	
		For Parallel Blade Damper, Add	48.07	
23 33 13 13-0007	EA	14" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	220.08	16.56
		For Stainless Steel, Add	199.62	
		For Parallel Blade Damper, Add	61.42	
23 33 13 13-0008	EA	15" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	240.32	17.74
		For Stainless Steel, Add	216.98	
		For Parallel Blade Damper, Add	66.76	
23 33 13 13-0009	EA	16" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	252.40	20.11
		For Stainless Steel, Add	225.62	
		For Parallel Blade Damper, Add	69.42	
23 33 13 13-0010	EA	18" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	278.76	21.29
		For Stainless Steel, Add	251.68	
		For Parallel Blade Damper, Add	77.44	
23 33 13 13-0011	EA	20" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	332.90	23.66
		For Stainless Steel, Add	312.44	
		For Parallel Blade Damper, Add	96.14	
23 33 13 13-0012	EA	24" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	370.45	23.66
		For Stainless Steel, Add	355.78	
		For Parallel Blade Damper, Add	109.47	
23 33 13 13-0013	EA	30" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	426.87	27.20
		For Stainless Steel, Add	416.55	
		For Parallel Blade Damper, Add	128.17	
23 33 13 13-0014	EA	36" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	461.19	28.39
		For Stainless Steel, Add	453.90	
		For Parallel Blade Damper, Add	139.66	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 33 13 13-0015	Rectangular Opposed Blade Damper (Ruskin CD) ^(23 33 13 13)		
23 33 13 13-0016	EA 6" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	134.68	13.16
	For Stainless Steel, Add	123.79	
	For Parallel Blade Damper, Add	38.09	
23 33 13 13-0017	EA 8" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	143.22	13.74
	For Stainless Steel, Add	132.57	
	For Parallel Blade Damper, Add	40.79	
23 33 13 13-0018	EA 8" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	150.27	13.86
	For Stainless Steel, Add	141.43	
	For Parallel Blade Damper, Add	43.52	
23 33 13 13-0019	EA 10" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	150.27	13.86
	For Stainless Steel, Add	141.43	
	For Parallel Blade Damper, Add	43.52	
23 33 13 13-0020	EA 10" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	156.26	14.23
	For Stainless Steel, Add	150.27	
	For Parallel Blade Damper, Add	46.24	
23 33 13 13-0021	EA 10" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	176.56	15.77
	For Stainless Steel, Add	167.91	
	For Parallel Blade Damper, Add	51.66	
23 33 13 13-0022	EA 12" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	158.26	14.23
	For Stainless Steel, Add	150.27	
	For Parallel Blade Damper, Add	46.24	
23 33 13 13-0023	EA 12" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	174.19	15.05
	For Stainless Steel, Add	167.91	
	For Parallel Blade Damper, Add	51.66	
23 33 13 13-0024	EA 12" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
	For Stainless Steel, Add	176.83	
	For Parallel Blade Damper, Add	54.41	
23 33 13 13-0025	EA 12" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	202.65	17.78
	For Stainless Steel, Add	194.12	
	For Parallel Blade Damper, Add	59.73	
23 33 13 13-0026	EA 14" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	170.84	15.05
	For Stainless Steel, Add	163.55	
	For Parallel Blade Damper, Add	50.32	
23 33 13 13-0027	EA 14" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
	For Stainless Steel, Add	176.83	
	For Parallel Blade Damper, Add	54.41	
23 33 13 13-0028	EA 14" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	192.60	16.59
	For Stainless Steel, Add	185.68	
	For Parallel Blade Damper, Add	57.13	
23 33 13 13-0029	EA 14" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	202.96	17.78
	For Stainless Steel, Add	194.52	
	For Parallel Blade Damper, Add	59.85	
23 33 13 13-0030	EA 14" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	225.86	19.79
	For Stainless Steel, Add	216.59	
	For Parallel Blade Damper, Add	66.64	
23 33 13 13-0031	EA 16" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
	For Stainless Steel, Add	176.83	
	For Parallel Blade Damper, Add	54.41	
23 33 13 13-0032	EA 16" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	193.78	16.94
	For Stainless Steel, Add	185.68	
	For Parallel Blade Damper, Add	57.13	
23 33 13 13-0033	EA 16" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	205.32	18.60
	For Stainless Steel, Add	194.52	
	For Parallel Blade Damper, Add	59.85	
23 33 13 13-0034	EA 16" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	215.65	19.79
	For Stainless Steel, Add	203.32	
	For Parallel Blade Damper, Add	62.56	
23 33 13 13-0035	EA 16" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.64	21.68
	For Stainless Steel, Add	225.50	
	For Parallel Blade Damper, Add	69.38	
23 33 13 13-0036	EA 16" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	261.55	23.70
	For Stainless Steel, Add	247.57	
	For Parallel Blade Damper, Add	76.18	
23 33 13 13-0037	EA 18" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	192.60	16.59
	For Stainless Steel, Add	185.68	
	For Parallel Blade Damper, Add	57.13	
23 33 13 13-0038	EA 18" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	206.32	17.78
	For Stainless Steel, Add	198.89	
	For Parallel Blade Damper, Add	61.20	
23 33 13 13-0039	EA 18" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	222.50	19.79
	For Stainless Steel, Add	212.23	
	For Parallel Blade Damper, Add	65.30	
23 33 13 13-0040	EA 18" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	245.45	21.68
	For Stainless Steel, Add	234.35	
	For Parallel Blade Damper, Add	72.11	
23 33 13 13-0041	EA 18" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	264.95	23.70
	For Stainless Steel, Add	251.99	
	For Parallel Blade Damper, Add	77.54	
23 33 13 13-0042	EA 18" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	278.25	25.60
	For Stainless Steel, Add	261.60	
	For Parallel Blade Damper, Add	80.49	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 13-0043	EA	18" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	293.93	27.61
		For Stainless Steel, Add	274.27	
		For Parallel Blade Damper, Add	84.39	
23 33 13 13-0044	EA	20" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	189.36	17.78
		For Stainless Steel, Add	176.84	
		For Parallel Blade Damper, Add	54.41	
23 33 13 13-0045	EA	20" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	207.62	19.79
		For Stainless Steel, Add	192.88	
		For Parallel Blade Damper, Add	59.35	
23 33 13 13-0046	EA	20" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	225.93	21.68
		For Stainless Steel, Add	208.98	
		For Parallel Blade Damper, Add	64.30	
23 33 13 13-0047	EA	20" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
		For Stainless Steel, Add	241.15	
		For Parallel Blade Damper, Add	74.20	
23 33 13 13-0048	EA	20" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	271.81	25.60
		For Stainless Steel, Add	253.23	
		For Parallel Blade Damper, Add	77.92	
23 33 13 13-0049	EA	20" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	287.02	27.61
		For Stainless Steel, Add	265.29	
		For Parallel Blade Damper, Add	81.63	
23 33 13 13-0050	EA	20" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	305.27	29.63
		For Stainless Steel, Add	281.32	
		For Parallel Blade Damper, Add	86.56	
23 33 13 13-0051	EA	20" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	323.54	31.52
		For Stainless Steel, Add	297.36	
		For Parallel Blade Damper, Add	91.50	
23 33 13 13-0052	EA	24" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	213.81	19.79
		For Stainless Steel, Add	200.93	
		For Parallel Blade Damper, Add	61.82	
23 33 13 13-0053	EA	24" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.30	21.68
		For Stainless Steel, Add	225.06	
		For Parallel Blade Damper, Add	69.25	
23 33 13 13-0054	EA	24" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
		For Stainless Steel, Add	241.15	
		For Parallel Blade Damper, Add	74.20	
23 33 13 13-0055	EA	24" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	281.09	25.60
		For Stainless Steel, Add	265.29	
		For Parallel Blade Damper, Add	81.63	
23 33 13 13-0056	EA	24" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	296.26	27.61
		For Stainless Steel, Add	277.30	
		For Parallel Blade Damper, Add	85.32	
23 33 13 13-0057	EA	24" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	311.46	29.63
		For Stainless Steel, Add	289.37	
		For Parallel Blade Damper, Add	89.04	
23 33 13 13-0058	EA	24" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	335.92	31.52
		For Stainless Steel, Add	313.46	
		For Parallel Blade Damper, Add	96.45	
23 33 13 13-0059	EA	24" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	366.29	35.55
		For Stainless Steel, Add	337.53	
		For Parallel Blade Damper, Add	103.86	
23 33 13 13-0060	EA	24" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	402.94	39.46
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0061	EA	28" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.30	21.68
		For Stainless Steel, Add	225.06	
		For Parallel Blade Damper, Add	69.25	
23 33 13 13-0062	EA	28" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
		For Stainless Steel, Add	241.15	
		For Parallel Blade Damper, Add	74.20	
23 33 13 13-0063	EA	28" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	281.09	25.60
		For Stainless Steel, Add	265.29	
		For Parallel Blade Damper, Add	81.63	
23 33 13 13-0064	EA	28" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.35	27.61
		For Stainless Steel, Add	281.32	
		For Parallel Blade Damper, Add	86.56	
23 33 13 13-0065	EA	28" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	320.70	29.63
		For Stainless Steel, Add	301.38	
		For Parallel Blade Damper, Add	92.73	
23 33 13 13-0066	EA	28" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	342.06	31.52
		For Stainless Steel, Add	321.44	
		For Parallel Blade Damper, Add	98.90	
23 33 13 13-0067	EA	28" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	372.48	35.55
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0068	EA	28" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	402.94	39.46
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0069	EA	28" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.91	41.48
		For Stainless Steel, Add	417.94	
		For Parallel Blade Damper, Add	128.60	
23 33 13 13-0070	EA	28" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.67	45.38
		For Stainless Steel, Add	458.11	
		For Parallel Blade Damper, Add	140.96	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0071	EA	32" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	275.18	23.70
		For Stainless Steel, Add	265.29	
		For Parallel Blade Damper, Add	81.63	
23 33 13 13-0072	EA	32" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	287.24	25.60
		For Stainless Steel, Add	273.29	
		For Parallel Blade Damper, Add	84.09	
23 33 13 13-0073	EA	32" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.35	27.61
		For Stainless Steel, Add	281.32	
		For Parallel Blade Damper, Add	86.56	
23 33 13 13-0074	EA	32" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	317.61	29.63
		For Stainless Steel, Add	297.36	
		For Parallel Blade Damper, Add	91.50	
23 33 13 13-0075	EA	32" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	343.27	31.52
		For Stainless Steel, Add	323.01	
		For Parallel Blade Damper, Add	99.39	
23 33 13 13-0076	EA	32" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	372.48	35.55
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0077	EA	32" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	409.13	39.46
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0078	EA	32" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.69	43.37
		For Stainless Steel, Add	409.94	
		For Parallel Blade Damper, Add	126.14	
23 33 13 13-0079	EA	32" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.67	45.38
		For Stainless Steel, Add	458.11	
		For Parallel Blade Damper, Add	140.96	
23 33 13 13-0080	EA	32" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	541.47	48.58
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0081	EA	32" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	599.24	51.31
		For Stainless Steel, Add	578.75	
		For Parallel Blade Damper, Add	178.08	
23 33 13 13-0082	EA	36" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.61	25.60
		For Stainless Steel, Add	289.37	
		For Parallel Blade Damper, Add	89.04	
23 33 13 13-0083	EA	36" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	317.88	27.61
		For Stainless Steel, Add	305.41	
		For Parallel Blade Damper, Add	93.97	
23 33 13 13-0084	EA	36" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	336.13	29.63
		For Stainless Steel, Add	321.44	
		For Parallel Blade Damper, Add	98.90	
23 33 13 13-0085	EA	36" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	360.63	31.52
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0086	EA	36" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	381.81	35.55
		For Stainless Steel, Add	357.71	
		For Parallel Blade Damper, Add	110.06	
23 33 13 13-0087	EA	36" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.01	37.45
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0088	EA	36" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.69	43.37
		For Stainless Steel, Add	409.94	
		For Parallel Blade Damper, Add	126.14	
23 33 13 13-0089	EA	36" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.40	47.40
		For Stainless Steel, Add	450.06	
		For Parallel Blade Damper, Add	138.48	
23 33 13 13-0090	EA	36" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	530.28	48.94
		For Stainless Steel, Add	498.34	
		For Parallel Blade Damper, Add	153.34	
23 33 13 13-0091	EA	36" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	590.37	52.50
		For Stainless Steel, Add	562.60	
		For Parallel Blade Damper, Add	173.11	
23 33 13 13-0092	EA	36" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	641.95	55.22
		For Stainless Steel, Add	618.87	
		For Parallel Blade Damper, Add	190.42	
23 33 13 13-0093	EA	36" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	697.35	57.23
		For Stainless Steel, Add	683.18	
		For Parallel Blade Damper, Add	210.21	
23 33 13 13-0094	EA	40" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	311.69	29.63
		For Stainless Steel, Add	297.36	
		For Parallel Blade Damper, Add	91.50	
23 33 13 13-0095	EA	40" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	342.32	31.52
		For Stainless Steel, Add	329.49	
		For Parallel Blade Damper, Add	101.38	
23 33 13 13-0096	EA	40" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	354.44	33.53
		For Stainless Steel, Add	337.53	
		For Parallel Blade Damper, Add	103.86	
23 33 13 13-0097	EA	40" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	366.55	35.55
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0098	EA	40" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	400.06	37.45
		For Stainless Steel, Add	373.74	
		For Parallel Blade Damper, Add	115.00	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0099	EA	40" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
		For Stainless Steel, Add	401.91	
		For Parallel Blade Damper, Add	123.66	
23 33 13 13-0100	EA	40" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.15	45.38
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0101	EA	40" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	506.76	49.30
		For Stainless Steel, Add	466.22	
		For Parallel Blade Damper, Add	143.45	
23 33 13 13-0102	EA	40" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	553.32	52.50
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0103	EA	40" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	629.61	55.22
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0104	EA	40" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	676.14	58.42
		For Stainless Steel, Add	650.99	
		For Parallel Blade Damper, Add	200.30	
23 33 13 13-0105	EA	40" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	748.92	59.96
		For Stainless Steel, Add	739.44	
		For Parallel Blade Damper, Add	227.52	
23 33 13 13-0106	EA	40" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	820.25	63.16
		For Stainless Steel, Add	819.85	
		For Parallel Blade Damper, Add	252.26	
23 33 13 13-0107	EA	44" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	329.99	29.63
		For Stainless Steel, Add	313.46	
		For Parallel Blade Damper, Add	96.45	
23 33 13 13-0108	EA	44" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	360.63	31.52
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0109	EA	44" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	385.16	33.53
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0110	EA	44" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0111	EA	44" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.91	37.45
		For Stainless Steel, Add	409.94	
		For Parallel Blade Damper, Add	126.14	
23 33 13 13-0112	EA	44" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	458.56	39.46
		For Stainless Steel, Add	442.08	
		For Parallel Blade Damper, Add	136.02	
23 33 13 13-0113	EA	44" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	513.20	47.40
		For Stainless Steel, Add	482.30	
		For Parallel Blade Damper, Add	148.40	
23 33 13 13-0114	EA	44" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	555.91	51.31
		For Stainless Steel, Add	522.42	
		For Parallel Blade Damper, Add	160.74	
23 33 13 13-0115	EA	44" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	629.61	55.22
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0116	EA	44" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	697.12	59.25
		For Stainless Steel, Add	675.18	
		For Parallel Blade Damper, Add	207.75	
23 33 13 13-0117	EA	44" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	770.73	63.16
		For Stainless Steel, Add	755.47	
		For Parallel Blade Damper, Add	232.45	
23 33 13 13-0118	EA	44" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	832.32	65.05
		For Stainless Steel, Add	827.83	
		For Parallel Blade Damper, Add	254.72	
23 33 13 13-0119	EA	44" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	893.91	67.07
		For Stainless Steel, Add	900.19	
		For Parallel Blade Damper, Add	276.98	
23 33 13 13-0120	EA	44" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	955.49	69.08
		For Stainless Steel, Add	972.54	
		For Parallel Blade Damper, Add	299.24	
23 33 13 13-0121	EA	48" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	354.44	31.52
		For Stainless Steel, Add	337.53	
		For Parallel Blade Damper, Add	103.86	
23 33 13 13-0122	EA	48" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	385.16	33.53
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0123	EA	48" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0124	EA	48" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
		For Stainless Steel, Add	401.91	
		For Parallel Blade Damper, Add	123.66	
23 33 13 13-0125	EA	48" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	464.22	43.37
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0126	EA	48" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	500.83	47.40
		For Stainless Steel, Add	466.22	
		For Parallel Blade Damper, Add	143.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0127	EA	48" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	549.77	51.31
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0128	EA	48" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	598.67	55.22
		For Stainless Steel, Add	562.60	
		For Parallel Blade Damper, Add	173.11	
23 33 13 13-0129	EA	48" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	666.17	59.25
		For Stainless Steel, Add	634.95	
		For Parallel Blade Damper, Add	195.37	
23 33 13 13-0130	EA	48" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	746.02	63.16
		For Stainless Steel, Add	723.35	
		For Parallel Blade Damper, Add	222.57	
23 33 13 13-0131	EA	48" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	807.65	65.05
		For Stainless Steel, Add	795.76	
		For Parallel Blade Damper, Add	244.85	
23 33 13 13-0132	EA	48" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	887.72	67.07
		For Stainless Steel, Add	892.14	
		For Parallel Blade Damper, Add	274.50	
23 33 13 13-0133	EA	48" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	955.23	70.98
		For Stainless Steel, Add	964.50	
		For Parallel Blade Damper, Add	296.77	
23 33 13 13-0134	EA	48" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,035.33	73.00
		For Stainless Steel, Add	1,060.93	
		For Parallel Blade Damper, Add	326.44	
23 33 13 13-0135	EA	48" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,102.57	78.92
		For Stainless Steel, Add	1,125.24	
		For Parallel Blade Damper, Add	346.23	
23 33 13 13-0136	EA	52" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	378.97	33.53
		For Stainless Steel, Add	361.73	
		For Parallel Blade Damper, Add	111.30	
23 33 13 13-0137	EA	52" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	409.62	35.55
		For Stainless Steel, Add	393.86	
		For Parallel Blade Damper, Add	121.19	
23 33 13 13-0138	EA	52" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	446.18	39.46
		For Stainless Steel, Add	425.98	
		For Parallel Blade Damper, Add	131.07	
23 33 13 13-0139	EA	52" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	464.22	43.37
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0140	EA	52" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	503.92	47.40
		For Stainless Steel, Add	470.24	
		For Parallel Blade Damper, Add	144.69	
23 33 13 13-0141	EA	52" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	543.58	51.31
		For Stainless Steel, Add	506.39	
		For Parallel Blade Damper, Add	155.81	
23 33 13 13-0142	EA	52" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	592.52	55.22
		For Stainless Steel, Add	554.61	
		For Parallel Blade Damper, Add	170.65	
23 33 13 13-0143	EA	52" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	641.46	59.25
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0144	EA	52" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	708.97	63.16
		For Stainless Steel, Add	675.18	
		For Parallel Blade Damper, Add	207.75	
23 33 13 13-0145	EA	52" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	794.97	67.07
		For Stainless Steel, Add	771.56	
		For Parallel Blade Damper, Add	237.40	
23 33 13 13-0146	EA	52" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	862.70	69.08
		For Stainless Steel, Add	851.92	
		For Parallel Blade Damper, Add	262.13	
23 33 13 13-0147	EA	52" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	949.04	70.98
		For Stainless Steel, Add	956.45	
		For Parallel Blade Damper, Add	294.29	
23 33 13 13-0148	EA	52" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,035.03	75.01
		For Stainless Steel, Add	1,052.83	
		For Parallel Blade Damper, Add	323.95	
23 33 13 13-0149	EA	52" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,102.57	78.92
		For Stainless Steel, Add	1,125.24	
		For Parallel Blade Damper, Add	346.23	
23 33 13 13-0150	EA	52" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,194.53	84.85
		For Stainless Steel, Add	1,221.69	
		For Parallel Blade Damper, Add	375.90	
23 33 13 13-0151	EA	52" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,268.24	88.75
		For Stainless Steel, Add	1,302.09	
		For Parallel Blade Damper, Add	400.64	
23 33 13 13-0152	EA	56" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0153	EA	56" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	439.99	39.46
		For Stainless Steel, Add	417.94	
		For Parallel Blade Damper, Add	128.60	
23 33 13 13-0154	EA	56" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.41	43.37
		For Stainless Steel, Add	442.08	
		For Parallel Blade Damper, Add	136.02	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0155	EA		56" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.40	47.40
			For Stainless Steel, Add	450.06	
			For Parallel Blade Damper, Add	138.48	
23 33 13 13-0156	EA		56" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	534.29	51.31
			For Stainless Steel, Add	494.31	
			For Parallel Blade Damper, Add	152.10	
23 33 13 13-0157	EA		56" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	580.14	55.22
			For Stainless Steel, Add	538.57	
			For Parallel Blade Damper, Add	165.70	
23 33 13 13-0158	EA		56" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	625.99	59.25
			For Stainless Steel, Add	582.71	
			For Parallel Blade Damper, Add	179.30	
23 33 13 13-0159	EA		56" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	671.84	63.16
			For Stainless Steel, Add	626.97	
			For Parallel Blade Damper, Add	192.90	
23 33 13 13-0160	EA		56" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	757.88	67.07
			For Stainless Steel, Add	723.35	
			For Parallel Blade Damper, Add	222.57	
23 33 13 13-0161	EA		56" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	838.03	69.08
			For Stainless Steel, Add	819.85	
			For Parallel Blade Damper, Add	252.26	
23 33 13 13-0162	EA		56" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	911.95	70.98
			For Stainless Steel, Add	908.23	
			For Parallel Blade Damper, Add	279.46	
23 33 13 13-0163	EA		56" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,010.36	75.01
			For Stainless Steel, Add	1,020.76	
			For Parallel Blade Damper, Add	314.08	
23 33 13 13-0164	EA		56" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,096.39	78.92
			For Stainless Steel, Add	1,117.21	
			For Parallel Blade Damper, Add	343.76	
23 33 13 13-0165	EA		56" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,188.61	82.83
			For Stainless Steel, Add	1,221.69	
			For Parallel Blade Damper, Add	375.90	
23 33 13 13-0166	EA		56" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,262.31	86.86
			For Stainless Steel, Add	1,302.09	
			For Parallel Blade Damper, Add	400.64	
23 33 13 13-0167	EA		56" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,354.53	90.78
			For Stainless Steel, Add	1,406.57	
			For Parallel Blade Damper, Add	432.79	
23 33 13 13-0168	EA		56" x 56" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,446.75	94.68
			For Stainless Steel, Add	1,511.06	
			For Parallel Blade Damper, Add	464.94	
23 33 13 13-0169	EA		60" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
			For Stainless Steel, Add	401.91	
			For Parallel Blade Damper, Add	123.66	
23 33 13 13-0170	EA		60" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.41	43.37
			For Stainless Steel, Add	442.08	
			For Parallel Blade Damper, Add	136.02	
23 33 13 13-0171	EA		60" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	494.59	47.40
			For Stainless Steel, Add	458.11	
			For Parallel Blade Damper, Add	140.96	
23 33 13 13-0172	EA		60" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	512.68	51.31
			For Stainless Steel, Add	466.22	
			For Parallel Blade Damper, Add	143.45	
23 33 13 13-0173	EA		60" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	561.62	55.22
			For Stainless Steel, Add	514.44	
			For Parallel Blade Damper, Add	158.29	
23 33 13 13-0174	EA		60" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	610.52	59.25
			For Stainless Steel, Add	562.60	
			For Parallel Blade Damper, Add	173.11	
23 33 13 13-0175	EA		60" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	662.55	63.16
			For Stainless Steel, Add	614.84	
			For Parallel Blade Damper, Add	189.18	
23 33 13 13-0176	EA		60" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	714.60	67.07
			For Stainless Steel, Add	667.08	
			For Parallel Blade Damper, Add	205.26	
23 33 13 13-0177	EA		60" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	800.89	69.08
			For Stainless Steel, Add	771.56	
			For Parallel Blade Damper, Add	237.40	
23 33 13 13-0178	EA		60" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	881.00	70.98
			For Stainless Steel, Add	868.00	
			For Parallel Blade Damper, Add	267.08	
23 33 13 13-0179	EA		60" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	973.27	75.01
			For Stainless Steel, Add	972.54	
			For Parallel Blade Damper, Add	299.24	
23 33 13 13-0180	EA		60" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,065.48	78.92
			For Stainless Steel, Add	1,077.02	
			For Parallel Blade Damper, Add	331.39	
23 33 13 13-0181	EA		60" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,139.14	82.83
			For Stainless Steel, Add	1,157.38	
			For Parallel Blade Damper, Add	356.12	
23 33 13 13-0182	EA		60" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,249.88	86.86
			For Stainless Steel, Add	1,285.93	
			For Parallel Blade Damper, Add	395.67	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0183	EA	60" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,348.30	90.78
		For Stainless Steel, Add	1,398.48	
		For Parallel Blade Damper, Add	430.30	
23 33 13 13-0184	EA	60" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,446.75	94.68
		For Stainless Steel, Add	1,511.06	
		For Parallel Blade Damper, Add	464.94	
23 33 13 13-0185	EA	60" x 56" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,532.70	98.71
		For Stainless Steel, Add	1,607.39	
		For Parallel Blade Damper, Add	494.58	
23 33 13 13-0186	EA	60" x 60" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,618.82	102.63
		For Stainless Steel, Add	1,703.94	
		For Parallel Blade Damper, Add	524.29	
23 33 13 16		Fire Dampers (23 33 13)		
23 33 13 16-0001		Fire Dampers (23 33 13 16)		
23 33 13 16-0002	SF	Curtain Type, Vertical, Fire Damper	138.95	12.80
		For Smoke Damper, Add	85.37	
		For Spring Activated Horizontal Mount Operation, Add	22.60	
		For Dynamic Damper, Add	54.23	
		For 3 Hour Rated, Add	30.13	
23 33 13 16-0003	SF	Louver Type, Vertical, Fire Damper	193.74	12.80
		For Smoke Damper, Add	131.94	
		For Spring Activated Horizontal Mount Operation, Add	34.92	
		For Dynamic Damper, Add	83.82	
		For 3 Hour Rated, Add	46.57	
23 33 13 16-0004		Folding Curtain Fire Dampers (23 33 13 16)		
		Note: UL Listed. Air stream 22 gauge galvanized steel construction with fusible link 160 F, gravity actuated for vertical mount 1-1/2 hour fire rating. Damper blades and damper frame are in the air stream.		
23 33 13 16-0005	EA	6" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	69.31	13.16
		For Spring Activated Horizontal Mount Operation, Add	6.72	
		For Dynamic Damper, Add	16.12	
		For 3 Hour Rated, Add	8.96	
		For Cap Of Damper Blades Outside Air Stream, Add	7.46	
23 33 13 16-0006	EA	8" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	73.20	13.74
		For Spring Activated Horizontal Mount Operation, Add	7.19	
		For Dynamic Damper, Add	17.26	
		For 3 Hour Rated, Add	9.59	
		For Cap Of Damper Blades Outside Air Stream, Add	7.99	
23 33 13 16-0007	EA	8" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	75.58	13.86
		For Spring Activated Horizontal Mount Operation, Add	7.67	
		For Dynamic Damper, Add	18.41	
		For 3 Hour Rated, Add	10.23	
		For Cap Of Damper Blades Outside Air Stream, Add	8.53	
23 33 13 16-0008	EA	10" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	75.58	13.86
		For Spring Activated Horizontal Mount Operation, Add	7.67	
		For Dynamic Damper, Add	18.41	
		For 3 Hour Rated, Add	10.23	
		For Cap Of Damper Blades Outside Air Stream, Add	8.53	
23 33 13 16-0009	EA	10" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	78.90	14.23
		For Spring Activated Horizontal Mount Operation, Add	8.15	
		For Dynamic Damper, Add	19.56	
		For 3 Hour Rated, Add	10.87	
		For Cap Of Damper Blades Outside Air Stream, Add	9.06	
23 33 13 16-0010	EA	10" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	87.89	15.77
		For Spring Activated Horizontal Mount Operation, Add	9.11	
		For Dynamic Damper, Add	21.86	
		For 3 Hour Rated, Add	12.15	
		For Cap Of Damper Blades Outside Air Stream, Add	10.12	
23 33 13 16-0011	EA	12" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	78.90	14.23
		For Spring Activated Horizontal Mount Operation, Add	8.15	
		For Dynamic Damper, Add	19.56	
		For 3 Hour Rated, Add	10.87	
		For Cap Of Damper Blades Outside Air Stream, Add	9.06	
23 33 13 16-0012	EA	12" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	85.52	15.05
		For Spring Activated Horizontal Mount Operation, Add	9.11	
		For Dynamic Damper, Add	21.86	
		For 3 Hour Rated, Add	12.15	
		For Cap Of Damper Blades Outside Air Stream, Add	10.12	
23 33 13 16-0013	EA	12" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	90.02	15.77
		For Spring Activated Horizontal Mount Operation, Add	9.59	
		For Dynamic Damper, Add	23.01	
		For 3 Hour Rated, Add	12.79	
		For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0014	EA	12" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	98.09	17.78
		For Spring Activated Horizontal Mount Operation, Add	10.07	
		For Dynamic Damper, Add	24.17	
		For 3 Hour Rated, Add	13.43	
		For Cap Of Damper Blades Outside Air Stream, Add	11.19	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0015	EA		14" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	84.46	15.05
			For Spring Activated Horizontal Mount Operation, Add	8.87	
			For Dynamic Damper, Add	21.29	
			For 3 Hour Rated, Add	11.83	
			For Cap Of Damper Blades Outside Air Stream, Add	9.86	
23 33 13 16-0016	EA		14" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	90.02	15.77
			For Spring Activated Horizontal Mount Operation, Add	9.59	
			For Dynamic Damper, Add	23.01	
			For 3 Hour Rated, Add	12.79	
			For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0017	EA		14" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	94.53	16.59
			For Spring Activated Horizontal Mount Operation, Add	10.07	
			For Dynamic Damper, Add	24.17	
			For 3 Hour Rated, Add	13.43	
			For Cap Of Damper Blades Outside Air Stream, Add	11.79	
23 33 13 16-0018	EA		14" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	100.23	17.78
			For Spring Activated Horizontal Mount Operation, Add	10.55	
			For Dynamic Damper, Add	25.33	
			For 3 Hour Rated, Add	14.07	
			For Cap Of Damper Blades Outside Air Stream, Add	11.73	
23 33 13 16-0019	EA		14" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	111.48	19.79
			For Spring Activated Horizontal Mount Operation, Add	11.75	
			For Dynamic Damper, Add	28.20	
			For 3 Hour Rated, Add	15.67	
			For Cap Of Damper Blades Outside Air Stream, Add	13.06	
23 33 13 16-0020	EA		16" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	90.02	15.77
			For Spring Activated Horizontal Mount Operation, Add	9.59	
			For Dynamic Damper, Add	23.01	
			For 3 Hour Rated, Add	12.79	
			For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0021	EA		16" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	95.71	16.94
			For Spring Activated Horizontal Mount Operation, Add	10.07	
			For Dynamic Damper, Add	24.17	
			For 3 Hour Rated, Add	13.43	
			For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0022	EA		16" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	102.59	18.60
			For Spring Activated Horizontal Mount Operation, Add	10.55	
			For Dynamic Damper, Add	25.33	
			For 3 Hour Rated, Add	14.07	
			For Cap Of Damper Blades Outside Air Stream, Add	11.73	
23 33 13 16-0023	EA		16" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.26	19.79
			For Spring Activated Horizontal Mount Operation, Add	11.03	
			For Dynamic Damper, Add	26.47	
			For 3 Hour Rated, Add	14.70	
			For Cap Of Damper Blades Outside Air Stream, Add	12.25	
23 33 13 16-0024	EA		16" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	119.54	21.68
			For Spring Activated Horizontal Mount Operation, Add	12.23	
			For Dynamic Damper, Add	29.35	
			For 3 Hour Rated, Add	16.31	
			For Cap Of Damper Blades Outside Air Stream, Add	13.59	
23 33 13 16-0025	EA		16" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	130.80	23.70
			For Spring Activated Horizontal Mount Operation, Add	13.43	
			For Dynamic Damper, Add	32.23	
			For 3 Hour Rated, Add	17.91	
			For Cap Of Damper Blades Outside Air Stream, Add	14.92	
23 33 13 16-0026	EA		18" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	94.53	16.59
			For Spring Activated Horizontal Mount Operation, Add	10.07	
			For Dynamic Damper, Add	24.17	
			For 3 Hour Rated, Add	13.43	
			For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0027	EA		18" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	101.28	17.78
			For Spring Activated Horizontal Mount Operation, Add	10.79	
			For Dynamic Damper, Add	25.89	
			For 3 Hour Rated, Add	14.39	
			For Cap Of Damper Blades Outside Air Stream, Add	11.99	
23 33 13 16-0028	EA		18" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	110.42	19.79
			For Spring Activated Horizontal Mount Operation, Add	11.51	
			For Dynamic Damper, Add	27.63	
			For 3 Hour Rated, Add	15.35	
			For Cap Of Damper Blades Outside Air Stream, Add	12.79	
23 33 13 16-0029	EA		18" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	121.68	21.68
			For Spring Activated Horizontal Mount Operation, Add	12.71	
			For Dynamic Damper, Add	30.51	
			For 3 Hour Rated, Add	16.95	
			For Cap Of Damper Blades Outside Air Stream, Add	14.13	
23 33 13 16-0030	EA		18" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	131.86	23.70
			For Spring Activated Horizontal Mount Operation, Add	13.67	
			For Dynamic Damper, Add	32.81	
			For 3 Hour Rated, Add	18.23	
			For Cap Of Damper Blades Outside Air Stream, Add	15.19	
23 33 13 16-0031	EA		18" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	143.10	25.60
			For Spring Activated Horizontal Mount Operation, Add	14.87	
			For Dynamic Damper, Add	35.68	
			For 3 Hour Rated, Add	19.82	
			For Cap Of Damper Blades Outside Air Stream, Add	16.52	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0032	EA		18" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	152.23	27.61
			For Spring Activated Horizontal Mount Operation, Add	15.59	
			For Dynamic Damper, Add	37.41	
			For 3 Hour Rated, Add	20.78	
			For Cap Of Damper Blades Outside Air Stream, Add	17.32	
23 33 13 16-0033	EA		20" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	100.23	17.78
			For Spring Activated Horizontal Mount Operation, Add	10.55	
			For Dynamic Damper, Add	25.33	
			For 3 Hour Rated, Add	14.07	
			For Cap Of Damper Blades Outside Air Stream, Add	11.73	
23 33 13 16-0034	EA		20" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	110.40	19.79
			For Spring Activated Horizontal Mount Operation, Add	11.51	
			For Dynamic Damper, Add	27.62	
			For 3 Hour Rated, Add	15.35	
			For Cap Of Damper Blades Outside Air Stream, Add	12.79	
23 33 13 16-0035	EA		20" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	120.60	21.68
			For Spring Activated Horizontal Mount Operation, Add	12.47	
			For Dynamic Damper, Add	29.93	
			For 3 Hour Rated, Add	16.63	
			For Cap Of Damper Blades Outside Air Stream, Add	13.86	
23 33 13 16-0036	EA		20" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	135.07	23.70
			For Spring Activated Horizontal Mount Operation, Add	14.39	
			For Dynamic Damper, Add	34.54	
			For 3 Hour Rated, Add	19.19	
			For Cap Of Damper Blades Outside Air Stream, Add	15.99	
23 33 13 16-0037	EA		20" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	144.18	25.60
			For Spring Activated Horizontal Mount Operation, Add	15.11	
			For Dynamic Damper, Add	36.27	
			For 3 Hour Rated, Add	20.15	
			For Cap Of Damper Blades Outside Air Stream, Add	16.79	
23 33 13 16-0038	EA		20" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	153.30	27.61
			For Spring Activated Horizontal Mount Operation, Add	15.83	
			For Dynamic Damper, Add	37.99	
			For 3 Hour Rated, Add	21.11	
			For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0039	EA		20" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	163.48	29.63
			For Spring Activated Horizontal Mount Operation, Add	16.79	
			For Dynamic Damper, Add	40.29	
			For 3 Hour Rated, Add	22.38	
			For Cap Of Damper Blades Outside Air Stream, Add	18.65	
23 33 13 16-0040	EA		20" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	173.66	31.52
			For Spring Activated Horizontal Mount Operation, Add	17.74	
			For Dynamic Damper, Add	42.58	
			For 3 Hour Rated, Add	23.66	
			For Cap Of Damper Blades Outside Air Stream, Add	19.72	
23 33 13 16-0041	EA		24" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	112.53	19.79
			For Spring Activated Horizontal Mount Operation, Add	11.99	
			For Dynamic Damper, Add	28.77	
			For 3 Hour Rated, Add	15.98	
			For Cap Of Damper Blades Outside Air Stream, Add	13.32	
23 33 13 16-0042	EA		24" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	124.87	21.68
			For Spring Activated Horizontal Mount Operation, Add	13.43	
			For Dynamic Damper, Add	32.23	
			For 3 Hour Rated, Add	17.91	
			For Cap Of Damper Blades Outside Air Stream, Add	14.92	
23 33 13 16-0043	EA		24" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	135.07	23.70
			For Spring Activated Horizontal Mount Operation, Add	14.39	
			For Dynamic Damper, Add	34.54	
			For 3 Hour Rated, Add	19.19	
			For Cap Of Damper Blades Outside Air Stream, Add	15.99	
23 33 13 16-0044	EA		24" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	147.37	25.60
			For Spring Activated Horizontal Mount Operation, Add	15.83	
			For Dynamic Damper, Add	37.99	
			For 3 Hour Rated, Add	21.11	
			For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0045	EA		24" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	156.50	27.61
			For Spring Activated Horizontal Mount Operation, Add	16.55	
			For Dynamic Damper, Add	39.72	
			For 3 Hour Rated, Add	22.07	
			For Cap Of Damper Blades Outside Air Stream, Add	18.39	
23 33 13 16-0046	EA		24" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	165.61	29.63
			For Spring Activated Horizontal Mount Operation, Add	17.27	
			For Dynamic Damper, Add	41.44	
			For 3 Hour Rated, Add	23.02	
			For Cap Of Damper Blades Outside Air Stream, Add	19.19	
23 33 13 16-0047	EA		24" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	177.93	31.52
			For Spring Activated Horizontal Mount Operation, Add	18.70	
			For Dynamic Damper, Add	44.89	
			For 3 Hour Rated, Add	24.94	
			For Cap Of Damper Blades Outside Air Stream, Add	20.78	
23 33 13 16-0048	EA		24" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	196.17	35.55
			For Spring Activated Horizontal Mount Operation, Add	20.14	
			For Dynamic Damper, Add	48.34	
			For 3 Hour Rated, Add	26.86	
			For Cap Of Damper Blades Outside Air Stream, Add	22.38	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 16-0049	EA	24" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	216.56	39.46
		For Spring Activated Horizontal Mount Operation, Add	22.06	
		For Dynamic Damper, Add	52.95	
		For 3 Hour Rated, Add	29.42	
		For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0050	EA	28" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	124.87	21.68
		For Spring Activated Horizontal Mount Operation, Add	13.43	
		For Dynamic Damper, Add	32.23	
		For 3 Hour Rated, Add	17.91	
		For Cap Of Damper Blades Outside Air Stream, Add	14.92	
23 33 13 16-0051	EA	28" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	135.07	23.70
		For Spring Activated Horizontal Mount Operation, Add	14.39	
		For Dynamic Damper, Add	34.54	
		For 3 Hour Rated, Add	19.19	
		For Cap Of Damper Blades Outside Air Stream, Add	15.99	
23 33 13 16-0052	EA	28" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	147.37	25.60
		For Spring Activated Horizontal Mount Operation, Add	15.83	
		For Dynamic Damper, Add	37.99	
		For 3 Hour Rated, Add	21.11	
		For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0053	EA	28" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	157.56	27.61
		For Spring Activated Horizontal Mount Operation, Add	16.79	
		For Dynamic Damper, Add	40.29	
		For 3 Hour Rated, Add	22.38	
		For Cap Of Damper Blades Outside Air Stream, Add	18.65	
23 33 13 16-0054	EA	28" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	168.81	29.63
		For Spring Activated Horizontal Mount Operation, Add	17.99	
		For Dynamic Damper, Add	43.17	
		For 3 Hour Rated, Add	23.98	
		For Cap Of Damper Blades Outside Air Stream, Add	19.99	
23 33 13 16-0055	EA	28" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	180.05	31.52
		For Spring Activated Horizontal Mount Operation, Add	19.18	
		For Dynamic Damper, Add	46.04	
		For 3 Hour Rated, Add	25.58	
		For Cap Of Damper Blades Outside Air Stream, Add	21.31	
23 33 13 16-0056	EA	28" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.30	35.55
		For Spring Activated Horizontal Mount Operation, Add	20.62	
		For Dynamic Damper, Add	49.49	
		For 3 Hour Rated, Add	27.50	
		For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0057	EA	28" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	216.56	39.46
		For Spring Activated Horizontal Mount Operation, Add	22.06	
		For Dynamic Damper, Add	52.95	
		For 3 Hour Rated, Add	29.42	
		For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0058	EA	28" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	235.26	41.48
		For Spring Activated Horizontal Mount Operation, Add	24.94	
		For Dynamic Damper, Add	59.85	
		For 3 Hour Rated, Add	33.25	
		For Cap Of Damper Blades Outside Air Stream, Add	27.71	
23 33 13 16-0059	EA	28" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	257.78	45.38
		For Spring Activated Horizontal Mount Operation, Add	27.34	
		For Dynamic Damper, Add	65.61	
		For 3 Hour Rated, Add	36.45	
		For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0060	EA	32" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	141.46	23.70
		For Spring Activated Horizontal Mount Operation, Add	15.83	
		For Dynamic Damper, Add	37.99	
		For 3 Hour Rated, Add	21.11	
		For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0061	EA	32" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	149.49	25.60
		For Spring Activated Horizontal Mount Operation, Add	16.31	
		For Dynamic Damper, Add	39.13	
		For 3 Hour Rated, Add	21.74	
		For Cap Of Damper Blades Outside Air Stream, Add	18.12	
23 33 13 16-0062	EA	32" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	157.56	27.61
		For Spring Activated Horizontal Mount Operation, Add	16.79	
		For Dynamic Damper, Add	40.29	
		For 3 Hour Rated, Add	22.38	
		For Cap Of Damper Blades Outside Air Stream, Add	18.65	
23 33 13 16-0063	EA	32" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	167.73	29.63
		For Spring Activated Horizontal Mount Operation, Add	17.74	
		For Dynamic Damper, Add	42.58	
		For 3 Hour Rated, Add	23.66	
		For Cap Of Damper Blades Outside Air Stream, Add	19.72	
23 33 13 16-0064	EA	32" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	180.46	31.52
		For Spring Activated Horizontal Mount Operation, Add	19.27	
		For Dynamic Damper, Add	46.26	
		For 3 Hour Rated, Add	25.70	
		For Cap Of Damper Blades Outside Air Stream, Add	21.42	
23 33 13 16-0065	EA	32" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.30	35.55
		For Spring Activated Horizontal Mount Operation, Add	20.62	
		For Dynamic Damper, Add	49.49	
		For 3 Hour Rated, Add	27.50	
		For Cap Of Damper Blades Outside Air Stream, Add	22.91	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0066 EA 32" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	218.70	39.46
For Spring Activated Horizontal Mount Operation, Add	22.55	
For Dynamic Damper, Add	54.11	
For 3 Hour Rated, Add	30.06	
For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0067 EA 32" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	239.07	43.37
For Spring Activated Horizontal Mount Operation, Add	24.46	
For Dynamic Damper, Add	58.71	
For 3 Hour Rated, Add	32.62	
For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0068 EA 32" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	257.78	45.38
For Spring Activated Horizontal Mount Operation, Add	27.34	
For Dynamic Damper, Add	65.61	
For 3 Hour Rated, Add	36.45	
For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0069 EA 32" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	282.18	48.58
For Spring Activated Horizontal Mount Operation, Add	30.70	
For Dynamic Damper, Add	73.67	
For 3 Hour Rated, Add	40.93	
For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0070 EA 36" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	307.53	51.31
For Spring Activated Horizontal Mount Operation, Add	34.53	
For Dynamic Damper, Add	82.88	
For 3 Hour Rated, Add	46.04	
For Cap Of Damper Blades Outside Air Stream, Add	38.37	
23 33 13 16-0071 EA 36" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	153.76	25.60
For Spring Activated Horizontal Mount Operation, Add	17.27	
For Dynamic Damper, Add	41.44	
For 3 Hour Rated, Add	23.02	
For Cap Of Damper Blades Outside Air Stream, Add	19.19	
23 33 13 16-0072 EA 36" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	163.94	27.61
For Spring Activated Horizontal Mount Operation, Add	18.22	
For Dynamic Damper, Add	43.73	
For 3 Hour Rated, Add	24.30	
For Cap Of Damper Blades Outside Air Stream, Add	20.25	
23 33 13 16-0073 EA 36" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	174.12	29.63
For Spring Activated Horizontal Mount Operation, Add	19.18	
For Dynamic Damper, Add	46.04	
For 3 Hour Rated, Add	25.58	
For Cap Of Damper Blades Outside Air Stream, Add	21.31	
23 33 13 16-0074 EA 36" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	186.45	31.52
For Spring Activated Horizontal Mount Operation, Add	20.62	
For Dynamic Damper, Add	49.49	
For 3 Hour Rated, Add	27.50	
For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0075 EA 36" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	201.52	35.55
For Spring Activated Horizontal Mount Operation, Add	21.35	
For Dynamic Damper, Add	51.23	
For 3 Hour Rated, Add	28.46	
For Cap Of Damper Blades Outside Air Stream, Add	23.72	
23 33 13 16-0076 EA 36" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	210.63	37.45
For Spring Activated Horizontal Mount Operation, Add	22.06	
For Dynamic Damper, Add	52.95	
For 3 Hour Rated, Add	29.42	
For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0077 EA 36" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	239.07	43.37
For Spring Activated Horizontal Mount Operation, Add	24.46	
For Dynamic Damper, Add	58.71	
For 3 Hour Rated, Add	32.62	
For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0078 EA 36" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	261.56	47.40
For Spring Activated Horizontal Mount Operation, Add	26.86	
For Dynamic Damper, Add	64.45	
For 3 Hour Rated, Add	35.81	
For Cap Of Damper Blades Outside Air Stream, Add	29.84	
23 33 13 16-0079 EA 36" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	222.46	48.94
For Spring Activated Horizontal Mount Operation, Add	16.99	
For Dynamic Damper, Add	40.78	
For 3 Hour Rated, Add	22.66	
For Cap Of Damper Blades Outside Air Stream, Add	18.88	
23 33 13 16-0080 EA 36" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	306.81	52.50
For Spring Activated Horizontal Mount Operation, Add	33.57	
For Dynamic Damper, Add	80.57	
For 3 Hour Rated, Add	44.76	
For Cap Of Damper Blades Outside Air Stream, Add	37.30	
23 33 13 16-0081 EA 36" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	330.02	55.22
For Spring Activated Horizontal Mount Operation, Add	36.93	
For Dynamic Damper, Add	88.62	
For 3 Hour Rated, Add	49.24	
For Cap Of Damper Blades Outside Air Stream, Add	41.03	
23 33 13 16-0082 EA 36" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	353.00	57.23
For Spring Activated Horizontal Mount Operation, Add	40.76	
For Dynamic Damper, Add	97.83	
For 3 Hour Rated, Add	54.35	
For Cap Of Damper Blades Outside Air Stream, Add	45.29	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0083	EA		40" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	161.81	29.63
			For Spring Activated Horizontal Mount Operation, Add	17.74	
			For Dynamic Damper, Add	42.58	
			For 3 Hour Rated, Add	23.66	
			For Cap Of Damper Blades Outside Air Stream, Add	19.72	
23 33 13 16-0084	EA		40" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	176.25	31.52
			For Spring Activated Horizontal Mount Operation, Add	19.66	
			For Dynamic Damper, Add	47.19	
			For 3 Hour Rated, Add	26.21	
			For Cap Of Damper Blades Outside Air Stream, Add	21.85	
23 33 13 16-0085	EA		40" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	184.32	35.53
			For Spring Activated Horizontal Mount Operation, Add	20.14	
			For Dynamic Damper, Add	48.34	
			For 3 Hour Rated, Add	26.86	
			For Cap Of Damper Blades Outside Air Stream, Add	22.38	
23 33 13 16-0086	EA		40" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	192.37	35.55
			For Spring Activated Horizontal Mount Operation, Add	20.62	
			For Dynamic Damper, Add	49.49	
			For 3 Hour Rated, Add	27.50	
			For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0087	EA		40" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	211.69	37.45
			For Spring Activated Horizontal Mount Operation, Add	22.30	
			For Dynamic Damper, Add	53.52	
			For 3 Hour Rated, Add	29.74	
			For Cap Of Damper Blades Outside Air Stream, Add	24.78	
23 33 13 16-0088	EA		40" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
			For Spring Activated Horizontal Mount Operation, Add	23.98	
			For Dynamic Damper, Add	57.56	
			For 3 Hour Rated, Add	31.98	
			For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0089	EA		40" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	251.39	45.38
			For Spring Activated Horizontal Mount Operation, Add	25.90	
			For Dynamic Damper, Add	62.16	
			For 3 Hour Rated, Add	34.53	
			For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0090	EA		40" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	271.77	49.30
			For Spring Activated Horizontal Mount Operation, Add	27.82	
			For Dynamic Damper, Add	66.77	
			For 3 Hour Rated, Add	37.09	
			For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0091	EA		40" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	294.03	52.50
			For Spring Activated Horizontal Mount Operation, Add	30.70	
			For Dynamic Damper, Add	73.67	
			For 3 Hour Rated, Add	40.93	
			For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0092	EA		40" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	325.77	55.22
			For Spring Activated Horizontal Mount Operation, Add	35.97	
			For Dynamic Damper, Add	86.33	
			For 3 Hour Rated, Add	47.96	
			For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0093	EA		40" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	348.03	58.42
			For Spring Activated Horizontal Mount Operation, Add	38.85	
			For Dynamic Damper, Add	93.23	
			For 3 Hour Rated, Add	51.80	
			For Cap Of Damper Blades Outside Air Stream, Add	43.16	
23 33 13 16-0094	EA		40" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	376.23	59.96
			For Spring Activated Horizontal Mount Operation, Add	44.12	
			For Dynamic Damper, Add	105.90	
			For 3 Hour Rated, Add	58.83	
			For Cap Of Damper Blades Outside Air Stream, Add	49.03	
23 33 13 16-0095	EA		40" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	407.03	63.16
			For Spring Activated Horizontal Mount Operation, Add	48.92	
			For Dynamic Damper, Add	117.41	
			For 3 Hour Rated, Add	65.23	
			For Cap Of Damper Blades Outside Air Stream, Add	54.36	
23 33 13 16-0096	EA		44" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	172.00	29.63
			For Spring Activated Horizontal Mount Operation, Add	18.70	
			For Dynamic Damper, Add	44.89	
			For 3 Hour Rated, Add	24.94	
			For Cap Of Damper Blades Outside Air Stream, Add	20.78	
23 33 13 16-0097	EA		44" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	186.45	31.52
			For Spring Activated Horizontal Mount Operation, Add	20.62	
			For Dynamic Damper, Add	49.49	
			For 3 Hour Rated, Add	27.50	
			For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0098	EA		44" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.78	33.53
			For Spring Activated Horizontal Mount Operation, Add	22.06	
			For Dynamic Damper, Add	52.95	
			For 3 Hour Rated, Add	29.42	
			For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0099	EA		44" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
			For Spring Activated Horizontal Mount Operation, Add	22.55	
			For Dynamic Damper, Add	54.11	
			For 3 Hour Rated, Add	30.06	
			For Cap Of Damper Blades Outside Air Stream, Add	25.05	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0100	EA		44" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	221.29	37.45
			For Spring Activated Horizontal Mount Operation, Add	24.46	
			For Dynamic Damper, Add	58.71	
			For 3 Hour Rated, Add	32.62	
			For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0101	EA		44" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	235.75	39.46
			For Spring Activated Horizontal Mount Operation, Add	26.38	
			For Dynamic Damper, Add	63.32	
			For 3 Hour Rated, Add	35.18	
			For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0102	EA		44" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	270.11	47.40
			For Spring Activated Horizontal Mount Operation, Add	28.78	
			For Dynamic Damper, Add	69.07	
			For 3 Hour Rated, Add	38.37	
			For Cap Of Damper Blades Outside Air Stream, Add	31.98	
23 33 13 16-0103	EA		44" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	292.60	51.31
			For Spring Activated Horizontal Mount Operation, Add	31.17	
			For Dynamic Damper, Add	74.82	
			For 3 Hour Rated, Add	41.57	
			For Cap Of Damper Blades Outside Air Stream, Add	34.64	
23 33 13 16-0104	EA		44" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	325.77	55.22
			For Spring Activated Horizontal Mount Operation, Add	35.97	
			For Dynamic Damper, Add	86.33	
			For 3 Hour Rated, Add	47.96	
			For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0105	EA		44" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	356.81	59.25
			For Spring Activated Horizontal Mount Operation, Add	40.29	
			For Dynamic Damper, Add	96.69	
			For 3 Hour Rated, Add	53.72	
			For Cap Of Damper Blades Outside Air Stream, Add	44.77	
23 33 13 16-0106	EA		44" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	389.96	63.16
			For Spring Activated Horizontal Mount Operation, Add	45.08	
			For Dynamic Damper, Add	108.19	
			For 3 Hour Rated, Add	60.11	
			For Cap Of Damper Blades Outside Air Stream, Add	50.09	
23 33 13 16-0107	EA		44" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	415.07	65.05
			For Spring Activated Horizontal Mount Operation, Add	49.40	
			For Dynamic Damper, Add	118.55	
			For 3 Hour Rated, Add	65.86	
			For Cap Of Damper Blades Outside Air Stream, Add	54.89	
23 33 13 16-0108	EA		44" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	440.19	67.07
			For Spring Activated Horizontal Mount Operation, Add	53.71	
			For Dynamic Damper, Add	128.91	
			For 3 Hour Rated, Add	71.62	
			For Cap Of Damper Blades Outside Air Stream, Add	59.68	
23 33 13 16-0109	EA		44" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	465.31	69.08
			For Spring Activated Horizontal Mount Operation, Add	58.03	
			For Dynamic Damper, Add	139.28	
			For 3 Hour Rated, Add	77.38	
			For Cap Of Damper Blades Outside Air Stream, Add	64.48	
23 33 13 16-0110	EA		48" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	184.32	31.52
			For Spring Activated Horizontal Mount Operation, Add	20.14	
			For Dynamic Damper, Add	48.34	
			For 3 Hour Rated, Add	26.86	
			For Cap Of Damper Blades Outside Air Stream, Add	22.38	
23 33 13 16-0111	EA		48" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.78	33.53
			For Spring Activated Horizontal Mount Operation, Add	22.06	
			For Dynamic Damper, Add	52.95	
			For 3 Hour Rated, Add	29.42	
			For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0112	EA		48" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
			For Spring Activated Horizontal Mount Operation, Add	22.55	
			For Dynamic Damper, Add	54.11	
			For 3 Hour Rated, Add	30.06	
			For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0113	EA		48" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
			For Spring Activated Horizontal Mount Operation, Add	23.98	
			For Dynamic Damper, Add	57.56	
			For 3 Hour Rated, Add	31.98	
			For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0114	EA		48" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	245.46	43.37
			For Spring Activated Horizontal Mount Operation, Add	25.90	
			For Dynamic Damper, Add	62.16	
			For 3 Hour Rated, Add	34.53	
			For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0115	EA		48" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	265.84	47.40
			For Spring Activated Horizontal Mount Operation, Add	27.82	
			For Dynamic Damper, Add	66.77	
			For 3 Hour Rated, Add	37.09	
			For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0116	EA		48" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	290.48	51.31
			For Spring Activated Horizontal Mount Operation, Add	30.70	
			For Dynamic Damper, Add	73.67	
			For 3 Hour Rated, Add	40.93	
			For Cap Of Damper Blades Outside Air Stream, Add	34.11	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0117	EA		48" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	315.11	55.22
			For Spring Activated Horizontal Mount Operation, Add	33.57	
			For Dynamic Damper, Add	80.57	
			For 3 Hour Rated, Add	44.76	
			For Cap Of Damper Blades Outside Air Stream, Add	37.30	
23 33 13 16-0118	EA		48" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	346.15	59.25
			For Spring Activated Horizontal Mount Operation, Add	37.89	
			For Dynamic Damper, Add	90.94	
			For 3 Hour Rated, Add	50.52	
			For Cap Of Damper Blades Outside Air Stream, Add	42.10	
23 33 13 16-0119	EA		48" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	381.43	63.16
			For Spring Activated Horizontal Mount Operation, Add	43.16	
			For Dynamic Damper, Add	103.59	
			For 3 Hour Rated, Add	57.55	
			For Cap Of Damper Blades Outside Air Stream, Add	47.96	
23 33 13 16-0120	EA		48" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	406.57	65.05
			For Spring Activated Horizontal Mount Operation, Add	47.48	
			For Dynamic Damper, Add	113.95	
			For 3 Hour Rated, Add	63.31	
			For Cap Of Damper Blades Outside Air Stream, Add	52.76	
23 33 13 16-0121	EA		48" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	438.05	67.07
			For Spring Activated Horizontal Mount Operation, Add	53.23	
			For Dynamic Damper, Add	127.76	
			For 3 Hour Rated, Add	70.98	
			For Cap Of Damper Blades Outside Air Stream, Add	59.15	
23 33 13 16-0122	EA		48" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	469.11	70.98
			For Spring Activated Horizontal Mount Operation, Add	57.56	
			For Dynamic Damper, Add	138.13	
			For 3 Hour Rated, Add	76.74	
			For Cap Of Damper Blades Outside Air Stream, Add	63.95	
23 33 13 16-0123	EA		48" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	500.60	73.00
			For Spring Activated Horizontal Mount Operation, Add	63.31	
			For Dynamic Damper, Add	151.94	
			For 3 Hour Rated, Add	84.41	
			For Cap Of Damper Blades Outside Air Stream, Add	70.34	
23 33 13 16-0124	EA		48" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	535.42	78.92
			For Spring Activated Horizontal Mount Operation, Add	67.14	
			For Dynamic Damper, Add	161.15	
			For 3 Hour Rated, Add	89.53	
			For Cap Of Damper Blades Outside Air Stream, Add	74.61	
23 33 13 16-0125	EA		52" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	196.65	33.53
			For Spring Activated Horizontal Mount Operation, Add	21.58	
			For Dynamic Damper, Add	51.80	
			For 3 Hour Rated, Add	28.78	
			For Cap Of Damper Blades Outside Air Stream, Add	23.98	
23 33 13 16-0126	EA		52" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	211.10	35.55
			For Spring Activated Horizontal Mount Operation, Add	23.50	
			For Dynamic Damper, Add	56.40	
			For 3 Hour Rated, Add	31.34	
			For Cap Of Damper Blades Outside Air Stream, Add	26.11	
23 33 13 16-0127	EA		52" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	231.48	39.46
			For Spring Activated Horizontal Mount Operation, Add	25.42	
			For Dynamic Damper, Add	61.01	
			For 3 Hour Rated, Add	33.89	
			For Cap Of Damper Blades Outside Air Stream, Add	28.25	
23 33 13 16-0128	EA		52" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	245.46	43.37
			For Spring Activated Horizontal Mount Operation, Add	25.90	
			For Dynamic Damper, Add	62.16	
			For 3 Hour Rated, Add	34.53	
			For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0129	EA		52" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	266.91	47.40
			For Spring Activated Horizontal Mount Operation, Add	28.06	
			For Dynamic Damper, Add	67.34	
			For 3 Hour Rated, Add	37.41	
			For Cap Of Damper Blades Outside Air Stream, Add	31.18	
23 33 13 16-0130	EA		52" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	288.35	51.31
			For Spring Activated Horizontal Mount Operation, Add	30.22	
			For Dynamic Damper, Add	72.52	
			For 3 Hour Rated, Add	40.29	
			For Cap Of Damper Blades Outside Air Stream, Add	33.58	
23 33 13 16-0131	EA		52" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	312.99	55.22
			For Spring Activated Horizontal Mount Operation, Add	33.10	
			For Dynamic Damper, Add	79.43	
			For 3 Hour Rated, Add	44.13	
			For Cap Of Damper Blades Outside Air Stream, Add	36.77	
23 33 13 16-0132	EA		52" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	337.62	59.25
			For Spring Activated Horizontal Mount Operation, Add	35.97	
			For Dynamic Damper, Add	86.33	
			For 3 Hour Rated, Add	47.96	
			For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0133	EA		52" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	368.66	63.16
			For Spring Activated Horizontal Mount Operation, Add	40.29	
			For Dynamic Damper, Add	96.69	
			For 3 Hour Rated, Add	53.72	
			For Cap Of Damper Blades Outside Air Stream, Add	44.77	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0134	EA	52" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	406.09	67.07
		For Spring Activated Horizontal Mount Operation, Add	46.04	
		For Dynamic Damper, Add	110.50	
		For 3 Hour Rated, Add	61.39	
		For Cap Of Damper Blades Outside Air Stream, Add	51.16	
23 33 13 16-0135	EA	52" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	433.31	69.08
		For Spring Activated Horizontal Mount Operation, Add	50.83	
		For Dynamic Damper, Add	122.00	
		For 3 Hour Rated, Add	67.78	
		For Cap Of Damper Blades Outside Air Stream, Add	56.48	
23 33 13 16-0136	EA	52" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	466.97	70.98
		For Spring Activated Horizontal Mount Operation, Add	57.07	
		For Dynamic Damper, Add	136.98	
		For 3 Hour Rated, Add	76.10	
		For Cap Of Damper Blades Outside Air Stream, Add	63.42	
23 33 13 16-0137	EA	52" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	504.38	75.01
		For Spring Activated Horizontal Mount Operation, Add	62.82	
		For Dynamic Damper, Add	150.78	
		For 3 Hour Rated, Add	83.77	
		For Cap Of Damper Blades Outside Air Stream, Add	69.81	
23 33 13 16-0138	EA	52" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	535.42	78.92
		For Spring Activated Horizontal Mount Operation, Add	67.14	
		For Dynamic Damper, Add	161.15	
		For 3 Hour Rated, Add	89.53	
		For Cap Of Damper Blades Outside Air Stream, Add	74.61	
23 33 13 16-0139	EA	52" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	578.77	84.85
		For Spring Activated Horizontal Mount Operation, Add	72.90	
		For Dynamic Damper, Add	174.96	
		For 3 Hour Rated, Add	97.20	
		For Cap Of Damper Blades Outside Air Stream, Add	81.00	
23 33 13 16-0140	EA	52" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	611.95	88.75
		For Spring Activated Horizontal Mount Operation, Add	77.70	
		For Dynamic Damper, Add	186.47	
		For 3 Hour Rated, Add	103.60	
		For Cap Of Damper Blades Outside Air Stream, Add	86.33	
23 33 13 16-0141	EA	56" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
		For Spring Activated Horizontal Mount Operation, Add	22.55	
		For Dynamic Damper, Add	54.11	
		For 3 Hour Rated, Add	30.06	
		For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0142	EA	56" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	229.34	39.46
		For Spring Activated Horizontal Mount Operation, Add	24.94	
		For Dynamic Damper, Add	59.85	
		For 3 Hour Rated, Add	33.25	
		For Cap Of Damper Blades Outside Air Stream, Add	27.71	
23 33 13 16-0143	EA	56" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	247.60	43.37
		For Spring Activated Horizontal Mount Operation, Add	26.38	
		For Dynamic Damper, Add	63.32	
		For 3 Hour Rated, Add	35.18	
		For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0144	EA	56" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	261.56	47.40
		For Spring Activated Horizontal Mount Operation, Add	26.86	
		For Dynamic Damper, Add	64.45	
		For 3 Hour Rated, Add	35.81	
		For Cap Of Damper Blades Outside Air Stream, Add	29.84	
23 33 13 16-0145	EA	56" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	285.15	51.31
		For Spring Activated Horizontal Mount Operation, Add	29.50	
		For Dynamic Damper, Add	70.79	
		For 3 Hour Rated, Add	39.33	
		For Cap Of Damper Blades Outside Air Stream, Add	32.78	
23 33 13 16-0146	EA	56" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	308.72	55.22
		For Spring Activated Horizontal Mount Operation, Add	32.13	
		For Dynamic Damper, Add	77.12	
		For 3 Hour Rated, Add	42.85	
		For Cap Of Damper Blades Outside Air Stream, Add	35.71	
23 33 13 16-0147	EA	56" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	332.29	59.25
		For Spring Activated Horizontal Mount Operation, Add	34.77	
		For Dynamic Damper, Add	83.45	
		For 3 Hour Rated, Add	46.36	
		For Cap Of Damper Blades Outside Air Stream, Add	38.64	
23 33 13 16-0148	EA	56" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	355.86	63.16
		For Spring Activated Horizontal Mount Operation, Add	37.41	
		For Dynamic Damper, Add	89.78	
		For 3 Hour Rated, Add	49.88	
		For Cap Of Damper Blades Outside Air Stream, Add	41.57	
23 33 13 16-0149	EA	56" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	393.29	67.07
		For Spring Activated Horizontal Mount Operation, Add	43.16	
		For Dynamic Damper, Add	103.59	
		For 3 Hour Rated, Add	57.55	
		For Cap Of Damper Blades Outside Air Stream, Add	47.96	
23 33 13 16-0150	EA	56" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	424.81	69.08
		For Spring Activated Horizontal Mount Operation, Add	48.92	
		For Dynamic Damper, Add	117.41	
		For 3 Hour Rated, Add	65.23	
		For Cap Of Damper Blades Outside Air Stream, Add	54.36	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0151	EA		56" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	454.18	70.98
			For Spring Activated Horizontal Mount Operation, Add	54.20	
			For Dynamic Damper, Add	130.07	
			For 3 Hour Rated, Add	72.26	
			For Cap Of Damper Blades Outside Air Stream, Add	60.22	
23 33 13 16-0152	EA		56" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	495.87	75.01
			For Spring Activated Horizontal Mount Operation, Add	60.91	
			For Dynamic Damper, Add	146.18	
			For 3 Hour Rated, Add	81.21	
			For Cap Of Damper Blades Outside Air Stream, Add	67.68	
23 33 13 16-0153	EA		56" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	533.29	78.92
			For Spring Activated Horizontal Mount Operation, Add	66.67	
			For Dynamic Damper, Add	160.00	
			For 3 Hour Rated, Add	88.89	
			For Cap Of Damper Blades Outside Air Stream, Add	74.07	
23 33 13 16-0154	EA		56" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	572.85	82.83
			For Spring Activated Horizontal Mount Operation, Add	72.90	
			For Dynamic Damper, Add	174.96	
			For 3 Hour Rated, Add	97.20	
			For Cap Of Damper Blades Outside Air Stream, Add	81.00	
23 33 13 16-0155	EA		56" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	606.02	86.86
			For Spring Activated Horizontal Mount Operation, Add	77.70	
			For Dynamic Damper, Add	186.47	
			For 3 Hour Rated, Add	103.60	
			For Cap Of Damper Blades Outside Air Stream, Add	86.33	
23 33 13 16-0156	EA		56" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	645.58	90.78
			For Spring Activated Horizontal Mount Operation, Add	83.93	
			For Dynamic Damper, Add	201.44	
			For 3 Hour Rated, Add	111.91	
			For Cap Of Damper Blades Outside Air Stream, Add	93.26	
23 33 13 16-0157	EA		56" x 56" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	685.14	94.68
			For Spring Activated Horizontal Mount Operation, Add	90.17	
			For Dynamic Damper, Add	216.40	
			For 3 Hour Rated, Add	120.22	
			For Cap Of Damper Blades Outside Air Stream, Add	100.19	
23 33 13 16-0158	EA		60" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
			For Spring Activated Horizontal Mount Operation, Add	23.98	
			For Dynamic Damper, Add	57.56	
			For 3 Hour Rated, Add	31.98	
			For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0159	EA		60" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	247.60	43.37
			For Spring Activated Horizontal Mount Operation, Add	26.38	
			For Dynamic Damper, Add	63.32	
			For 3 Hour Rated, Add	35.18	
			For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0160	EA		60" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	263.70	47.40
			For Spring Activated Horizontal Mount Operation, Add	27.34	
			For Dynamic Damper, Add	65.61	
			For 3 Hour Rated, Add	36.45	
			For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0161	EA		60" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	277.69	51.31
			For Spring Activated Horizontal Mount Operation, Add	27.82	
			For Dynamic Damper, Add	66.77	
			For 3 Hour Rated, Add	37.09	
			For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0162	EA		60" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	302.33	55.22
			For Spring Activated Horizontal Mount Operation, Add	30.70	
			For Dynamic Damper, Add	73.67	
			For 3 Hour Rated, Add	40.93	
			For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0163	EA		60" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	326.96	59.25
			For Spring Activated Horizontal Mount Operation, Add	33.57	
			For Dynamic Damper, Add	80.57	
			For 3 Hour Rated, Add	44.76	
			For Cap Of Damper Blades Outside Air Stream, Add	37.30	
23 33 13 16-0164	EA		60" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	352.67	63.16
			For Spring Activated Horizontal Mount Operation, Add	36.69	
			For Dynamic Damper, Add	88.06	
			For 3 Hour Rated, Add	48.92	
			For Cap Of Damper Blades Outside Air Stream, Add	40.77	
23 33 13 16-0165	EA		60" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	378.38	67.07
			For Spring Activated Horizontal Mount Operation, Add	39.81	
			For Dynamic Damper, Add	95.54	
			For 3 Hour Rated, Add	53.08	
			For Cap Of Damper Blades Outside Air Stream, Add	44.23	
23 33 13 16-0166	EA		60" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	412.01	69.08
			For Spring Activated Horizontal Mount Operation, Add	46.04	
			For Dynamic Damper, Add	110.50	
			For 3 Hour Rated, Add	61.39	
			For Cap Of Damper Blades Outside Air Stream, Add	51.16	
23 33 13 16-0167	EA		60" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	443.51	70.98
			For Spring Activated Horizontal Mount Operation, Add	51.80	
			For Dynamic Damper, Add	124.31	
			For 3 Hour Rated, Add	69.06	
			For Cap Of Damper Blades Outside Air Stream, Add	57.55	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0168	EA		60" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	483.09	75.01
			For Spring Activated Horizontal Mount Operation, Add	58.03	
			For Dynamic Damper, Add	139.28	
			For 3 Hour Rated, Add	77.38	
			For Cap Of Damper Blades Outside Air Stream, Add	64.48	
23 33 13 16-0169	EA		60" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	522.64	78.92
			For Spring Activated Horizontal Mount Operation, Add	64.27	
			For Dynamic Damper, Add	154.25	
			For 3 Hour Rated, Add	85.69	
			For Cap Of Damper Blades Outside Air Stream, Add	71.41	
23 33 13 16-0170	EA		60" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	555.80	82.83
			For Spring Activated Horizontal Mount Operation, Add	69.06	
			For Dynamic Damper, Add	165.75	
			For 3 Hour Rated, Add	92.09	
			For Cap Of Damper Blades Outside Air Stream, Add	76.74	
23 33 13 16-0171	EA		60" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	601.74	86.86
			For Spring Activated Horizontal Mount Operation, Add	76.73	
			For Dynamic Damper, Add	184.16	
			For 3 Hour Rated, Add	102.31	
			For Cap Of Damper Blades Outside Air Stream, Add	85.26	
23 33 13 16-0172	EA		60" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	643.44	90.78
			For Spring Activated Horizontal Mount Operation, Add	83.45	
			For Dynamic Damper, Add	200.28	
			For 3 Hour Rated, Add	111.27	
			For Cap Of Damper Blades Outside Air Stream, Add	92.72	
23 33 13 16-0173	EA		60" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	685.14	94.68
			For Spring Activated Horizontal Mount Operation, Add	90.17	
			For Dynamic Damper, Add	216.40	
			For 3 Hour Rated, Add	120.22	
			For Cap Of Damper Blades Outside Air Stream, Add	100.19	
23 33 13 16-0174	EA		60" x 56" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	722.54	98.71
			For Spring Activated Horizontal Mount Operation, Add	95.92	
			For Dynamic Damper, Add	230.20	
			For 3 Hour Rated, Add	127.89	
			For Cap Of Damper Blades Outside Air Stream, Add	106.57	
23 33 13 16-0175	EA		60" x 60" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	760.00	102.63
			For Spring Activated Horizontal Mount Operation, Add	101.68	
			For Dynamic Damper, Add	244.03	
			For 3 Hour Rated, Add	135.57	
			For Cap Of Damper Blades Outside Air Stream, Add	112.98	
23 33 13 16-0176			Parallel Blade Louver Fire Damper (23 33 13 16)		
			Note: UL listed. 22 gauge galvanized steel construction with fusible link 160 F spring actuated 1-1/2 hour fire rating.		
23 33 13 16-0177	EA		6" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	101.22	13.16
			For Spring Activated Horizontal Mount Operation, Add	13.90	
			For Dynamic Damper, Add	33.35	
			For 3 Hour Rated, Add	18.53	
23 33 13 16-0178	EA		8" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	105.64	13.74
			For Spring Activated Horizontal Mount Operation, Add	14.49	
			For Dynamic Damper, Add	34.78	
			For 3 Hour Rated, Add	19.32	
23 33 13 16-0179	EA		8" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.55	13.86
			For Spring Activated Horizontal Mount Operation, Add	15.09	
			For Dynamic Damper, Add	36.22	
			For 3 Hour Rated, Add	20.12	
23 33 13 16-0180	EA		10" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.55	13.86
			For Spring Activated Horizontal Mount Operation, Add	15.09	
			For Dynamic Damper, Add	36.22	
			For 3 Hour Rated, Add	20.12	
23 33 13 16-0181	EA		10" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	112.42	14.23
			For Spring Activated Horizontal Mount Operation, Add	15.69	
			For Dynamic Damper, Add	37.67	
			For 3 Hour Rated, Add	20.93	
23 33 13 16-0182	EA		10" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	122.46	15.77
			For Spring Activated Horizontal Mount Operation, Add	16.89	
			For Dynamic Damper, Add	40.53	
			For 3 Hour Rated, Add	22.52	
23 33 13 16-0183	EA		12" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	112.42	14.23
			For Spring Activated Horizontal Mount Operation, Add	15.69	
			For Dynamic Damper, Add	37.67	
			For 3 Hour Rated, Add	20.93	
23 33 13 16-0184	EA		12" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	120.09	15.05
			For Spring Activated Horizontal Mount Operation, Add	16.89	
			For Dynamic Damper, Add	40.53	
			For 3 Hour Rated, Add	22.52	
23 33 13 16-0185	EA		12" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	125.13	15.77
			For Spring Activated Horizontal Mount Operation, Add	17.49	
			For Dynamic Damper, Add	41.97	
			For 3 Hour Rated, Add	23.32	
23 33 13 16-0186	EA		12" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	133.74	17.78
			For Spring Activated Horizontal Mount Operation, Add	18.09	
			For Dynamic Damper, Add	43.42	
			For 3 Hour Rated, Add	24.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 16-0187	EA	14" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	118.77	15.05
		For Spring Activated Horizontal Mount Operation, Add	16.59	
		For Dynamic Damper, Add	39.62	
		For 3 Hour Rated, Add	22.12	
23 33 13 16-0188	EA	14" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	125.13	15.77
		For Spring Activated Horizontal Mount Operation, Add	17.49	
		For Dynamic Damper, Add	41.97	
		For 3 Hour Rated, Add	23.32	
23 33 13 16-0189	EA	14" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	130.18	16.59
		For Spring Activated Horizontal Mount Operation, Add	18.09	
		For Dynamic Damper, Add	43.42	
		For 3 Hour Rated, Add	24.12	
23 33 13 16-0190	EA	14" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	136.39	17.78
		For Spring Activated Horizontal Mount Operation, Add	18.69	
		For Dynamic Damper, Add	44.85	
		For 3 Hour Rated, Add	24.92	
23 33 13 16-0191	EA	14" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	148.98	19.79
		For Spring Activated Horizontal Mount Operation, Add	20.19	
		For Dynamic Damper, Add	48.45	
		For 3 Hour Rated, Add	26.92	
23 33 13 16-0192	EA	16" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	155.97	15.77
		For Spring Activated Horizontal Mount Operation, Add	24.43	
		For Dynamic Damper, Add	58.63	
		For 3 Hour Rated, Add	32.57	
23 33 13 16-0193	EA	16" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	162.51	16.94
		For Spring Activated Horizontal Mount Operation, Add	25.10	
		For Dynamic Damper, Add	60.24	
		For 3 Hour Rated, Add	33.47	
23 33 13 16-0194	EA	16" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	170.25	18.60
		For Spring Activated Horizontal Mount Operation, Add	25.78	
		For Dynamic Damper, Add	61.86	
		For 3 Hour Rated, Add	34.37	
23 33 13 16-0195	EA	16" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	176.77	19.79
		For Spring Activated Horizontal Mount Operation, Add	26.44	
		For Dynamic Damper, Add	63.46	
		For 3 Hour Rated, Add	35.26	
23 33 13 16-0196	EA	16" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	190.18	21.68
		For Spring Activated Horizontal Mount Operation, Add	28.13	
		For Dynamic Damper, Add	67.50	
		For 3 Hour Rated, Add	37.50	
23 33 13 16-0197	EA	16" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	203.58	23.70
		For Spring Activated Horizontal Mount Operation, Add	29.81	
		For Dynamic Damper, Add	71.53	
		For 3 Hour Rated, Add	39.74	
23 33 13 16-0198	EA	18" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	161.33	16.59
		For Spring Activated Horizontal Mount Operation, Add	25.10	
		For Dynamic Damper, Add	60.24	
		For 3 Hour Rated, Add	33.47	
23 33 13 16-0199	EA	18" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	169.37	17.78
		For Spring Activated Horizontal Mount Operation, Add	26.11	
		For Dynamic Damper, Add	62.66	
		For 3 Hour Rated, Add	34.81	
23 33 13 16-0200	EA	18" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	179.79	19.79
		For Spring Activated Horizontal Mount Operation, Add	27.12	
		For Dynamic Damper, Add	65.09	
		For 3 Hour Rated, Add	36.16	
23 33 13 16-0201	EA	18" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	193.17	21.68
		For Spring Activated Horizontal Mount Operation, Add	28.80	
		For Dynamic Damper, Add	69.11	
		For 3 Hour Rated, Add	38.40	
23 33 13 16-0202	EA	18" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	205.06	23.70
		For Spring Activated Horizontal Mount Operation, Add	30.14	
		For Dynamic Damper, Add	72.33	
		For 3 Hour Rated, Add	40.19	
23 33 13 16-0203	EA	18" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	218.44	25.60
		For Spring Activated Horizontal Mount Operation, Add	31.62	
		For Dynamic Damper, Add	76.37	
		For 3 Hour Rated, Add	42.43	
23 33 13 16-0204	EA	18" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	228.83	27.61
		For Spring Activated Horizontal Mount Operation, Add	32.82	
		For Dynamic Damper, Add	78.78	
		For 3 Hour Rated, Add	43.76	
23 33 13 16-0205	EA	20" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	167.89	17.78
		For Spring Activated Horizontal Mount Operation, Add	25.78	
		For Dynamic Damper, Add	61.86	
		For 3 Hour Rated, Add	34.37	
23 33 13 16-0206	EA	20" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	179.76	19.79
		For Spring Activated Horizontal Mount Operation, Add	27.11	
		For Dynamic Damper, Add	65.08	
		For 3 Hour Rated, Add	36.15	
23 33 13 16-0207	EA	20" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	191.67	21.68
		For Spring Activated Horizontal Mount Operation, Add	28.46	
		For Dynamic Damper, Add	68.30	
		For 3 Hour Rated, Add	37.95	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0208	EA	20" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	209.56	23.70
		For Spring Activated Horizontal Mount Operation, Add	31.15	
		For Dynamic Damper, Add	74.76	
		For 3 Hour Rated, Add	41.54	
23 33 13 16-0209	EA	20" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	219.94	25.60
		For Spring Activated Horizontal Mount Operation, Add	32.16	
		For Dynamic Damper, Add	77.18	
		For 3 Hour Rated, Add	42.88	
23 33 13 16-0210	EA	20" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	230.33	27.61
		For Spring Activated Horizontal Mount Operation, Add	33.16	
		For Dynamic Damper, Add	79.59	
		For 3 Hour Rated, Add	44.21	
23 33 13 16-0211	EA	20" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.22	29.63
		For Spring Activated Horizontal Mount Operation, Add	34.50	
		For Dynamic Damper, Add	82.81	
		For 3 Hour Rated, Add	46.01	
23 33 13 16-0212	EA	20" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	254.10	31.52
		For Spring Activated Horizontal Mount Operation, Add	35.84	
		For Dynamic Damper, Add	86.02	
		For 3 Hour Rated, Add	47.79	
23 33 13 16-0213	EA	24" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	207.21	19.79
		For Spring Activated Horizontal Mount Operation, Add	33.29	
		For Dynamic Damper, Add	79.90	
		For 3 Hour Rated, Add	44.39	
23 33 13 16-0214	EA	24" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	222.10	21.68
		For Spring Activated Horizontal Mount Operation, Add	35.31	
		For Dynamic Damper, Add	84.74	
		For 3 Hour Rated, Add	47.08	
23 33 13 16-0215	EA	24" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	234.01	23.70
		For Spring Activated Horizontal Mount Operation, Add	36.65	
		For Dynamic Damper, Add	87.97	
		For 3 Hour Rated, Add	48.87	
23 33 13 16-0216	EA	24" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	248.85	25.60
		For Spring Activated Horizontal Mount Operation, Add	38.66	
		For Dynamic Damper, Add	92.79	
		For 3 Hour Rated, Add	51.55	
23 33 13 16-0217	EA	24" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	259.27	27.61
		For Spring Activated Horizontal Mount Operation, Add	39.67	
		For Dynamic Damper, Add	95.21	
		For 3 Hour Rated, Add	52.90	
23 33 13 16-0218	EA	24" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	269.65	29.63
		For Spring Activated Horizontal Mount Operation, Add	40.68	
		For Dynamic Damper, Add	97.62	
		For 3 Hour Rated, Add	54.23	
23 33 13 16-0219	EA	24" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	284.53	31.52
		For Spring Activated Horizontal Mount Operation, Add	42.69	
		For Dynamic Damper, Add	102.45	
		For 3 Hour Rated, Add	56.92	
23 33 13 16-0220	EA	24" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	305.33	35.55
		For Spring Activated Horizontal Mount Operation, Add	44.70	
		For Dynamic Damper, Add	107.29	
		For 3 Hour Rated, Add	59.60	
23 33 13 16-0221	EA	24" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	329.13	39.46
		For Spring Activated Horizontal Mount Operation, Add	47.39	
		For Dynamic Damper, Add	113.74	
		For 3 Hour Rated, Add	63.19	
23 33 13 16-0222	EA	28" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	222.10	21.68
		For Spring Activated Horizontal Mount Operation, Add	35.31	
		For Dynamic Damper, Add	84.74	
		For 3 Hour Rated, Add	47.08	
23 33 13 16-0223	EA	28" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	234.01	23.70
		For Spring Activated Horizontal Mount Operation, Add	36.65	
		For Dynamic Damper, Add	87.97	
		For 3 Hour Rated, Add	48.87	
23 33 13 16-0224	EA	28" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	248.85	25.60
		For Spring Activated Horizontal Mount Operation, Add	38.66	
		For Dynamic Damper, Add	92.79	
		For 3 Hour Rated, Add	51.55	
23 33 13 16-0225	EA	28" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.75	27.61
		For Spring Activated Horizontal Mount Operation, Add	40.01	
		For Dynamic Damper, Add	96.01	
		For 3 Hour Rated, Add	53.34	
23 33 13 16-0226	EA	28" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	274.14	29.63
		For Spring Activated Horizontal Mount Operation, Add	41.69	
		For Dynamic Damper, Add	100.05	
		For 3 Hour Rated, Add	55.58	
23 33 13 16-0227	EA	28" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	287.50	31.52
		For Spring Activated Horizontal Mount Operation, Add	43.36	
		For Dynamic Damper, Add	104.06	
		For 3 Hour Rated, Add	57.81	
23 33 13 16-0228	EA	28" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	308.31	35.55
		For Spring Activated Horizontal Mount Operation, Add	45.37	
		For Dynamic Damper, Add	108.90	
		For 3 Hour Rated, Add	60.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0229	EA		28" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	329.13	39.46
			For Spring Activated Horizontal Mount Operation, Add	47.39	
			For Dynamic Damper, Add	113.74	
			For 3 Hour Rated, Add	63.19	
23 33 13 16-0230	EA		28" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	352.95	41.48
			For Spring Activated Horizontal Mount Operation, Add	51.42	
			For Dynamic Damper, Add	123.41	
			For 3 Hour Rated, Add	68.56	
23 33 13 16-0231	EA		28" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	379.74	45.38
			For Spring Activated Horizontal Mount Operation, Add	54.78	
			For Dynamic Damper, Add	131.47	
			For 3 Hour Rated, Add	73.04	
23 33 13 16-0232	EA		32" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.94	23.70
			For Spring Activated Horizontal Mount Operation, Add	38.66	
			For Dynamic Damper, Add	92.79	
			For 3 Hour Rated, Add	51.55	
23 33 13 16-0233	EA		32" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.82	25.60
			For Spring Activated Horizontal Mount Operation, Add	39.33	
			For Dynamic Damper, Add	94.39	
			For 3 Hour Rated, Add	52.44	
23 33 13 16-0234	EA		32" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.75	27.61
			For Spring Activated Horizontal Mount Operation, Add	40.01	
			For Dynamic Damper, Add	96.01	
			For 3 Hour Rated, Add	53.34	
23 33 13 16-0235	EA		32" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	272.62	29.63
			For Spring Activated Horizontal Mount Operation, Add	41.34	
			For Dynamic Damper, Add	99.23	
			For 3 Hour Rated, Add	55.13	
23 33 13 16-0236	EA		32" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	288.07	31.52
			For Spring Activated Horizontal Mount Operation, Add	43.49	
			For Dynamic Damper, Add	104.37	
			For 3 Hour Rated, Add	57.98	
23 33 13 16-0237	EA		32" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	308.31	35.55
			For Spring Activated Horizontal Mount Operation, Add	45.37	
			For Dynamic Damper, Add	108.90	
			For 3 Hour Rated, Add	60.50	
23 33 13 16-0238	EA		32" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	332.13	39.46
			For Spring Activated Horizontal Mount Operation, Add	48.07	
			For Dynamic Damper, Add	115.36	
			For 3 Hour Rated, Add	64.09	
23 33 13 16-0239	EA		32" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.91	43.37
			For Spring Activated Horizontal Mount Operation, Add	50.75	
			For Dynamic Damper, Add	121.80	
			For 3 Hour Rated, Add	67.67	
23 33 13 16-0240	EA		32" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	379.74	45.38
			For Spring Activated Horizontal Mount Operation, Add	54.78	
			For Dynamic Damper, Add	131.47	
			For 3 Hour Rated, Add	73.04	
23 33 13 16-0241	EA		32" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	410.10	48.58
			For Spring Activated Horizontal Mount Operation, Add	59.48	
			For Dynamic Damper, Add	142.75	
			For 3 Hour Rated, Add	79.31	
23 33 13 16-0242	EA		32" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	442.27	51.31
			For Spring Activated Horizontal Mount Operation, Add	64.85	
			For Dynamic Damper, Add	155.64	
			For 3 Hour Rated, Add	86.47	
23 33 13 16-0243	EA		36" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	273.16	25.60
			For Spring Activated Horizontal Mount Operation, Add	44.13	
			For Dynamic Damper, Add	105.92	
			For 3 Hour Rated, Add	58.84	
23 33 13 16-0244	EA		36" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	285.89	27.61
			For Spring Activated Horizontal Mount Operation, Add	45.66	
			For Dynamic Damper, Add	109.59	
			For 3 Hour Rated, Add	60.88	
23 33 13 16-0245	EA		36" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	298.62	29.63
			For Spring Activated Horizontal Mount Operation, Add	47.19	
			For Dynamic Damper, Add	113.27	
			For 3 Hour Rated, Add	62.93	
23 33 13 16-0246	EA		36" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	314.80	31.52
			For Spring Activated Horizontal Mount Operation, Add	49.50	
			For Dynamic Damper, Add	118.80	
			For 3 Hour Rated, Add	66.00	
23 33 13 16-0247	EA		36" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.79	35.55
			For Spring Activated Horizontal Mount Operation, Add	50.66	
			For Dynamic Damper, Add	121.58	
			For 3 Hour Rated, Add	67.54	
23 33 13 16-0248	EA		36" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.82	37.45
			For Spring Activated Horizontal Mount Operation, Add	51.81	
			For Dynamic Damper, Add	124.34	
			For 3 Hour Rated, Add	69.08	
23 33 13 16-0249	EA		36" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	377.65	43.37
			For Spring Activated Horizontal Mount Operation, Add	55.64	
			For Dynamic Damper, Add	133.54	
			For 3 Hour Rated, Add	74.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0250	EA	36" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.54	47.40
		For Spring Activated Horizontal Mount Operation, Add	59.48	
		For Dynamic Damper, Add	142.74	
		For 3 Hour Rated, Add	79.30	
23 33 13 16-0251	EA	36" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	431.75	48.94
		For Spring Activated Horizontal Mount Operation, Add	64.08	
		For Dynamic Damper, Add	153.80	
		For 3 Hour Rated, Add	85.44	
23 33 13 16-0252	EA	36" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.68	52.50
		For Spring Activated Horizontal Mount Operation, Add	70.22	
		For Dynamic Damper, Add	168.52	
		For 3 Hour Rated, Add	93.62	
23 33 13 16-0253	EA	36" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	501.84	55.22
		For Spring Activated Horizontal Mount Operation, Add	75.59	
		For Dynamic Damper, Add	181.41	
		For 3 Hour Rated, Add	100.78	
23 33 13 16-0254	EA	36" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	535.06	57.23
		For Spring Activated Horizontal Mount Operation, Add	81.73	
		For Dynamic Damper, Add	196.14	
		For 3 Hour Rated, Add	108.97	
23 33 13 16-0255	EA	40" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	306.93	29.63
		For Spring Activated Horizontal Mount Operation, Add	50.40	
		For Dynamic Damper, Add	120.95	
		For 3 Hour Rated, Add	67.19	
23 33 13 16-0256	EA	40" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	326.49	31.52
		For Spring Activated Horizontal Mount Operation, Add	53.46	
		For Dynamic Damper, Add	128.31	
		For 3 Hour Rated, Add	71.29	
23 33 13 16-0257	EA	40" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	335.83	33.53
		For Spring Activated Horizontal Mount Operation, Add	54.23	
		For Dynamic Damper, Add	130.16	
		For 3 Hour Rated, Add	72.31	
23 33 13 16-0258	EA	40" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	345.17	35.55
		For Spring Activated Horizontal Mount Operation, Add	55.00	
		For Dynamic Damper, Add	132.00	
		For 3 Hour Rated, Add	73.34	
23 33 13 16-0259	EA	40" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	368.97	37.45
		For Spring Activated Horizontal Mount Operation, Add	57.69	
		For Dynamic Damper, Add	138.46	
		For 3 Hour Rated, Add	76.92	
23 33 13 16-0260	EA	40" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.83	39.46
		For Spring Activated Horizontal Mount Operation, Add	60.37	
		For Dynamic Damper, Add	144.90	
		For 3 Hour Rated, Add	80.50	
23 33 13 16-0261	EA	40" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	418.25	45.38
		For Spring Activated Horizontal Mount Operation, Add	63.44	
		For Dynamic Damper, Add	152.26	
		For 3 Hour Rated, Add	84.59	
23 33 13 16-0262	EA	40" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	443.75	49.30
		For Spring Activated Horizontal Mount Operation, Add	66.51	
		For Dynamic Damper, Add	159.63	
		For 3 Hour Rated, Add	88.69	
23 33 13 16-0263	EA	40" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	473.69	52.50
		For Spring Activated Horizontal Mount Operation, Add	71.12	
		For Dynamic Damper, Add	170.69	
		For 3 Hour Rated, Add	94.83	
23 33 13 16-0264	EA	40" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	519.50	55.22
		For Spring Activated Horizontal Mount Operation, Add	79.56	
		For Dynamic Damper, Add	190.94	
		For 3 Hour Rated, Add	106.08	
23 33 13 16-0265	EA	40" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	549.42	58.42
		For Spring Activated Horizontal Mount Operation, Add	84.16	
		For Dynamic Damper, Add	201.98	
		For 3 Hour Rated, Add	112.21	
23 33 13 16-0266	EA	40" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	591.70	59.96
		For Spring Activated Horizontal Mount Operation, Add	92.61	
		For Dynamic Damper, Add	222.25	
		For 3 Hour Rated, Add	123.47	
23 33 13 16-0267	EA	40" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	635.27	63.16
		For Spring Activated Horizontal Mount Operation, Add	100.28	
		For Dynamic Damper, Add	240.66	
		For 3 Hour Rated, Add	133.70	
23 33 13 16-0268	EA	44" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	319.68	29.63
		For Spring Activated Horizontal Mount Operation, Add	51.93	
		For Dynamic Damper, Add	124.64	
		For 3 Hour Rated, Add	69.24	
23 33 13 16-0269	EA	44" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	339.25	31.52
		For Spring Activated Horizontal Mount Operation, Add	55.00	
		For Dynamic Damper, Add	132.00	
		For 3 Hour Rated, Add	73.34	
23 33 13 16-0270	EA	44" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.42	33.53
		For Spring Activated Horizontal Mount Operation, Add	57.31	
		For Dynamic Damper, Add	137.54	
		For 3 Hour Rated, Add	76.41	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 16-0271	EA	44" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0272	EA	44" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	384.32	37.45
		For Spring Activated Horizontal Mount Operation, Add	61.14	
		For Dynamic Damper, Add	146.75	
		For 3 Hour Rated, Add	81.53	
23 33 13 16-0273	EA	44" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	403.90	39.46
		For Spring Activated Horizontal Mount Operation, Add	64.22	
		For Dynamic Damper, Add	154.12	
		For 3 Hour Rated, Add	85.62	
23 33 13 16-0274	EA	44" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	444.65	47.40
		For Spring Activated Horizontal Mount Operation, Add	68.05	
		For Dynamic Damper, Add	163.32	
		For 3 Hour Rated, Add	90.74	
23 33 13 16-0275	EA	44" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	473.53	51.31
		For Spring Activated Horizontal Mount Operation, Add	71.88	
		For Dynamic Damper, Add	172.52	
		For 3 Hour Rated, Add	95.84	
23 33 13 16-0276	EA	44" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	519.50	55.22
		For Spring Activated Horizontal Mount Operation, Add	79.56	
		For Dynamic Damper, Add	190.94	
		For 3 Hour Rated, Add	106.08	
23 33 13 16-0277	EA	44" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	562.04	59.25
		For Spring Activated Horizontal Mount Operation, Add	86.47	
		For Dynamic Damper, Add	207.52	
		For 3 Hour Rated, Add	115.29	
23 33 13 16-0278	EA	44" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	607.97	63.16
		For Spring Activated Horizontal Mount Operation, Add	94.13	
		For Dynamic Damper, Add	225.92	
		For 3 Hour Rated, Add	125.51	
23 33 13 16-0279	EA	44" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	644.59	65.05
		For Spring Activated Horizontal Mount Operation, Add	101.04	
		For Dynamic Damper, Add	242.49	
		For 3 Hour Rated, Add	134.72	
23 33 13 16-0280	EA	44" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	681.23	67.07
		For Spring Activated Horizontal Mount Operation, Add	107.95	
		For Dynamic Damper, Add	259.08	
		For 3 Hour Rated, Add	143.93	
23 33 13 16-0281	EA	44" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	717.86	69.08
		For Spring Activated Horizontal Mount Operation, Add	114.86	
		For Dynamic Damper, Add	275.66	
		For 3 Hour Rated, Add	153.14	
23 33 13 16-0282	EA	48" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	335.83	31.52
		For Spring Activated Horizontal Mount Operation, Add	54.23	
		For Dynamic Damper, Add	130.16	
		For 3 Hour Rated, Add	72.31	
23 33 13 16-0283	EA	48" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.42	33.53
		For Spring Activated Horizontal Mount Operation, Add	57.31	
		For Dynamic Damper, Add	137.54	
		For 3 Hour Rated, Add	76.41	
23 33 13 16-0284	EA	48" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0285	EA	48" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.83	39.46
		For Spring Activated Horizontal Mount Operation, Add	60.37	
		For Dynamic Damper, Add	144.90	
		For 3 Hour Rated, Add	80.50	
23 33 13 16-0286	EA	48" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	412.32	43.37
		For Spring Activated Horizontal Mount Operation, Add	63.44	
		For Dynamic Damper, Add	152.26	
		For 3 Hour Rated, Add	84.59	
23 33 13 16-0287	EA	48" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	437.82	47.40
		For Spring Activated Horizontal Mount Operation, Add	66.51	
		For Dynamic Damper, Add	159.63	
		For 3 Hour Rated, Add	88.69	
23 33 13 16-0288	EA	48" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	470.14	51.31
		For Spring Activated Horizontal Mount Operation, Add	71.12	
		For Dynamic Damper, Add	170.69	
		For 3 Hour Rated, Add	94.83	
23 33 13 16-0289	EA	48" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	502.43	55.22
		For Spring Activated Horizontal Mount Operation, Add	75.72	
		For Dynamic Damper, Add	181.73	
		For 3 Hour Rated, Add	100.96	
23 33 13 16-0290	EA	48" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	544.99	59.25
		For Spring Activated Horizontal Mount Operation, Add	82.63	
		For Dynamic Damper, Add	198.31	
		For 3 Hour Rated, Add	110.17	
23 33 13 16-0291	EA	48" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.33	63.16
		For Spring Activated Horizontal Mount Operation, Add	91.06	
		For Dynamic Damper, Add	218.55	
		For 3 Hour Rated, Add	121.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0292	EA	48" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	630.98	65.05
		For Spring Activated Horizontal Mount Operation, Add	97.98	
		For Dynamic Damper, Add	235.14	
		For 3 Hour Rated, Add	130.64	
23 33 13 16-0293	EA	48" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	677.81	67.07
		For Spring Activated Horizontal Mount Operation, Add	107.18	
		For Dynamic Damper, Add	257.23	
		For 3 Hour Rated, Add	142.91	
23 33 13 16-0294	EA	48" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	720.39	70.98
		For Spring Activated Horizontal Mount Operation, Add	114.09	
		For Dynamic Damper, Add	273.82	
		For 3 Hour Rated, Add	152.12	
23 33 13 16-0295	EA	48" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	767.22	73.00
		For Spring Activated Horizontal Mount Operation, Add	123.30	
		For Dynamic Damper, Add	295.91	
		For 3 Hour Rated, Add	164.40	
23 33 13 16-0296	EA	48" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	812.28	78.92
		For Spring Activated Horizontal Mount Operation, Add	129.44	
		For Dynamic Damper, Add	310.65	
		For 3 Hour Rated, Add	172.58	
23 33 13 16-0297	EA	52" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	352.00	33.53
		For Spring Activated Horizontal Mount Operation, Add	56.54	
		For Dynamic Damper, Add	135.69	
		For 3 Hour Rated, Add	75.38	
23 33 13 16-0298	EA	52" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	371.57	35.55
		For Spring Activated Horizontal Mount Operation, Add	59.61	
		For Dynamic Damper, Add	143.06	
		For 3 Hour Rated, Add	79.48	
23 33 13 16-0299	EA	52" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	397.07	39.46
		For Spring Activated Horizontal Mount Operation, Add	62.68	
		For Dynamic Damper, Add	150.43	
		For 3 Hour Rated, Add	83.57	
23 33 13 16-0300	EA	52" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	412.32	43.37
		For Spring Activated Horizontal Mount Operation, Add	63.44	
		For Dynamic Damper, Add	152.26	
		For 3 Hour Rated, Add	84.59	
23 33 13 16-0301	EA	52" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	439.54	47.40
		For Spring Activated Horizontal Mount Operation, Add	66.90	
		For Dynamic Damper, Add	160.56	
		For 3 Hour Rated, Add	89.20	
23 33 13 16-0302	EA	52" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	466.72	51.31
		For Spring Activated Horizontal Mount Operation, Add	70.35	
		For Dynamic Damper, Add	168.84	
		For 3 Hour Rated, Add	93.80	
23 33 13 16-0303	EA	52" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	499.04	55.22
		For Spring Activated Horizontal Mount Operation, Add	74.96	
		For Dynamic Damper, Add	179.90	
		For 3 Hour Rated, Add	99.94	
23 33 13 16-0304	EA	52" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	531.35	59.25
		For Spring Activated Horizontal Mount Operation, Add	79.56	
		For Dynamic Damper, Add	190.94	
		For 3 Hour Rated, Add	106.08	
23 33 13 16-0305	EA	52" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	573.89	63.16
		For Spring Activated Horizontal Mount Operation, Add	86.47	
		For Dynamic Damper, Add	207.52	
		For 3 Hour Rated, Add	115.29	
23 33 13 16-0306	EA	52" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	626.66	67.07
		For Spring Activated Horizontal Mount Operation, Add	95.67	
		For Dynamic Damper, Add	229.61	
		For 3 Hour Rated, Add	127.56	
23 33 13 16-0307	EA	52" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	666.68	69.08
		For Spring Activated Horizontal Mount Operation, Add	103.34	
		For Dynamic Damper, Add	248.02	
		For 3 Hour Rated, Add	137.79	
23 33 13 16-0308	EA	52" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	716.96	70.98
		For Spring Activated Horizontal Mount Operation, Add	113.32	
		For Dynamic Damper, Add	271.97	
		For 3 Hour Rated, Add	151.10	
23 33 13 16-0309	EA	52" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	769.71	75.01
		For Spring Activated Horizontal Mount Operation, Add	122.52	
		For Dynamic Damper, Add	294.06	
		For 3 Hour Rated, Add	163.37	
23 33 13 16-0310	EA	52" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	812.28	78.92
		For Spring Activated Horizontal Mount Operation, Add	129.44	
		For Dynamic Damper, Add	310.65	
		For 3 Hour Rated, Add	172.58	
23 33 13 16-0311	EA	52" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	870.96	84.85
		For Spring Activated Horizontal Mount Operation, Add	138.64	
		For Dynamic Damper, Add	332.74	
		For 3 Hour Rated, Add	184.86	
23 33 13 16-0312	EA	52" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	916.93	88.75
		For Spring Activated Horizontal Mount Operation, Add	146.32	
		For Dynamic Damper, Add	351.16	
		For 3 Hour Rated, Add	195.09	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

23

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 16-0313	EA	56" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0314	EA	56" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	393.64	39.46
		For Spring Activated Horizontal Mount Operation, Add	61.91	
		For Dynamic Damper, Add	148.58	
		For 3 Hour Rated, Add	82.54	
23 33 13 16-0315	EA	56" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	415.75	43.37
		For Spring Activated Horizontal Mount Operation, Add	64.22	
		For Dynamic Damper, Add	154.12	
		For 3 Hour Rated, Add	85.62	
23 33 13 16-0316	EA	56" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	430.99	47.40
		For Spring Activated Horizontal Mount Operation, Add	64.98	
		For Dynamic Damper, Add	155.95	
		For 3 Hour Rated, Add	86.64	
23 33 13 16-0317	EA	56" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.61	51.31
		For Spring Activated Horizontal Mount Operation, Add	69.20	
		For Dynamic Damper, Add	166.08	
		For 3 Hour Rated, Add	92.27	
23 33 13 16-0318	EA	56" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	492.21	55.22
		For Spring Activated Horizontal Mount Operation, Add	73.42	
		For Dynamic Damper, Add	176.21	
		For 3 Hour Rated, Add	97.89	
23 33 13 16-0319	EA	56" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	522.82	59.25
		For Spring Activated Horizontal Mount Operation, Add	77.64	
		For Dynamic Damper, Add	186.34	
		For 3 Hour Rated, Add	103.52	
23 33 13 16-0320	EA	56" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	553.42	63.16
		For Spring Activated Horizontal Mount Operation, Add	81.86	
		For Dynamic Damper, Add	196.46	
		For 3 Hour Rated, Add	109.15	
23 33 13 16-0321	EA	56" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	606.19	67.07
		For Spring Activated Horizontal Mount Operation, Add	91.06	
		For Dynamic Damper, Add	218.55	
		For 3 Hour Rated, Add	121.42	
23 33 13 16-0322	EA	56" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	653.05	69.08
		For Spring Activated Horizontal Mount Operation, Add	100.28	
		For Dynamic Damper, Add	240.66	
		For 3 Hour Rated, Add	133.70	
23 33 13 16-0323	EA	56" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	696.49	70.98
		For Spring Activated Horizontal Mount Operation, Add	108.72	
		For Dynamic Damper, Add	260.92	
		For 3 Hour Rated, Add	144.95	
23 33 13 16-0324	EA	56" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	756.10	75.01
		For Spring Activated Horizontal Mount Operation, Add	119.46	
		For Dynamic Damper, Add	286.71	
		For 3 Hour Rated, Add	159.28	
23 33 13 16-0325	EA	56" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	808.85	78.92
		For Spring Activated Horizontal Mount Operation, Add	128.67	
		For Dynamic Damper, Add	308.80	
		For 3 Hour Rated, Add	171.56	
23 33 13 16-0326	EA	56" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	865.04	82.83
		For Spring Activated Horizontal Mount Operation, Add	138.64	
		For Dynamic Damper, Add	332.74	
		For 3 Hour Rated, Add	184.86	
23 33 13 16-0327	EA	56" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	911.00	86.86
		For Spring Activated Horizontal Mount Operation, Add	146.32	
		For Dynamic Damper, Add	351.16	
		For 3 Hour Rated, Add	195.09	
23 33 13 16-0328	EA	56" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	967.19	90.78
		For Spring Activated Horizontal Mount Operation, Add	156.29	
		For Dynamic Damper, Add	375.11	
		For 3 Hour Rated, Add	208.39	
23 33 13 16-0329	EA	56" x 56" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,023.38	94.68
		For Spring Activated Horizontal Mount Operation, Add	166.27	
		For Dynamic Damper, Add	399.05	
		For 3 Hour Rated, Add	221.69	
23 33 13 16-0330	EA	60" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.83	39.46
		For Spring Activated Horizontal Mount Operation, Add	60.37	
		For Dynamic Damper, Add	144.90	
		For 3 Hour Rated, Add	80.50	
23 33 13 16-0331	EA	60" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	415.75	43.37
		For Spring Activated Horizontal Mount Operation, Add	64.22	
		For Dynamic Damper, Add	154.12	
		For 3 Hour Rated, Add	85.62	
23 33 13 16-0332	EA	60" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	434.39	47.40
		For Spring Activated Horizontal Mount Operation, Add	65.74	
		For Dynamic Damper, Add	157.78	
		For 3 Hour Rated, Add	87.66	
23 33 13 16-0333	EA	60" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	449.67	51.31
		For Spring Activated Horizontal Mount Operation, Add	66.51	
		For Dynamic Damper, Add	159.63	
		For 3 Hour Rated, Add	88.69	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0334	EA	60" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	481.99	55.22
		For Spring Activated Horizontal Mount Operation, Add	71.12	
		For Dynamic Damper, Add	170.69	
		For 3 Hour Rated, Add	94.83	
23 33 13 16-0335	EA	60" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	514.28	59.25
		For Spring Activated Horizontal Mount Operation, Add	75.72	
		For Dynamic Damper, Add	181.73	
		For 3 Hour Rated, Add	100.96	
23 33 13 16-0336	EA	60" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	548.30	63.16
		For Spring Activated Horizontal Mount Operation, Add	80.71	
		For Dynamic Damper, Add	193.70	
		For 3 Hour Rated, Add	107.61	
23 33 13 16-0337	EA	60" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	582.33	67.07
		For Spring Activated Horizontal Mount Operation, Add	85.70	
		For Dynamic Damper, Add	205.67	
		For 3 Hour Rated, Add	114.26	
23 33 13 16-0338	EA	60" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	632.58	69.08
		For Spring Activated Horizontal Mount Operation, Add	95.67	
		For Dynamic Damper, Add	229.61	
		For 3 Hour Rated, Add	127.56	
23 33 13 16-0339	EA	60" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	679.44	70.98
		For Spring Activated Horizontal Mount Operation, Add	104.88	
		For Dynamic Damper, Add	251.71	
		For 3 Hour Rated, Add	139.84	
23 33 13 16-0340	EA	60" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	735.64	75.01
		For Spring Activated Horizontal Mount Operation, Add	114.86	
		For Dynamic Damper, Add	275.66	
		For 3 Hour Rated, Add	153.14	
23 33 13 16-0341	EA	60" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	791.82	78.92
		For Spring Activated Horizontal Mount Operation, Add	124.83	
		For Dynamic Damper, Add	299.60	
		For 3 Hour Rated, Add	166.45	
23 33 13 16-0342	EA	60" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	837.77	82.83
		For Spring Activated Horizontal Mount Operation, Add	132.51	
		For Dynamic Damper, Add	318.02	
		For 3 Hour Rated, Add	176.68	
23 33 13 16-0343	EA	60" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	904.18	86.86
		For Spring Activated Horizontal Mount Operation, Add	144.78	
		For Dynamic Damper, Add	347.48	
		For 3 Hour Rated, Add	193.04	
23 33 13 16-0344	EA	60" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	963.77	90.78
		For Spring Activated Horizontal Mount Operation, Add	155.52	
		For Dynamic Damper, Add	373.26	
		For 3 Hour Rated, Add	207.37	
23 33 13 16-0345	EA	60" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,023.38	94.68
		For Spring Activated Horizontal Mount Operation, Add	166.27	
		For Dynamic Damper, Add	399.05	
		For 3 Hour Rated, Add	221.69	
23 33 13 16-0346	EA	60" x 56" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,076.12	98.71
		For Spring Activated Horizontal Mount Operation, Add	175.47	
		For Dynamic Damper, Add	421.13	
		For 3 Hour Rated, Add	233.96	
23 33 13 16-0347	EA	60" x 60" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,128.94	102.63
		For Spring Activated Horizontal Mount Operation, Add	184.69	
		For Dynamic Damper, Add	443.25	
		For 3 Hour Rated, Add	246.25	
23 33 13 16-0348		Round 2 Hour Fire Damper (23 33 13 16)		
23 33 13 16-0349	EA	4" Round 2 Hour Fire Damper	126.52	23.70
23 33 13 16-0350	EA	5" Round 2 Hour Fire Damper	132.19	23.70
23 33 13 16-0351	EA	6" Round 2 Hour Fire Damper	155.65	26.90
23 33 13 16-0352	EA	7" Round 2 Hour Fire Damper	161.81	26.90
23 33 13 16-0353	EA	8" Round 2 Hour Fire Damper	194.94	29.63
23 33 13 16-0354	EA	9" Round 2 Hour Fire Damper	211.89	29.63
23 33 13 16-0355	EA	10" Round 2 Hour Fire Damper	235.47	32.94
23 33 13 16-0356	EA	12" Round 2 Hour Fire Damper	264.49	37.09
23 33 13 16-0357	EA	14" Round 2 Hour Fire Damper	300.54	42.30
23 33 13 16-0358		Round 4 Hour Fire Damper (23 33 13 16)		
23 33 13 16-0359	EA	4" Round 4 Hour Fire Damper	142.48	26.90
23 33 13 16-0360	EA	5" Round 4 Hour Fire Damper	157.92	26.90
23 33 13 16-0361	EA	6" Round 4 Hour Fire Damper	178.96	29.63
23 33 13 16-0362	EA	7" Round 4 Hour Fire Damper	198.88	29.63
23 33 13 16-0363	EA	8" Round 4 Hour Fire Damper	225.43	32.94
23 33 13 16-0364	EA	9" Round 4 Hour Fire Damper	237.57	32.94
23 33 13 16-0365	EA	10" Round 4 Hour Fire Damper	264.86	37.09
23 33 13 16-0366	EA	12" Round 4 Hour Fire Damper	292.82	42.30
23 33 13 16-0367	EA	14" Round 4 Hour Fire Damper	341.63	49.41

23 33 13 19 Smoke-Control Dampers (23 33 13)



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST		
23 33 13 19-0001 Combination Smoke/Fire Damper (23 33 13 19)					
Note: Leakage class I with Firestat UL 555S air foil blades.					
23 33 13 19-0002	EA	6" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	582.19		19.73
		For Dynamic Damper, Add	282.41		
		For 3 Hour Rated, Add	156.90		
23 33 13 19-0003	EA	8" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	597.60		20.62
		For Dynamic Damper, Add	289.31		
		For 3 Hour Rated, Add	160.73		
23 33 13 19-0004	EA	8" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	610.91		20.80
		For Dynamic Damper, Add	296.29		
		For 3 Hour Rated, Add	164.61		
23 33 13 19-0005	EA	10" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	576.77		20.80
		For Dynamic Damper, Add	277.86		
		For 3 Hour Rated, Add	154.37		
23 33 13 19-0006	EA	10" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	590.59		21.33
		For Dynamic Damper, Add	284.36		
		For 3 Hour Rated, Add	157.98		
23 33 13 19-0007	EA	10" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	621.88		23.64
		For Dynamic Damper, Add	297.42		
		For 3 Hour Rated, Add	165.23		
23 33 13 19-0008	EA	12" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	590.59		21.33
		For Dynamic Damper, Add	284.36		
		For 3 Hour Rated, Add	157.98		
23 33 13 19-0009	EA	12" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	618.31		22.57
		For Dynamic Damper, Add	297.42		
		For 3 Hour Rated, Add	165.23		
23 33 13 19-0010	EA	12" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	633.93		23.64
		For Dynamic Damper, Add	303.92		
		For 3 Hour Rated, Add	168.85		
23 33 13 19-0011	EA	12" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	654.93		26.66
		For Dynamic Damper, Add	310.47		
		For 3 Hour Rated, Add	172.49		
23 33 13 19-0012	EA	14" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	612.29		22.57
		For Dynamic Damper, Add	294.17		
		For 3 Hour Rated, Add	163.43		
23 33 13 19-0013	EA	14" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	633.93		23.64
		For Dynamic Damper, Add	303.92		
		For 3 Hour Rated, Add	168.85		
23 33 13 19-0014	EA	14" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	649.61		24.89
		For Dynamic Damper, Add	310.47		
		For 3 Hour Rated, Add	172.49		
23 33 13 19-0015	EA	14" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	667.06		26.66
		For Dynamic Damper, Add	317.02		
		For 3 Hour Rated, Add	176.12		
23 33 13 19-0016	EA	14" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	706.15		29.69
		For Dynamic Damper, Add	333.33		
		For 3 Hour Rated, Add	185.18		
23 33 13 19-0017	EA	16" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	692.26		23.64
		For Dynamic Damper, Add	335.42		
		For 3 Hour Rated, Add	186.35		
23 33 13 19-0018	EA	16" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	705.08		25.42
		For Dynamic Damper, Add	339.47		
		For 3 Hour Rated, Add	188.60		
23 33 13 19-0019	EA	16" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	719.69		27.91
		For Dynamic Damper, Add	343.52		
		For 3 Hour Rated, Add	190.85		
23 33 13 19-0020	EA	16" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	732.42		29.69
		For Dynamic Damper, Add	347.52		
		For 3 Hour Rated, Add	193.07		
23 33 13 19-0021	EA	16" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	760.03		32.53
		For Dynamic Damper, Add	357.63		
		For 3 Hour Rated, Add	198.68		
23 33 13 19-0022	EA	16" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	787.59		35.55
		For Dynamic Damper, Add	367.71		
		For 3 Hour Rated, Add	204.28		
23 33 13 19-0023	EA	18" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	703.31		24.89
		For Dynamic Damper, Add	339.47		
		For 3 Hour Rated, Add	188.60		
23 33 13 19-0024	EA	18" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	719.80		26.66
		For Dynamic Damper, Add	345.50		
		For 3 Hour Rated, Add	191.95		
23 33 13 19-0025	EA	18" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	739.97		29.69
		For Dynamic Damper, Add	351.59		
		For 3 Hour Rated, Add	195.33		
23 33 13 19-0026	EA	18" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	767.53		32.53
		For Dynamic Damper, Add	361.68		
		For 3 Hour Rated, Add	200.93		
23 33 13 19-0027	EA	18" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	791.32		35.55
		For Dynamic Damper, Add	369.72		
		For 3 Hour Rated, Add	205.40		
23 33 13 19-0028	EA	18" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	818.88		38.40
		For Dynamic Damper, Add	379.80		
		For 3 Hour Rated, Add	211.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0029	EA	18" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	838.99	41.42
		For Dynamic Damper, Add	385.87	
		For 3 Hour Rated, Add	214.37	
23 33 13 19-0030	EA	20" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	716.13	26.66
		For Dynamic Damper, Add	343.52	
		For 3 Hour Rated, Add	190.85	
23 33 13 19-0031	EA	20" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	739.92	29.69
		For Dynamic Damper, Add	351.57	
		For 3 Hour Rated, Add	195.32	
23 33 13 19-0032	EA	20" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	763.75	32.53
		For Dynamic Damper, Add	359.63	
		For 3 Hour Rated, Add	199.80	
23 33 13 19-0033	EA	20" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	802.59	35.55
		For Dynamic Damper, Add	375.81	
		For 3 Hour Rated, Add	208.78	
23 33 13 19-0034	EA	20" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	822.66	38.40
		For Dynamic Damper, Add	381.84	
		For 3 Hour Rated, Add	212.14	
23 33 13 19-0035	EA	20" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	842.71	41.42
		For Dynamic Damper, Add	387.88	
		For 3 Hour Rated, Add	215.49	
23 33 13 19-0036	EA	20" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	866.55	44.44
		For Dynamic Damper, Add	395.95	
		For 3 Hour Rated, Add	219.97	
23 33 13 19-0037	EA	20" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	890.34	47.29
		For Dynamic Damper, Add	404.00	
		For 3 Hour Rated, Add	224.44	
23 33 13 19-0038	EA	24" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	733.03	29.69
		For Dynamic Damper, Add	347.85	
		For 3 Hour Rated, Add	193.25	
23 33 13 19-0039	EA	24" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	757.03	32.53
		For Dynamic Damper, Add	356.01	
		For 3 Hour Rated, Add	197.78	
23 33 13 19-0040	EA	24" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	776.02	35.55
		For Dynamic Damper, Add	361.46	
		For 3 Hour Rated, Add	200.81	
23 33 13 19-0041	EA	24" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	799.97	38.40
		For Dynamic Damper, Add	369.59	
		For 3 Hour Rated, Add	205.33	
23 33 13 19-0042	EA	24" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	816.40	41.42
		For Dynamic Damper, Add	373.67	
		For 3 Hour Rated, Add	207.59	
23 33 13 19-0043	EA	24" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	832.82	44.44
		For Dynamic Damper, Add	377.74	
		For 3 Hour Rated, Add	209.85	
23 33 13 19-0044	EA	24" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	856.80	47.29
		For Dynamic Damper, Add	385.88	
		For 3 Hour Rated, Add	214.38	
23 33 13 19-0045	EA	24" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	889.66	53.33
		For Dynamic Damper, Add	394.03	
		For 3 Hour Rated, Add	218.90	
23 33 13 19-0046	EA	24" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	927.56	59.20
		For Dynamic Damper, Add	404.90	
		For 3 Hour Rated, Add	224.94	
23 33 13 19-0047	EA	28" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	757.03	32.53
		For Dynamic Damper, Add	356.01	
		For 3 Hour Rated, Add	197.78	
23 33 13 19-0048	EA	28" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	776.02	35.55
		For Dynamic Damper, Add	361.46	
		For 3 Hour Rated, Add	200.81	
23 33 13 19-0049	EA	28" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	799.97	38.40
		For Dynamic Damper, Add	369.59	
		For 3 Hour Rated, Add	205.33	
23 33 13 19-0050	EA	28" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	818.91	41.42
		For Dynamic Damper, Add	375.02	
		For 3 Hour Rated, Add	208.35	
23 33 13 19-0051	EA	28" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	840.38	44.44
		For Dynamic Damper, Add	381.82	
		For 3 Hour Rated, Add	212.12	
23 33 13 19-0052	EA	28" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	861.81	47.29
		For Dynamic Damper, Add	388.59	
		For 3 Hour Rated, Add	215.88	
23 33 13 19-0053	EA	28" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	894.68	53.33
		For Dynamic Damper, Add	396.74	
		For 3 Hour Rated, Add	220.41	
23 33 13 19-0054	EA	28" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	927.56	59.20
		For Dynamic Damper, Add	404.90	
		For 3 Hour Rated, Add	224.94	
23 33 13 19-0055	EA	28" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	966.62	62.22
		For Dynamic Damper, Add	421.19	
		For 3 Hour Rated, Add	233.99	
23 33 13 19-0056	EA	28" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,009.56	68.08
		For Dynamic Damper, Add	434.78	
		For 3 Hour Rated, Add	241.54	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0057	EA		32" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	791.08	35.55
			For Dynamic Damper, Add	369.59	
			For 3 Hour Rated, Add	205.33	
23 33 13 19-0058	EA		32" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	804.98	38.40
			For Dynamic Damper, Add	372.30	
			For 3 Hour Rated, Add	206.83	
23 33 13 19-0059	EA		32" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	818.91	41.42
			For Dynamic Damper, Add	375.02	
			For 3 Hour Rated, Add	208.35	
23 33 13 19-0060	EA		32" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	837.34	44.44
			For Dynamic Damper, Add	380.45	
			For 3 Hour Rated, Add	211.36	
23 33 13 19-0061	EA		32" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	862.75	47.29
			For Dynamic Damper, Add	389.10	
			For 3 Hour Rated, Add	216.17	
23 33 13 19-0062	EA		32" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	894.68	53.33
			For Dynamic Damper, Add	396.74	
			For 3 Hour Rated, Add	220.41	
23 33 13 19-0063	EA		32" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	932.62	59.20
			For Dynamic Damper, Add	407.63	
			For 3 Hour Rated, Add	226.46	
23 33 13 19-0064	EA		32" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	970.53	65.05
			For Dynamic Damper, Add	418.50	
			For 3 Hour Rated, Add	232.50	
23 33 13 19-0065	EA		32" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,009.56	68.08
			For Dynamic Damper, Add	434.78	
			For 3 Hour Rated, Add	241.54	
23 33 13 19-0066	EA		32" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,059.02	72.88
			For Dynamic Damper, Add	453.81	
			For 3 Hour Rated, Add	252.12	
23 33 13 19-0067	EA		32" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,111.66	76.96
			For Dynamic Damper, Add	475.52	
			For 3 Hour Rated, Add	264.18	
23 33 13 19-0068	EA		36" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	830.80	38.40
			For Dynamic Damper, Add	386.24	
			For 3 Hour Rated, Add	214.58	
23 33 13 19-0069	EA		36" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	850.59	41.42
			For Dynamic Damper, Add	392.13	
			For 3 Hour Rated, Add	217.85	
23 33 13 19-0070	EA		36" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	870.41	44.44
			For Dynamic Damper, Add	398.03	
			For 3 Hour Rated, Add	221.13	
23 33 13 19-0071	EA		36" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	895.73	47.29
			For Dynamic Damper, Add	406.91	
			For 3 Hour Rated, Add	226.06	
23 33 13 19-0072	EA		36" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	921.74	53.33
			For Dynamic Damper, Add	411.35	
			For 3 Hour Rated, Add	228.53	
23 33 13 19-0073	EA		36" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	938.82	56.17
			For Dynamic Damper, Add	415.77	
			For 3 Hour Rated, Add	230.99	
23 33 13 19-0074	EA		36" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	992.84	65.05
			For Dynamic Damper, Add	430.55	
			For 3 Hour Rated, Add	239.19	
23 33 13 19-0075	EA		36" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,037.91	71.11
			For Dynamic Damper, Add	445.28	
			For 3 Hour Rated, Add	247.38	
23 33 13 19-0076	EA		36" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,077.82	73.41
			For Dynamic Damper, Add	463.00	
			For 3 Hour Rated, Add	257.22	
23 33 13 19-0077	EA		36" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,137.57	78.75
			For Dynamic Damper, Add	486.63	
			For 3 Hour Rated, Add	270.35	
23 33 13 19-0078	EA		36" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,188.24	82.83
			For Dynamic Damper, Add	507.27	
			For 3 Hour Rated, Add	281.82	
23 33 13 19-0079	EA		36" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,240.88	85.85
			For Dynamic Damper, Add	530.90	
			For 3 Hour Rated, Add	294.94	
23 33 13 19-0080	EA		40" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,338.77	44.44
			For Dynamic Damper, Add	655.75	
			For 3 Hour Rated, Add	364.31	
23 33 13 19-0081	EA		40" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,376.97	47.29
			For Dynamic Damper, Add	671.58	
			For 3 Hour Rated, Add	373.10	
23 33 13 19-0082	EA		40" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,393.23	50.31
			For Dynamic Damper, Add	675.56	
			For 3 Hour Rated, Add	375.31	
23 33 13 19-0083	EA		40" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,409.48	53.33
			For Dynamic Damper, Add	679.53	
			For 3 Hour Rated, Add	377.52	
23 33 13 19-0084	EA		40" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,452.94	56.17
			For Dynamic Damper, Add	693.40	
			For 3 Hour Rated, Add	385.22	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0085	EA	40" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,487.55	59.20
		For Dynamic Damper, Add	707.29	
		For 3 Hour Rated, Add	392.94	
23 33 13 19-0086	EA	40" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,543.58	68.08
		For Dynamic Damper, Add	723.15	
		For 3 Hour Rated, Add	401.75	
23 33 13 19-0087	EA	40" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,590.67	73.94
		For Dynamic Damper, Add	738.98	
		For 3 Hour Rated, Add	410.54	
23 33 13 19-0088	EA	40" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,648.97	78.75
		For Dynamic Damper, Add	762.78	
		For 3 Hour Rated, Add	423.77	
23 33 13 19-0089	EA	40" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,742.09	82.83
		For Dynamic Damper, Add	806.35	
		For 3 Hour Rated, Add	447.97	
23 33 13 19-0090	EA	40" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,800.31	87.64
		For Dynamic Damper, Add	830.11	
		For 3 Hour Rated, Add	461.17	
23 33 13 19-0091	EA	40" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,888.20	89.94
		For Dynamic Damper, Add	873.73	
		For 3 Hour Rated, Add	485.40	
23 33 13 19-0092	EA	40" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,975.81	94.74
		For Dynamic Damper, Add	913.36	
		For 3 Hour Rated, Add	507.42	
23 33 13 19-0093	EA	44" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,362.34	44.44
		For Dynamic Damper, Add	663.68	
		For 3 Hour Rated, Add	368.71	
23 33 13 19-0094	EA	44" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,400.59	47.29
		For Dynamic Damper, Add	679.53	
		For 3 Hour Rated, Add	377.52	
23 33 13 19-0095	EA	44" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,431.52	50.31
		For Dynamic Damper, Add	691.43	
		For 3 Hour Rated, Add	384.13	
23 33 13 19-0096	EA	44" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,447.78	53.33
		For Dynamic Damper, Add	695.41	
		For 3 Hour Rated, Add	386.34	
23 33 13 19-0097	EA	44" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,486.03	56.17
		For Dynamic Damper, Add	711.27	
		For 3 Hour Rated, Add	395.15	
23 33 13 19-0098	EA	44" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,524.23	59.20
		For Dynamic Damper, Add	727.10	
		For 3 Hour Rated, Add	403.94	
23 33 13 19-0099	EA	44" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,596.51	71.11
		For Dynamic Damper, Add	746.93	
		For 3 Hour Rated, Add	414.96	
23 33 13 19-0100	EA	44" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,650.91	76.96
		For Dynamic Damper, Add	766.71	
		For 3 Hour Rated, Add	425.95	
23 33 13 19-0101	EA	44" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,742.09	82.83
		For Dynamic Damper, Add	806.35	
		For 3 Hour Rated, Add	447.97	
23 33 13 19-0102	EA	44" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,825.91	88.87
		For Dynamic Damper, Add	842.01	
		For 3 Hour Rated, Add	467.78	
23 33 13 19-0103	EA	44" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,917.04	94.74
		For Dynamic Damper, Add	881.63	
		For 3 Hour Rated, Add	489.79	
23 33 13 19-0104	EA	44" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,991.98	97.58
		For Dynamic Damper, Add	917.29	
		For 3 Hour Rated, Add	509.61	
23 33 13 19-0105	EA	44" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,066.95	100.61
		For Dynamic Damper, Add	952.98	
		For 3 Hour Rated, Add	529.43	
23 33 13 19-0106	EA	44" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,141.93	103.63
		For Dynamic Damper, Add	988.66	
		For 3 Hour Rated, Add	549.26	
23 33 13 19-0107	EA	48" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,393.23	47.29
		For Dynamic Damper, Add	675.56	
		For 3 Hour Rated, Add	375.31	
23 33 13 19-0108	EA	48" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,431.52	50.31
		For Dynamic Damper, Add	691.43	
		For 3 Hour Rated, Add	384.13	
23 33 13 19-0109	EA	48" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,447.78	53.33
		For Dynamic Damper, Add	695.41	
		For 3 Hour Rated, Add	386.34	
23 33 13 19-0110	EA	48" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,487.55	59.20
		For Dynamic Damper, Add	707.29	
		For 3 Hour Rated, Add	392.94	
23 33 13 19-0111	EA	48" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,534.69	65.05
		For Dynamic Damper, Add	723.15	
		For 3 Hour Rated, Add	401.75	
23 33 13 19-0112	EA	48" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,581.79	71.11
		For Dynamic Damper, Add	738.98	
		For 3 Hour Rated, Add	410.54	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR				TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	
23 33 13 19-0113	EA	48" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,643.63		76.96
		For Dynamic Damper, Add	762.78		
		For 3 Hour Rated, Add	423.77		
23 33 13 19-0114	EA	48" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,705.41		82.83
		For Dynamic Damper, Add	786.54		
		For 3 Hour Rated, Add	436.97		
23 33 13 19-0115	EA	48" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,789.23		88.87
		For Dynamic Damper, Add	822.20		
		For 3 Hour Rated, Add	456.78		
23 33 13 19-0116	EA	48" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,887.68		94.74
		For Dynamic Damper, Add	865.77		
		For 3 Hour Rated, Add	480.98		
23 33 13 19-0117	EA	48" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,962.70		97.58
		For Dynamic Damper, Add	901.48		
		For 3 Hour Rated, Add	500.82		
23 33 13 19-0118	EA	48" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,059.59		100.61
		For Dynamic Damper, Add	949.00		
		For 3 Hour Rated, Add	527.22		
23 33 13 19-0119	EA	48" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,143.45		106.47
		For Dynamic Damper, Add	984.69		
		For 3 Hour Rated, Add	547.05		
23 33 13 19-0120	EA	48" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,240.42		109.49
		For Dynamic Damper, Add	1,032.25		
		For 3 Hour Rated, Add	573.47		
23 33 13 19-0121	EA	48" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,325.77		118.38
		For Dynamic Damper, Add	1,063.94		
		For 3 Hour Rated, Add	591.08		
23 33 13 19-0122	EA	52" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,424.16		50.31
		For Dynamic Damper, Add	687.46		
		For 3 Hour Rated, Add	381.92		
23 33 13 19-0123	EA	52" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,462.41		53.33
		For Dynamic Damper, Add	703.31		
		For 3 Hour Rated, Add	390.73		
23 33 13 19-0124	EA	52" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,509.54		59.20
		For Dynamic Damper, Add	719.17		
		For 3 Hour Rated, Add	399.54		
23 33 13 19-0125	EA	52" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,534.69		65.05
		For Dynamic Damper, Add	723.15		
		For 3 Hour Rated, Add	401.75		
23 33 13 19-0126	EA	52" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,585.51		71.11
		For Dynamic Damper, Add	740.99		
		For 3 Hour Rated, Add	411.66		
23 33 13 19-0127	EA	52" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,636.27		76.96
		For Dynamic Damper, Add	758.81		
		For 3 Hour Rated, Add	421.56		
23 33 13 19-0128	EA	52" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,698.09		82.83
		For Dynamic Damper, Add	782.59		
		For 3 Hour Rated, Add	434.77		
23 33 13 19-0129	EA	52" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,759.87		88.87
		For Dynamic Damper, Add	806.35		
		For 3 Hour Rated, Add	447.97		
23 33 13 19-0130	EA	52" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,843.68		94.74
		For Dynamic Damper, Add	842.01		
		For 3 Hour Rated, Add	467.78		
23 33 13 19-0131	EA	52" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,949.55		100.61
		For Dynamic Damper, Add	889.58		
		For 3 Hour Rated, Add	494.21		
23 33 13 19-0132	EA	52" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,031.75		103.63
		For Dynamic Damper, Add	929.17		
		For 3 Hour Rated, Add	516.20		
23 33 13 19-0133	EA	52" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,136.13		106.47
		For Dynamic Damper, Add	980.74		
		For 3 Hour Rated, Add	544.85		
23 33 13 19-0134	EA	52" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,241.90		112.51
		For Dynamic Damper, Add	1,028.25		
		For 3 Hour Rated, Add	571.25		
23 33 13 19-0135	EA	52" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,325.77		118.38
		For Dynamic Damper, Add	1,063.94		
		For 3 Hour Rated, Add	591.08		
23 33 13 19-0136	EA	52" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,440.46		127.27
		For Dynamic Damper, Add	1,111.48		
		For 3 Hour Rated, Add	617.49		
23 33 13 19-0137	EA	52" x 52" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,531.65		133.14
		For Dynamic Damper, Add	1,151.12		
		For 3 Hour Rated, Add	639.51		
23 33 13 19-0138	EA	56" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,447.78		53.33
		For Dynamic Damper, Add	695.41		
		For 3 Hour Rated, Add	386.34		
23 33 13 19-0139	EA	56" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,502.18		59.20
		For Dynamic Damper, Add	715.19		
		For 3 Hour Rated, Add	397.33		
23 33 13 19-0140	EA	56" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,542.01		65.05
		For Dynamic Damper, Add	727.10		
		For 3 Hour Rated, Add	403.94		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0141	EA	56" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,567.10	71.11
		For Dynamic Damper, Add	731.05	
		For 3 Hour Rated, Add	406.14	
23 33 13 19-0142	EA	56" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,625.27	76.96
		For Dynamic Damper, Add	752.87	
		For 3 Hour Rated, Add	418.26	
23 33 13 19-0143	EA	56" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,683.41	82.83
		For Dynamic Damper, Add	774.66	
		For 3 Hour Rated, Add	430.37	
23 33 13 19-0144	EA	56" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,741.51	88.87
		For Dynamic Damper, Add	796.44	
		For 3 Hour Rated, Add	442.46	
23 33 13 19-0145	EA	56" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,799.64	94.74
		For Dynamic Damper, Add	818.23	
		For 3 Hour Rated, Add	454.57	
23 33 13 19-0146	EA	56" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,905.46	100.61
		For Dynamic Damper, Add	865.77	
		For 3 Hour Rated, Add	480.98	
23 33 13 19-0147	EA	56" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,002.48	103.63
		For Dynamic Damper, Add	913.36	
		For 3 Hour Rated, Add	507.42	
23 33 13 19-0148	EA	56" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,092.04	106.47
		For Dynamic Damper, Add	956.93	
		For 3 Hour Rated, Add	531.63	
23 33 13 19-0149	EA	56" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,212.59	112.51
		For Dynamic Damper, Add	1,012.42	
		For 3 Hour Rated, Add	562.46	
23 33 13 19-0150	EA	56" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,318.41	118.38
		For Dynamic Damper, Add	1,059.97	
		For 3 Hour Rated, Add	588.87	
23 33 13 19-0151	EA	56" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,431.58	124.25
		For Dynamic Damper, Add	1,111.48	
		For 3 Hour Rated, Add	617.49	
23 33 13 19-0152	EA	56" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,522.76	130.29
		For Dynamic Damper, Add	1,151.12	
		For 3 Hour Rated, Add	639.51	
23 33 13 19-0153	EA	56" x 52" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,635.94	136.16
		For Dynamic Damper, Add	1,202.64	
		For 3 Hour Rated, Add	668.13	
23 33 13 19-0154	EA	56" x 56" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,749.12	142.02
		For Dynamic Damper, Add	1,254.16	
		For 3 Hour Rated, Add	696.76	
23 33 13 19-0155	EA	60" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,487.55	59.20
		For Dynamic Damper, Add	707.29	
		For 3 Hour Rated, Add	392.94	
23 33 13 19-0156	EA	60" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,542.01	65.05
		For Dynamic Damper, Add	727.10	
		For 3 Hour Rated, Add	403.94	
23 33 13 19-0157	EA	60" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,574.47	71.11
		For Dynamic Damper, Add	735.03	
		For 3 Hour Rated, Add	408.35	
23 33 13 19-0158	EA	60" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,599.55	76.96
		For Dynamic Damper, Add	738.98	
		For 3 Hour Rated, Add	410.54	
23 33 13 19-0159	EA	60" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,661.41	82.83
		For Dynamic Damper, Add	762.78	
		For 3 Hour Rated, Add	423.77	
23 33 13 19-0160	EA	60" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,723.19	88.87
		For Dynamic Damper, Add	786.54	
		For 3 Hour Rated, Add	436.97	
23 33 13 19-0161	EA	60" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,788.64	94.74
		For Dynamic Damper, Add	812.29	
		For 3 Hour Rated, Add	451.27	
23 33 13 19-0162	EA	60" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,854.14	100.61
		For Dynamic Damper, Add	838.06	
		For 3 Hour Rated, Add	465.59	
23 33 13 19-0163	EA	60" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,958.44	103.63
		For Dynamic Damper, Add	889.58	
		For 3 Hour Rated, Add	494.21	
23 33 13 19-0164	EA	60" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,055.36	106.47
		For Dynamic Damper, Add	937.12	
		For 3 Hour Rated, Add	520.62	
23 33 13 19-0165	EA	60" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,168.59	112.51
		For Dynamic Damper, Add	988.66	
		For 3 Hour Rated, Add	549.26	
23 33 13 19-0166	EA	60" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,281.77	118.38
		For Dynamic Damper, Add	1,040.18	
		For 3 Hour Rated, Add	577.88	
23 33 13 19-0167	EA	60" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,372.90	124.25
		For Dynamic Damper, Add	1,079.79	
		For 3 Hour Rated, Add	599.89	
23 33 13 19-0168	EA	60" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,508.08	130.29
		For Dynamic Damper, Add	1,143.20	
		For 3 Hour Rated, Add	635.11	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST		
23 33 13 19-0169	EA	60" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	2,628.62 1,198.69 665.94		136.16
23 33 13 19-0170	EA	60" x 52" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	2,749.12 1,254.16 696.76		142.02
23 33 13 19-0171	EA	60" x 56" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	2,854.89 1,301.68 723.15		148.07
23 33 13 19-0172	EA	60" x 60" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	2,960.85 1,349.29 749.61		153.93
23 33 13 19-0173 Combination Smoke/Fire Damper (Ruskin FSD60) (23 33 13 19)					
Note: 1-1/2 hour rating, leakage class I with Firestat UL 555S air foil blades and actuator.					
23 33 13 19-0174	EA	6" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	830.15 308.36		19.79
23 33 13 19-0175	EA	8" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	851.56 315.88		20.62
23 33 13 19-0176	EA	8" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	870.99 323.51		20.86
23 33 13 19-0177	EA	10" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	912.31 340.04		20.86
23 33 13 19-0178	EA	10" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	933.98 348.00		21.33
23 33 13 19-0179	EA	10" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	981.04 363.97		23.70
23 33 13 19-0180	EA	11" x 11", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	995.98 368.15		25.12
23 33 13 19-0181	EA	12" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	916.85 341.14		21.33
23 33 13 19-0182	EA	12" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	959.57 356.81		22.63
23 33 13 19-0183	EA	12" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	982.65 364.62		23.70
23 33 13 19-0184	EA	12" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	1,010.81 372.33		26.66
23 33 13 19-0185	EA	14" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	916.67 339.65		22.63
23 33 13 19-0186	EA	14" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	948.42 350.92		23.70
23 33 13 19-0187	EA	14" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	970.87 358.48		24.89
23 33 13 19-0188	EA	14" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	995.09 366.04		26.66
23 33 13 19-0189	EA	14" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	1,051.06 384.88		29.74
23 33 13 19-0190	EA	16" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60) <i>For 3 Hour Rated, Add</i> Note: Includes acuator and PFMA mounting angles for 2 sides.	981.43 362.00		25.48

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0191	EA		16" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,007.99	27.97
			<i>For 3 Hour Rated, Add</i>	369.78	
23 33 13 19-0192	EA		16" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,032.76	29.74
			<i>For 3 Hour Rated, Add</i>	377.56	
23 33 13 19-0193	EA		16" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,069.11	32.59
			<i>For 3 Hour Rated, Add</i>	388.54	
23 33 13 19-0194	EA		16" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,102.43	35.55
			<i>For 3 Hour Rated, Add</i>	398.31	
23 33 13 19-0195	EA		16" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,260.32	44.44
			<i>For 3 Hour Rated, Add</i>	450.80	
23 33 13 19-0196	EA		18" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	984.98	26.66
			<i>For 3 Hour Rated, Add</i>	362.00	
23 33 13 19-0197	EA		18" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,020.06	29.74
			<i>For 3 Hour Rated, Add</i>	372.48	
23 33 13 19-0198	EA		18" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,055.14	32.59
			<i>For 3 Hour Rated, Add</i>	382.95	
23 33 13 19-0199	EA		18" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,088.47	35.55
			<i>For 3 Hour Rated, Add</i>	392.73	
23 33 13 19-0200	EA		18" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,121.80	38.40
			<i>For 3 Hour Rated, Add</i>	402.50	
23 33 13 19-0201	EA		18" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,155.12	41.48
			<i>For 3 Hour Rated, Add</i>	412.28	
23 33 13 19-0202	EA		20" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,054.23	29.74
			<i>For 3 Hour Rated, Add</i>	386.14	
23 33 13 19-0203	EA		20" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,090.21	32.59
			<i>For 3 Hour Rated, Add</i>	396.98	
23 33 13 19-0204	EA		20" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,126.20	35.55
			<i>For 3 Hour Rated, Add</i>	407.82	
23 33 13 19-0205	EA		20" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,162.18	38.40
			<i>For 3 Hour Rated, Add</i>	418.66	
23 33 13 19-0206	EA		20" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,200.62	41.48
			<i>For 3 Hour Rated, Add</i>	430.48	
23 33 13 19-0207	EA		20" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,231.92	44.44
			<i>For 3 Hour Rated, Add</i>	439.44	
23 33 13 19-0208	EA		20" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,263.12	47.29
			<i>For 3 Hour Rated, Add</i>	448.37	
23 33 13 19-0209	EA		20" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,335.60	53.33
			<i>For 3 Hour Rated, Add</i>	470.25	
23 33 13 19-0210	EA		22" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,101.48	34.01
			<i>For 3 Hour Rated, Add</i>	399.69	
23 33 13 19-0211	EA		22" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	1,138.71	36.98
			<i>For 3 Hour Rated, Add</i>	411.02	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0212	EA	22" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,175.93	39.94	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				422.36	
23 33 13 19-0213	EA	22" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,214.38	42.90	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				434.18	
23 33 13 19-0214	EA	22" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,246.27	45.86	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				443.38	
23 33 13 19-0215	EA	22" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,282.51	50.37	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				452.57	
23 33 13 19-0216	EA	22" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,305.85	52.97	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				458.73	
23 33 13 19-0217	EA	22" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,664.73	66.60	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				585.88	
23 33 13 19-0218	EA	22" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,934.90	70.74	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				688.97	
23 33 13 19-0219	EA	24" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,142.34	35.55	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				414.28	
23 33 13 19-0220	EA	24" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,181.67	38.40	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				426.45	
23 33 13 19-0221	EA	24" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,221.00	41.48	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				438.63	
23 33 13 19-0222	EA	24" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,260.32	44.44	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				450.80	
23 33 13 19-0223	EA	24" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,293.52	47.29	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				460.53	
23 33 13 19-0224	EA	24" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,335.60	53.33	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				470.25	
23 33 13 19-0225	EA	24" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,360.71	56.29	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				476.74	
23 33 13 19-0226	EA	24" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,385.80	59.25	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				483.22	
23 33 13 19-0227	EA	26" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,158.49	36.98	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				418.94	
23 33 13 19-0228	EA	26" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,194.02	39.94	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				429.59	
23 33 13 19-0229	EA	26" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,237.46	42.90	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				443.41	
23 33 13 19-0230	EA	26" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,281.03	45.86	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				457.28	
23 33 13 19-0231	EA	26" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,318.60	50.37	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				467.00	
23 33 13 19-0232	EA	26" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,360.71	56.29	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				476.74	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0233	EA		26" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,387.60	58.54
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	484.84	
23 33 13 19-0234	EA		26" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,414.63	60.68
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	492.95	
23 33 13 19-0235	EA		26" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,442.35	63.39
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	500.77	
23 33 13 19-0236	EA		28" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,259.49	38.40
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	457.58	
23 33 13 19-0237	EA		28" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,301.49	41.48
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	470.83	
23 33 13 19-0238	EA		28" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,347.83	44.44
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	485.81	
23 33 13 19-0239	EA		28" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,394.23	47.29
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	500.81	
23 33 13 19-0240	EA		28" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,433.85	53.33
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	509.55	
23 33 13 19-0241	EA		28" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,479.97	59.25
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	520.89	
23 33 13 19-0242	EA		28" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,508.43	60.68
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	530.47	
23 33 13 19-0243	EA		28" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,536.76	62.22
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	540.05	
23 33 13 19-0244	EA		28" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,569.24	65.18
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	549.48	
23 33 13 19-0245	EA		28" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,599.93	68.14
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	558.20	
23 33 13 19-0246	EA		28" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,372.31	78.81
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	854.36	
23 33 13 19-0247	EA		30" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,268.02	39.94
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	459.19	
23 33 13 19-0248	EA		30" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,314.15	42.90
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	474.09	
23 33 13 19-0249	EA		30" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,360.31	45.86
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	489.00	
23 33 13 19-0250	EA		30" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,410.87	50.37
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	503.91	
23 33 13 19-0251	EA		30" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,445.89	56.29
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	510.81	
23 33 13 19-0252	EA		30" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,493.88	62.10
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	522.90	
23 33 13 19-0253	EA		30" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,524.23	63.64
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	533.24	



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23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0275	EA		34" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,825.75	62.10
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	655.64	
23 33 13 19-0276	EA		34" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,893.62	68.14
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	675.68	
23 33 13 19-0277	EA		34" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,930.87	69.44
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	688.97	
23 33 13 19-0278	EA		34" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,968.14	70.74
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	702.27	
23 33 13 19-0279	EA		34" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,017.33	73.23
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	718.96	
23 33 13 19-0280	EA		34" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,066.62	75.84
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	735.64	
23 33 13 19-0281	EA		34" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,114.31	77.85
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	752.20	
23 33 13 19-0282	EA		34" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,161.89	79.87
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	768.77	
23 33 13 19-0283	EA		34" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,210.62	82.00
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	785.70	
23 33 13 19-0284	EA		34" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,062.73	84.37
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	723.75	
23 33 13 19-0285	EA		36" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,928.19	47.29
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	714.40	
23 33 13 19-0286	EA		36" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,965.47	53.33
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	722.20	
23 33 13 19-0287	EA		36" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,993.78	56.17
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	729.96	
23 33 13 19-0288	EA		36" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,085.29	65.05
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	755.90	
23 33 13 19-0289	EA		36" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,167.75	71.11
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	781.78	
23 33 13 19-0290	EA		36" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,210.19	72.28
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	797.33	
23 33 13 19-0291	EA		36" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,252.62	73.47
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	812.88	
23 33 13 19-0292	EA		36" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,312.53	76.08
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	833.62	
23 33 13 19-0293	EA		36" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,372.31	78.81
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	854.36	
23 33 13 19-0294	EA		36" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,423.90	80.82
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	872.48	
23 33 13 19-0295	EA		36" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,475.36	82.83
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	890.60	



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23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 33 13 19-0317	EA	40" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,418.71		87.69
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	862.26		
23 33 13 19-0318	EA	40" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,478.90		88.75
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	884.91		
23 33 13 19-0319	EA	40" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,539.09		89.94
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	907.56		
23 33 13 19-0320	EA	40" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,597.66		92.32
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	928.15		
23 33 13 19-0321	EA	40" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,656.24		94.80
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	948.74		
23 33 13 19-0322	EA	40" x 66", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,729.40		133.67
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	1,330.98		
23 33 13 19-0323	EA	42" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,117.67		69.56
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	763.50		
23 33 13 19-0324	EA	42" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,181.70		75.48
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	782.00		
23 33 13 19-0325	EA	42" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,230.82		78.09
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	798.48		
23 33 13 19-0326	EA	42" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,280.07		80.82
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	814.95		
23 33 13 19-0327	EA	42" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,338.96		83.31
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	835.52		
23 33 13 19-0328	EA	42" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,397.99		85.91
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	856.10		
23 33 13 19-0329	EA	42" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,447.19		88.52
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	872.56		
23 33 13 19-0330	EA	42" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,496.28		91.25
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	889.02		
23 33 13 19-0331	EA	42" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,551.77		92.43
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	909.60		
23 33 13 19-0332	EA	42" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,607.26		93.74
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	930.19		
23 33 13 19-0333	EA	42" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,661.86		95.75
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	949.75		
23 33 13 19-0334	EA	42" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,716.57		97.64
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	969.31		
23 33 13 19-0335	EA	42" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,772.40		99.66
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	989.27		
23 33 13 19-0336	EA	44" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,152.95		71.11
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	775.86		
23 33 13 19-0337	EA	44" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,222.08		77.02
		Note: Includes actuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	796.40		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0338	EA	44" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,282.44	79.87
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				816.99	
23 33 13 19-0339	EA	44" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,342.79	82.83
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				837.58	
23 33 13 19-0340	EA	44" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,397.99	85.91
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				856.10	
23 33 13 19-0341	EA	44" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,453.19	88.87
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				874.62	
23 33 13 19-0342	EA	44" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,513.50	91.83
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				895.20	
23 33 13 19-0343	EA	44" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,573.83	94.80
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				915.77	
23 33 13 19-0344	EA	44" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,624.63	96.22
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				934.29	
23 33 13 19-0345	EA	44" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,675.32	97.64
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				952.81	
23 33 13 19-0346	EA	44" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,726.17	99.06
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				971.35	
23 33 13 19-0347	EA	44" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,776.89	100.61
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				989.88	
23 33 13 19-0348	EA	44" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,827.73	102.15
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,008.42	
23 33 13 19-0349	EA	44" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,878.45	103.69
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,026.95	
23 33 13 19-0350	EA	46" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,182.42	74.07
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				784.09	
23 33 13 19-0351	EA	46" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,256.72	79.87
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				806.70	
23 33 13 19-0352	EA	46" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,314.50	82.83
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				826.26	
23 33 13 19-0353	EA	46" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,372.28	85.91
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				845.82	
23 33 13 19-0354	EA	46" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,432.60	88.87
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				866.39	
23 33 13 19-0355	EA	46" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,492.91	91.83
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				886.96	
23 33 13 19-0356	EA	46" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,548.46	93.97
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				906.52	
23 33 13 19-0357	EA	46" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,604.10	96.22
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				926.08	
23 33 13 19-0358	EA	46" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	.....	2,662.50	97.64
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				947.68	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0359	EA		46" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,721.00	99.06
			<i>For 3 Hour Rated, Add</i>	969.28	
23 33 13 19-0360	EA		46" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,773.98	101.32
			<i>For 3 Hour Rated, Add</i>	987.82	
23 33 13 19-0361	EA		46" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,826.95	103.57
			<i>For 3 Hour Rated, Add</i>	1,006.35	
23 33 13 19-0362	EA		46" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,885.50	105.11
			<i>For 3 Hour Rated, Add</i>	1,027.97	
23 33 13 19-0363	EA		46" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,943.93	106.53
			<i>For 3 Hour Rated, Add</i>	1,049.59	
23 33 13 19-0364	EA		46" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,003.62	108.07
			<i>For 3 Hour Rated, Add</i>	1,071.66	
23 33 13 19-0365	EA		48" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,211.89	77.02
			<i>For 3 Hour Rated, Add</i>	792.33	
23 33 13 19-0366	EA		48" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,291.36	82.83
			<i>For 3 Hour Rated, Add</i>	817.00	
23 33 13 19-0367	EA		48" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,346.55	85.91
			<i>For 3 Hour Rated, Add</i>	835.52	
23 33 13 19-0368	EA		48" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,401.75	88.87
			<i>For 3 Hour Rated, Add</i>	854.05	
23 33 13 19-0369	EA		48" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,467.20	91.83
			<i>For 3 Hour Rated, Add</i>	876.68	
23 33 13 19-0370	EA		48" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,532.65	94.80
			<i>For 3 Hour Rated, Add</i>	899.30	
23 33 13 19-0371	EA		48" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,583.52	96.22
			<i>For 3 Hour Rated, Add</i>	917.85	
23 33 13 19-0372	EA		48" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,634.28	97.64
			<i>For 3 Hour Rated, Add</i>	936.40	
23 33 13 19-0373	EA		48" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,700.47	99.06
			<i>For 3 Hour Rated, Add</i>	961.07	
23 33 13 19-0374	EA		48" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,766.56	100.61
			<i>For 3 Hour Rated, Add</i>	985.75	
23 33 13 19-0375	EA		48" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,821.79	103.57
			<i>For 3 Hour Rated, Add</i>	1,004.29	
23 33 13 19-0376	EA		48" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,877.01	106.53
			<i>For 3 Hour Rated, Add</i>	1,022.82	
23 33 13 19-0377	EA		48" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,943.28	107.95
			<i>For 3 Hour Rated, Add</i>	1,047.53	
23 33 13 19-0378	EA		48" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,009.42	109.49
			<i>For 3 Hour Rated, Add</i>	1,072.23	
23 33 13 19-0379	EA		48" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,063.95	114.00
			<i>For 3 Hour Rated, Add</i>	1,088.69	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST
23 33 13 19-0380	EA	48" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,118.38		118.38
23 33 13 19-0381	EA	48" x 54", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	1,105.15		
23 33 13 19-0382	EA	50" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,324.45		128.81
23 33 13 19-0383	EA	50" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	1,175.12		
23 33 13 19-0384	EA	50" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,325.97		85.91
23 33 13 19-0385	EA	50" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	827.29		
23 33 13 19-0386	EA	50" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,381.17		88.87
23 33 13 19-0387	EA	50" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	845.82		
23 33 13 19-0388	EA	50" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,436.35		91.83
23 33 13 19-0389	EA	50" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	864.34		
23 33 13 19-0390	EA	50" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,504.40		94.80
23 33 13 19-0391	EA	50" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	888.00		
23 33 13 19-0392	EA	50" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,572.46		97.64
23 33 13 19-0393	EA	50" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	911.67		
23 33 13 19-0394	EA	50" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,625.85		99.18
23 33 13 19-0395	EA	50" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	931.22		
23 33 13 19-0396	EA	50" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,679.11		100.61
23 33 13 19-0397	EA	50" x 50", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	950.77		
23 33 13 19-0398	EA	52" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,747.94		102.03
23 33 13 19-0399	EA	52" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	976.50		
23 33 13 19-0400	EA	52" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	2,816.66		103.57
			1,002.24		
			2,879.55		106.53
			1,023.84		
			2,942.46		109.49
			1,045.45		
			3,003.15		111.75
			1,067.07		
			3,063.95		114.00
			1,088.69		
			3,128.66		118.38
			1,109.26		
			3,193.50		122.88
			1,129.84		
			3,259.62		127.39
			1,150.79		
			2,360.57		88.87
			837.58		
			2,415.76		91.83
			856.10		
			2,470.96		94.80
			874.62		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0401	EA		52" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,541.61	97.64
			<i>For 3 Hour Rated, Add</i>	899.33	
23 33 13 19-0402	EA		52" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,612.25	100.61
			<i>For 3 Hour Rated, Add</i>	924.03	
23 33 13 19-0403	EA		52" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,668.16	102.15
			<i>For 3 Hour Rated, Add</i>	944.59	
23 33 13 19-0404	EA		52" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,723.96	103.69
			<i>For 3 Hour Rated, Add</i>	965.16	
23 33 13 19-0405	EA		52" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,795.41	105.11
			<i>For 3 Hour Rated, Add</i>	991.94	
23 33 13 19-0406	EA		52" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,866.75	106.53
			<i>For 3 Hour Rated, Add</i>	1,018.72	
23 33 13 19-0407	EA		52" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,937.33	109.49
			<i>For 3 Hour Rated, Add</i>	1,043.40	
23 33 13 19-0408	EA		52" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,007.92	112.57
			<i>For 3 Hour Rated, Add</i>	1,068.08	
23 33 13 19-0409	EA		52" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,063.14	115.42
			<i>For 3 Hour Rated, Add</i>	1,086.61	
23 33 13 19-0410	EA		52" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,118.38	118.38
			<i>For 3 Hour Rated, Add</i>	1,105.15	
23 33 13 19-0411	EA		52" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,193.50	122.88
			<i>For 3 Hour Rated, Add</i>	1,129.84	
23 33 13 19-0412	EA		52" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,268.49	127.27
			<i>For 3 Hour Rated, Add</i>	1,154.53	
23 33 13 19-0413	EA		52" x 50", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,328.84	130.23
			<i>For 3 Hour Rated, Add</i>	1,175.12	
23 33 13 19-0414	EA		52" x 52", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,389.20	133.20
			<i>For 3 Hour Rated, Add</i>	1,195.70	
23 33 13 19-0415	EA		52" x 56", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,982.23	136.16
			<i>For 3 Hour Rated, Add</i>	1,429.36	
23 33 13 19-0416	EA		54" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,510.69	97.64
			<i>For 3 Hour Rated, Add</i>	886.96	
23 33 13 19-0417	EA		54" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,579.10	99.90
			<i>For 3 Hour Rated, Add</i>	911.67	
23 33 13 19-0418	EA		54" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,647.63	102.15
			<i>For 3 Hour Rated, Add</i>	936.38	
23 33 13 19-0419	EA		54" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,706.01	103.57
			<i>For 3 Hour Rated, Add</i>	957.98	
23 33 13 19-0420	EA		54" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,764.50	105.11
			<i>For 3 Hour Rated, Add</i>	979.57	
23 33 13 19-0421	EA		54" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,840.63	107.25
			<i>For 3 Hour Rated, Add</i>	1,007.37	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0422	EA	54" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,916.78	109.49	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,035.18	
23 33 13 19-0423	EA	54" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,987.38	112.46	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,059.86	
23 33 13 19-0424	EA	54" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,057.99	115.42	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,084.55	
23 33 13 19-0425	EA	54" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,123.49	118.38	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,107.19	
23 33 13 19-0426	EA	54" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,189.00	121.34	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,129.84	
23 33 13 19-0427	EA	54" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,256.72	125.02	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,152.48	
23 33 13 19-0428	EA	54" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,324.45	128.81	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,175.12	
23 33 13 19-0429	EA	56" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,633.07	88.87	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				946.58	
23 33 13 19-0430	EA	56" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,715.60	94.80	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				972.48	
23 33 13 19-0431	EA	56" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,795.12	97.64	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,000.73	
23 33 13 19-0432	EA	56" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,874.64	100.61	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,028.98	
23 33 13 19-0433	EA	56" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,949.85	102.15	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,057.27	
23 33 13 19-0434	EA	56" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,024.93	103.69	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,085.54	
23 33 13 19-0435	EA	56" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,094.16	105.11	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,111.44	
23 33 13 19-0436	EA	56" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,163.26	106.53	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,137.32	
23 33 13 19-0437	EA	56" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,254.60	109.49	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,170.30	
23 33 13 19-0438	EA	56" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,345.93	112.57	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,203.28	
23 33 13 19-0439	EA	56" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,425.45	115.42	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,231.53	
23 33 13 19-0440	EA	56" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,504.98	118.38	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,259.79	
23 33 13 19-0441	EA	56" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,743.59	127.27	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,344.57	
23 33 13 19-0442	EA	56" x 52", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	3,982.23	136.16	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				1,429.36	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0443	EA		56" x 56", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,153.07	142.08
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,490.59	
23 33 13 19-0444	EA		56" x 72", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,890.73	164.36
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,759.10	
23 33 13 19-0445	EA		58" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,914.51	102.15
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,043.13	
23 33 13 19-0446	EA		58" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,989.56	103.57
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,071.40	
23 33 13 19-0447	EA		58" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,064.73	105.11
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,099.66	
23 33 13 19-0448	EA		58" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,142.02	107.25
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,127.93	
23 33 13 19-0449	EA		58" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,219.30	109.49
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,156.18	
23 33 13 19-0450	EA		58" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,307.69	112.46
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,187.98	
23 33 13 19-0451	EA		58" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,396.06	115.42
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,219.78	
23 33 13 19-0452	EA		58" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,469.69	118.38
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,245.67	
23 33 13 19-0453	EA		58" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,543.32	121.34
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,271.57	
23 33 13 19-0454	EA		58" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,637.56	124.31
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,305.71	
23 33 13 19-0455	EA		60" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,961.75	103.69
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,060.27	
23 33 13 19-0456	EA		60" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,037.08	105.11
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,088.60	
23 33 13 19-0457	EA		60" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,112.28	106.53
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,116.93	
23 33 13 19-0458	EA		60" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,197.97	109.49
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,147.65	
23 33 13 19-0459	EA		60" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,283.64	112.57
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,178.36	
23 33 13 19-0460	EA		60" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,369.29	115.42
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,209.07	
23 33 13 19-0461	EA		60" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,454.93	118.38
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,239.77	
23 33 13 19-0462	EA		60" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,522.85	121.34
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,263.38	
23 33 13 19-0463	EA		60" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,590.74	124.31
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	1,286.98	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR			DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM	UNIT COST		UNIT COST	
23 33 13 19-0464	EA	60" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,694.08 1,324.77	127.27	
23 33 13 19-0465	EA	60" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,797.42 1,362.55	130.35	
23 33 13 19-0466	EA	60" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,888.99 1,395.62	133.20	
23 33 13 19-0467	EA	60" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,980.55 1,428.69	136.16	
23 33 13 19-0468	EA	64" x 58", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,672.02 1,681.05	156.43	
23 33 13 19-0469	EA	66" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,174.21 1,137.72	109.97	
23 33 13 19-0470	EA	66" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,248.99 1,166.83	110.44	
23 33 13 19-0471	EA	66" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,323.67 1,195.94	111.03	
23 33 13 19-0472	EA	66" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,433.08 1,234.16	115.77	
23 33 13 19-0473	EA	66" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,542.62 1,272.43	120.52	
23 33 13 19-0474	EA	66" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,629.48 1,302.62	124.31	
23 33 13 19-0475	EA	66" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,716.39 1,332.84	127.99	
23 33 13 19-0476	EA	66" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,772.79 1,351.84	130.82	
23 33 13 19-0477	EA	66" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,829.21 1,370.90	133.67	
23 33 13 19-0478	EA	70" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	3,963.61 1,423.38	134.97	
23 33 13 19-0479	EA	70" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,011.56 1,439.10	137.70	
23 33 13 19-0480	EA	70" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,059.96 1,454.96	140.54	
23 33 13 19-0481	EA	70" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,227.73 1,518.56	143.62	
23 33 13 19-0482	EA	70" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,396.66 1,582.62	146.82	
23 33 13 19-0483	EA	70" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,525.35 1,632.34	148.13	
23 33 13 19-0484	EA	70" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. For 3 Hour Rated, Add	4,654.35 1,682.19	149.43	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0485	EA		72" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,424.73	116.61
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,229.92	
23 33 13 19-0486	EA		72" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,499.08	116.13
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,259.99	
23 33 13 19-0487	EA		72" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,573.56	115.77
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,290.07	
23 33 13 19-0488	EA		72" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,710.16	122.30
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,337.07	
23 33 13 19-0489	EA		72" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,847.59	129.05
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,384.22	
23 33 13 19-0490	EA		72" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,935.90	133.67
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,413.86	
23 33 13 19-0491	EA		72" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,024.36	138.41
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,443.56	
23 33 13 19-0492	EA		72" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,742.96	152.16
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,714.31	
23 33 13 19-0493	EA		72" x 60", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	5,384.89	170.88
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,948.90	
23 33 13 19-0494	EA		90" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	5,030.49	173.02
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,804.44	
23 33 13 19-0495			Smoke Damper (23 33 13 19)		
			Note: Leakage class I with Firestat UL 555S air foil blades.		
23 33 13 19-0496	EA		6" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	127.85	13.16
			For Dynamic Damper, Add	47.73	
			For 3 Hour Rated, Add	26.52	
23 33 13 19-0497	EA		8" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	131.85	13.74
			For Dynamic Damper, Add	48.93	
			For 3 Hour Rated, Add	27.18	
23 33 13 19-0498	EA		8" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	134.34	13.86
			For Dynamic Damper, Add	50.14	
			For 3 Hour Rated, Add	27.86	
23 33 13 19-0499	EA		10" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	134.34	13.86
			For Dynamic Damper, Add	50.14	
			For 3 Hour Rated, Add	27.86	
23 33 13 19-0500	EA		10" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	137.76	14.23
			For Dynamic Damper, Add	51.35	
			For 3 Hour Rated, Add	28.53	
23 33 13 19-0501	EA		10" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	146.96	15.77
			For Dynamic Damper, Add	53.76	
			For 3 Hour Rated, Add	29.87	
23 33 13 19-0502	EA		12" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	137.76	14.23
			For Dynamic Damper, Add	51.35	
			For 3 Hour Rated, Add	28.53	
23 33 13 19-0503	EA		12" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	144.59	15.05
			For Dynamic Damper, Add	53.76	
			For 3 Hour Rated, Add	29.87	
23 33 13 19-0504	EA		12" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	149.21	15.77
			For Dynamic Damper, Add	54.98	
			For 3 Hour Rated, Add	30.54	
23 33 13 19-0505	EA		12" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	157.37	17.78
			For Dynamic Damper, Add	56.18	
			For 3 Hour Rated, Add	31.21	
23 33 13 19-0506	EA		14" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	143.48	15.05
			For Dynamic Damper, Add	53.16	
			For 3 Hour Rated, Add	29.54	
23 33 13 19-0507	EA		14" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	149.21	15.77
			For Dynamic Damper, Add	54.98	
			For 3 Hour Rated, Add	30.54	
23 33 13 19-0508	EA		14" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	153.81	16.59
			For Dynamic Damper, Add	56.18	
			For 3 Hour Rated, Add	31.21	
23 33 13 19-0509	EA		14" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	159.62	17.78
			For Dynamic Damper, Add	57.40	
			For 3 Hour Rated, Add	31.89	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 19-0510	EA	14" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	171.13	19.79
		For Dynamic Damper, Add	60.42	
		For 3 Hour Rated, Add	33.56	
23 33 13 19-0511	EA	16" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	230.71	15.77
		For Dynamic Damper, Add	98.99	
		For 3 Hour Rated, Add	54.99	
23 33 13 19-0512	EA	16" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	236.49	16.94
		For Dynamic Damper, Add	100.19	
		For 3 Hour Rated, Add	55.66	
23 33 13 19-0513	EA	16" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	243.48	18.60
		For Dynamic Damper, Add	101.41	
		For 3 Hour Rated, Add	56.34	
23 33 13 19-0514	EA	16" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	249.26	19.79
		For Dynamic Damper, Add	102.61	
		For 3 Hour Rated, Add	57.00	
23 33 13 19-0515	EA	16" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.81	21.68
		For Dynamic Damper, Add	105.64	
		For 3 Hour Rated, Add	58.69	
23 33 13 19-0516	EA	16" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	272.33	23.70
		For Dynamic Damper, Add	108.66	
		For 3 Hour Rated, Add	60.37	
23 33 13 19-0517	EA	18" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	235.31	16.59
		For Dynamic Damper, Add	100.19	
		For 3 Hour Rated, Add	55.66	
23 33 13 19-0518	EA	18" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.23	17.78
		For Dynamic Damper, Add	102.01	
		For 3 Hour Rated, Add	56.67	
23 33 13 19-0519	EA	18" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.52	19.79
		For Dynamic Damper, Add	103.83	
		For 3 Hour Rated, Add	57.68	
23 33 13 19-0520	EA	18" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	263.05	21.68
		For Dynamic Damper, Add	106.85	
		For 3 Hour Rated, Add	59.36	
23 33 13 19-0521	EA	18" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	273.44	23.70
		For Dynamic Damper, Add	109.26	
		For 3 Hour Rated, Add	60.70	
23 33 13 19-0522	EA	18" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	284.96	25.60
		For Dynamic Damper, Add	112.29	
		For 3 Hour Rated, Add	62.38	
23 33 13 19-0523	EA	18" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	294.25	27.61
		For Dynamic Damper, Add	114.10	
		For 3 Hour Rated, Add	63.39	
23 33 13 19-0524	EA	20" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	241.12	17.78
		For Dynamic Damper, Add	101.41	
		For 3 Hour Rated, Add	56.34	
23 33 13 19-0525	EA	20" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.51	19.79
		For Dynamic Damper, Add	103.82	
		For 3 Hour Rated, Add	57.68	
23 33 13 19-0526	EA	20" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	261.92	21.68
		For Dynamic Damper, Add	106.24	
		For 3 Hour Rated, Add	59.02	
23 33 13 19-0527	EA	20" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	276.82	23.70
		For Dynamic Damper, Add	111.08	
		For 3 Hour Rated, Add	61.71	
23 33 13 19-0528	EA	20" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	286.08	25.60
		For Dynamic Damper, Add	112.89	
		For 3 Hour Rated, Add	62.72	
23 33 13 19-0529	EA	20" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	295.37	27.61
		For Dynamic Damper, Add	114.71	
		For 3 Hour Rated, Add	63.73	
23 33 13 19-0530	EA	20" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	305.76	29.63
		For Dynamic Damper, Add	117.12	
		For 3 Hour Rated, Add	65.07	
23 33 13 19-0531	EA	20" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	316.15	31.52
		For Dynamic Damper, Add	119.53	
		For 3 Hour Rated, Add	66.41	
23 33 13 19-0532	EA	24" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	318.94	19.79
		For Dynamic Damper, Add	140.23	
		For 3 Hour Rated, Add	77.91	
23 33 13 19-0533	EA	24" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.60	21.68
		For Dynamic Damper, Add	143.87	
		For 3 Hour Rated, Add	79.93	
23 33 13 19-0534	EA	24" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.02	23.70
		For Dynamic Damper, Add	146.29	
		For 3 Hour Rated, Add	81.27	
23 33 13 19-0535	EA	24" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	354.64	25.60
		For Dynamic Damper, Add	149.91	
		For 3 Hour Rated, Add	83.29	
23 33 13 19-0536	EA	24" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	363.93	27.61
		For Dynamic Damper, Add	151.73	
		For 3 Hour Rated, Add	84.29	
23 33 13 19-0537	EA	24" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	373.19	29.63
		For Dynamic Damper, Add	153.53	
		For 3 Hour Rated, Add	85.30	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0538	EA	24" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	385.84	31.52
		For Dynamic Damper, Add	157.16	
		For 3 Hour Rated, Add	87.31	
23 33 13 19-0539	EA	24" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	404.40	35.55
		For Dynamic Damper, Add	160.79	
		For 3 Hour Rated, Add	89.33	
23 33 13 19-0540	EA	24" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	425.22	39.46
		For Dynamic Damper, Add	165.63	
		For 3 Hour Rated, Add	92.02	
23 33 13 19-0541	EA	28" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.60	21.68
		For Dynamic Damper, Add	143.87	
		For 3 Hour Rated, Add	79.93	
23 33 13 19-0542	EA	28" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.02	23.70
		For Dynamic Damper, Add	146.29	
		For 3 Hour Rated, Add	81.27	
23 33 13 19-0543	EA	28" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	354.64	25.60
		For Dynamic Damper, Add	149.91	
		For 3 Hour Rated, Add	83.29	
23 33 13 19-0544	EA	28" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.04	27.61
		For Dynamic Damper, Add	152.33	
		For 3 Hour Rated, Add	84.63	
23 33 13 19-0545	EA	28" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	376.55	29.63
		For Dynamic Damper, Add	155.35	
		For 3 Hour Rated, Add	86.30	
23 33 13 19-0546	EA	28" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	388.07	31.52
		For Dynamic Damper, Add	158.37	
		For 3 Hour Rated, Add	87.98	
23 33 13 19-0547	EA	28" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.64	35.55
		For Dynamic Damper, Add	161.99	
		For 3 Hour Rated, Add	90.00	
23 33 13 19-0548	EA	28" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	425.22	39.46
		For Dynamic Damper, Add	165.63	
		For 3 Hour Rated, Add	92.02	
23 33 13 19-0549	EA	28" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	444.55	41.48
		For Dynamic Damper, Add	172.87	
		For 3 Hour Rated, Add	96.04	
23 33 13 19-0550	EA	28" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	467.61	45.38
		For Dynamic Damper, Add	178.92	
		For 3 Hour Rated, Add	99.40	
23 33 13 19-0551	EA	32" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	348.73	23.70
		For Dynamic Damper, Add	149.91	
		For 3 Hour Rated, Add	83.29	
23 33 13 19-0552	EA	32" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	356.86	25.60
		For Dynamic Damper, Add	151.11	
		For 3 Hour Rated, Add	83.95	
23 33 13 19-0553	EA	32" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.04	27.61
		For Dynamic Damper, Add	152.33	
		For 3 Hour Rated, Add	84.63	
23 33 13 19-0554	EA	32" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	375.42	29.63
		For Dynamic Damper, Add	154.74	
		For 3 Hour Rated, Add	85.97	
23 33 13 19-0555	EA	32" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	388.49	31.52
		For Dynamic Damper, Add	158.59	
		For 3 Hour Rated, Add	88.11	
23 33 13 19-0556	EA	32" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.64	35.55
		For Dynamic Damper, Add	161.99	
		For 3 Hour Rated, Add	90.00	
23 33 13 19-0557	EA	32" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	427.45	39.46
		For Dynamic Damper, Add	166.83	
		For 3 Hour Rated, Add	92.69	
23 33 13 19-0558	EA	32" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	448.27	43.37
		For Dynamic Damper, Add	171.68	
		For 3 Hour Rated, Add	95.38	
23 33 13 19-0559	EA	32" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	467.61	45.38
		For Dynamic Damper, Add	178.92	
		For 3 Hour Rated, Add	99.40	
23 33 13 19-0560	EA	32" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	492.76	48.58
		For Dynamic Damper, Add	187.39	
		For 3 Hour Rated, Add	104.10	
23 33 13 19-0561	EA	32" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	518.96	51.31
		For Dynamic Damper, Add	197.05	
		For 3 Hour Rated, Add	109.47	
23 33 13 19-0562	EA	36" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.19	25.60
		For Dynamic Damper, Add	155.61	
		For 3 Hour Rated, Add	86.45	
23 33 13 19-0563	EA	36" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	375.80	27.61
		For Dynamic Damper, Add	158.14	
		For 3 Hour Rated, Add	87.86	
23 33 13 19-0564	EA	36" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.39	29.63
		For Dynamic Damper, Add	160.66	
		For 3 Hour Rated, Add	89.26	
23 33 13 19-0565	EA	36" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	399.37	31.52
		For Dynamic Damper, Add	164.47	
		For 3 Hour Rated, Add	91.37	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0566	EA		36" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	414.75	35.55
			For Dynamic Damper, Add	166.37	
			For 3 Hour Rated, Add	92.43	
23 33 13 19-0567	EA		36" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	424.19	37.45
			For Dynamic Damper, Add	168.27	
			For 3 Hour Rated, Add	93.49	
23 33 13 19-0568	EA		36" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	453.69	43.37
			For Dynamic Damper, Add	174.60	
			For 3 Hour Rated, Add	97.00	
23 33 13 19-0569	EA		36" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	477.25	47.40
			For Dynamic Damper, Add	180.93	
			For 3 Hour Rated, Add	100.52	
23 33 13 19-0570	EA		36" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	496.07	48.94
			For Dynamic Damper, Add	188.53	
			For 3 Hour Rated, Add	104.74	
23 33 13 19-0571	EA		36" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	525.47	52.50
			For Dynamic Damper, Add	198.65	
			For 3 Hour Rated, Add	110.36	
23 33 13 19-0572	EA		36" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	550.19	55.22
			For Dynamic Damper, Add	207.52	
			For 3 Hour Rated, Add	115.29	
23 33 13 19-0573	EA		36" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	574.88	57.23
			For Dynamic Damper, Add	217.65	
			For 3 Hour Rated, Add	120.92	
23 33 13 19-0574	EA		40" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	422.35	29.63
			For Dynamic Damper, Add	183.28	
			For 3 Hour Rated, Add	101.82	
23 33 13 19-0575	EA		40" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	437.64	31.52
			For Dynamic Damper, Add	188.34	
			For 3 Hour Rated, Add	104.63	
23 33 13 19-0576	EA		40" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	445.92	33.53
			For Dynamic Damper, Add	189.60	
			For 3 Hour Rated, Add	105.34	
23 33 13 19-0577	EA		40" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	454.19	35.55
			For Dynamic Damper, Add	190.87	
			For 3 Hour Rated, Add	106.04	
23 33 13 19-0578	EA		40" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	474.25	37.45
			For Dynamic Damper, Add	195.31	
			For 3 Hour Rated, Add	108.50	
23 33 13 19-0579	EA		40" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	488.40	39.46
			For Dynamic Damper, Add	199.75	
			For 3 Hour Rated, Add	110.97	
23 33 13 19-0580	EA		40" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	515.55	45.38
			For Dynamic Damper, Add	204.81	
			For 3 Hour Rated, Add	113.78	
23 33 13 19-0581	EA		40" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	536.79	49.30
			For Dynamic Damper, Add	209.88	
			For 3 Hour Rated, Add	116.60	
23 33 13 19-0582	EA		40" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	560.32	52.50
			For Dynamic Damper, Add	217.47	
			For 3 Hour Rated, Add	120.82	
23 33 13 19-0583	EA		40" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.41	55.22
			For Dynamic Damper, Add	231.40	
			For 3 Hour Rated, Add	128.55	
23 33 13 19-0584	EA		40" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	617.94	58.42
			For Dynamic Damper, Add	238.98	
			For 3 Hour Rated, Add	132.77	
23 33 13 19-0585	EA		40" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	648.48	59.96
			For Dynamic Damper, Add	252.91	
			For 3 Hour Rated, Add	140.51	
23 33 13 19-0586	EA		40" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	681.42	63.16
			For Dynamic Damper, Add	265.58	
			For 3 Hour Rated, Add	147.55	
23 33 13 19-0587	EA		44" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	432.96	29.63
			For Dynamic Damper, Add	185.81	
			For 3 Hour Rated, Add	103.23	
23 33 13 19-0588	EA		44" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	448.27	31.52
			For Dynamic Damper, Add	190.87	
			For 3 Hour Rated, Add	106.04	
23 33 13 19-0589	EA		44" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.24	33.53
			For Dynamic Damper, Add	194.68	
			For 3 Hour Rated, Add	108.16	
23 33 13 19-0590	EA		44" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
			For Dynamic Damper, Add	195.95	
			For 3 Hour Rated, Add	108.86	
23 33 13 19-0591	EA		44" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	484.81	37.45
			For Dynamic Damper, Add	201.01	
			For 3 Hour Rated, Add	111.67	
23 33 13 19-0592	EA		44" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	500.12	39.46
			For Dynamic Damper, Add	206.07	
			For 3 Hour Rated, Add	114.49	
23 33 13 19-0593	EA		44" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	535.55	47.40
			For Dynamic Damper, Add	212.41	
			For 3 Hour Rated, Add	118.01	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0594	EA	44" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	559.11	51.31
		For Dynamic Damper, Add	218.73	
		For 3 Hour Rated, Add	121.52	
23 33 13 19-0595	EA	44" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.41	55.22
		For Dynamic Damper, Add	231.40	
		For 3 Hour Rated, Add	128.55	
23 33 13 19-0596	EA	44" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	627.37	59.25
		For Dynamic Damper, Add	242.79	
		For 3 Hour Rated, Add	134.89	
23 33 13 19-0597	EA	44" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	662.64	63.16
		For Dynamic Damper, Add	255.44	
		For 3 Hour Rated, Add	141.91	
23 33 13 19-0598	EA	44" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	689.68	65.05
		For Dynamic Damper, Add	266.84	
		For 3 Hour Rated, Add	148.25	
23 33 13 19-0599	EA	44" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	716.72	67.07
		For Dynamic Damper, Add	278.24	
		For 3 Hour Rated, Add	154.58	
23 33 13 19-0600	EA	44" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	743.75	69.08
		For Dynamic Damper, Add	289.64	
		For 3 Hour Rated, Add	160.91	
23 33 13 19-0601	EA	48" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	445.92	31.52
		For Dynamic Damper, Add	189.60	
		For 3 Hour Rated, Add	105.34	
23 33 13 19-0602	EA	48" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.24	33.53
		For Dynamic Damper, Add	194.68	
		For 3 Hour Rated, Add	108.16	
23 33 13 19-0603	EA	48" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
		For Dynamic Damper, Add	195.95	
		For 3 Hour Rated, Add	108.86	
23 33 13 19-0604	EA	48" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	488.40	39.46
		For Dynamic Damper, Add	199.75	
		For 3 Hour Rated, Add	110.97	
23 33 13 19-0605	EA	48" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	509.62	43.37
		For Dynamic Damper, Add	204.81	
		For 3 Hour Rated, Add	113.78	
23 33 13 19-0606	EA	48" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	530.86	47.40
		For Dynamic Damper, Add	209.88	
		For 3 Hour Rated, Add	116.60	
23 33 13 19-0607	EA	48" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	556.77	51.31
		For Dynamic Damper, Add	217.47	
		For 3 Hour Rated, Add	120.82	
23 33 13 19-0608	EA	48" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	582.67	55.22
		For Dynamic Damper, Add	225.06	
		For 3 Hour Rated, Add	125.03	
23 33 13 19-0609	EA	48" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	615.63	59.25
		For Dynamic Damper, Add	236.46	
		For 3 Hour Rated, Add	131.36	
23 33 13 19-0610	EA	48" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	653.27	63.16
		For Dynamic Damper, Add	250.38	
		For 3 Hour Rated, Add	139.10	
23 33 13 19-0611	EA	48" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	680.32	65.05
		For Dynamic Damper, Add	261.79	
		For 3 Hour Rated, Add	145.44	
23 33 13 19-0612	EA	48" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	714.37	67.07
		For Dynamic Damper, Add	276.97	
		For 3 Hour Rated, Add	153.87	
23 33 13 19-0613	EA	48" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	747.33	70.98
		For Dynamic Damper, Add	288.37	
		For 3 Hour Rated, Add	160.21	
23 33 13 19-0614	EA	48" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	781.38	73.00
		For Dynamic Damper, Add	303.56	
		For 3 Hour Rated, Add	168.65	
23 33 13 19-0615	EA	48" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	817.92	78.92
		For Dynamic Damper, Add	313.70	
		For 3 Hour Rated, Add	174.28	
23 33 13 19-0616	EA	52" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	458.90	33.53
		For Dynamic Damper, Add	193.42	
		For 3 Hour Rated, Add	107.45	
23 33 13 19-0617	EA	52" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	474.20	35.55
		For Dynamic Damper, Add	198.48	
		For 3 Hour Rated, Add	110.27	
23 33 13 19-0618	EA	52" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	495.42	39.46
		For Dynamic Damper, Add	203.54	
		For 3 Hour Rated, Add	113.08	
23 33 13 19-0619	EA	52" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	509.62	43.37
		For Dynamic Damper, Add	204.81	
		For 3 Hour Rated, Add	113.78	
23 33 13 19-0620	EA	52" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	532.03	47.40
		For Dynamic Damper, Add	210.51	
		For 3 Hour Rated, Add	116.95	
23 33 13 19-0621	EA	52" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	554.43	51.31
		For Dynamic Damper, Add	216.21	
		For 3 Hour Rated, Add	120.11	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 33 13 19-0622	EA	52" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	580.34	55.22
		For Dynamic Damper, Add	223.80	
		For 3 Hour Rated, Add	124.33	
23 33 13 19-0623	EA	52" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	606.26	59.25
		For Dynamic Damper, Add	231.40	
		For 3 Hour Rated, Add	128.55	
23 33 13 19-0624	EA	52" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	639.22	63.16
		For Dynamic Damper, Add	242.79	
		For 3 Hour Rated, Add	134.89	
23 33 13 19-0625	EA	52" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	679.20	67.07
		For Dynamic Damper, Add	257.98	
		For 3 Hour Rated, Add	143.32	
23 33 13 19-0626	EA	52" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	708.56	69.08
		For Dynamic Damper, Add	270.84	
		For 3 Hour Rated, Add	150.35	
23 33 13 19-0627	EA	52" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	744.98	70.98
		For Dynamic Damper, Add	287.10	
		For 3 Hour Rated, Add	159.50	
23 33 13 19-0628	EA	52" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	784.95	75.01
		For Dynamic Damper, Add	302.29	
		For 3 Hour Rated, Add	167.94	
23 33 13 19-0629	EA	52" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	817.92	78.92
		For Dynamic Damper, Add	313.70	
		For 3 Hour Rated, Add	174.28	
23 33 13 19-0630	EA	52" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	863.82	84.85
		For Dynamic Damper, Add	328.89	
		For 3 Hour Rated, Add	182.72	
23 33 13 19-0631	EA	52" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	899.14	88.75
		For Dynamic Damper, Add	341.56	
		For 3 Hour Rated, Add	189.75	
23 33 13 19-0632	EA	56" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
		For Dynamic Damper, Add	195.95	
		For 3 Hour Rated, Add	108.86	
23 33 13 19-0633	EA	56" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	493.07	39.46
		For Dynamic Damper, Add	202.27	
		For 3 Hour Rated, Add	112.37	
23 33 13 19-0634	EA	56" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	511.97	43.37
		For Dynamic Damper, Add	206.07	
		For 3 Hour Rated, Add	114.49	
23 33 13 19-0635	EA	56" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	526.15	47.40
		For Dynamic Damper, Add	207.33	
		For 3 Hour Rated, Add	115.19	
23 33 13 19-0636	EA	56" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	550.91	51.31
		For Dynamic Damper, Add	214.30	
		For 3 Hour Rated, Add	119.06	
23 33 13 19-0637	EA	56" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	575.65	55.22
		For Dynamic Damper, Add	221.27	
		For 3 Hour Rated, Add	122.93	
23 33 13 19-0638	EA	56" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	600.39	59.25
		For Dynamic Damper, Add	228.23	
		For 3 Hour Rated, Add	126.79	
23 33 13 19-0639	EA	56" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	625.14	63.16
		For Dynamic Damper, Add	235.19	
		For 3 Hour Rated, Add	130.66	
23 33 13 19-0640	EA	56" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	665.13	67.07
		For Dynamic Damper, Add	250.38	
		For 3 Hour Rated, Add	139.10	
23 33 13 19-0641	EA	56" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	699.20	69.08
		For Dynamic Damper, Add	265.58	
		For 3 Hour Rated, Add	147.55	
23 33 13 19-0642	EA	56" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	730.92	70.98
		For Dynamic Damper, Add	279.51	
		For 3 Hour Rated, Add	155.28	
23 33 13 19-0643	EA	56" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	775.59	75.01
		For Dynamic Damper, Add	297.23	
		For 3 Hour Rated, Add	165.13	
23 33 13 19-0644	EA	56" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	815.57	78.92
		For Dynamic Damper, Add	312.43	
		For 3 Hour Rated, Add	173.57	
23 33 13 19-0645	EA	56" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	857.90	82.83
		For Dynamic Damper, Add	328.89	
		For 3 Hour Rated, Add	182.72	
23 33 13 19-0646	EA	56" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	893.21	86.86
		For Dynamic Damper, Add	341.56	
		For 3 Hour Rated, Add	189.75	
23 33 13 19-0647	EA	56" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	935.54	90.78
		For Dynamic Damper, Add	358.01	
		For 3 Hour Rated, Add	198.90	
23 33 13 19-0648	EA	56" x 56" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	977.87	94.68
		For Dynamic Damper, Add	374.47	
		For 3 Hour Rated, Add	208.04	
23 33 13 19-0649	EA	60" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	488.40	39.46
		For Dynamic Damper, Add	199.75	
		For 3 Hour Rated, Add	110.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0650	EA		60" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	511.97 206.07 114.49	43.37
23 33 13 19-0651	EA		60" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	528.49 208.60 115.89	47.40
23 33 13 19-0652	EA		60" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	542.71 209.88 116.60	51.31
23 33 13 19-0653	EA		60" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	568.62 217.47 120.82	55.22
23 33 13 19-0654	EA		60" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	594.52 225.06 125.03	59.25
23 33 13 19-0655	EA		60" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	621.62 233.29 129.61	63.16
23 33 13 19-0656	EA		60" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	648.72 241.52 134.18	67.07
23 33 13 19-0657	EA		60" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	685.12 257.98 143.32	69.08
23 33 13 19-0658	EA		60" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	719.18 273.17 151.76	70.98
23 33 13 19-0659	EA		60" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	761.53 289.64 160.91	75.01
23 33 13 19-0660	EA		60" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	803.85 306.10 170.06	78.92
23 33 13 19-0661	EA		60" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	839.14 318.76 177.09	82.83
23 33 13 19-0662	EA		60" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	888.49 339.01 188.34	86.86
23 33 13 19-0663	EA		60" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	933.17 356.73 198.19	90.78
23 33 13 19-0664	EA		60" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	977.87 374.47 208.04	94.68
23 33 13 19-0665	EA		60" x 56" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	1,017.82 389.65 216.47	98.71
23 33 13 19-0666	EA		60" x 60" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated <i>For Dynamic Damper, Add</i> <i>For 3 Hour Rated, Add</i>	1,057.83 404.85 224.92	102.63
23 33 13 19-0667			Motorized Combination Fire/Smoke Damper (Dayton) (23 33 13 19) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13 19-0668	EA		8" Width x 8" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ9) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	724.59	21.56
23 33 13 19-0669	EA		10" Width x 10" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK1) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	739.32	22.51
23 33 13 19-0670	EA		12" Width x 12" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK2) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	801.30	23.70
23 33 13 19-0671	EA		16" Width x 16" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK3) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	839.76	25.01
23 33 13 19-0672	EA		18" Width x 18" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK4) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	899.08	26.31
23 33 13 19-0673	EA		24" Width x 24" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK5) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	982.04	27.85
23 33 13 19-0674	EA		8" Width x 8" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ3) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	727.35	21.56
23 33 13 19-0675	EA		10" Width x 10" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ4) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	726.76	22.51
23 33 13 19-0676	EA		12" Width x 12" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ5) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	801.25	23.70
23 33 13 19-0677	EA		16" Width x 16" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ6) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	839.76	25.01



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0678	EA	18" Width x 18" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ7).....		899.08	26.31
Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.					
23 33 13 19-0679	EA	24" Width x 24" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ8).....		961.45	27.85
Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.					

23 33 13 23 Backdraft Dampers (23 33 13)

23 33 13 23-0001 Horizontally Mounted Backdraft Damper (23 33 13 23)

Note: Galvanized steel frame, aluminum blades. Exclude motor pack.					
23 33 13 23-0002	EA	6" x 6" Horizontally Mounted Backdraft Damper.....		104.31	13.16
23 33 13 23-0003	EA	8" x 6" Horizontally Mounted Backdraft Damper.....		127.68	13.74
23 33 13 23-0004	EA	8" x 8" Horizontally Mounted Backdraft Damper.....		156.74	13.86
23 33 13 23-0005	EA	10" x 6" Horizontally Mounted Backdraft Damper.....		149.55	13.86
23 33 13 23-0006	EA	10" x 8" Horizontally Mounted Backdraft Damper.....		142.15	14.23
23 33 13 23-0007	EA	10" x 10" Horizontally Mounted Backdraft Damper.....		171.75	15.77
23 33 13 23-0008	EA	12" x 6" Horizontally Mounted Backdraft Damper.....		132.21	14.23
23 33 13 23-0009	EA	12" x 8" Horizontally Mounted Backdraft Damper.....		166.78	15.77
23 33 13 23-0010	EA	12" x 10" Horizontally Mounted Backdraft Damper.....		158.44	16.59
23 33 13 23-0011	EA	12" x 12" Horizontally Mounted Backdraft Damper.....		183.75	17.78
23 33 13 23-0012	EA	14" x 6" Horizontally Mounted Backdraft Damper.....		149.49	15.05
23 33 13 23-0013	EA	14" x 8" Horizontally Mounted Backdraft Damper.....		151.19	16.59
23 33 13 23-0014	EA	14" x 10" Horizontally Mounted Backdraft Damper.....		180.14	17.78
23 33 13 23-0015	EA	14" x 12" Horizontally Mounted Backdraft Damper.....		156.79	19.79
23 33 13 23-0016	EA	14" x 14" Horizontally Mounted Backdraft Damper.....		178.98	21.68
23 33 13 23-0017	EA	16" x 6" Horizontally Mounted Backdraft Damper.....		166.78	15.77
23 33 13 23-0018	EA	16" x 8" Horizontally Mounted Backdraft Damper.....		169.25	17.78
23 33 13 23-0019	EA	16" x 10" Horizontally Mounted Backdraft Damper.....		152.15	19.79
23 33 13 23-0020	EA	16" x 12" Horizontally Mounted Backdraft Damper.....		170.71	19.79
23 33 13 23-0021	EA	16" x 14" Horizontally Mounted Backdraft Damper.....		195.24	21.68
23 33 13 23-0022	EA	16" x 16" Horizontally Mounted Backdraft Damper.....		219.73	23.70
23 33 13 23-0023	EA	18" x 6" Horizontally Mounted Backdraft Damper.....		147.59	16.59
23 33 13 23-0024	EA	18" x 8" Horizontally Mounted Backdraft Damper.....		136.92	17.78
23 33 13 23-0025	EA	18" x 10" Horizontally Mounted Backdraft Damper.....		163.74	19.79
23 33 13 23-0026	EA	18" x 12" Horizontally Mounted Backdraft Damper.....		190.57	21.68
23 33 13 23-0027	EA	18" x 14" Horizontally Mounted Backdraft Damper.....		217.39	23.70
23 33 13 23-0028	EA	18" x 16" Horizontally Mounted Backdraft Damper.....		249.57	25.60
23 33 13 23-0029	EA	18" x 18" Horizontally Mounted Backdraft Damper.....		282.98	29.63
23 33 13 23-0030	EA	18" x 20" Horizontally Mounted Backdraft Damper.....		225.61	31.52
23 33 13 23-0031	EA	18" x 24" Horizontally Mounted Backdraft Damper.....		263.61	35.55
23 33 13 23-0032	EA	20" x 6" Horizontally Mounted Backdraft Damper.....		162.00	17.78
23 33 13 23-0033	EA	20" x 8" Horizontally Mounted Backdraft Damper.....		152.15	19.79
23 33 13 23-0034	EA	20" x 10" Horizontally Mounted Backdraft Damper.....		181.28	21.68
23 33 13 23-0035	EA	20" x 12" Horizontally Mounted Backdraft Damper.....		210.45	23.70
23 33 13 23-0036	EA	20" x 14" Horizontally Mounted Backdraft Damper.....		244.78	25.60
23 33 13 23-0037	EA	20" x 16" Horizontally Mounted Backdraft Damper.....		274.67	27.61
23 33 13 23-0038	EA	20" x 18" Horizontally Mounted Backdraft Damper.....		225.61	31.52
23 33 13 23-0039	EA	20" x 20" Horizontally Mounted Backdraft Damper.....		240.14	31.52
23 33 13 23-0040	EA	20" x 24" Horizontally Mounted Backdraft Damper.....		281.05	35.55
23 33 13 23-0041	EA	20" x 28" Horizontally Mounted Backdraft Damper.....		321.96	39.46
23 33 13 23-0042	EA	20" x 32" Horizontally Mounted Backdraft Damper.....		296.44	43.37
23 33 13 23-0043	EA	20" x 36" Horizontally Mounted Backdraft Damper.....		329.03	47.40
23 33 13 23-0044	EA	24" x 6" Horizontally Mounted Backdraft Damper.....		142.84	19.79
23 33 13 23-0045	EA	24" x 8" Horizontally Mounted Backdraft Damper.....		176.64	21.68
23 33 13 23-0046	EA	24" x 10" Horizontally Mounted Backdraft Damper.....		210.45	23.70
23 33 13 23-0047	EA	24" x 12" Horizontally Mounted Backdraft Damper.....		249.57	25.60
23 33 13 23-0048	EA	24" x 14" Horizontally Mounted Backdraft Damper.....		210.95	29.63
23 33 13 23-0049	EA	24" x 16" Horizontally Mounted Backdraft Damper.....		234.32	31.52
23 33 13 23-0050	EA	24" x 18" Horizontally Mounted Backdraft Damper.....		263.61	35.55
23 33 13 23-0051	EA	24" x 20" Horizontally Mounted Backdraft Damper.....		281.05	35.55
23 33 13 23-0052	EA	24" x 24" Horizontally Mounted Backdraft Damper.....		327.78	39.46
23 33 13 23-0053	EA	24" x 28" Horizontally Mounted Backdraft Damper.....		304.72	43.37
23 33 13 23-0054	EA	24" x 32" Horizontally Mounted Backdraft Damper.....		341.50	47.40
23 33 13 23-0055	EA	24" x 36" Horizontally Mounted Backdraft Damper.....		378.25	51.31
23 33 13 23-0056	EA	24" x 40" Horizontally Mounted Backdraft Damper.....		365.20	55.22
23 33 13 23-0057	EA	24" x 44" Horizontally Mounted Backdraft Damper.....		396.98	59.25
23 33 13 23-0058	EA	24" x 48" Horizontally Mounted Backdraft Damper.....		416.90	59.25
23 33 13 23-0059	EA	28" x 6" Horizontally Mounted Backdraft Damper.....		156.79	19.79
23 33 13 23-0060	EA	28" x 8" Horizontally Mounted Backdraft Damper.....		195.24	21.68
23 33 13 23-0061	EA	28" x 10" Horizontally Mounted Backdraft Damper.....		244.78	25.60
23 33 13 23-0062	EA	28" x 12" Horizontally Mounted Backdraft Damper.....		210.95	29.63
23 33 13 23-0063	EA	28" x 14" Horizontally Mounted Backdraft Damper.....		237.23	31.52
23 33 13 23-0064	EA	28" x 16" Horizontally Mounted Backdraft Damper.....		269.43	35.55
23 33 13 23-0065	EA	28" x 18" Horizontally Mounted Backdraft Damper.....		301.63	39.46
23 33 13 23-0066	EA	28" x 20" Horizontally Mounted Backdraft Damper.....		321.96	39.46
23 33 13 23-0067	EA	28" x 24" Horizontally Mounted Backdraft Damper.....		304.72	43.37
23 33 13 23-0068	EA	28" x 28" Horizontally Mounted Backdraft Damper.....		345.66	47.40
23 33 13 23-0069	EA	28" x 32" Horizontally Mounted Backdraft Damper.....		386.56	51.31
23 33 13 23-0070	EA	28" x 36" Horizontally Mounted Backdraft Damper.....		387.00	59.25
23 33 13 23-0071	EA	28" x 40" Horizontally Mounted Backdraft Damper.....		410.26	59.25

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 33 13 23-0072	EA	28" x 44" Horizontally Mounted Backdraft Damper	445.35	63.16
23 33 13 23-0073	EA	28" x 48" Horizontally Mounted Backdraft Damper	480.47	67.07
23 33 13 23-0074	EA	28" x 52" Horizontally Mounted Backdraft Damper	503.73	67.07
23 33 13 23-0075	EA	28" x 56" Horizontally Mounted Backdraft Damper	498.14	70.98
23 33 13 23-0076	EA	28" x 60" Horizontally Mounted Backdraft Damper	518.46	70.98
23 33 13 23-0077	EA	32" x 6" Horizontally Mounted Backdraft Damper	176.64	21.68
23 33 13 23-0078	EA	32" x 8" Horizontally Mounted Backdraft Damper	230.40	25.60
23 33 13 23-0079	EA	32" x 10" Horizontally Mounted Backdraft Damper	274.67	27.61
23 33 13 23-0080	EA	32" x 12" Horizontally Mounted Backdraft Damper	234.32	31.52
23 33 13 23-0081	EA	32" x 14" Horizontally Mounted Backdraft Damper	269.43	35.55
23 33 13 23-0082	EA	32" x 16" Horizontally Mounted Backdraft Damper	304.52	39.46
23 33 13 23-0083	EA	32" x 18" Horizontally Mounted Backdraft Damper	267.97	39.46
23 33 13 23-0084	EA	32" x 20" Horizontally Mounted Backdraft Damper	296.44	43.37
23 33 13 23-0085	EA	32" x 24" Horizontally Mounted Backdraft Damper	341.50	47.40
23 33 13 23-0086	EA	32" x 28" Horizontally Mounted Backdraft Damper	386.56	51.31
23 33 13 23-0087	EA	32" x 32" Horizontally Mounted Backdraft Damper	390.34	59.25
23 33 13 23-0088	EA	32" x 36" Horizontally Mounted Backdraft Damper	416.90	59.25
23 33 13 23-0089	EA	32" x 40" Horizontally Mounted Backdraft Damper	455.32	63.16
23 33 13 23-0090	EA	32" x 44" Horizontally Mounted Backdraft Damper	493.75	67.07
23 33 13 23-0091	EA	32" x 48" Horizontally Mounted Backdraft Damper	492.32	70.98
23 33 13 23-0092	EA	32" x 52" Horizontally Mounted Backdraft Damper	515.58	70.98
23 33 13 23-0093	EA	32" x 56" Horizontally Mounted Backdraft Damper	550.66	75.01
23 33 13 23-0094	EA	32" x 60" Horizontally Mounted Backdraft Damper	573.93	75.01
23 33 13 23-0095	EA	32" x 64" Horizontally Mounted Backdraft Damper	555.86	78.92
23 33 13 23-0096	EA	32" x 68" Horizontally Mounted Backdraft Damper	575.79	78.92
23 33 13 23-0097	EA	32" x 72" Horizontally Mounted Backdraft Damper	607.57	82.83
23 33 13 23-0098	EA	36" x 6" Horizontally Mounted Backdraft Damper	190.57	21.68
23 33 13 23-0099	EA	36" x 8" Horizontally Mounted Backdraft Damper	255.50	27.61
23 33 13 23-0100	EA	36" x 10" Horizontally Mounted Backdraft Damper	225.61	31.52
23 33 13 23-0101	EA	36" x 12" Horizontally Mounted Backdraft Damper	263.61	35.55
23 33 13 23-0102	EA	36" x 14" Horizontally Mounted Backdraft Damper	301.63	39.46
23 33 13 23-0103	EA	36" x 16" Horizontally Mounted Backdraft Damper	267.97	39.46
23 33 13 23-0104	EA	36" x 18" Horizontally Mounted Backdraft Damper	298.50	43.37
23 33 13 23-0105	EA	36" x 20" Horizontally Mounted Backdraft Damper	329.03	47.40
23 33 13 23-0106	EA	36" x 24" Horizontally Mounted Backdraft Damper	378.25	51.31
23 33 13 23-0107	EA	36" x 28" Horizontally Mounted Backdraft Damper	387.00	59.25
23 33 13 23-0108	EA	36" x 32" Horizontally Mounted Backdraft Damper	416.90	59.25
23 33 13 23-0109	EA	36" x 36" Horizontally Mounted Backdraft Damper	458.63	63.16
23 33 13 23-0110	EA	36" x 40" Horizontally Mounted Backdraft Damper	500.40	67.07
23 33 13 23-0111	EA	36" x 44" Horizontally Mounted Backdraft Damper	501.02	70.98
23 33 13 23-0112	EA	36" x 48" Horizontally Mounted Backdraft Damper	539.05	75.01
23 33 13 23-0113	EA	36" x 52" Horizontally Mounted Backdraft Damper	565.19	75.01
23 33 13 23-0114	EA	36" x 56" Horizontally Mounted Backdraft Damper	550.89	78.92
23 33 13 23-0115	EA	36" x 60" Horizontally Mounted Backdraft Damper	573.30	78.92
23 33 13 23-0116	EA	36" x 64" Horizontally Mounted Backdraft Damper	607.57	82.83
23 33 13 23-0117	EA	36" x 68" Horizontally Mounted Backdraft Damper	629.98	82.83
23 33 13 23-0118	EA	36" x 72" Horizontally Mounted Backdraft Damper	652.43	82.83
23 33 13 23-0119	EA	40" x 6" Horizontally Mounted Backdraft Damper	210.45	23.70
23 33 13 23-0120	EA	40" x 8" Horizontally Mounted Backdraft Damper	280.59	29.63
23 33 13 23-0121	EA	40" x 10" Horizontally Mounted Backdraft Damper	240.14	31.52
23 33 13 23-0122	EA	40" x 12" Horizontally Mounted Backdraft Damper	281.05	35.55
23 33 13 23-0123	EA	40" x 14" Horizontally Mounted Backdraft Damper	321.96	39.46
23 33 13 23-0124	EA	40" x 16" Horizontally Mounted Backdraft Damper	296.44	43.37
23 33 13 23-0125	EA	40" x 18" Horizontally Mounted Backdraft Damper	329.03	47.40
23 33 13 23-0126	EA	40" x 20" Horizontally Mounted Backdraft Damper	361.63	51.31
23 33 13 23-0127	EA	40" x 24" Horizontally Mounted Backdraft Damper	365.20	55.22
23 33 13 23-0128	EA	40" x 28" Horizontally Mounted Backdraft Damper	410.26	59.25
23 33 13 23-0129	EA	40" x 32" Horizontally Mounted Backdraft Damper	455.32	63.16
23 33 13 23-0130	EA	40" x 36" Horizontally Mounted Backdraft Damper	500.40	67.07
23 33 13 23-0131	EA	40" x 40" Horizontally Mounted Backdraft Damper	503.93	70.98
23 33 13 23-0132	EA	40" x 44" Horizontally Mounted Backdraft Damper	544.84	75.01
23 33 13 23-0133	EA	40" x 48" Horizontally Mounted Backdraft Damper	573.93	75.01
23 33 13 23-0134	EA	40" x 50" Horizontally Mounted Backdraft Damper	548.40	78.92
23 33 13 23-0135	EA	44" x 6" Horizontally Mounted Backdraft Damper	235.19	25.60
23 33 13 23-0136	EA	44" x 8" Horizontally Mounted Backdraft Damper	222.70	31.52
23 33 13 23-0137	EA	44" x 10" Horizontally Mounted Backdraft Damper	266.52	35.55
23 33 13 23-0138	EA	44" x 12" Horizontally Mounted Backdraft Damper	310.34	39.46
23 33 13 23-0139	EA	44" x 14" Horizontally Mounted Backdraft Damper	290.19	43.37
23 33 13 23-0140	EA	44" x 16" Horizontally Mounted Backdraft Damper	324.88	47.40
23 33 13 23-0141	EA	44" x 18" Horizontally Mounted Backdraft Damper	347.72	47.40
23 33 13 23-0142	EA	44" x 20" Horizontally Mounted Backdraft Damper	382.41	51.31
23 33 13 23-0143	EA	44" x 24" Horizontally Mounted Backdraft Damper	396.98	59.25
23 33 13 23-0144	EA	44" x 28" Horizontally Mounted Backdraft Damper	445.35	63.16
23 33 13 23-0145	EA	44" x 32" Horizontally Mounted Backdraft Damper	493.75	67.07
23 33 13 23-0146	EA	44" x 36" Horizontally Mounted Backdraft Damper	501.02	70.98
23 33 13 23-0147	EA	44" x 40" Horizontally Mounted Backdraft Damper	544.84	75.01
23 33 13 23-0148	EA	44" x 44" Horizontally Mounted Backdraft Damper	576.81	75.01
23 33 13 23-0149	EA	44" x 48" Horizontally Mounted Backdraft Damper	565.84	78.92
23 33 13 23-0150	EA	44" x 50" Horizontally Mounted Backdraft Damper	579.52	78.92
23 33 13 23-0151	EA	48" x 6" Horizontally Mounted Backdraft Damper	255.50	27.61
23 33 13 23-0152	EA	48" x 8" Horizontally Mounted Backdraft Damper	234.32	31.52



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 23-0153	EA		48" x 10" Horizontally Mounted Backdraft Damper	281.05	35.55
23 33 13 23-0154	EA		48" x 12" Horizontally Mounted Backdraft Damper	267.97	39.46
23 33 13 23-0155	EA		48" x 14" Horizontally Mounted Backdraft Damper	304.72	43.37
23 33 13 23-0156	EA		48" x 16" Horizontally Mounted Backdraft Damper	341.50	47.40
23 33 13 23-0157	EA		48" x 18" Horizontally Mounted Backdraft Damper	378.25	51.31
23 33 13 23-0158	EA		48" x 20" Horizontally Mounted Backdraft Damper	365.20	55.22
23 33 13 23-0159	EA		48" x 24" Horizontally Mounted Backdraft Damper	416.90	59.25
23 33 13 23-0160	EA		48" x 28" Horizontally Mounted Backdraft Damper	480.47	67.07
23 33 13 23-0161	EA		48" x 32" Horizontally Mounted Backdraft Damper	492.32	70.98
23 33 13 23-0162	EA		48" x 36" Horizontally Mounted Backdraft Damper	539.05	75.01
23 33 13 23-0163	EA		48" x 40" Horizontally Mounted Backdraft Damper	573.93	75.01
23 33 13 23-0164	EA		48" x 44" Horizontally Mounted Backdraft Damper	565.84	78.92
23 33 13 23-0165	EA		48" x 48" Horizontally Mounted Backdraft Damper	607.57	82.83
23 33 13 23-0166	EA		48" x 50" Horizontally Mounted Backdraft Damper	622.52	82.83
23 33 13 23-0167	EA		50" x 6" Horizontally Mounted Backdraft Damper	292.69	27.61
23 33 13 23-0168	EA		50" x 8" Horizontally Mounted Backdraft Damper	251.99	35.55
23 33 13 23-0169	EA		50" x 10" Horizontally Mounted Backdraft Damper	300.18	39.46
23 33 13 23-0170	EA		50" x 12" Horizontally Mounted Backdraft Damper	286.04	43.37
23 33 13 23-0171	EA		50" x 14" Horizontally Mounted Backdraft Damper	323.85	47.40
23 33 13 23-0172	EA		50" x 16" Horizontally Mounted Backdraft Damper	361.63	51.31
23 33 13 23-0173	EA		50" x 18" Horizontally Mounted Backdraft Damper	399.44	55.22
23 33 13 23-0174	EA		50" x 20" Horizontally Mounted Backdraft Damper	385.33	59.25
23 33 13 23-0175	EA		50" x 24" Horizontally Mounted Backdraft Damper	438.70	63.16
23 33 13 23-0176	EA		50" x 28" Horizontally Mounted Backdraft Damper	492.08	67.07
23 33 13 23-0177	EA		50" x 32" Horizontally Mounted Backdraft Damper	503.93	70.98
23 33 13 23-0178	EA		50" x 36" Horizontally Mounted Backdraft Damper	552.12	75.01
23 33 13 23-0179	EA		50" x 40" Horizontally Mounted Backdraft Damper	548.40	78.92
23 33 13 23-0180	EA		50" x 44" Horizontally Mounted Backdraft Damper	579.52	78.92
23 33 13 23-0181	EA		50" x 48" Horizontally Mounted Backdraft Damper	622.52	82.83
23 33 13 23-0182	EA		50" x 50" Horizontally Mounted Backdraft Damper	638.08	82.83
23 33 13 23-0183 Vertically Mounted Backdraft Damper (23 33 13 23)					
Note: Galvanized steel frame, aluminum blades. Excludes motor pack.					
23 33 13 23-0184	EA		6" x 6" Vertically Mounted Backdraft Damper	114.13	13.16
23 33 13 23-0185	EA		8" x 6" Vertically Mounted Backdraft Damper	140.81	13.74
23 33 13 23-0186	EA		10" x 6" Vertically Mounted Backdraft Damper	145.21	13.86
23 33 13 23-0187	EA		8" x 8" Vertically Mounted Backdraft Damper	152.12	13.86
23 33 13 23-0188	EA		12" x 6" Vertically Mounted Backdraft Damper	167.15	14.23
23 33 13 23-0189	EA		10" x 8" Vertically Mounted Backdraft Damper	185.71	15.77
23 33 13 23-0190	EA		14" x 6" Vertically Mounted Backdraft Damper	187.89	14.23
23 33 13 23-0191	EA		12" x 8" Vertically Mounted Backdraft Damper	213.37	15.77
23 33 13 23-0192	EA		16" x 6" Vertically Mounted Backdraft Damper	215.74	16.59
23 33 13 23-0193	EA		10" x 10" Vertically Mounted Backdraft Damper	226.21	17.78
23 33 13 23-0194	EA		18" x 6" Vertically Mounted Backdraft Damper	181.52	15.05
23 33 13 23-0195	EA		14" x 8" Vertically Mounted Backdraft Damper	191.32	16.59
23 33 13 23-0196	EA		12" x 10" Vertically Mounted Backdraft Damper	204.98	17.78
23 33 13 23-0197	EA		20" x 6" Vertically Mounted Backdraft Damper	210.90	19.79
23 33 13 23-0198	EA		16" x 8" Vertically Mounted Backdraft Damper	226.93	21.68
23 33 13 23-0199	EA		14" x 10" Vertically Mounted Backdraft Damper	224.32	15.77
23 33 13 23-0200	EA		12" x 12" Vertically Mounted Backdraft Damper	235.31	17.78
23 33 13 23-0201	EA		18" x 8" Vertically Mounted Backdraft Damper	204.11	19.79
23 33 13 23-0202	EA		24" x 6" Vertically Mounted Backdraft Damper	204.11	19.79
23 33 13 23-0203	EA		16" x 10" Vertically Mounted Backdraft Damper	226.11	21.68
23 33 13 23-0204	EA		20" x 8" Vertically Mounted Backdraft Damper	232.04	23.70
23 33 13 23-0205	EA		14" x 12" Vertically Mounted Backdraft Damper	218.74	16.59
23 33 13 23-0206	EA		28" x 6" Vertically Mounted Backdraft Damper	222.30	17.78
23 33 13 23-0207	EA		18" x 10" Vertically Mounted Backdraft Damper	240.29	19.79
23 33 13 23-0208	EA		16" x 12" Vertically Mounted Backdraft Damper	258.29	21.68
23 33 13 23-0209	EA		24" x 8" Vertically Mounted Backdraft Damper	264.22	23.70
23 33 13 23-0210	EA		32" x 6" Vertically Mounted Backdraft Damper	270.13	25.60
23 33 13 23-0211	EA		14" x 14" Vertically Mounted Backdraft Damper	286.02	29.63
23 33 13 23-0212	EA		20" x 10" Vertically Mounted Backdraft Damper	282.00	31.52
23 33 13 23-0213	EA		18" x 12" Vertically Mounted Backdraft Damper	308.83	35.55
23 33 13 23-0214	EA		36" x 6" Vertically Mounted Backdraft Damper	255.51	17.78
23 33 13 23-0215	EA		16" x 14" Vertically Mounted Backdraft Damper	268.92	19.79
23 33 13 23-0216	EA		28" x 8" Vertically Mounted Backdraft Damper	274.85	21.68
23 33 13 23-0217	EA		20" x 12" Vertically Mounted Backdraft Damper	295.74	23.70
23 33 13 23-0218	EA		24" x 10" Vertically Mounted Backdraft Damper	301.65	25.60
23 33 13 23-0219	EA		40" x 6" Vertically Mounted Backdraft Damper	307.58	27.61
23 33 13 23-0220	EA		18" x 14" Vertically Mounted Backdraft Damper	330.68	31.52
23 33 13 23-0221	EA		16" x 16" Vertically Mounted Backdraft Damper	334.41	31.52
23 33 13 23-0222	EA		32" x 8" Vertically Mounted Backdraft Damper	346.26	35.55
23 33 13 23-0223	EA		44" x 6" Vertically Mounted Backdraft Damper	365.60	39.46
23 33 13 23-0224	EA		20" x 14" Vertically Mounted Backdraft Damper	392.43	43.37
23 33 13 23-0225	EA		28" x 10" Vertically Mounted Backdraft Damper	404.28	47.40
23 33 13 23-0226	EA		18" x 16" Vertically Mounted Backdraft Damper	328.83	19.79
23 33 13 23-0227	EA		24" x 12" Vertically Mounted Backdraft Damper	334.76	21.68
23 33 13 23-0228	EA		36" x 8" Vertically Mounted Backdraft Damper	340.69	23.70
23 33 13 23-0229	EA		48" x 6" Vertically Mounted Backdraft Damper	346.60	25.60
23 33 13 23-0230	EA		50" x 6" Vertically Mounted Backdraft Damper	369.67	29.63

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 33 13 23-0231	EA	20" x 16" Vertically Mounted Backdraft Damper	394.31	31.52
23 33 13 23-0232	EA	32" x 10" Vertically Mounted Backdraft Damper	406.16	35.55
23 33 13 23-0233	EA	40" x 8" Vertically Mounted Backdraft Damper	406.16	35.55
23 33 13 23-0234	EA	18" x 18" Vertically Mounted Backdraft Damper	358.11	39.46
23 33 13 23-0235	EA	24" x 14" Vertically Mounted Backdraft Damper	336.69	43.37
23 33 13 23-0236	EA	28" x 12" Vertically Mounted Backdraft Damper	348.54	47.40
23 33 13 23-0237	EA	44" x 8" Vertically Mounted Backdraft Damper	370.21	51.31
23 33 13 23-0238	EA	18" x 20" Vertically Mounted Backdraft Damper	386.98	55.22
23 33 13 23-0239	EA	20" x 18" Vertically Mounted Backdraft Damper	398.83	59.25
23 33 13 23-0240	EA	36" x 10" Vertically Mounted Backdraft Damper	398.83	59.25
23 33 13 23-0241	EA	24" x 16" Vertically Mounted Backdraft Damper	295.07	19.79
23 33 13 23-0242	EA	32" x 12" Vertically Mounted Backdraft Damper	301.00	21.68
23 33 13 23-0243	EA	48" x 8" Vertically Mounted Backdraft Damper	312.84	25.60
23 33 13 23-0244	EA	28" x 14" Vertically Mounted Backdraft Damper	329.60	29.63
23 33 13 23-0245	EA	20" x 20" Vertically Mounted Backdraft Damper	340.45	31.52
23 33 13 23-0246	EA	40" x 10" Vertically Mounted Backdraft Damper	352.30	35.55
23 33 13 23-0247	EA	50" x 8" Vertically Mounted Backdraft Damper	364.15	39.46
23 33 13 23-0248	EA	18" x 24" Vertically Mounted Backdraft Damper	383.80	39.46
23 33 13 23-0249	EA	24" x 18" Vertically Mounted Backdraft Damper	395.65	43.37
23 33 13 23-0250	EA	36" x 12" Vertically Mounted Backdraft Damper	407.50	47.40
23 33 13 23-0251	EA	44" x 10" Vertically Mounted Backdraft Damper	424.26	51.31
23 33 13 23-0252	EA	28" x 16" Vertically Mounted Backdraft Damper	452.88	59.25
23 33 13 23-0253	EA	32" x 14" Vertically Mounted Backdraft Damper	452.88	59.25
23 33 13 23-0254	EA	20" x 24" Vertically Mounted Backdraft Damper	486.84	63.16
23 33 13 23-0255	EA	24" x 20" Vertically Mounted Backdraft Damper	453.44	67.07
23 33 13 23-0256	EA	40" x 12" Vertically Mounted Backdraft Damper	453.44	67.07
23 33 13 23-0257	EA	48" x 10" Vertically Mounted Backdraft Damper	465.29	70.98
23 33 13 23-0258	EA	50" x 10" Vertically Mounted Backdraft Damper	475.79	70.98
23 33 13 23-0259	EA	28" x 18" Vertically Mounted Backdraft Damper	329.75	21.68
23 33 13 23-0260	EA	36" x 14" Vertically Mounted Backdraft Damper	341.59	25.60
23 33 13 23-0261	EA	32" x 16" Vertically Mounted Backdraft Damper	351.74	27.61
23 33 13 23-0262	EA	44" x 12" Vertically Mounted Backdraft Damper	371.96	31.52
23 33 13 23-0263	EA	20" x 28" Vertically Mounted Backdraft Damper	400.61	35.55
23 33 13 23-0264	EA	28" x 20" Vertically Mounted Backdraft Damper	412.46	39.46
23 33 13 23-0265	EA	40" x 14" Vertically Mounted Backdraft Damper	412.46	39.46
23 33 13 23-0266	EA	24" x 24" Vertically Mounted Backdraft Damper	432.71	43.37
23 33 13 23-0267	EA	32" x 18" Vertically Mounted Backdraft Damper	444.56	47.40
23 33 13 23-0268	EA	36" x 16" Vertically Mounted Backdraft Damper	456.41	51.31
23 33 13 23-0269	EA	48" x 12" Vertically Mounted Backdraft Damper	480.11	59.25
23 33 13 23-0270	EA	50" x 12" Vertically Mounted Backdraft Damper	492.73	59.25
23 33 13 23-0271	EA	44" x 14" Vertically Mounted Backdraft Damper	512.98	63.16
23 33 13 23-0272	EA	20" x 32" Vertically Mounted Backdraft Damper	537.43	67.07
23 33 13 23-0273	EA	32" x 20" Vertically Mounted Backdraft Damper	549.28	70.98
23 33 13 23-0274	EA	40" x 16" Vertically Mounted Backdraft Damper	549.28	70.98
23 33 13 23-0275	EA	36" x 18" Vertically Mounted Backdraft Damper	565.31	75.01
23 33 13 23-0276	EA	24" x 28" Vertically Mounted Backdraft Damper	580.02	75.01
23 33 13 23-0277	EA	28" x 24" Vertically Mounted Backdraft Damper	561.44	78.92
23 33 13 23-0278	EA	48" x 14" Vertically Mounted Backdraft Damper	561.44	78.92
23 33 13 23-0279	EA	50" x 14" Vertically Mounted Backdraft Damper	586.82	82.83
23 33 13 23-0280	EA	44" x 16" Vertically Mounted Backdraft Damper	405.06	21.68
23 33 13 23-0281	EA	20" x 36" Vertically Mounted Backdraft Damper	430.57	27.61
23 33 13 23-0282	EA	36" x 20" Vertically Mounted Backdraft Damper	442.42	31.52
23 33 13 23-0283	EA	40" x 18" Vertically Mounted Backdraft Damper	454.27	35.55
23 33 13 23-0284	EA	24" x 32" Vertically Mounted Backdraft Damper	489.29	39.46
23 33 13 23-0285	EA	32" x 24" Vertically Mounted Backdraft Damper	489.29	39.46
23 33 13 23-0286	EA	48" x 16" Vertically Mounted Backdraft Damper	501.14	43.37
23 33 13 23-0287	EA	28" x 28" Vertically Mounted Backdraft Damper	520.72	47.40
23 33 13 23-0288	EA	44" x 18" Vertically Mounted Backdraft Damper	536.42	51.31
23 33 13 23-0289	EA	40" x 20" Vertically Mounted Backdraft Damper	563.98	59.25
23 33 13 23-0290	EA	50" x 16" Vertically Mounted Backdraft Damper	563.98	59.25
23 33 13 23-0291	EA	24" x 36" Vertically Mounted Backdraft Damper	606.73	63.16
23 33 13 23-0292	EA	36" x 24" Vertically Mounted Backdraft Damper	618.59	67.07
23 33 13 23-0293	EA	48" x 18" Vertically Mounted Backdraft Damper	630.44	70.98
23 33 13 23-0294	EA	44" x 20" Vertically Mounted Backdraft Damper	650.03	75.01
23 33 13 23-0295	EA	28" x 32" Vertically Mounted Backdraft Damper	657.76	75.01
23 33 13 23-0296	EA	32" x 28" Vertically Mounted Backdraft Damper	669.60	78.92
23 33 13 23-0297	EA	50" x 18" Vertically Mounted Backdraft Damper	671.51	78.92
23 33 13 23-0298	EA	24" x 40" Vertically Mounted Backdraft Damper	712.33	82.83
23 33 13 23-0299	EA	40" x 24" Vertically Mounted Backdraft Damper	712.33	82.83
23 33 13 23-0300	EA	48" x 20" Vertically Mounted Backdraft Damper	712.33	82.83
23 33 13 23-0301	EA	50" x 20" Vertically Mounted Backdraft Damper	553.91	23.70
23 33 13 23-0302	EA	28" x 36" Vertically Mounted Backdraft Damper	575.52	29.63
23 33 13 23-0303	EA	36" x 28" Vertically Mounted Backdraft Damper	581.45	31.52
23 33 13 23-0304	EA	32" x 32" Vertically Mounted Backdraft Damper	601.03	35.55
23 33 13 23-0305	EA	24" x 44" Vertically Mounted Backdraft Damper	573.21	39.46
23 33 13 23-0306	EA	44" x 24" Vertically Mounted Backdraft Damper	585.06	43.37
23 33 13 23-0307	EA	28" x 40" Vertically Mounted Backdraft Damper	624.45	47.40
23 33 13 23-0308	EA	40" x 28" Vertically Mounted Backdraft Damper	636.30	51.31
23 33 13 23-0309	EA	24" x 48" Vertically Mounted Backdraft Damper	661.95	55.22
23 33 13 23-0310	EA	32" x 36" Vertically Mounted Backdraft Damper	673.80	59.25
23 33 13 23-0311	EA	36" x 32" Vertically Mounted Backdraft Damper	685.65	63.16



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

Air Duct Accessories

23 33

23

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 23-0312	EA	48" x 24" Vertically Mounted Backdraft Damper		697.51	67.07
23 33 13 23-0313	EA	50" x 24" Vertically Mounted Backdraft Damper		730.02	70.98
23 33 13 23-0314	EA	28" x 44" Vertically Mounted Backdraft Damper		755.64	75.01
23 33 13 23-0315	EA	44" x 28" Vertically Mounted Backdraft Damper		755.64	75.01
23 33 13 23-0316	EA	32" x 40" Vertically Mounted Backdraft Damper		788.16	78.92
23 33 13 23-0317	EA	40" x 32" Vertically Mounted Backdraft Damper		628.18	25.60
23 33 13 23-0318	EA	36" x 36" Vertically Mounted Backdraft Damper		652.85	31.52
23 33 13 23-0319	EA	28" x 48" Vertically Mounted Backdraft Damper		685.35	35.55
23 33 13 23-0320	EA	48" x 28" Vertically Mounted Backdraft Damper		697.20	39.46
23 33 13 23-0321	EA	50" x 28" Vertically Mounted Backdraft Damper		733.16	43.37
23 33 13 23-0322	EA	32" x 44" Vertically Mounted Backdraft Damper		748.47	47.40
23 33 13 23-0323	EA	44" x 32" Vertically Mounted Backdraft Damper		748.47	47.40
23 33 13 23-0324	EA	36" x 40" Vertically Mounted Backdraft Damper		775.82	51.31
23 33 13 23-0325	EA	40" x 36" Vertically Mounted Backdraft Damper		735.80	59.25
23 33 13 23-0326	EA	28" x 52" Vertically Mounted Backdraft Damper		753.83	63.16
23 33 13 23-0327	EA	32" x 48" Vertically Mounted Backdraft Damper		796.69	67.07
23 33 13 23-0328	EA	48" x 32" Vertically Mounted Backdraft Damper		808.54	70.98
23 33 13 23-0329	EA	28" x 56" Vertically Mounted Backdraft Damper		832.80	75.01
23 33 13 23-0330	EA	36" x 44" Vertically Mounted Backdraft Damper		839.01	75.01
23 33 13 23-0331	EA	44" x 36" Vertically Mounted Backdraft Damper		850.85	78.92
23 33 13 23-0332	EA	40" x 40" Vertically Mounted Backdraft Damper		857.04	78.92
23 33 13 23-0333	EA	50" x 32" Vertically Mounted Backdraft Damper		702.99	27.61
23 33 13 23-0334	EA	32" x 52" Vertically Mounted Backdraft Damper		739.65	31.52
23 33 13 23-0335	EA	28" x 60" Vertically Mounted Backdraft Damper		757.69	35.55
23 33 13 23-0336	EA	36" x 48" Vertically Mounted Backdraft Damper		788.16	39.46
23 33 13 23-0337	EA	48" x 36" Vertically Mounted Backdraft Damper		800.01	43.37
23 33 13 23-0338	EA	40" x 44" Vertically Mounted Backdraft Damper		824.27	47.40
23 33 13 23-0339	EA	44" x 40" Vertically Mounted Backdraft Damper		836.12	51.31
23 33 13 23-0340	EA	32" x 56" Vertically Mounted Backdraft Damper		860.34	55.22
23 33 13 23-0341	EA	50" x 36" Vertically Mounted Backdraft Damper		797.79	59.25
23 33 13 23-0342	EA	36" x 52" Vertically Mounted Backdraft Damper		846.31	67.07
23 33 13 23-0343	EA	32" x 60" Vertically Mounted Backdraft Damper		874.69	70.98
23 33 13 23-0344	EA	40" x 48" Vertically Mounted Backdraft Damper		886.54	75.01
23 33 13 23-0345	EA	48" x 40" Vertically Mounted Backdraft Damper		886.54	75.01
23 33 13 23-0346	EA	44" x 44" Vertically Mounted Backdraft Damper		903.90	78.92
23 33 13 23-0347	EA	40" x 50" Vertically Mounted Backdraft Damper		937.80	82.83
23 33 13 23-0348	EA	50" x 40" Vertically Mounted Backdraft Damper		937.80	82.83
23 33 13 23-0349	EA	36" x 56" Vertically Mounted Backdraft Damper		777.39	27.61
23 33 13 23-0350	EA	32" x 64" Vertically Mounted Backdraft Damper		812.13	35.55
23 33 13 23-0351	EA	44" x 48" Vertically Mounted Backdraft Damper		846.03	39.46
23 33 13 23-0352	EA	48" x 44" Vertically Mounted Backdraft Damper		857.88	43.37
23 33 13 23-0353	EA	36" x 60" Vertically Mounted Backdraft Damper		886.26	47.40
23 33 13 23-0354	EA	32" x 68" Vertically Mounted Backdraft Damper		903.63	51.31
23 33 13 23-0355	EA	44" x 50" Vertically Mounted Backdraft Damper		829.01	55.22
23 33 13 23-0356	EA	50" x 44" Vertically Mounted Backdraft Damper		840.86	59.25
23 33 13 23-0357	EA	32" x 72" Vertically Mounted Backdraft Damper		884.04	63.16
23 33 13 23-0358	EA	36" x 64" Vertically Mounted Backdraft Damper		895.90	67.07
23 33 13 23-0359	EA	48" x 48" Vertically Mounted Backdraft Damper		907.75	70.98
23 33 13 23-0360	EA	48" x 50" Vertically Mounted Backdraft Damper		948.54	75.01
23 33 13 23-0361	EA	50" x 48" Vertically Mounted Backdraft Damper		960.38	78.92
23 33 13 23-0362	EA	36" x 68" Vertically Mounted Backdraft Damper		974.85	78.92
23 33 13 23-0363	EA	50" x 50" Vertically Mounted Backdraft Damper		1,002.38	82.83
23 33 13 23-0364	EA	36" x 72" Vertically Mounted Backdraft Damper		1,030.10	82.83
23 33 13 23-0365 Backdraft Damper Accessories (23 33 13 23)					
23 33 13 23-0366	EA	For Motor Pack For Horizontally Mounted Backdraft Damper		283.00	30.80
23 33 13 23-0367	EA	For Motor Pack For Vertically Mounted Backdraft Damper		486.21	30.80
23 33 13 33 Splitter Damper Hardware (23 33 13)					
23 33 13 33-0001	EA	Splitter Damper, Hardware		42.53	8.28
23 33 13 43 Blower Check Valve (23 33 13)					
23 33 13 43-0001 Blower Check Valves With Silicone Seals (23 33 13 43)					
23 33 13 43-0002	EA	2-1/2" Blower Check Valves, Silicone Seals		267.02	30.57
23 33 13 43-0003	EA	3" Blower Check Valves, Silicone Seals		298.16	34.84
23 33 13 43-0004	EA	4" Blower Check Valves, Silicone Seals		383.00	46.22
23 33 13 43-0005	EA	5" Blower Check Valves, Silicone Seals		529.01	53.33
23 33 13 43-0006	EA	6" Blower Check Valves, Silicone Seals		592.82	63.99
23 33 13 43-0007	EA	8" Blower Check Valves, Silicone Seals		883.35	81.05
23 33 13 43-0008 Blower Check Valves With Viton Seats (23 33 13 43)					
23 33 13 43-0009	EA	2-1/2" Blower Check Valves, Viton Seats		369.05	30.57
23 33 13 43-0010	EA	3" Blower Check Valves, Viton Seats		419.42	34.84
23 33 13 43-0011	EA	4" Blower Check Valves, Viton Seats		467.43	46.22
23 33 13 43-0012	EA	5" Blower Check Valves, Viton Seats		655.42	53.33
23 33 13 43-0013	EA	6" Blower Check Valves, Viton Seats		732.35	63.99

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 33 13 43-0014 EA 8" Blower Check Valves, Viton Seats 1,130.18 81.05

23 33 19 Duct Silencers (23 33)**23 33 19 00-0001 36" Long Packaged Duct Sound Trap (23 33 19)**

23 33 19 00-0002	EA	12" x 12" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	371.15	48.49
23 33 19 00-0003	EA	12" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	446.91	55.59
23 33 19 00-0004	EA	12" x 24" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	582.67	63.87
23 33 19 00-0005	EA	12" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	710.73	72.15
23 33 19 00-0006	EA	24" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	655.85	72.15
23 33 19 00-0007	EA	24" x 24" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	843.42	75.69
23 33 19 00-0008	EA	24" x 30" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	932.91	80.42
23 33 19 00-0009	EA	24" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,024.76	85.16
23 33 19 00-0010	EA	24" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,349.42	96.98
23 33 19 00-0011	EA	36" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	836.03	80.42
23 33 19 00-0012	EA	36" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,133.05	96.98
23 33 19 00-0013	EA	36" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,020.89	130.10
23 33 19 00-0014	EA	36" x 60" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,238.04	137.19
23 33 19 00-0015	EA	48" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,499.90	147.84
23 33 19 00-0016	EA	48" x 60" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,808.79	160.85

23 33 19 00-0017 60" Long Packaged Duct Sound Trap (23 33 19)

23 33 19 00-0018	EA	12" x 12" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	414.73	106.45
23 33 19 00-0019	EA	12" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	500.75	123.00
23 33 19 00-0020	EA	12" x 24" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	654.49	141.92
23 33 19 00-0021	EA	12" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	798.48	159.67
23 33 19 00-0022	EA	24" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	736.10	159.67
23 33 19 00-0023	EA	24" x 24" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	950.76	169.12
23 33 19 00-0024	EA	24" x 30" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,048.40	177.40
23 33 19 00-0025	EA	24" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,147.80	186.87
23 33 19 00-0026	EA	24" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,519.35	212.89
23 33 19 00-0027	EA	36" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	938.31	177.40
23 33 19 00-0028	EA	36" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,273.48	212.89
23 33 19 00-0029	EA	36" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,266.65	280.30
23 33 19 00-0030	EA	36" x 60" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,531.19	303.96
23 33 19 00-0031	EA	48" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,813.93	322.88
23 33 19 00-0032	EA	48" x 60" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	3,168.34	354.82

23 33 19 00-0033 84" Long Packaged Duct Sound Trap (23 33 19)

23 33 19 00-0034	EA	6" x 12" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	357.22	88.70
23 33 19 00-0035	EA	6" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	614.73	132.47
23 33 19 00-0036	EA	6" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	856.80	193.97
23 33 19 00-0037	EA	12" x 12" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	484.45	106.45
23 33 19 00-0038	EA	12" x 18" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	603.50	123.00
23 33 19 00-0039	EA	12" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	823.30	141.92
23 33 19 00-0040	EA	12" x 30" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	975.68	152.57
23 33 19 00-0041	EA	12" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,065.14	164.39
23 33 19 00-0042	EA	12" x 42" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,345.65	177.40
23 33 19 00-0043	EA	12" x 48" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,594.41	193.97
23 33 19 00-0044	EA	24" x 18" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	911.01	164.39
23 33 19 00-0045	EA	24" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,308.50	171.49
23 33 19 00-0046	EA	24" x 30" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,430.05	177.40
23 33 19 00-0047	EA	24" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,558.81	186.87
23 33 19 00-0048	EA	24" x 42" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,961.30	201.06
23 33 19 00-0049	EA	24" x 48" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	2,128.52	212.89

23 33 23 Turning Vanes (23 33)**23 33 23 00-0001 Duct Turning Vane Components (23 33 23)**

23 33 23 00-0002	LF	Duct Turning Vane Rail	13.11	2.96
		<i>For Stainless Steel, Add</i>	9.07	
23 33 23 00-0003	LF	Double Thick Factory Fabricated, Duct Turning Vane	12.97	1.18
		<i>For Stainless Steel, Add</i>	13.66	

23 33 23 00-0004 Duct Turning Vane Sets (23 33 23)

Note: Measured from inside corner to outside corner of ductwork.

23 33 23 00-0005	LF	12" High Duct Turning Vanes, Sets	53.82	4.43
		<i>For Stainless Steel, Add</i>	62.75	
23 33 23 00-0006	LF	14" High Duct Turning Vanes, Sets	66.97	4.73
		<i>For Stainless Steel, Add</i>	79.38	
23 33 23 00-0007	LF	16" High Duct Turning Vanes, Sets	91.75	4.96
		<i>For Stainless Steel, Add</i>	111.14	
23 33 23 00-0008	LF	18" High Duct Turning Vanes, Sets	116.58	5.32
		<i>For Stainless Steel, Add</i>	142.90	
23 33 23 00-0009	LF	20" High Duct Turning Vanes, Sets	129.22	5.68
		<i>For Stainless Steel, Add</i>	158.76	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33	23 00-0010	LF	22" High Duct Turning Vanes, Sets For Stainless Steel, Add	165.43 206.43	5.32
23 33	23 00-0011	LF	24" High Duct Turning Vanes, Sets For Stainless Steel, Add	203.31 254.05	6.26
23 33	23 00-0012	LF	26" High Duct Turning Vanes, Sets For Stainless Steel, Add	218.32 273.17	6.56
23 33	23 00-0013	LF	30" High Duct Turning Vanes, Sets For Stainless Steel, Add	243.87 305.96	6.81
23 33 33 Duct-Mounting Access Doors (23 33)					
23 33 33 00-0001 Duct Access Doors, Insulated Factory Fabrication (23 33 33)					
23 33	33 00-0002	EA	6" x 6" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	94.89 56.72	16.56
23 33	33 00-0003	EA	10" x 10" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	100.84 68.62	16.56
23 33	33 00-0004	EA	12" x 12" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	103.75 74.44	16.56
23 33	33 00-0005	EA	12" x 18" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	134.37 104.98	20.11
23 33	33 00-0006	EA	16" x 12" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	135.55 107.34	20.11
23 33	33 00-0007	EA	18" x 18" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	168.22 123.54	27.20
23 33	33 00-0008	EA	24" x 18" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	199.56 133.02	33.11
23 33	33 00-0009	EA	24" x 24" Duct Access Doors Insulated Factory Fabrication For Stainless Steel, Add	259.07 163.34	44.94
23 33 43 Flexible Connectors (23 33)					
23 33	43 00-0001	LF	6-1/2" Width, Galvanized Steel, Flexible Duct Connector	15.11	3.54
23 33	43 00-0002	LF	5-3/4" Width, Vinyl/Steel, Flexible Duct Connector	15.54	3.19
23 33 46 Flexible Ducts (23 33)					
23 33 46 00-0001 Flexible Duct, R8.0 Insulated With Metallized Outer Jacket (23 33 46)					
Note: Polyester inner liner encapsulating a corrosion resistant steel wire helix, supporting a blanket of fiberglass insulation over a fiberglass scrim and a bi-directional reinforced metallized outer vapor barrier jacket.					
23 33	46 00-0002	LF	4" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	9.11 -1.07 -1.24	1.18
23 33	46 00-0003	LF	5" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	10.02 -1.13 -1.32	2.37
23 33	46 00-0004	LF	6" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	11.17 -1.15 -1.34	2.37
23 33	46 00-0005	LF	7" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	12.92 -1.29 -1.50	2.37
23 33	46 00-0006	LF	8" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	14.97 -1.30 -1.52	3.54
23 33	46 00-0007	LF	10" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	19.43 -1.75 -2.04	3.54
23 33	46 00-0008	LF	12" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	25.85 -2.08 -2.43	4.73
23 33	46 00-0009	LF	14" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	32.12 -2.54 -2.96	4.73
23 33	46 00-0010	LF	16" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	41.69 -3.03 -3.54	5.91
23 33	46 00-0011	LF	18" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	51.02 -3.95 -4.61	7.68
23 33	46 00-0012	LF	20" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket For R6.0 Insulated Flexible Duct, Deduct For R4.2 Insulated Flexible Duct, Deduct	61.24 -5.96 -6.95	8.28

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 33 46 00-0013 Collars, Sheet Metal Spin-In Type With Damper (23 33 46)

23 33 46 00-0014	EA	Up To 4" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	50.91	7.10
		<i>For Stainless Steel, Add</i>	31.59	
23 33 46 00-0015	EA	5" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	55.03	8.28
		<i>For Stainless Steel, Add</i>	32.01	
23 33 46 00-0016	EA	6" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	62.63	8.28
		<i>For Stainless Steel, Add</i>	35.30	
23 33 46 00-0017	EA	7" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	70.60	10.64
		<i>For Stainless Steel, Add</i>	36.43	
23 33 46 00-0018	EA	8" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	84.87	13.01
		<i>For Stainless Steel, Add</i>	41.15	
23 33 46 00-0019	EA	10" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	99.85	15.38
		<i>For Stainless Steel, Add</i>	50.73	
23 33 46 00-0020	EA	12" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	113.01	17.74
		<i>For Stainless Steel, Add</i>	54.65	
23 33 46 00-0021	EA	14" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	134.24	20.11
		<i>For Stainless Steel, Add</i>	68.43	
23 33 46 00-0022	EA	16" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	146.29	22.47
		<i>For Stainless Steel, Add</i>	74.87	
23 33 46 00-0023	EA	18" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	163.02	25.43
		<i>For Stainless Steel, Add</i>	81.24	
23 33 46 00-0024	EA	20" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper	192.84	27.20
		<i>For Stainless Steel, Add</i>	112.31	

23 33 53 Duct Liners (23 33)**23 33 53 00-0001 Fiberglass Duct Liner Board, Rigid, Acoustical Insulation (23 33 53)**

23 33 53 00-0002	SF	1/2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board	12.98	3.22
23 33 53 00-0003	SF	3/4" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board	14.16	3.22
23 33 53 00-0004	SF	1" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board	15.78	4.30
23 33 53 00-0005	SF	1-1/2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board	19.39	4.30
23 33 53 00-0006	SF	2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board	23.39	4.84
23 33 53 00-0007	SF	1/2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board	12.56	3.54
23 33 53 00-0008	SF	3/4" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board	13.70	3.54
23 33 53 00-0009	SF	1" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board	15.31	4.73
23 33 53 00-0010	SF	1-1/2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board	18.71	4.73
23 33 53 00-0011	SF	2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board	22.66	5.32

23 33 53 00-0012 Fiberglass Duct Liner Blanket, Flexible, Acoustical Insulation (23 33 53)

23 33 53 00-0013	SF	1/2", R2, 2 LB/CF, T200, Fiberglass Duct Liner Blanket	3.18	2.84
23 33 53 00-0014	SF	1", R3.8, 1.5 LB/CF, T150, Fiberglass Duct Liner Blanket	3.86	3.19
23 33 53 00-0015	SF	1", R4.1, 2 LB/CF, T200, Fiberglass Duct Liner Blanket	4.77	3.19
23 33 53 00-0016	SF	1", R4.3, 3 LB/CF, T300, Fiberglass Duct Liner Blanket	6.29	3.19
23 33 53 00-0017	SF	1-1/2", T150, 1.5 LB/CF, Fiberglass Duct Liner Blanket	5.15	3.54
23 33 53 00-0018	SF	2", R7.7, 1.5 LB/CF, T150 Fiberglass Duct Liner Blanket	5.46	3.91
23 33 53 00-0019	SF	2" R8, 2 LB/CF, T200 Fiberglass Duct Liner Blanket	8.74	3.91

23 33 56 Duct Air Extractors (23 33)

23 33 56 00-0001	EA	12" x 4" Duct Air Extractor	58.55	19.52
		<i>For Stainless Steel, Add</i>	25.38	
23 33 56 00-0002	EA	8" x 6" Duct Air Extractor	62.10	21.29
		<i>For Stainless Steel, Add</i>	25.38	
23 33 56 00-0003	EA	12" x 6" Duct Air Extractor	71.95	22.47
		<i>For Stainless Steel, Add</i>	35.11	
23 33 56 00-0004	EA	16" x 6" Duct Air Extractor	81.57	23.66
		<i>For Stainless Steel, Add</i>	44.54	
23 33 56 00-0005	EA	24" x 6" Duct Air Extractor	108.60	26.02
		<i>For Stainless Steel, Add</i>	73.54	
23 33 56 00-0006	EA	12" x 8" Duct Air Extractor	77.59	23.66
		<i>For Stainless Steel, Add</i>	39.36	
23 33 56 00-0007	EA	20" x 8" Duct Air Extractor	102.95	29.57
		<i>For Stainless Steel, Add</i>	56.97	
23 33 56 00-0008	EA	18" x 10" Duct Air Extractor	110.44	33.71
		<i>For Stainless Steel, Add</i>	55.94	
23 33 56 00-0009	EA	24" x 10" Duct Air Extractor	135.01	39.61
		<i>For Stainless Steel, Add</i>	72.50	
23 33 56 00-0010	EA	24" x 12" Duct Air Extractor	154.37	47.31
		<i>For Stainless Steel, Add</i>	77.69	
23 33 56 00-0011	EA	30" x 12" Duct Air Extractor	193.17	59.13
		<i>For Stainless Steel, Add</i>	97.37	

23 33 59 Duct Pressure Relief Doors (23 33)**23 33 59 00-0001 Duct Pressure Relief Doors (23 33 59)**

23 33 59 00-0002	EA	18" x 18" Duct Pressure Relief Door (Ruskin PRD18)	1,239.64	35.48
23 33 59 00-0003	EA	24" x 10" Duct Pressure Relief Door (Ruskin PRD18)	1,018.40	29.57



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 59 00-0004	EA		24" x 12" Duct Pressure Relief Door (Ruskin PRD18)	1,008.28	32.53
23 34 HVAC Fans (23 30)					
23 34 13 Axial HVAC Fans (23 34)					
23 34 13 00-0001 Tube-Axial Fans (23 34 13)					
23 34 13 00-0002 Direct Drive Tube-Axial Duct Fans (23 34 13 00-0001)					
23 34 13 00-0003	EA		12" Direct Drive Axial Flow Fan, 1/6 HP 1,060 CFM Constant Speed, 1/8" Static Pressure	1,887.45	363.45
			For 1/4" Static Pressure, Add	92.79	
			For 3/8" Static Pressure, Add	785.57	
			For 1/2" Static Pressure, Add	255.16	
23 34 13 00-0004	EA		12" Direct Drive Axial Flow Fan, 1/2 HP 2,095 CFM Constant Speed, 1/8" Static Pressure	1,970.29	364.54
			For 1/4" Static Pressure, Add	99.41	
			For 3/8" Static Pressure, Add	198.83	
			For 1/2" Static Pressure, Add	273.99	
23 34 13 00-0005	EA		16" Direct Drive Axial Flow Fan, 1/3 HP 2,490 CFM Constant Speed, 1/8" Static Pressure	2,135.98	363.45
			For 1/4" Static Pressure, Add	112.67	
			For 3/8" Static Pressure, Add	225.34	
			For 1/2" Static Pressure, Add	309.84	
23 34 13 00-0006	EA		20" Direct Drive Axial Flow Fan, 3/4 HP 4,130 CFM Constant Speed, 1/8" Static Pressure	2,301.67	364.54
			For 1/4" Static Pressure, Add	125.92	
			For 3/8" Static Pressure, Add	251.85	
			For 1/2" Static Pressure, Add	346.29	
23 34 13 00-0007	EA		22" Direct Drive Axial Flow Fan, 3/4 HP 4,700 CFM Constant Speed, 1/8" Static Pressure	2,695.72	436.58
			For 1/4" Static Pressure, Add	145.81	
			For 3/8" Static Pressure, Add	291.61	
			For 1/2" Static Pressure, Add	400.97	
23 34 13 00-0008	EA		24" Direct Drive Axial Flow Fan, 1 HP 5,850 CFM Constant Speed, 1/8" Static Pressure	3,103.03	474.78
			For 1/4" Static Pressure, Add	172.32	
			For 3/8" Static Pressure, Add	344.63	
			For 1/2" Static Pressure, Add	473.87	
23 34 13 00-0009	EA		24" Direct Drive Axial Flow Fan, 1-1/2 HP 7,925 CFM Constant Speed, 1/8" Static Pressure	3,276.26	519.53
			For 1/4" Static Pressure, Add	178.94	
			For 3/8" Static Pressure, Add	357.89	
			For 1/2" Static Pressure, Add	492.09	
23 34 13 00-0010	EA		30" Direct Drive Axial Flow Fan, 1 HP 10,640 CFM Constant Speed, 1/8" Static Pressure	3,742.46	545.72
			For 1/4" Static Pressure, Add	212.08	
			For 3/8" Static Pressure, Add	424.16	
			For 1/2" Static Pressure, Add	583.22	
23 34 13 00-0011	EA		30" Direct Drive Axial Flow Fan, 2-1/2 HP 14,765 CFM Constant Speed, 1/8" Static Pressure	4,512.39	682.15
			For 1/4" Static Pressure, Add	251.85	
			For 3/8" Static Pressure, Add	503.69	
			For 1/2" Static Pressure, Add	692.58	
23 34 13 00-0012	EA		36" Direct Drive Axial Flow Fan, 2 HP 16,780 CFM Constant Speed, 1/8" Static Pressure	5,100.41	727.99
			For 1/4" Static Pressure, Add	291.61	
			For 3/8" Static Pressure, Add	583.22	
			For 1/2" Static Pressure, Add	801.93	
23 34 13 00-0013	EA		36" Direct Drive Axial Flow Fan, 5 HP 22,920 CFM Constant Speed, 1/8" Static Pressure	5,987.05	839.32
			For 1/4" Static Pressure, Add	344.63	
			For 3/8" Static Pressure, Add	689.26	
			For 1/2" Static Pressure, Add	947.74	
23 34 13 00-0014 Belt Drive Tube-Axial Duct Fans (23 34 13 00-0001)					
23 34 13 00-0015	EA		15" Belt Drive Axial Flow Fan, 1/3 HP 2,800 CFM Constant Speed, 1/8" Static Pressure	1,789.21	352.54
			For 1/4" Static Pressure, Add	86.80	
			For 3/8" Static Pressure, Add	173.61	
			For 1/2" Static Pressure, Add	238.71	
23 34 13 00-0016	EA		15" Belt Drive Axial Flow Fan, 1/2 HP 3,400 CFM Constant Speed, 1/8" Static Pressure	1,898.35	364.54
			For 1/4" Static Pressure, Add	93.66	
			For 3/8" Static Pressure, Add	187.32	
			For 1/2" Static Pressure, Add	257.56	
23 34 13 00-0017	EA		18" Belt Drive Axial Flow Fan, 1/3 HP 3,280 CFM Constant Speed, 1/8" Static Pressure	1,961.51	376.54
			For 1/4" Static Pressure, Add	96.70	
			For 3/8" Static Pressure, Add	193.41	
			For 1/2" Static Pressure, Add	265.93	
23 34 13 00-0018	EA		18" Belt Drive Axial Flow Fan, 1/2 HP 3,900 CFM Constant Speed, 1/8" Static Pressure	2,077.22	389.65
			For 1/4" Static Pressure, Add	103.81	
			For 3/8" Static Pressure, Add	207.62	
			For 1/2" Static Pressure, Add	285.48	
23 34 13 00-0019	EA		18" Belt Drive Axial Flow Fan, 1 HP 5,250 CFM Constant Speed, 1/8" Static Pressure	2,347.22	404.92
			For 1/4" Static Pressure, Add	123.10	
			For 3/8" Static Pressure, Add	246.20	
			For 1/2" Static Pressure, Add	338.53	
23 34 13 00-0020	EA		24" Belt Drive Axial Flow Fan, 1/2 HP 4,800 CFM Constant Speed, 1/8" Static Pressure	2,476.67	420.20
			For 1/4" Static Pressure, Add	130.97	
			For 3/8" Static Pressure, Add	261.94	
			For 1/2" Static Pressure, Add	360.16	
23 34 13 00-0021	EA		24" Belt Drive Axial Flow Fan, 1 HP 6,430 CFM Constant Speed, 1/8" Static Pressure	2,776.75	436.58
			For 1/4" Static Pressure, Add	152.29	
			For 3/8" Static Pressure, Add	304.58	
			For 1/2" Static Pressure, Add	418.79	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 13 00-0022	EA	24" Belt Drive Axial Flow Fan, 2 HP 8,860 CFM Constant Speed, 1/8" Static Pressure	3,139.84	436.58
		For 1/4" Static Pressure, Add	181.45	
		For 3/8" Static Pressure, Add	362.89	
		For 1/2" Static Pressure, Add	498.98	
23 34 13 00-0023	EA	30" Belt Drive Axial Flow Fan, 1 HP 9,250 CFM Constant Speed, 1/8" Static Pressure	3,644.20	474.78
		For 1/4" Static Pressure, Add	215.74	
		For 3/8" Static Pressure, Add	431.48	
		For 1/2" Static Pressure, Add	593.29	
23 34 13 00-0024	EA	30" Belt Drive Axial Flow Fan, 5 HP 16,900 CFM Constant Speed, 1/8" Static Pressure	4,319.14	575.19
		For 1/4" Static Pressure, Add	253.81	
		For 3/8" Static Pressure, Add	507.63	
		For 1/2" Static Pressure, Add	697.99	
23 34 13 00-0025	EA	30" Belt Drive Axial Flow Fan, 5 HP 16,150 CFM Constant Speed, 1/8" Static Pressure	4,931.45	575.19
		For 1/4" Static Pressure, Add	302.41	
		For 3/8" Static Pressure, Add	604.82	
		For 1/2" Static Pressure, Add	831.63	
23 34 13 00-0026	EA	36" Belt Drive Axial Flow Fan, 3/4 HP 8,090 CFM Constant Speed, 1/8" Static Pressure	5,433.51	606.84
		For 1/4" Static Pressure, Add	337.66	
		For 3/8" Static Pressure, Add	675.33	
		For 1/2" Static Pressure, Add	928.58	
23 34 13 00-0027	EA	36" Belt Drive Axial Flow Fan, 2 HP 14,475 CFM Constant Speed, 1/8" Static Pressure	5,938.47	641.77
		For 1/4" Static Pressure, Add	372.60	
		For 3/8" Static Pressure, Add	745.19	
		For 1/2" Static Pressure, Add	1,024.64	
23 34 13 00-0028	EA	36" Belt Drive Axial Flow Fan, 7-1/2 HP 14,475 CFM Constant Speed, 1/8" Static Pressure	6,750.27	839.32
		For 1/4" Static Pressure, Add	406.10	
		For 3/8" Static Pressure, Add	812.20	
		For 1/2" Static Pressure, Add	1,116.78	
23 34 13 00-0029	EA	36" Belt Drive Axial Flow Fan, 5 HP 20,080 CFM Constant Speed, 1/8" Static Pressure	7,722.22	840.41
		For 1/4" Static Pressure, Add	483.86	
		For 3/8" Static Pressure, Add	967.72	
		For 1/2" Static Pressure, Add	1,330.61	
23 34 13 00-0030	EA	42" Belt Drive Axial Flow Fan, 7-1/2 HP 29,000 CFM Constant Speed, 1/8" Static Pressure	8,716.21	991.90
		For 1/4" Static Pressure, Add	539.12	
		For 3/8" Static Pressure, Add	1,078.23	
		For 1/2" Static Pressure, Add	1,482.57	

23 34 16 Centrifugal HVAC Fans (23 34)**23 34 16 00-0001 Centrifugal Fans (23 34 16)**

Note: All belt fans to be supplied with belt guard.

23 34 16 00-0002 Utility Backward Inclined Steel Wheel Centrifugal Fans (23 34 16 00-0001)

Note: V-belt driven.

23 34 16 00-0003 Industrial Type Utility Backward Centrifugal Fans (23 34 16 00-0002)

Note: Under 30" diameter wheel.

23 34 16 00-0004 12-1/4" Diameter Wheel 650 To 2,950 CFM At 1/8" Static Pressure (23 34 16 00-0003)

23 34 16 00-0005	EA	1/6 HP, 12-1/4" Wheel, 450 To 1,750 CFM At 1/8" Static Pressure, Centrifugal Fan	1,214.71	239.79
23 34 16 00-0006	EA	1/4 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,739.19	248.85
23 34 16 00-0007	EA	1/3 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,789.80	198.31
23 34 16 00-0008	EA	1/2 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,869.06	271.77
23 34 16 00-0009	EA	3/4 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,915.21	288.14
23 34 16 00-0010	EA	1 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,976.57	300.15
23 34 16 00-0011	EA	1-1/2 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	2,038.60	319.80

23 34 16 00-0012 13-1/2" Diameter Wheel 734 To 3,343 CFM At 1/8" Static Pressure (23 34 16 00-0003)

23 34 16 00-0013	EA	1/4 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,004.43	261.95
23 34 16 00-0014	EA	1/3 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,040.83	271.77
23 34 16 00-0015	EA	1/2 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,108.42	288.14
23 34 16 00-0016	EA	3/4 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,148.04	300.15
23 34 16 00-0017	EA	1 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,221.23	319.80
23 34 16 00-0018	EA	1-1/2 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,293.80	335.07

23 34 16 00-0019 15" Diameter Wheel 1,258 To 4,146 CFM At 1/8" Static Pressure (23 34 16 00-0003)

23 34 16 00-0020	EA	1/4 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,019.40	271.77
23 34 16 00-0021	EA	1/3 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,065.55	288.14
23 34 16 00-0022	EA	1/2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,126.61	300.15
23 34 16 00-0023	EA	3/4 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,178.35	319.80
23 34 16 00-0024	EA	1 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,243.80	335.07
23 34 16 00-0025	EA	1-1/2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,335.44	360.17
23 34 16 00-0026	EA	2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,407.02	378.73

23 34 16 00-0027 16-1/2" Diameter Wheel 977 To 4,711 CFM At 1/8" Static Pressure (23 34 16 00-0003)

23 34 16 00-0028	EA	1/4 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,312.04	288.14
23 34 16 00-0029	EA	1/3 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,395.36	300.15
23 34 16 00-0030	EA	1/2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,487.83	319.80
23 34 16 00-0031	EA	3/4 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,536.63	335.07



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0032 EA 1 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,600.93	360.17
23 34 16 00-0033 EA 1-1/2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,655.88	378.73
23 34 16 00-0034 EA 2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,949.25	411.47
23 34 16 00-0035 18-1/4" Diameter Wheel 2,193 To 6,498 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0036 EA 1/4 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,389.17	300.15
23 34 16 00-0037 EA 1/3 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,446.27	319.80
23 34 16 00-0038 EA 1/2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,522.44	335.07
23 34 16 00-0039 EA 3/4 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,581.94	360.17
23 34 16 00-0040 EA 1 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,664.23	378.73
23 34 16 00-0041 EA 1-1/2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,788.51	411.47
23 34 16 00-0042 EA 2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,869.17	436.58
23 34 16 00-0043 EA 3 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,989.51	480.24
23 34 16 00-0044 20" Diameter Wheel 2,412 To 7,364 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0045 EA 1/4 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,414.13	319.80
23 34 16 00-0046 EA 1/3 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,490.27	335.07
23 34 16 00-0047 EA 1/2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,581.94	360.17
23 34 16 00-0048 EA 3/4 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,664.23	378.73
23 34 16 00-0049 EA 1 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,820.65	411.47
23 34 16 00-0050 EA 1-1/2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,039.09	436.58
23 34 16 00-0051 EA 2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,192.53	480.24
23 34 16 00-0052 EA 3 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,351.67	514.07
23 34 16 00-0053 22-1/4" Diameter Wheel 2,265 To 8,483 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0054 EA 1/4 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	2,901.10	335.07
23 34 16 00-0055 EA 1/3 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	2,955.57	360.17
23 34 16 00-0056 EA 1/2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,030.39	378.73
23 34 16 00-0057 EA 3/4 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,124.30	411.47
23 34 16 00-0058 EA 1 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,248.71	436.58
23 34 16 00-0059 EA 1-1/2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,290.75	480.24
23 34 16 00-0060 EA 2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,373.11	514.07
23 34 16 00-0061 EA 3 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,520.23	576.28
23 34 16 00-0062 24-1/2" Diameter Wheel 3,055 To 11,380 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0063 EA 1/4 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,489.31	360.17
23 34 16 00-0064 EA 1/2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,602.99	411.47
23 34 16 00-0065 EA 3/4 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,715.80	436.58
23 34 16 00-0066 EA 1 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,835.54	480.24
23 34 16 00-0067 EA 1-1/2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,941.10	514.07
23 34 16 00-0068 EA 2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,034.65	576.28
23 34 16 00-0069 EA 3 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,164.16	626.48
23 34 16 00-0070 EA 5 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,467.27	720.36
23 34 16 00-0071 27" Diameter Wheel 2,734 To 13,266 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0072 EA 1/4 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	3,866.32	378.73
23 34 16 00-0073 EA 1/2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	3,983.74	436.58
23 34 16 00-0074 EA 3/4 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,103.46	480.24
23 34 16 00-0075 EA 1 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,209.03	514.07
23 34 16 00-0076 EA 1-1/2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,356.15	576.28
23 34 16 00-0077 EA 2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,485.35	626.48
23 34 16 00-0078 EA 3 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,811.22	720.36
23 34 16 00-0079 EA 5 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,856.47	800.03
23 34 16 00-0080 Large Industrial Type Utility Backward Centrifugal Fans (23 34 16 00-0002)		
Note: Over 30" diameter wheel.		
23 34 16 00-0081 30" Diameter Wheel 4,926 To 17,456 CFM At 1/8" Static Pressure (23 34 16 00-0080)		
23 34 16 00-0082 EA 1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,416.30	480.24
23 34 16 00-0083 EA 3/4 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,517.64	514.07
23 34 16 00-0084 EA 1 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,674.34	576.28
23 34 16 00-0085 EA 1-1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,814.25	626.48
23 34 16 00-0086 EA 2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,021.24	720.36
23 34 16 00-0087 EA 3 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,206.80	800.03
23 34 16 00-0088 EA 5 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,513.66	960.47
23 34 16 00-0089 EA 7-1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,796.69	1,107.82
23 34 16 00-0090 33" Diameter Wheel 5,734 To 19,799 CFM At 1/8" Static Pressure (23 34 16 00-0080)		
23 34 16 00-0091 EA 1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,352.43	514.07
23 34 16 00-0092 EA 3/4 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,553.13	576.28
23 34 16 00-0093 EA 1 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,736.24	626.48
23 34 16 00-0094 EA 1-1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,985.77	720.36

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0095	EA	2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,214.21	800.03
23 34 16 00-0096	EA	3 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,563.92	960.47
23 34 16 00-0097	EA	5 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,954.19	1,107.82
23 34 16 00-0098	EA	7-1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	8,505.90	1,440.70
23 34 16 00-0099		36-1/2" Diameter Wheel 5,388 To 22,500 CFM At 1/8" Static Pressure (23 34 16 00-0080)		
23 34 16 00-0100	EA	1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	6,780.35	576.28
23 34 16 00-0101	EA	3/4 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	6,969.87	626.48
23 34 16 00-0102	EA	1 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	7,573.05	720.36
23 34 16 00-0103	EA	1-1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	7,979.41	800.03
23 34 16 00-0104	EA	2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	8,479.41	960.47
23 34 16 00-0105	EA	3 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	8,862.93	1,107.82
23 34 16 00-0106	EA	5 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	9,667.76	1,440.70
23 34 16 00-0107	EA	7-1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	10,341.51	1,800.88
23 34 16 00-0108		Kitchen System Fans (23 34 16 00-0001)		
23 34 16 00-0109		Upblast Kitchen Exhaust Fans (23 34 16 00-0108)		
23 34 16 00-0110		Direct Drive Kitchen Upblast Exhaust Fans (23 34 16 00-0109)		
		Note: Greenheck CUE.		
23 34 16 00-0111	EA	Up To 12" Wheel Diameter, 1/6 HP Direct Drive, Kitchen Upblast Exhaust Fan	1,364.63	141.88
		Note: 115V. For roof or wall installations. Includes disconnect switch.		
		For Bird Screen, Add	61.24	
		For Backdraft Damper, Add	167.77	
		For Damper Motor, Add	275.86	
23 34 16 00-0112	EA	14" Wheel Diameter, 1/4 HP Direct Drive, Kitchen Upblast Exhaust Fan	1,607.91	141.88
		Note: 115V. For roof or wall installations. Includes disconnect switch.		
		For Bird Screen, Add	61.24	
		For Backdraft Damper, Add	167.77	
		For Damper Motor, Add	275.86	
23 34 16 00-0113		Belt Drive Kitchen Upblast Exhaust Fans (23 34 16 00-0109)		
		Note: Greenheck CUBE.		
23 34 16 00-0114	EA	10" Diameter Wheel, Up To 1/3 HP, 1,458 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,376.38	141.88
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	61.24	
		For Wall Mounted Fan, Add	95.06	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	177.87	
		For Backdraft Damper, Add	167.77	
		For Damper Motor, Add	275.86	
23 34 16 00-0115	EA	12" Diameter Wheel, 1/2 HP, 1,923 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,481.96	141.88
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	61.24	
		For Wall Mounted Fan, Add	99.28	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	186.85	
		For Backdraft Damper, Add	167.77	
		For Damper Motor, Add	275.86	
23 34 16 00-0116	EA	14" Diameter Wheel, 1/3 HP, 2,006 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,118.07	163.72
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	69.68	
		For Wall Mounted Fan, Add	84.72	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	152.20	
		For Backdraft Damper, Add	190.54	
		For Damper Motor, Add	275.86	
23 34 16 00-0117	EA	14" Diameter Wheel, 1 HP, 2,757 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,270.10	163.72
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	69.68	
		For Wall Mounted Fan, Add	90.80	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	165.13	
		For Backdraft Damper, Add	190.54	
		For Damper Motor, Add	275.86	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
HVAC Fans		23 34	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 34 16 00-0118	EA	16" Diameter Wheel, 1/2 HP, 2,940 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	2,890.58	191.01
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	69.68	
		For Wall Mounted Fan, Add	115.62	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	213.23	
		For Backdraft Damper, Add	190.54	
		For Damper Motor, Add	275.86	
23 34 16 00-0119	EA	16" Diameter Wheel, 1 HP, 3,129 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,053.17	191.01
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	69.68	
		For Wall Mounted Fan, Add	122.13	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	227.05	
		For Backdraft Damper, Add	190.54	
		For Damper Motor, Add	275.86	
23 34 16 00-0120	EA	18" Diameter Wheel, 1/2 HP , 3,243 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,327.52	204.65
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	116.14	
		For Wall Mounted Fan, Add	133.10	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	248.05	
		For Backdraft Damper, Add	239.32	
		For Damper Motor, Add	275.86	
23 34 16 00-0121	EA	18" Diameter Wheel, 1 HP , 4,223 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,580.91	204.65
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	116.14	
		For Wall Mounted Fan, Add	143.24	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	269.59	
		For Backdraft Damper, Add	239.32	
		For Damper Motor, Add	275.86	
23 34 16 00-0122	EA	20" Diameter Wheel, 3/4 HP, 4,438 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,637.77	218.29
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	116.14	
		For Wall Mounted Fan, Add	145.51	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	272.10	
		For Backdraft Damper, Add	239.32	
		For Damper Motor, Add	275.86	
23 34 16 00-0123	EA	20" Diameter Wheel, 2 HP, 6,450 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,994.63	218.29
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	116.14	
		For Wall Mounted Fan, Add	159.79	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	302.43	
		For Backdraft Damper, Add	239.32	
		For Damper Motor, Add	275.86	
23 34 16 00-0124	EA	24" Diameter Wheel, 3/4 HP, 5,460 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	4,602.44	245.58
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	137.25	
		For Wall Mounted Fan, Add	184.10	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	349.46	
		For Backdraft Damper, Add	259.21	
		For Damper Motor, Add	275.86	
23 34 16 00-0125	EA	24" Diameter Wheel, 2 HP, 7,985 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	4,929.73	245.58
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	137.25	
		For Wall Mounted Fan, Add	197.19	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	377.28	
		For Backdraft Damper, Add	259.21	
		For Damper Motor, Add	275.86	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 16 00-0126	EA	30" Diameter Wheel, 3/4 HP, 7,771 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	5,847.95	272.86
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	233.92	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	450.69	
		For Backdraft Damper, Add	287.75	
		For Damper Motor, Add	275.86	
23 34 16 00-0127	EA	30" Diameter Wheel, 2 HP, 10,192 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	5,955.64	272.86
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	238.23	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	459.84	
		For Backdraft Damper, Add	287.75	
		For Damper Motor, Add	275.86	
23 34 16 00-0128	EA	30" Diameter Wheel, 3 HP, 11,903 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	6,502.54	272.86
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	260.10	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	506.33	
		For Backdraft Damper, Add	287.75	
		For Damper Motor, Add	275.86	
23 34 16 00-0129	EA	30" Diameter Wheel, 5 HP, 14,266 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	6,766.49	272.86
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	270.66	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	528.77	
		For Backdraft Damper, Add	287.75	
		For Damper Motor, Add	275.86	
23 34 16 00-0130	EA	36" Diameter Wheel, 3 HP, 14,769 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	7,450.64	300.15
		For Bird Screen, Add	168.93	
		For Wall Mounted Fan, Add	298.03	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	582.28	
		For Damper Motor, Add	275.86	
		For Backdraft Damper, Add	339.81	
23 34 16 00-0131	EA	36" Diameter Wheel, 5 HP, 17,884 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.	7,754.18	300.15
		For Bird Screen, Add	168.93	
		For Wall Mounted Fan, Add	310.17	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	608.08	
		For Damper Motor, Add	275.86	
		For Backdraft Damper, Add	339.81	
23 34 16 00-0132	EA	42" Diameter Wheel, 3 HP, 17,316 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 230/460/60/3. Includes birdscreen, heat baffle, grease baffle and disconnect switch.	7,817.27	327.43
		For Bird Screen, Add	168.93	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	608.81	
		For Damper Motor, Add	275.86	
		For Backdraft Damper, Add	395.91	
23 34 16 00-0133	EA	42" Diameter Wheel, 7-1/2 HP, 24,604 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan Note: 230/460/60/3. Includes birdscreen, heat baffle, grease baffle and disconnect switch.	8,483.69	327.43
		For Bird Screen, Add	168.93	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	665.45	
		For Damper Motor, Add	275.86	
		For Backdraft Damper, Add	395.91	
23 34 16 00-0134		Untempered Kitchen Make-Up Air Fans (23 34 16 00-0108) Note: Roof mounted with downblast discharge, weatherhood and filter.		
23 34 16 00-0135		Direct Drive Kitchen Make-Up Air Fans (23 34 16 00-0134)		
23 34 16 00-0136	EA	7" Diameter Wheel, 1/2 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	1,589.20	141.88
		For Extended Weatherhood, Add	266.73	
23 34 16 00-0137	EA	8" Diameter Wheel, 1 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	1,671.85	141.88
		For Extended Weatherhood, Add	279.13	
23 34 16 00-0138	EA	9" Diameter Wheel, 1 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	1,773.27	141.88
		For Extended Weatherhood, Add	294.34	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
HVAC Fans		23 34	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0139			Belt Drive Kitchen Make-Up Air Fans (23 34 16 00-0134)		
23 34 16 00-0140	EA		9" Diameter Wheel, 1/2 HP Belt Drive, Kitchen Make-Up Air Fan Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	1,812.61	141.88
			For Extended Weatherhood, Add	300.24	
23 34 16 00-0141	EA		10" Diameter Wheel, 1-1/2 HP Belt Drive, Kitchen Make-Up Air Fan Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	2,023.51	191.01
			For Extended Weatherhood, Add	341.73	
23 34 16 00-0142	EA		12" Diameter Wheel, 2 HP Belt Drive, Kitchen Make-Up Air Fan Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	2,442.60	218.29
			For Extended Weatherhood, Add	410.05	
23 34 16 00-0143	EA		15" Diameter Wheel, 3 HP Belt Drive, Kitchen Make-Up Air Fan Note: 230/460/60/3. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	2,826.25	272.86
			For Extended Weatherhood, Add	478.51	
23 34 16 00-0144	EA		18" Diameter Wheel, 5 HP Belt Drive, Kitchen Make-Up Air Fan Note: 230/460/60/3. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch.	3,421.01	327.43
			For Extended Weatherhood, Add	578.63	
23 34 16 00-0145			Replacement Parts (23 34 16 00-0001)		
23 34 16 00-0146			Replace Belts And Accessories (23 34 16 00-0145)		
23 34 16 00-0147	EA		Fan Shaft Bearing, Replacement.....	829.14	366.40
23 34 16 00-0148	EA		Fan Belt, Replacement.....	137.96	49.69
23 34 16 00-0149			Corrosive Fume Resistant Plastic (23 34 16 00-0001)		
23 34 16 00-0150			Centrifugal Roof Ventilators, Belt Drive, 1/4" Static Pressure (23 34 16 00-0149)		
23 34 16 00-0151	EA		250 CFM, 1/4 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	6,297.08 885.49	196.92
23 34 16 00-0152	EA		895 CFM, 1/3 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	6,836.33 954.49	236.54
23 34 16 00-0153	EA		1,630 CFM, 1/2 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	8,104.58 1,126.98	295.68
23 34 16 00-0154	EA		2,240 CFM, 1 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	8,685.50 1,184.48	394.43
23 34 16 00-0155	EA		3,810 CFM, 2 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	9,922.58 1,310.98	591.35
23 34 16 00-0156	EA		11,760 CFM, 5 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	17,085.22 2,207.97	1,182.70
23 34 16 00-0157	EA		18,810 CFM, 10 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... For Explosion Proof Motor, Add	24,924.35 3,231.46	1,690.68
23 34 16 00-0158			Utility Set, Centrifugal, Belt Drive (23 34 16 00-0149)		
23 34 16 00-0159	EA		1,200 CFM, 1/4 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	6,297.08 885.49	196.92
23 34 16 00-0160	EA		1,520 CFM, 1/3 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	6,453.00 896.99	236.54
23 34 16 00-0161	EA		1,850 CFM, 1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	6,571.27 896.99	295.68
23 34 16 00-0162	EA		2,180 CFM, 3/4 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	6,768.86 896.99	394.43
23 34 16 00-0163	EA		3,600 CFM, 1 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	9,309.26 1,218.98	591.35
23 34 16 00-0164	EA		4,250 CFM, 1-1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	9,604.95 1,218.98	739.20
23 34 16 00-0165	EA		4,800 CFM, 2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	9,818.29 1,218.98	845.87
23 34 16 00-0166	EA		6,920 CFM, 5 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	10,053.96 1,241.98	887.03
23 34 16 00-0167	EA		7,700 CFM, 7-1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic For Explosion Proof Motor, Add	10,327.73 1,253.48	985.55
23 34 16 00-0168			In-Line Duct Fans (23 34 16 00-0001)		
23 34 16 00-0169			Direct Drive In-Line Duct Fans (23 34 16 00-0168) Note: Greenheck SQ.		
23 34 16 00-0170	EA		Up To 10" Wheel Diameter, 1/16 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	1,640.97	141.88
23 34 16 00-0171	EA		13" Wheel Diameter, 1/6 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	2,104.85	152.81
23 34 16 00-0172	EA		14" Wheel Diameter, 1/3 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	2,309.15	163.72

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 16 00-0173		Belt Drive In-Line Duct Fans (23 34 16 00-0168)		
		Note: Greenheck BSQ.		
23 34 16 00-0174	EA	Up To 12" Wheel Diameter, 1/4 HP Belt Drive, In Line Duct Fan.....	2,414.70	163.72
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0175	EA	13" Or 14" Wheel Diameter, 1/4 HP Belt Drive, In Line Duct Fan.....	2,774.52	191.01
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0176	EA	13" Or 14" Wheel Diameter, 3/4 HP Belt Drive, In Line Duct Fan.....	3,126.79	191.01
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0177	EA	13" Or 14" Wheel Diameter, 1-1/2 HP Belt Drive, In Line Duct Fan.....	3,426.28	191.01
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0178	EA	16" Or 18" Wheel Diameter, 1/3 HP Belt Drive, In Line Duct Fan.....	3,328.25	218.29
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0179	EA	16" Or 18" Wheel Diameter, 1-1/2 HP Belt Drive, In Line Duct Fan.....	3,835.44	218.29
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0180	EA	24" Wheel Diameter, 1 HP Belt Drive, In Line Duct Fan.....	4,882.06	272.86
		Note: 115/208-230/60/1. Includes disconnect switch.		
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0181	EA	24" Wheel Diameter, 3 HP Belt Drive, In Line Duct Fan.....	5,162.05	272.86
		Note: 230/460/60/3. Includes disconnect switch.		
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0182	EA	24" Wheel Diameter, 5 HP Belt Drive, In Line Duct Fan.....	5,359.42	272.86
		Note: Belt drive. 230/460/60/3. Includes disconnect switch.		
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0183	EA	30 Or 36" Wheel Diameter, 3 HP Belt Drive, In Line Duct Fan.....	6,195.03	327.43
		Note: 230/460/60/3. Includes disconnect switch.		
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0184	EA	30 Or 36" Wheel Diameter, 5 HP Belt Drive, In Line Duct Fan.....	6,430.60	327.43
		Note: 230/460/60/3. Includes disconnect switch.		
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0185	EA	30 Or 36" Wheel Diameter, 7-1/2 HP Belt Drive, In Line Duct Fan.....	6,720.09	327.43
		Note: 230/460/60/3. Includes disconnect switch.		
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0186		Bathroom Exhaust Fan, Low Profile (23 34 16 00-0001)		
23 34 16 00-0187	EA	35 To 89 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B70).....	279.74	49.28
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0188	EA	46 To 94 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B80).....	279.74	49.28
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0189	EA	50 To 133 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B110).....	301.04	49.28
		For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0190		Centrifugal Upblast Exhaust Fan (23 34 16 00-0001)		
23 34 16 00-0191	EA	65 To 133 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-060-VG).....	1,434.63	239.79
23 34 16 00-0192	EA	143 To 250 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-070-VG).....	1,527.74	239.79
23 34 16 00-0193	EA	133 To 325 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-080-VG).....	1,577.50	248.85
23 34 16 00-0194	EA	204 To 549 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-090-VG).....	1,637.56	248.85
23 34 16 00-0195		Centrifugal In-Line Fans (23 34 16 00-0001)		
23 34 16 00-0196	EA	419 - 766 CFM, 115 V, Direct Drive In-Line Exhaust Fan (Greenheck CSP-A700-QD).....	912.38	106.41
23 34 16 00-0197		In-Line Cabinet Fans (23 34 16 00-0001)		
23 34 16 00-0198	EA	77 - 124 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	509.27	95.50
23 34 16 00-0199	EA	91 - 138 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	509.27	95.50
23 34 16 00-0200	EA	82 - 266 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	580.28	100.95
23 34 16 00-0201	EA	281 - 412 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	644.31	100.95
23 34 16 00-0202	EA	190 CFM, 115 Volt, Direct Drive Cabinet Fan.....	819.20	100.95
23 34 16 00-0203	EA	217 - 447 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	672.89	100.95
23 34 16 00-0204	EA	325 - 545 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	773.39	100.95
23 34 16 00-0205	EA	250 - 545 CFM, 115 Volt, 1/6 HP, Direct Drive In-Line Cabinet Fan.....	1,482.78	100.95
23 34 16 00-0206	EA	419 - 766 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	912.38	106.41
23 34 16 00-0207	EA	334 - 737 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	928.15	106.41
23 34 16 00-0208	EA	350 - 737 CFM, 120 Volt, 1/4 HP, Direct Drive In-Line Cabinet Fan.....	1,542.97	106.41
23 34 16 00-0209	EA	527 - 813 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	928.15	106.41
23 34 16 00-0210	EA	631 - 908 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	1,258.21	106.41
23 34 16 00-0211	EA	752 - 1244 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	1,258.21	106.41



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
HVAC Fans		23 34	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0212	EA		1043 - 1584 CFM, 115 Volt, 1/3 HP, Direct Drive In-Line Cabinet Fan	1,258.21	106.41
23 34 16 00-0213	EA		999 - 1672 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan	1,368.57	106.41
23 34 16 00-0214			Propeller And Ceiling Fans (23 34 16)		
23 34 16 00-0215			Direct Drive, Sidewall Propeller Exhaust Fan (23 34 16 00-0214)		
			Note: Greenheck SE1.		
23 34 16 00-0216	EA		1/25 HP, 307 CFM At 1/8" Static Pressure, 8" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	716.04	116.78
			Note: Includes motor side guard.		
			For Backdraft Damper, Add	197.32	
			For Wall Mount Collar, Add	284.85	
23 34 16 00-0217	EA		1/12 HP, 763 CFM At 1/8" Static Pressure, 10" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	757.01	129.89
			Note: Includes motor side guard.		
			For Backdraft Damper, Add	211.43	
			For Wall Mount Collar, Add	284.85	
23 34 16 00-0218	EA		1/8 HP, 1,149 CFM At 1/8" Static Pressure, 12" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	838.18	144.07
			Note: Includes motor side guard.		
			For Backdraft Damper, Add	231.32	
			For Wall Mount Collar, Add	292.26	
23 34 16 00-0219	EA		1/6 HP, 1,350 CFM At 1/8" Static Pressure, 14" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	1,237.25	159.35
			For Backdraft Damper, Add	277.20	
			For Wall Mount Collar, Add	297.57	
			For Motor Side Guard, Add	247.39	
23 34 16 00-0220	EA		1/6 HP, 2,012 CFM At 1/8" Static Pressure, 16" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	1,030.24	176.81
			For Backdraft Damper, Add	277.20	
			For Wall Mount Collar, Add	305.01	
			For Motor Side Guard, Add	263.26	
23 34 16 00-0221	EA		1/4 HP, 2,908 CFM At 1/8" Static Pressure, 18" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	1,157.34	196.46
			For Backdraft Damper, Add	337.53	
			For Wall Mount Collar, Add	312.42	
			For Motor Side Guard, Add	279.13	
23 34 16 00-0222	EA		1/3 HP, 3,974 CFM At 1/8" Static Pressure, 20" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan	1,319.07	218.29
			For Backdraft Damper, Add	337.53	
			For Wall Mount Collar, Add	317.74	
			For Motor Side Guard, Add	301.33	
23 34 16 00-0223			Belt Drive Propeller Exhaust Fans (23 34 16 00-0214)		
			Note: Wall shutter 1/8" static pressure, with birdscreen.		
23 34 16 00-0224	EA		24" Propeller Exhaust Fan, V-Belt Drive, 5,795 CFM, 1/2 HP, With Wall Shutter	2,467.42	312.15
23 34 16 00-0225	EA		30" Propeller Exhaust Fan, V-Belt Drive, 9,060 CFM, 3/4 HP, With Wall Shutter	2,824.78	363.45
23 34 16 00-0226	EA		36" Propeller Exhaust Fan, V-Belt Drive, 11,850 CFM, 1 HP, With Wall Shutter	3,200.23	436.58
23 34 16 00-0227	EA		42" Propeller Exhaust Fan, V-Belt Drive, 17,400 CFM, 1-1/2 HP, With Wall Shutter	4,466.72	545.72
23 34 16 00-0228	EA		48" Propeller Exhaust Fan, V-Belt Drive, 19,870 CFM, 1-1/2 HP, With Wall Shutter	5,315.37	727.99
23 34 16 00-0229	EA		54" Propeller Exhaust Fan, V-Belt Drive, 26,000 CFM, 2 HP, With Wall Shutter	7,368.92	1,091.44
23 34 16 00-0230	EA		60" Propeller Exhaust Fan, V-Belt Drive, 35,120 CFM, 3 HP, With Wall Shutter	8,829.34	1,399.22
23 34 16 00-0231			Propeller Exhaust Fan Accessories (23 34 16 00-0214)		
23 34 16 00-0232	SF		Hinged Mesh Screen For Wall Propeller Fans, 1" x 1" Frame (SF Of Fan Opening)	126.30	
23 34 16 00-0233	SF		Galvanized Weather Hood For Wall Propeller Fan (SF Of Fan Opening)	291.82	
23 34 16 00-0234			Reversible Ceiling Fans (23 34 16 00-0214)		
23 34 16 00-0235			4 Blade Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0236	EA		42" 4-Blade Ceiling Fan, Three Speed	584.34	60.98
			For Brass Plated Motor, Add	20.25	
			For Light Kit, Add	26.02	
23 34 16 00-0237			5 Blade Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0238	EA		42" 5-Blade Ceiling Fan, Three Speed	639.74	150.91
			For Brass Plated Motor, Add	20.25	
			For Light Kit, Add	26.08	
23 34 16 00-0239	EA		52" 5-Blade Ceiling Fan, Three Speed	730.67	150.91
			For Brass Plated Motor, Add	20.25	
			For Light Kit, Add	26.20	
23 34 16 00-0240			3 Blade Weatherproof Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0241	EA		3-Blade Ceiling Fan, Weatherproof, Three Speed	592.09	54.03
23 34 16 00-0242			Ceiling Fan Down Rod (23 34 16 00-0234)		
23 34 16 00-0243	EA		1' Ceiling Fan Down Rod	23.32	
23 34 16 00-0244	EA		1-1/2' Ceiling Fan Down Rod	30.78	
23 34 16 00-0245	EA		2' Ceiling Fan Down Rod	34.51	
23 34 16 00-0246	EA		3' Ceiling Fan Down Rod	46.50	
23 34 16 00-0247	EA		4' Ceiling Fan Down Rod	54.39	
23 34 16 00-0248	EA		5' Ceiling Fan Down Rod	66.93	
23 34 16 00-0249	EA		6' Ceiling Fan Down Rod	83.84	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 16 00-0250		Explosion Proof Industrial Blowers (23 34 16 00-0214)			
23 34 16 00-0251	EA	355 To 500 CFM 1/3 HP Direct Drive Industrial Blower, To 1-1/4" S.P., Polypropylene (PP) Wheel, Polyvinyl Chloride (PVC) Housing, Explosion Proof	5,361.52		
23 34 16 00-0252	EA	355 To 500 CFM 1/3 HP Direct Drive Industrial Blower, To 1-1/4" S.P., Polyvinyl Chloride (PVC) Wheel And Housing, Explosion Proof	5,911.82		
23 34 16 00-0253	EA	355 To 500 CFM 1/3 HP Belt Drive Industrial Blower, To 1-1/4" S.P., Polypropylene (PP) Wheel, Polyvinyl Chloride (PVC) Housing, Explosion Proof	7,945.66		
23 34 16 00-0254	EA	355 To 500 CFM 1/3 HP Belt Drive Industrial Blower, To 1-1/4" S.P., Polyvinyl Chloride (PVC) Wheel And Housing, Explosion Proof	8,324.52		
23 34 16 00-0255	EA	355 To 500 CFM 1/3 HP Direct Drive Industrial Blower, To 1-1/4" S.P., Polypropylene (PP) Wheel, Polyvinyl Chloride (PVC) Housing, TEFC Motor Enclosure	4,867.05		
23 34 16 00-0256	EA	355 To 500 CFM 1/3 HP Direct Drive Industrial Blower, To 1-1/4" S.P., Polyvinyl Chloride (PVC) Wheel And Housing, TEFC Motor Enclosure	5,197.30		
23 34 16 00-0257	EA	355 To 500 CFM 1/3 HP Belt Drive Industrial Blower, To 1-1/4" S.P., Polypropylene (PP) Wheel, Polyvinyl Chloride (PVC) Housing, TEFC Motor Enclosure	7,217.48		
23 34 16 00-0258	EA	355 To 500 CFM 1/3 HP Belt Drive Industrial Blower, To 1-1/4" S.P., Polyvinyl Chloride (PVC) Wheel And Housing, TEFC Motor Enclosure	7,840.61		
23 34 16 00-0259		Exhaust Fans (23 34 16)			
23 34 16 00-0260		Exhaust Fans (23 34 16 00-0259)			
		Note: Excludes ducting.			
23 34 16 00-0261		Light Duty Exhaust Fans (23 34 16 00-0260)			
23 34 16 00-0262		Light Duty Exhaust Fans (23 34 16 00-0261)			
23 34 16 00-0263	EA	50 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan Without Light (Broan® 670)	152.04	49.28	
23 34 16 00-0264	EA	70 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan Without Light (Broan® 671)	160.97	49.28	
23 34 16 00-0265	EA	180 CFM, Ceiling Mounted, Polymeric Intake Grille, Vertical Discharge, Light Duty Exhaust Fan Without Light (Broan® 505)	268.22	49.28	
23 34 16 00-0266	EA	350 CFM, Ceiling Mounted, Polymeric Intake Grille, Vertical Discharge, Light Duty Exhaust Fan Without Light (Broan® 504)	339.93	49.28	
23 34 16 00-0267	EA	160 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Side Discharge, Light Duty Exhaust Fan Without Light (Broan® 503)	303.52	49.28	
23 34 16 00-0268	EA	270 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Side Discharge, Light Duty Exhaust Fan Without Light (Broan® 502)	405.36	49.28	
23 34 16 00-0269		Light Duty Exhaust Fans With Lights (23 34 16 00-0261)			
23 34 16 00-0270	EA	50 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 678)	199.82	49.28	
23 34 16 00-0271	EA	70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 679)	222.20	49.28	
23 34 16 00-0272	EA	100 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 680)	419.03	49.28	
23 34 16 00-0273		Light Duty Exhaust Fans With Heaters (23 34 16 00-0261)			
23 34 16 00-0274	EA	70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater Bulb (Broan® 162)	204.67	49.28	
23 34 16 00-0275	EA	70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater (Broan® 658)	327.39	49.28	
23 34 16 00-0276		Light Duty Exhaust Fans With Heaters And Lights (23 34 16 00-0261)			
23 34 16 00-0277	EA	70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater And Light (Broan® 655)	348.66	49.28	
23 34 16 00-0278	EA	100 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater And Light (Broan® 100HL)	531.33	49.28	
23 34 16 00-0279		Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0260)			
23 34 16 00-0280		Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0279)			
		Note: Includes enamel steel or aluminum grille.			
23 34 16 00-0281	EA	50 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD50)	238.46	49.28	
23 34 16 00-0282	EA	80 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD80)	264.11	49.28	
23 34 16 00-0283	EA	109 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L100MG)	486.12	49.28	
23 34 16 00-0284	EA	157 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L150MG)	498.01	49.28	
23 34 16 00-0285	EA	210 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L200MG)	535.00	49.28	
23 34 16 00-0286	EA	259 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L250MG)	558.65	49.28	
23 34 16 00-0287	EA	308 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L300MG)	567.81	49.28	
23 34 16 00-0288	EA	434 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L400)	650.39	49.28	
23 34 16 00-0289	EA	514 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L500)	741.49	49.28	
23 34 16 00-0290	EA	701 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L700)	793.37	49.28	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Fans			23 34

23

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0291	EA	901 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L900)	944.95	49.28	
23 34 16 00-0292	EA	1,513 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L1500)	1,214.96	49.28	
23 34 16 00-0293 Heavy Duty/Continuous Operation Kitchen Exhaust Fans (23 34 16 00-0279)					
Note: Includes enamel steel or aluminum grille.					
23 34 16 00-0294	EA	308 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L300KMG)	504.93	49.28	
23 34 16 00-0295	EA	434 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L400K)	734.68	49.28	
23 34 16 00-0296	EA	514 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L500K)	777.22	49.28	
23 34 16 00-0297 Heavy Duty/Continuous Operation Exhaust Fans With Lights (23 34 16 00-0279)					
23 34 16 00-0298	EA	50 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan With Light (Broan® HD50L)	259.47	49.28	
23 34 16 00-0299	EA	80 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan With Light (Broan® HD80L)	283.56	49.28	
23 34 16 00-0300 Fire Rated, Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0279)					
23 34 16 00-0301	EA	50 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD50RDF)	270.05	49.28	
23 34 16 00-0302	EA	80 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD80RDF)	285.99	49.28	
23 34 16 00-0303	EA	110 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® 110RDF)	293.69	49.28	
23 34 16 00-0304 Low Sound, Direct Drive, Centrifugal Ceiling Exhaust Fans (23 34 16 00-0260)					
23 34 16 00-0305	EA	900 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A900)	1,304.59	49.28	
23 34 16 00-0306	EA	1050 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1050)	1,304.59	49.28	
23 34 16 00-0307	EA	1410 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1410)	1,304.59	49.28	
23 34 16 00-0308	EA	1550 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1550)	1,431.99	49.28	
23 34 16 00-0309 Room-To-Room Exhaust Fans (23 34 16 00-0260)					
23 34 16 00-0310	EA	90 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 512)	193.80	49.28	
23 34 16 00-0311	EA	180 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 511)	324.05	49.28	
23 34 16 00-0312	EA	380 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 510)	371.52	49.28	
23 34 16 00-0313 Through-Wall Exhaust Fans (23 34 16 00-0260)					
23 34 16 00-0314	EA	250 CFM, Wall Mounted, Polymeric Intake Grille, Chain Operated, Through Wall Exhaust Fan (Broan® 507)	346.70	49.28	
23 34 16 00-0315	EA	470 CFM, Wall Mounted, Polymeric Intake Grille, Chain Operated, Through Wall Exhaust Fan (Broan® 506)	412.12	49.28	
23 34 16 00-0316	EA	180 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan (Broan® 509)	301.72	49.28	
23 34 16 00-0317	EA	270 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan (Broan® 508)	405.36	49.28	
23 34 16 00-0318	EA	360 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan With Motorized Door (Broan® 12C)	712.16	49.28	
23 34 16 00-0319 Exhaust Fan Accessories (23 34 16 00-0260)					
23 34 16 00-0320 Exhaust Fan Controls (23 34 16 00-0319)					
23 34 16 00-0321	EA	Electronic Variable Speed Control Dial, Single Gang, Exhaust Fan Controls (Broan® 57)	190.18	30.80	
23 34 16 00-0322	EA	60-Minute Time Control Dial, Single Gang, Exhaust Fan Controls (Broan® 59)	132.31	30.80	
23 34 16 00-0323	EA	60-Minute Time Control Dial With Rocker Switch, Double Gang, Exhaust Fan Controls (Broan® 61)	133.69	30.80	
23 34 16 00-0324 Roof And Wall Caps For Exhaust Fans (23 34 16 00-0319)					
23 34 16 00-0325 Wall Caps For Exhaust Fans (23 34 16 00-0324)					
23 34 16 00-0326	EA	Aluminum Wall Cap For Up To 12" Duct, Installed On Exterior Walls (Broan® 613)	297.24	59.25	
23 34 16 00-0327	EA	Aluminum Wall Cap For Up To 18" Duct, Installed On Exterior Walls (Broan® 643)	301.79	59.25	
23 34 16 00-0328 Roof Caps For Exhaust Fans (23 34 16 00-0324)					
Note: Includes flashing and built in bird screen.					
23 34 16 00-0329	EA	Aluminum Roof Cap For Up To 8" Duct, Installed On Flat Roofs (Broan® 611)	250.22	59.25	
23 34 16 00-0330	EA	Aluminum Roof Cap For Up To 12" Duct, Installed On Flat Roofs (Broan® 612)	368.52	59.25	
23 34 16 00-0331	EA	CRCQ Steel Roof Cap For Up To 4" Duct, Installed On Sloped Roofs (Broan® 636)	159.29	59.25	
23 34 16 00-0332	EA	CRCQ Steel Roof Cap For Up To 8" Duct, Installed On Sloped Roofs (Broan® 634)	194.77	59.25	
23 34 16 00-0333 Removal And Reinstallation Of Light Duty Ceiling Exhaust Fan (23 34 16 00-0260)					
Note: Includes storage and cleaning.					
23 34 16 00-0334	EA	Removal And Reinstallation Of Light Duty Ceiling Exhaust Fan	81.85		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 23 HVAC Power Ventilators (23 34)**23 34 23 00-0001 Power Roof Ventilators (23 34 23)****23 34 23 00-0002 Direct Drive, Aluminum, Centrifugal Roof Exhausters (23 34 23 00-0001)**

Note: Greenheck G.

23 34 23 00-0003 EA 1/25 HP, 310 CFM At 1/4" Static Pressure, 17" x 17" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....623.96 156.08

Note: Three speed motor.

For 12" Roof Curb, Add

214.48

For Backdraft Damper, Add

156.54

For Solid State Speed Control, Add

113.24

For Damper Motor, Add

275.86

23 34 23 00-0004 EA 1/8 HP, 863 CFM At 1/4" Static Pressure, 17" x 17" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....683.01 176.81

Note: Three speed motor.

For 12" Roof Curb, Add

214.48

For Backdraft Damper, Add

156.54

For Solid State Speed Control, Add

113.24

For Damper Motor, Add

275.86

23 34 23 00-0005 EA 1/6 HP, 1,213 CFM At 1/4" Static Pressure, 19" x 19" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....979.12 206.28

For 12" Roof Curb, Add

220.81

For Backdraft Damper, Add

167.77

For Solid State Speed Control, Add

113.24

For Damper Motor, Add

275.86

23 34 23 00-0006 EA 1/4 HP, 1,374 CFM At 1/4" Static Pressure, 19" x 19" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....1,008.52 232.48

For 12" Roof Curb, Add

220.81

For Backdraft Damper, Add

167.77

For Solid State Speed Control, Add

113.24

For Damper Motor, Add

275.86

23 34 23 00-0007 EA 1/3 HP, 1,905 CFM At 1/4" Static Pressure, 22" x 22" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....1,296.48 256.49

For Solid State Speed Control, Add

113.24

For Damper Motor, Add

275.86

23 34 23 00-0008 EA 1/2 HP, 3,072 CFM At 1/4" Static Pressure, 22" x 22" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster.....1,470.32 272.86

For 12" Roof Curb, Add

231.37

For Backdraft Damper, Add

190.54

For Solid State Speed Control, Add

178.70

For Damper Motor, Add

275.86

23 34 23 00-0009 Belt Drive, Aluminum, Centrifugal Roof Exhausters (23 34 23 00-0001)

Note: Greenheck GB.

23 34 23 00-0010 EA 1/4 HP, 1,556 CFM At 1/4" Static Pressure, 19" x 19" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....1,438.21 277.87

For 12" Roof Curb, Add

220.81

For Backdraft Damper, Add

167.77

For Damper Motor, Add

275.86

23 34 23 00-0011 EA 1/3 HP, 1,966 CFM At 1/4" Static Pressure, 22" x 22" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....1,569.32 294.98

For 12" Roof Curb, Add

231.37

For Backdraft Damper, Add

190.54

For Damper Motor, Add

275.86

23 34 23 00-0012 EA 1/2 HP, 2,943 CFM At 1/4" Static Pressure, 22" x 22" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....2,130.07 352.54

For 12" Roof Curb, Add

231.37

For Backdraft Damper, Add

190.54

For Damper Motor, Add

275.86

23 34 23 00-0013 EA 3/4 HP, 4,289 CFM At 1/4" Static Pressure, 30" x 30" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....2,718.35 436.58

For 12" Roof Curb, Add

282.05

For Backdraft Damper, Add

239.32

For Damper Motor, Add

275.86

23 34 23 00-0014 EA 1 HP, 6,157 CFM At 1/4" Static Pressure, 34" x 34" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....3,589.04 545.72

For 12" Roof Curb, Add

305.28

For Backdraft Damper, Add

259.21

For Damper Motor, Add

275.86

23 34 23 00-0015 EA 1-1/2 HP, 8,906 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....5,843.01 682.15

For 12" Roof Curb, Add

341.18

For Backdraft Damper, Add

287.75

For Damper Motor, Add

275.86

23 34 23 00-0016 EA 2 HP, 10,059 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....5,893.69 682.15

For 12" Roof Curb, Add

341.18

For Backdraft Damper, Add

287.75

For Damper Motor, Add

275.86

23 34 23 00-0017 EA 3 HP, 11,703 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....6,440.60 682.15

For 12" Roof Curb, Add

341.18

For Backdraft Damper, Add

287.75

For Damper Motor, Add

275.86

23 34 23 00-0018 EA 5 HP, 13,897 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster.....5,192.46 682.15

For 12" Roof Curb, Add

341.18

For Backdraft Damper, Add

287.75

For Damper Motor, Add

275.86

23 34 23 00-0019 Propeller Exhaust Fans, Roof Mounted Upblast (23 34 23 00-0001)

Note: Includes back draft damper and birdscreen and curb.

23 34 23 00-0020 EA 30,300 CFM Belt Drive 5 HP Propeller Exhaust Fan, Roof Mounted, 3/8" Static Pressure 8,421.54 839.32

23 34 23 00-0021 EA 36,000 CFM Belt Drive 15 HP Propeller Exhaust Fan, Roof Mounted, 1/2" Static Pressure 13,878.99 1,091.12

23 34 23 00-0022 Belt Drive Supply Fans (23 34 23 00-0001)



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Fans			23 34	

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 23 00-0023	EA	4,500 CFM, 24" x 24" Supply Fan, Roof Mounted		3,298.95	435.81
23 34 23 00-0024	EA	10,000 CFM, 36" x 36" Supply Fan, Roof Mounted		4,470.50	545.61
23 34 23 00-0025		Fan Thermostat (23 34 23 00-0001)			
23 34 23 00-0026	EA	50 To 120 Degree Line Voltage Fan Thermostat		146.89	
23 34 23 00-0027		Power Wall Ventilators (23 34 23)			
23 34 23 00-0028		Centrifugal Sidewall Exhausters (23 34 23 00-0027)			
23 34 23 00-0029		Direct Drive, Aluminum, Centrifugal Sidewall Exhauster (23 34 23 00-0028)			
Note: Greenheck CW.					
23 34 23 00-0030	EA	1/25 HP, 297 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster		816.79	175.72
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		220.77	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		137.59	
23 34 23 00-0031	EA	1/8 HP, 861 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster		937.11	206.28
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		243.54	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		164.02	
23 34 23 00-0032	EA	1/6 HP, 1,179 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster		1,404.45	232.48
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		274.98	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		190.44	
23 34 23 00-0033		Belt Drive, Aluminum, Centrifugal Sidewall Exhausters (23 34 23 00-0028)			
Note: Greenheck CWB.					
23 34 23 00-0034	EA	1/4 HP, 1,633 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster		2,574.77	131.28
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		253.23	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		290.77	
23 34 23 00-0035	EA	1/2 HP, 2,291 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster		2,717.69	147.84
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		253.23	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		290.77	
23 34 23 00-0036	EA	3/4 HP, 3,646 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster		3,340.96	169.12
		For Solid State Speed Control, Add		178.70	
		For Backdraft Damper, Add		318.58	
		For Damper Motor, Add		479.07	
		For Interior Wall Grill, Add		338.32	
23 34 33		Air Curtains (23 34)			
23 34 33 00-0001		Unheated Air Curtains For Entrances (23 34 33)			
23 34 33 00-0002		Unheated Air Curtains, Standard Velocity (23 34 33 00-0001)			
23 34 33 00-0003	EA	Air Curtain For 3' x 8' - 10' Personnel Entrance, Unheated		2,302.80	800.03
Note: Includes housing, mounting brackets and manual controls.					
		For Door Limit Switch, Combination Roller And Plunger, Add		202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add		549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø		408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add		628.50	
		For Flat Side Extension Plates, Add		155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add		311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		394.44	
23 34 33 00-0004	EA	Air Curtain For 3.5' x 8' - 10' Personnel Entrance, Unheated		2,334.87	800.03
Note: Includes housing, mounting brackets and manual controls.					
		For Door Limit Switch, Combination Roller And Plunger, Add		202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add		549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø		408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add		628.50	
		For Flat Side Extension Plates, Add		155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add		311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		394.44	
23 34 33 00-0005	EA	Air Curtain For 4' x 8' - 10' Personnel Entrance, Unheated		2,369.60	800.03
Note: Includes housing, mounting brackets and manual controls.					
		For Door Limit Switch, Combination Roller And Plunger, Add		202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add		549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø		408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add		628.50	
		For Flat Side Extension Plates, Add		155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add		311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add		394.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 34 33 00-0006	EA	Air Curtain For 5' x 8' - 10' Personnel Entrance, Unheated.....	2,944.04	800.03
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0007	EA	Air Curtain For 6' x 8' - 10' Personnel Entrance, Unheated.....	3,341.55	960.47
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0008	EA	Air Curtain For 7' x 8' - 10' Personnel Entrance, Unheated.....	3,541.94	960.47
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0009	EA	Air Curtain For 8' x 8' - 10' Personnel Entrance, Unheated.....	3,926.13	1,107.82
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0010	EA	Air Curtain For 9' x 8' - 10' Personnel Entrance, Unheated.....	4,726.34	1,107.82
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0011	EA	Air Curtain For 10' x 8' - 10' Personnel Entrance, Unheated.....	4,827.87	1,107.82
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0012	EA	Air Curtain For 12' x 8' - 10' Personnel Entrance, Unheated.....	5,097.72	1,107.82
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
		For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
		For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0013		Unheated Air Curtains, High Velocity (23 34 33 00-0001)		
23 34 33 00-0014	EA	High Velocity Air Curtain For 3' x 10' - 12' Entrance, Unheated	2,834.49	800.03
		Note: Includes housing, mounting brackets and manual controls.		
		For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
		For Industrial Floor-Mounted Magnetic Reed Switch Only, Add	311.40	
		For Flat Side Extension Plates, Add	155.70	
		For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
		For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
		For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Fans			23 34	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 34 33 00-0015	EA	High Velocity Air Curtain For 3.5' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,875.91 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0016	EA	High Velocity Air Curtain For 4' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,893.27 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0017	EA	High Velocity Air Curtain For 5' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,926.67 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0018	EA	High Velocity Air Curtain For 6' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,559.89 202.02 311.40 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0019	EA	High Velocity Air Curtain For 7' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,765.62 202.02 311.40 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0020	EA	High Velocity Air Curtain For 8' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	5,073.67 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0021	EA	High Velocity Air Curtain For 9' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	5,785.71 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0022	EA	High Velocity Air Curtain For 10' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	5,860.52 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0023	EA	High Velocity Air Curtain For 12' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	6,151.74 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0024		Service Window Unheated Air Curtains (23 34 33 00-0001) Note: Normal window sizes.		
23 34 33 00-0025	EA	Air Curtain For 2.5' x 5' Service Window, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,146.94 202.02 155.70 311.40 373.68 394.44	630.86
23 34 33 00-0026		Heated Air Curtains For Entrances (23 34 33) Note: Includes housing, mounting brackets and manual controls.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 33 00-0027 EA 60" Heated Air Curtain With 1- 300 MBH Heater	3,871.48	704.53
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0028 EA 60" Heated Air Curtain With 1- 400 MBH Heater	4,199.76	704.53
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0029 EA 72" Heated Air Curtain With 1- 350 MBH Heater	4,645.09	845.33
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0030 EA 72" Heated Air Curtain With 2- 250 MBH Heaters	5,039.02	845.33
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0031 EA 96" Heated Air Curtain With 1- 400 MBH Heater	6,192.51	1,126.91
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0032 EA 96" Heated Air Curtain With 2- 350 MBH Heaters	6,717.76	1,126.91
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0033 EA 117" Heated Air Curtain With 2- 300 MBH Heaters	7,546.14	1,373.03
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0034 EA 117" Heated Air Curtain With 2- 400 MBH Heaters	8,186.28	1,373.03
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0035 EA 147" Heated Air Curtain With 2- 350 MBH Heaters	9,481.66	1,725.02
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0036 EA 147" Heated Air Curtain With 3- 350 MBH Heaters	11,073.81	1,725.02
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0037 EA 168" Heated Air Curtain With 2- 400 MBH Heaters	10,836.90	1,971.69
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0038 EA 168" Heated Air Curtain With 3- 400 MBH Heaters	12,656.11	1,971.69
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0039 EA 192" Heated Air Curtain With 2- 400 MBH Heaters	12,381.32	2,253.28
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0040 EA 192" Heated Air Curtain With 4- 350 MBH Heaters	14,460.41	2,253.28
For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
For Flat Side Extension Plates, Add	155.70	
For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Special Exhaust Systems		23 35	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 35 Special Exhaust Systems (23 30)

See CSI section 23 31 13 16-0075 for spiral duct/piping.

23 35 13 Dust Collection Systems (23 35)

23 35 13 13 Sawdust Collection Systems (23 35 13)

23 35 13 13-0001	Dust Collector System (23 35 13 13)		
23 35 13 13-0002	EA 1.5 HP Dust Collector Central Vacuum Unit.....	4,451.37	946.17
	Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0003	EA 2 HP Dust Collector Central Vacuum Unit.....	4,982.98	1,123.57
	Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0004	EA 2-1/2 HP Dust Collector Central Vacuum Unit.....	5,992.69	1,300.98
	Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0005	EA 3 HP Dust Collector Central Vacuum Unit.....	6,828.89	1,537.52
	Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0006	EA 5 HP Dust Collector Central Vacuum Unit.....	14,572.64	1,754.48
	Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0007	EA 7-1/2 HP Dust Collector Central Vacuum Unit.....	17,688.71	2,046.90
	Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0008	EA 10 HP Dust Collector Central Vacuum Unit.....	20,262.34	2,339.31
	Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0009	EA 15 HP Dust Collector Central Vacuum Unit.....	22,777.64	2,690.21
	Note: Includes fan bower, stand, cyclone, filter, silencer and two 55 gallon fiber drum dust bin.		
23 35 13 13-0010	EA 20 HP Dust Collector Central Vacuum Unit.....	25,412.45	3,041.10
	Note: Includes fan bower, stand, cyclone, filter, silencer and two 55 gallon fiber drum dust bin.		

23 35 13 13-0011 Vacuum Tubing And Accessories (23 35 13 13)

23 35 13 13-0012 Vacuum Tubing (23 35 13 13-0011)

23 35 13 13-0013 Flexible Hose (23 35 13 13-0012)

23 35 13 13-0014	LF 2" Flexible Hose.....	12.67	1.96
23 35 13 13-0015	LF 3" Flexible Hose.....	15.19	2.19
23 35 13 13-0016	LF 4" Flexible Hose.....	16.48	2.40

23 35 13 13-0017 Galvanized Vacuum Tubing (23 35 13 13-0012)

23 35 13 13-0018	LF 2-1/8" Outside Diameter Vacuum Tubing, Galvanized.....	10.22	1.96
23 35 13 13-0019	LF 2-1/2" Outside Diameter Vacuum Tubing, Galvanized.....	11.44	2.08
23 35 13 13-0020	LF 3" Outside Diameter Vacuum Tubing, Galvanized.....	13.60	2.19
23 35 13 13-0021	LF 3-1/2" Outside Diameter Vacuum Tubing, Galvanized.....	17.69	2.30
23 35 13 13-0022	LF 4" Outside Diameter Vacuum Tubing, Galvanized.....	18.19	2.40
23 35 13 13-0023	LF 5" Outside Diameter Vacuum Tubing, Galvanized.....	30.05	2.73
23 35 13 13-0024	LF 6" Outside Diameter Vacuum Tubing, Galvanized.....	33.87	3.16
23 35 13 13-0025	LF 8" Outside Diameter Vacuum Tubing, Galvanized.....	45.83	4.36
23 35 13 13-0026	LF 10" Outside Diameter Vacuum Tubing, Galvanized.....	53.69	5.46
23 35 13 13-0027	LF 12" Outside Diameter Vacuum Tubing, Galvanized.....	133.52	7.20

23 35 13 13-0028 Vacuum Fittings, Galvanized (23 35 13 13-0011)

23 35 13 13-0029 90 Degree Elbow (23 35 13 13-0028)

23 35 13 13-0030	EA 2-1/8" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	51.48	12.55
23 35 13 13-0031	EA 2-1/2" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	63.55	13.43
23 35 13 13-0032	EA 3" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	79.10	14.63
23 35 13 13-0033	EA 3-1/2" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	93.23	15.83
23 35 13 13-0034	EA 4" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	110.98	17.46
23 35 13 13-0035	EA 5" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	182.85	19.42
23 35 13 13-0036	EA 6" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	242.44	21.83
23 35 13 13-0037	EA 8" 90 Degree Elbow, Vacuum Tubing, Galvanized.....	434.48	29.14

23 35 13 13-0038 45 Degree Elbow (23 35 13 13-0028)

23 35 13 13-0039	EA 2-1/8" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	48.28	12.55
23 35 13 13-0040	EA 2-1/2" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	60.91	13.43
23 35 13 13-0041	EA 3" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	70.24	14.63
23 35 13 13-0042	EA 3-1/2" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	83.24	15.83
23 35 13 13-0043	EA 4" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	101.74	17.46
23 35 13 13-0044	EA 5" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	150.80	19.42
23 35 13 13-0045	EA 6" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	195.30	21.83
23 35 13 13-0046	EA 8" 45 Degree Elbow, Vacuum Tubing, Galvanized.....	355.29	29.14

23 35 13 13-0047 Wye (23 35 13 13-0028)

23 35 13 13-0048	EA 2-1/8" Wye, Vacuum Tubing, Galvanized.....	93.25	20.73
23 35 13 13-0049	EA 2-1/2" Wye, Vacuum Tubing, Galvanized.....	111.78	22.37
23 35 13 13-0050	EA 3" Wye, Vacuum Tubing, Galvanized.....	136.11	24.01
23 35 13 13-0051	EA 3-1/2" Wye, Vacuum Tubing, Galvanized.....	165.14	26.74
23 35 13 13-0052	EA 4" Wye, Vacuum Tubing, Galvanized.....	219.51	28.92
23 35 13 13-0053	EA 5" Wye, Vacuum Tubing, Galvanized.....	369.44	32.20

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 35 Special Exhaust Systems**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 35 13 13-0054 EA 6" Wye, Vacuum Tubing, Galvanized	488.95	36.56
23 35 13 13-0055 EA 8" Wye, Vacuum Tubing, Galvanized	963.25	39.83
23 35 13 13-0056 EA 10" Wye, Vacuum Tubing, Galvanized	1,333.01	43.66
23 35 13 13-0057 EA 12" Wye, Vacuum Tubing, Galvanized	1,683.48	48.90
23 35 13 13-0058 Reducer (23 35 13 13-0028)		
23 35 13 13-0059 EA 3" Reducer, Vacuum Tubing, Galvanized	53.26	14.63
23 35 13 13-0060 EA 4" Reducer, Vacuum Tubing, Galvanized	59.19	15.83
23 35 13 13-0061 EA 5" Reducer, Vacuum Tubing, Galvanized	74.56	17.46
23 35 13 13-0062 EA 6" Reducer, Vacuum Tubing, Galvanized	80.49	19.42
23 35 13 13-0063 EA 8" Reducer, Vacuum Tubing, Galvanized	94.09	21.83
23 35 13 13-0064 Air Gate Valve, Galvanized (23 35 13 13-0011)		
23 35 13 13-0065 EA 2-1/8" Air Gate Valve, Vacuum Tubing, Galvanized	362.97	29.14
23 35 13 13-0066 EA 2-1/2" Air Gate Valve, Vacuum Tubing, Galvanized	380.27	31.11
23 35 13 13-0067 EA 3" Air Gate Valve, Vacuum Tubing, Galvanized	436.71	33.51
23 35 13 13-0068 EA 3-1/2" Air Gate Valve, Vacuum Tubing, Galvanized	497.32	35.80
23 35 13 13-0069 EA 4" Air Gate Valve, Vacuum Tubing, Galvanized	560.50	37.98
23 35 13 13-0070 EA 5" Air Gate Valve, Vacuum Tubing, Galvanized	661.74	43.33
23 35 13 13-0071 EA 6" Air Gate Valve, Vacuum Tubing, Galvanized	762.05	48.57
23 35 16 Engine Exhaust Systems (23 35)		
23 35 16 16 Mechanical Engine Exhaust Systems (23 35 16)		
23 35 16 16-0001 Overhead Tailpipe Exhaust System (23 35 16 16)		
23 35 16 16-0002 Overhead Tailpipe Exhaust Blowers (23 35 16 16-0001)		
23 35 16 16-0003 Overhead Direct Drive Tailpipe Exhaust Blowers (23 35 16 16-0002)		
23 35 16 16-0004 EA 495 CFM 1/3 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	3,719.36	232.48
23 35 16 16-0005 EA 1,445 CFM 3/4 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	4,262.35	474.78
23 35 16 16-0006 EA 1,840 CFM 1-1/2 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	5,950.05	575.19
23 35 16 16-0007 Overhead Belt Drive Tailpipe Exhaust Blowers (23 35 16 16-0002)		
23 35 16 16-0008 EA 1,400 CFM 1 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	4,141.51	474.78
23 35 16 16-0009 EA 2,023 CFM 1-1/2 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	4,397.77	575.19
23 35 16 16-0010 EA 2,750 CFM 2 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	5,218.72	910.26
23 35 16 16-0011 EA 4,400 CFM 3 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	6,374.36	1,174.39
23 35 16 16-0012 EA 7,060 CFM 5 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	8,072.84	1,399.22
23 35 16 16-0013 Spiral Exhaust Duct Accessories (23 35 16 16-0001)		
23 35 16 16-0014 Flex Hose x Length (23 35 16 16-0013)		
Note: Includes duct coupler, damper and tailpipe adapter.		
23 35 16 16-0015 EA 3" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	170.78	57.85
23 35 16 16-0016 EA 3" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	145.26	57.85
23 35 16 16-0017 EA 4" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	261.70	91.69
23 35 16 16-0018 EA 4" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	219.06	91.69
23 35 16 16-0019 EA 5" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	369.99	145.16
23 35 16 16-0020 EA 5" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	354.72	145.16
23 35 16 16-0021 EA 6" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	564.66	230.30
23 35 16 16-0022 EA 6" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	532.56	230.30
23 35 16 16-0023 Flex Hose With Duct Coupler, Damper And Diesel Exhaust Adapter (23 35 16 16-0013)		
23 35 16 16-0024 EA 4" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	191.13	57.85
23 35 16 16-0025 EA 5" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	276.56	91.69
23 35 16 16-0026 EA 4" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	161.73	57.85
23 35 16 16-0027 EA 5" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	232.95	91.69
23 35 16 16-0028 EA 6" x 25' High Pressure, Stainless Steel Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	1,535.16	77.93
23 35 16 16-0029 EA 8" x 15' Heat-Resistant Fabric Flex Hose (650 Degree F.) With Duct Coupler, Damper And Tail-Pipe Adapter	1,336.06	142.98
23 35 16 16-0030 EA 10" x 15' Heat-Resistant Fabric Flex Hose (650 Degree F.) With Duct Coupler, Damper And Tail-Pipe Adapter	1,474.26	142.98
23 35 16 16-0031 LF 8" Heat-Resistant Fabric Flex Hose (650 Degree F.)	70.70	11.13
23 35 16 16-0032 LF 10" Heat-Resistant Fabric Flex Hose (650 Degree F.)	79.19	11.13
23 35 16 16-0033 Flexible Hose (23 35 16 16-0013)		
23 35 16 16-0034 LF 3" Stainless Steel Flexible Tubing	42.46	2.73
23 35 16 16-0035 LF 4" Stainless Steel Flexible Tubing	54.15	3.05
23 35 16 16-0036 LF 5" Stainless Steel Flexible Tubing	64.46	3.16
23 35 16 16-0037 LF 6" Stainless Steel Flexible Tubing	76.19	3.38
23 35 16 16-0038 LF 3" Galvanized Flexible Tubing	25.43	2.73
23 35 16 16-0039 LF 4" Galvanized Flexible Tubing	29.93	3.05
23 35 16 16-0040 LF 5" Galvanized Flexible Tubing	34.43	3.16
23 35 16 16-0041 LF 6" Galvanized Flexible Tubing	38.49	3.38



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Special Exhaust Systems			23 35	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 35 16 16-0042 Accessories (23 35 16 16-0001)				
23 35 16 16-0043	EA	3" Tail Pipe Adapter	58.55	8.19
23 35 16 16-0044	EA	4" Tail Pipe Adapter	60.24	8.19
23 35 16 16-0045	EA	5" Tail Pipe Adapter	64.12	9.28
23 35 16 16-0046	EA	3" Bullnose (Guide)	32.47	5.46
23 35 16 16-0047	EA	4" Bullnose (Guide)	34.51	6.00
23 35 16 16-0048	EA	5" Bullnose (Guide)	36.82	6.55
23 35 16 16-0049	EA	Flex-Hose Winch And Associated Hardware	237.30	61.89
23 35 16 16-0050	LF	Flex-Hose Winch Cable, 1/8" Galvanized Wire Rope	0.14	
23 35 19 Fume Exhaust Systems (23 35)				
23 35 19 00-0001	EA	Fume Exhauster, 1 1/2 HP 630 CFM With Out Hose And Intake Nozzle	2,569.73	436.25
23 35 19 00-0002	EA	Hose Extension Kit 5'	406.72	96.92
23 36 Air Terminal Units (23 30)				
23 36 13 Constant-Air-Volume Units (23 36)				
23 36 13 00-0001 Vertical Units, With Electric Heating Coils (23 36 13)				
23 36 13 00-0002	EA	60 CFM Vertical Induction Unit, With Electric Heating Coils	1,759.22	144.90
23 36 13 00-0003	EA	90 CFM Vertical Induction Unit, With Electric Heating Coils	2,120.67	156.05
23 36 13 00-0004	EA	120 CFM Vertical Induction Unit, With Electric Heating Coils	2,263.63	161.63
23 36 13 00-0005	EA	150 CFM Vertical Induction Unit, With Electric Heating Coils	2,417.74	172.77
23 36 13 00-0006	EA	175 CFM Vertical Induction Unit, With Electric Heating Coils	2,731.24	178.34
23 36 13 00-0007 Horizontal Units, With Electric Heating Coils (23 36 13)				
23 36 13 00-0008	EA	60 CFM Horizontal Induction Unit, With Electric Heating Coils	1,488.02	144.90
23 36 13 00-0009	EA	90 CFM Horizontal Induction Unit, With Electric Heating Coils	1,781.51	156.05
23 36 13 00-0010	EA	120 CFM Horizontal Induction Unit, With Electric Heating Coils	2,130.90	164.41
23 36 13 00-0011 Duct Boxes, Constant Volume Control (23 36 13)				
23 36 13 00-0012 Single Duct Boxes, Constant Volume Control (23 36 13 00-0011)				
23 36 13 00-0013	EA	4 - 6" Diameter Inlet, 50 - 240 CFM, Single Duct Boxes, Constant Volume Control	1,374.61	44.94
		For Boxes With Motor, Add	239.44	
23 36 13 00-0014	EA	6 - 8" Diameter Inlet, 100 - 480 CFM, Single Duct Boxes, Constant Volume Control	1,521.60	48.49
		For Boxes With Motor, Add	265.61	
23 36 13 00-0015	EA	7 - 10" Diameter Inlet, 150 - 720 CFM, Single Duct Boxes, Constant Volume Control	1,580.20	53.22
		For Boxes With Motor, Add	273.46	
23 36 13 00-0016	EA	9 - 12" Diameter Inlet, 200 - 960 CFM, Single Duct Boxes, Constant Volume Control	1,608.69	55.59
		For Boxes With Motor, Add	277.39	
23 36 13 00-0017	EA	12" Diameter Inlet, 250 - 1,200 CFM, Single Duct Boxes, Constant Volume Control	1,631.63	61.50
		For Boxes With Motor, Add	277.39	
23 36 13 00-0018	EA	14" Diameter Inlet, 350 - 1,680 CFM, Single Duct Boxes, Constant Volume Control	1,866.22	68.60
		For Boxes With Motor, Add	317.95	
23 36 13 00-0019	EA	16" Diameter Inlet, 450 - 2,160 CFM, Single Duct Boxes, Constant Volume Control	1,957.15	76.88
		For Boxes With Motor, Add	329.72	
23 36 13 00-0020	EA	20" x 16" Inlet, 550 - 2,640 CFM, Single Duct Boxes, Constant Volume Control	2,075.13	92.26
		For Boxes With Motor, Add	341.62	
23 36 13 00-0021	EA	24" x 16" Inlet, 650 - 3,120 CFM, Single Duct Boxes, Constant Volume Control	2,192.15	106.45
		For Boxes With Motor, Add	353.28	
23 36 13 00-0022 Dual Duct Boxes, Constant Volume Control (23 36 13 00-0011)				
23 36 13 00-0023	EA	4 - 6" Diameter Inlet, 50 - 240 CFM, Dual Duct Boxes, Constant Volume Control	1,937.83	44.94
		For Boxes With Motor, Add	352.09	
23 36 13 00-0024	EA	6 - 8" Diameter Inlet, 100 - 480 CFM, Dual Duct Boxes, Constant Volume Control	2,072.81	48.49
		For Boxes With Motor, Add	375.85	
23 36 13 00-0025	EA	7 - 10" Diameter Inlet, 150 - 720 CFM, Dual Duct Boxes, Constant Volume Control	2,162.73	53.22
		For Boxes With Motor, Add	389.97	
23 36 13 00-0026	EA	9 - 12" Diameter Inlet, 200 - 960 CFM, Dual Duct Boxes, Constant Volume Control	2,253.30	55.59
		For Boxes With Motor, Add	406.31	
23 36 13 00-0027	EA	12" Diameter Inlet, 250 - 1,200 CFM, Dual Duct Boxes, Constant Volume Control	2,276.24	61.50
		For Boxes With Motor, Add	406.31	
23 36 13 00-0028	EA	14" Diameter Inlet, 350 - 1,680 CFM, Dual Duct Boxes, Constant Volume Control	2,616.29	69.78
		For Boxes With Motor, Add	467.96	
23 36 13 00-0029	EA	16" Diameter Inlet, 450 - 2,160 CFM, Dual Duct Boxes, Constant Volume Control	2,859.85	76.88
		For Boxes With Motor, Add	510.30	
23 36 13 00-0030	EA	20" x 16" Inlet, 550 - 2,640 CFM, Dual Duct Boxes, Constant Volume Control	3,078.25	92.26
		For Boxes With Motor, Add	542.24	
23 36 13 00-0031	EA	24" x 16" Inlet, 650 - 3,120 CFM, Dual Duct Boxes, Constant Volume Control	3,211.25	106.45
		For Boxes With Motor, Add	557.10	
23 36 16 Variable-Air-Volume Units (23 36)				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 36 Air Terminal Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 36 16 00-0001		Variable Volume Terminal Unit (23 36 16) Note: Includes flow controllers, insulated plenum, system powered box mounted thermostat.		
23 36 16 00-0002		Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: Enclosure only. For mounting DDC controls.		
23 36 16 00-0003	EA	6" Diameter Inlet, 80 To 500 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	590.29	54.40
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0004	EA	8" Diameter Inlet, 145 To 900 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	660.29	61.50
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0005	EA	10" Diameter Inlet, 230 To 1,400 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	734.81	68.60
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0006	EA	12" Diameter Inlet, 325 To 2,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	783.45	76.88
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0007	EA	14" Diameter Inlet, 450 To 3,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	1,081.66	165.46
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0008	EA	16" Diameter Inlet, 580 To 4,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	1,299.25	196.33
		<i>For Filters And Frames, Add</i>	6.30	
23 36 16 00-0009		Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With pneumatic controls.		
23 36 16 00-0010	EA	6" Diameter Inlet, 80 - 500 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,248.30 1,329.62 419.02 67.57 6.30	54.40
23 36 16 00-0011	EA	8" Diameter Inlet, 145 - 900 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,349.18 1,423.92 447.92 67.57 6.30	61.50
23 36 16 00-0012	EA	10" Diameter Inlet, 230 - 1,400 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,411.83 1,468.14 460.44 67.57 6.30	68.60
23 36 16 00-0013	EA	12" Diameter Inlet, 325 - 2,000 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,472.34 1,509.41 472.00 67.57 6.30	76.88
23 36 16 00-0014	EA	14" Diameter Inlet, 450 To 3,000 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,706.42 1,693.53 525.94 67.57 6.30	165.46
23 36 16 00-0015	EA	16" Diameter Inlet, 580 To 4,000 CFM, Variable Air Volume Box With pneumatic controller <i>For Fan Powered Variable Air Volume Box, Add</i> <i>For Hot Water Coils, Add</i> <i>For Pressure Independent Actuator, Add</i> <i>For Filters And Frames, Add</i>	1,976.26 1,835.51 561.58 67.57 6.30	196.33
23 36 16 00-0016		Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With analog electronic controls.		
23 36 16 00-0017	EA	6" Diameter Inlet, 60 To 500 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,067.84 751.34 6.30	54.40
23 36 16 00-0018	EA	8" Diameter Inlet, 105 To 900 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,149.72 772.53 6.30	61.50
23 36 16 00-0019	EA	10" Diameter Inlet, 165 To 1,400 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,224.24 789.87 6.30	68.60
23 36 16 00-0020	EA	12" Diameter Inlet, 235 To 2,000 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,329.89 819.73 6.30	76.88
23 36 16 00-0021	EA	14" Diameter Inlet, 320 To 3,000 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,566.35 874.64 6.30	165.46
23 36 16 00-0022	EA	16" Diameter Inlet, 420 To 4,000 CFM, Variable Air Volume Box With Analog Electronic Controls <i>For Hot Water Coils, Add</i> <i>For Filters And Frames, Add</i>	2,613.86 893.91 6.30	165.46
23 36 16 00-0023		Dual Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With flow control installation, plenum system power box, thermostat.		
23 36 16 00-0024	EA	6" Diameter Inlet, 75 - 500 CFM, Variable Air Volume Box, Dual Duct <i>For Filters And Frames, Add</i>	1,414.69 6.30	107.51



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Terminal Units		23 36	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 36 16 00-0025	EA	8" Diameter Inlet, 200 - 700 CFM, Variable Air Volume Box, Dual Duct..... <i>For Filters And Frames, Add</i>	1,546.53 6.30	122.41
23 36 16 00-0026	EA	10" Diameter Inlet, 400 - 1,000 CFM, Variable Air Volume Box, Dual Duct..... <i>For Filters And Frames, Add</i>	1,654.90 6.30	138.26
23 36 16 00-0027	EA	12" Diameter Inlet, 600 - 1,400 CFM, Variable Air Volume Box, Dual Duct..... <i>For Filters And Frames, Add</i>	1,814.58 6.30	154.22
23 36 16 00-0028	EA	14" Diameter Inlet, 800 - 2,700 CFM, Variable Air Volume Box, Dual Duct..... <i>For Filters And Frames, Add</i>	2,039.55 6.30	177.40
23 36 16 00-0029	EA	16" Diameter Inlet, 1,000 - 3,500 CFM, Variable Air Volume Box, Dual Duct..... <i>For Filters And Frames, Add</i>	2,238.13 6.30	212.89
23 36 16 00-0030 Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-M) (23 36 16 00-0001)				
23 36 16 00-0031	EA	0 To 200 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-A)..... <i>For Filters And Frames, Add</i>	601.78 6.30	73.92
23 36 16 00-0032	EA	0 To 300 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-B)..... <i>For Filters And Frames, Add</i>	652.77 6.30	81.31
23 36 16 00-0033	EA	0 To 400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-C)..... <i>For Filters And Frames, Add</i>	705.27 6.30	88.70
23 36 16 00-0034	EA	0 To 700 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-D)..... <i>For Filters And Frames, Add</i>	759.36 6.30	96.09
23 36 16 00-0035	EA	0 To 1,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-E)..... <i>For Filters And Frames, Add</i>	815.19 6.30	103.48
23 36 16 00-0036	EA	0 To 1,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-F)..... <i>For Filters And Frames, Add</i>	872.83 6.30	110.88
23 36 16 00-0037	EA	0 To 1,100 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-G)..... <i>For Filters And Frames, Add</i>	937.50 6.30	118.27
23 36 16 00-0038	EA	0 To 1,900 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-H)..... <i>For Filters And Frames, Add</i>	999.58 6.30	125.66
23 36 16 00-0039	EA	0 To 2,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-J)..... <i>For Filters And Frames, Add</i>	1,063.94 6.30	133.05
23 36 16 00-0040	EA	0 To 3,800 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-K)..... <i>For Filters And Frames, Add</i>	1,130.72 6.30	140.44
23 36 16 00-0041	EA	0 To 5,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-L)..... <i>For Filters And Frames, Add</i>	1,200.12 6.30	147.84
23 36 16 00-0042	EA	0 To 5,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-M)..... <i>For Filters And Frames, Add</i>	1,272.29 6.30	155.23
23 36 16 00-0043	EA	0 To 6,700 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-N)..... <i>For Filters And Frames, Add</i>	1,347.46 6.30	162.62
23 36 16 00-0044	EA	0 To 10,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-P)..... <i>For Filters And Frames, Add</i>	1,418.90 6.30	170.01
23 36 16 00-0045	EA	0 To 15,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-R)..... <i>For Filters And Frames, Add</i>	1,500.19 6.30	177.40
23 37 Air Outlets and Inlets (23 30)				
23 37 13 Diffusers, Registers, and Grilles (23 37)				
23 37 13 13 Diffusers, Registers, and Grilles (23 37 13)				
23 37 13 13-0001 Ceiling Diffusers (23 37 13 13)				
23 37 13 13-0002 Ceiling Diffusers With Perforated Face (23 37 13 13-0001)				
Note: Flush mount, aluminum construction, includes damper.				
23 37 13 13-0003	EA	6" x 6" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper..... <i>For Steel Construction, Deduct</i> <i>For Surface Mount, Deduct</i> <i>For Diffuser Without Damper, Deduct</i> <i>For Stainless Steel, Add</i>	125.30 -9.67 -7.74 -12.89 161.18	15.38
23 37 13 13-0004	EA	8" x 8" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper..... <i>For Steel Construction, Deduct</i> <i>For Surface Mount, Deduct</i> <i>For Diffuser Without Damper, Deduct</i> <i>For Stainless Steel, Add</i>	139.63 -11.82 -9.46 -15.76 197.00	15.38
23 37 13 13-0005	EA	9" x 9" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper..... <i>For Steel Construction, Deduct</i> <i>For Surface Mount, Deduct</i> <i>For Diffuser Without Damper, Deduct</i> <i>For Stainless Steel, Add</i>	139.63 -11.82 -9.46 -15.76 197.00	15.38
23 37 13 13-0006	EA	10" x 10" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper..... <i>For Steel Construction, Deduct</i> <i>For Surface Mount, Deduct</i> <i>For Diffuser Without Damper, Deduct</i> <i>For Stainless Steel, Add</i>	167.73 -14.15 -11.32 -18.86 235.80	18.92
23 37 13 13-0007	EA	12" x 12" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper..... <i>For Steel Construction, Deduct</i> <i>For Surface Mount, Deduct</i> <i>For Diffuser Without Damper, Deduct</i> <i>For Stainless Steel, Add</i>	167.73 -14.15 -11.32 -18.86 235.80	17.74

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0008	EA	16" x 16" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	194.00	17.74
		For Steel Construction, Deduct	-18.09	
		For Surface Mount, Deduct	-14.47	
		For Diffuser Without Damper, Deduct	-24.12	
		For Stainless Steel, Add	301.48	
23 37 13 13-0009	EA	18" x 18" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	221.82	23.66
		For Steel Construction, Deduct	-19.45	
		For Surface Mount, Deduct	-15.56	
		For Diffuser Without Damper, Deduct	-25.93	
		For Stainless Steel, Add	324.15	
23 37 13 13-0010	EA	20" x 20" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	256.67	24.83
		For Steel Construction, Deduct	-24.29	
		For Surface Mount, Deduct	-19.43	
		For Diffuser Without Damper, Deduct	-32.38	
		For Stainless Steel, Add	404.75	
23 37 13 13-0011	EA	24" x 24" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	292.69	28.39
		For Steel Construction, Deduct	-27.01	
		For Surface Mount, Deduct	-21.61	
		For Lay-In Mount, Deduct	-21.61	
		For Diffuser Without Damper, Deduct	-36.01	
		For Stainless Steel, Add	450.13	
23 37 13 13-0012 Ceiling Diffusers With Louver Face (23 37 13 13-0001)				
Note: 1 To 4 way adjustable pattern, surface mount aluminum construction.				
23 37 13 13-0013	EA	6" x 6" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	130.08	15.38
		For Steel Construction, Deduct	-10.39	
		For Flush Mount, Add	10.39	
		For Stainless Steel, Add	173.13	
23 37 13 13-0014	EA	8" x 8" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	148.70	15.38
		For Steel Construction, Deduct	-13.18	
		For Flush Mount, Add	13.18	
		For Stainless Steel, Add	219.68	
23 37 13 13-0015	EA	9" x 9" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	148.70	15.38
		For Steel Construction, Deduct	-13.18	
		For Flush Mount, Add	13.18	
		For Stainless Steel, Add	219.68	
23 37 13 13-0016	EA	10" x 10" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	178.48	17.74
		For Steel Construction, Deduct	-15.76	
		For Flush Mount, Add	15.76	
		For Stainless Steel, Add	262.68	
23 37 13 13-0017	EA	12" x 12" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	178.48	18.92
		For Steel Construction, Deduct	-15.76	
		For Flush Mount, Add	15.76	
		For Stainless Steel, Add	262.68	
23 37 13 13-0018	EA	24" x 12" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	230.10	23.66
		For Steel Construction, Deduct	-20.63	
		For Flush Mount, Add	20.63	
		For Stainless Steel, Add	343.85	
23 37 13 13-0019	EA	14" x 14" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	204.79	23.66
		For Steel Construction, Deduct	-16.83	
		For Flush Mount, Add	16.83	
		For Stainless Steel, Add	280.58	
23 37 13 13-0020	EA	18" x 18" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	256.03	28.39
		For Steel Construction, Deduct	-21.60	
		For Flush Mount, Add	21.60	
		For Stainless Steel, Add	359.98	
23 37 13 13-0021	EA	21" x 21" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	297.23	31.93
		For Steel Construction, Deduct	-26.86	
		For Flush Mount, Add	26.86	
		For Stainless Steel, Add	447.73	
23 37 13 13-0022	EA	24" x 24" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	325.10	62.57
		For Steel Construction, Deduct	-29.98	
		For Flush Mount, Add	29.98	
		For Lay-In Mount, Add	39.97	
		For Stainless Steel, Add	499.68	
23 37 13 13-0023 Round Ceiling Diffusers With Fixed Pattern (23 37 13 13-0001)				
Note: Aluminum construction.				
23 37 13 13-0024	EA	6" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	215.83	15.38
		For Steel Construction, Deduct	-46.50	
		For Stainless Steel, Add	387.50	
23 37 13 13-0025	EA	8" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	223.78	15.38
		For Steel Construction, Deduct	-48.89	
		For Stainless Steel, Add	407.38	
23 37 13 13-0026	EA	10" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	252.25	18.92
		For Steel Construction, Deduct	-53.65	
		For Stainless Steel, Add	447.10	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0027	EA		12" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	272.13	17.74
			For Steel Construction, Deduct	-59.62	
			For Stainless Steel, Add	496.80	
23 37 13 13-0028	EA		14" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	391.18	21.29
			For Steel Construction, Deduct	-91.81	
			For Stainless Steel, Add	765.05	
23 37 13 13-0029	EA		16" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	412.61	22.47
			For Steel Construction, Deduct	-97.17	
			For Stainless Steel, Add	809.78	
23 37 13 13-0030	EA		18" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	434.35	23.66
			For Steel Construction, Deduct	-102.54	
			For Stainless Steel, Add	854.48	
23 37 13 13-0031	EA		20" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	503.03	23.66
			For Steel Construction, Deduct	-121.88	
			For Stainless Steel, Add	1,075.65	
23 37 13 13-0032	EA		24" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	601.03	27.20
			For Steel Construction, Deduct	-148.37	
			For Stainless Steel, Add	1,236.45	
23 37 13 13-0033	EA		28" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	677.28	28.39
			For Steel Construction, Deduct	-169.57	
			For Stainless Steel, Add	1,413.10	
23 37 13 13-0034	EA		32" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	809.70	31.93
			For Steel Construction, Deduct	-205.34	
			For Stainless Steel, Add	1,711.18	
23 37 13 13-0035			Round Ceiling Diffusers With Adjustable Pattern Dropped Style (23 37 13 13-0001)		
			Note: Aluminum construction.		
23 37 13 13-0036	EA		6" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	227.75	15.38
			For Steel Construction, Deduct	-16.69	
			For Flush Mount, Deduct	-8.35	
			For Stainless Steel, Add	417.30	
23 37 13 13-0037	EA		8" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	248.29	15.38
			For Steel Construction, Deduct	-18.75	
			For Flush Mount, Deduct	-9.37	
			For Stainless Steel, Add	468.65	
23 37 13 13-0038	EA		10" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	280.96	18.92
			For Steel Construction, Deduct	-20.76	
			For Flush Mount, Deduct	-10.38	
			For Stainless Steel, Add	518.88	
23 37 13 13-0039	EA		12" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	303.92	18.92
			For Steel Construction, Deduct	-23.05	
			For Flush Mount, Deduct	-11.53	
			For Stainless Steel, Add	576.28	
23 37 13 13-0040	EA		14" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	442.85	21.29
			For Steel Construction, Deduct	-35.77	
			For Flush Mount, Deduct	-17.88	
			For Stainless Steel, Add	894.23	
23 37 13 13-0041	EA		16" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	391.07	22.47
			For Steel Construction, Deduct	-38.22	
			For Flush Mount, Deduct	-19.11	
			For Stainless Steel, Add	955.50	
23 37 13 13-0042	EA		18" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	499.27	23.66
			For Steel Construction, Deduct	-40.67	
			For Flush Mount, Deduct	-20.34	
			For Stainless Steel, Add	1,016.78	
23 37 13 13-0043	EA		20" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	580.31	24.83
			For Steel Construction, Deduct	-48.35	
			For Flush Mount, Deduct	-24.18	
			For Stainless Steel, Add	1,208.85	
23 37 13 13-0044	EA		24" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	655.79	27.20
			For Steel Construction, Deduct	-54.93	
			For Flush Mount, Deduct	-27.47	
			For Stainless Steel, Add	1,373.35	
23 37 13 13-0045	EA		28" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	796.51	28.39
			For Steel Construction, Deduct	-68.45	
			For Flush Mount, Deduct	-34.22	
			For Stainless Steel, Add	1,711.18	
23 37 13 13-0046	EA		32" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	960.28	31.93
			For Steel Construction, Deduct	-83.51	
			For Flush Mount, Deduct	-41.75	
			For Stainless Steel, Add	2,087.63	
23 37 13 13-0047	EA		36" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	1,064.38	66.59
			For Stainless Steel, Add	2,328.33	
23 37 13 13-0048			Linear Type Ceiling Diffusers With 2-Way Air Deflection (23 37 13 13-0001)		
23 37 13 13-0049	LF		4" Linear Type Ceiling Diffuser 40-200 CFM/LF, With 2-Way Air Deflection.....	171.27	17.74
			For Stainless Steel, Add	250.75	
23 37 13 13-0050	LF		6-1/4" Linear Type Ceiling Diffuser, 41 - 206 CFM/LF, With 2-Way Air Deflection	184.90	17.74
			For Stainless Steel, Add	284.83	
23 37 13 13-0051	LF		9-1/4" Linear Type Ceiling Diffuser, 62 - 312 CFM/LF, With 2-Way Air Deflection	201.68	17.74
			For Stainless Steel, Add	326.78	
23 37 13 13-0052	LF		12-1/4" Linear Type Ceiling Diffuser, 131 - 656 CFM/LF, With 2-Way Air Deflection	218.02	17.74
			For Stainless Steel, Add	367.63	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0053		Wall And Floor Diffusers (23 37 13 13)		
23 37 13 13-0054		Slot Type Linear Diffusers (23 37 13 13-0053)		
		Note: For sidewall sill or ceiling 1/2" 3/4" or 1" slot spacing 1-1/8" border.		
23 37 13 13-0055	LF	1 Slot Linear Diffusers 10 - 70 CFM/LF, Sidewall, Sill, Ceiling.....	57.96	5.91
		For 3/4" Border, Add	8.28	
		For Floor Mounted Diffusers, Add	9.94	
		For Stainless Steel, Add	43.06	
23 37 13 13-0056	LF	2 Slot Linear Diffusers 20 - 140 CFM/LF, Sidewall, Sill, Ceiling.....	71.35	7.10
		For 3/4" Border, Add	11.04	
		For Floor Mounted Diffusers, Add	13.25	
		For Stainless Steel, Add	57.41	
23 37 13 13-0057	LF	3 Slot Linear Diffusers 30 - 210 CFM/LF, Sidewall, Sill, Ceiling.....	100.32	8.28
		For 3/4" Border, Add	17.39	
		For Floor Mounted Diffusers, Add	20.87	
		For Stainless Steel, Add	90.42	
23 37 13 13-0058	LF	4 Slot Linear Diffusers 40 - 280 CFM/LF, Sidewall, Sill, Ceiling.....	133.64	8.28
		For 3/4" Border, Add	24.84	
		For Floor Mounted Diffusers, Add	29.81	
		For Stainless Steel, Add	129.17	
23 37 13 13-0059	LF	5 Slot Linear Diffusers 50 - 350 CFM/LF, Sidewall, Sill, Ceiling.....	168.23	9.47
		For 3/4" Border, Add	32.29	
		For Floor Mounted Diffusers, Add	38.75	
		For Stainless Steel, Add	167.92	
23 37 13 13-0060	LF	6 Slot Linear Diffusers 60 - 420 CFM/LF, Sidewall, Sill, Ceiling.....	197.26	11.82
		For 3/4" Border, Add	38.09	
		For Floor Mounted Diffusers, Add	45.71	
		For Stainless Steel, Add	198.06	
23 37 13 13-0061		Linear Bar Grilles And Registers (23 37 13 13-0053)		
		Note: For sidewall sill or ceiling or 15 degree deflection 1/2" bar spacing 1" border aluminum construction.		
23 37 13 13-0062	LF	2" Wide Linear Bar Grilles/Registers 30 - 70 CFM/LF, Sidewall, Sill, Ceiling.....	187.27	7.10
		For Floor Mount, Add	16.01	
		For Opposed Blade Damper, Add	32.02	
		For Stainless Steel, Add	208.10	
23 37 13 13-0063	LF	3" Wide Linear Bar Grilles/Registers 55 - 143 CFM/LF, Sidewall, Sill, Ceiling.....	223.97	8.28
		For Floor Mount, Add	19.32	
		For Opposed Blade Damper, Add	38.64	
		For Stainless Steel, Add	251.16	
23 37 13 13-0064	LF	4" Wide Linear Bar Grilles/Registers 80 - 208 CFM/LF, Sidewall, Sill, Ceiling.....	244.04	8.28
		For Floor Mount, Add	20.98	
		For Opposed Blade Damper, Add	41.95	
		For Stainless Steel, Add	272.69	
23 37 13 13-0065	LF	6" Wide Linear Bar Grilles/Registers 125 - 325 CFM/LF, Sidewall, Sill, Ceiling.....	298.83	11.82
		For Floor Mount, Add	25.39	
		For Opposed Blade Damper, Add	50.78	
		For Stainless Steel, Add	330.10	
23 37 13 13-0066	LF	8" Wide Linear Bar Grilles/Registers 225 - 450 CFM/LF, Sidewall, Sill, Ceiling.....	413.58	15.38
		For Floor Mount, Add	35.33	
		For Opposed Blade Damper, Add	70.65	
		For Stainless Steel, Add	459.25	
23 37 13 13-0067	LF	12" Wide Linear Bar Grilles/Registers 225 - 495 CFM/LF, Sidewall, Sill, Ceiling.....	476.36	17.74
		For Floor Mount, Add	40.30	
		For Opposed Blade Damper, Add	80.59	
		For Stainless Steel, Add	523.84	
23 37 13 13-0068		Return/Exhaust Registers And Grilles (23 37 13 13)		
23 37 13 13-0069		Return/Exhaust Registers With Frame (23 37 13 13-0068)		
		Note: Single deflection with opposed blade damper aluminum construction wall or ceiling mount.		
23 37 13 13-0070	EA	8" x 4" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	125.58	9.47
		For Steel Construction, Deduct	-17.77	
		For Grilles (No Damper), Deduct	-35.55	
		For Removable Core, Add	35.00	
		For Cube Core With Frame, Add	8.89	
		For Cube Core Lay In, Add	17.77	
		For Stainless Steel, Add	222.18	
23 37 13 13-0071	EA	8" x 6" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	144.90	9.47
		For Steel Construction, Deduct	-21.64	
		For Grilles (No Damper), Deduct	-43.28	
		For Removable Core, Add	35.00	
		For Cube Core With Frame, Add	10.82	
		For Cube Core Lay In, Add	21.64	
		For Stainless Steel, Add	270.48	
23 37 13 13-0072	EA	10" x 6" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	162.36	10.64
		For Steel Construction, Deduct	-23.96	
		For Grilles (No Damper), Deduct	-47.91	
		For Removable Core, Add	35.00	
		For Cube Core With Frame, Add	11.98	
		For Cube Core Lay In, Add	23.96	
		For Stainless Steel, Add	299.45	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Outlets and Inlets		23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0073	EA	10" x 10"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	169.29	11.82
			For Steel Construction, Deduct	-23.96	
			For Grilles (No Damper), Deduct	-47.91	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	11.98	
			For Cube Core Lay In, Add	23.96	
			For Stainless Steel, Add	299.45	
23 37 13 13-0074	EA	12" x 6"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	161.56	11.82
			For Steel Construction, Deduct	-22.41	
			For Grilles (No Damper), Deduct	-44.82	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	11.21	
			For Cube Core Lay In, Add	22.41	
			For Stainless Steel, Add	280.13	
23 37 13 13-0075	EA	12" x 12"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	207.66	15.38
			For Steel Construction, Deduct	-29.37	
			For Grilles (No Damper), Deduct	-58.73	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	14.68	
			For Cube Core Lay In, Add	29.37	
			For Stainless Steel, Add	367.08	
23 37 13 13-0076	EA	16" x 16"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	248.72	17.74
			For Steel Construction, Deduct	-35.06	
			For Grilles (No Damper), Deduct	-70.12	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	17.53	
			For Cube Core Lay In, Add	35.06	
			For Stainless Steel, Add	438.28	
23 37 13 13-0077	EA	18" x 18"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	305.39	21.29
			For Steel Construction, Deduct	-44.05	
			For Grilles (No Damper), Deduct	-88.09	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	22.02	
			For Cube Core Lay In, Add	44.05	
			For Stainless Steel, Add	550.58	
23 37 13 13-0078	EA	20" x 20"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	359.27	23.66
			For Steel Construction, Deduct	-53.34	
			For Grilles (No Damper), Deduct	-106.68	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	26.67	
			For Cube Core Lay In, Add	53.34	
			For Stainless Steel, Add	666.78	
23 37 13 13-0079	EA	24" x 12"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	319.85	23.66
			For Steel Construction, Deduct	-44.62	
			For Grilles (No Damper), Deduct	-89.23	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	22.31	
			For Cube Core Lay In, Add	44.62	
			For Stainless Steel, Add	557.70	
23 37 13 13-0080	EA	24" x 18"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	367.24	23.66
			For Steel Construction, Deduct	-54.09	
			For Grilles (No Damper), Deduct	-108.19	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	27.05	
			For Cube Core Lay In, Add	54.09	
			For Stainless Steel, Add	676.18	
23 37 13 13-0081	EA	24" x 24"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	386.78	27.20
			For Steel Construction, Deduct	-56.07	
			For Grilles (No Damper), Deduct	-112.13	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	28.03	
			For Cube Core Lay In, Add	56.07	
			For Stainless Steel, Add	700.83	
23 37 13 13-0082	EA	30" x 12"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	409.96	28.39
			For Steel Construction, Deduct	-59.58	
			For Grilles (No Damper), Deduct	-119.17	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	29.79	
			For Cube Core Lay In, Add	59.58	
			For Stainless Steel, Add	744.80	
23 37 13 13-0083	EA	30" x 18"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	472.97	31.93
			For Steel Construction, Deduct	-69.55	
			For Grilles (No Damper), Deduct	-139.10	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	34.77	
			For Cube Core Lay In, Add	69.55	
			For Stainless Steel, Add	869.35	
23 37 13 13-0084	EA	30" x 24"	Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	528.39	37.85
			For Steel Construction, Deduct	-75.26	
			For Grilles (No Damper), Deduct	-150.53	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	37.63	
			For Cube Core Lay In, Add	75.26	
			For Stainless Steel, Add	940.80	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0085	EA		30" x 30" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	692.00	37.85
			For Steel Construction, Deduct	-107.99	
			For Grilles (No Damper), Deduct	-215.97	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	53.99	
			For Cube Core Lay In, Add	107.99	
			For Stainless Steel, Add	1,349.83	
23 37 13 13-0086	EA		36" x 12" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	570.30	41.39
			For Steel Construction, Deduct	-81.31	
			For Grilles (No Damper), Deduct	-162.62	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	40.65	
			For Cube Core Lay In, Add	81.31	
			For Stainless Steel, Add	1,016.35	
23 37 13 13-0087	EA		36" x 18" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	554.75	40.21
			For Steel Construction, Deduct	-78.20	
			For Grilles (No Damper), Deduct	-156.40	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	39.10	
			For Cube Core Lay In, Add	78.20	
			For Stainless Steel, Add	977.48	
23 37 13 13-0088	EA		36" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	632.75	44.94
			For Steel Construction, Deduct	-91.07	
			For Grilles (No Damper), Deduct	-182.14	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	45.54	
			For Cube Core Lay In, Add	91.07	
			For Stainless Steel, Add	1,138.38	
23 37 13 13-0089	EA		36" x 36" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	863.69	48.49
			For Steel Construction, Deduct	-134.03	
			For Grilles (No Damper), Deduct	-268.06	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	67.02	
			For Cube Core Lay In, Add	134.03	
			For Stainless Steel, Add	1,675.38	
23 37 13 13-0090	EA		24" x 20" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	380.29	27.32
			For Steel Construction, Deduct	-54.23	
			For Grilles (No Damper), Deduct	-108.46	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	27.11	
			For Cube Core Lay In, Add	54.23	
			For Stainless Steel, Add	677.85	
23 37 13 13-0091	EA		32" x 40" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	659.06	40.94
			For Steel Construction, Deduct	-99.06	
			For Grilles (No Damper), Deduct	-198.12	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	49.53	
			For Cube Core Lay In, Add	99.06	
			For Stainless Steel, Add	1,238.25	
23 37 13 13-0092	EA		48" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	762.59	48.49
			For Steel Construction, Deduct	-113.67	
			For Grilles (No Damper), Deduct	-227.34	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	56.84	
			For Cube Core Lay In, Add	113.67	
			For Stainless Steel, Add	1,420.88	
23 37 13 13-0093			Return/Exhaust Registers Removable-Reversible (23 37 13 13-0068)		
			Note: Double deflection core and opposed blade damper radiused frame with boarder aluminum construction.		
23 37 13 13-0094	EA		8" x 4" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	115.53	9.47
			For Steel Construction, Deduct	-7.88	
			For Flat Frame, Deduct	-0.79	
			For Grilles (No Damper), Deduct	-15.76	
			For Stainless Steel, Add	197.05	
23 37 13 13-0095	EA		8" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	115.53	9.47
			For Steel Construction, Deduct	-7.88	
			For Flat Frame, Deduct	-0.79	
			For Grilles (No Damper), Deduct	-15.76	
			For Stainless Steel, Add	197.05	
23 37 13 13-0096	EA		10" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	142.27	10.64
			For Steel Construction, Deduct	-9.97	
			For Flat Frame, Deduct	-1.00	
			For Grilles (No Damper), Deduct	-19.94	
			For Stainless Steel, Add	249.23	
23 37 13 13-0097	EA		10" x 10" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	163.11	13.01
			For Steel Construction, Deduct	-11.36	
			For Flat Frame, Deduct	-1.14	
			For Grilles (No Damper), Deduct	-22.72	
			For Stainless Steel, Add	284.00	
23 37 13 13-0098	EA		12" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	160.79	11.82
			For Steel Construction, Deduct	-11.13	
			For Flat Frame, Deduct	-1.11	
			For Grilles (No Damper), Deduct	-22.26	
			For Stainless Steel, Add	278.20	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Outlets and Inlets		23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0099	EA	12" x 12"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	209.20	15.38
			For Steel Construction, Deduct	-14.84	
			For Flat Frame, Deduct	-1.48	
			For Grilles (No Damper), Deduct	-29.67	
			For Stainless Steel, Add	370.93	
23 37 13 13-0100	EA	16" x 16"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	341.57	18.92
			For Steel Construction, Deduct	-26.82	
			For Flat Frame, Deduct	-2.68	
			For Grilles (No Damper), Deduct	-53.63	
			For Stainless Steel, Add	670.40	
23 37 13 13-0101	EA	18" x 18"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	412.05	21.29
			For Steel Construction, Deduct	-32.69	
			For Flat Frame, Deduct	-3.27	
			For Grilles (No Damper), Deduct	-65.38	
			For Stainless Steel, Add	817.23	
23 37 13 13-0102	EA	20" x 20"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	465.82	23.66
			For Steel Construction, Deduct	-37.33	
			For Flat Frame, Deduct	-3.73	
			For Grilles (No Damper), Deduct	-74.65	
			For Stainless Steel, Add	933.15	
23 37 13 13-0103	EA	24" x 12"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	384.25	23.66
			For Steel Construction, Deduct	-28.75	
			For Flat Frame, Deduct	-2.87	
			For Grilles (No Damper), Deduct	-57.50	
			For Stainless Steel, Add	718.70	
23 37 13 13-0104	EA	24" x 18"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	523.35	24.83
			For Steel Construction, Deduct	-42.66	
			For Flat Frame, Deduct	-4.27	
			For Grilles (No Damper), Deduct	-85.32	
			For Stainless Steel, Add	1,066.45	
23 37 13 13-0105	EA	24" x 24"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	611.85	27.20
			For Steel Construction, Deduct	-50.54	
			For Flat Frame, Deduct	-5.05	
			For Grilles (No Damper), Deduct	-101.08	
			For Stainless Steel, Add	1,263.50	
23 37 13 13-0106	EA	30" x 12"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	464.43	28.39
			For Steel Construction, Deduct	-35.24	
			For Flat Frame, Deduct	-3.52	
			For Grilles (No Damper), Deduct	-70.48	
			For Stainless Steel, Add	880.98	
23 37 13 13-0107	EA	30" x 18"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	644.54	31.93
			For Steel Construction, Deduct	-51.93	
			For Flat Frame, Deduct	-5.19	
			For Grilles (No Damper), Deduct	-103.86	
			For Stainless Steel, Add	1,298.28	
23 37 13 13-0108	EA	30" x 24"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	775.71	37.85
			For Steel Construction, Deduct	-62.36	
			For Flat Frame, Deduct	-6.24	
			For Grilles (No Damper), Deduct	-124.73	
			For Stainless Steel, Add	1,559.10	
23 37 13 13-0109	EA	30" x 30"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	892.78	37.85
			For Steel Construction, Deduct	-74.07	
			For Flat Frame, Deduct	-7.41	
			For Grilles (No Damper), Deduct	-148.14	
			For Stainless Steel, Add	1,851.78	
23 37 13 13-0110	EA	36" x 12"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	597.29	40.21
			For Steel Construction, Deduct	-43.35	
			For Flat Frame, Deduct	-4.34	
			For Grilles (No Damper), Deduct	-86.71	
			For Stainless Steel, Add	1,083.83	
23 37 13 13-0111	EA	36" x 18"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	819.85	40.21
			For Steel Construction, Deduct	-65.61	
			For Flat Frame, Deduct	-6.56	
			For Grilles (No Damper), Deduct	-131.22	
			For Stainless Steel, Add	1,640.23	
23 37 13 13-0112	EA	36" x 24"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	951.73	44.94
			For Steel Construction, Deduct	-77.43	
			For Flat Frame, Deduct	-7.74	
			For Grilles (No Damper), Deduct	-154.87	
			For Stainless Steel, Add	1,935.83	
23 37 13 13-0113	EA	36" x 30"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	1,115.09	48.49
			For Steel Construction, Deduct	-92.16	
			For Flat Frame, Deduct	-9.22	
			For Grilles (No Damper), Deduct	-184.31	
			For Stainless Steel, Add	2,303.88	
23 37 13 13-0114	EA	36" x 36"	Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	1,180.00	48.49
			For Steel Construction, Deduct	-98.65	
			For Flat Frame, Deduct	-9.86	
			For Grilles (No Damper), Deduct	-197.29	
			For Stainless Steel, Add	2,466.15	
23 37 13 13-0115			Aluminum Eggcrate Ceiling Return Air And Exhaust Grilles (23 37 13 13-0068)		
23 37 13 13-0116	EA	6" x 6"	Aluminum Eggcrate Ceiling Return Air And Exhaust Grille	58.15	11.57
23 37 13 13-0117	EA	8" x 4"	Aluminum Eggcrate Ceiling Return Air And Exhaust Grille	58.15	11.57
23 37 13 13-0118	EA	8" x 6"	Aluminum Eggcrate Ceiling Return Air And Exhaust Grille	63.43	11.57

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 37 13 13-0119	EA	8" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	65.54	11.57
23 37 13 13-0120	EA	10" x 4" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	63.43	11.57
23 37 13 13-0121	EA	10" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	65.54	11.57
23 37 13 13-0122	EA	10" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	78.56	15.17
23 37 13 13-0123	EA	10" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	80.67	15.17
23 37 13 13-0124	EA	12" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	76.45	15.17
23 37 13 13-0125	EA	12" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	80.67	15.17
23 37 13 13-0126	EA	12" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	82.78	15.17
23 37 13 13-0127	EA	12" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	84.89	15.17
23 37 13 13-0128	EA	14" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	81.73	15.17
23 37 13 13-0129	EA	14" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	85.95	15.17
23 37 13 13-0130	EA	14" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	88.06	15.17
23 37 13 13-0131	EA	14" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	97.56	15.17
23 37 13 13-0132	EA	16" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	85.95	15.17
23 37 13 13-0133	EA	16" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	93.34	15.17
23 37 13 13-0134	EA	16" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	97.56	15.17
23 37 13 13-0135	EA	16" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	124.67	22.37
23 37 13 13-0136	EA	16" x 16" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	126.78	22.37
23 37 13 13-0137	EA	18" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	122.56	22.37
23 37 13 13-0138	EA	18" x 18" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	150.36	25.97
23 37 13 13-0139	EA	20" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	120.45	22.37
23 37 13 13-0140	EA	20" x 20" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	160.92	25.97
23 37 13 13-0141	EA	22" x 4" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	83.84	15.17
23 37 13 13-0142	EA	22" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	122.56	22.37
23 37 13 13-0143	EA	22" x 22" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	180.27	29.58
23 37 13 13-0144	EA	24" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	120.45	22.37
23 37 13 13-0145	EA	24" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	124.67	22.37
23 37 13 13-0146	EA	24" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	144.03	25.97
For Lay-In Installation, Deduct			-54.75	
23 37 13 13-0147	EA	24" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	150.36	25.97
23 37 13 13-0148	EA	24" x 16" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	167.61	29.58
23 37 13 13-0149	EA	24" x 18" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	173.94	29.58
23 37 13 13-0150	EA	24" x 20" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	181.33	29.58
23 37 13 13-0151	EA	24" x 24" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	195.05	29.58
For Lay-In Installation, Deduct			-62.68	
23 37 13 13-0152	EA	30" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	147.20	25.97
23 37 13 13-0153	EA	48" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	240.72	32.42
23 37 13 13-0154	EA	48" x 24" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	415.59	39.62
For Lay-In Installation, Deduct			-90.19	

23 37 13 13-0155 Supply Registers and Grilles (23 37 13 13)**23 37 13 13-0156 Adjustable Curved Blade Register (23 37 13 13-0155)**

Note: Ceiling mount aluminum construction four way pattern flush frame.

23 37 13 13-0157	EA	6" x 6" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	104.20	9.47
For Steel Construction, Deduct			-10.13	
For Lay In Frame, Deduct			-16.89	
For Three Way Pattern, Deduct			-6.76	
For Two Way Pattern, Deduct			-5.40	
For One Way Pattern, Deduct			-5.40	
For Grille (No Damper), Deduct			-10.13	
For Stainless Steel, Add			168.90	
23 37 13 13-0158	EA	8" x 8" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	108.18	9.47
For Steel Construction, Deduct			-10.73	
For Lay In Frame, Deduct			-17.89	
For Three Way Pattern, Deduct			-7.15	
For Two Way Pattern, Deduct			-5.72	
For One Way Pattern, Deduct			-5.72	
For Grille (No Damper), Deduct			-10.73	
For Stainless Steel, Add			178.85	
23 37 13 13-0159	EA	12" x 6" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	117.19	13.01
For Steel Construction, Deduct			-10.13	
For Lay In Frame, Deduct			-16.89	
For Three Way Pattern, Deduct			-6.76	
For Two Way Pattern, Deduct			-5.40	
For One Way Pattern, Deduct			-5.40	
For Grille (No Damper), Deduct			-10.13	
For Stainless Steel, Add			168.90	
23 37 13 13-0160	EA	10" x 10" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	131.77	11.82
For Steel Construction, Deduct			-12.32	
For Lay In Frame, Deduct			-20.54	
For Three Way Pattern, Deduct			-8.21	
For Two Way Pattern, Deduct			-6.57	
For One Way Pattern, Deduct			-6.57	
For Grille (No Damper), Deduct			-12.32	
For Stainless Steel, Add			205.35	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0161	EA	12" x 12"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	158.34	15.38
			For Steel Construction, Deduct	-14.70	
			For Lay In Frame, Deduct	-24.51	
			For Three Way Pattern, Deduct	-9.80	
			For Two Way Pattern, Deduct	-7.84	
			For One Way Pattern, Deduct	-7.84	
			For Grille (No Damper), Deduct	-14.70	
			For Stainless Steel, Add	245.08	
23 37 13 13-0162	EA	14" x 14"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	195.29	17.74
			For Steel Construction, Deduct	-18.28	
			For Lay In Frame, Deduct	-30.47	
			For Three Way Pattern, Deduct	-12.19	
			For Two Way Pattern, Deduct	-9.75	
			For One Way Pattern, Deduct	-9.75	
			For Grille (No Damper), Deduct	-18.28	
			For Stainless Steel, Add	304.70	
23 37 13 13-0163	EA	16" x 16"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	195.29	17.74
			For Steel Construction, Deduct	-18.28	
			For Lay In Frame, Deduct	-30.47	
			For Three Way Pattern, Deduct	-12.19	
			For Two Way Pattern, Deduct	-9.75	
			For One Way Pattern, Deduct	-9.75	
			For Grille (No Damper), Deduct	-18.28	
			For Stainless Steel, Add	304.70	
23 37 13 13-0164	EA	18" x 18"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	240.54	23.66
			For Steel Construction, Deduct	-22.26	
			For Lay In Frame, Deduct	-37.10	
			For Three Way Pattern, Deduct	-14.84	
			For Two Way Pattern, Deduct	-11.87	
			For One Way Pattern, Deduct	-11.87	
			For Grille (No Damper), Deduct	-22.26	
			For Stainless Steel, Add	370.95	
23 37 13 13-0165	EA	24" x 24"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	320.66	24.83
			For Steel Construction, Deduct	-33.58	
			For Lay In Frame, Deduct	-55.97	
			For Three Way Pattern, Deduct	-22.39	
			For Two Way Pattern, Deduct	-17.91	
			For One Way Pattern, Deduct	-17.91	
			For Grille (No Damper), Deduct	-33.58	
			For Stainless Steel, Add	559.73	
23 37 13 13-0166	EA	30" x 30"	Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	530.19	50.15
			For Steel Construction, Deduct	-64.48	
			For Lay In Frame, Deduct	-107.47	
			For Three Way Pattern, Deduct	-42.99	
			For Two Way Pattern, Deduct	-34.39	
			For One Way Pattern, Deduct	-34.39	
			For Grille (No Damper), Deduct	-64.48	
			For Stainless Steel, Add	1,074.73	
23 37 13 13-0167			Removable-Reversible Core Registers (23 37 13 13-0155)		
			Note: Double deflection radiused frame aluminum construction.		
23 37 13 13-0168	EA	6" x 6"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	121.43	9.47
			For Steel Construction, Deduct	-8.48	
			For Flat Frame, Deduct	-8.48	
			For Grille (No Damper), Deduct	-25.44	
			For Stainless Steel, Add	211.98	
23 37 13 13-0169	EA	8" x 8"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	155.87	9.47
			For Steel Construction, Deduct	-11.92	
			For Flat Frame, Deduct	-11.92	
			For Grille (No Damper), Deduct	-35.77	
			For Stainless Steel, Add	298.08	
23 37 13 13-0170	EA	12" x 6"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	198.01	13.01
			For Steel Construction, Deduct	-14.84	
			For Flat Frame, Deduct	-14.84	
			For Grille (No Damper), Deduct	-44.51	
			For Stainless Steel, Add	370.95	
23 37 13 13-0171	EA	10" x 10"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	200.65	13.01
			For Steel Construction, Deduct	-15.10	
			For Flat Frame, Deduct	-15.10	
			For Grille (No Damper), Deduct	-45.31	
			For Stainless Steel, Add	377.55	
23 37 13 13-0172	EA	12" x 12"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	256.38	15.38
			For Steel Construction, Deduct	-19.61	
			For Flat Frame, Deduct	-19.61	
			For Grille (No Damper), Deduct	-58.82	
			For Stainless Steel, Add	490.18	
23 37 13 13-0173	EA	14" x 14"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	367.51	18.92
			For Steel Construction, Deduct	-29.41	
			For Flat Frame, Deduct	-29.41	
			For Grille (No Damper), Deduct	-88.23	
			For Stainless Steel, Add	735.25	
23 37 13 13-0174	EA	16" x 16"	Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	415.20	17.74
			For Steel Construction, Deduct	-34.18	
			For Flat Frame, Deduct	-34.18	
			For Grille (No Damper), Deduct	-102.54	
			For Stainless Steel, Add	854.48	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0175	EA		18" x 18" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	500.19	23.66
			<i>For Steel Construction, Deduct</i>	-40.80	
			<i>For Flat Frame, Deduct</i>	-40.80	
			<i>For Grille (No Damper), Deduct</i>	-122.41	
			<i>For Stainless Steel, Add</i>	1,020.08	
23 37 13 13-0176	EA		24" x 24" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	634.63	23.66
			<i>For Steel Construction, Deduct</i>	-53.79	
			<i>For Flat Frame, Deduct</i>	-53.79	
			<i>For Grille (No Damper), Deduct</i>	-161.36	
			<i>For Stainless Steel, Add</i>	1,344.65	
23 37 13 13-0177 Supply Grille, Aluminum Drum With Aluminum Border (23 37 13 13-0155)					
Note: Titus DL.					
23 37 13 13-0178	EA		9" x 6" Supply Grille, Aluminum Drum	88.91	18.33
			<i>For Stainless Steel, Add</i>	130.68	
23 37 13 13-0179	EA		12" x 6" Supply Grille, Aluminum Drum	124.58	24.83
			<i>For Stainless Steel, Add</i>	187.40	
23 37 13 13-0180	EA		18" x 6" Supply Grille, Aluminum Drum	137.31	24.83
			<i>For Stainless Steel, Add</i>	219.23	
23 37 13 13-0181	EA		24" x 6" Supply Grille, Aluminum Drum	152.48	30.16
			<i>For Stainless Steel, Add</i>	230.45	
23 37 13 13-0182	EA		30" x 6" Supply Grille, Aluminum Drum	194.60	36.78
			<i>For Stainless Steel, Add</i>	302.98	
23 37 13 13-0183	EA		36" x 6" Supply Grille, Aluminum Drum	236.28	36.78
			<i>For Stainless Steel, Add</i>	407.18	
23 37 13 13-0184	EA		48" x 6" Supply Grille, Aluminum Drum	282.36	46.12
			<i>For Stainless Steel, Add</i>	475.53	
23 37 13 13-0185	EA		20" x 10" Supply Grille, Aluminum Drum	158.62	30.16
			<i>For Stainless Steel, Add</i>	245.80	
23 37 13 13-0186	EA		25" x 10" Supply Grille, Aluminum Drum	171.62	36.67
			<i>For Stainless Steel, Add</i>	245.80	
23 37 13 13-0187	EA		30" x 10" Supply Grille, Aluminum Drum	242.07	46.12
			<i>For Stainless Steel, Add</i>	374.60	
23 37 13 13-0188	EA		35" x 10" Supply Grille, Aluminum Drum	279.64	49.68
			<i>For Stainless Steel, Add</i>	450.80	
23 37 13 13-0189	EA		40" x 10" Supply Grille, Aluminum Drum	314.35	52.03
			<i>For Stainless Steel, Add</i>	525.75	
23 37 13 13-0190	EA		20" x 12" Supply Grille, Aluminum Drum	180.83	32.53
			<i>For Stainless Steel, Add</i>	289.50	
23 37 13 13-0191	EA		30" x 12" Supply Grille, Aluminum Drum	265.55	47.31
			<i>For Stainless Steel, Add</i>	427.40	
23 37 13 13-0192	EA		40" x 12" Supply Grille, Aluminum Drum	343.74	53.22
			<i>For Stainless Steel, Add</i>	593.30	
23 37 13 13-0193	EA		15" x 15" Supply Grille, Aluminum Drum	190.49	36.67
			<i>For Stainless Steel, Add</i>	292.98	
23 37 13 13-0194	EA		20" x 15" Supply Grille, Aluminum Drum	214.40	39.03
			<i>For Stainless Steel, Add</i>	340.90	
23 37 13 13-0195	EA		25" x 15" Supply Grille, Aluminum Drum	251.90	45.54
			<i>For Stainless Steel, Add</i>	402.13	
23 37 13 13-0196	EA		30" x 15" Supply Grille, Aluminum Drum	285.50	48.49
			<i>For Stainless Steel, Add</i>	471.35	
23 37 13 13-0197	EA		40" x 15" Supply Grille, Aluminum Drum	346.97	54.40
			<i>For Stainless Steel, Add</i>	595.48	
23 37 13 13-0198 Adjustable Shutter Blade Registers (23 37 13 13-0155)					
Note: Double deflection flat frame aluminum construction.					
23 37 13 13-0199	EA		6" x 6" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	191.20	9.47
			<i>For Steel Construction, Deduct</i>	-15.46	
			<i>For Single Deflection, Deduct</i>	-30.91	
			<i>For Grille (No Damper), Deduct</i>	-23.18	
			<i>For Stainless Steel, Add</i>	386.40	
23 37 13 13-0200	EA		8" x 8" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	222.11	9.47
			<i>For Steel Construction, Deduct</i>	-18.55	
			<i>For Single Deflection, Deduct</i>	-37.09	
			<i>For Grille (No Damper), Deduct</i>	-27.82	
			<i>For Stainless Steel, Add</i>	463.68	
23 37 13 13-0201	EA		12" x 6" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	235.10	13.01
			<i>For Steel Construction, Deduct</i>	-18.55	
			<i>For Single Deflection, Deduct</i>	-37.09	
			<i>For Grille (No Damper), Deduct</i>	-27.82	
			<i>For Stainless Steel, Add</i>	463.68	
23 37 13 13-0202	EA		10" x 10" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	243.93	11.82
			<i>For Steel Construction, Deduct</i>	-19.43	
			<i>For Single Deflection, Deduct</i>	-38.86	
			<i>For Grille (No Damper), Deduct</i>	-29.15	
			<i>For Stainless Steel, Add</i>	485.75	
23 37 13 13-0203	EA		12" x 12" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	298.77	15.38
			<i>For Steel Construction, Deduct</i>	-23.85	
			<i>For Single Deflection, Deduct</i>	-47.69	
			<i>For Grille (No Damper), Deduct</i>	-35.77	
			<i>For Stainless Steel, Add</i>	596.15	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0245	SF	Up To 4 SF, 304 Stainless Steel, Single Deflection Supply Grille..... <i>For 316 Stainless Steel, Add</i>	180.31 29.90	18.48
23 37 13 13-0246	SF	>4 SF, 304 Stainless Steel, Single Deflection Supply Grille..... <i>For 316 Stainless Steel, Add</i>	152.62 24.36	18.48
23 37 13 13-0247		304 Stainless Steel, Double Deflection Supply Grilles (23 37 13 13-0240)		
23 37 13 13-0248	SF	Up To 4 SF, 304 Stainless Steel, Double Deflection Supply Grille..... <i>For 316 Stainless Steel, Add</i>	265.96 47.03	18.48
23 37 13 13-0249	SF	>4 SF, 304 Stainless Steel, Double Deflection Supply Grille..... <i>For 316 Stainless Steel, Add</i>	225.99 39.04	18.48
23 37 13 13-0250		304 Stainless Steel Return Grilles (23 37 13 13-0240)		
23 37 13 13-0251	SF	Up To 4 SF, 304 Stainless Steel Return Grille..... <i>For 316 Stainless Steel, Add</i>	180.31 29.90	18.48
23 37 13 13-0252	SF	>4 SF, 304 Stainless Steel Return Grille..... <i>For 316 Stainless Steel, Add</i>	152.62 24.36	18.48
23 37 13 13-0253		304 Stainless Steel, Louvered Supply/Return Grilles (23 37 13 13-0240)		
23 37 13 13-0254	SF	Up To 4 SF, 304 Stainless Steel, Louvered Supply/Return Grille..... <i>For 316 Stainless Steel, Add</i>	180.31 29.90	18.48
23 37 13 13-0255	SF	>4 SF, 304 Stainless Steel, Louvered Supply/Return Grille..... <i>For 316 Stainless Steel, Add</i>	152.62 24.36	18.48
23 37 13 13-0256		304 Stainless Steel, Perforated Return Grilles (23 37 13 13-0240)		
23 37 13 13-0257	SF	Up To 4 SF, 304 Stainless Steel, Perforated Return Grille..... <i>For 316 Stainless Steel, Add</i>	180.31 29.90	18.48
23 37 13 13-0258	SF	>4 SF, 304 Stainless Steel, Perforated Return Grille..... <i>For 316 Stainless Steel, Add</i>	145.01 22.84	18.48
23 37 13 13-0259		304 Stainless Steel, Perforated Supply Grilles (23 37 13 13-0240)		
23 37 13 13-0260	SF	Up To 4 SF, 304 Stainless Steel, Perforated Supply Grille..... <i>For 316 Stainless Steel, Add</i>	219.24 37.69	18.48
23 37 13 13-0261	SF	>4 SF, 304 Stainless Steel, Perforated Supply Grille..... <i>For 316 Stainless Steel, Add</i>	149.06 23.65	18.48
23 37 13 13-0262		304 Stainless Steel, Door Grilles (23 37 13 13-0240)		
23 37 13 13-0263	SF	Up To 4 SF, 304 Stainless Steel, Door Grille..... <i>For 316 Stainless Steel, Add</i>	329.81 59.80	18.48
23 37 13 13-0264	SF	>4 SF, 304 Stainless Steel, Door Grille..... <i>For 316 Stainless Steel, Add</i>	274.45 48.73	18.48
23 37 13 13-0265		304 Stainless Steel, Linear Bar Grilles (23 37 13 13-0240)		
23 37 13 13-0266	SF	Up To 4 SF, 304 Stainless Steel, Linear Bar Grille..... <i>For 316 Stainless Steel, Add</i>	422.73 78.38	18.48
23 37 13 13-0267	SF	>4 SF, 304 Stainless Steel, Linear Bar Grille..... <i>For 316 Stainless Steel, Add</i>	361.30 66.10	18.48
23 37 13 13-0268		304 Stainless Steel, Hinged Filter Grilles (23 37 13 13-0240)		
23 37 13 13-0269	SF	Up To 4 SF, 304 Stainless Steel, Hinged Filter Grille..... <i>For 316 Stainless Steel, Add</i>	309.57 55.75	18.48
23 37 13 13-0270	SF	>4 SF, 304 Stainless Steel, Hinged Filter Grille..... <i>For 316 Stainless Steel, Add</i>	212.68 36.37	18.48
23 37 13 13-0271		304 Stainless Steel, Opposed Blade Dampers Grilles (23 37 13 13-0240)		
23 37 13 13-0272	SF	Up To 4 SF, 304 Stainless Steel, Opposed Blade Dampers Grille..... <i>For 316 Stainless Steel, Add</i>	164.74 26.79	18.48
23 37 13 13-0273	SF	Opposed Blade Dampers Grille, Stainless Steel 304, > 4 SF..... <i>For 316 Stainless Steel, Add</i>	124.43 18.72	18.48
23 37 13 13-0274		304 Stainless Steel, Plaster Frames Replacement (23 37 13 13-0240)		
		Note: For frequent replacement.		
23 37 13 13-0275	SF	To 4 SF, 304 Stainless Steel, Plaster Frames Replacement..... <i>For 316 Stainless Steel, Add</i>	127.36 19.31	18.48
23 37 13 13-0276	SF	>4 SF, 304 Stainless Steel, Plaster Frames Replacement..... <i>For 316 Stainless Steel, Add</i>	65.59 6.96	18.48
23 37 13 13-0277		304 Stainless Steel, Modular Louvered Ceiling Diffusers (23 37 13 13-0240)		
23 37 13 13-0278	SF	Up To 4 SF, 304 Stainless Steel, Modular Louvered Ceiling Diffuser..... <i>For 316 Stainless Steel, Add</i>	304.90 54.82	18.48



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Outlets and Inlets			23 37

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0279	SF	>4 SF, 304 Stainless Steel, Modular Louvered Ceiling Diffuser	For 316 Stainless Steel, Add	237.59 41.36	18.48
23 37 13 13-0280		304 Stainless Steel, Latticed Supply/Return Grilles	(23 37 13 13-0240)		
23 37 13 13-0281	SF	Up To 4 SF, 304 Stainless Steel, Latticed Supply/Return Grille	For 316 Stainless Steel, Add	104.00 14.64	18.48
23 37 13 13-0282	SF	>4 SF, 304 Stainless Steel, Latticed Supply/Return Grille	For 316 Stainless Steel, Add	104.00 14.64	18.48
23 37 13 13-0283		Removal And Reinstallation Of Distribution Devices	(23 37 13 13)		
		Note: Includes storage and cleaning. Excludes ductwork.			
23 37 13 13-0284	EA	Removal And Reinstallation Of Variable Air Volume Terminal Unit		221.75	
23 37 13 13-0285	EA	Removal And Reinstallation Of Fan Powered Variable Volume Terminal Unit		244.58	
23 37 13 13-0286	EA	Removal And Reinstallation Of Lay-in Diffuser/Register/Grille		36.66	
23 37 13 13-0287	EA	Removal And Reinstallation Of Surface Mounted Diffuser/Register/Grille		49.65	
23 37 13 43		Security Registers and Grilles	(23 37 13)		
23 37 13 43-0001		Security Supply Or Return Grille	(23 37 13 43)		
		Note: Designed for maximum security applications, 3/16" steel face plate with 2" x 2" square holes, 1/4" steel backer plate, 3/16" welded steel sleeve, 10 gauge x 2 wire mesh between face and backer plates, 1" x 1" x 3/16" angle iron frame, standard finish.			
23 37 13 43-0002	EA	8" x 4" Steel Security Grille		305.32	17.78
		For Anchoring Tabs, Add		26.98	
		For Rear Operated Opposed Blade Damper, Add		97.97	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		67.44	
		For Stainless Steel, Add		350.70	
23 37 13 43-0003	EA	8" x 6" Steel Security Grille		339.21	18.36
		For Anchoring Tabs, Add		30.25	
		For Rear Operated Opposed Blade Damper, Add		109.54	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		75.62	
		For Stainless Steel, Add		393.21	
23 37 13 43-0004	EA	8" x 8" Steel Security Grille		388.91	20.74
		For Anchoring Tabs, Add		34.74	
		For Rear Operated Opposed Blade Damper, Add		125.75	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		86.86	
		For Stainless Steel, Add		451.66	
23 37 13 43-0005	EA	10" x 4" Steel Security Grille		338.67	20.14
		For Anchoring Tabs, Add		29.84	
		For Rear Operated Opposed Blade Damper, Add		108.46	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		74.60	
		For Stainless Steel, Add		387.89	
23 37 13 43-0006	EA	10" x 6" Steel Security Grille		361.48	21.33
		For Anchoring Tabs, Add		31.88	
		For Rear Operated Opposed Blade Damper, Add		115.85	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		79.71	
		For Stainless Steel, Add		414.47	
23 37 13 43-0007	EA	10" x 8" Steel Security Grille		414.09	23.10
		For Anchoring Tabs, Add		36.79	
		For Rear Operated Opposed Blade Damper, Add		133.38	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		91.97	
		For Stainless Steel, Add		478.23	
23 37 13 43-0008	EA	10" x 10" Steel Security Grille		462.60	24.89
		For Anchoring Tabs, Add		41.28	
		For Rear Operated Opposed Blade Damper, Add		149.47	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		103.21	
		For Stainless Steel, Add		536.68	
23 37 13 43-0009	EA	12" x 4" Steel Security Grille		355.67	22.51
		For Anchoring Tabs, Add		31.06	
		For Rear Operated Opposed Blade Damper, Add		113.23	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		77.66	
		For Stainless Steel, Add		403.83	
23 37 13 43-0010	EA	12" x 6" Steel Security Grille		397.20	24.89
		For Anchoring Tabs, Add		34.74	
		For Rear Operated Opposed Blade Damper, Add		126.58	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		86.86	
		For Stainless Steel, Add		451.66	
23 37 13 43-0011	EA	12" x 8" Steel Security Grille		453.90	26.66
		For Anchoring Tabs, Add		40.06	
		For Rear Operated Opposed Blade Damper, Add		145.53	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add		0.35	
		For 1" x 1" Square Holes On Face, Add		100.14	
		For Stainless Steel, Add		520.74	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 43-0012 EA 12" x 10" Steel Security Grille	494.24	28.44
For Anchoring Tabs, Add	43.74	
For Rear Operated Opposed Blade Damper, Add	158.76	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	109.34	
For Stainless Steel, Add	568.57	
23 37 13 43-0013 EA 12" x 12" Steel Security Grille	546.83	30.22
For Anchoring Tabs, Add	48.64	
For Rear Operated Opposed Blade Damper, Add	176.28	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	121.60	
For Stainless Steel, Add	632.32	
23 37 13 43-0014 EA 14" x 4" Steel Security Grille	379.66	24.29
For Anchoring Tabs, Add	33.11	
For Rear Operated Opposed Blade Damper, Add	120.74	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	82.77	
For Stainless Steel, Add	430.40	
23 37 13 43-0015 EA 14" x 6" Steel Security Grille	428.18	26.07
For Anchoring Tabs, Add	37.60	
For Rear Operated Opposed Blade Damper, Add	136.83	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	94.01	
For Stainless Steel, Add	488.85	
23 37 13 43-0016 EA 14" x 8" Steel Security Grille	477.89	28.44
For Anchoring Tabs, Add	42.10	
For Rear Operated Opposed Blade Damper, Add	153.04	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	105.25	
For Stainless Steel, Add	547.31	
23 37 13 43-0017 EA 14" x 10" Steel Security Grille	539.84	30.81
For Anchoring Tabs, Add	47.82	
For Rear Operated Opposed Blade Damper, Add	173.54	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	119.56	
For Stainless Steel, Add	621.70	
23 37 13 43-0018 EA 14" x 12" Steel Security Grille	594.82	33.78
For Anchoring Tabs, Add	52.73	
For Rear Operated Opposed Blade Damper, Add	191.30	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	131.82	
For Stainless Steel, Add	685.46	
23 37 13 43-0019 EA 14" x 14" Steel Security Grille	640.43	36.14
For Anchoring Tabs, Add	56.82	
For Rear Operated Opposed Blade Damper, Add	206.08	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	142.04	
For Stainless Steel, Add	738.60	
23 37 13 43-0020 EA 16" x 6" Steel Security Grille	457.45	28.44
For Anchoring Tabs, Add	40.06	
For Rear Operated Opposed Blade Damper, Add	145.89	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	100.14	
For Stainless Steel, Add	520.74	
23 37 13 43-0021 EA 16" x 8" Steel Security Grille	523.49	30.81
For Anchoring Tabs, Add	46.19	
For Rear Operated Opposed Blade Damper, Add	167.82	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	115.47	
For Stainless Steel, Add	600.44	
23 37 13 43-0022 EA 16" x 10" Steel Security Grille	565.02	33.18
For Anchoring Tabs, Add	49.87	
For Rear Operated Opposed Blade Damper, Add	181.17	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	124.67	
For Stainless Steel, Add	648.27	
23 37 13 43-0023 EA 16" x 12" Steel Security Grille	638.06	34.95
For Anchoring Tabs, Add	56.82	
For Rear Operated Opposed Blade Damper, Add	205.84	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	142.04	
For Stainless Steel, Add	738.60	
23 37 13 43-0024 EA 16" x 14" Steel Security Grille	675.50	37.33
For Anchoring Tabs, Add	60.09	
For Rear Operated Opposed Blade Damper, Add	217.76	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	150.21	
For Stainless Steel, Add	781.11	
23 37 13 43-0025 EA 16" x 16" Steel Security Grille	733.38	39.70
For Anchoring Tabs, Add	65.40	
For Rear Operated Opposed Blade Damper, Add	236.84	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	163.50	
For Stainless Steel, Add	850.19	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 37 13 43-0026	EA	18" x 6" Steel Security Grille.....	485.00	31.99
		For Anchoring Tabs, Add	42.10	
		For Rear Operated Opposed Blade Damper, Add	153.75	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	105.25	
		For Stainless Steel, Add	547.31	
23 37 13 43-0027	EA	18" x 8" Steel Security Grille.....	555.13	34.37
		For Anchoring Tabs, Add	48.64	
		For Rear Operated Opposed Blade Damper, Add	177.11	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	121.60	
		For Stainless Steel, Add	632.32	
23 37 13 43-0028	EA	18" x 10" Steel Security Grille.....	608.92	36.74
		For Anchoring Tabs, Add	53.55	
		For Rear Operated Opposed Blade Damper, Add	194.75	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	133.86	
		For Stainless Steel, Add	696.09	
23 37 13 43-0029	EA	18" x 12" Steel Security Grille.....	670.89	39.10
		For Anchoring Tabs, Add	59.27	
		For Rear Operated Opposed Blade Damper, Add	215.26	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	148.17	
		For Stainless Steel, Add	770.48	
23 37 13 43-0030	EA	18" x 14" Steel Security Grille.....	718.75	38.52
		For Anchoring Tabs, Add	64.17	
		For Rear Operated Opposed Blade Damper, Add	232.31	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	160.43	
		For Stainless Steel, Add	834.25	
23 37 13 43-0031	EA	18" x 16" Steel Security Grille.....	787.71	40.29
		For Anchoring Tabs, Add	70.71	
		For Rear Operated Opposed Blade Damper, Add	255.55	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	176.78	
		For Stainless Steel, Add	919.27	
23 37 13 43-0032	EA	18" x 18" Steel Security Grille.....	844.39	42.07
		For Anchoring Tabs, Add	76.03	
		For Rear Operated Opposed Blade Damper, Add	274.50	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	190.07	
		For Stainless Steel, Add	988.34	
23 37 13 43-0033	EA	20" x 6" Steel Security Grille.....	519.54	34.95
		For Anchoring Tabs, Add	44.96	
		For Rear Operated Opposed Blade Damper, Add	164.36	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	112.41	
		For Stainless Steel, Add	584.51	
23 37 13 43-0034	EA	20" x 8" Steel Security Grille.....	587.95	38.52
		For Anchoring Tabs, Add	51.09	
		For Rear Operated Opposed Blade Damper, Add	186.53	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	127.73	
		For Stainless Steel, Add	664.21	
23 37 13 43-0035	EA	20" x 10" Steel Security Grille.....	648.73	40.29
		For Anchoring Tabs, Add	56.82	
		For Rear Operated Opposed Blade Damper, Add	206.91	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	142.04	
		For Stainless Steel, Add	738.60	
23 37 13 43-0036	EA	20" x 12" Steel Security Grille.....	714.78	42.67
		For Anchoring Tabs, Add	62.95	
		For Rear Operated Opposed Blade Damper, Add	228.64	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	157.37	
		For Stainless Steel, Add	818.30	
23 37 13 43-0037	EA	20" x 14" Steel Security Grille.....	787.81	44.44
		For Anchoring Tabs, Add	69.90	
		For Rear Operated Opposed Blade Damper, Add	253.52	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	174.74	
		For Stainless Steel, Add	908.64	
23 37 13 43-0038	EA	20" x 16" Steel Security Grille.....	852.69	46.22
		For Anchoring Tabs, Add	76.03	
		For Rear Operated Opposed Blade Damper, Add	275.33	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	190.07	
		For Stainless Steel, Add	988.34	
23 37 13 43-0039	EA	20" x 18" Steel Security Grille.....	913.47	47.99
		For Anchoring Tabs, Add	81.75	
		For Rear Operated Opposed Blade Damper, Add	295.72	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	204.37	
		For Stainless Steel, Add	1,062.74	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 43-0040 EA 20" x 20" Steel Security Grille	986.51	49.77
For Anchoring Tabs, Add	88.70	
For Rear Operated Opposed Blade Damper, Add	320.39	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	221.74	
For Stainless Steel, Add	1,153.06	
23 37 13 43-0041 EA 24" x 6" Steel Security Grille	576.87	39.10
For Anchoring Tabs, Add	49.87	
For Rear Operated Opposed Blade Damper, Add	182.35	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	124.67	
For Stainless Steel, Add	648.27	
23 37 13 43-0042 EA 24" x 8" Steel Security Grille	653.46	42.67
For Anchoring Tabs, Add	56.82	
For Rear Operated Opposed Blade Damper, Add	207.38	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	142.04	
For Stainless Steel, Add	738.60	
23 37 13 43-0043 EA 24" x 10" Steel Security Grille	717.14	43.84
For Anchoring Tabs, Add	62.95	
For Rear Operated Opposed Blade Damper, Add	229.08	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	157.37	
For Stainless Steel, Add	818.30	
23 37 13 43-0044 EA 24" x 12" Steel Security Grille	804.29	48.58
For Anchoring Tabs, Add	70.71	
For Rear Operated Opposed Blade Damper, Add	257.21	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	176.78	
For Stainless Steel, Add	919.27	
23 37 13 43-0045 EA 24" x 14" Steel Security Grille	869.15	50.37
For Anchoring Tabs, Add	76.84	
For Rear Operated Opposed Blade Damper, Add	279.03	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	192.11	
For Stainless Steel, Add	998.97	
23 37 13 43-0046 EA 24" x 16" Steel Security Grille	950.37	52.14
For Anchoring Tabs, Add	84.61	
For Rear Operated Opposed Blade Damper, Add	306.56	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	211.53	
For Stainless Steel, Add	1,099.93	
23 37 13 43-0047 EA 24" x 18" Steel Security Grille	1,043.83	53.92
For Anchoring Tabs, Add	93.60	
For Rear Operated Opposed Blade Damper, Add	338.39	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	234.01	
For Stainless Steel, Add	1,216.83	
23 37 13 43-0048 EA 24" x 20" Steel Security Grille	1,108.69	55.69
For Anchoring Tabs, Add	99.73	
For Rear Operated Opposed Blade Damper, Add	360.20	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	249.33	
For Stainless Steel, Add	1,296.53	
23 37 13 43-0049 EA 24" x 24" Steel Security Grille	1,246.60	59.25
For Anchoring Tabs, Add	112.81	
For Rear Operated Opposed Blade Damper, Add	406.69	
For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
For 1" x 1" Square Holes On Face, Add	282.03	
For Stainless Steel, Add	1,466.57	

23 37 23 HVAC Gravity Ventilators (23 37)**23 37 23 13 HVAC Gravity Dome Ventilators (23 37 23)****23 37 23 13-0001 Rectangular Gravity Intake/Relief Ventilator Hood (23 37 23 13)**

Note: Includes flange base and bird screen. Excludes curb.

23 37 23 13-0002 EA 8" x 8" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,094.49	68.60
23 37 23 13-0003 EA 8" x 12" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,155.82	78.53
23 37 23 13-0004 EA 8" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,445.21	97.69
23 37 23 13-0005 EA 8" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,539.40	103.96
23 37 23 13-0006 EA 8" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,797.44	120.99
23 37 23 13-0007 EA 10" x 10" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,291.05	78.06
23 37 23 13-0008 EA 12" x 12" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,419.34	88.00
23 37 23 13-0009 EA 12" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,649.58	94.61
23 37 23 13-0010 EA 12" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,791.92	114.67
23 37 23 13-0011 EA 12" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,065.40	123.00
23 37 23 13-0012 EA 12" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,338.65	130.57
23 37 23 13-0013 EA 14" x 14" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,543.61	89.05
23 37 23 13-0014 EA 14" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,759.04	101.48
23 37 23 13-0015 EA 14" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,974.47	113.90
23 37 23 13-0016 EA 14" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,225.70	128.44
23 37 23 13-0017 EA 14" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,512.96	145.00
23 37 23 13-0018 EA 16" x 16" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,866.67	107.74
23 37 23 13-0019 EA 16" x 20" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,938.50	111.88



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

Air Outlets and Inlets

23 37

23

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 23 13-0020	EA	16" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,153.91	124.30
23 37 23 13-0021	EA	16" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,441.05	140.86
23 37 23 13-0022	EA	16" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,728.21	157.42
23 37 23 13-0023	EA	16" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,123.12	180.24
23 37 23 13-0024	EA	18" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	1,855.67	106.20
23 37 23 13-0025	EA	18" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,159.27	123.60
23 37 23 13-0026	EA	18" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,463.00	140.98
23 37 23 13-0027	EA	18" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,800.37	160.25
23 37 23 13-0028	EA	18" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,103.99	177.64
23 37 23 13-0029	EA	20" x 20" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	1,947.90	117.80
23 37 23 13-0030	EA	20" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,203.30	133.29
23 37 23 13-0031	EA	20" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,458.80	148.67
23 37 23 13-0032	EA	20" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,842.02	171.84
23 37 23 13-0033	EA	20" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,129.37	189.24
23 37 23 13-0034	EA	24" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,455.20	158.37
23 37 23 13-0035	EA	24" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,724.64	175.75
23 37 23 13-0036	EA	24" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,113.92	200.83
23 37 23 13-0037	EA	24" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,413.31	220.10
23 37 23 13-0038	EA	24" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,742.68	241.39
23 37 23 13-0039	EA	30" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	2,954.18	180.24
23 37 23 13-0040	EA	30" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,255.07	198.58
23 37 23 13-0041	EA	30" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,583.40	218.56
23 37 23 13-0042	EA	30" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,911.61	238.67
23 37 23 13-0043	EA	30" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	4,759.52	290.35
23 37 23 13-0044	EA	30" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,087.87	310.34
23 37 23 13-0045	EA	36" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,406.62	223.65
23 37 23 13-0046	EA	36" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	3,737.04	245.30
23 37 23 13-0047	EA	36" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	4,474.28	293.67
23 37 23 13-0048	EA	36" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	4,982.68	327.02
23 37 23 13-0049	EA	36" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,287.83	347.12
23 37 23 13-0050	EA	36" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,694.54	373.74
23 37 23 13-0051	EA	36" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,406.40	420.45
23 37 23 13-0052	EA	42" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	4,064.58	250.38
23 37 23 13-0053	EA	42" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,046.43	310.82
23 37 23 13-0054	EA	42" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,754.35	354.46
23 37 23 13-0055	EA	42" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,959.80	367.11
23 37 23 13-0056	EA	42" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,644.84	409.22
23 37 23 13-0057	EA	42" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	7,307.03	450.02
23 37 23 13-0058	EA	48" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,366.14	361.43
23 37 23 13-0059	EA	48" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	5,804.71	391.00
23 37 23 13-0060	EA	48" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,243.16	420.58
23 37 23 13-0061	EA	48" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,932.20	466.93
23 37 23 13-0062	EA	48" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	7,340.47	473.08
23 37 23 13-0063	EA	54" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,229.10	407.44
23 37 23 13-0064	EA	54" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	6,987.24	457.00
23 37 23 13-0065	EA	54" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	7,581.52	495.91
23 37 23 13-0066	EA	54" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	8,073.20	528.08
23 37 23 13-0067	EA	60" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	7,764.18	507.26
23 37 23 13-0068	EA	60" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	8,153.44	540.74
23 37 23 13-0069	EA	60" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	8,740.36	582.25
23 37 23 13-0070	EA	66" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	8,150.72	584.97
23 37 23 13-0071	EA	66" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	9,531.32	684.08
23 37 23 13-0072	EA	72" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI)	9,827.52	630.74
23 37 23 13-0073		Round Gravity Relief Ventilator Hood (23 37 23 13)		
Note: Includes integral birdscreen and built-in curb cap with prepunched holes.				
23 37 23 13-0074	EA	22" x 22" Base/Panel, 12" x 12" Throat, Aluminum, Gravity Intake/Relief Ventilator Hood (Greenheck GRS)	682.69	88.00
23 38 Ventilation Hoods (23 30)				
23 38 13 Commercial-Kitchen Hoods (23 38)				
23 38 13 13 Listed Commercial-Kitchen Hoods (23 38 13)				
23 38 13 13-0001 Universal Ventless Hood (23 38 13 13)				
23 38 13 13-0002	EA	109" Wide x 50" Deep x 102" High, Ventless Exhaust Hood With Stand, (Wells WVU-96)	52,734.05	472.46
23 38 13 16 Standard Commercial-Kitchen Hoods (23 38 13)				
23 38 13 16-0001 Commercial Kitchen Hood Ventilation System (23 38 13 16)				
Note: Excludes fire suppression. See CSI section 23 34 16 00-0108 for exhaust and supply fans.				
23 38 13 16-0002 Dry Filter Exhaust Hoods (23 38 13 16-0001)				
Note: Includes stainless steel filters, exhaust damper and 48" long fluorescent light fixtures.				
23 38 13 16-0003	EA	8' Long x 60" Deep Dry Filter Exhaust Hood	12,362.23	886.41
23 38 13 16-0004	EA	8'-6" Long x 60" Deep Dry Filter Exhaust Hood	12,873.24	941.82
23 38 13 16-0005	EA	9' Long x 60" Deep Dry Filter Exhaust Hood	14,371.87	997.22
23 38 13 16-0006	EA	9'-6" Long x 60" Deep Dry Filter Exhaust Hood	14,801.12	1,052.62
23 38 13 16-0007	EA	10' Long x 60" Deep Dry Filter Exhaust Hood	15,326.80	1,108.02

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 38 Ventilation Hoods**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 38 13 16-0008	EA	10'-6" Long x 60" Deep Dry Filter Exhaust Hood	15,883.35	1,163.42
23 38 13 16-0009	EA	11' Long x 60" Deep Dry Filter Exhaust Hood	16,409.69	1,218.82
23 38 13 16-0010	EA	11'-6" Long x 60" Deep Dry Filter Exhaust Hood	16,952.54	1,274.22
23 38 13 16-0011	EA	12' Long x 60" Deep Dry Filter Exhaust Hood	17,558.32	1,329.63
23 38 13 16-0012	EA	12'-6" Long x 60" Deep Dry Filter Exhaust Hood	18,081.89	1,385.03
23 38 13 16-0013	EA	13' Long x 60" Deep Dry Filter Exhaust Hood	18,512.20	1,440.43
23 38 13 16-0014	EA	13'-6" Long x 60" Deep Dry Filter Exhaust Hood	19,247.52	1,495.83
23 38 13 16-0015	EA	14' Long x 60" Deep Dry Filter Exhaust Hood	21,571.23	1,551.23
23 38 13 16-0016	EA	14'-6" Long x 60" Deep Dry Filter Exhaust Hood	22,148.34	1,606.63
23 38 13 16-0017	EA	15' Long x 60" Deep Dry Filter Exhaust Hood	22,939.33	1,662.03
23 38 13 16-0018	EA	15'-6" Long x 60" Deep Dry Filter Exhaust Hood	23,530.08	1,717.44
23 38 13 16-0019	EA	16' Long x 60" Deep Dry Filter Exhaust Hood	24,421.40	1,772.84

23 38 13 16-0020 Dry Extractor Exhaust Hoods (23 38 13 16-0001)

Note: Includes extractor inserts, exhaust damper, 48" long fluorescent light fixtures, and UDS filler panels.

23 38 13 16-0021	EA	8' Long x 60" Deep Dry Extractor Exhaust Hood	17,402.37	886.41
23 38 13 16-0022	EA	8'-6" Long x 60" Deep Dry Extractor Exhaust Hood	17,943.28	941.82
23 38 13 16-0023	EA	9' Long x 60" Deep Dry Extractor Exhaust Hood	19,539.61	997.22
23 38 13 16-0024	EA	9'-6" Long x 60" Deep Dry Extractor Exhaust Hood	20,096.46	1,052.62
23 38 13 16-0025	EA	10' Long x 60" Deep Dry Extractor Exhaust Hood	20,654.04	1,108.02
23 38 13 16-0026	EA	10'-6" Long x 60" Deep Dry Extractor Exhaust Hood	21,178.69	1,163.42
23 38 13 16-0027	EA	11' Long x 60" Deep Dry Extractor Exhaust Hood	21,736.93	1,218.82
23 38 13 16-0028	EA	11'-6" Long x 60" Deep Dry Extractor Exhaust Hood	22,263.83	1,274.22
23 38 13 16-0029	EA	12' Long x 60" Deep Dry Extractor Exhaust Hood	22,757.96	1,329.63
23 38 13 16-0030	EA	12'-6" Long x 60" Deep Dry Extractor Exhaust Hood	23,472.93	1,385.03
23 38 13 16-0031	EA	13' Long x 60" Deep Dry Extractor Exhaust Hood	24,301.99	1,440.43
23 38 13 16-0032	EA	13'-6" Long x 60" Deep Dry Extractor Exhaust Hood	25,180.85	1,495.83
23 38 13 16-0033	EA	14' Long x 60" Deep Dry Extractor Exhaust Hood	27,042.02	1,551.23
23 38 13 16-0034	EA	14'-6" Long x 60" Deep Dry Extractor Exhaust Hood	27,938.12	1,606.63
23 38 13 16-0035	EA	15' Long x 60" Deep Dry Extractor Exhaust Hood	29,702.05	1,662.03
23 38 13 16-0036	EA	15'-6" Long x 60" Deep Dry Extractor Exhaust Hood	31,489.04	1,717.44
23 38 13 16-0037	EA	16' Long x 60" Deep Dry Extractor Exhaust Hood	33,257.60	1,772.84

23 38 13 16-0038 Single Manifold Water Wash Exhaust Hoods (23 38 13 16-0001)

Note: Includes extraction baffles, 48" long fluorescent light fixtures, and UDS filler panels. Excludes fan wash control panel.

23 38 13 16-0039	EA	8' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	18,678.36	886.41
23 38 13 16-0040	EA	8'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	19,253.16	941.82
23 38 13 16-0041	EA	9' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	20,879.40	997.22
23 38 13 16-0042	EA	9'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	21,452.19	1,052.62
23 38 13 16-0043	EA	10' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	22,057.63	1,108.02
23 38 13 16-0044	EA	10'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	22,614.17	1,163.42
23 38 13 16-0045	EA	11' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	23,188.37	1,218.82
23 38 13 16-0046	EA	11'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	23,763.11	1,274.22
23 38 13 16-0047	EA	12' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	24,273.20	1,329.63
23 38 13 16-0048	EA	12'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	25,051.96	1,385.03
23 38 13 16-0049	EA	13' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	25,944.82	1,440.43
23 38 13 16-0050	EA	13'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	26,887.48	1,495.83
23 38 13 16-0051	EA	14' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	28,812.45	1,551.23
23 38 13 16-0052	EA	14'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	29,772.35	1,606.63
23 38 13 16-0053	EA	15' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	31,711.73	1,662.03
23 38 13 16-0054	EA	15'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood	32,669.33	1,717.44
23 38 13 16-0055	EA	16' Long x 60" Deep Single Manifold Water Wash Exhaust Hood	33,624.45	1,772.84
23 38 13 16-0056	EA	Fan Wash Control Panel	13,450.65	443.21

Note: Includes time clock and backflow preventer.

23 38 13 16-0057 Utility Distribution System (UDS) (23 38 13 16-0001)

Note: Includes "L" shaped primary riser, secondary riser, horizontal mechanical and electrical raceway; 2" IPS looped gas manifold with two (2) solenoid gas valves; 1" hot water manifold; 1" cold water manifold; 100 Amp 120-208 VAC/3 Ph/60 Hz main shunt trip connectors; equipment restraints; flexible drain connectors; and power interruption device. Excludes main shunt breaker.

23 38 13 16-0058	EA	8' Long Utility Distribution System (UDS)	34,740.63	450.75
23 38 13 16-0059	EA	8'-6" Long Utility Distribution System (UDS)	35,766.32	461.72
23 38 13 16-0060	EA	9' Long Utility Distribution System (UDS)	36,780.84	472.46
23 38 13 16-0061	EA	9'-6" Long Utility Distribution System (UDS)	37,804.12	487.53
23 38 13 16-0062	EA	10' Long Utility Distribution System (UDS)	38,821.15	499.50
23 38 13 16-0063	EA	10'-6" Long Utility Distribution System (UDS)	39,828.58	512.12
23 38 13 16-0064	EA	11' Long Utility Distribution System (UDS)	40,849.93	520.88
23 38 13 16-0065	EA	11'-6" Long Utility Distribution System (UDS)	41,870.38	534.62
23 38 13 16-0066	EA	12' Long Utility Distribution System (UDS)	42,902.31	554.02
23 38 13 16-0067	EA	12'-6" Long Utility Distribution System (UDS)	43,948.13	580.38
23 38 13 16-0068	EA	13' Long Utility Distribution System (UDS)	44,975.30	597.44
23 38 13 16-0069	EA	13'-6" Long Utility Distribution System (UDS)	46,017.13	621.82
23 38 13 16-0070	EA	14' Long Utility Distribution System (UDS)	47,049.45	641.43
23 38 13 16-0071	EA	14'-6" Long Utility Distribution System (UDS)	48,084.33	662.38
23 38 13 16-0072	EA	15' Long Utility Distribution System (UDS)	49,122.04	684.76
23 38 13 16-0073	EA	15'-6" Long Utility Distribution System (UDS)	50,162.84	708.58
23 38 13 16-0074	EA	16' Long Utility Distribution System (UDS)	51,189.65	725.53



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Ventilation Hoods			23 38	

MINOR				TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	
23 38 13 16-0075		Stainless Steel Exhaust Hood Material (23 38 13 16) Note: Welded seams.			
23 38 13 16-0076	SF	16 Gauge, Type 304, Stainless Steel Exhaust Hood Material For Type 316 Stainless Steel, Add	47.11 1.42	15.88	
23 38 13 16-0077	SF	14 Gauge, Type 304, Stainless Steel Exhaust Hood Material For Type 316 Stainless Steel, Add	58.89 1.77	21.17	
23 38 13 16-0078	SF	12 Gauge, Type 304, Stainless Steel Exhaust Hood Material For Type 316 Stainless Steel, Add	81.79 2.48	28.58	
23 38 13 16-0079	SF	10 Gauge, Type 304, Stainless Steel Exhaust Hood Material For Type 316 Stainless Steel, Add	102.43 3.19	34.93	
23 38 13 16-0080		Kitchen Exhaust Hood (23 38 13 16)			
23 38 13 16-0081	EA	10' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System With PSP Makeup Air (Halifax LPSHP1048)..... Note: Ductwork connections by others. For Type 316 Stainless Steel, Add	10,626.37 626.06	2,182.89	
23 38 13 16-0082	EA	8' x 4', Type 1, Commercial Kitchen Hood System With Short Cycle Makeup Air (Halifax SCHP848) Note: Ductwork connections by others. For Type 316 Stainless Steel, Add	9,753.21 626.06	1,746.31	
23 38 13 16-0083	EA	4' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System (Halifax LEXHP448) Note: Ductwork connections by others. For Type 316 Stainless Steel, Add	5,313.65 356.73	873.15	
23 38 13 16-0084	EA	6' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System (Halifax LEXHP648) Note: Ductwork connections by others. For Type 316 Stainless Steel, Add	6,798.15 417.87	1,309.73	
23 38 13 16-0085	EA	5' x 4', Type 1, Commercial Kitchen Hood System (Halifax EXHP548) Note: Ductwork connections by others. For Type 316 Stainless Steel, Add	6,146.78 396.39	1,091.44	
23 40		HVAC Air Cleaning Devices (23)			
23 41		Particulate Air Filtration (23 40)			
23 41 13		Panel Air Filters (23 41)			
23 41 13 00-0001		Disposable Fiberglass Air Filters (23 41 13)			
23 41 13 00-0002	EA	8" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.18	5.69	
23 41 13 00-0003	EA	8" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.18	5.69	
23 41 13 00-0004	EA	8" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.90	5.69	
23 41 13 00-0005	EA	10" x 10" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.80	5.95	
23 41 13 00-0006	EA	10" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.80	5.95	
23 41 13 00-0007	EA	10" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.80	5.95	
23 41 13 00-0008	EA	10" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.80	5.95	
23 41 13 00-0009	EA	10" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.03	5.95	
23 41 13 00-0010	EA	12" x 12" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.52	6.22	
23 41 13 00-0011	EA	12" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.50	6.22	
23 41 13 00-0012	EA	12" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.84	6.22	
23 41 13 00-0013	EA	12" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.84	6.22	
23 41 13 00-0014	EA	12" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	12.84	6.22	
23 41 13 00-0015	EA	12" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.39	6.22	
23 41 13 00-0016	EA	12" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.31	6.22	
23 41 13 00-0017	EA	14" x 14" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.56	6.57	
23 41 13 00-0018	EA	14" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.00	6.57	
23 41 13 00-0019	EA	14" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.63	6.57	
23 41 13 00-0020	EA	14" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.56	6.57	
23 41 13 00-0021	EA	14" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.63	6.57	
23 41 13 00-0022	EA	14" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.44	6.57	
23 41 13 00-0023	EA	15" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.78	6.76	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0024	EA	15" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.78	6.76
23 41 13 00-0025	EA	15" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.04	6.76
23 41 13 00-0026	EA	16" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.92	6.85
23 41 13 00-0027	EA	16" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.51	6.85
23 41 13 00-0028	EA	16" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.98	6.85
23 41 13 00-0029	EA	16" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.91	6.85
23 41 13 00-0030	EA	16" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.37	6.85
23 41 13 00-0031	EA	16" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.17	6.85
23 41 13 00-0032	EA	16" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	21.71	6.85
23 41 13 00-0033	EA	16" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	21.42	6.85
23 41 13 00-0034	EA	18" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.27	7.11
23 41 13 00-0035	EA	18" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.91	7.11
23 41 13 00-0036	EA	18" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.27	7.11
23 41 13 00-0037	EA	18" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.51	7.11
23 41 13 00-0038	EA	18" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.30	7.11
23 41 13 00-0039	EA	18" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	20.36	7.11
23 41 13 00-0040	EA	19" x 27" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.05	7.47
23 41 13 00-0041	EA	20" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.19	7.47
23 41 13 00-0042	EA	20" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.42	7.47
23 41 13 00-0043	EA	20" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.66	7.47
23 41 13 00-0044	EA	20" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.19	7.47
23 41 13 00-0045	EA	20" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	22.55	7.47
23 41 13 00-0046	EA	20" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	20.26	7.47
23 41 13 00-0047	EA	21" x 21" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.35	7.55
23 41 13 00-0048	EA	22" x 22" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.52	7.64
23 41 13 00-0049	EA	24" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.64	7.73
23 41 13 00-0050	EA	24" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.26	7.73
23 41 13 00-0051	EA	24" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	24.62	7.73
23 41 13 00-0052	EA	25" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.76	7.82
23 41 13 00-0053	EA	25" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	25.12	7.82
23 41 13 00-0054	EA	10" x 10" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.72	5.95
23 41 13 00-0055	EA	10" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.66	5.95
23 41 13 00-0056	EA	12" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.99	6.22
23 41 13 00-0057	EA	14" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.46	6.57
23 41 13 00-0058	EA	14" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.46	6.57
23 41 13 00-0059	EA	15" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.81	6.76
23 41 13 00-0060	EA	16" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.69	6.85
23 41 13 00-0061	EA	16" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.53	6.85
23 41 13 00-0062	EA	16" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.92	6.85
23 41 13 00-0063	EA	18" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.96	7.11
23 41 13 00-0064	EA	20" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.55	7.47
23 41 13 00-0065	EA	20" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.28	7.47



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Cleaning Devices

23 40

Particulate Air Filtration

23 41



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0066	EA	20" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5.....	18.28	7.47	
Note: One-piece kraft fiberboard frame with two metal grids.					
23 41 13 00-0067	EA	24" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5.....	18.91	7.73	
Note: One-piece kraft fiberboard frame with two metal grids.					
23 41 13 00-0068	EA	25" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5.....	19.03	7.82	
Note: One-piece kraft fiberboard frame with two metal grids.					
23 41 13 00-0069 Disposable Pleated Air Filters (23 41 13)					
23 41 13 00-0070	EA	10" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	13.87	5.95	
23 41 13 00-0071	EA	10" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.87	5.95	
23 41 13 00-0072	EA	10" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.39	5.95	
23 41 13 00-0073	EA	12" x 12" x 1" Disposable Pleated Air Filter, MERV 8.....	18.00	6.22	
23 41 13 00-0074	EA	12" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	16.70	6.22	
23 41 13 00-0075	EA	12" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	16.49	6.22	
23 41 13 00-0076	EA	12" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	16.49	6.22	
23 41 13 00-0077	EA	12" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.75	6.22	
23 41 13 00-0078	EA	14" x 14" x 1" Disposable Pleated Air Filter, MERV 8.....	20.41	6.57	
23 41 13 00-0079	EA	14" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.17	6.57	
23 41 13 00-0080	EA	14" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	22.06	6.57	
23 41 13 00-0081	EA	14" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	17.76	6.57	
23 41 13 00-0082	EA	14" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	25.74	6.57	
23 41 13 00-0083	EA	15" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.53	6.76	
23 41 13 00-0084	EA	16" x 16" x 1" Disposable Pleated Air Filter, MERV 8.....	20.76	6.85	
23 41 13 00-0085	EA	16" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.25	6.85	
23 41 13 00-0086	EA	16" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.20	6.85	
23 41 13 00-0087	EA	16" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	17.91	6.85	
23 41 13 00-0088	EA	16" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.09	6.85	
23 41 13 00-0089	EA	18" x 18" x 1" Disposable Pleated Air Filter, MERV 8.....	27.93	7.11	
23 41 13 00-0090	EA	18" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	20.52	7.11	
23 41 13 00-0091	EA	18" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.16	7.11	
23 41 13 00-0092	EA	18" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	19.90	7.11	
23 41 13 00-0093	EA	18" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	28.10	7.11	
23 41 13 00-0094	EA	20" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	18.86	7.47	
23 41 13 00-0095	EA	20" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.20	7.47	
23 41 13 00-0096	EA	20" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	19.97	7.47	
23 41 13 00-0097	EA	20" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	22.66	7.47	
23 41 13 00-0098	EA	22" x 22" x 1" Disposable Pleated Air Filter, MERV 8.....	27.65	7.64	
23 41 13 00-0099	EA	24" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	21.53	7.73	
23 41 13 00-0100	EA	24" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	34.23	7.73	
23 41 13 00-0101	EA	25" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	22.81	7.82	
23 41 13 00-0102	EA	10" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	16.47	5.95	
23 41 13 00-0103	EA	12" x 12" x 2" Disposable Pleated Air Filter, MERV 8.....	21.63	6.22	
23 41 13 00-0104	EA	12" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.27	6.22	
23 41 13 00-0105	EA	12" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	17.00	6.22	
23 41 13 00-0106	EA	14" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.97	6.57	
23 41 13 00-0107	EA	14" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	18.78	6.57	
23 41 13 00-0108	EA	15" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	18.21	6.76	
23 41 13 00-0109	EA	16" x 16" x 2" Disposable Pleated Air Filter, MERV 8.....	23.02	6.85	
23 41 13 00-0110	EA	16" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.82	6.85	
23 41 13 00-0111	EA	16" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	20.41	6.85	
23 41 13 00-0112	EA	16" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	18.86	6.85	
23 41 13 00-0113	EA	18" x 18" x 2" Disposable Pleated Air Filter, MERV 8.....	26.65	7.11	
23 41 13 00-0114	EA	18" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	22.65	7.11	
23 41 13 00-0115	EA	18" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	20.52	7.11	
23 41 13 00-0116	EA	18" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	21.34	7.11	
23 41 13 00-0117	EA	20" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	19.90	7.47	
23 41 13 00-0118	EA	20" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	21.38	7.47	
23 41 13 00-0119	EA	20" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	21.12	7.47	
23 41 13 00-0120	EA	20" x 30" x 2" Disposable Pleated Air Filter, MERV 8.....	30.77	7.47	
23 41 13 00-0121	EA	24" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	22.67	7.73	
23 41 13 00-0122	EA	25" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	25.11	7.82	
23 41 13 00-0123	EA	12" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	26.34	6.22	
23 41 13 00-0124	EA	16" x 20" x 4" Disposable Pleated Air Filter, MERV 8.....	28.45	6.85	
23 41 13 00-0125	EA	16" x 25" x 4" Disposable Pleated Air Filter, MERV 8.....	30.46	6.85	
23 41 13 00-0126	EA	18" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	32.88	7.11	
23 41 13 00-0127	EA	20" x 20" x 4" Disposable Pleated Air Filter, MERV 8.....	31.19	7.47	
23 41 13 00-0128	EA	20" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	34.00	7.47	
23 41 13 00-0129	EA	20" x 25" x 4" Disposable Pleated Air Filter, MERV 8.....	34.25	7.47	
23 41 13 00-0130	EA	24" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	37.43	7.73	
23 41 13 00-0131	EA	10" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	23.93	5.95	
23 41 13 00-0132	EA	10" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	23.93	5.95	
23 41 13 00-0133	EA	10" x 30" x 1" Disposable Pleated Air Filter, MERV 11.....	31.19	5.95	
23 41 13 00-0134	EA	12" x 12" x 1" Disposable Pleated Air Filter, MERV 11.....	25.38	6.22	
23 41 13 00-0135	EA	12" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	24.73	6.22	
23 41 13 00-0136	EA	12" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	24.62	6.22	
23 41 13 00-0137	EA	12" x 30" x 1" Disposable Pleated Air Filter, MERV 11.....	35.43	6.22	
23 41 13 00-0138	EA	14" x 14" x 1" Disposable Pleated Air Filter, MERV 11.....	28.87	6.57	
23 41 13 00-0139	EA	14" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	25.36	6.57	
23 41 13 00-0140	EA	14" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	32.92	6.57	
23 41 13 00-0141	EA	14" x 25" x 1" Disposable Pleated Air Filter, MERV 11.....	32.18	6.57	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 41 13 00-0142	EA	14" x 30" x 1" Disposable Pleated Air Filter, MERV 11	37.88	6.57
23 41 13 00-0143	EA	15" x 20" x 1" Disposable Pleated Air Filter, MERV 11	24.31	6.76
23 41 13 00-0144	EA	16" x 16" x 1" Disposable Pleated Air Filter, MERV 11	34.66	6.85
23 41 13 00-0145	EA	16" x 20" x 1" Disposable Pleated Air Filter, MERV 11	22.66	6.85
23 41 13 00-0146	EA	16" x 24" x 1" Disposable Pleated Air Filter, MERV 11	29.39	6.85
23 41 13 00-0147	EA	16" x 25" x 1" Disposable Pleated Air Filter, MERV 11	26.96	6.85
23 41 13 00-0148	EA	16" x 30" x 1" Disposable Pleated Air Filter, MERV 11	35.79	6.85
23 41 13 00-0149	EA	18" x 18" x 1" Disposable Pleated Air Filter, MERV 11	36.61	7.11
23 41 13 00-0150	EA	18" x 20" x 1" Disposable Pleated Air Filter, MERV 11	30.98	7.11
23 41 13 00-0151	EA	18" x 24" x 1" Disposable Pleated Air Filter, MERV 11	27.87	7.11
23 41 13 00-0152	EA	18" x 25" x 1" Disposable Pleated Air Filter, MERV 11	29.75	7.11
23 41 13 00-0153	EA	18" x 30" x 1" Disposable Pleated Air Filter, MERV 11	41.45	7.11
23 41 13 00-0154	EA	20" x 20" x 1" Disposable Pleated Air Filter, MERV 11	27.97	7.47
23 41 13 00-0155	EA	20" x 24" x 1" Disposable Pleated Air Filter, MERV 11	30.76	7.47
23 41 13 00-0156	EA	20" x 25" x 1" Disposable Pleated Air Filter, MERV 11	31.05	7.47
23 41 13 00-0157	EA	20" x 30" x 1" Disposable Pleated Air Filter, MERV 11	36.24	7.47
23 41 13 00-0158	EA	22" x 22" x 1" Disposable Pleated Air Filter, MERV 11	40.16	7.64
23 41 13 00-0159	EA	24" x 24" x 1" Disposable Pleated Air Filter, MERV 11	33.72	7.73
23 41 13 00-0160	EA	24" x 30" x 1" Disposable Pleated Air Filter, MERV 11	43.88	7.73
23 41 13 00-0161	EA	25" x 25" x 1" Disposable Pleated Air Filter, MERV 11	38.02	7.82
23 41 13 00-0162	EA	10" x 20" x 2" Disposable Pleated Air Filter, MERV 11	24.37	5.95
23 41 13 00-0163	EA	12" x 12" x 2" Disposable Pleated Air Filter, MERV 11	25.66	6.22
23 41 13 00-0164	EA	12" x 20" x 2" Disposable Pleated Air Filter, MERV 11	24.37	6.22
23 41 13 00-0165	EA	12" x 24" x 2" Disposable Pleated Air Filter, MERV 11	28.70	6.22
23 41 13 00-0166	EA	14" x 20" x 2" Disposable Pleated Air Filter, MERV 11	25.66	6.57
23 41 13 00-0167	EA	14" x 25" x 2" Disposable Pleated Air Filter, MERV 11	26.91	6.57
23 41 13 00-0168	EA	15" x 20" x 2" Disposable Pleated Air Filter, MERV 11	26.36	6.76
23 41 13 00-0169	EA	16" x 16" x 2" Disposable Pleated Air Filter, MERV 11	35.40	6.85
23 41 13 00-0170	EA	16" x 20" x 2" Disposable Pleated Air Filter, MERV 11	30.76	6.85
23 41 13 00-0171	EA	16" x 24" x 2" Disposable Pleated Air Filter, MERV 11	29.97	6.85
23 41 13 00-0172	EA	16" x 25" x 2" Disposable Pleated Air Filter, MERV 11	34.00	6.85
23 41 13 00-0173	EA	18" x 18" x 2" Disposable Pleated Air Filter, MERV 11	40.84	7.11
23 41 13 00-0174	EA	18" x 20" x 2" Disposable Pleated Air Filter, MERV 11	32.30	7.11
23 41 13 00-0175	EA	18" x 24" x 2" Disposable Pleated Air Filter, MERV 11	36.92	7.11
23 41 13 00-0176	EA	18" x 25" x 2" Disposable Pleated Air Filter, MERV 11	31.93	7.11
23 41 13 00-0177	EA	20" x 20" x 2" Disposable Pleated Air Filter, MERV 11	35.44	7.47
23 41 13 00-0178	EA	20" x 24" x 2" Disposable Pleated Air Filter, MERV 11	38.01	7.47
23 41 13 00-0179	EA	20" x 25" x 2" Disposable Pleated Air Filter, MERV 11	38.39	7.47
23 41 13 00-0180	EA	24" x 24" x 2" Disposable Pleated Air Filter, MERV 11	38.36	7.73
23 41 13 00-0181	EA	25" x 25" x 2" Disposable Pleated Air Filter, MERV 11	38.86	7.82
23 41 13 00-0182	EA	12" x 24" x 4" Disposable Pleated Air Filter, MERV 11	46.91	6.22
23 41 13 00-0183	EA	16" x 20" x 4" Disposable Pleated Air Filter, MERV 11	48.01	6.85
23 41 13 00-0184	EA	16" x 25" x 4" Disposable Pleated Air Filter, MERV 11	57.25	6.85
23 41 13 00-0185	EA	18" x 24" x 4" Disposable Pleated Air Filter, MERV 11	57.16	7.11
23 41 13 00-0186	EA	20" x 20" x 4" Disposable Pleated Air Filter, MERV 11	56.92	7.47
23 41 13 00-0187	EA	20" x 24" x 4" Disposable Pleated Air Filter, MERV 11	62.73	7.47
23 41 13 00-0188	EA	20" x 25" x 4" Disposable Pleated Air Filter, MERV 11	62.73	7.47
23 41 13 00-0189	EA	24" x 24" x 4" Disposable Pleated Air Filter, MERV 11	70.04	7.73
23 41 13 00-0190	EA	8" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.64	5.69
23 41 13 00-0191	EA	8" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.64	5.69
23 41 13 00-0192	EA	8" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.64	5.69
23 41 13 00-0193	EA	10" x 10" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.00	5.95
23 41 13 00-0194	EA	10" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	29.64	5.95
23 41 13 00-0195	EA	10" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.00	5.95
23 41 13 00-0196	EA	10" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.00	5.95
23 41 13 00-0197	EA	10" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.00	5.95
23 41 13 00-0198	EA	12" x 12" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.00	6.22
23 41 13 00-0199	EA	12" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.36	6.22
23 41 13 00-0200	EA	12" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.00	6.22
23 41 13 00-0201	EA	12" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.00	6.22
23 41 13 00-0202	EA	12" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.36	6.22
23 41 13 00-0203	EA	12" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.36	6.22
23 41 13 00-0204	EA	12" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.72	6.22
23 41 13 00-0205	EA	14" x 14" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.47	6.57
23 41 13 00-0206	EA	14" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.83	6.57
23 41 13 00-0207	EA	14" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.47	6.57
23 41 13 00-0208	EA	14" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.47	6.57
23 41 13 00-0209	EA	14" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.47	6.57
23 41 13 00-0210	EA	14" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.83	6.57
23 41 13 00-0211	EA	15" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.71	6.76
23 41 13 00-0212	EA	15" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.07	6.76
23 41 13 00-0213	EA	15" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.07	6.76
23 41 13 00-0214	EA	16" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.82	6.85
23 41 13 00-0215	EA	16" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.18	6.85
23 41 13 00-0216	EA	16" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.82	6.85
23 41 13 00-0217	EA	16" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.82	6.85
23 41 13 00-0218	EA	16" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	30.82	6.85
23 41 13 00-0219	EA	16" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.18	6.85
23 41 13 00-0220	EA	16" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	32.18	6.85
23 41 13 00-0221	EA	16" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	36.59	6.85
23 41 13 00-0222	EA	18" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.18	7.11



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Cleaning Devices			23 40
Particulate Air Filtration			23 41

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0223	EA	18" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	33.90	7.11
23 41 13 00-0224	EA	18" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.18	7.11
23 41 13 00-0225	EA	18" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	33.90	7.11
23 41 13 00-0226	EA	18" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	33.90	7.11
23 41 13 00-0227	EA	18" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	36.95	7.11
23 41 13 00-0228	EA	19" x 27" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	34.38	7.47
23 41 13 00-0229	EA	20" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.66	7.47
23 41 13 00-0230	EA	20" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.66	7.47
23 41 13 00-0231	EA	20" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	31.66	7.47
23 41 13 00-0232	EA	20" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	33.02	7.47
23 41 13 00-0233	EA	20" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	37.43	7.47
23 41 13 00-0234	EA	20" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	37.43	7.47
23 41 13 00-0235	EA	21" x 21" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	34.50	7.55
23 41 13 00-0236	EA	22" x 22" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	33.25	7.64
23 41 13 00-0237	EA	24" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	36.08	7.73
23 41 13 00-0238	EA	24" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	36.08	7.73
23 41 13 00-0239	EA	24" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	40.49	7.73
23 41 13 00-0240	EA	25" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	36.20	7.82
23 41 13 00-0241	EA	25" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	40.61	7.82
23 41 13 00-0242	EA	30" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	40.84	8.00
23 41 13 00-0243 Electrostatic Air Filters With Frame, Element And Busbar (23 41 13)				
23 41 13 00-0244	MF3	Electrostatic Air Filter, High Efficiency Non-Supported With Frame, Element And Busbar	70.60	
23 41 13 00-0245	MF3	Electrostatic Air Filter, Medium Efficiency Non-Supported With Frame, Element And Busbar	68.19	
23 41 13 00-0246	MF3	Electrostatic Air Filter, Glass/Paper Throwaway With Frame, Element And Busbar	2.94	
23 41 13 00-0247 Carbon Vapor Trap, Disposable V-Bank Filter (23 41 13)				
23 41 13 00-0248	EA	24" x 24" x 12" Thick Carbon Vapor, Disposable V-Bank Filter	940.89	17.78
23 41 16 Renewable-Media Air Filters (23 41)				
23 41 16 00-0001 Renewable-Media Electrostatic Air Filters With Frame, Element And Busbar (23 41 16)				
23 41 16 00-0002	MF3	Electrostatic Air Filter, 5' Disposable Roll Renewable With Frame, Element And Busbar	121.49	
23 41 19 Washable Air Filters (23 41)				
23 41 19 00-0001 Washable Electrostatic Air Filters With Frame, Element And Busbar (23 41 19)				
23 41 19 00-0002	MF3	Electrostatic Air Filter, Permanent, Washable With Frame, Element And Busbar	46.39	
23 41 33 High-Efficiency Particulate Filtration (23 41)				
23 41 33 00-0001 High Efficiency Particulate Air (HEPA) Filters (23 41 33)				
Note: Includes particle board and kraft paper frame and separator material.				
23 41 33 00-0002 High Efficiency Particulate Air (HEPA) Filters DOP Efficiency-95% (23 41 33 00-0001)				
23 41 33 00-0003	EA	12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 150 CFM, Complete	125.19	16.59
		For Removal And Replacement In Existing Equipment, Add	3.32	
		For >10 To 25, Deduct	-3.13	
		For >25 To 50, Deduct	-6.26	
		For >50 To 100, Deduct	-9.39	
		For >100, Deduct	-12.52	
23 41 33 00-0004	EA	24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 375 CFM, Complete	166.35	18.96
		For Removal And Replacement In Existing Equipment, Add	3.79	
		For >10 To 25, Deduct	-4.16	
		For >25 To 50, Deduct	-8.32	
		For >50 To 100, Deduct	-12.48	
		For >100, Deduct	-16.64	
23 41 33 00-0005	EA	24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 450 CFM, Complete	194.68	21.93
		For Removal And Replacement In Existing Equipment, Add	4.38	
		For >10 To 25, Deduct	-4.87	
		For >25 To 50, Deduct	-9.73	
		For >50 To 100, Deduct	-14.60	
		For >100, Deduct	-19.47	
23 41 33 00-0006	EA	24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 700 CFM, Complete	223.05	24.89
		For Removal And Replacement In Existing Equipment, Add	4.98	
		For >10 To 25, Deduct	-5.58	
		For >25 To 50, Deduct	-11.15	
		For >50 To 100, Deduct	-16.73	
		For >100, Deduct	-22.31	
23 41 33 00-0007	EA	12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 250 CFM, Complete	152.45	17.78
		For Removal And Replacement In Existing Equipment, Add	3.56	
		For >10 To 25, Deduct	-3.81	
		For >25 To 50, Deduct	-7.62	
		For >50 To 100, Deduct	-11.43	
		For >100, Deduct	-15.25	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 33 00-0008 EA 24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 500 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	204.64 4.15 -5.12 -10.23 -15.35 -20.46	20.74
23 41 33 00-0009 EA 24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 875 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	244.57 4.74 -6.11 -12.23 -18.34 -24.46	23.70
23 41 33 00-0010 EA 24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 1,000 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	290.42 5.93 -7.26 -14.52 -21.78 -29.04	29.63
23 41 33 00-0011 High Efficiency Particulate Air (HEPA) Filters DOP Efficiency-99.99% (23 41 33 00-0001)		
23 41 33 00-0012 EA 12" x 12" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	107.28 2.96 -2.68 -5.36 -8.05 -10.73	14.81
23 41 33 00-0013 EA 24" x 12" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	148.38 3.56 -3.71 -7.42 -11.13 -14.84	17.78
23 41 33 00-0014 EA 24" x 24" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	226.87 4.15 -5.67 -11.34 -17.02 -22.69	20.74
23 41 33 00-0015 EA 36" x 24" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	291.60 4.74 -7.29 -14.58 -21.87 -29.16	23.70
23 41 33 00-0016 EA 8" x 8" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	101.28 2.37 -2.53 -5.06 -7.60 -10.13	11.85
23 41 33 00-0017 EA 12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 150 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	134.23 3.20 -3.36 -6.71 -10.07 -13.42	16.00
23 41 33 00-0018 EA 24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 325 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	180.62 3.79 -4.52 -9.03 -13.55 -18.06	18.96
23 41 33 00-0019 EA 24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 550 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	212.05 4.44 -5.30 -10.60 -15.90 -21.21	22.22
23 41 33 00-0020 EA 24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 775 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	242.30 4.98 -6.06 -12.12 -18.17 -24.23	24.89
23 41 33 00-0021 EA 12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 250 CFM, Complete <i>For Removal And Replacement In Existing Equipment, Add</i> <i>For >10 To 25, Deduct</i> <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100, Deduct</i>	165.43 3.56 -4.14 -8.27 -12.41 -16.54	17.78



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Cleaning Devices			23 40
Particulate Air Filtration			23 41

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 41 33 00-0022	EA 24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 500 CFM, Complete For Removal And Replacement In Existing Equipment, Add For >10 To 25, Deduct For >25 To 50, Deduct For >50 To 100, Deduct For >100, Deduct	222.78 4.15 -5.57 -11.14 -16.71 -22.28		20.74	
23 41 33 00-0023	EA 24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 775 CFM, Complete For Removal And Replacement In Existing Equipment, Add For >10 To 25, Deduct For >25 To 50, Deduct For >50 To 100, Deduct For >100, Deduct	266.47 4.74 -6.66 -13.32 -19.99 -26.65		23.70	
23 41 33 00-0024	EA 24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 1,100 CFM, Complete For Removal And Replacement In Existing Equipment, Add For >10 To 25, Deduct For >25 To 50, Deduct For >50 To 100, Deduct For >100, Deduct	328.33 5.93 -8.21 -16.42 -24.62 -32.83		29.63	
23 41 33 00-0025 High Efficiency Particulate Air (HEPA) Filter Housings, 14 Gauge Galvanized Sheet Metal (23 41 33) Note: Nominal sizes.					
23 41 33 00-0026	EA 12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	307.70		88.41	
23 41 33 00-0027	EA 24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	574.00		175.72	
23 41 33 00-0028	EA 24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	582.87		175.72	
23 41 33 00-0029	EA 24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	588.78		175.72	
23 41 33 00-0030	EA 24" x 48" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	630.18		175.72	
23 41 33 00-0031	EA 24" x 72" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	681.93		175.72	
23 41 33 00-0032	EA 48" x 48" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,112.51		352.54	
23 41 33 00-0033	EA 48" x 72" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,238.18		352.54	
23 41 33 00-0034	EA 48" x 96" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,397.86		352.54	
23 41 33 00-0035	EA 12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	332.83		88.41	
23 41 33 00-0036	EA 24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	616.87		175.72	
23 41 33 00-0037	EA 24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	627.22		175.72	
23 41 33 00-0038	EA 24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	634.62		175.72	
23 41 33 00-0039	EA 24" x 48" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	683.41		175.72	
23 41 33 00-0040	EA 24" x 72" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	748.46		175.72	
23 41 33 00-0041	EA 48" x 48" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,216.00		352.54	
23 41 33 00-0042	EA 48" x 72" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,372.73		352.54	
23 41 33 00-0043	EA 48" x 96" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal	1,570.85		352.54	
23 41 33 00-0044 Filter, Bag Type, 90-95% Efficiency (23 41 33)					
23 41 33 00-0045	EA 0.75 - 1.25 MCFM, 24" x 12" x 29" Filter, Bag Type, 90 - 95% Efficiency	273.29		114.60	
23 41 33 00-0046	EA 1.5 - 2.5 MCFM, 24" x 24" x 29" Filter, Bag Type, 90 - 95% Efficiency	314.66		114.60	
23 41 33 00-0047 Filter, Bag Type, 80-85% Efficiency (23 41 33)					
23 41 33 00-0048	EA 0.75 - 1.25 MCFM, 24" x 12" x 29" Filter, Bag Type, 80 - 85% Efficiency	268.54		114.60	
23 41 33 00-0049	EA 1.5 - 2.5 MCFM, 24" x 24" x 29" Filter, Bag Type, 80 - 85% Efficiency	299.06		114.60	
23 42 Gas-Phase Air Filtration (23 40)					
23 42 13 Activated-Carbon Air Filtration (23 42)					
23 42 13 00-0001	EA 12" x 24" x 1" Thick Activated Carbon Honeycomb Disposable Filter	45.14		8.89	
23 42 13 00-0002	EA 16" x 20" x 1" Thick Activated Carbon Honeycomb Disposable Filter	45.65		8.89	
23 42 13 00-0003	EA 16" x 25" x 1" Thick Activated Carbon Honeycomb Disposable Filter	45.97		8.89	
23 42 13 00-0004	EA 20" x 20" x 1" Thick Activated Carbon Honeycomb Disposable Filter	45.97		8.89	
23 42 13 00-0005	EA 20" x 25" x 1" Thick Activated Carbon Honeycomb Disposable Filter	49.85		8.89	
23 42 13 00-0006	EA 24" x 24" x 1" Thick Activated Carbon Honeycomb Disposable Filter	56.22		8.89	
23 42 13 00-0007	EA 12" x 24" x 2" Thick Activated Carbon Honeycomb Disposable Filter	57.04		10.08	
23 42 13 00-0008	EA 16" x 20" x 2" Thick Activated Carbon Honeycomb Disposable Filter	57.47		10.08	
23 42 13 00-0009	EA 16" x 25" x 2" Thick Activated Carbon Honeycomb Disposable Filter	57.84		10.08	
23 42 13 00-0010	EA 20" x 20" x 2" Thick Activated Carbon Honeycomb Disposable Filter	57.84		10.08	
23 42 13 00-0011	EA 20" x 25" x 2" Thick Activated Carbon Honeycomb Disposable Filter	62.13		10.08	
23 42 13 00-0012	EA 24" x 24" x 2" Thick Activated Carbon Honeycomb Disposable Filter	74.08		10.08	
23 42 13 00-0013	EA 16" x 20" x 1" Thick Carbon Impregnated Pleated Air Filter	27.40		8.89	
23 42 13 00-0014	EA 16" x 25" x 1" Thick Carbon Impregnated Pleated Air Filter	29.24		8.89	
23 42 13 00-0015	EA 20" x 20" x 1" Thick Carbon Impregnated Pleated Air Filter	29.31		8.89	
23 42 13 00-0016	EA 20" x 25" x 1" Thick Carbon Impregnated Pleated Air Filter	31.72		8.89	
23 42 13 00-0017	EA 24" x 24" x 1" Thick Carbon Impregnated Pleated Air Filter	33.87		8.89	
23 42 13 00-0018	EA 16" x 20" x 2" Thick Carbon Impregnated Pleated Air Filter	31.73		10.08	
23 42 13 00-0019	EA 16" x 25" x 2" Thick Carbon Impregnated Pleated Air Filter	34.94		10.08	
23 42 13 00-0020	EA 20" x 20" x 2" Thick Carbon Impregnated Pleated Air Filter	35.62		10.08	
23 42 13 00-0021	EA 20" x 25" x 2" Thick Carbon Impregnated Pleated Air Filter	39.61		10.08	
23 42 13 00-0022	EA 24" x 24" x 2" Thick Carbon Impregnated Pleated Air Filter	42.15		10.08	
23 42 13 00-0023	EA 24" x 24" x 4" Thick Carbon Impregnated Pleated Air Filter	69.54		10.66	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 43 Electronic Air Cleaners**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 43 Electronic Air Cleaners (23 40)**23 43 23 Self-Contained Electronic Air Cleaners** (23 43)**23 43 23 00-0001 Stationary Floor, Room Air Purifier** (23 43 23)

23 43 23 00-0002	EA	Stationary Floor Room Air Purifier, Up to 390 SF (Blueair Pro M)	1,132.18	
23 43 23 00-0003	EA	Stationary Floor Room Air Purifier, Up to 780 SF (Blueair Pro L)	1,575.34	
23 43 23 00-0004	EA	Stationary Floor Room Air Purifier, Up to 1,180 SF (Blueair Pro XL)	3,981.04	
23 43 23 00-0005	EA	Stationary Floor Room Air Purifier, Up to 550 SF (Delos Compact)	893.21	
23 43 23 00-0006	EA	Stationary Floor Room Air Purifier, Up to 1,125 SF (Delos 468 Ultrafine)	1,605.43	
23 43 23 00-0007	EA	Stationary Floor Room Air Purifier, Up to 3,500 SF (Delos 980P Commercial)	6,353.53	

23 43 23 00-0008 Surface Mounted, Room Air Purifier (23 43 23)

23 43 23 00-0009	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F114A1067)	2,902.45	
23 43 23 00-0010	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F115A1064)	4,047.45	
23 43 23 00-0011	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F111A1063W-3S)	4,630.76	

23 43 23 00-0012 Suspension Ceiling Mounted, Room Air Purifier (23 43 23)

23 43 23 00-0013	EA	2' x 4' Suspension Ceiling Mounted, Air Purification System (Armstrong VidaShield UV24)	3,754.81	

23 43 23 00-0014 Wall Mounted, Room Air Purifier (23 43 23)

23 43 23 00-0015	EA	Air Purifier, Wall Mount, Bipolar Ionizer (Bi-Polar 2400)	944.40	

23 43 23 00-0016 Duct Mounted, Ionization System (23 43 23)

23 43 23 00-0017	EA	Up To 10,000 CFM, 120/240 VAC, 50 Watt, 8 Tubes, Single Phase, Series 500 Bipolar Ionization System (AtmosAir 500FC)	11,708.36	474.01
23 43 23 00-0018	EA	Up To 15,000 CFM, 120/240 VAC, 50 Watt, 5 Tubes, Single Phase, Series 500 Bipolar Ionization System (AtmosAir 508FC)	15,901.31	592.51

23 43 33 Self-Contained Electronic Ultraviolet Germicidal Cleaners (23 43)**23 43 33 00-0001 Suspension Ceiling Troffer Mounted, Ultraviolet Germicidal Air Purifier** (23 43 33)

23 43 33 00-0002	EA	2' x 2', Troffer Mount UVC Air Purifier (ELEDLIGHTS UVADTM1202X2)	3,832.41	
Note: 6,300 cu ft/hour air cleaning				
23 43 33 00-0003	EA	2' x 2', Troffer Mount UVC Air Purifier With 1900 Lumens LED Panel Light (ELEDLIGHTS UVALTM1202X2)	7,121.83	
Note: 6,300 cu ft/hour air cleaning				
23 43 33 00-0004	EA	2' x 4', Troffer Mount UVC Air Purifier (ELEDLIGHTS UVADTM1202X4)	8,016.73	
Note: 12,600 cu ft/hour air cleaning				
23 43 33 00-0005	EA	2' x 4', Troffer Mount UVC Air Purifier With 3800 Lumens LED Panel Light (ELEDLIGHTS UVALTM1202X4)	8,965.64	
Note: 12,600 cu ft/hour air cleaning				
23 43 33 00-0006	EA	Replace 8"x8" MERV 16, HEPA Filter In Troffer Mount UVC Air Purifier(ELEDLIGHTS UVFILTERM8X8M16)	997.27	

23 43 33 00-0007 Surface Mounted, Ultraviolet Germicidal Air Purifier (23 43 33)

23 43 33 00-0008	EA	Surface (Wall Or Ceiling) Mounted, Germicidal UV Active Circulation Air Cleaner (ELEDLIGHTS GUV-AC)	3,464.98	
Note: 1060 cu ft/hour air cleaning				

23 43 33 00-0009 Wall Mounted, Ultraviolet Germicidal Air Purifier (23 43 33)

23 43 33 00-0010	EA	Wall Mounted, Upper Room Germicidal UV Disinfection (ELEDLIGHTS URUVGI-NZ)	1,776.52	

23 43 33 00-0011 Wall Mounted, Ultraviolet Germicidal Fixture (UV Resources) (23 43 33)

23 43 33 00-0012	EA	14-1/4", 8 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 150 - 41824001)	953.97	75.02
23 43 33 00-0013	EA	23-1/4", 25 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 225 - 41824000)	1,004.63	86.10
23 43 33 00-0014	EA	35", 36 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 310 - 41824002)	1,466.99	93.47

23 43 33 00-0015 Wall Mounted, Ultraviolet Germicidal Fixtures And Accessories (Fresh-Aire UV) (23 43 33)

23 43 33 00-0016	EA	32" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232S-TFHO)	658.96	90.71
23 43 33 00-0017	EA	32" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232D-TFHO)	883.52	90.71
23 43 33 00-0018	EA	46" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246S-TFHO)	716.60	96.06
23 43 33 00-0019	EA	46" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246D-TFHO)	992.32	96.06
23 43 33 00-0020	EA	60" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-260S-TFHO)	780.97	101.47
23 43 33 00-0021	EA	60" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-260D-TFHO)	1,275.57	101.47
23 43 33 00-0022	EA	32" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232S-HO)	622.01	90.71
23 43 33 00-0023	EA	32" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232D-HO)	811.51	90.71
23 43 33 00-0024	EA	46" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246S-HO)	665.44	96.06



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Cleaning Devices			23 40	
Electronic Air Cleaners			23 43	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 43 33 00-0025	EA	46" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVCL-246D-HO).....	890.00	96.06
23 43 33 00-0026	EA	60" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVCL-260S-HO)	678.65	101.47
23 43 33 00-0027	EA	60" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVCL-260D-HO).....	1,071.86	101.47
23 43 33 00-0028	EA	5' (1.5m) Remote Mounting Cable (Fresh-Aire UV TUV-CBL5).....	29.47	
23 43 33 00-0029	EA	10' (3m) Remote Mounting Cable (Fresh-Aire UV TUV-CBL10).....	37.05	
23 43 33 00-0030	EA	5" Stainless Steel Coil Mount Bracket (Fresh-Aire UV TUVCL-CMBRKT-SS5).....	41.67	
23 43 33 00-0031	EA	18" (45cm) Commercial Lamp Shield (Fresh-Aire UV TUVCL-SHIELD-18)	54.44	
23 43 33 00-0032	EA	24" (60cm) Commercial Lamp Shield (Fresh-Aire UV TUVCL-SHIELD-24)	61.07	
23 43 33 00-0033	EA	32" (81cm) Commercial Lamp Shield (Fresh-Aire UV TUVCL-SHIELD-32)	68.65	
23 43 33 00-0034	EA	46" (117cm) Commercial Lamp Shield (Fresh-Aire UV TUVCL-SHIELD-46)	72.44	
23 43 33 00-0035	EA	60" (152cm) Commercial Lamp Shield (Fresh-Aire UV TUVCL-SHIELD-60)	75.28	
23 43 33 00-0036	EA	110-277 VAC, Door Interlock Safety Switch Kit (Fresh-Aire UV TUVCL-INTLCK-SP).....	223.09	
23 43 33 00-0037	EA	15" (38cm) Odor Control, UVC/UVV Lamp (Fresh-Aire UV TUVCL-115P-OS-50).....	167.46	60.33
		Note: 1 Year Warranty		
23 43 33 00-0038	EA	18" (45cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-218HO).....	202.39	63.34
		Note: 2 Year Warranty		
23 43 33 00-0039	EA	24" (60cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-224HO).....	217.30	70.10
		Note: 2 Year Warranty		
23 43 33 00-0040	EA	32" (81cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-132)	198.45	74.71
		Note: 1 Year Warranty		
23 43 33 00-0041	EA	32" (81cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-232TF).....	241.09	74.71
		Note: 1 Year Warranty		
23 43 33 00-0042	EA	32" (81cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-232HO).....	229.72	74.71
		Note: 1 Year Warranty		
23 43 33 00-0043	EA	32" (81cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-232HO-TF).....	264.78	74.71
		Note: 1 Year Warranty		
23 43 33 00-0044	EA	46" (117cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-146)	231.47	79.63
		Note: 1 Year Warranty		
23 43 33 00-0045	EA	46" (117cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-246TF).....	280.74	79.63
		Note: 2 Year Warranty		
23 43 33 00-0046	EA	46" (117cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-246HO).....	256.10	79.63
		Note: 2 Year Warranty		
23 43 33 00-0047	EA	46" (117cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-246HO-TF).....	307.27	79.63
		Note: 2 Year Warranty		
23 43 33 00-0048	EA	60" (152cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-160)	298.33	80.25
		Note: 1 Year Warranty		
23 43 33 00-0049	EA	60" (152cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-260TF).....	367.50	80.25
		Note: 2 Year Warranty		
23 43 33 00-0050	EA	60" (152cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-260HO).....	322.96	80.25
		Note: 2 Year Warranty		
23 43 33 00-0051	EA	60" (152cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-260HO-TF).....	425.29	80.25
		Note: 1 Year Warranty		

23 50 Central Heating Equipment⁽²³⁾

Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 51 Breechings, Chimneys, and Stacks^(23 50)

23 51 13 Draft Control Devices^(23 51)

23 51 13 13 Draft-Induction Fans^(23 51 13)

23 51 13 13-0001 Vertical Discharge Fans^(23 51 13 13)

Note: Includes chimney adapter. Excludes wiring.

23 51 13 13-0002 Axial Vane Vertical Discharge Fans^(23 51 13 13-0001)

23 51 13 13-0003	EA	450 CFM Vertical Discharge Chimney Fan, Axial Vane.....	3,416.83	240.12
23 51 13 13-0004	EA	950 CFM Vertical Discharge Chimney Fan, Axial Vane.....	3,875.03	261.95
23 51 13 13-0005	EA	1,400 CFM Vertical Discharge Chimney Fan, Axial Vane.....	4,655.05	289.23
23 51 13 13-0006	EA	1,800 CFM Vertical Discharge Chimney Fan, Axial Vane.....	6,089.57	335.62

23 51 13 13-0007 Centrifugal Impeller Vertical Discharge Fans^(23 51 13 13-0001)

23 51 13 13-0008	EA	700 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	4,111.20	261.95
23 51 13 13-0009	EA	1,100 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	5,017.91	289.23
23 51 13 13-0010	EA	2,300 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	6,521.15	338.35
23 51 13 13-0011	EA	3,000 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	7,725.82	379.27

23 51 13 13-0012 Accessories For Vertical Discharge Fans^(23 51 13 13-0001)

23 51 13 13-0013	EA	Modulating Fan Controller And Sensor.....	474.65	81.86

23 51 13 16 Vent Dampers^(23 51 13)

23 51 13 16-0001 Flue Shutter Draft Control Damper, Parallel Blade^(23 51 13 16)

23 51 13 16-0002	EA	3" Round Flue Shutter Draft Control Damper	984.73	48.46
23 51 13 16-0003	EA	4" Round Flue Shutter Draft Control Damper	1,080.66	51.41
23 51 13 16-0004	EA	5" Round Flue Shutter Draft Control Damper	1,194.26	54.57
23 51 13 16-0005	EA	6" Round Flue Shutter Draft Control Damper	1,275.99	58.20
23 51 13 16-0006	EA	7" Round Flue Shutter Draft Control Damper	1,393.77	62.34

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 51 13 16-0007	EA	8" Round Flue Shutter Draft Control Damper.....	1,480.14	67.12
23 51 13 16-0008	EA	10" Round Flue Shutter Draft Control Damper.....	1,637.23	72.78
23 51 13 16-0009	EA	12" Round Flue Shutter Draft Control Damper.....	1,798.08	79.37
23 51 13 16-0010	EA	14" Round Flue Shutter Draft Control Damper.....	2,015.86	83.22
23 51 13 16-0011	EA	16" Round Flue Shutter Draft Control Damper.....	2,166.72	87.31
23 51 13 16-0012	EA	18" Round Flue Shutter Draft Control Damper.....	2,369.25	91.69
23 51 13 16-0013	EA	20" Round Flue Shutter Draft Control Damper.....	2,784.91	145.16
23 51 13 16-0014	EA	22" Round Flue Shutter Draft Control Damper.....	3,056.58	154.17
23 51 13 16-0015	EA	24" Round Flue Shutter Draft Control Damper.....	3,313.80	163.72
23 51 13 16-0016	EA	26" Round Flue Shutter Draft Control Damper.....	3,368.93	169.18
23 51 13 16-0017	EA	28" Round Flue Shutter Draft Control Damper.....	3,474.97	174.63
23 51 13 16-0018	EA	30" Round Flue Shutter Draft Control Damper.....	3,569.16	185.55
23 51 13 16-0019	EA	32" Round Flue Shutter Draft Control Damper.....	3,725.86	190.88
23 51 13 16-0020	EA	34" Round Flue Shutter Draft Control Damper.....	3,886.83	201.79
23 51 13 16-0021	EA	36" Round Flue Shutter Draft Control Damper.....	4,070.35	218.29
23 51 13 16-0022	EA	38" Round Flue Shutter Draft Control Damper.....	4,277.97	225.78
23 51 13 16-0023	EA	40" Round Flue Shutter Draft Control Damper.....	4,471.03	229.20
23 51 13 16-0024	EA	42" Round Flue Shutter Draft Control Damper.....	4,690.80	240.12
23 51 13 16-0025	EA	44" Round Flue Shutter Draft Control Damper.....	4,911.85	251.03
23 51 13 16-0026	EA	46" Round Flue Shutter Draft Control Damper.....	5,133.54	261.95
23 51 13 16-0027	EA	48" Round Flue Shutter Draft Control Damper.....	5,354.26	272.86

23 51 13 19 Barometric Dampers (23 51 13)**23 51 13 19-0001 Barometric Dampers (23 51 13 19)**

23 51 13 19-0002	EA	6" x 6" Barometric Damper	458.74	9.47
23 51 13 19-0003	EA	12" x 12" Barometric Damper	663.87	13.01
23 51 13 19-0004	EA	18" x 18" Barometric Damper	888.87	20.11
23 51 13 19-0005	EA	24" x 24" Barometric Damper	1,059.90	37.85
23 51 13 19-0006	EA	6" Diameter Barometric Damper	224.03	9.47
<i>For Stainless Steel, Add</i>			243.52	
23 51 13 19-0007	EA	7" Diameter Barometric Damper	265.12	10.64
<i>For Stainless Steel, Add</i>			289.30	
23 51 13 19-0008	EA	8" Diameter Barometric Damper	307.59	11.82
<i>For Stainless Steel, Add</i>			335.50	
23 51 13 19-0009	EA	9" Diameter Barometric Damper	378.95	11.82
<i>For Stainless Steel, Add</i>			425.00	
23 51 13 19-0010	EA	10" Diameter Barometric Damper	499.98	14.19
<i>For Stainless Steel, Add</i>			579.02	
23 51 13 19-0011	EA	12" Diameter Barometric Damper	635.27	15.38
<i>For Stainless Steel, Add</i>			746.77	
23 51 13 19-0012	EA	14" Diameter Barometric Damper	799.15	16.56
<i>For Stainless Steel, Add</i>			952.41	
23 51 13 19-0013	EA	15" Diameter Barometric Damper	953.96	17.74
<i>For Stainless Steel, Add</i>			1,144.72	
23 51 13 19-0014	EA	16" Diameter Barometric Damper	1,107.01	20.11
<i>For Stainless Steel, Add</i>			1,336.61	
23 51 13 19-0015	EA	18" Diameter Barometric Damper	1,458.82	21.29
<i>For Stainless Steel, Add</i>			1,785.76	
23 51 13 19-0016	EA	20" Diameter Barometric Damper	1,736.79	23.66
<i>For Stainless Steel, Add</i>			2,137.50	
23 51 13 19-0017	EA	24" Diameter Barometric Damper	2,094.82	23.66
<i>For Stainless Steel, Add</i>			2,597.47	
23 51 13 19-0018	EA	30" Diameter Barometric Damper	2,583.20	27.20
<i>For Stainless Steel, Add</i>			3,219.78	
23 51 13 19-0019	EA	36" Diameter Barometric Damper	3,296.43	28.39
<i>For Stainless Steel, Add</i>			4,139.71	

23 51 16 Fabricated Breechings and Accessories (23 51)**23 51 16 00-0001 Round Galvanized Double Wall Flue/Vent Pipe And Fittings (23 51 16)****23 51 16 00-0002 Round Galvanized Double Wall Flue/Vent Pipe (23 51 16 00-0001)**

23 51 16 00-0003	LF	3" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	31.23	9.71
Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness				
<i>For Aluminum Liner, Add</i>			0.39	
<i>For 304 Stainless Steel Liner, Add</i>			0.53	
<i>For 2" Wall Instead Of 1", Add</i>			4.52	
<i>For 3" To 4" Wall Instead Of 1", Add</i>			8.00	
23 51 16 00-0004	LF	4" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	33.62	10.26
Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness				
<i>For Aluminum Liner, Add</i>			0.47	
<i>For 304 Stainless Steel Liner, Add</i>			0.64	
<i>For 2" Wall Instead Of 1", Add</i>			5.08	
<i>For 3" To 4" Wall Instead Of 1", Add</i>			8.87	
23 51 16 00-0005	LF	5" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	37.17	10.91
Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness				
<i>For Aluminum Liner, Add</i>			0.56	
<i>For 304 Stainless Steel Liner, Add</i>			0.76	
<i>For 2" Wall Instead Of 1", Add</i>			5.75	
<i>For 3" To 4" Wall Instead Of 1", Add</i>			9.98	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
23 51 16 00-0006	LF	6" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	40.59 0.65 0.89 6.42 11.07	11.68
23 51 16 00-0007	LF	7" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	47.91 0.96 1.31 8.27 13.93	12.44
23 51 16 00-0008	LF	8" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	53.26 1.07 1.45 9.20 15.49	13.43
23 51 16 00-0009	LF	10" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	77.55 2.25 3.07 15.94 25.74	14.41
23 51 16 00-0010	LF	12" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	94.62 3.02 4.12 20.44 32.65	15.94
23 51 16 00-0011	LF	14" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	133.76 5.07 6.91 31.81 49.79	16.59
23 51 16 00-0012	LF	16" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	167.73 6.83 9.32 41.63 64.61	17.46
23 51 16 00-0013	LF	18" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	206.84 8.83 12.04 52.79 81.50	18.34
23 51 16 00-0014	LF	20" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	262.45 10.48 14.29 64.36 100.13	29.14
23 51 16 00-0015	LF	22" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	317.93 13.21 18.02 79.85 123.65	30.78
23 51 16 00-0016	LF	24" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	378.70 16.29 22.21 97.11 149.79	32.74
23 51 16 00-0017	LF	26" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	440.72 19.59 26.72 115.32 177.21	33.84
23 51 16 00-0018	LF	28" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	462.17 20.62 28.12 121.20 186.16	34.93
23 51 16 00-0019	LF	30" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe..... Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness For Aluminum Liner, Add For 304 Stainless Steel Liner, Add For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add	491.12 21.87 29.83 128.65 197.64	37.44

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0020	LF	32" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	556.73	38.86
		For Aluminum Liner, Add	25.29	
		For 304 Stainless Steel Liner, Add	34.49	
		For 2" Wall Instead Of 1", Add	147.63	
		For 3" To 4" Wall Instead Of 1", Add	226.30	
23 51 16 00-0021	LF	34" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	624.66	40.28
		For Aluminum Liner, Add	28.82	
		For 304 Stainless Steel Liner, Add	39.30	
		For 2" Wall Instead Of 1", Add	167.27	
		For 3" To 4" Wall Instead Of 1", Add	255.93	
23 51 16 00-0022	LF	36" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	657.67	41.91
		For Aluminum Liner, Add	30.42	
		For 304 Stainless Steel Liner, Add	41.48	
		For 2" Wall Instead Of 1", Add	176.37	
		For 3" To 4" Wall Instead Of 1", Add	269.79	
23 51 16 00-0023	LF	38" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	713.80	43.66
		For Aluminum Liner, Add	33.26	
		For 304 Stainless Steel Liner, Add	45.36	
		For 2" Wall Instead Of 1", Add	192.34	
		For 3" To 4" Wall Instead Of 1", Add	293.96	
23 51 16 00-0024	LF	40" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	786.98	45.52
		For Aluminum Liner, Add	37.02	
		For 304 Stainless Steel Liner, Add	50.49	
		For 2" Wall Instead Of 1", Add	213.33	
		For 3" To 4" Wall Instead Of 1", Add	325.68	
23 51 16 00-0025	LF	42" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	823.31	47.59
		For Aluminum Liner, Add	38.73	
		For 304 Stainless Steel Liner, Add	52.82	
		For 2" Wall Instead Of 1", Add	223.17	
		For 3" To 4" Wall Instead Of 1", Add	340.71	
23 51 16 00-0026	LF	44" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	911.82	49.88
		For Aluminum Liner, Add	43.29	
		For 304 Stainless Steel Liner, Add	59.03	
		For 2" Wall Instead Of 1", Add	248.59	
		For 3" To 4" Wall Instead Of 1", Add	379.13	
23 51 16 00-0027	LF	46" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	990.54	52.39
		For Aluminum Liner, Add	47.28	
		For 304 Stainless Steel Liner, Add	64.47	
		For 2" Wall Instead Of 1", Add	270.96	
		For 3" To 4" Wall Instead Of 1", Add	413.00	
23 51 16 00-0028	LF	48" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	1,090.35	55.12
		For Aluminum Liner, Add	52.40	
		For 304 Stainless Steel Liner, Add	71.46	
		For 2" Wall Instead Of 1", Add	299.59	
		For 3" To 4" Wall Instead Of 1", Add	456.26	
23 51 16 00-0029		90 Degree Elbows (23 51 16 00-0001)		
23 51 16 00-0030	EA	3" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	80.21	19.42
		For Aluminum Liner, Add	1.76	
		For 304 Stainless Steel Liner, Add	2.41	
		For 2" Wall Instead Of 1", Add	14.44	
		For 3" To 4" Wall Instead Of 1", Add	24.06	
23 51 16 00-0031	EA	4" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	89.05	20.52
		For Aluminum Liner, Add	2.08	
		For 304 Stainless Steel Liner, Add	2.84	
		For 2" Wall Instead Of 1", Add	16.48	
		For 3" To 4" Wall Instead Of 1", Add	27.28	
23 51 16 00-0032	EA	5" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	99.54	21.83
		For Aluminum Liner, Add	2.49	
		For 304 Stainless Steel Liner, Add	3.39	
		For 2" Wall Instead Of 1", Add	19.00	
		For 3" To 4" Wall Instead Of 1", Add	31.21	
23 51 16 00-0033	EA	6" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	110.29	23.25
		For Aluminum Liner, Add	2.89	
		For 304 Stainless Steel Liner, Add	3.94	
		For 2" Wall Instead Of 1", Add	21.54	
		For 3" To 4" Wall Instead Of 1", Add	35.20	
23 51 16 00-0034	EA	7" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	132.15	24.88
		For Aluminum Liner, Add	3.87	
		For 304 Stainless Steel Liner, Add	5.27	
		For 2" Wall Instead Of 1", Add	27.27	
		For 3" To 4" Wall Instead Of 1", Add	44.00	
23 51 16 00-0035	EA	8" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	155.15	26.85
		For Aluminum Liner, Add	4.84	
		For 304 Stainless Steel Liner, Add	6.60	
		For 2" Wall Instead Of 1", Add	33.12	
		For 3" To 4" Wall Instead Of 1", Add	53.04	
23 51 16 00-0036	EA	10" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	275.44	29.14
		For Aluminum Liner, Add	11.14	
		For 304 Stainless Steel Liner, Add	15.18	
		For 2" Wall Instead Of 1", Add	68.04	
		For 3" To 4" Wall Instead Of 1", Add	105.70	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 51 16 00-0037	EA 12" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	334.61		31.76
	For Aluminum Liner, Add	14.04		
	For 304 Stainless Steel Liner, Add	19.15		
	For 2" Wall Instead Of 1", Add	84.52		
	For 3" To 4" Wall Instead Of 1", Add	130.74		
23 51 16 00-0038	EA 14" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	436.14		33.29
	For Aluminum Liner, Add	19.41		
	For 304 Stainless Steel Liner, Add	26.47		
	For 2" Wall Instead Of 1", Add	114.21		
	For 3" To 4" Wall Instead Of 1", Add	175.47		
23 51 16 00-0039	EA 16" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	537.84		34.93
	For Aluminum Liner, Add	24.79		
	For 304 Stainless Steel Liner, Add	33.80		
	For 2" Wall Instead Of 1", Add	143.92		
	For 3" To 4" Wall Instead Of 1", Add	220.24		
23 51 16 00-0040	EA 18" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	637.62		36.78
	For Aluminum Liner, Add	33.31		
	For 304 Stainless Steel Liner, Add	45.42		
	For 2" Wall Instead Of 1", Add	190.89		
	For 3" To 4" Wall Instead Of 1", Add	290.93		
23 51 16 00-0041	EA 20" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	981.84		58.18
	For Aluminum Liner, Add	45.99		
	For 304 Stainless Steel Liner, Add	62.72		
	For 2" Wall Instead Of 1", Add	265.43		
	For 3" To 4" Wall Instead Of 1", Add	405.43		
23 51 16 00-0042	EA 22" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	1,298.49		61.66
	For Aluminum Liner, Add	62.94		
	For 304 Stainless Steel Liner, Add	85.82		
	For 2" Wall Instead Of 1", Add	358.72		
	For 3" To 4" Wall Instead Of 1", Add	545.78		
23 51 16 00-0043	EA 24" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	1,466.66		65.48
	For Aluminum Liner, Add	71.65		
	For 304 Stainless Steel Liner, Add	97.71		
	For 2" Wall Instead Of 1", Add	407.22		
	For 3" To 4" Wall Instead Of 1", Add	619.03		
23 51 16 00-0044	45 Degree Elbows (23 51 16 00-0001)			
23 51 16 00-0045	EA 3" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	66.95		19.42
	For Aluminum Liner, Add	1.02		
	For 304 Stainless Steel Liner, Add	1.39		
	For 2" Wall Instead Of 1", Add	10.39		
	For 3" To 4" Wall Instead Of 1", Add	18.01		
23 51 16 00-0046	EA 4" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	73.20		20.52
	For Aluminum Liner, Add	1.20		
	For 304 Stainless Steel Liner, Add	1.63		
	For 2" Wall Instead Of 1", Add	11.68		
	For 3" To 4" Wall Instead Of 1", Add	20.09		
23 51 16 00-0047	EA 5" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	80.22		21.83
	For Aluminum Liner, Add	1.41		
	For 304 Stainless Steel Liner, Add	1.92		
	For 2" Wall Instead Of 1", Add	13.15		
	For 3" To 4" Wall Instead Of 1", Add	22.45		
23 51 16 00-0048	EA 6" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	88.89		23.25
	For Aluminum Liner, Add	1.69		
	For 304 Stainless Steel Liner, Add	2.30		
	For 2" Wall Instead Of 1", Add	15.03		
	For 3" To 4" Wall Instead Of 1", Add	25.45		
23 51 16 00-0049	EA 7" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	106.35		24.88
	For Aluminum Liner, Add	2.42		
	For 304 Stainless Steel Liner, Add	3.30		
	For 2" Wall Instead Of 1", Add	19.44		
	For 3" To 4" Wall Instead Of 1", Add	32.27		
23 51 16 00-0050	EA 8" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	117.73		26.85
	For Aluminum Liner, Add	2.78		
	For 304 Stainless Steel Liner, Add	3.80		
	For 2" Wall Instead Of 1", Add	21.90		
	For 3" To 4" Wall Instead Of 1", Add	36.20		
23 51 16 00-0051	EA 10" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	199.33		29.14
	For Aluminum Liner, Add	6.96		
	For 304 Stainless Steel Liner, Add	9.49		
	For 2" Wall Instead Of 1", Add	45.24		
	For 3" To 4" Wall Instead Of 1", Add	71.50		
23 51 16 00-0052	EA 12" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	238.91		31.76
	For Aluminum Liner, Add	8.78		
	For 304 Stainless Steel Liner, Add	11.97		
	For 2" Wall Instead Of 1", Add	55.80		
	For 3" To 4" Wall Instead Of 1", Add	87.67		
23 51 16 00-0053	EA 14" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	307.66		33.29
	For Aluminum Liner, Add	12.35		
	For 304 Stainless Steel Liner, Add	16.84		
	For 2" Wall Instead Of 1", Add	75.66		
	For 3" To 4" Wall Instead Of 1", Add	117.65		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0054	EA	16" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	368.96	34.93
		For Aluminum Liner, Add	15.49	
		For 304 Stainless Steel Liner, Add	21.13	
		For 2" Wall Instead Of 1", Add	93.23	
		For 3" To 4" Wall Instead Of 1", Add	144.21	
23 51 16 00-0055	EA	18" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	470.42	36.78
		For Aluminum Liner, Add	20.82	
		For 304 Stainless Steel Liner, Add	28.39	
		For 2" Wall Instead Of 1", Add	122.74	
		For 3" To 4" Wall Instead Of 1", Add	188.71	
23 51 16 00-0056	EA	20" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	572.06	58.07
		For Aluminum Liner, Add	23.48	
		For 304 Stainless Steel Liner, Add	32.02	
		For 2" Wall Instead Of 1", Add	142.59	
		For 3" To 4" Wall Instead Of 1", Add	221.14	
23 51 16 00-0057	EA	22" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	796.75	61.66
		For Aluminum Liner, Add	35.34	
		For 304 Stainless Steel Liner, Add	48.19	
		For 2" Wall Instead Of 1", Add	208.19	
		For 3" To 4" Wall Instead Of 1", Add	320.00	
23 51 16 00-0058	EA	24" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	977.85	65.48
		For Aluminum Liner, Add	44.78	
		For 304 Stainless Steel Liner, Add	61.07	
		For 2" Wall Instead Of 1", Add	260.63	
		For 3" To 4" Wall Instead Of 1", Add	399.13	
23 51 16 00-0059	EA	26" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	1,775.54	67.67
		For Aluminum Liner, Add	88.36	
		For 304 Stainless Steel Liner, Add	120.49	
		For 2" Wall Instead Of 1", Add	498.85	
		For 3" To 4" Wall Instead Of 1", Add	756.73	
23 51 16 00-0060	EA	28" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	1,825.00	69.85
		For Aluminum Liner, Add	90.78	
		For 304 Stainless Steel Liner, Add	123.79	
		For 2" Wall Instead Of 1", Add	512.60	
		For 3" To 4" Wall Instead Of 1", Add	777.62	
23 51 16 00-0061	EA	30" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	1,923.94	74.22
		For Aluminum Liner, Add	95.62	
		For 304 Stainless Steel Liner, Add	130.39	
		For 2" Wall Instead Of 1", Add	540.10	
		For 3" To 4" Wall Instead Of 1", Add	819.42	
23 51 16 00-0062	EA	32" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,149.45	76.40
		For Aluminum Liner, Add	107.72	
		For 304 Stainless Steel Liner, Add	146.89	
		For 2" Wall Instead Of 1", Add	606.66	
		For 3" To 4" Wall Instead Of 1", Add	919.53	
23 51 16 00-0063	EA	34" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,347.42	80.76
		For Aluminum Liner, Add	118.01	
		For 304 Stainless Steel Liner, Add	160.92	
		For 2" Wall Instead Of 1", Add	663.87	
		For 3" To 4" Wall Instead Of 1", Add	1,005.89	
23 51 16 00-0064	EA	36" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,418.79	87.31
		For Aluminum Liner, Add	121.04	
		For 304 Stainless Steel Liner, Add	165.05	
		For 2" Wall Instead Of 1", Add	682.01	
		For 3" To 4" Wall Instead Of 1", Add	1,033.92	
23 51 16 00-0065	EA	38" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,591.47	90.38
		For Aluminum Liner, Add	130.11	
		For 304 Stainless Steel Liner, Add	177.43	
		For 2" Wall Instead Of 1", Add	732.29	
		For 3" To 4" Wall Instead Of 1", Add	1,109.72	
23 51 16 00-0066	EA	40" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,759.81	91.69
		For Aluminum Liner, Add	139.19	
		For 304 Stainless Steel Liner, Add	189.81	
		For 2" Wall Instead Of 1", Add	782.13	
		For 3" To 4" Wall Instead Of 1", Add	1,184.65	
23 51 16 00-0067	EA	42" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	2,880.73	96.05
		For Aluminum Liner, Add	145.24	
		For 304 Stainless Steel Liner, Add	198.06	
		For 2" Wall Instead Of 1", Add	816.23	
		For 3" To 4" Wall Instead Of 1", Add	1,236.34	
23 51 16 00-0068	EA	44" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	3,056.68	100.41
		For Aluminum Liner, Add	154.32	
		For 304 Stainless Steel Liner, Add	210.44	
		For 2" Wall Instead Of 1", Add	866.83	
		For 3" To 4" Wall Instead Of 1", Add	1,312.79	
23 51 16 00-0069	EA	46" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	3,287.64	104.78
		For Aluminum Liner, Add	166.42	
		For 304 Stainless Steel Liner, Add	226.94	
		For 2" Wall Instead Of 1", Add	933.94	
		For 3" To 4" Wall Instead Of 1", Add	1,414.00	
23 51 16 00-0070	EA	48" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	3,408.59	109.14
		For Aluminum Liner, Add	172.48	
		For 304 Stainless Steel Liner, Add	235.19	
		For 2" Wall Instead Of 1", Add	968.04	
		For 3" To 4" Wall Instead Of 1", Add	1,465.70	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT	COST	UNIT COST
23 51 16 00-0071	Tees (23 51 16 00-0001)			
23 51 16 00-0072	EA 3" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		109.88	25.87
	For Aluminum Liner, Add		2.48	
	For 304 Stainless Steel Liner, Add		3.38	
	For 2" Wall Instead Of 1", Add		20.01	
	For 3" To 4" Wall Instead Of 1", Add		33.25	
23 51 16 00-0073	EA 4" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		114.43	26.85
	For Aluminum Liner, Add		2.60	
	For 304 Stainless Steel Liner, Add		3.65	
	For 2" Wall Instead Of 1", Add		20.91	
	For 3" To 4" Wall Instead Of 1", Add		34.71	
23 51 16 00-0074	EA 5" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		119.36	27.95
	For Aluminum Liner, Add		2.72	
	For 304 Stainless Steel Liner, Add		3.71	
	For 2" Wall Instead Of 1", Add		21.64	
	For 3" To 4" Wall Instead Of 1", Add		36.25	
23 51 16 00-0075	EA 6" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		127.83	29.14
	For Aluminum Liner, Add		3.03	
	For 304 Stainless Steel Liner, Add		4.13	
	For 2" Wall Instead Of 1", Add		23.79	
	For 3" To 4" Wall Instead Of 1", Add		39.32	
23 51 16 00-0076	EA 7" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		151.88	30.34
	For Aluminum Liner, Add		4.18	
	For 304 Stainless Steel Liner, Add		5.69	
	For 2" Wall Instead Of 1", Add		30.37	
	For 3" To 4" Wall Instead Of 1", Add		49.36	
23 51 16 00-0077	EA 8" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		162.96	31.76
	For Aluminum Liner, Add		4.60	
	For 304 Stainless Steel Liner, Add		6.27	
	For 2" Wall Instead Of 1", Add		33.02	
	For 3" To 4" Wall Instead Of 1", Add		53.50	
23 51 16 00-0078	EA 10" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		309.83	33.29
	For Aluminum Liner, Add		12.47	
	For 304 Stainless Steel Liner, Add		17.00	
	For 2" Wall Instead Of 1", Add		76.32	
	For 3" To 4" Wall Instead Of 1", Add		118.63	
23 51 16 00-0079	EA 12" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		360.16	34.93
	For Aluminum Liner, Add		15.01	
	For 304 Stainless Steel Liner, Add		20.47	
	For 2" Wall Instead Of 1", Add		90.59	
	For 3" To 4" Wall Instead Of 1", Add		140.25	
23 51 16 00-0080	EA 14" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		541.53	38.86
	For Aluminum Liner, Add		24.45	
	For 304 Stainless Steel Liner, Add		33.34	
	For 2" Wall Instead Of 1", Add		143.06	
	For 3" To 4" Wall Instead Of 1", Add		219.44	
23 51 16 00-0081	EA 16" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		738.48	43.66
	For Aluminum Liner, Add		34.62	
	For 304 Stainless Steel Liner, Add		47.20	
	For 2" Wall Instead Of 1", Add		199.72	
	For 3" To 4" Wall Instead Of 1", Add		305.04	
23 51 16 00-0082	EA 18" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		916.94	49.88
	For Aluminum Liner, Add		43.57	
	For 304 Stainless Steel Liner, Add		59.42	
	For 2" Wall Instead Of 1", Add		250.14	
	For 3" To 4" Wall Instead Of 1", Add		381.45	
23 51 16 00-0083	EA 20" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		1,221.29	61.66
	For Aluminum Liner, Add		58.70	
	For 304 Stainless Steel Liner, Add		80.05	
	For 2" Wall Instead Of 1", Add		335.59	
	For 3" To 4" Wall Instead Of 1", Add		511.09	
23 51 16 00-0084	EA 22" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		1,532.76	80.55
	For Aluminum Liner, Add		73.23	
	For 304 Stainless Steel Liner, Add		99.85	
	For 2" Wall Instead Of 1", Add		419.55	
	For 3" To 4" Wall Instead Of 1", Add		639.40	
23 51 16 00-0085	EA 24" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		1,764.29	85.14
	For Aluminum Liner, Add		85.33	
	For 304 Stainless Steel Liner, Add		116.36	
	For 2" Wall Instead Of 1", Add		486.72	
	For 3" To 4" Wall Instead Of 1", Add		740.72	
23 51 16 00-0086	EA 26" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		2,429.94	91.69
	For Aluminum Liner, Add		121.04	
	For 304 Stainless Steel Liner, Add		165.05	
	For 2" Wall Instead Of 1", Add		683.12	
	For 3" To 4" Wall Instead Of 1", Add		1,036.15	
23 51 16 00-0087	EA 28" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		2,713.81	95.28
	For Aluminum Liner, Add		136.16	
	For 304 Stainless Steel Liner, Add		185.68	
	For 2" Wall Instead Of 1", Add		766.53	
	For 3" To 4" Wall Instead Of 1", Add		1,161.69	
23 51 16 00-0088	EA 30" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....		2,946.81	100.41
	For Aluminum Liner, Add		148.27	
	For 304 Stainless Steel Liner, Add		202.18	
	For 2" Wall Instead Of 1", Add		833.84	
	For 3" To 4" Wall Instead Of 1", Add		1,263.31	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0089	EA		32" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	3,397.78	104.78
			For Aluminum Liner, Add	172.48	
			For 304 Stainless Steel Liner, Add	235.19	
			For 2" Wall Instead Of 1", Add	966.96	
			For 3" To 4" Wall Instead Of 1", Add	1,463.54	
23 51 16 00-0090	EA		34" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	3,463.79	109.14
			For Aluminum Liner, Add	175.50	
			For 304 Stainless Steel Liner, Add	239.32	
			For 2" Wall Instead Of 1", Add	984.57	
			For 3" To 4" Wall Instead Of 1", Add	1,490.49	
23 51 16 00-0091	EA		36" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,032.29	116.46
			For Aluminum Liner, Add	205.76	
			For 304 Stainless Steel Liner, Add	280.58	
			For 2" Wall Instead Of 1", Add	1,151.45	
			For 3" To 4" Wall Instead Of 1", Add	1,741.73	
23 51 16 00-0092	EA		38" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,123.67	130.97
			For Aluminum Liner, Add	208.79	
			For 304 Stainless Steel Liner, Add	284.71	
			For 2" Wall Instead Of 1", Add	1,171.59	
			For 3" To 4" Wall Instead Of 1", Add	1,773.76	
23 51 16 00-0093	EA		40" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,500.51	149.74
			For Aluminum Liner, Add	226.94	
			For 304 Stainless Steel Liner, Add	309.47	
			For 2" Wall Instead Of 1", Add	1,275.29	
			For 3" To 4" Wall Instead Of 1", Add	1,931.65	
23 51 16 00-0094	EA		42" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,947.90	174.63
			For Aluminum Liner, Add	248.12	
			For 304 Stainless Steel Liner, Add	338.35	
			For 2" Wall Instead Of 1", Add	1,397.05	
			For 3" To 4" Wall Instead Of 1", Add	2,117.41	
23 51 16 00-0095	EA		44" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	5,387.18	196.46
			For Aluminum Liner, Add	269.30	
			For 304 Stainless Steel Liner, Add	367.23	
			For 2" Wall Instead Of 1", Add	1,518.00	
			For 3" To 4" Wall Instead Of 1", Add	2,301.54	
23 51 16 00-0096	EA		46" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	5,898.76	203.01
			For Aluminum Liner, Add	296.54	
			For 304 Stainless Steel Liner, Add	404.37	
			For 2" Wall Instead Of 1", Add	1,668.19	
			For 3" To 4" Wall Instead Of 1", Add	2,527.65	
23 51 16 00-0097	EA		48" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	6,245.40	209.55
			For Aluminum Liner, Add	314.69	
			For 304 Stainless Steel Liner, Add	429.13	
			For 2" Wall Instead Of 1", Add	1,768.87	
			For 3" To 4" Wall Instead Of 1", Add	2,679.50	
23 51 16 00-0098			Vent Top Caps (23 51 16 00-0001)		
23 51 16 00-0099	EA		3" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	55.03	15.17
			For Aluminum Liner, Add	0.94	
			For 304 Stainless Steel Liner, Add	1.28	
			For 2" Wall Instead Of 1", Add	8.92	
			For 3" To 4" Wall Instead Of 1", Add	15.27	
23 51 16 00-0100	EA		4" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	57.66	15.94
			For Aluminum Liner, Add	0.99	
			For 304 Stainless Steel Liner, Add	1.35	
			For 2" Wall Instead Of 1", Add	9.35	
			For 3" To 4" Wall Instead Of 1", Add	16.02	
23 51 16 00-0101	EA		6" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	74.80	17.46
			For Aluminum Liner, Add	1.71	
			For 304 Stainless Steel Liner, Add	2.34	
			For 2" Wall Instead Of 1", Add	13.71	
			For 3" To 4" Wall Instead Of 1", Add	22.75	
23 51 16 00-0102	EA		8" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	79.60	19.42
			For Aluminum Liner, Add	1.71	
			For 304 Stainless Steel Liner, Add	2.34	
			For 2" Wall Instead Of 1", Add	14.19	
			For 3" To 4" Wall Instead Of 1", Add	23.71	
23 51 16 00-0103	EA		10" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	97.18	20.52
			For Aluminum Liner, Add	2.52	
			For 304 Stainless Steel Liner, Add	3.44	
			For 2" Wall Instead Of 1", Add	18.89	
			For 3" To 4" Wall Instead Of 1", Add	30.91	
23 51 16 00-0104	EA		12" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	115.09	21.83
			For Aluminum Liner, Add	3.33	
			For 304 Stainless Steel Liner, Add	4.54	
			For 2" Wall Instead Of 1", Add	23.61	
			For 3" To 4" Wall Instead Of 1", Add	38.15	
23 51 16 00-0105	EA		16" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	274.69	24.88
			For Aluminum Liner, Add	11.68	
			For 304 Stainless Steel Liner, Add	15.93	
			For 2" Wall Instead Of 1", Add	69.94	
			For 3" To 4" Wall Instead Of 1", Add	108.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0106	EA		18" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	513.66	31.22
			For Aluminum Liner, Add	23.97	
			For 304 Stainless Steel Liner, Add	32.68	
			For 2" Wall Instead Of 1", Add	138.51	
			For 3" To 4" Wall Instead Of 1", Add	211.66	
23 51 16 00-0107	EA		20" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	951.79	37.44
			For Aluminum Liner, Add	47.20	
			For 304 Stainless Steel Liner, Add	64.37	
			For 2" Wall Instead Of 1", Add	266.83	
			For 3" To 4" Wall Instead Of 1", Add	404.92	
23 51 16 00-0108	EA		24" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	1,583.41	52.39
			For Aluminum Liner, Add	79.88	
			For 304 Stainless Steel Liner, Add	108.93	
			For 2" Wall Instead Of 1", Add	448.83	
			For 3" To 4" Wall Instead Of 1", Add	679.79	
23 51 16 00-0109	EA		26" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	2,338.44	55.12
			For Aluminum Liner, Add	121.04	
			For 304 Stainless Steel Liner, Add	165.05	
			For 2" Wall Instead Of 1", Add	673.97	
			For 3" To 4" Wall Instead Of 1", Add	1,017.85	
23 51 16 00-0110	EA		28" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	2,621.24	58.18
			For Aluminum Liner, Add	136.16	
			For 304 Stainless Steel Liner, Add	185.68	
			For 2" Wall Instead Of 1", Add	757.27	
			For 3" To 4" Wall Instead Of 1", Add	1,143.18	
23 51 16 00-0111	EA		30" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	2,959.98	61.66
			For Aluminum Liner, Add	154.32	
			For 304 Stainless Steel Liner, Add	210.44	
			For 2" Wall Instead Of 1", Add	857.16	
			For 3" To 4" Wall Instead Of 1", Add	1,293.45	
23 51 16 00-0112	EA		32" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	3,134.66	65.48
			For Aluminum Liner, Add	163.40	
			For 304 Stainless Steel Liner, Add	222.82	
			For 2" Wall Instead Of 1", Add	907.64	
			For 3" To 4" Wall Instead Of 1", Add	1,369.65	
23 51 16 00-0113	EA		34" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	3,310.61	69.85
			For Aluminum Liner, Add	172.48	
			For 304 Stainless Steel Liner, Add	235.19	
			For 2" Wall Instead Of 1", Add	958.25	
			For 3" To 4" Wall Instead Of 1", Add	1,446.10	
23 51 16 00-0114	EA		36" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	3,543.00	74.87
			For Aluminum Liner, Add	184.58	
			For 304 Stainless Steel Liner, Add	251.70	
			For 2" Wall Instead Of 1", Add	1,025.50	
			For 3" To 4" Wall Instead Of 1", Add	1,547.60	
23 51 16 00-0115			Wall Thimbles (23 51 16 00-0001)		
23 51 16 00-0116	EA		3" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	22.35	8.19
			For Aluminum Liner, Add	0.11	
			For 304 Stainless Steel Liner, Add	0.15	
			For 2" Wall Instead Of 1", Add	2.63	
			For 3" To 4" Wall Instead Of 1", Add	4.96	
23 51 16 00-0117	EA		4" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	28.31	10.48
			For Aluminum Liner, Add	0.11	
			For 304 Stainless Steel Liner, Add	0.15	
			For 2" Wall Instead Of 1", Add	3.23	
			For 3" To 4" Wall Instead Of 1", Add	6.16	
23 51 16 00-0118	EA		5" Or 6" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	37.67	14.08
			For Aluminum Liner, Add	0.14	
			For 304 Stainless Steel Liner, Add	0.18	
			For 2" Wall Instead Of 1", Add	4.26	
			For 3" To 4" Wall Instead Of 1", Add	8.15	
23 51 16 00-0119	EA		7" Or 8" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	47.17	17.46
			For Aluminum Liner, Add	0.19	
			For 304 Stainless Steel Liner, Add	0.26	
			For 2" Wall Instead Of 1", Add	5.42	
			For 3" To 4" Wall Instead Of 1", Add	10.31	
23 51 16 00-0120	EA		10" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	67.94	23.57
			For Aluminum Liner, Add	0.50	
			For 304 Stainless Steel Liner, Add	0.68	
			For 2" Wall Instead Of 1", Add	8.60	
			For 3" To 4" Wall Instead Of 1", Add	15.84	
23 51 16 00-0121	EA		12" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	85.89	29.26
			For Aluminum Liner, Add	0.70	
			For 304 Stainless Steel Liner, Add	0.96	
			For 2" Wall Instead Of 1", Add	11.14	
			For 3" To 4" Wall Instead Of 1", Add	20.37	
23 51 16 00-0122	EA		14" Or 16" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	108.95	34.93
			For Aluminum Liner, Add	1.19	
			For 304 Stainless Steel Liner, Add	1.62	
			For 2" Wall Instead Of 1", Add	15.22	
			For 3" To 4" Wall Instead Of 1", Add	27.20	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0123	EA		18" Or 20" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	142.40	41.48
			For Aluminum Liner, Add	2.13	
			For 304 Stainless Steel Liner, Add	2.90	
			For 2" Wall Instead Of 1", Add	21.98	
			For 3" To 4" Wall Instead Of 1", Add	38.16	
23 51 16 00-0124	EA		22" Or 24" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	192.45	45.84
			For Aluminum Liner, Add	4.28	
			For 304 Stainless Steel Liner, Add	5.84	
			For 2" Wall Instead Of 1", Add	34.82	
			For 3" To 4" Wall Instead Of 1", Add	57.95	
23 51 16 00-0125 Adjustable Roof Flashing (23 51 16 00-0001)					
23 51 16 00-0126	EA		3" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	61.12	19.42
			For Aluminum Liner, Add	0.70	
			For 304 Stainless Steel Liner, Add	0.95	
			For 2" Wall Instead Of 1", Add	8.64	
			For 3" To 4" Wall Instead Of 1", Add	15.39	
23 51 16 00-0127	EA		4" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	67.68	20.52
			For Aluminum Liner, Add	0.90	
			For 304 Stainless Steel Liner, Add	1.22	
			For 2" Wall Instead Of 1", Add	10.02	
			For 3" To 4" Wall Instead Of 1", Add	17.61	
23 51 16 00-0128	EA		6" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	85.46	23.25
			For Aluminum Liner, Add	1.50	
			For 304 Stainless Steel Liner, Add	2.05	
			For 2" Wall Instead Of 1", Add	14.00	
			For 3" To 4" Wall Instead Of 1", Add	23.91	
23 51 16 00-0129	EA		8" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	104.42	26.85
			For Aluminum Liner, Add	2.05	
			For 304 Stainless Steel Liner, Add	2.80	
			For 2" Wall Instead Of 1", Add	17.90	
			For 3" To 4" Wall Instead Of 1", Add	30.21	
23 51 16 00-0130	EA		10" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	175.14	29.14
			For Aluminum Liner, Add	5.63	
			For 304 Stainless Steel Liner, Add	7.67	
			For 2" Wall Instead Of 1", Add	37.98	
			For 3" To 4" Wall Instead Of 1", Add	60.61	
23 51 16 00-0131	EA		12" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	209.18	31.76
			For Aluminum Liner, Add	7.14	
			For 304 Stainless Steel Liner, Add	9.74	
			For 2" Wall Instead Of 1", Add	46.89	
			For 3" To 4" Wall Instead Of 1", Add	74.30	
23 51 16 00-0132	EA		14" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	246.86	34.93
			For Aluminum Liner, Add	8.78	
			For 304 Stainless Steel Liner, Add	11.97	
			For 2" Wall Instead Of 1", Add	56.60	
			For 3" To 4" Wall Instead Of 1", Add	89.26	
23 51 16 00-0133	EA		16" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	295.20	38.86
			For Aluminum Liner, Add	10.89	
			For 304 Stainless Steel Liner, Add	14.85	
			For 2" Wall Instead Of 1", Add	69.13	
			For 3" To 4" Wall Instead Of 1", Add	108.56	
23 51 16 00-0134	EA		18" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	450.28	43.66
			For Aluminum Liner, Add	18.76	
			For 304 Stainless Steel Liner, Add	25.58	
			For 2" Wall Instead Of 1", Add	113.25	
			For 3" To 4" Wall Instead Of 1", Add	175.33	
23 51 16 00-0135	EA		20" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	493.22	58.18
			For Aluminum Liner, Add	19.12	
			For 304 Stainless Steel Liner, Add	26.08	
			For 2" Wall Instead Of 1", Add	118.86	
			For 3" To 4" Wall Instead Of 1", Add	185.57	
23 51 16 00-0136	EA		22" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	627.28	74.87
			For Aluminum Liner, Add	24.21	
			For 304 Stainless Steel Liner, Add	33.01	
			For 2" Wall Instead Of 1", Add	150.75	
			For 3" To 4" Wall Instead Of 1", Add	235.49	
23 51 16 00-0137	EA		24" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	746.44	87.31
			For Aluminum Liner, Add	29.05	
			For 304 Stainless Steel Liner, Add	39.61	
			For 2" Wall Instead Of 1", Add	180.27	
			For 3" To 4" Wall Instead Of 1", Add	281.33	
23 51 16 00-0138 Galvanized Storm Collars (23 51 16 00-0001)					
23 51 16 00-0139	EA		3" Round Galvanized Storm Collar, Double Wall	24.05	8.19
			For Aluminum Liner, Add	0.20	
			For 304 Stainless Steel Liner, Add	0.27	
			For 2" Wall Instead Of 1", Add	3.14	
			For 3" To 4" Wall Instead Of 1", Add	5.72	
23 51 16 00-0140	EA		4" Round Galvanized Storm Collar, Double Wall	30.38	10.48
			For Aluminum Liner, Add	0.23	
			For 304 Stainless Steel Liner, Add	0.31	
			For 2" Wall Instead Of 1", Add	3.88	
			For 3" To 4" Wall Instead Of 1", Add	7.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0141	EA		5" Round Galvanized Storm Collar, Double Wall.....	35.78	12.22
			For Aluminum Liner, Add	0.29	
			For 304 Stainless Steel Liner, Add	0.39	
			For 2" Wall Instead Of 1", Add	4.62	
			For 3" To 4" Wall Instead Of 1", Add	8.46	
23 51 16 00-0142	EA		6" Round Galvanized Storm Collar, Double Wall.....	41.19	13.97
			For Aluminum Liner, Add	0.34	
			For 304 Stainless Steel Liner, Add	0.47	
			For 2" Wall Instead Of 1", Add	5.37	
			For 3" To 4" Wall Instead Of 1", Add	9.80	
23 51 16 00-0143	EA		7" Or 8" Round Galvanized Storm Collar, Double Wall.....	51.99	17.46
			For Aluminum Liner, Add	0.46	
			For 304 Stainless Steel Liner, Add	0.62	
			For 2" Wall Instead Of 1", Add	6.87	
			For 3" To 4" Wall Instead Of 1", Add	12.48	
23 51 16 00-0144	EA		10" Round Galvanized Storm Collar, Double Wall.....	72.00	23.57
			For Aluminum Liner, Add	0.72	
			For 304 Stainless Steel Liner, Add	0.98	
			For 2" Wall Instead Of 1", Add	9.81	
			For 3" To 4" Wall Instead Of 1", Add	17.67	
23 51 16 00-0145	EA		12" Round Galvanized Storm Collar, Double Wall.....	88.82	29.26
			For Aluminum Liner, Add	0.86	
			For 304 Stainless Steel Liner, Add	1.18	
			For 2" Wall Instead Of 1", Add	12.02	
			For 3" To 4" Wall Instead Of 1", Add	21.69	
23 51 16 00-0146	EA		14" Or 16" Round Galvanized Storm Collar, Double Wall.....	113.94	34.93
			For Aluminum Liner, Add	1.46	
			For 304 Stainless Steel Liner, Add	2.00	
			For 2" Wall Instead Of 1", Add	16.72	
			For 3" To 4" Wall Instead Of 1", Add	29.45	
23 51 16 00-0147	EA		18" Or 20" Round Galvanized Storm Collar, Double Wall.....	151.89	41.48
			For Aluminum Liner, Add	2.65	
			For 304 Stainless Steel Liner, Add	3.62	
			For 2" Wall Instead Of 1", Add	24.83	
			For 3" To 4" Wall Instead Of 1", Add	42.43	
23 51 16 00-0148	EA		22" Or 24" Round Galvanized Storm Collar, Double Wall.....	216.17	45.84
			For Aluminum Liner, Add	5.59	
			For 304 Stainless Steel Liner, Add	7.62	
			For 2" Wall Instead Of 1", Add	41.93	
			For 3" To 4" Wall Instead Of 1", Add	68.63	
23 51 16 00-0149			Oval Galvanized Double Wall Flue/Vent Pipe And Fittings (23 51 16)		
23 51 16 00-0150			Oval Galvanized Double Wall Flue/Vent Pipe (23 51 16 00-0149)		
23 51 16 00-0151	LF		4" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	41.43	10.26
			For 2" Wall Instead Of 1", Add	7.30	
			For 3" To 4" Wall Instead Of 1", Add	12.23	
23 51 16 00-0152	LF		5" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	45.81	10.91
			For 2" Wall Instead Of 1", Add	8.33	
			For 3" To 4" Wall Instead Of 1", Add	13.84	
23 51 16 00-0153	LF		6" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	50.86	11.68
			For 2" Wall Instead Of 1", Add	9.43	
			For 3" To 4" Wall Instead Of 1", Add	15.60	
23 51 16 00-0154			45 Degree Elbows (23 51 16 00-0149)		
23 51 16 00-0155	EA		4" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	91.04	21.29
			For 2" Wall Instead Of 1", Add	16.66	
			For 3" To 4" Wall Instead Of 1", Add	27.66	
23 51 16 00-0156	EA		5" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	106.22	24.88
			For 2" Wall Instead Of 1", Add	19.42	
			For 3" To 4" Wall Instead Of 1", Add	32.25	
23 51 16 00-0157	EA		6" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	126.85	28.16
			For 2" Wall Instead Of 1", Add	23.97	
			For 3" To 4" Wall Instead Of 1", Add	39.48	
23 51 16 00-0158	EA		4" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	92.93	21.29
			For 2" Wall Instead Of 1", Add	17.23	
			For 3" To 4" Wall Instead Of 1", Add	28.51	
23 51 16 00-0159	EA		5" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	110.81	24.88
			For 2" Wall Instead Of 1", Add	20.80	
			For 3" To 4" Wall Instead Of 1", Add	34.31	
23 51 16 00-0160	EA		6" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	129.82	28.16
			For 2" Wall Instead Of 1", Add	24.86	
			For 3" To 4" Wall Instead Of 1", Add	40.81	
23 51 16 00-0161			Tees (23 51 16 00-0149)		
23 51 16 00-0162	EA		4" Standard Oval Flue/Vent Pipe Tee, Galvanized Double Wall Breech/Smoke Pipe.....	152.94	32.31
			For 2" Wall Instead Of 1", Add	29.71	
			For 3" To 4" Wall Instead Of 1", Add	48.61	
23 51 16 00-0163	EA		4" Short Snout Oval Flue/Vent Tee, Galvanized Double Wall Breech/Smoke Pipe.....	155.91	32.31
			For 2" Wall Instead Of 1", Add	30.60	
			For 3" To 4" Wall Instead Of 1", Add	49.95	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0164	EA	5" Standard Oval Flue/Vent Pipe Tee, Galvanized Double Wall Breech/Smoke Pipe	179.18	37.11
		For 2" Wall Instead Of 1", Add	35.20	
		For 3" To 4" Wall Instead Of 1", Add	57.44	
23 51 16 00-0165	EA	6" Oval Flue/Vent Tee With Round Coupling, Galvanized Double Wall Breech/Smoke Pipe	205.21	41.59
		For 2" Wall Instead Of 1", Add	40.77	
		For 3" To 4" Wall Instead Of 1", Add	66.36	
23 51 16 00-0166		Tops/Caps And Adjustable Flashing (23 51 16 00-0149)		
23 51 16 00-0167	EA	4" Oval Flue/Vent Pipe Top/Cap, Galvanized Double Wall Breech/Smoke Pipe	58.97	10.48
		For 2" Wall Instead Of 1", Add	12.43	
		For 3" To 4" Wall Instead Of 1", Add	19.96	
23 51 16 00-0168	EA	6" Oval Flue/Vent Pipe Top/Cap, Galvanized Double Wall Breech/Smoke Pipe	92.59	14.08
		For 2" Wall Instead Of 1", Add	20.74	
		For 3" To 4" Wall Instead Of 1", Add	32.86	
23 51 16 00-0169	EA	4" Oval Flue/Vent Adjustable Flashing, Galvanized Double Wall Breech/Smoke Pipe	47.36	10.48
		For 2" Wall Instead Of 1", Add	8.95	
		For 3" To 4" Wall Instead Of 1", Add	14.74	
23 51 16 00-0170	EA	6" Oval Flue/Vent Adjustable Flashing, Galvanized Double Wall Breech/Smoke Pipe	81.65	14.08
		For 2" Wall Instead Of 1", Add	17.45	
		For 3" To 4" Wall Instead Of 1", Add	27.94	
23 51 16 00-0171		Storm Collars (23 51 16 00-0149)		
23 51 16 00-0172	EA	4" Oval Galvanized Storm Collar, Double Wall	30.38	10.48
		For 2" Wall Instead Of 1", Add	3.88	
		For 3" To 4" Wall Instead Of 1", Add	7.12	
23 51 16 00-0173	EA	5" Oval Galvanized Storm Collar, Double Wall	35.78	12.22
		For 2" Wall Instead Of 1", Add	4.62	
		For 3" To 4" Wall Instead Of 1", Add	8.46	
23 51 16 00-0174	EA	6" Oval Galvanized Storm Collar, Double Wall	41.19	13.97
		For 2" Wall Instead Of 1", Add	5.37	
		For 3" To 4" Wall Instead Of 1", Add	9.80	
23 51 16 00-0175		Round Double Wall Flue/Vent Pipe And Fittings (23 51 16)		
		Note: 304 Stainless steel inner wall and aluminum steel outer jacket, with 1" insulation.		
23 51 16 00-0176		Round Double Wall Flue/Vent Pipe (23 51 16 00-0175)		
		Note: 304 Stainless steel inner wall and aluminum steel outer jacket, with 1" insulation.		
23 51 16 00-0177	LF	6" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	109.21	11.68
		For 316 Stainless Steel, Add	12.81	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	8.01	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	16.01	
23 51 16 00-0178	LF	8" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	131.36	13.43
		For 316 Stainless Steel, Add	15.64	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	9.77	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	19.55	
23 51 16 00-0179	LF	10" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	145.83	14.52
		For 316 Stainless Steel, Add	17.52	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	10.95	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	21.90	
23 51 16 00-0180	LF	12" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	164.49	15.83
		For 316 Stainless Steel, Add	19.97	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	12.48	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	24.96	
23 51 16 00-0181	LF	14" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	185.24	16.59
		For 316 Stainless Steel, Add	22.98	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	14.37	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	28.73	
23 51 16 00-0182	LF	16" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	195.62	17.46
		For 316 Stainless Steel, Add	24.30	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	15.19	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	30.38	
23 51 16 00-0183	LF	18" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	216.74	18.45
		For 316 Stainless Steel, Add	27.32	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	17.07	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	34.15	
23 51 16 00-0184	LF	20" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	268.25	29.14
		For 316 Stainless Steel, Add	31.27	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	19.55	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	39.09	
23 51 16 00-0185	LF	24" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	333.85	32.74
		For 316 Stainless Steel, Add	40.32	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	25.20	
		For 3" Insulated Wall Instead Of 1" Thickness, Add	50.39	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST
23 51 16 00-0186	LF	28" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	376.93		34.93
		For 316 Stainless Steel, Add	46.34		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	28.97		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	57.93		
23 51 16 00-0187	LF	32" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	421.89		38.75
		For 316 Stainless Steel, Add	52.00		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	32.50		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	64.99		
23 51 16 00-0188	LF	36" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	469.65		41.91
		For 316 Stainless Steel, Add	58.40		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	36.50		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	73.00		
23 51 16 00-0189	LF	42" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	536.15		47.69
		For 316 Stainless Steel, Add	66.69		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	41.68		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	83.36		
23 51 16 00-0190	LF	48" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	627.89		55.23
		For 316 Stainless Steel, Add	78.37		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	48.98		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	97.96		
23 51 16 00-0191		90 Degree Elbows (23 51 16 00-0175)			
23 51 16 00-0192	EA	6" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	514.75		24.12
		For 316 Stainless Steel, Add	90.90		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	45.45		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	90.90		
23 51 16 00-0193	EA	8" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	568.69		26.85
		For 316 Stainless Steel, Add	100.32		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	50.16		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	100.32		
23 51 16 00-0194	EA	10" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	647.42		29.14
		For 316 Stainless Steel, Add	114.92		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	57.46		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	114.92		
23 51 16 00-0195	EA	12" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	731.64		31.76
		For 316 Stainless Steel, Add	130.46		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	65.23		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	130.46		
23 51 16 00-0196	EA	14" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	848.50		33.29
		For 316 Stainless Steel, Add	153.06		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	76.53		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	153.06		
23 51 16 00-0197	EA	16" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	935.04		34.93
		For 316 Stainless Steel, Add	169.55		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	84.77		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	169.55		
23 51 16 00-0198	EA	18" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,080.92		36.78
		For 316 Stainless Steel, Add	197.81		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	98.90		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	197.81		
23 51 16 00-0199	EA	20" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,252.31		58.18
		For 316 Stainless Steel, Add	221.36		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	110.68		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	221.36		
23 51 16 00-0200	EA	24" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,541.30		65.48
		For 316 Stainless Steel, Add	275.52		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	137.76		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	275.52		
23 51 16 00-0201	EA	28" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,870.12		69.85
		For 316 Stainless Steel, Add	339.10		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	169.55		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	339.10		
23 51 16 00-0202	EA	32" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,471.23		74.76
		For 316 Stainless Steel, Add	456.84		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	228.42		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	456.84		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0203	EA		36" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,808.62	87.31
			For 316 Stainless Steel, Add	518.07	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	259.03	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	518.07	
23 51 16 00-0204	EA		42" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	4,123.56	95.28
			For 316 Stainless Steel, Add	777.10	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	388.55	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	777.10	
23 51 16 00-0205	EA		48" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	5,148.24	104.78
			For 316 Stainless Steel, Add	977.26	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	488.63	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	977.26	
23 51 16 00-0206 45 Degree Elbows (23 51 16 00-0175)					
23 51 16 00-0207	EA		6" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	343.12	23.25
			For 316 Stainless Steel, Add	56.99	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	28.49	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	56.99	
23 51 16 00-0208	EA		8" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	392.08	26.85
			For 316 Stainless Steel, Add	64.99	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	32.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	64.99	
23 51 16 00-0209	EA		10" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	435.46	29.14
			For 316 Stainless Steel, Add	72.53	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	36.27	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	72.53	
23 51 16 00-0210	EA		12" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	496.17	31.76
			For 316 Stainless Steel, Add	83.36	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	41.68	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	83.36	
23 51 16 00-0211	EA		14" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	558.85	33.29
			For 316 Stainless Steel, Add	95.14	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	47.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	95.14	
23 51 16 00-0212	EA		16" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	626.56	34.93
			For 316 Stainless Steel, Add	107.85	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	53.93	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	107.85	
23 51 16 00-0213	EA		18" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	701.79	36.78
			For 316 Stainless Steel, Add	121.98	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	60.99	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	121.98	
23 51 16 00-0214	EA		20" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	842.57	58.18
			For 316 Stainless Steel, Add	139.41	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	69.70	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	139.41	
23 51 16 00-0215	EA		24" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,058.57	65.48
			For 316 Stainless Steel, Add	178.97	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	89.48	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	178.97	
23 51 16 00-0216	EA		28" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,187.21	69.85
			For 316 Stainless Steel, Add	202.52	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	101.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	202.52	
23 51 16 00-0217	EA		32" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,541.07	74.76
			For 316 Stainless Steel, Add	270.81	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	135.40	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	270.81	
23 51 16 00-0218	EA		36" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,043.29	87.31
			For 316 Stainless Steel, Add	365.00	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	182.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	365.00	
23 51 16 00-0219	EA		42" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,710.66	95.28
			For 316 Stainless Steel, Add	494.52	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	247.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	494.52	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0220	EA		48" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	3,617.61	104.78
			For 316 Stainless Steel, Add	671.13	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	335.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	671.13	
23 51 16 00-0221			Tees (23 51 16 00-0175)		
23 51 16 00-0222	EA		6" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	371.91	29.14
			For 316 Stainless Steel, Add	65.80	
			For Tee Cap, Add	85.31	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	29.91	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	59.81	
23 51 16 00-0223	EA		8" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	423.16	31.76
			For 316 Stainless Steel, Add	75.64	
			For Tee Cap, Add	96.93	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	34.38	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	68.76	
23 51 16 00-0224	EA		10" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	485.83	33.29
			For 316 Stainless Steel, Add	88.59	
			For Tee Cap, Add	109.64	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	40.27	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	80.54	
23 51 16 00-0225	EA		12" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	558.26	34.93
			For 316 Stainless Steel, Add	103.61	
			For Tee Cap, Add	124.75	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	47.10	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	94.19	
23 51 16 00-0226	EA		14" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	652.76	38.86
			For 316 Stainless Steel, Add	122.26	
			For Tee Cap, Add	145.11	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	55.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	111.15	
23 51 16 00-0227	EA		16" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	733.10	43.66
			For 316 Stainless Steel, Add	137.29	
			For Tee Cap, Add	162.98	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	62.40	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	124.81	
23 51 16 00-0228	EA		18" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	854.64	49.88
			For 316 Stainless Steel, Add	160.60	
			For Tee Cap, Add	189.62	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	73.00	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	146.00	
23 51 16 00-0229	EA		20" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	978.28	61.66
			For 316 Stainless Steel, Add	181.32	
			For Tee Cap, Add	218.77	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	82.42	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	164.84	
23 51 16 00-0230	EA		24" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,242.65	87.31
			For 316 Stainless Steel, Add	225.36	
			For Tee Cap, Add	281.27	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	102.44	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	204.87	
23 51 16 00-0231	EA		28" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,509.69	95.28
			For 316 Stainless Steel, Add	279.76	
			For Tee Cap, Add	337.65	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	127.16	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	254.32	
23 51 16 00-0232	EA		32" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,004.52	104.78
			For 316 Stainless Steel, Add	383.37	
			For Tee Cap, Add	440.20	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	174.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	348.52	
23 51 16 00-0233	EA		36" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,233.95	116.46
			For 316 Stainless Steel, Add	427.41	
			For Tee Cap, Add	490.47	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	194.28	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	388.55	
23 51 16 00-0234	EA		42" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	3,556.75	174.63
			For 316 Stainless Steel, Add	686.44	
			For Tee Cap, Add	776.84	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	312.02	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	624.03	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 51 16 00-0235	EA	48" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	4,468.29	209.55	
		For 316 Stainless Steel, Add	867.76		
		For Tee Cap, Add	972.25		
		For 2" Insulated Wall Instead Of 1" Thickness, Add	394.44		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	788.87		
23 51 16 00-0236 Bellows (23 51 16 00-0175)					
23 51 16 00-0237	EA	6" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	703.41	23.25	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	64.52		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	129.05		
23 51 16 00-0238	EA	8" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	766.50	26.85	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	69.94		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	139.88		
23 51 16 00-0239	EA	10" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	838.16	29.14	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	76.53		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	153.06		
23 51 16 00-0240	EA	12" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	927.09	31.76	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	84.77		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	169.55		
23 51 16 00-0241	EA	14" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,036.88	33.29	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	95.37		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	190.74		
23 51 16 00-0242	EA	16" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,146.98	34.93	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	105.97		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	211.94		
23 51 16 00-0243	EA	18" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,281.09	36.78	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	118.92		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	237.84		
23 51 16 00-0244	EA	20" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,487.78	58.18	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	134.23		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	268.45		
23 51 16 00-0245	EA	24" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,835.68	65.48	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	167.19		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	334.39		
23 51 16 00-0246	EA	28" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,058.53	69.85	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	188.39		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	376.77		
23 51 16 00-0247	EA	32" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,353.61	74.87	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	216.65		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	433.29		
23 51 16 00-0248	EA	36" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,690.90	87.31	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	247.26		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	494.52		
23 51 16 00-0249	EA	42" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	3,417.13	95.28	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	317.90		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	635.81		
23 51 16 00-0250	EA	48" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	4,147.45	104.78	
		For 2" Insulated Wall Instead Of 1" Thickness, Add	388.55		
		For 3" Insulated Wall Instead Of 1" Thickness, Add	777.10		
23 51 16 00-0251 Ventilated Roof Thimbles (23 51 16 00-0175)					
23 51 16 00-0252	EA	6" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	467.48	26.85	
		For 316 Stainless Steel, Add	40.03		
23 51 16 00-0253	EA	8" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	507.93	31.76	
		For 316 Stainless Steel, Add	42.86		
23 51 16 00-0254	EA	10" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	555.89	34.93	
		For 316 Stainless Steel, Add	46.86		
23 51 16 00-0255	EA	12" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	601.01	38.86	
		For 316 Stainless Steel, Add	50.39		
23 51 16 00-0256	EA	14" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	764.46	41.14	
		For 316 Stainless Steel, Add	66.17		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0257	EA	16" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	693.70	43.66	
For 316 Stainless Steel, Add				57.46	
23 51 16 00-0258	EA	18" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	735.79	46.60	
For 316 Stainless Steel, Add				61.93	
23 51 16 00-0259	EA	20" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	827.81	65.48	
For 316 Stainless Steel, Add				66.41	
23 51 16 00-0260	EA	24" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	928.69	74.76	
For 316 Stainless Steel, Add				74.18	
23 51 16 00-0261	EA	28" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,060.89	80.55	
For 316 Stainless Steel, Add				85.95	
23 51 16 00-0262	EA	32" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,183.64	87.20	
For 316 Stainless Steel, Add				96.55	
23 51 16 00-0263	EA	36" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,321.47	104.67	
For 316 Stainless Steel, Add				105.97	
23 51 16 00-0264	EA	42" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,692.05	116.35	
For 316 Stainless Steel, Add				140.11	
23 51 16 00-0265	EA	48" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,093.34	130.86	
For 316 Stainless Steel, Add				176.61	
23 51 16 00-0266	Exit Cones (23 51 16 00-0175)				
23 51 16 00-0267	EA	6" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	322.95	15.17	
23 51 16 00-0268	EA	8" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	340.66	16.59	
23 51 16 00-0269	EA	10" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	366.26	17.46	
23 51 16 00-0270	EA	12" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	382.69	18.34	
23 51 16 00-0271	EA	14" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	421.60	18.88	
23 51 16 00-0272	EA	16" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	460.52	19.32	
23 51 16 00-0273	EA	18" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	558.50	19.98	
23 51 16 00-0274	EA	20" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	698.75	37.44	
23 51 16 00-0275	EA	24" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	877.83	40.28	
23 51 16 00-0276	EA	28" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,046.73	41.91	
23 51 16 00-0277	EA	32" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,286.57	43.66	
23 51 16 00-0278	EA	36" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,461.37	47.69	
23 51 16 00-0279	EA	42" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,843.82	49.88	
23 51 16 00-0280	EA	48" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,356.31	52.39	
23 51 16 00-0281	Vent Top Caps (23 51 16 00-0175)				
23 51 16 00-0282	EA	6" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	353.47	15.17	
23 51 16 00-0283	EA	8" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	408.95	16.59	
23 51 16 00-0284	EA	10" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	474.56	17.46	
23 51 16 00-0285	EA	12" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	545.16	18.34	
23 51 16 00-0286	EA	14" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	635.85	18.88	
23 51 16 00-0287	EA	16" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	721.97	19.42	
23 51 16 00-0288	EA	18" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	803.44	19.98	
23 51 16 00-0289	EA	20" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	964.75	37.44	
23 51 16 00-0290	EA	24" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,148.64	40.28	
23 51 16 00-0291	EA	28" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,246.82	41.91	
23 51 16 00-0292	EA	32" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,416.02	43.66	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0293	EA	36" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,649.63	47.59	
23 51 16 00-0294	EA	42" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,008.57	49.88	
23 51 16 00-0295	EA	48" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,332.68	52.39	
23 51 16 00-0296 Roof Support Assemblies (23 51 16 00-0175)					
23 51 16 00-0297	EA	6" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	533.66	27.95	
		<i>For 316 Stainless Steel, Add</i>	92.78		
23 51 16 00-0298	EA	8" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	589.46	33.29	
		<i>For 316 Stainless Steel, Add</i>	101.26		
23 51 16 00-0299	EA	10" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	647.58	36.78	
		<i>For 316 Stainless Steel, Add</i>	111.15		
23 51 16 00-0300	EA	12" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	691.37	41.04	
		<i>For 316 Stainless Steel, Add</i>	117.74		
23 51 16 00-0301	EA	14" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	770.85	43.66	
		<i>For 316 Stainless Steel, Add</i>	132.34		
23 51 16 00-0302	EA	16" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	818.18	46.60	
		<i>For 316 Stainless Steel, Add</i>	140.35		
23 51 16 00-0303	EA	18" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	878.40	49.99	
		<i>For 316 Stainless Steel, Add</i>	150.71		
23 51 16 00-0304	EA	20" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	975.28	69.85	
		<i>For 316 Stainless Steel, Add</i>	160.13		
23 51 16 00-0305	EA	24" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,096.36	80.65	
		<i>For 316 Stainless Steel, Add</i>	178.97		
23 51 16 00-0306	EA	28" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,266.20	87.31	
		<i>For 316 Stainless Steel, Add</i>	209.58		
23 51 16 00-0307	EA	32" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,509.71	95.28	
		<i>For 316 Stainless Steel, Add</i>	254.32		
23 51 16 00-0308	EA	36" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,751.20	116.46	
		<i>For 316 Stainless Steel, Add</i>	292.00		
23 51 16 00-0309	EA	42" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,611.61	130.97	
		<i>For 316 Stainless Steel, Add</i>	456.84		
23 51 16 00-0310	EA	48" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	3,198.06	148.88	
		<i>For 316 Stainless Steel, Add</i>	565.16		
23 51 16 00-0311 Round Stainless Steel Double Wall Flue/Vent Pipe And Fittings (23 51 16)					
		Note: With 1" insulation.			
23 51 16 00-0312 Round Stainless Steel Double Wall Flue/Vent Pipe (23 51 16 00-0311)					
		Note: With 1" insulation.			
23 51 16 00-0313	LF	6" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	95.09	11.68	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	6.59		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	13.19		
23 51 16 00-0314	LF	7" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	115.97	12.44	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	8.48		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	16.95		
23 51 16 00-0315	LF	8" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	132.53	13.43	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	9.89		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	19.78		
23 51 16 00-0316	LF	10" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	179.94	14.52	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	14.37		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	28.73		
23 51 16 00-0317	LF	12" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	232.83	15.94	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	19.31		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	38.62		
23 51 16 00-0318	LF	14" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	296.00	16.70	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	25.43		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	50.86		
23 51 16 00-0319 90 Degree Elbows (23 51 16 00-0311)					
23 51 16 00-0320	EA	6" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe	205.40	23.25	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	14.72		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	29.44		
23 51 16 00-0321	EA	7" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe	227.16	24.88	
		<i>For 2" Insulated Wall Instead Of 1" Thickness, Add</i>	16.48		
		<i>For 3" Insulated Wall Instead Of 1" Thickness, Add</i>	32.97		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0322 EA 8" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	255.54 18.84 37.68	26.85
23 51 16 00-0323 EA 10" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	317.71 24.49 48.98	29.14
23 51 16 00-0324 EA 12" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	378.43 29.97 59.87	31.76
23 51 16 00-0325 EA 14" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	441.06 35.79 71.59	33.29
23 51 16 00-0326 45 Degree Elbows (23 51 16 00-0311)		
23 51 16 00-0327 EA 6" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	168.60 11.04 22.08	23.25
23 51 16 00-0328 EA 7" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	185.94 12.36 24.73	24.88
23 51 16 00-0329 EA 8" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	208.45 14.13 28.26	26.85
23 51 16 00-0330 EA 10" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	256.48 18.37 36.74	29.14
23 51 16 00-0331 EA 12" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	303.64 22.43 44.86	31.76
23 51 16 00-0332 EA 14" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	351.62 26.85 53.69	33.29
23 51 16 00-0333 Tees With Tee Caps (23 51 16 00-0311)		
23 51 16 00-0334 EA 6" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	336.03 27.79 55.57	23.25
23 51 16 00-0335 EA 7" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	424.97 36.27 72.53	24.88
23 51 16 00-0336 EA 8" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	476.86 40.97 81.95	26.85
23 51 16 00-0337 EA 10" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	649.67 57.69 115.39	29.14
23 51 16 00-0338 EA 12" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	891.74 81.24 162.48	31.76
23 51 16 00-0339 EA 14" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	1,142.77 105.97 211.94	33.29
23 51 16 00-0340 Joist Shields (23 51 16 00-0311)		
23 51 16 00-0341 EA 6" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	142.95	23.25
23 51 16 00-0342 EA 7" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	154.16	24.88
23 51 16 00-0343 EA 8" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	180.15	26.85
23 51 16 00-0344 EA 10" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	224.73	29.14
23 51 16 00-0345 EA 12" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	268.91	31.76
23 51 16 00-0346 EA 14" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	318.60	33.29
23 51 16 00-0347 Adjustable Roof Flashing (23 51 16 00-0311)		
23 51 16 00-0348 EA 6" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	170.03	23.25
23 51 16 00-0349 EA 7" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	189.47	24.88
23 51 16 00-0350 EA 8" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	206.05	26.85
23 51 16 00-0351 EA 10" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	250.61	29.14
23 51 16 00-0352 EA 12" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	309.02	31.76
23 51 16 00-0353 EA 14" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	370.37	33.18
23 51 16 00-0354 Vent Top Caps (23 51 16 00-0311)		
23 51 16 00-0355 EA 6" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	152.37	23.25
23 51 16 00-0356 EA 7" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	190.65	24.88
23 51 16 00-0357 EA 8" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	239.02	26.85
23 51 16 00-0358 EA 10" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	381.33	29.14
23 51 16 00-0359 EA 12" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	519.77	31.76
23 51 16 00-0360 EA 14" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	662.43	33.29

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 51 16 00-0361		Roof Support Assemblies (23 51 16 00-0311)		
23 51 16 00-0362	EA	6" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	226.46	23.25
23 51 16 00-0363	EA	7" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	251.87	24.88
23 51 16 00-0364	EA	8" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	273.15	26.85
23 51 16 00-0365	EA	10" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	343.57	29.14
23 51 16 00-0366	EA	12" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	406.68	31.76
23 51 16 00-0367	EA	14" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	497.59	33.29
23 51 16 00-0368		Polyvinyl Chloride (PVC) Flue/Vent Accessories (23 51 16)		
23 51 16 00-0369		Concentric Polyvinyl Chloride (PVC) Vent Termination (23 51 16 00-0368)		
23 51 16 00-0370	EA	2" Concentric Polyvinyl Chloride (PVC) Vent Termination	236.76	44.44
23 51 16 00-0371	EA	3" Concentric Polyvinyl Chloride (PVC) Vent Termination	257.89	44.44
23 51 16 00-0372		Polypropylene (PP) Flue/Vent Pipe And Fittings (23 51 16)		
Note: Centrotherm InnoFlue® Vent System				
23 51 16 00-0373		Polypropylene Flue/Vent Rigid Pipe Sections (23 51 16 00-0372)		
Note: Gasketed rigid single wall polypropylene vent lengths with dedicated male and female ends.				
23 51 16 00-0374	EA	2" x 12" Polypropylene Flue/Vent Rigid Pipe Section	42.12	13.50
23 51 16 00-0375	EA	2" x 24" Polypropylene Flue/Vent Rigid Pipe Section	48.31	14.21
23 51 16 00-0376	EA	2" x 36" Polypropylene Flue/Vent Rigid Pipe Section	55.56	15.80
23 51 16 00-0377	EA	2" x 72" Polypropylene Flue/Vent Rigid Pipe Section	69.38	18.58
23 51 16 00-0378	EA	3" x 12" Polypropylene Flue/Vent Rigid Pipe Section	50.91	15.47
23 51 16 00-0379	EA	3" x 24" Polypropylene Flue/Vent Rigid Pipe Section	62.35	16.30
23 51 16 00-0380	EA	3" x 36" Polypropylene Flue/Vent Rigid Pipe Section	77.22	18.10
23 51 16 00-0381	EA	3" x 72" Polypropylene Flue/Vent Rigid Pipe Section	95.91	21.30
23 51 16 00-0382	EA	4" x 12" Polypropylene Flue/Vent Rigid Pipe Section	86.08	20.47
23 51 16 00-0383	EA	4" x 24" Polypropylene Flue/Vent Rigid Pipe Section	102.65	21.55
23 51 16 00-0384	EA	4" x 36" Polypropylene Flue/Vent Rigid Pipe Section	128.71	23.95
23 51 16 00-0385	EA	4" x 72" Polypropylene Flue/Vent Rigid Pipe Section	167.85	28.17
23 51 16 00-0386	EA	5" x 12" Polypropylene Flue/Vent Rigid Pipe Section	127.73	30.22
23 51 16 00-0387	EA	5" x 24" Polypropylene Flue/Vent Rigid Pipe Section	147.10	31.80
23 51 16 00-0388	EA	5" x 36" Polypropylene Flue/Vent Rigid Pipe Section	193.53	35.34
23 51 16 00-0389	EA	5" x 72" Polypropylene Flue/Vent Rigid Pipe Section	253.20	41.59
23 51 16 00-0390		Polypropylene Flue/Vent Elbows (23 51 16 00-0372)		
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.				
23 51 16 00-0391	EA	2" Polypropylene Flue/Vent 15 Degree Elbow	52.17	16.40
23 51 16 00-0392	EA	3" Polypropylene Flue/Vent 15 Degree Elbow	61.75	17.27
23 51 16 00-0393	EA	4" Polypropylene Flue/Vent 15 Degree Elbow	78.48	17.90
23 51 16 00-0394	EA	5" Polypropylene Flue/Vent 15 Degree Elbow	91.93	18.63
23 51 16 00-0395	EA	2" Polypropylene Flue/Vent 30 Degree Elbow	52.17	16.40
23 51 16 00-0396	EA	3" Polypropylene Flue/Vent 30 Degree Elbow	61.75	17.27
23 51 16 00-0397	EA	4" Polypropylene Flue/Vent 30 Degree Elbow	78.48	17.90
23 51 16 00-0398	EA	5" Polypropylene Flue/Vent 30 Degree Elbow	91.93	18.63
23 51 16 00-0399	EA	2" Polypropylene Flue/Vent 45 Degree Elbow	52.17	16.40
23 51 16 00-0400	EA	3" Polypropylene Flue/Vent 45 Degree Elbow	61.75	17.27
23 51 16 00-0401	EA	4" Polypropylene Flue/Vent 45 Degree Elbow	78.48	17.90
23 51 16 00-0402	EA	5" Polypropylene Flue/Vent 45 Degree Elbow	91.93	18.63
23 51 16 00-0403	EA	2" Polypropylene Flue/Vent 87 Degree Elbow	52.17	16.40
23 51 16 00-0404	EA	3" Polypropylene Flue/Vent 87 Degree Elbow	61.75	17.27
23 51 16 00-0405	EA	4" Polypropylene Flue/Vent 87 Degree Elbow	77.43	17.90
23 51 16 00-0406	EA	5" Polypropylene Flue/Vent 87 Degree Elbow	94.52	18.63
23 51 16 00-0407		Polypropylene Flue/Vent Tees (23 51 16 00-0372)		
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.				
23 51 16 00-0408	EA	2" Polypropylene Flue/Vent Tee	171.97	24.61
23 51 16 00-0409	EA	3" Polypropylene Flue/Vent Tee	217.91	25.91
23 51 16 00-0410	EA	4" Polypropylene Flue/Vent Tee	257.03	26.85
23 51 16 00-0411	EA	5" Polypropylene Flue/Vent Tee	281.75	27.95
23 51 16 00-0412		Polypropylene Flue/Vent Adaptors (23 51 16 00-0372)		
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.				
23 51 16 00-0413	EA	2" Polypropylene Flue/Vent Adaptor With Gasket	62.40	16.40
23 51 16 00-0414	EA	3" Polypropylene Flue/Vent Adaptor With Gasket	91.54	17.27
23 51 16 00-0415	EA	4" Polypropylene Flue/Vent Adaptor With Gasket	107.32	17.90
23 51 16 00-0416	EA	5" Polypropylene Flue/Vent Adaptor With Gasket	148.31	18.63
23 51 16 00-0417		Polypropylene Flue/Vent Increases (23 51 16 00-0372)		
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.				
23 51 16 00-0418	EA	2" to 3" Polypropylene Flue/Vent Centric Increaser	69.61	16.84
23 51 16 00-0419	EA	3" to 4" Polypropylene Flue/Vent Centric Increaser	76.52	17.58
23 51 16 00-0420	EA	4" to 5" Polypropylene Flue/Vent Centric Increaser	142.16	18.26
23 51 16 00-0421	EA	2" to 3" Polypropylene Flue/Vent Eccentric Increaser	95.86	16.88



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0422	EA		3" to 4" Polypropylene Flue/Vent Eccentric Increaser.....	74.38	17.58
23 51 16 00-0423	EA		4" to 5" Polypropylene Flue/Vent Eccentric Increaser.....	198.22	18.26
23 51 16 00-0424			Polypropylene Flue/Vent Reducers (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0425	EA		3" to 2" Polypropylene Flue/Vent Reducer.....	69.61	16.84
23 51 16 00-0426	EA		4" to 3" Polypropylene Flue/Vent Reducer.....	76.52	17.68
23 51 16 00-0427	EA		5" to 4" Polypropylene Flue/Vent Reducer.....	177.11	18.26
23 51 16 00-0428			Polypropylene Flue/Vent Test Ports (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0429	EA		2" Polypropylene Flue/Vent Test Port.....	87.19	24.61
23 51 16 00-0430	EA		3" Polypropylene Flue/Vent Test Port.....	98.38	25.91
23 51 16 00-0431	EA		4" Polypropylene Flue/Vent Test Port.....	154.91	26.85
23 51 16 00-0432	EA		5" Polypropylene Flue/Vent Test Port.....	165.65	27.95
23 51 16 00-0433			Polypropylene Flue/Vent Cascade Components (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0434	EA		4" x 15" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	261.73	26.85
23 51 16 00-0435	EA		4" x 42" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	343.31	33.56
23 51 16 00-0436	EA		5" x 12" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	213.31	27.95
23 51 16 00-0437	EA		5" x 42" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	318.15	34.93
23 51 16 00-0438	EA		3" to 4" Polypropylene Flue/Vent Non-Return Valve.....	339.71	17.58
23 51 16 00-0439	EA		4" to 4" Polypropylene Flue/Vent Non-Return Valve.....	393.99	18.26
23 51 16 00-0440			Polypropylene Flue/Vent Condensate Management (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0441	EA		2" Polypropylene Flue/Vent Horizontal Drain Tee.....	122.63	24.61
23 51 16 00-0442	EA		3" Polypropylene Flue/Vent Horizontal Drain Tee.....	149.50	25.91
23 51 16 00-0443	EA		4" Polypropylene Flue/Vent Horizontal Drain Tee.....	172.18	26.85
23 51 16 00-0444	EA		5" Polypropylene Flue/Vent Horizontal Drain Tee.....	197.36	27.95
23 51 16 00-0445	EA		4" Polypropylene Flue/Vent Horizontal Drain Fittings.....	220.13	26.85
23 51 16 00-0446	EA		5" Polypropylene Flue/Vent Horizontal Drain Fittings.....	243.25	27.95
23 51 16 00-0447	EA		2" Polypropylene Flue/Vent Tee Cap.....	72.68	8.21
23 51 16 00-0448	EA		3" Polypropylene Flue/Vent Tee Cap.....	93.94	8.63
23 51 16 00-0449	EA		4" Polypropylene Flue/Vent Tee Cap.....	112.08	8.95
23 51 16 00-0450	EA		5" Polypropylene Flue/Vent Tee Cap.....	147.17	9.31
23 51 16 00-0451	EA		2" Polypropylene Flue/Vent Tee Cap With Drain.....	137.97	24.61
23 51 16 00-0452	EA		3" Polypropylene Flue/Vent Tee Cap With Drain.....	170.77	25.91
23 51 16 00-0453	EA		4" Polypropylene Flue/Vent Tee Cap With Drain.....	198.56	26.85
23 51 16 00-0454	EA		5" Polypropylene Flue/Vent Tee Cap With Drain.....	240.73	27.95
23 51 16 00-0455			Polypropylene Flue/Vent Terminations (23 51 16 00-0372)		
23 51 16 00-0456	EA		2" Polypropylene-UV Black Flue/Vent Chimney Cover.....	184.55	16.40
23 51 16 00-0457	EA		3" Polypropylene-UV Black Flue/Vent Chimney Cover.....	161.87	17.27
23 51 16 00-0458	EA		4" Polypropylene-UV Black Flue/Vent Chimney Cover.....	203.81	17.90
23 51 16 00-0459	EA		3" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	422.77	17.27
23 51 16 00-0460	EA		4" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	451.61	17.90
23 51 16 00-0461	EA		5" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	527.94	18.63
23 51 16 00-0462	EA		2 1/4" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	106.73	16.40
23 51 16 00-0463	EA		2 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	113.30	16.40
23 51 16 00-0464	EA		2 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	119.88	16.40
23 51 16 00-0465	EA		2 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	126.45	16.40
23 51 16 00-0466	EA		3 1/4" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	115.47	17.27
23 51 16 00-0467	EA		3 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	122.05	17.27
23 51 16 00-0468	EA		3 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	128.62	17.27
23 51 16 00-0469	EA		3 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	135.19	17.27
23 51 16 00-0470	EA		4 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	130.19	17.90
23 51 16 00-0471	EA		4 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	136.76	17.90
23 51 16 00-0472	EA		4 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	143.33	17.90
23 51 16 00-0473	EA		2" Polypropylene-UV Black Flue/Vent Low Profile Wall Termination.....	113.24	16.40
23 51 16 00-0474	EA		3" Polypropylene-UV Black Flue/Vent Low Profile Wall Termination.....	146.36	17.27
23 51 16 00-0475	EA		2" Polypropylene-UV Black Flue/Vent Termination Tee.....	129.75	24.61
23 51 16 00-0476	EA		3" Polypropylene-UV Black Flue/Vent Termination Tee.....	173.08	25.91
23 51 16 00-0477	EA		4" Polypropylene-UV Black Flue/Vent Termination Tee.....	205.91	26.85
23 51 16 00-0478	EA		5" Polypropylene-UV Black Flue/Vent Termination Tee.....	227.42	27.95
23 51 16 00-0479	EA		2" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	44.31	14.21
23 51 16 00-0480	EA		2" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	53.45	15.80
23 51 16 00-0481	EA		3" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	53.60	16.30
23 51 16 00-0482	EA		3" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	67.75	18.10
23 51 16 00-0483	EA		4" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	81.97	21.55
23 51 16 00-0484	EA		5" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	112.42	31.80
23 51 16 00-0485	EA		5" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	137.35	35.34
23 51 16 00-0486	EA		2" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	49.58	14.21
23 51 16 00-0487	EA		3" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	64.52	16.30
23 51 16 00-0488	EA		4" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	107.52	21.55

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 51 16 00-0489	EA	2" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	54.26	16.40
23 51 16 00-0490	EA	3" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	64.38	17.27
23 51 16 00-0491	EA	4" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	81.84	17.90
23 51 16 00-0492	EA	2" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	53.27	16.40
23 51 16 00-0493	EA	3" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	63.72	17.27
23 51 16 00-0494	EA	4" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	80.69	17.90
23 51 16 00-0495	EA	2" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent.....	35.67	8.21
23 51 16 00-0496	EA	3" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent.....	41.90	8.63
23 51 16 00-0497	EA	4" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent.....	47.21	8.95
23 51 16 00-0498	EA	3" Stainless Steel Bird Screen For Polypropylene Flue/Vent.....	95.75	8.63
23 51 16 00-0499	EA	5" Stainless Steel Bird Screen For Polypropylene Flue/Vent.....	110.25	9.31

23 51 16 00-0500 Polypropylene Flue/Vent Accessories (23 51 16 00-0372)

23 51 16 00-0501	EA	2" Spacer For Polypropylene Flue/Vent.....	18.20	4.10
23 51 16 00-0502	EA	3" Spacer For Polypropylene Flue/Vent.....	17.18	4.32
23 51 16 00-0503	EA	4" Spacer For Polypropylene Flue/Vent.....	17.69	4.47
23 51 16 00-0504	EA	5" Spacer For Polypropylene Flue/Vent.....	28.84	4.66
23 51 16 00-0505	EA	2" Flue Clamp For Polypropylene Flue/Vent.....	34.98	6.16
23 51 16 00-0506	EA	3" Flue Clamp For Polypropylene Flue/Vent.....	41.38	6.47
23 51 16 00-0507	EA	4" Flue Clamp For Polypropylene Flue/Vent.....	48.31	6.71
23 51 16 00-0508	EA	2" Support Clamp For Polypropylene Flue/Vent.....	33.15	6.16
23 51 16 00-0509	EA	4" Support Clamp For Polypropylene Flue/Vent.....	32.84	6.71
23 51 16 00-0510	EA	5" Support Clamp For Polypropylene Flue/Vent.....	40.49	6.98
23 51 16 00-0511	EA	3" Plastic Support Clamp For Polypropylene Flue/Vent.....	24.61	6.47
23 51 16 00-0512	EA	2" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent.....	47.63	16.40
23 51 16 00-0513	EA	3" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent.....	52.84	17.27
23 51 16 00-0514	EA	4" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent.....	57.17	17.90
23 51 16 00-0515	EA	5" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent.....	64.38	18.63
23 51 16 00-0516	EA	2" Single Wall EDPM Gasket For Polypropylene Flue/Vent.....	4.22	
23 51 16 00-0517	EA	3" Single Wall EDPM Gasket For Polypropylene Flue/Vent.....	4.72	
23 51 16 00-0518	EA	4" Single Wall EDPM Gasket For Polypropylene Flue/Vent.....	6.39	
23 51 16 00-0519	EA	5" Single Wall EDPM Gasket For Polypropylene Flue/Vent.....	10.55	
23 51 16 00-0520	EA	2" Connector Ring For Polypropylene Flue/Vent.....	14.78	4.10
23 51 16 00-0521	EA	3" Connector Ring For Polypropylene Flue/Vent.....	16.86	4.32
23 51 16 00-0522	EA	4" Connector Ring For Polypropylene Flue/Vent.....	18.23	4.47
23 51 16 00-0523	EA	5" Connector Ring For Polypropylene Flue/Vent.....	20.27	4.66
23 51 16 00-0524	EA	2"/4" Polypropylene Flue/Vent Air Intake, White.....	79.27	8.21
23 51 16 00-0525	EA	3"/5" Polypropylene Flue/Vent Air Intake, White.....	81.17	8.63
23 51 16 00-0526	EA	4"/6" Polypropylene Flue/Vent Air Intake, White.....	59.28	8.95
23 51 16 00-0527	EA	2" Base Support For Polypropylene Flue/Vent.....	69.31	6.16
23 51 16 00-0528	EA	3" Base Support For Polypropylene Flue/Vent.....	71.43	6.47
23 51 16 00-0529	EA	4" Base Support For Polypropylene Flue/Vent.....	96.70	6.71
23 51 16 00-0530	EA	5" Base Support For Polypropylene Flue/Vent.....	165.66	6.98

23 51 16 00-0531 Polypropylene Flue/Vent Flex Pipe (23 51 16 00-0372)

23 51 16 00-0532	LF	2", Up To 50', Polypropylene Flue/Vent Flex Pipe.....	12.38	1.44
23 51 16 00-0533	LF	2" > 50', Polypropylene Flue/Vent Flex Pipe.....	10.63	1.44
23 51 16 00-0534	LF	3", Up To 50', Polypropylene Flue/Vent Flex Pipe.....	15.24	1.70
23 51 16 00-0535	LF	3" > 50', Polypropylene Flue/Vent Flex Pipe.....	13.04	1.70
23 51 16 00-0536	LF	4", Up To 50', Polypropylene Flue/Vent Flex Pipe.....	22.12	2.10
23 51 16 00-0537	LF	4", > 50', Polypropylene Flue/Vent Flex Pipe.....	18.74	2.10

23 51 16 00-0538 Polypropylene Flue/Vent Couplers (23 51 16 00-0372)

Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.

23 51 16 00-0539	EA	2" Polypropylene Flue/Vent Coupler, Single Wall to Flex.....	84.56	16.40
23 51 16 00-0540	EA	2" Polypropylene Flue/Vent Coupler, Flex to Single Wall.....	95.53	16.40
23 51 16 00-0541	EA	3" Polypropylene Flue/Vent Coupler, Flex to Single Wall.....	201.24	17.27
23 51 16 00-0542	EA	4" Polypropylene Flue/Vent Coupler, Flex to Single Wall.....	373.36	17.90
23 51 16 00-0543	EA	2" Polypropylene Flue/Vent Coupler, Flex to Flex.....	98.77	16.40
23 51 16 00-0544	EA	3" Polypropylene Flue/Vent Coupler, Flex to Flex.....	241.33	17.27
23 51 16 00-0545	EA	4" Polypropylene Flue/Vent Coupler, Flex to Flex.....	636.24	17.90

23 51 16 00-0546 Polypropylene Flue/Vent Flex End Terminations (23 51 16 00-0372)

23 51 16 00-0547	EA	2" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination.....	113.33	16.40
23 51 16 00-0548	EA	3" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination.....	103.83	17.27
23 51 16 00-0549	EA	4" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination.....	129.83	17.90

23 51 16 00-0550 Aluminum Flue/Vent Fittings (23 51 16)**23 51 16 00-0551 Aluminum Vent Top Caps (23 51 16 00-0550)**

23 51 16 00-0552	EA	3" Aluminum Vent Cap (Star-Kap® 3-SK).....	108.41	16.26
23 51 16 00-0553	EA	4" Aluminum Vent Cap (Star-Kap® 4-SK).....	115.43	15.94
23 51 16 00-0554	EA	5" Aluminum Vent Cap (Star-Kap® 5-SK).....	125.43	16.70
23 51 16 00-0555	EA	6" Aluminum Vent Cap (Star-Kap® 6-SK).....	177.75	17.46
23 51 16 00-0556	EA	8" Aluminum Vent Cap (Star-Kap® 8-SK).....	198.86	19.42
23 51 16 00-0557	EA	10" Aluminum Vent Cap (Star-Kap® 10-SK).....	584.29	20.52



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Heating Equipment

23 50

Breechings, Chimneys, and Stacks

23 51

23

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51	16 00-0558	EA	12" Aluminum Vent Cap (Star-Kap® 12-SK)	598.44	21.83
23 52 Heating Boilers (23 50)					
23 52 13 Electric Boilers (23 52)					
23 52 13 00-0001 Packaged Electric Steam Boiler (23 52 13)					
Note: Includes burners, standard controls and safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.) Rated by KW and MBH gross rated output.					
23 52	13 00-0002	EA	12 KW, 42 MBH Electric Steam Boiler With Packaged Standard Controls	8,020.66	615.98
23 52	13 00-0003	EA	24 KW, 84 MBH Electric Steam Boiler With Packaged Standard Controls	8,659.36	718.64
23 52	13 00-0004	EA	36 KW, 126 MBH Electric Steam Boiler With Packaged Standard Controls	9,292.27	769.97
23 52	13 00-0005	EA	48 KW, 168 MBH Electric Steam Boiler With Packaged Standard Controls	10,343.68	821.31
23 52	13 00-0006	EA	60 KW, 210 MBH Electric Steam Boiler With Packaged Standard Controls	11,369.80	872.64
23 52	13 00-0007	EA	80 KW, 280 MBH Electric Steam Boiler With Packaged Standard Controls	13,270.97	975.30
23 52	13 00-0008	EA	100 KW, 350 MBH Electric Steam Boiler With Packaged Standard Controls	15,172.24	1,077.97
23 52	13 00-0009	EA	120 KW, 420 MBH Electric Steam Boiler With Packaged Standard Controls	15,789.61	1,129.30
23 52	13 00-0010	EA	140 KW, 490 MBH Electric Steam Boiler With Packaged Standard Controls	16,629.56	1,180.63
23 52	13 00-0011	EA	160 KW, 560 MBH Electric Steam Boiler With Packaged Standard Controls	21,737.45	1,283.28
23 52	13 00-0012	EA	180 KW, 630 MBH Electric Steam Boiler With Packaged Standard Controls	22,653.85	1,334.62
23 52	13 00-0013	EA	200 KW, 700 MBH Electric Steam Boiler With Packaged Standard Controls	24,007.37	1,526.45
23 52	13 00-0014	EA	220 KW, 770 MBH Electric Steam Boiler With Packaged Standard Controls	25,006.07	1,639.52
23 52	13 00-0015	EA	240 KW, 840 MBH Electric Steam Boiler With Packaged Standard Controls	26,973.17	1,752.59
23 52	13 00-0016	EA	260 KW, 910 MBH Electric Steam Boiler With Packaged Standard Controls	29,048.35	1,922.20
23 52	13 00-0017	EA	280 KW, 980 MBH Electric Steam Boiler With Packaged Standard Controls	30,894.51	1,978.73
23 52	13 00-0018	EA	300 KW, 1,050 MBH Electric Steam Boiler With Packaged Standard Controls	32,387.78	2,035.27
23 52	13 00-0019	EA	320 KW, 1,120 MBH Electric Steam Boiler With Packaged Standard Controls	34,448.08	2,091.80
23 52	13 00-0020	EA	360 KW, 1,260 MBH Electric Steam Boiler With Packaged Standard Controls	36,508.94	2,148.34
23 52	13 00-0021	EA	400 KW, 1,400 MBH Electric Steam Boiler With Packaged Standard Controls	39,063.42	2,261.41
23 52	13 00-0022	EA	460 KW, 1,610 MBH Electric Steam Boiler With Packaged Standard Controls	41,697.05	2,374.48
23 52	13 00-0023	EA	500 KW, 1,750 MBH Electric Steam Boiler With Packaged Standard Controls	44,274.15	2,431.01
23 52	13 00-0024	EA	600 KW, 2,100 MBH Electric Steam Boiler With Packaged Standard Controls	49,032.35	2,487.55
23 52	13 00-0025	EA	700 KW, 2,450 MBH Electric Steam Boiler With Packaged Standard Controls	52,807.54	2,600.63
23 52	13 00-0026	EA	756 KW, 2,646 MBH Electric Steam Boiler With Packaged Standard Controls	54,084.78	2,713.70
23 52	13 00-0027	EA	828 KW, 2,898 MBH Electric Steam Boiler With Packaged Standard Controls	59,430.70	2,883.30
23 52	13 00-0028	EA	936 KW, 3,276 MBH Electric Steam Boiler With Packaged Standard Controls	61,374.93	3,052.91
23 52	13 00-0029	EA	1,008 KW, 3,528 MBH Electric Steam Boiler With Packaged Standard Controls	63,432.24	3,222.51
23 52	13 00-0030	EA	1,116 KW, 3,906 MBH Electric Steam Boiler With Packaged Standard Controls	67,342.74	3,392.12
23 52	13 00-0031	EA	1,224 KW, 4,284 MBH Electric Steam Boiler With Packaged Standard Controls	69,083.28	3,505.19
23 52	13 00-0032	EA	1,368 KW, 4,788 MBH Electric Steam Boiler With Packaged Standard Controls	71,366.31	3,731.33
23 52	13 00-0033	EA	1,440 KW, 5,040 MBH Electric Steam Boiler With Packaged Standard Controls	73,807.72	3,957.47
23 52	13 00-0034	EA	1,512 KW, 5,292 MBH Electric Steam Boiler With Packaged Standard Controls	80,589.06	4,183.61
23 52	13 00-0035	EA	1,620 KW, 5,670 MBH Electric Steam Boiler With Packaged Standard Controls	84,951.84	4,409.76
23 52 13 00-0036 Packaged Electric Hot Water Boiler (23 52 13)					
Note: Flush jacketed steel shell. Includes burners, and safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.). Rated by KW and MBH gross rated output.					
23 52	13 00-0037	EA	9 KW, 31 MBH, Electric Hot Boiler With Packaged Standard Controls	7,042.55	564.64
23 52	13 00-0038	EA	12 KW, 41 MBH, Electric Hot Boiler With Packaged Standard Controls	7,416.89	595.98
23 52	13 00-0039	EA	18 KW, 61 MBH, Electric Hot Boiler With Packaged Standard Controls	7,791.23	667.31
23 52	13 00-0040	EA	24 KW, 82 MBH, Electric Hot Boiler With Packaged Standard Controls	8,155.29	718.64
23 52	13 00-0041	EA	36 KW, 123 MBH, Electric Hot Boiler With Packaged Standard Controls	8,576.14	769.97
23 52	13 00-0042	EA	48 KW, 164 MBH, Electric Hot Boiler With Packaged Standard Controls	8,884.97	821.31
23 52	13 00-0043	EA	60 KW, 205 MBH Electric Hot Boiler With Packaged Standard Controls	9,259.31	872.64
23 52	13 00-0044	EA	72 KW, 246 MBH Electric Hot Boiler With Packaged Standard Controls	9,820.83	923.97
23 52	13 00-0045	EA	84 KW, 287 MBH Electric Hot Boiler With Packaged Standard Controls	10,316.29	975.30
23 52	13 00-0046	EA	90 KW, 307 MBH Electric Hot Boiler With Packaged Standard Controls	10,615.76	1,026.63
23 52	13 00-0047	EA	105 KW, 358 MBH Electric Hot Boiler With Packaged Standard Controls	11,401.29	1,077.97
23 52	13 00-0048	EA	120 KW, 409 MBH Electric Hot Boiler With Packaged Standard Controls	12,143.01	1,129.30
23 52	13 00-0049	EA	135 KW, 461 MBH Electric Hot Boiler With Packaged Standard Controls	13,485.98	1,180.63
23 52	13 00-0050	EA	150 KW, 512 MBH Electric Hot Boiler With Packaged Standard Controls	14,365.73	1,231.96
23 52	13 00-0051	EA	165 KW, 563 MBH Electric Hot Boiler With Packaged Standard Controls	15,102.77	1,283.28
23 52	13 00-0052	EA	180 KW, 614 MBH Electric Hot Boiler With Packaged Standard Controls	16,389.42	1,334.62
23 52	13 00-0053	EA	195 KW, 665 MBH Electric Hot Boiler With Packaged Standard Controls	18,112.14	1,526.45
23 52	13 00-0054	EA	225 KW, 768 MBH Electric Hot Boiler With Packaged Standard Controls	19,460.53	1,639.52
23 52	13 00-0055	EA	240 KW, 819 MBH Electric Hot Boiler With Packaged Standard Controls	20,931.35	1,752.59
23 52	13 00-0056	EA	270 KW, 921 MBH Electric Hot Boiler With Packaged Standard Controls	22,392.80	1,922.20
23 52	13 00-0057	EA	300 KW, 1,024 MBH Electric Hot Boiler With Packaged Standard Controls	23,863.62	2,035.27
23 52	13 00-0058	EA	330 KW, 1,126 MBH Electric Hot Boiler With Packaged Standard Controls	25,242.02	2,148.34
23 52	13 00-0059	EA	360 KW, 1,228 MBH Electric Hot Boiler With Packaged Standard Controls	27,185.76	2,204.87
23 52	13 00-0060	EA	390 KW, 1,331 MBH Electric Hot Boiler With Packaged Standard Controls	28,966.18	2,261.41
23 52	13 00-0061	EA	420 KW, 1,433 MBH Electric Hot Boiler With Packaged Standard Controls	30,671.73	2,374.48
23 52	13 00-0062	EA	450 KW, 1,535 MBH Electric Hot Boiler With Packaged Standard Controls	32,459.81	2,374.48
23 52	13 00-0063	EA	504 KW, 1,720 MBH Electric Hot Boiler With Packaged Standard Controls	35,550.10	2,431.01
23 52	13 00-0064	EA	612 KW, 2,088 MBH Electric Hot Boiler With Packaged Standard Controls	37,191.99	2,487.55
23 52	13 00-0065	EA	684 KW, 2,334 MBH Electric Hot Boiler With Packaged Standard Controls	39,273.60	2,600.63
23 52	13 00-0066	EA	720 KW, 2,457 MBH Electric Hot Boiler With Packaged Standard Controls	40,837.23	2,657.16
23 52	13 00-0067	EA	750 KW, 2,559 MBH Electric Hot Boiler With Packaged Standard Controls	42,406.64	2,713.70

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
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23 52 13 00-0068	EA	810 KW, 2,764 MBH Electric Hot Boiler With Packaged Standard Controls.....	43,586.73	2,883.30
23 52 13 00-0069	EA	900 KW, 3,071 MBH Electric Hot Boiler With Packaged Standard Controls.....	45,715.66	3,052.91
23 52 13 00-0070	EA	1,020 KW, 3,480 MBH Electric Hot Boiler With Packaged Standard Controls.....	53,164.69	3,222.51
23 52 13 00-0071	EA	1,110 KW, 3,787 MBH Electric Hot Boiler With Packaged Standard Controls.....	58,318.46	3,392.12
23 52 13 00-0072	EA	1,200 KW, 4,094 MBH Electric Hot Boiler With Packaged Standard Controls.....	60,567.90	3,505.19
23 52 13 00-0073	EA	1,350 KW, 4,606 MBH Electric Hot Boiler With Packaged Standard Controls.....	63,077.13	3,731.33
23 52 13 00-0074	EA	1,440 KW, 4,913 MBH Electric Hot Boiler With Packaged Standard Controls.....	65,586.36	3,957.47
23 52 13 00-0075	EA	1,560 KW, 5,323 MBH Electric Hot Boiler With Packaged Standard Controls.....	72,663.69	4,183.61
23 52 13 00-0076	EA	1,680 KW, 5,732 MBH Electric Hot Boiler With Packaged Standard Controls.....	77,233.71	4,409.76
23 52 13 00-0077	EA	1,740 KW, 5,937 MBH Electric Hot Boiler With Packaged Standard Controls.....	79,181.43	4,522.83
23 52 13 00-0078	EA	1,800 KW, 6,142 MBH Electric Hot Boiler With Packaged Standard Controls.....	81,129.15	4,635.90
23 52 13 00-0079	EA	1,980 KW, 6,756 MBH Electric Hot Boiler With Packaged Standard Controls.....	81,581.44	4,805.50
23 52 13 00-0080	EA	2,100 KW, 7,165 MBH Electric Hot Boiler With Packaged Standard Controls.....	87,574.72	4,918.57
23 52 13 00-0081	EA	2,220 KW, 7,575 MBH Electric Hot Boiler With Packaged Standard Controls.....	91,583.23	5,088.17
23 52 13 00-0082	EA	2,600 KW, 8,871 MBH Electric Hot Boiler With Packaged Standard Controls.....	98,329.04	5,427.38
23 52 13 00-0083	EA	2,960 KW, 10,100 MBH Electric Hot Boiler With Packaged Standard Controls.....	105,998.88	5,992.74
23 52 13 00-0084	EA	3,240 KW, 11,055 MBH Electric Hot Boiler With Packaged Standard Controls.....	114,834.58	6,671.16
23 52 13 00-0085	EA	3,360 KW, 11,464 MBH Electric Hot Boiler With Packaged Standard Controls.....	121,580.39	7,349.58

23 52 16 Condensing Boilers (23 52)**23 52 16 13 Stainless-Steel Condensing Boilers (23 52 16)****23 52 16 13-0001 Hamilton Evo Series Stainless Steel Condensing Boilers (23 52 16 13)**

Note: Includes circulating pump, mounting rack, disconnect panel, plumbing and gas manifold, manual reset high limit and LWCO (Cal Code). Rated by gross rated output.

23 52 16 13-0002	EA	75 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW79).....	12,372.11	410.66
23 52 16 13-0003	EA	127 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW129).....	13,059.16	546.99
23 52 16 13-0004	EA	168 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW179).....	13,920.54	615.87
23 52 16 13-0005	EA	187 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW199.1).....	14,757.09	650.16
23 52 16 13-0006	EA	281 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW299).....	19,498.58	752.83
23 52 16 13-0007	EA	374 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW399).....	22,579.10	821.20
23 52 16 13-0008	EA	589 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW599).....	30,531.94	958.06
23 52 16 13-0009	EA	785 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW793).....	42,489.40	1,095.01
23 52 16 13-0010	EA	980 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW998).....	51,988.45	1,197.66
23 52 16 13-0011	EA	1,425 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW1499).....	75,123.01	1,402.89
23 52 16 13-0012	EA	1,900 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW1999).....	82,793.69	1,505.55

23 52 16 13-0013 Buderus SB615 Stainless Steel Condensing Boilers (23 52 16 13)

Note: Includes Riello burners. Rated by gross rated output.

23 52 16 13-0014	EA	484 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/145).....	40,170.84	889.68
23 52 16 13-0015	EA	612 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/185).....	42,020.27	958.06
23 52 16 13-0016	EA	791 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/240).....	47,087.59	1,095.01
23 52 16 13-0017	EA	1,022 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/310).....	50,786.45	1,231.85
23 52 16 13-0018	EA	1,317 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/400).....	56,209.40	1,334.52
23 52 16 13-0019	EA	1,459 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/510).....	64,388.57	1,402.89
23 52 16 13-0020	EA	2,104 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/640).....	77,678.78	1,505.55

23 52 16 13-0021 Buderus SB735 Stainless Steel Condensing Boilers (23 52 16 13)

Note: Includes Riello burners. Rated by gross rated output.

23 52 16 13-0022	EA	2,650 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/790).....	77,362.50	1,642.41
23 52 16 13-0023	EA	3,251 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/970).....	89,640.27	1,710.88
23 52 16 13-0024	EA	4,079 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/1200).....	103,928.14	1,779.36

23 52 16 13-0025 Laars Neotherm Stainless Steel Condensing Boiler (23 52 16 13)

Note: Compliant with SCAQMD. Rated by gross rated input.

23 52 16 13-0026	EA	80 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH080).....	7,910.37	444.84
23 52 16 13-0027	EA	105 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH105).....	9,029.43	513.31
23 52 16 13-0028	EA	150 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH150).....	10,113.60	615.87
23 52 16 13-0029	EA	210 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH210).....	11,263.53	684.35
23 52 16 13-0030	EA	285 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH285).....	14,179.29	752.83
23 52 16 13-0031	EA	399 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH399).....	18,538.22	821.20
23 52 16 13-0032	EA	500 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH500).....	22,279.89	889.68
23 52 16 13-0033	EA	600 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH600).....	24,735.62	958.06
23 52 16 13-0034	EA	750 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH750).....	26,869.85	1,026.53
23 52 16 13-0035	EA	850 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH850).....	29,209.43	1,163.37
23 52 16 13-0036	EA	1,000 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH1000).....	41,602.25	1,231.85
23 52 16 13-0037	EA	1,700 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH1700).....	55,323.41	1,437.18
23 52 16 13-0038	EA	150 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV150).....	18,397.11	615.87
23 52 16 13-0039	EA	199 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV199).....	21,383.84	821.31
23 52 16 13-0040	EA	285 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV285).....	28,024.94	923.97
23 52 16 13-0041	EA	399 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV399).....	35,199.65	1,129.30
23 52 16 13-0042	EA	500 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV500).....	41,611.27	1,231.96
23 52 16 13-0043	EA	600 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV600).....	47,068.06	1,334.62
23 52 16 13-0044	EA	750 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV750).....	56,538.62	1,437.28
23 52 16 13-0045	EA	850 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV850).....	62,671.74	1,539.95



Heating, Ventilating, and Air-Conditioning (HVAC)			23
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Heating Boilers			23 52

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 16 13-0046	EA		1,000 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV1000).....	82,509.53	1,642.61
23 52 16 13-0047	EA		1,700 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV1700).....	110,925.99	2,155.92
23 52 16 13-0048			AERCO Benchmark Stainless-Steel Condensing Boilers (23 52 16 13) Note: Rated by gross rated output.		
23 52 16 13-0049	EA		1,500 MBH Water, 120 Volt, 1 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK1.5LN) Note: Includes gas PRV and pump delay relay.	65,379.78	1,402.89
23 52 16 13-0050	EA		2,000 MBH Water, 120 Volt, 1 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK2.0LN) Note: Includes gas PRV and pump delay relay.	77,818.84	1,505.55
23 52 16 13-0051	EA		3,000 MBH Water, 220 Volt, 1 Phase, 230 Volt, 3 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK3000)..... Note: Includes gas PRV and pump delay relay.	112,607.83	1,676.70
23 52 16 13-0052	EA		3,000 MBH Water, 480 Volt, 3 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK3000)..... Note: Includes gas PRV and pump delay relay.	120,142.19	1,676.70
23 52 16 13-0053			Lochinvar Knight Stainless Steel Condensing Boilers (23 52 16 13) Note: Rated by gross rated output.		
23 52 16 13-0054	EA		184 MBH 95% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight KBN211)	10,965.78	615.87
23 52 16 13-0055	EA		264 MBH 95% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight KHB285N)	14,192.03	684.35
23 52 16 13-0056			Lochinvar Knight XL Stainless Steel Condensing Boilers (23 52 16 13) Note: Rated by gross rated output.		
23 52 16 13-0057	EA		387 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0400N).....	16,117.15	787.02
23 52 16 13-0058	EA		485 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0500N).....	20,097.57	821.20
23 52 16 13-0059	EA		631 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0650N).....	24,667.97	889.68
23 52 16 13-0060	EA		776 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0800N).....	29,585.11	923.87
23 52 16 13-0061	EA		969 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX1000N).....	36,181.58	992.34
23 52 16 13-0062			Lochinvar Crest Stainless Steel Condensing Boilers (23 52 16 13) Note: Rated by gross rated output.		
23 52 16 13-0063	EA		1,203 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1251)	45,861.64	1,163.17
23 52 16 13-0064	EA		1,443 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1501)	47,330.28	1,334.52
23 52 16 13-0065	EA		1,684 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1751)	51,888.59	1,419.83
23 52 16 13-0066	EA		1,923 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN2001)	56,446.90	1,505.55
23 52 16 13-0067	EA		2,400 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN2501)	66,236.89	1,574.03
23 52 16 13-0068	EA		2,883 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN3001)	73,390.32	1,642.41
23 52 16 13-0069	EA		3,364 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN3501)	90,190.77	1,710.88
23 52 16 13-0070	EA		3,843 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN4001)	99,659.02	1,779.26
23 52 16 13-0071	EA		4,804 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN5001)	122,291.64	1,847.63
23 52 16 13-0072			Patterson Kelley Stainless Steel Condensing Boilers (23 52 16 13)		
23 52 16 13-0073			Patterson Kelley Stainless Steel Condensing Boilers, SOLIS® Series (23 52 16 13-0072)		
23 52 16 13-0074	EA		1,500 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Patterson-Kelley SOLIS® SL-1500)	46,956.55	1,402.89
23 52 16 13-0075	EA		3,000 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Patterson-Kelley SOLIS® SL-3000)	72,330.72	1,676.70
23 52 16 13-0076			Patterson Kelley Stainless Steel Condensing Boilers, SONIC® Series (23 52 16 13-0072)		
23 52 16 13-0077	EA		650 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-650 SCD-650).....	24,399.82	992.34
23 52 16 13-0078	EA		1,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-1000 SCD-1000)	29,324.74	1,231.85
23 52 16 13-0079	EA		2,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-2000)	49,905.69	1,505.55
23 52 16 13-0080	EA		4,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-4000)	85,942.22	1,779.36
23 52 16 13-0081			Patterson Kelley Stainless Steel Condensing Boilers, STORM® Series (23 52 16 13-0072)		
23 52 16 13-0082	EA		1,250 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST1250).....	35,790.54	1,300.23
23 52 16 13-0083	EA		2,000 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST2000).....	59,100.77	1,505.55
23 52 16 13-0084	EA		4,000 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST4000).....	87,898.62	1,779.36
23 52 16 16			Aluminum Condensing Boilers (23 52 16)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 52 16 16-0001		Weil McLain Aluminum Condensing Boilers (23 52 16 16)	
		Note: Rated by gross rated output.	
23 52 16 16-0002	EA	80 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80).....	8,949.04 444.84
		Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	
23 52 16 16-0003	EA	105 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80).....	9,847.64 513.31
		Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	
23 52 16 16-0004	EA	155 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80).....	11,079.99 615.87
		Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	
23 52 16 16-0005	EA	230 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80).....	12,440.77 684.35
		Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	
23 52 16 16-0006	EA	310 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80).....	16,215.10 787.02
		Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	
23 52 16 16-0007		Patterson Kelley Mach Series Aluminum Condensing Boilers (23 52 16 16)	
		Note: Rated by gross rated output.	
23 52 16 16-0008	EA	300 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach CM300).....	15,874.81 752.83
23 52 16 16-0009	EA	450 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C450).....	17,848.15 855.49
23 52 16 16-0010	EA	750 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C750).....	20,255.94 1,026.53
23 52 16 16-0011	EA	900 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C900).....	29,860.44 1,163.37
23 52 16 16-0012	EA	1,050 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C1050).....	31,199.96 1,231.85
23 52 16 16-0013	EA	1,500 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C1500).....	48,193.56 1,402.89
23 52 16 16-0014	EA	2,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C2000).....	52,181.71 1,505.55
23 52 16 16-0015	EA	2,500 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C2500).....	78,599.62 1,642.41
23 52 16 16-0016	EA	3,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C3000).....	91,306.01 1,676.70
23 52 16 16-0017	EA	4,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C4000).....	103,928.84 1,779.36
23 52 16 16-0018		Buderus GB142 Wall Hung Aluminum Condensing Boilers (23 52 16 16)	
		Note: Includes standard controls. Rated by gross rated output.	
23 52 16 16-0019	EA	75 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/24).....	6,729.82 410.66
		Note: Includes an aluminum heat exchanger and three speed circulating pump.	
23 52 16 16-0020	EA	95 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/30).....	7,814.92 479.02
		Note: Includes an aluminum heat exchanger and three speed circulating pump.	
23 52 16 16-0021	EA	143 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/45).....	8,999.76 581.69
		Note: Includes an aluminum heat exchanger and three speed circulating pump.	
23 52 16 16-0022	EA	193 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/60).....	9,846.65 650.16
		Note: Includes an aluminum heat exchanger and three speed circulating pump.	
23 52 16 16-0023	EA	Optional Vertical Or Horizontal 3" Concentric Termination Kit For GB142 (Buderus 60L46).....	326.63 102.66
23 52 16 16-0024	EA	Optional Stainless Steel Concentric Hood For GB142 (Buderus SJT3).....	427.47 102.66
23 52 16 16-0025	EA	Optional GB Floor Stand For GB142 (Buderus 7098265).....	912.66 102.66
23 52 16 16-0026		Buderus GB162 Wall Hung Aluminum Condensing Boilers (23 52 16 16)	
		Note: Includes standard controls. Rated by gross rated output.	
23 52 16 16-0027	EA	290 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB162/80).....	11,124.25 752.83
		Note: Includes an aluminum heat exchanger, connection pump module, low loss header, outdoor reset module, outdoor temperature sensor, and 1-1/2" unions.	
23 52 16 16-0028	EA	333 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB162/100).....	13,774.52 787.02
		Note: Includes an aluminum heat exchanger, connection pump module, low loss header, outdoor reset module, outdoor temperature sensor, and 1-1/2" unions.	
23 52 16 16-0029	EA	580 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Two Boilers) (Buderus GB162/80-TL2).....	26,812.31 923.87
		Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	
23 52 16 16-0030	EA	580 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Two Boilers) (Buderus GB162/80-TR2).....	25,034.98 923.87
		Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	
23 52 16 16-0031	EA	666 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Two Boilers) (Buderus GB162/100-TL3).....	32,112.83 992.34
		Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	
23 52 16 16-0032	EA	666 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Two Boilers) (Buderus GB162/100-TR2).....	30,335.51 992.34
		Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	
23 52 16 16-0033	EA	870 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Three Boilers) (Buderus GB162/80-TL3).....	37,331.73 1,163.37
		Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	
23 52 16 16-0034	EA	999 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Three Boilers) (Buderus GB162/100-TL3).....	45,179.87 1,231.85
		Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	



Heating, Ventilating, and Air-Conditioning (HVAC)

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Central Heating Equipment

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Heating Boilers

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 16 16-0035 EA 1,160 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Four Boilers) (Buderus GB162/80-TL4) Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	46,426.71	1,300.23
23 52 16 16-0036 EA 1,160 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Four Boilers) (Buderus GB162/80-TR4) Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	47,138.54	1,300.23
23 52 16 16-0037 EA 1,332 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Four Boilers) (Buderus GB162/100-TL4) Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	56,719.79	1,334.52
23 52 16 16-0038 EA 1,332 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Four Boilers) (Buderus GB162/100-TR4) Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	57,431.62	1,334.52
23 52 16 16-0039 EA EMS Control Module For Condensing Boiler (Buderus RC35)	753.05	102.66
23 52 16 16-0040 Buderus GB312 Aluminum Condensing Boilers (23 52 16 16) Note: Includes standard controls. Rated by gross rated output.		
23 52 16 16-0041 EA 305 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/90) Note: Includes an aluminum heat exchanger.	16,043.43	752.83
23 52 16 16-0042 EA 409 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/120) Note: Includes an aluminum heat exchanger.	18,726.78	821.20
23 52 16 16-0043 EA 544 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/160) Note: Includes an aluminum heat exchanger.	23,501.97	906.72
23 52 16 16-0044 EA 676 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/200) Note: Includes an aluminum heat exchanger.	27,032.20	992.34
23 52 16 16-0045 EA 810 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/240) Note: Includes an aluminum heat exchanger.	32,367.48	1,095.01
23 52 16 16-0046 EA 944 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/280) Note: Includes an aluminum heat exchanger.	35,744.45	1,197.66
23 52 16 16-0047 EA Optional CSD-1 Kit Consisting Of High And Low Gas Pressure Switches For GB312 (Buderus 7747019985)	486.28	51.33
23 52 16 16-0048 EA Optional L4006E1125 Manual Reset Aquastat For GB312 (Buderus L4006E1125)	263.42	51.33
23 52 16 16-0049 EA Optional Hydrolever 550 low Water Cut-Off For GB312 (Buderus 550)	375.95	51.33
23 52 16 16-0050 EA Optional Condensate Neutralization Tank For GB312 (Buderus 63035899)	793.91	51.33
23 52 16 19 Copper Water-Tube Condensing Boilers (23 52 16)		
23 52 16 19-0001 Laars Rheos+ Copper Fin Tube Condensing Boilers (23 52 16 19) Note: Rated by gross rated output.		
23 52 16 19-0002 EA 1,200 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+)	45,181.55	1,300.23
23 52 16 19-0003 EA 1,600 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+)	50,950.21	1,437.18
23 52 16 19-0004 EA 2,000 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+)	55,770.13	1,505.55
23 52 16 19-0005 EA 2,400 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+)	60,196.10	1,574.03
23 52 16 23 Cast Iron Condensing Boilers (23 52 16)		
23 52 16 23-0001 Hydrotherm KN Cast Iron Condensing Boilers (23 52 16 23) Note: Rated by gross rated output.		
23 52 16 23-0002 EA 199 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-2)	15,857.92	650.16
23 52 16 23-0003 EA 399 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-4)	23,243.09	821.20
23 52 16 23-0004 EA 600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-6)	38,304.47	958.06
23 52 16 23-0005 EA 1,000 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-10)	50,285.00	1,231.85
23 52 16 23-0006 EA 1,600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-16)	87,728.01	1,437.18
23 52 16 23-0007 EA 1,999 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-20)	73,188.04	1,505.55
23 52 16 23-0008 EA 2,600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-26)	122,250.88	1,642.41
23 52 16 23-0009 EA 3,000 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-30)	133,778.28	1,676.70
23 52 23 Cast-Iron Boilers (23 52)		
23 52 23 00-0001 Weil-McLain Model 80 Cast Iron Boiler (23 52 23) Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes flue piping, fuel piping, boiler base or pad.		
23 52 23 00-0002 Gas Fired Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001) Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0003 EA 209 MBH Steam, 242 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 380) Note: Includes field assembly of individual sections and testing.	16,193.02	3,113.83
23 52 23 00-0004 EA 297 MBH Steam, 344 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 480) Note: Includes field assembly of individual sections and testing.	17,721.78	3,321.42
23 52 23 00-0005 EA 386 MBH Steam, 448 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 580) Note: Includes field assembly of individual sections and testing.	19,396.26	3,529.01
23 52 23 00-0006 EA 476 MBH Steam, 551 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 680) Note: Includes field assembly of individual sections and testing.	20,952.52	3,736.59
23 52 23 00-0007 EA 565 MBH Steam, 655 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 780) Note: Includes field assembly of individual sections and testing.	22,388.77	3,944.18

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0008 EA 654 MBH Steam, 758 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 880).....	24,359.71	4,151.77
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0009 EA 743 MBH Steam, 862 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 980).....	25,880.02	4,359.36
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0010 EA 833 MBH Steam, 965 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1080).....	27,084.24	4,566.94
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0011 EA 922 MBH Steam, 1,069 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1180).....	28,284.01	4,774.54
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0012 EA 1,018 MBH Steam, 1,172 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1280).....	29,671.42	4,982.13
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0013 Gas Fired Package Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
23 52 23 00-0014 EA 209 MBH Steam, 242 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 380).....	11,803.66	452.28
Note: Fire tested factory assembled package unit.		
23 52 23 00-0015 EA 297 MBH Steam, 344 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 480).....	13,118.59	452.28
Note: Fire tested factory assembled package unit.		
23 52 23 00-0016 EA 386 MBH Steam, 448 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 580).....	15,034.01	565.35
Note: Fire tested factory assembled package unit.		
23 52 23 00-0017 EA 476 MBH Steam, 551 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 680).....	16,374.77	565.35
Note: Fire tested factory assembled package unit.		
23 52 23 00-0018 EA 565 MBH Steam, 655 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 780).....	18,052.24	678.42
Note: Fire tested factory assembled package unit.		
23 52 23 00-0019 EA 654 MBH Steam, 758 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 880).....	19,825.42	678.42
Note: Fire tested factory assembled package unit.		
23 52 23 00-0020 EA 743 MBH Steam, 862 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 980).....	21,584.47	791.49
Note: Fire tested factory assembled package unit.		
23 52 23 00-0021 EA 833 MBH Steam, 965 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1080).....	23,028.05	904.57
Note: Fire tested factory assembled package unit.		
23 52 23 00-0022 EA 922 MBH Steam, 1,069 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1180).....	24,016.62	904.57
Note: Fire tested factory assembled package unit.		
23 52 23 00-0023 EA 1018 MBH Steam, 1172 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1280).....	25,641.05	1,017.64
Note: Fire tested factory assembled package unit.		
23 52 23 00-0024 Gas/Oil Fired Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0025 EA 209 MBH Steam, 242 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 380).....	16,961.31	3,113.83
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0026 EA 297 MBH Steam, 344 MBH Water Gas/Oil Fired Cast Iron Boiler.....	18,627.41	3,321.42
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0027 EA 386 MBH Steam, 448 MBH Water Gas/Oil Fired Cast Iron Boiler.....	20,218.94	3,529.01
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0028 EA 476 MBH Steam, 551 MBH Water Gas/Oil Fired Cast Iron Boiler.....	21,998.20	3,736.59
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0029 EA 565 MBH Steam, 655 MBH Water Gas/Oil Fired Cast Iron Boiler.....	23,463.01	3,944.18
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0030 EA 654 MBH Steam, 758 MBH Water Gas/Oil Fired Cast Iron Boiler.....	25,608.00	4,151.77
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0031 EA 743 MBH Steam, 862 MBH Water Gas/Oil Fired Cast Iron Boiler.....	26,951.55	4,359.36
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0032 EA 833 MBH Steam, 965 MBH Water Gas/Oil Fired Cast Iron Boiler.....	28,257.75	4,566.94
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0033 EA 922 MBH Steam, 1069 MBH Water Gas/Oil Fired Cast Iron Boiler.....	29,458.88	4,774.54
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0034 EA 1,018 MBH Steam, 1172 MBH Water Gas/Oil Fired Cast Iron Boiler.....	30,883.00	4,982.13
Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.		
23 52 23 00-0035 Gas/Oil Fired Package Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
23 52 23 00-0036 EA 209 MBH Steam, 242 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 380).....	12,571.95	452.28
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0037 EA 297 MBH Steam, 344 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 480).....	14,024.21	452.28
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0038 EA 386 MBH Steam, 448 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 580).....	15,856.69	565.35
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0039 EA 476 MBH Steam, 551 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 680).....	17,420.46	565.35
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0040 EA 565 MBH Steam, 655 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 780).....	19,126.49	678.42
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0041 EA 654 MBH Steam, 758 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 880).....	21,073.72	678.42
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0042 EA 743 MBH Steam, 862 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 980).....	22,655.99	791.49
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0043 EA 833 MBH Steam, 965 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1080).....	24,201.55	904.57
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0044 EA 922 MBH Steam, 1,069 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1180).....	25,191.49	904.57
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0045 EA 1,018 MBH Steam, 1,172 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1280).....	26,852.63	1,017.64
Note: Fire tested factory assembled package cast iron unit.		



Heating, Ventilating, and Air-Conditioning (HVAC)

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Central Heating Equipment

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Heating Boilers

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MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
23 52 23 00-0046	Weil-McLain Model 88 Cast Iron Boiler (23 52 23)				
Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes flue piping, fuel piping, boiler base or pad.					
23 52 23 00-0047	Gas Fired Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.					
23 52 23 00-0048	EA 629 MBH Steam, 730 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 488).....	26,440.27		4,670.74	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0049	EA 845 MBH Steam, 979 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 588).....	29,226.28		4,956.18	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0050	EA 1072 MBH Steam, 1229 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 688).....	32,678.65		5,241.61	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0051	EA 1,311 MBH Steam, 1,478 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 788).....	35,718.57		5,527.04	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0052	EA 1,543 MBH Steam, 1,728 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 888).....	38,359.51		5,812.48	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0053	EA 1,766 MBH Steam, 1,977 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 988).....	42,194.18		6,097.91	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0054	EA 1,988 MBH Steam, 2,227 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1088).....	44,860.15		6,383.35	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0055	EA 2,211 MBH Steam, 2,477 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1188).....	47,216.75		6,668.78	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0056	EA 2,434 MBH Steam, 2,726 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1288).....	50,368.45		6,954.21	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0057	EA 2,657 MBH Steam, 2,976 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1388).....	52,900.20		7,239.65	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0058	EA 2,880 MBH Steam, 3,225 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1488).....	57,009.91		7,525.08	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0059	EA 3,102 MBH Steam, 3,475 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1588).....	59,418.05		7,810.52	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0060	EA 3,325 MBH Steam, 3,724 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1688).....	61,973.30		8,095.95	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0061	EA 3,548 MBH Steam, 3,974 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1788).....	64,822.32		8,381.38	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0062	EA 3,771 MBH Steam, 4,223 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1888).....	67,137.32		8,666.82	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0063	Gas Fired Package Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)				
23 52 23 00-0064	EA 629 MBH Steam, 730 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 488).....	21,603.51		791.49	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0065	EA 845 MBH Steam, 979 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 588).....	24,503.43		904.57	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0066	EA 1,072 MBH Steam, 1,229 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 688).....	28,085.97		1,017.64	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0067	EA 1,311 MBH Steam, 1,478 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 788).....	31,226.58		1,130.71	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0068	EA 1,543 MBH Steam, 1,728 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 888).....	33,527.36		1,130.71	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0069	EA 1,766 MBH Steam, 1,977 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 988).....	37,479.75		1,243.78	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0070	EA 1,988 MBH Steam, 2,227 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1088).....	39,809.09		1,243.78	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0071	EA 2,211 MBH Steam, 2,477 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1188).....	42,279.32		1,356.85	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0072	EA 2,434 MBH Steam, 2,726 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1288).....	45,095.47		1,356.85	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0073	EA 2,657 MBH Steam, 2,976 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1388).....	47,741.14		1,469.92	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0074	EA 2,880 MBH Steam, 3,225 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1488).....	50,303.81		1,582.99	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0075	EA 3,102 MBH Steam, 3,475 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1588).....	52,376.15		1,582.99	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0076	EA 3,325 MBH Steam, 3,724 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1688).....	55,046.25		1,696.06	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0077	EA 3,548 MBH Steam, 3,974 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1788).....	57,557.80		1,696.06	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0078	EA 3,771 MBH Steam, 4,223 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1888).....	60,015.75		1,809.13	
Note: Fire tested factory assembled package unit.					
23 52 23 00-0079	Gas/Oil Fired Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.					
23 52 23 00-0080	EA 629 MBH Steam, 730 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 488).....	27,386.69		4,670.74	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0081	EA 845 MBH Steam, 979 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 588).....	30,167.26		4,956.18	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0082	EA 1,072 MBH Steam, 1,229 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 688).....	33,864.40		5,241.61	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0083	EA 1,311 MBH Steam, 1,478 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 788).....	37,023.98		5,527.04	
Note: Includes field assembly of individual sections and testing.					
23 52 23 00-0084	EA 1,543 MBH Steam, 1,728 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 888).....	39,531.65		5,812.48	
Note: Includes field assembly of individual sections and testing.					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0085	EA	1,766 MBH Steam, 1,977 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 988)..... Note: Includes field assembly of individual sections and testing.	43,292.89	6,097.91
23 52 23 00-0086	EA	1,988 MBH Steam, 2,227 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1088)..... Note: Includes field assembly of individual sections and testing.	46,509.59	6,383.35
23 52 23 00-0087	EA	2,211 MBH Steam, 2,477 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1188)..... Note: Includes field assembly of individual sections and testing.	48,866.18	6,668.78
23 52 23 00-0088	EA	2,434 MBH Steam, 2,726 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1288)..... Note: Includes field assembly of individual sections and testing.	51,985.25	6,954.21
23 52 23 00-0089	EA	2,657 MBH Steam, 2,976 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1388)..... Note: Includes field assembly of individual sections and testing.	55,211.86	7,239.85
23 52 23 00-0090	EA	2,880 MBH Steam, 3,225 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1488)..... Note: Includes field assembly of individual sections and testing.	59,438.51	7,525.08
23 52 23 00-0091	EA	3,102 MBH Steam, 3,475 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1588)..... Note: Includes field assembly of individual sections and testing.	62,663.89	7,810.52
23 52 23 00-0092	EA	3,325 MBH Steam, 3,724 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1688)..... Note: Includes field assembly of individual sections and testing.	64,400.54	8,095.95
23 52 23 00-0093	EA	3,548 MBH Steam, 3,974 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1788)..... Note: Includes field assembly of individual sections and testing.	67,176.14	8,381.38
23 52 23 00-0094	EA	3,771 MBH Steam, 4,223 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1888)..... Note: Includes field assembly of individual sections and testing.	69,516.97	8,666.82
23 52 23 00-0095 Gas/Oil Fired Package Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)				
23 52 23 00-0096	EA	629 MBH Steam, 730 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 488)..... Note: Fire tested factory assembled package cast iron unit.	22,549.93	791.49
23 52 23 00-0097	EA	845 MBH Steam, 979 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 588)..... Note: Fire tested factory assembled package cast iron unit.	25,444.41	904.57
23 52 23 00-0098	EA	1,072 MBH Steam, 1,229 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 688)..... Note: Fire tested factory assembled package cast iron unit.	29,258.12	1,017.64
23 52 23 00-0099	EA	1,311 MBH Steam, 1,478 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 788)..... Note: Fire tested factory assembled package cast iron unit.	32,531.99	1,130.71
23 52 23 00-0100	EA	1,543 MBH Steam, 1,728 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 888)..... Note: Fire tested factory assembled package cast iron unit.	34,702.23	1,130.71
23 52 23 00-0101	EA	1,766 MBH Steam, 1,977 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 988)..... Note: Weil-McLain Model 88. Fire tested factory assembled package cast iron unit.	38,578.47	1,243.78
23 52 23 00-0102	EA	1,988 MBH Steam, 2,227 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1088)..... Note: Fire tested factory assembled package cast iron unit.	41,458.52	1,243.78
23 52 23 00-0103	EA	2,211 MBH Steam, 2,477 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1188)..... Note: Fire tested factory assembled package cast iron unit.	43,928.76	1,356.85
23 52 23 00-0104	EA	2,434 MBH Steam, 2,726 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1288)..... Note: Fire tested factory assembled package cast iron unit.	46,712.27	1,356.85
23 52 23 00-0105	EA	2,657 MBH Steam, 2,976 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1388)..... Note: Fire tested factory assembled package cast iron unit.	50,059.60	1,469.92
23 52 23 00-0106	EA	2,880 MBH Steam, 3,225 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1488)..... Note: Fire tested factory assembled package cast iron unit.	52,732.42	1,582.99
23 52 23 00-0107	EA	3,102 MBH Steam, 3,475 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1588)..... Note: Fire tested factory assembled package cast iron unit.	54,262.19	1,582.99
23 52 23 00-0108	EA	3,325 MBH Steam, 3,724 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1688)..... Note: Fire tested factory assembled package cast iron unit.	57,473.49	1,696.06
23 52 23 00-0109	EA	3,548 MBH Steam, 3,974 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1788)..... Note: Fire tested factory assembled package cast iron unit.	59,911.62	1,696.06
23 52 23 00-0110	EA	3,771 MBH Steam, 4,223 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1888)..... Note: Fire tested factory assembled package cast iron unit.	62,368.20	1,809.13
23 52 23 00-0111 Weil-McLain Model 94 Cast Iron Boiler (23 52 23)				
Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes flue piping, fuel piping, boiler base or pad.				
23 52 23 00-0112 Gas Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.				
23 52 23 00-0113	EA	1,584 MBH Steam, 1,784 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-894)..... Note: Includes field assembly of individual sections and testing.	72,671.53	9,082.00
23 52 23 00-0114	EA	1,800 MBH Steam, 2,050 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-994)..... Note: Includes field assembly of individual sections and testing.	78,824.00	9,600.97
23 52 23 00-0115	EA	2,024 MBH Steam, 2,310 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1094)..... Note: Includes field assembly of individual sections and testing.	84,438.66	10,119.94
23 52 23 00-0116	EA	2,249 MBH Steam, 2,571 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1194)..... Note: Includes field assembly of individual sections and testing.	89,935.16	10,638.91
23 52 23 00-0117	EA	2,474 MBH Steam, 2,834 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1294)..... Note: Includes field assembly of individual sections and testing.	95,483.11	11,157.89
23 52 23 00-0118	EA	2,703 MBH Steam, 3,098 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1394)..... Note: Includes field assembly of individual sections and testing.	102,511.41	11,676.86
23 52 23 00-0119	EA	2,928 MBH Steam, 3,362 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1494)..... Note: Includes field assembly of individual sections and testing.	107,736.07	12,195.82
23 52 23 00-0120	EA	3,154 MBH Steam, 3,628 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1594)..... Note: Includes field assembly of individual sections and testing.	112,789.91	12,714.80
23 52 23 00-0121	EA	3,378 MBH Steam, 3,894 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1694)..... Note: Includes field assembly of individual sections and testing.	121,046.22	13,233.77
23 52 23 00-0122	EA	3,604 MBH Steam, 4,162 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1794)..... Note: Includes field assembly of individual sections and testing.	126,097.14	13,752.75
23 52 23 00-0123	EA	3,834 MBH Steam, 4,430 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1894)..... Note: Includes field assembly of individual sections and testing.	130,423.27	14,271.71



Heating, Ventilating, and Air-Conditioning (HVAC)

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Central Heating Equipment

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Heating Boilers

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0124 EA 4,059 MBH Steam, 4,700 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	138,390.12	14,790.68
23 52 23 00-0125 EA 4,285 MBH Steam, 4,970 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	143,483.44	15,309.66
23 52 23 00-0126 EA 4,510 MBH Steam, 5,241 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	151,634.38	15,828.63
23 52 23 00-0127 EA 4,781 MBH Steam, 5,568 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	156,998.70	16,347.60
23 52 23 00-0128 EA 4,961 MBH Steam, 5,787 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2394) Note: Includes field assembly of individual sections and testing.	162,872.83	16,866.57
23 52 23 00-0129 EA 5,232 MBH Steam, 6,117 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2494) Note: Includes field assembly of individual sections and testing.	167,911.45	17,385.54
23 52 23 00-0130 EA 5,413 MBH Steam, 6,338 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2594) Note: Includes field assembly of individual sections and testing.	173,096.32	17,904.51
23 52 23 00-0131 Gas Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)		
23 52 23 00-0132 EA 1,584 MBH Steam, 1,784 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-894) Note: Fire tested factory assembled package cast iron unit.	66,139.24	1,469.92
23 52 23 00-0133 EA 1,800 MBH Steam, 2,050 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-994) Note: Fire tested factory assembled package cast iron unit.	72,135.40	1,582.99
23 52 23 00-0134 EA 2,024 MBH Steam, 2,310 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1094) Note: Fire tested factory assembled package cast iron unit.	77,590.38	1,696.06
23 52 23 00-0135 EA 2,249 MBH Steam, 2,571 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1194) Note: Fire tested factory assembled package cast iron unit.	82,931.10	1,809.13
23 52 23 00-0136 EA 2,474 MBH Steam, 2,834 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1294) Note: Fire tested factory assembled package cast iron unit.	87,867.17	1,809.13
23 52 23 00-0137 EA 2,703 MBH Steam, 3,098 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1394) Note: Fire tested factory assembled package cast iron unit.	93,080.22	1,922.20
23 52 23 00-0138 EA 2,928 MBH Steam, 3,362 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1494) Note: Fire tested factory assembled package cast iron unit.	97,694.02	1,922.20
23 52 23 00-0139 EA 3,154 MBH Steam, 3,628 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1594) Note: Fire tested factory assembled package cast iron unit.	102,590.07	2,035.27
23 52 23 00-0140 EA 3,378 MBH Steam, 3,894 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1694) Note: Fire tested factory assembled package cast iron unit.	110,236.22	2,035.27
23 52 23 00-0141 EA 3,604 MBH Steam, 4,162 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1794) Note: Fire tested factory assembled package cast iron unit.	115,130.91	2,148.34
23 52 23 00-0142 EA 3,834 MBH Steam, 4,430 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1894) Note: Fire tested factory assembled package cast iron unit.	118,845.88	2,148.34
23 52 23 00-0143 EA 4,059 MBH Steam, 4,700 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1994) Note: Fire tested factory assembled package cast iron unit.	126,657.46	2,261.41
23 52 23 00-0144 EA 4,285 MBH Steam, 4,970 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2094) Note: Fire tested factory assembled package cast iron unit.	131,139.36	2,261.41
23 52 23 00-0145 EA 4,510 MBH Steam, 5,241 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2194) Note: Fire tested factory assembled package cast iron unit.	139,157.66	2,374.48
23 52 23 00-0146 EA 4,781 MBH Steam, 5,568 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2294) Note: Fire tested factory assembled package cast iron unit.	143,885.68	2,374.48
23 52 23 00-0147 EA 4,961 MBH Steam, 5,787 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2394) Note: Fire tested factory assembled package cast iron unit.	149,600.38	2,487.55
23 52 23 00-0148 EA 5,232 MBH Steam, 6,117 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2494) Note: Fire tested factory assembled package cast iron unit.	154,029.25	2,487.55
23 52 23 00-0149 EA 5,413 MBH Steam, 6,338 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2594) Note: Fire tested factory assembled package cast iron unit.	159,055.84	2,600.63
23 52 23 00-0150 Oil Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)		
Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0151 EA 1,584 MBH Steam, 1,784 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-894) Note: Includes field assembly of individual sections and testing.	68,613.89	9,082.00
23 52 23 00-0152 EA 1,800 MBH Steam, 2,050 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-994) Note: Includes field assembly of individual sections and testing.	74,766.36	9,600.97
23 52 23 00-0153 EA 2,024 MBH Steam, 2,310 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1094) Note: Includes field assembly of individual sections and testing.	82,260.26	10,119.94
23 52 23 00-0154 EA 2,249 MBH Steam, 2,571 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1194) Note: Includes field assembly of individual sections and testing.	87,265.87	10,638.91
23 52 23 00-0155 EA 2,474 MBH Steam, 2,834 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1294) Note: Includes field assembly of individual sections and testing.	92,479.31	11,157.89
23 52 23 00-0156 EA 2,703 MBH Steam, 3,098 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1394) Note: Includes field assembly of individual sections and testing.	99,133.67	11,676.86
23 52 23 00-0157 EA 2,928 MBH Steam, 3,362 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1494) Note: Includes field assembly of individual sections and testing.	104,611.25	12,195.82
23 52 23 00-0158 EA 3,154 MBH Steam, 3,628 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1594) Note: Includes field assembly of individual sections and testing.	109,667.81	12,714.80
23 52 23 00-0159 EA 3,378 MBH Steam, 3,894 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1694) Note: Includes field assembly of individual sections and testing.	118,895.02	13,233.77
23 52 23 00-0160 EA 3,604 MBH Steam, 4,162 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1794) Note: Includes field assembly of individual sections and testing.	123,947.30	13,752.75
23 52 23 00-0161 EA 3,834 MBH Steam, 4,430 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1894) Note: Includes field assembly of individual sections and testing.	128,998.20	14,271.71
23 52 23 00-0162 EA 4,059 MBH Steam, 4,700 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	138,399.64	14,790.68
23 52 23 00-0163 EA 4,285 MBH Steam, 4,970 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	143,492.96	15,309.66

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0164	EA	4,510 MBH Steam, 5,241 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	151,862.82	15,828.63
23 52 23 00-0165	EA	4,781 MBH Steam, 5,568 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	157,225.79	16,347.60
23 52 23 00-0166	EA	4,961 MBH Steam, 5,787 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2394) Note: Includes field assembly of individual sections and testing.	162,982.97	16,866.57
23 52 23 00-0167	EA	5,232 MBH Steam, 6,117 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2494) Note: Includes field assembly of individual sections and testing.	168,021.59	17,385.54
23 52 23 00-0168	EA	5,413 MBH Steam, 6,338 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2594) Note: Includes field assembly of individual sections and testing.	173,214.62	17,904.51
23 52 23 00-0169 Oil Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
23 52 23 00-0170	EA	1,584 MBH Steam, 1,784 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-894) Note: Fire tested factory assembled package cast iron unit.	61,861.31	1,469.92
23 52 23 00-0171	EA	1,800 MBH Steam, 2,050 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-994) Note: Fire tested factory assembled package cast iron unit.	67,857.47	1,582.99
23 52 23 00-0172	EA	2,024 MBH Steam, 2,310 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1094) Note: Fire tested factory assembled package cast iron unit.	75,191.69	1,696.06
23 52 23 00-0173	EA	2,249 MBH Steam, 2,571 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1194) Note: Fire tested factory assembled package cast iron unit.	80,041.52	1,809.13
23 52 23 00-0174	EA	2,474 MBH Steam, 2,834 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1294) Note: Fire tested factory assembled package cast iron unit.	84,643.09	1,809.13
23 52 23 00-0175	EA	2,703 MBH Steam, 3,098 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1394) Note: Fire tested factory assembled package cast iron unit.	89,482.19	1,922.20
23 52 23 00-0176	EA	2,928 MBH Steam, 3,362 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1494) Note: Fire tested factory assembled package cast iron unit.	94,348.91	1,922.20
23 52 23 00-0177	EA	3,154 MBH Steam, 3,628 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1594) Note: Fire tested factory assembled package cast iron unit.	99,244.96	2,035.27
23 52 23 00-0178	EA	3,378 MBH Steam, 3,894 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1694) Note: Fire tested factory assembled package cast iron unit.	107,864.73	2,035.27
23 52 23 00-0179	EA	3,604 MBH Steam, 4,162 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1794) Note: Fire tested factory assembled package cast iron unit.	112,758.06	2,148.34
23 52 23 00-0180	EA	3,834 MBH Steam, 4,430 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1894) Note: Fire tested factory assembled package cast iron unit.	117,200.53	2,148.34
23 52 23 00-0181	EA	4,059 MBH Steam, 4,700 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1994) Note: Fire tested factory assembled package cast iron unit.	126,446.69	2,261.41
23 52 23 00-0182	EA	4,285 MBH Steam, 4,970 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2094) Note: Fire tested factory assembled package cast iron unit.	130,928.59	2,261.41
23 52 23 00-0183	EA	4,510 MBH Steam, 5,241 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2194) Note: Fire tested factory assembled package cast iron unit.	139,138.62	2,374.48
23 52 23 00-0184	EA	4,781 MBH Steam, 5,568 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2294) Note: Fire tested factory assembled package cast iron unit.	143,892.48	2,374.48
23 52 23 00-0185	EA	4,961 MBH Steam, 5,787 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2394) Note: Fire tested factory assembled package cast iron unit.	149,490.24	2,487.55
23 52 23 00-0186	EA	5,232 MBH Steam, 6,117 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2494) Note: Fire tested factory assembled package cast iron unit.	153,919.10	2,487.55
23 52 23 00-0187	EA	5,413 MBH Steam, 6,338 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2594) Note: Fire tested factory assembled package cast iron unit.	158,953.85	2,600.63
23 52 23 00-0188 Gas/Oil Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.				
23 52 23 00-0189	EA	1,584 MBH Steam, 1,784 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-894) Note: Includes field assembly of individual sections and testing.	73,947.02	9,082.00
23 52 23 00-0190	EA	1,800 MBH Steam, 2,050 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-994) Note: Includes field assembly of individual sections and testing.	80,100.85	9,600.97
23 52 23 00-0191	EA	2,024 MBH Steam, 2,310 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1094) Note: Includes field assembly of individual sections and testing.	86,063.62	10,119.94
23 52 23 00-0192	EA	2,249 MBH Steam, 2,571 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1194) Note: Includes field assembly of individual sections and testing.	91,697.46	10,638.91
23 52 23 00-0193	EA	2,474 MBH Steam, 2,834 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1294) Note: Includes field assembly of individual sections and testing.	97,214.13	11,157.89
23 52 23 00-0194	EA	2,703 MBH Steam, 3,098 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1394) Note: Includes field assembly of individual sections and testing.	103,150.52	11,676.86
23 52 23 00-0195	EA	2,928 MBH Steam, 3,362 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1494) Note: Includes field assembly of individual sections and testing.	109,858.72	12,195.82
23 52 23 00-0196	EA	3,154 MBH Steam, 3,628 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1594) Note: Includes field assembly of individual sections and testing.	115,247.07	12,714.80
23 52 23 00-0197	EA	3,378 MBH Steam, 3,894 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1694) Note: Includes field assembly of individual sections and testing.	123,716.87	13,233.77
23 52 23 00-0198	EA	3,604 MBH Steam, 4,162 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1794) Note: Includes field assembly of individual sections and testing.	128,767.79	13,752.75
23 52 23 00-0199	EA	3,834 MBH Steam, 4,430 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1894) Note: Includes field assembly of individual sections and testing.	133,189.10	14,271.71
23 52 23 00-0200	EA	4,059 MBH Steam, 4,700 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	141,248.42	14,790.68
23 52 23 00-0201	EA	4,285 MBH Steam, 4,970 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	147,701.54	15,309.66
23 52 23 00-0202	EA	4,510 MBH Steam, 5,241 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	156,581.33	15,828.63
23 52 23 00-0203	EA	4,781 MBH Steam, 5,568 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	161,904.86	16,347.60



Heating, Ventilating, and Air-Conditioning (HVAC)

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Central Heating Equipment

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Heating Boilers

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0204 EA 4,961 MBH Steam, 5,787 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2394).....	168,031.91	16,866.57
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0205 EA 5,232 MBH Steam, 6,117 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2494).....	173,071.89	17,385.54
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0206 EA 5,413 MBH Steam, 6,338 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2594).....	178,260.84	17,904.51
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0207 Gas/Oil Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)		
23 52 23 00-0208 EA 1,584 MBH Steam, 1,784 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-894).....	67,513.99	1,469.92
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0209 EA 1,800 MBH Steam, 2,050 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-994).....	73,511.52	1,582.99
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0210 EA 2,024 MBH Steam, 2,310 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1094).....	79,318.68	1,696.06
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0211 EA 2,249 MBH Steam, 2,571 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1194).....	84,794.02	1,809.13
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0212 EA 2,474 MBH Steam, 2,834 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1294).....	89,698.82	1,809.13
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0213 EA 2,703 MBH Steam, 3,098 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1394).....	93,818.59	1,922.20
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0214 EA 2,928 MBH Steam, 3,362 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1494).....	99,915.94	1,922.20
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0215 EA 3,154 MBH Steam, 3,628 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1594).....	105,145.13	2,035.27
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0216 EA 3,378 MBH Steam, 3,894 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1694).....	113,007.50	2,035.27
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0217 EA 3,604 MBH Steam, 4,162 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1794).....	117,899.46	2,148.34
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0218 EA 3,834 MBH Steam, 4,430 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1894).....	121,710.98	2,148.34
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0219 EA 4,059 MBH Steam, 4,700 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1994).....	129,615.03	2,261.41
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0220 EA 4,285 MBH Steam, 4,970 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2094).....	135,458.09	2,261.41
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0221 EA 4,510 MBH Steam, 5,241 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2194).....	144,178.04	2,374.48
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0222 EA 4,781 MBH Steam, 5,568 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2294).....	148,892.47	2,374.48
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0223 EA 4,961 MBH Steam, 5,787 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2394).....	154,858.73	2,487.55
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0224 EA 5,232 MBH Steam, 6,117 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2494).....	159,288.96	2,487.55
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0225 EA 5,413 MBH Steam, 6,338 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2594).....	164,320.98	2,600.63
Note: Fire tested factory assembled package cast iron unit.		
23 52 33 Water-Tube Boilers (23 52)		
23 52 33 13 Finned Water-Tube Boilers (23 52 33)		
23 52 33 13-0001 Laars Pennant 85% Efficient Water, Gas Fired, Copper Fin Tube LoNox Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0002 EA 200 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	8,859.58	609.82
23 52 33 13-0003 EA 300 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	9,749.55	677.58
23 52 33 13-0004 EA 400 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	11,199.08	813.09
23 52 33 13-0005 EA 500 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	14,310.36	846.97
23 52 33 13-0006 EA 750 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	16,810.88	1,016.36
23 52 33 13-0007 EA 1,000 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	20,657.88	1,219.63
23 52 33 13-0008 EA 1,250 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	23,469.93	1,287.40
23 52 33 13-0009 EA 1,500 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	25,998.64	1,389.03
23 52 33 13-0010 EA 1,750 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	28,351.63	1,456.79
23 52 33 13-0011 EA 2,000 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	30,425.62	1,490.67
23 52 33 13-0012 Patterson Kelly Modufire Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0013 EA 1,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	30,952.95	1,219.63
23 52 33 13-0014 EA 1,500 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	38,663.75	1,389.03
23 52 33 13-0015 EA 2,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	41,198.82	1,490.67
23 52 33 13-0016 EA 2,500 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	58,306.61	1,693.94
23 52 33 13-0017 EA 3,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	61,152.84	1,897.21
23 52 33 13-0018 Lochinvar Copper-Fin II Finned Tube Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0019 EA 340 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0402).....	13,877.20	547.19
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 33 13-0020 EA 425 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0502).....	16,650.26	683.74
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0021 EA 552.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0652).....	17,837.98	821.31
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0022 EA 637.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0752).....	18,335.71	821.31
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0023 EA 841.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0992).....	22,742.02	1,026.63
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0024 EA 1,071 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1262).....	26,394.81	1,026.63
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0025 EA 1,224 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1442).....	28,811.10	1,026.63
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0026 EA 1,530 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1802).....	31,012.42	1,231.96
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0027 EA 1,759.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN2072).....	36,686.44	1,437.28
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	
23 52 33 13-0028 Raypak Cupro-Nickel Finned-Tube Boiler With Pump (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0029 EA 385 MBH Water, Gas Fired, On/Off, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H4-399B).....	13,297.58	752.11
23 52 33 13-0030 EA 420 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-499B).....	14,312.90	677.58
23 52 33 13-0031 EA 546 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-649B).....	15,940.99	813.09
23 52 33 13-0032 EA 630 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-749B).....	16,913.34	923.04
23 52 33 13-0033 EA 756 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-899B).....	18,787.57	1,016.36
23 52 33 13-0034 EA 832 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-989B).....	20,211.10	1,093.98
23 52 33 13-0035 EA 1,058 MBH Water, Gas Fired, Three Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H8-1259B).....	23,101.13	1,219.63
23 52 33 13-0036 EA 1,285 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1529B).....	26,905.19	1,287.40
23 52 33 13-0037 EA 1,512 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1799B).....	28,536.66	1,389.03
23 52 33 13-0038 EA 1,679 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1999B).....	34,227.56	1,422.92
23 52 33 13-0039 EA 1,739 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-2069B).....	34,330.23	1,456.79
23 52 33 13-0040 EA 1,966 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-2339B).....	40,272.52	1,490.67
23 52 33 16 Steel Water-Tube Boilers (23 52 33)		
23 52 33 16-0001 Package Gas Fired Water Tube Boiler (23 52 33 16)		
Note: Steel shell with insulating jacket, standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), burner, copper finned tubes, safety devices, all controls, set-up and wiring. Excludes flue piping, fuel piping, or circulator. Rated by MBH gross rated output.		
23 52 33 16-0002 EA 200 MBH Gas Fired Water Tube Boiler, Steel Shell.....	13,502.82	904.57
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,338.74	
For LP Gas Burner, Add	584.68	
23 52 33 16-0003 EA 285 MBH Gas Fired Water Tube Boiler, Steel Shell.....	13,941.57	1,017.64
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,381.26	
For LP Gas Burner, Add	595.32	
23 52 33 16-0004 EA 350 MBH Gas Fired Water Tube Boiler, Steel Shell.....	14,380.32	1,130.71
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,423.78	
For LP Gas Burner, Add	605.95	
23 52 33 16-0005 EA 430 MBH Gas Fired Water Tube Boiler, Steel Shell.....	15,159.25	1,243.78
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,534.34	
For LP Gas Burner, Add	633.59	
23 52 33 16-0006 EA 520 MBH Gas Fired Water Tube Boiler, Steel Shell.....	15,938.20	1,356.85
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,644.90	
For LP Gas Burner, Add	661.23	
23 52 33 16-0007 EA 600 MBH Gas Fired Water Tube Boiler, Steel Shell.....	17,269.92	1,469.92
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	2,866.02	
For LP Gas Burner, Add	716.50	
23 52 33 16-0008 EA 680 MBH Gas Fired Water Tube Boiler, Steel Shell.....	18,127.14	1,526.45
Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.		
For Steam System, Add	3,014.85	
For LP Gas Burner, Add	753.71	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Heating Boilers			23 52	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 33 16-0009	EA		770 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	18,984.35 3,163.67 790.92	1,582.99
23 52 33 16-0010	EA		860 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	20,571.21 3,435.82 858.95	1,696.06
23 52 33 16-0011	EA		1,020 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	22,158.07 3,707.96 926.99	1,809.13
23 52 33 16-0012	EA		1,220 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	24,141.16 4,014.12 1,003.53	2,035.27
23 52 33 16-0013	EA		1,440 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	25,954.17 4,286.27 1,071.57	2,261.41
23 52 33 16-0014	EA		1,700 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	28,561.55 4,762.52 1,190.63	2,374.48
23 52 33 16-0015	EA		2,050 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	30,148.41 5,034.66 1,258.67	2,487.55
23 52 33 16-0016	EA		2,220 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	32,415.65 5,442.88 1,360.72	2,600.63
23 52 33 16-0017	EA		2,450 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	36,043.58 6,123.24 1,530.81	2,713.70
23 52 33 16-0018	EA		2,750 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	38,707.03 6,565.47 1,641.37	2,939.84
23 52 33 16-0019	EA		3,100 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	41,370.50 7,007.71 1,751.93	3,165.98
23 52 33 16-0020	EA		3,450 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	44,204.03 7,483.96 1,870.99	3,392.12
23 52 33 16-0021	EA		4,300 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	47,819.98 8,116.69 2,029.17	3,618.26
23 52 33 16-0022	EA		5,160 MBH Gas Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add For LP Gas Burner, Add	49,871.12 8,436.46 2,109.12	3,844.40
23 52 33 16-0023			Package Oil Fired Water Tube Boiler (23 52 33 16) Note: Steel shell with insulating jacket, standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), burner, copper finned tubes, safety devices, all controls, set-up and wiring. Excludes flue piping, fuel piping, or circulator. Rated by MBH gross rated output.		
23 52 33 16-0024	EA		200 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add	13,795.16 2,397.21	904.57
23 52 33 16-0025	EA		285 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit. For Steam System, Add	14,239.23 2,440.79	1,017.64

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 33 16-0026	EA	350 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	14,683.30	1,130.71
		<i>For Steam System, Add</i>	2,484.38	
23 52 33 16-0027	EA	430 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	15,472.56	1,243.78
		<i>For Steam System, Add</i>	2,597.00	
23 52 33 16-0028	EA	520 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	16,268.81	1,356.85
		<i>For Steam System, Add</i>	2,711.02	
23 52 33 16-0029	EA	600 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	17,628.17	1,469.92
		<i>For Steam System, Add</i>	2,937.67	
23 52 33 16-0030	EA	680 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	18,503.99	1,526.45
		<i>For Steam System, Add</i>	3,090.22	
23 52 33 16-0031	EA	770 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	19,379.81	1,582.99
		<i>For Steam System, Add</i>	3,242.77	
23 52 33 16-0032	EA	860 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	21,000.69	1,696.06
		<i>For Steam System, Add</i>	3,521.71	
23 52 33 16-0033	EA	1,020 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	22,621.57	1,809.13
		<i>For Steam System, Add</i>	3,800.66	
23 52 33 16-0034	EA	1,220 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	24,642.93	2,035.27
		<i>For Steam System, Add</i>	4,114.48	
23 52 33 16-0035	EA	1,440 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	26,489.95	2,261.41
		<i>For Steam System, Add</i>	4,393.42	
23 52 33 16-0036	EA	1,700 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	29,156.87	2,374.48
		<i>For Steam System, Add</i>	4,881.58	
23 52 33 16-0037	EA	2,050 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	30,777.74	2,487.55
		<i>For Steam System, Add</i>	5,160.53	
23 52 33 16-0038	EA	2,200 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	33,096.01	2,600.63
		<i>For Steam System, Add</i>	5,578.95	
23 52 33 16-0039	EA	2,450 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	36,808.98	2,713.70
		<i>For Steam System, Add</i>	6,276.32	
23 52 33 16-0040	EA	2,750 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	39,527.71	2,939.84
		<i>For Steam System, Add</i>	6,729.61	
23 52 33 16-0041	EA	3,100 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	42,246.46	3,165.98
		<i>For Steam System, Add</i>	7,182.90	
23 52 33 16-0042	EA	3,450 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	45,139.53	3,392.12
		<i>For Steam System, Add</i>	7,671.06	
23 52 33 16-0043	EA	4,300 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	49,880.62	3,618.26
		<i>For Steam System, Add</i>	8,528.82	
23 52 33 16-0044	EA	5,160 MBH Oil Fired Water Tube Boiler, Steel Shell Note: Includes insulating jacket, standard controls, burner and safety devices. Fire tested factory assembled package unit.	51,971.73	3,844.40
		<i>For Steam System, Add</i>	8,856.59	
23 52 33 16-0045		Unilux 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (23 52 33 16) Note: Compliant with SCAQMD.		
23 52 33 16-0046	EA	1,250 MBH Input/1,062 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF100).....	87,514.12	1,642.61
23 52 33 16-0047	EA	1,750 MBH Input/1,488 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF150).....	94,036.40	2,053.27



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heating Boilers			23 52

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
23 52 33 16-0048	EA	2,200 MBH Input/1,870 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF200).....	197,042.28		2,258.59
23 52 33 16-0049	EA	2,750 MBH Input/2,338 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF250).....	204,419.55		2,463.92
23 52 33 16-0050	EA	3,000 MBH Input/2,550 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF300).....	207,886.01		2,771.91
23 52 33 16-0051	EA	3,750 MBH Input/3,188 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux VZ350).....	218,950.81		3,079.89
23 52 33 16-0052	EA	4,300 MBH Input/3,655 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux VZ400).....	223,906.19		3,182.56
23 52 33 16-0053 Unilux 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (23 52 33 16)					
Note: Compliant with SCAQMD.					
23 52 33 16-0054	EA	1,250 MBH, 31 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF100LSG).....	102,174.98		1,847.94
23 52 33 16-0055	EA	1,750 MBH, 43.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF150LSG).....	107,224.05		2,155.92
23 52 33 16-0056	EA	2,200 MBH, 54.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF200LSG).....	211,497.80		2,361.25
23 52 33 16-0057	EA	2,750 MBH, 68 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF250LSG).....	224,573.83		2,566.58
23 52 33 16-0058	EA	3,000 MBH, 74 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF300LSG).....	229,100.61		2,771.91
23 52 33 16-0059	EA	3,750 MBH, 93 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF350LSG).....	237,948.86		3,079.89
23 52 33 16-0060	EA	4,300 MBH, 106.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF400LSG).....	245,966.71		3,285.22
23 52 33 16-0061	EA	5,400 MBH, 134 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF500LSG).....	242,252.37		3,490.55
23 52 33 16-0062	EA	6,250 MBH, 155 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF600LSG).....	262,295.00		3,695.88
23 52 33 16-0063	EA	7,235 MBH, 179 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF700LSG).....	276,004.95		3,901.20
23 52 33 16-0064	EA	8,270 MBH, 205 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF800LSG).....	283,065.25		4,106.53
23 52 33 16-0065 Unilux 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (23 52 33 16)					
Note: Compliant with SCAQMD.					
23 52 33 16-0066	EA	1,250 MBH, 31 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 100HS).....	110,090.28		1,847.94
23 52 33 16-0067	EA	1,750 MBH, 43.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 150HS).....	116,724.18		2,155.92
23 52 33 16-0068	EA	2,200 MBH, 54.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 200HS).....	222,263.58		2,361.25
23 52 33 16-0069	EA	2,750 MBH, 68 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 250HS).....	235,656.58		2,566.58
23 52 33 16-0070	EA	3,000 MBH, 74 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 300HS).....	240,183.36		2,771.91
23 52 33 16-0071	EA	3,750 MBH, 93 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 350HS).....	247,448.99		3,079.89
23 52 33 16-0072	EA	4,300 MBH, 106.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 400HS).....	255,777.16		3,285.22
23 52 33 16-0073	EA	5,400 MBH, 134 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 500HS).....	251,435.53		3,490.55
23 52 33 16-0074	EA	6,250 MBH, 155 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 600HS).....	273,063.00		3,695.88
23 52 33 16-0075	EA	7,235 MBH, 179 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 700HS).....	281,705.92		3,901.20
23 52 33 16-0076	EA	8,270 MBH, 205 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 800HS).....	293,833.25		4,106.53
23 52 33 16-0077	EA	9,300 MBH, 230 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 900HS).....	326,858.23		4,311.85
23 52 33 16-0078	EA	10,330 MBH, 256 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 1000HS).....	473,401.58		4,517.18
23 52 33 16-0079	EA	12,400 MBH, 307 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 1200HS).....	497,402.98		4,722.50
23 52 36 Fire-Box Boiler (23 52)					
23 52 36 00-0001 Package Oil Fired Firebox Boilers (23 52 36)					
Note: Prices are good for 15 PSI steam or 30 PSI water. Packaged type, complete with burner and all basic safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.) Normally required (Boiler HP) boiler sizes are based on HP rating and gross output.					
23 52 36 00-0002	EA	40 HP, 1,339 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	80,890.29		2,713.70
23 52 36 00-0003	EA	46 HP, 1,553 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	84,572.54		2,939.84
23 52 36 00-0004	EA	53 HP, 1,784 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	88,548.36		3,165.98
23 52 36 00-0005	EA	61 HP, 2,062 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	95,754.12		3,392.12
23 52 36 00-0006	EA	69 HP, 2,313 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	100,023.55		3,618.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 52 36 00-0007	EA	80 HP, 2,678 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	104,219.72	3,844.40
23 52 36 00-0008	EA	100 HP, 3,348 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	115,917.97	4,070.54
23 52 36 00-0009	EA	127 HP, 4,251 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	134,132.02	4,522.83
23 52 36 00-0010	EA	151 HP, 5,055 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	152,654.46	4,975.11
23 52 36 00-0011	EA	183 HP, 6,126 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	167,472.57	5,483.92
23 52 36 00-0012	EA	220 HP, 7,388 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	182,290.83	5,992.74
23 52 36 00-0013	EA	257 HP, 8,606 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	191,667.03	7,010.37
23 52 36 00-0014	EA	294 HP, 9,842 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	233,562.51	8,028.01
23 52 36 00-0015	EA	368 HP, 12,302 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	278,485.69	9,045.64
23 52 36 00-0016	EA	441 HP, 14,766 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	319,855.30	10,176.35
23 52 36 00-0017	EA	514 HP, 17,220 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water	362,219.04	11,024.37

23 52 39 Fire-Tube Boilers (23 52)**23 52 39 13 Scotch Marine Boilers (23 52 39)****23 52 39 13-0001 15 PSI Steam Scotch Marine Boilers (23 52 39 13)**

Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.

23 52 39 13-0002 15 PSI Gas Fired Steam Scotch Marine Boilers (23 52 39 13-0001)

23 52 39 13-0003	EA	30 HP, 1,033 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	64,481.08	1,243.78
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0004	EA	40 HP, 1,339 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	69,409.40	1,356.85
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0005	EA	50 HP, 1,674 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	75,387.44	1,469.92
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0006	EA	60 HP, 2,009 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	78,782.31	1,696.06
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0007	EA	70 HP, 2,343 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	82,553.91	1,809.13
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0008	EA	80 HP, 2,678 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	86,420.02	1,922.20
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0009	EA	90 HP, 3,013 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	89,087.19	1,978.73
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0010	EA	100 HP, 3,348 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	94,039.60	2,035.27
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0011	EA	125 HP, 4,184 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	106,323.10	2,261.41
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0012	EA	150 HP, 5,021 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	120,811.42	2,487.55
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0013	EA	175 HP, 5,858 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	132,514.03	2,741.96
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0014	EA	200 HP, 6,695 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	144,214.32	2,996.37
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0015	EA	250 HP, 8,369 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	152,143.50	3,505.19
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0016	EA	300 HP, 10,043 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	185,011.60	4,014.00
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0017	EA	350 HP, 11,716 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	200,304.80	4,522.83
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0018	EA	400 HP, 13,390 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	235,817.83	5,031.64
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0019	EA	500 HP, 16,738 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	286,366.01	5,540.45
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0020	EA	600 HP, 20,085 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	334,978.03	6,049.28
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0021	EA	700 HP, 23,433 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	381,517.06	6,558.09
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0022	EA	800 HP, 26,780 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	426,192.08	7,066.91
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0023	EA	900 HP, 30,128 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	663,277.17	7,575.72
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0024	EA	1,000 HP, 33,476 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler	721,661.21	8,084.55
Note: Burnham Series 3. Fire tested factory assembled unit.				

23 52 39 13-0025 15 PSI Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0001)

23 52 39 13-0026	EA	30 HP, 1,033 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	59,770.52	1,243.78
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0027	EA	40 HP, 1,339 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	64,344.29	1,356.85
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0028	EA	50 HP, 1,674 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	69,881.87	1,469.92
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0029	EA	60 HP, 2,009 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	76,148.44	1,696.06
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0030	EA	70 HP, 2,343 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	79,447.30	1,809.13
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0031	EA	80 HP, 2,678 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	82,740.83	1,922.20
Note: Burnham Series 3. Fire tested factory assembled unit.				
23 52 39 13-0032	EA	90 HP, 3,013 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler	85,816.16	1,978.73
Note: Burnham Series 3. Fire tested factory assembled unit.				



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Heating Equipment

23 50

Heating Boilers

23 52

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0033 EA 100 HP, 3,348 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	91,946.02	2,035.27
23 52 39 13-0034 EA 125 HP, 4,184 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	106,422.94	2,261.41
23 52 39 13-0035 EA 150 HP, 5,021 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	120,920.07	2,487.55
23 52 39 13-0036 EA 175 HP, 5,858 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	132,634.42	2,741.96
23 52 39 13-0037 EA 200 HP, 6,695 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	144,346.46	2,996.37
23 52 39 13-0038 EA 250 HP, 8,369 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	152,281.50	3,505.19
23 52 39 13-0039 EA 300 HP, 10,043 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	185,181.91	4,014.00
23 52 39 13-0040 EA 350 HP, 11,716 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	200,486.85	4,522.83
23 52 39 13-0041 EA 400 HP, 13,390 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	236,035.12	5,031.64
23 52 39 13-0042 EA 500 HP, 16,738 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	286,630.28	5,540.45
23 52 39 13-0043 EA 600 HP, 20,085 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	335,289.28	6,049.28
23 52 39 13-0044 EA 700 HP, 23,433 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	381,872.36	6,558.09
23 52 39 13-0045 EA 800 HP, 26,780 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	426,591.42	7,066.91
23 52 39 13-0046 EA 900 HP, 30,128 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	663,908.42	7,575.72
23 52 39 13-0047 EA 1,000 HP, 33,476 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	722,351.78	8,084.55
23 52 39 13-0048 15 PSI Gas/Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0001)		
23 52 39 13-0049 EA 30 HP, 1,033 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	66,542.80	1,243.78
23 52 39 13-0050 EA 40 HP, 1,339 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	71,626.31	1,356.85
23 52 39 13-0051 EA 50 HP, 1,674 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	77,792.27	1,469.92
23 52 39 13-0052 EA 60 HP, 2,009 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	81,771.46	1,696.06
23 52 39 13-0053 EA 70 HP, 2,343 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	85,302.28	1,809.13
23 52 39 13-0054 EA 80 HP, 2,676 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	88,827.78	1,922.20
23 52 39 13-0055 EA 90 HP, 3,013 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	92,132.14	1,978.73
23 52 39 13-0056 EA 100 HP, 3,348 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	95,437.28	2,035.27
23 52 39 13-0057 EA 125 HP, 4,184 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	110,480.90	2,261.41
23 52 39 13-0058 EA 150 HP, 5,021 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	125,544.74	2,487.55
23 52 39 13-0059 EA 175 HP, 5,858 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	137,705.41	2,741.96
23 52 39 13-0060 EA 200 HP, 6,695 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	149,860.83	2,996.37
23 52 39 13-0061 EA 250 HP, 8,369 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	158,042.53	3,505.19
23 52 39 13-0062 EA 300 HP, 10,043 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	192,229.03	4,014.00
23 52 39 13-0063 EA 350 HP, 11,716 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	208,085.99	4,522.83
23 52 39 13-0064 EA 400 HP, 13,390 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	245,031.94	5,031.64
23 52 39 13-0065 EA 500 HP, 16,738 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	297,650.21	5,540.45
23 52 39 13-0066 EA 600 HP, 20,085 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	348,250.10	6,049.28
23 52 39 13-0067 EA 700 HP, 23,433 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	396,691.86	6,558.09
23 52 39 13-0068 EA 800 HP, 26,780 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	443,187.38	7,066.91
23 52 39 13-0069 EA 900 HP, 30,128 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	690,310.91	7,575.72
23 52 39 13-0070 EA 1,000 HP, 33,476 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	751,101.35	8,084.55
23 52 39 13-0071 125 PSI Water Scotch Marine Boilers (23 52 39 13) Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 52 39 13-0072	125 PSI Gas Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0073	EA 40 HP, 1,339 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	76,324.39	1,356.85
23 52 39 13-0074	EA 50 HP, 1,674 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	85,646.87	1,469.92
23 52 39 13-0075	EA 60 HP, 2,009 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	92,022.08	1,696.06
23 52 39 13-0076	EA 70 HP, 2,343 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	98,917.90	1,809.13
23 52 39 13-0077	EA 80 HP, 2,678 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	105,958.16	1,922.20
23 52 39 13-0078	EA 90 HP, 3,013 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	111,555.76	1,978.73
23 52 39 13-0079	EA 100 HP, 3,348 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	120,102.20	2,035.27
23 52 39 13-0080	EA 125 HP, 4,184 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	128,859.20	2,261.41
23 52 39 13-0081	EA 150 HP, 5,021 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	140,481.70	2,487.55
23 52 39 13-0082	EA 175 HP, 5,858 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	149,444.73	2,741.96
23 52 39 13-0083	EA 200 HP, 6,695 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	154,743.89	2,996.37
23 52 39 13-0084	EA 250 HP, 8,369 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	187,314.50	3,505.19
23 52 39 13-0085	EA 300 HP, 10,043 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	218,086.09	4,014.00
23 52 39 13-0086	EA 350 HP, 11,716 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	235,082.33	4,522.83
23 52 39 13-0087	EA 400 HP, 13,390 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	262,288.58	5,031.64
23 52 39 13-0088	EA 500 HP, 16,738 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	317,772.67	5,540.45
23 52 39 13-0089	EA 600 HP, 20,085 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	371,913.75	6,049.28
23 52 39 13-0090	EA 700 HP, 23,433 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	423,746.93	6,558.09
23 52 39 13-0091	EA 800 HP, 26,780 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	473,490.00	7,066.91
23 52 39 13-0092	EA 900 HP, 30,128 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	738,514.95	7,575.72
23 52 39 13-0093	EA 1,000 HP, 33,476 MBH 125 PSI Water Gas Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	803,592.82	8,084.55
23 52 39 13-0094	125 PSI Oil Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0095	EA 40 HP, 1,339 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	70,710.18	1,356.85
23 52 39 13-0096	EA 50 HP, 1,674 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	79,327.95	1,469.92
23 52 39 13-0097	EA 60 HP, 2,009 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	88,900.80	1,696.06
23 52 39 13-0098	EA 70 HP, 2,343 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	95,138.89	1,809.13
23 52 39 13-0099	EA 80 HP, 2,678 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	101,368.72	1,922.20
23 52 39 13-0100	EA 90 HP, 3,013 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	107,377.41	1,978.73
23 52 39 13-0101	EA 100 HP, 3,348 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	117,371.44	2,035.27
23 52 39 13-0102	EA 125 HP, 4,184 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	128,979.59	2,261.41
23 52 39 13-0103	EA 150 HP, 5,021 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	140,610.89	2,487.55
23 52 39 13-0104	EA 175 HP, 5,858 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	149,582.74	2,741.96
23 52 39 13-0105	EA 200 HP, 6,695 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	154,887.77	2,996.37
23 52 39 13-0106	EA 250 HP, 8,369 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	187,487.74	3,505.19
23 52 39 13-0107	EA 300 HP, 10,043 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	218,288.69	4,014.00
23 52 39 13-0108	EA 350 HP, 11,716 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	235,299.62	4,522.83
23 52 39 13-0109	EA 400 HP, 13,390 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	262,532.29	5,031.64
23 52 39 13-0110	EA 500 HP, 16,738 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	318,069.24	5,540.45
23 52 39 13-0111	EA 600 HP, 20,085 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	372,263.17	6,049.28
23 52 39 13-0112	EA 700 HP, 23,433 MBH 125 PSI Water Oil Fired Scotch Marine Boiler Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	424,146.27	6,558.09



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central Heating Equipment		23 50	
Heating Boilers		23 52	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0113 EA 800 HP, 26,780 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	473,936.32	7,066.91
23 52 39 13-0114 EA 900 HP, 30,128 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	739,222.46	7,575.72
23 52 39 13-0115 EA 1,000 HP, 33,476 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	804,363.88	8,084.55
23 52 39 13-0116 125 PSI Gas/Oil Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0117 EA 40 HP, 1,339 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	78,779.14	1,359.85
23 52 39 13-0118 EA 50 HP, 1,674 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	88,406.99	1,469.92
23 52 39 13-0119 EA 60 HP, 2,009 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	95,560.32	1,696.06
23 52 39 13-0120 EA 70 HP, 2,343 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	102,265.29	1,809.13
23 52 39 13-0121 EA 80 HP, 2,678 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	108,964.93	1,922.20
23 52 39 13-0122 EA 90 HP, 3,013 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	115,443.42	1,978.73
23 52 39 13-0123 EA 100 HP, 3,348 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	121,922.70	2,035.27
23 52 39 13-0124 EA 125 HP, 4,184 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	133,977.17	2,261.41
23 52 39 13-0125 EA 150 HP, 5,021 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	146,054.79	2,487.55
23 52 39 13-0126 EA 175 HP, 5,858 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	155,358.44	2,741.96
23 52 39 13-0127 EA 200 HP, 6,695 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	160,842.59	2,996.37
23 52 39 13-0128 EA 250 HP, 8,369 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	194,716.91	3,505.19
23 52 39 13-0129 EA 300 HP, 10,043 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	226,715.87	4,014.00
23 52 39 13-0130 EA 350 HP, 11,716 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	244,349.30	4,522.83
23 52 39 13-0131 EA 400 HP, 13,390 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	272,633.16	5,031.64
23 52 39 13-0132 EA 500 HP, 16,738 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	330,401.70	5,540.45
23 52 39 13-0133 EA 600 HP, 20,085 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	386,765.55	6,049.28
23 52 39 13-0134 EA 700 HP, 23,433 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	440,727.55	6,558.09
23 52 39 13-0135 EA 800 HP, 26,780 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	492,505.48	7,066.91
23 52 39 13-0136 EA 900 HP, 30,128 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	768,764.27	7,575.72
23 52 39 13-0137 EA 1,000 HP, 33,476 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	836,528.15	8,084.55
23 52 39 13-0138 150 PSI Steam Scotch Marine Boilers (23 52 39 13)		
Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.		
23 52 39 13-0139 150 PSI Gas Fired Steam Scotch Marine Boilers (23 52 39 13-0138)		
23 52 39 13-0140 EA 40 HP, 1,339 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	88,604.00	1,356.85
23 52 39 13-0141 EA 50 HP, 1,674 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	96,238.10	1,469.92
23 52 39 13-0142 EA 60 HP, 2,009 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	100,381.73	1,696.06
23 52 39 13-0143 EA 70 HP, 2,343 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	105,148.73	1,809.13
23 52 39 13-0144 EA 80 HP, 2,678 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	110,039.62	1,922.20
23 52 39 13-0145 EA 90 HP, 3,013 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	113,440.87	1,978.73
23 52 39 13-0146 EA 100 HP, 3,348 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	119,811.51	2,035.27
23 52 39 13-0147 EA 125 HP, 4,184 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	135,509.92	2,261.41
23 52 39 13-0148 EA 150 HP, 5,021 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	154,067.96	2,487.55
23 52 39 13-0149 EA 175 HP, 5,858 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	168,977.00	2,741.96
23 52 39 13-0150 EA 200 HP, 6,695 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	183,883.74	2,996.37
23 52 39 13-0151 EA 250 HP, 8,369 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	193,580.56	3,505.19

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0152 EA 300 HP, 10,043 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	235,700.95	4,014.00
23 52 39 13-0153 EA 350 HP, 11,716 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	254,947.93	4,522.83
23 52 39 13-0154 EA 400 HP, 13,390 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	300,530.95	5,031.64
23 52 39 13-0155 EA 500 HP, 16,738 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	365,637.30	5,540.45
23 52 39 13-0156 EA 600 HP, 20,085 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	428,202.62	6,049.28
23 52 39 13-0157 EA 700 HP, 23,433 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	488,104.75	6,558.09
23 52 39 13-0158 EA 800 HP, 26,780 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	545,570.29	7,066.91
23 52 39 13-0159 EA 900 HP, 30,128 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	853,174.29	7,575.72
23 52 39 13-0160 EA 1,000 HP, 33,476 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	928,436.95	8,084.55
23 52 39 13-0161 150 PSI Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0138)		
23 52 39 13-0162 EA 40 HP, 1,339 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	82,017.88	1,356.85
23 52 39 13-0163 EA 50 HP, 1,674 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	89,082.34	1,469.92
23 52 39 13-0164 EA 60 HP, 2,009 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	96,955.07	1,696.06
23 52 39 13-0165 EA 70 HP, 2,343 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	101,111.32	1,809.13
23 52 39 13-0166 EA 80 HP, 2,678 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	105,259.32	1,922.20
23 52 39 13-0167 EA 90 HP, 3,013 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	109,186.17	1,978.73
23 52 39 13-0168 EA 100 HP, 3,348 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	117,086.62	2,035.27
23 52 39 13-0169 EA 125 HP, 4,184 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	135,636.18	2,261.41
23 52 39 13-0170 EA 150 HP, 5,021 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	154,211.84	2,487.55
23 52 39 13-0171 EA 175 HP, 5,858 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	169,135.56	2,741.96
23 52 39 13-0172 EA 200 HP, 6,695 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	184,056.98	2,996.37
23 52 39 13-0173 EA 250 HP, 8,369 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	193,759.68	3,505.19
23 52 39 13-0174 EA 300 HP, 10,043 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	235,921.17	4,014.00
23 52 39 13-0175 EA 350 HP, 11,716 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	255,185.77	4,522.83
23 52 39 13-0176 EA 400 HP, 13,390 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	300,812.83	5,031.64
23 52 39 13-0177 EA 500 HP, 16,738 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	365,980.85	5,540.45
23 52 39 13-0178 EA 600 HP, 20,085 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	428,607.83	6,049.28
23 52 39 13-0179 EA 700 HP, 23,433 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	488,565.75	6,558.09
23 52 39 13-0180 EA 800 HP, 26,780 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	546,087.08	7,066.91
23 52 39 13-0181 EA 900 HP, 30,128 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	853,996.19	7,575.72
23 52 39 13-0182 EA 1,000 HP, 33,476 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	929,335.11	8,084.55
23 52 39 13-0183 150 PSI Gas/Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0138)		
23 52 39 13-0184 EA 40 HP, 1,339 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	91,484.51	1,356.85
23 52 39 13-0185 EA 50 HP, 1,674 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	99,365.26	1,469.92
23 52 39 13-0186 EA 60 HP, 2,009 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	104,266.45	1,696.06
23 52 39 13-0187 EA 70 HP, 2,343 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	108,722.21	1,809.13
23 52 39 13-0188 EA 80 HP, 2,678 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	113,169.71	1,922.20
23 52 39 13-0189 EA 90 HP, 3,013 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	117,399.00	1,978.73
23 52 39 13-0190 EA 100 HP, 3,348 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	121,626.14	2,035.27
23 52 39 13-0191 EA 125 HP, 4,184 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	140,912.72	2,261.41
23 52 39 13-0192 EA 150 HP, 5,021 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	160,222.44	2,487.55



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Central Heating Equipment		23 50
Heating Boilers		23 52

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0193	EA		175 HP, 5,858 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	175,724.62	2,741.96
23 52 39 13-0194	EA		200 HP, 6,695 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	191,227.42	2,996.37
23 52 39 13-0195	EA		250 HP, 8,369 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	201,250.18	3,505.19
23 52 39 13-0196	EA		300 HP, 10,043 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	245,082.43	4,014.00
23 52 39 13-0197	EA		350 HP, 11,716 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	265,063.48	4,522.83
23 52 39 13-0198	EA		400 HP, 13,390 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	312,508.11	5,031.64
23 52 39 13-0199	EA		500 HP, 16,738 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	380,309.99	5,540.45
23 52 39 13-0200	EA		600 HP, 20,085 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	445,456.32	6,049.28
23 52 39 13-0201	EA		700 HP, 23,433 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	507,830.82	6,558.09
23 52 39 13-0202	EA		800 HP, 26,780 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	567,663.01	7,066.91
23 52 39 13-0203	EA		900 HP, 30,128 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	888,316.88	7,575.72
23 52 39 13-0204	EA		1,000 HP, 33,476 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	966,706.16	8,084.55

23 53 Heating Boiler Feedwater Equipment (23 50)

23 53 13 Boiler Feedwater Pumps (23 53)

See CSI section 23 53 16 00-0001 for boiler feedwater units.

23 53 16 Deaerators (23 53)

23 53 16 00-0001 Boiler Feed System (23 53 16)

23 53 16 00-0002 Low Pressure Boiler Feed System (23 53 16 00-0001)

Note: With deaerator includes pumps and accessories.

23 53 16 00-0003	EA	20 HP, 200 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	6,770.11	1,282.96
23 53 16 00-0004	EA	34 HP, 340 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	7,302.96	1,511.47
23 53 16 00-0005	EA	54 HP, 530 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	7,847.65	1,564.41
23 53 16 00-0006	EA	67 HP, 660 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	8,097.93	1,621.82
23 53 16 00-0007	EA	78 HP, 760 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	8,568.27	1,733.28
23 53 16 00-0008	EA	104 HP, 1,020 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	13,749.99	1,878.19
23 53 16 00-0009	EA	158 HP, 1,550 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	15,519.41	2,006.38
23 53 16 00-0010	EA	219 HP, 2,150 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	17,792.22	2,285.03
23 53 16 00-0011	EA	254 HP, 2,500 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	19,582.36	2,452.23
23 53 16 00-0012	EA	305 HP, 3,000 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	21,099.16	2,619.43

23 53 16 00-0013 High Pressure Boiler Feed System (23 53 16 00-0001)

Note: With deaerator includes pumps and accessories.

23 53 16 00-0014	EA	10 HP, 100 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	9,429.92	1,093.81
23 53 16 00-0015	EA	20 HP, 200 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	9,818.27	1,282.96
23 53 16 00-0016	EA	34 HP, 340 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	10,921.29	1,511.47
23 53 16 00-0017	EA	54 HP, 530 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	11,806.89	1,564.41
23 53 16 00-0018	EA	67 HP, 660 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	12,011.66	1,621.82
23 53 16 00-0019	EA	78 HP, 760 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	14,509.64	1,733.28
23 53 16 00-0020	EA	104 HP, 1,020 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	18,900.67	1,878.19
23 53 16 00-0021	EA	158 HP, 1,550 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	19,383.76	2,006.38
23 53 16 00-0022	EA	183 HP, 1,800 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	21,327.18	2,148.61
23 53 16 00-0023	EA	219 HP, 2,150 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	22,951.87	2,285.03
23 53 16 00-0024	EA	254 HP, 2,500 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	24,552.80	2,452.23
23 53 16 00-0025	EA	305 HP, 3,000 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System.....	26,488.77	2,619.43

23 53 16 00-0026 Boiler Feedwater System (23 53 16)

Note: With deaerator includes pumps and accessories.

23 53 16 00-0027	EA	1,380 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	11,774.65	1,511.47
23 53 16 00-0028	EA	2,600 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	15,367.06	1,731.61
23 53 16 00-0029	EA	4,300 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	20,302.79	1,981.85
23 53 16 00-0030	EA	6,900 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	24,430.82	2,286.15
23 53 16 00-0031	EA	8,500 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	25,926.81	2,452.23
23 53 16 00-0032	EA	11,000 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	27,348.71	2,619.43
23 53 16 00-0033	EA	13,800 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	30,440.95	3,009.68
23 53 16 00-0034	EA	17,250 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	39,401.36	3,455.64
23 53 16 00-0035	EA	20,700 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	51,191.86	3,992.91
23 53 16 00-0036	EA	27,600 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	64,840.94	4,583.45
23 53 16 00-0037	EA	34,500 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	83,153.52	5,273.42

23 53 16 00-0038 Duplex Vacuum Condensate Pumps (23 53 16)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 53 Heating Boiler Feedwater Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 53 16 00-0039	EA		7 CFM, 15 GPM, 45 Gallon Duplex Vacuum Condensate Pump..... Note: Two 3/4 HP vacuum pumps rated for 7 CFM, two 3/4 HP condensate pumps rated for 15 GPM at 20 PSI and 45 GAL cast iron receiver. Skidmore JVC-7-45-102.	33,011.22	891.72
23 53 16 00-0040	EA		9 CFM, 30 GPM, 45 Gallon Duplex Vacuum Condensate Pump..... Note: Two 1 HP vacuum pumps rated for 9 CFM, two 3/4 HP condensate pumps rated for 30 GPM at 15 PSI and 45 GAL cast iron receiver. Skidmore JVC-9-45-201.5.	33,749.53	947.46
23 53 16 00-0041	EA		12 CFM, 45 GPM, 45 Gallon Duplex Vacuum Condensate Pump..... Note: Two 1-1/2 HP vacuum pumps rated for 12 CFM, two 1 HP condensate pumps rated for 45 GPM at 15 PSI and 45 GAL cast iron receiver. Skidmore JVC-12-45-301.5.	34,601.80	1,003.19
23 53 16 00-0042	EA		18 CFM, 37.5 GPM, 65 Gallon Duplex Vacuum Condensate Pump..... Note: Two 2 HP vacuum pumps rated for 18 CFM, two 1 HP condensate pumps rated for 37.5 GPM at 20 PSI and 65 GAL cast iron receiver. Skidmore JVC-18-65-252.	33,395.54	1,058.92
23 53 16 00-0043	EA		28 CFM, 60 GPM, 110 Gallon Duplex Vacuum Condensate Pump..... Note: Two 3 HP vacuum pumps rated for 28 CFM, two 1-1/2 HP condensate pumps rated for 60 GPM at 20 PSI and 110 GAL cast iron receiver. Skidmore JVC-28-110-402.	45,423.94	1,114.66
23 53 16 00-0044	EA		42 CFM, 75 GPM, 110 Gallon Duplex Vacuum Condensate Pump..... Note: Two 5 HP vacuum pumps rated for 42 CFM, two 2 HP condensate pumps rated for 75 GPM at 20 PSI and 110 GAL cast iron receiver. Skidmore JVC-42-110-502.	47,814.80	1,170.39

23 54 Furnaces (23 50)

Note: All units based on output. See CSI section 23 84 13 00-0000 for humidifiers.

23 54 13 Electric-Resistance Furnaces (23 54)

23 54 13 00-0001			Down Flow Multi-Speed Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0002	EA		Up To 2 Ton Down Flow Multi-Speed Air Handler/Electric Furnace Note: Excludes cooling equipment.	1,150.36	109.14
23 54 13 00-0003	EA		>2 To 3.5 Ton Down Flow Multi-Speed Air Handler/Electric Furnace..... Note: Excludes cooling equipment.	1,519.21	136.43
23 54 13 00-0004	EA		>3.5 To 5 Ton Down Flow Multi-Speed Air Handler/Electric Furnace..... Note: Excludes cooling equipment.	1,964.54	163.72
23 54 13 00-0005			Up/Horizontal Flow Multi-Speed Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0006	EA		Up To 2 Ton Up/Horizontal Flow Multi-Speed Air Handler/Electric Furnace..... Note: Excludes cooling equipment.	1,150.36	109.14
23 54 13 00-0007	EA		>2 To 2.5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,375.42	122.78
23 54 13 00-0008	EA		>2.5 To 3 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,503.28	136.43
23 54 13 00-0009	EA		>3 to 3.5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace..... Note: Excludes cooling equipment.	1,573.78	150.08
23 54 13 00-0010	EA		>3.5 To 5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,964.54	163.72
23 54 13 00-0011			Heating Coil For Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0012	EA		5 KW Heating Coil For Air Handler/Electric Furnace	210.81	30.80
23 54 13 00-0013	EA		7 KW Heating Coil For Air Handler/Electric Furnace	240.65	33.88
23 54 13 00-0014	EA		10 KW Heating Coil For Air Handler/Electric Furnace	260.94	36.96
23 54 13 00-0015	EA		15 KW Heating Coil For Air Handler/Electric Furnace	352.92	40.04
23 54 13 00-0016	EA		20 KW Heating Coil For Air Handler/Electric Furnace	381.17	43.11

23 54 16 Fuel-Fired Furnaces (23 54)**23 54 16 13 Gas-Fired Furnaces** (23 54 16)

23 54 16 13-0001			Natural Gas Fired Forced Air Furnaces (23 54 16 13)		
			Note: Excludes flue, condenser, evaporator coil, piping, thermostat, ductwork and electrical connections.		
23 54 16 13-0002			Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0003	EA		40 MBH, 800 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,803.22	95.50
23 54 16 13-0004	EA		60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,921.52	109.14
23 54 16 13-0005	EA		80 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace..... Note: Blower cooling capacity up to 4 tons.	2,216.68	122.78
23 54 16 13-0006	EA		100 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	2,591.90	150.08
23 54 16 13-0007	EA		120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	2,765.97	163.72
23 54 16 13-0008			Up/Horizontal Flow Variable Speed, Two Stage 95% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0009	EA		40 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,007.15	95.50
23 54 16 13-0010	EA		60 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,198.75	109.14
23 54 16 13-0011	EA		80 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,332.62	122.78



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 54 16 13-0012	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3.5 tons.	3,044.66	136.43
23 54 16 13-0013	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,752.82	150.08
23 54 16 13-0014	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,902.99	163.72
23 54 16 13-0015		Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0016	EA	45 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,768.09	95.50
23 54 16 13-0017	EA	70 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,029.80	109.14
23 54 16 13-0018	EA	90 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,202.67	136.43
23 54 16 13-0019	EA	90 MBH, 2,000 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,352.84	150.08
23 54 16 13-0020		Down Flow Variable Speed, Two Stage 93% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0021	EA	40 MBH, 1,200 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,319.44	95.50
23 54 16 13-0022	EA	60 MBH, 1,200 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,444.12	109.14
23 54 16 13-0023	EA	80 MBH, 1,600 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,721.75	122.78
23 54 16 13-0024	EA	100 MBH, 2,000 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,974.29	150.08
23 54 16 13-0025	EA	120 MBH, 2,000 CFM Down Flow Variable Speed, Two Stage 93% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	3,188.19	163.72
23 54 16 13-0026		Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0027	EA	40 MBH, 800 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,608.83	95.50
23 54 16 13-0028	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,696.86	109.14
23 54 16 13-0029	EA	80 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,893.24	122.78
23 54 16 13-0030	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,909.17	122.78
23 54 16 13-0031	EA	80 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,083.24	136.43
23 54 16 13-0032	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,196.76	150.08
23 54 16 13-0033	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,329.40	163.72
23 54 16 13-0034		Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0035	EA	40 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,119.68	95.50
23 54 16 13-0036	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,225.25	109.14
23 54 16 13-0037	EA	60 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,400.91	122.78
23 54 16 13-0038	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,402.50	122.78
23 54 16 13-0039	EA	80 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	1,539.92	136.43
23 54 16 13-0040	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	1,581.75	150.08
23 54 16 13-0041	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	1,757.41	163.72
23 54 16 13-0042		Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0043	EA	40 MBH, 1,200 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,135.62	95.50
23 54 16 13-0044	EA	60 MBH, 1,200 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,230.03	109.14
23 54 16 13-0045	EA	80 MBH, 1,600 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,472.61	122.78
23 54 16 13-0046	EA	100 MBH, 2,000 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	1,621.18	136.43
23 54 16 13-0047		75% AFUE Gas Wall/Recessed Furnace (23 54 16 13-0001)		
23 54 16 13-0048	EA	35 MBH 75% AFUE Electronic Ignition Gas Wall/Recessed Furnace	1,922.24	81.86
23 54 16 13-0049	EA	55 MBH 75% AFUE Electronic Ignition Gas Wall/Recessed Furnace	2,219.20	102.37
23 54 16 13-0050	EA	35 MBH 75% AFUE Gas Wall/Recessed Furnace	1,739.01	81.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 54 Furnaces**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 54 16 13-0051 EA 40 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,858.72	88.73
23 54 16 13-0052 EA 50 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,842.98	95.50
23 54 16 13-0053 EA 65 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,899.03	102.37
23 54 16 13-0054 EA 75 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,966.06	102.37
23 54 16 13-0055 Gas Fired Indoor Duct Furnace (23 54 16 13-0001) Note: Includes burner, controls and electronic ignition.		
23 54 16 13-0056 Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace (23 54 16 13-0055)		
23 54 16 13-0057 EA 100 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	2,769.13	212.83
23 54 16 13-0058 EA 150 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,075.48	261.95
23 54 16 13-0059 EA 200 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,461.98	376.54
23 54 16 13-0060 EA 250 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,904.36	425.66
23 54 16 13-0061 EA 300 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	4,552.56	491.15
23 54 16 13-0062 EA 350 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	4,984.77	589.38
23 54 16 13-0063 EA 400 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace	5,645.13	785.84
23 54 16 13-0064 Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace (23 54 16 13-0055) Note: Includes burner, controls and electronic ignition.		
23 54 16 13-0065 EA 100 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,110.90	212.83
23 54 16 13-0066 EA 150 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,412.14	261.95
23 54 16 13-0067 EA 200 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	3,924.47	376.54
23 54 16 13-0068 EA 250 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	4,450.16	425.66
23 54 16 13-0069 EA 300 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	5,494.54	491.15
23 54 16 13-0070 EA 350 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	6,006.67	589.38
23 54 16 13-0071 EA 400 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace	6,610.91	785.84
23 54 16 16 Oil-Fired Furnaces (23 54 16)		
23 54 16 16-0001 Oil Fired Forced Air Furnaces (23 54 16 16) Note: Excludes flue, condenser, evaporator coil, piping, thermostat, ductwork and electrical connections.		
23 54 16 16-0002 Up Flow Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)		
23 54 16 16-0003 EA 72 MBH, 1,220 CFM Up Flow Single Speed, One Stage 84% AFUE Oil Furnace.....	3,100.56	109.14
Note: Blower cooling capacity up to 3 tons.		
23 54 16 16-0004 EA 95 MBH, 1,590 CFM Up Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,299.32	150.08
Note: Blower cooling capacity up to 4 tons.		
23 54 16 16-0005 EA 126 MBH, 1,835 CFM Up Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,808.38	177.36
Note: Blower cooling capacity up to 5 tons.		
23 54 16 16-0006 Down/Horizontal Flow Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)		
23 54 16 16-0007 EA 95 MBH, 1,210 CFM Down/Horizontal Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,595.68	150.08
Note: Blower cooling capacity up to 3 tons.		
23 54 16 16-0008 EA 126 MBH, 2,005 CFM Down/Horizontal Flow Single Speed, One Stage 84% AFUE Oil Furnace	3,628.34	177.36
Note: Blower cooling capacity up to 5 tons.		
23 54 16 16-0009 Up Flow Lowboy Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)		
23 54 16 16-0010 EA 95 MBH, 1,550 CFM Up Flow Lowboy Single Speed, One Stage 83% AFUE Oil Furnace	3,111.31	150.08
Note: Blower cooling capacity up to 4 tons.		
23 54 16 16-0011 EA 127 MBH, 2,130 CFM Up Flow Lowboy Single Speed, One Stage 83% AFUE Oil Furnace	3,693.67	177.36
Note: Blower cooling capacity up to 5 tons.		
23 54 19 Furnace Accessories (23 54)		
23 54 19 00-0001 EA LP Gas Furnace Conversion Kit	199.44	27.29
23 54 19 00-0002 EA 1" Furnace External Filter Rack	61.39	
23 54 19 00-0003 EA Removal And Reinstallation Of Forced Air Furnace	505.30	
Note: Includes storage and cleaning. Excludes ductwork.		
23 55 Fuel-Fired Heaters (23 50)		
23 55 23 Gas-Fired Radiant Heaters (23 55)		
23 55 23 13 Low-Intensity Gas-Fired Radiant Heaters (23 55 23)		
23 55 23 13-0001 Infrared Heaters-Radiant Energy (23 55 23 13) Note: For spot localized or total heating, ceiling hung units, no fan required.		
23 55 23 13-0002 Gas Fired Electric Ignition Infrared Gas Heater (23 55 23 13-0001) Note: Ceramic combustion, surface chromized wire screen aluminized steel housing and polished aluminum reflector.		
23 55 23 13-0003 EA 15,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	950.93	111.47
23 55 23 13-0004 EA 37,500 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,049.89	122.61
23 55 23 13-0005 EA 50,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,123.30	122.61
23 55 23 13-0006 EA 75,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,409.13	147.14
23 55 23 13-0007 EA 100,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,421.50	147.14



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Heating Equipment

23 50

Fuel-Fired Heaters

23 55

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 55 23 13-0008 Rolled Steel Or Aluminum Housing Infrared Electric Heater (23 55 23 13-0001) Note: Anodized aluminum reflector and quartz/tungsten tubular element with an inner heavy-duty coiled element.		
23 55 23 13-0009 EA 1,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,064.35 175.14	120.05
23 55 23 13-0010 EA 3,200 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,139.80 194.00	120.05
23 55 23 13-0011 EA 5,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,226.02 215.55	120.05
23 55 23 13-0012 EA 7,300 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,329.67 241.47	120.05
23 55 23 13-0013 EA 10,950 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,452.81 269.06	130.97
23 55 23 13-0014 EA 13,500 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	1,552.33 289.76	141.88
23 55 23 13-0015 EA 24,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required For Stainless Steel Housing, Add	2,506.71 517.43	152.81
23 55 23 13-0016 Gas Fired Tubular Infrared Heater (23 55 23 13-0001) Note: Per Tube Length. Includes controls and supports.		
23 55 23 13-0017 "U" Package (23 55 23 13-0016)		
23 55 23 13-0018 LF Up To 75 MBH Input Radiant Heater.....	94.43	5.57
23 55 23 13-0019 LF 76 To 105 MBH Input Radiant Heater.....	108.87	6.69
23 55 23 13-0020 LF 106 To 130 MBH Input Radiant Heater.....	133.31	7.80
23 55 23 13-0021 "S" Straight Package (23 55 23 13-0016)		
23 55 23 13-0022 LF Up To 75 MBH Input Radiant Heater.....	76.66	4.46
23 55 23 13-0023 LF 76 To 105 MBH Input Radiant Heater.....	97.76	5.57
23 55 23 13-0024 LF 106 To 130 MBH Input Radiant Heater.....	118.86	6.69
23 55 33 Fuel-Fired Unit Heaters (23 55)		
23 55 33 00-0001 Oil-Fired Unit Heaters (23 55 33)		
23 55 33 00-0002 Oil Fired Unit Heater (23 55 33 00-0001)		
23 55 33 00-0003 Horizontal Fan Propelled Oil Fired Unit Heater, 115 Volt (23 55 33 00-0002)		
23 55 33 00-0004 EA 97 MBH Output, 2,000 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	8,350.36	513.31
23 55 33 00-0005 EA 142 MBH Output, 3,200 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	8,955.13	564.64
23 55 33 00-0006 EA 188 MBH Output, 3,200 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	9,617.13	615.98
23 55 33 00-0007 Gas-Fired Unit Heaters (23 55 33)		
23 55 33 00-0008 Removal And Reinstallation Of Unit Heaters (23 55 33 00-0007) Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.		
23 55 33 00-0009 EA Removal And Reinstallation Of Up To 101.3 MBH Output Gas or Oil Unit Heater	640.92	
23 55 33 00-0010 EA Removal And Reinstallation Of >101.3 MBH Output Gas or Oil Unit Heater	863.85	
23 55 33 00-0011 Gas Fired Unit Heaters (23 55 33 00-0007)		
23 55 33 00-0012 Horizontal Fan Propelled Gas Fired Unit Heaters, 115 Volt (23 55 33 00-0011)		
23 55 33 00-0013 EA 24.3 MBH Output, 30 MBH Input, 500 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,077.59	192.49
23 55 33 00-0014 EA 36.5 MBH Output, 45 MBH Input, 750 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,270.90	230.99
23 55 33 00-0015 EA 48.6 MBH Output, 60 MBH Input, 1,000 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,306.35	230.99
23 55 33 00-0016 EA 60.8 MBH Output, 75 MBH Input, 1,250 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,516.75	269.49
23 55 33 00-0017 EA 72.9 MBH Output, 90 MBH Input, 1,400 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,766.80	307.99
23 55 33 00-0018 EA 81 MBH Output, 100 MBH Input, 1,600 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,969.85	327.24
23 55 33 00-0019 EA 101.3 MBH Output, 125 MBH Input, 2,200 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,059.25	327.24
23 55 33 00-0020 EA 121.5 MBH Output, 150 MBH Input, 2,400 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,982.64	327.24
23 55 33 00-0021 EA 141.8 MBH Output, 175 MBH Input, 2,850 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,553.17	346.49
23 55 33 00-0022 EA 162 MBH Output, 200 MBH Input, 3,200 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,902.19	346.49
23 55 33 00-0023 EA 202.5 MBH Output, 250 MBH Input, 3,450 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	4,191.62	346.49
23 55 33 00-0024 EA 243 MBH Output, 300 MBH Input, 5,000 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	5,015.03	384.99
23 55 33 00-0025 EA 283.5 MBH Output, 350 MBH Input, 5,600 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	5,670.51	384.99
23 55 33 00-0026 EA 324 MBH Output, 400 MBH Input, 5,800 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	6,082.26	423.49
23 57 Heat Exchangers for HVAC (23 50)		
23 57 13 Steam-To-Steam Heat Exchangers (23 57)		
23 57 13 00-0001 Steam Generator Heat Exchanger (23 57 13) Note: 35 PSI generated steam using 180 degree feed water; 400 degree F water to valve.		
23 57 13 00-0002 EA 75 LB/Hour Steam Generator Heat Exchanger, 35 PSI.....	21,749.16	1,783.44
23 57 13 00-0003 EA 300 LB/Hour Steam Generator Heat Exchanger, 35 PSI.....	29,460.24	1,894.91

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 57 Heat Exchangers for HVAC**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 57 13 00-0004 EA 525 LB/Hour Steam Generator Heat Exchanger, 35 PSI.....39,810.86 2,376.70

23 57 16 Steam-To-Water Heat Exchangers (23 57)**23 57 16 00-0001 Heat Exchanger, Hot Water 40 To 180 Degree By Steam 10 PSI (23 57 16)**

Note: Cast iron head steel shell 4 pass 3/4" outside diameter copper tubes. Excludes controls expansion tank and accessories.

23 57 16 00-0002 EA 8 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....2,536.54 278.67
For Bronze Head And Tube Sheet, Add 974.24
For Copper Nickel Tubes, Add 216.50
For Double Wall Tube Bundles, Add 324.75

23 57 16 00-0003 EA 10 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....3,724.27 278.67
For Bronze Head And Tube Sheet, Add 1,475.28
For Copper Nickel Tubes, Add 327.84
For Double Wall Tube Bundles, Add 491.76

23 57 16 00-0004 EA 40 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....5,629.56 390.13
For Bronze Head And Tube Sheet, Add 2,282.51
For Copper Nickel Tubes, Add 507.22
For Double Wall Tube Bundles, Add 760.84

23 57 16 00-0005 EA 64 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....8,846.74 390.13
For Bronze Head And Tube Sheet, Add 3,479.44
For Copper Nickel Tubes, Add 773.21
For Double Wall Tube Bundles, Add 1,159.81

23 57 16 00-0006 EA 96 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....11,661.51 459.24
For Bronze Head And Tube Sheet, Add 4,620.69
For Copper Nickel Tubes, Add 1,026.82
For Double Wall Tube Bundles, Add 1,540.23

23 57 16 00-0007 EA 120 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....15,355.49 589.20
For Bronze Head And Tube Sheet, Add 6,068.13
For Copper Nickel Tubes, Add 1,348.47
For Double Wall Tube Bundles, Add 2,022.71

23 57 16 00-0008 EA 168 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....18,947.69 884.35
For Bronze Head And Tube Sheet, Add 7,432.07
For Copper Nickel Tubes, Add 1,651.57
For Double Wall Tube Bundles, Add 2,477.36

23 57 16 00-0009 EA 240 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....28,772.33 884.35
For Bronze Head And Tube Sheet, Add 11,579.56
For Copper Nickel Tubes, Add 2,573.24
For Double Wall Tube Bundles, Add 3,859.85

23 57 19 Liquid-To-Liquid Heat Exchangers (23 57)**23 57 19 13 Plate-Type, Liquid-To-Liquid Heat Exchangers (23 57 19)****23 57 19 13-0001 Plate And Frame Heat Exchanger (23 57 19 13)**

23 57 19 13-0002 EA 8" W x 18-7/8"H Plate And Frame Heat Exchanger.....4,003.46 278.67

23 57 19 13-0003 EA 8" W x 24-9/16"H Plate And Frame Heat Exchanger.....5,348.30 278.67

23 57 19 13-0004 EA 11-3/16"W x 34-11/16"H Plate And Frame Heat Exchanger.....7,140.76 334.40

23 57 19 13-0005 EA 16-3/4" W x 46-1/4"H Plate And Frame Heat Exchanger.....9,718.14 362.27

23 57 19 13-0006 EA 16-1/2" W x 49-5/8"H Plate And Frame Heat Exchanger.....10,642.71 362.27

23 57 19 13-0007 EA 24" W x 57-11/16"H Plate And Frame Heat Exchanger.....13,892.50 390.13

23 57 19 13-0008 EA 26-5/16" W x 56-5/8"H Plate And Frame Heat Exchanger.....14,648.97 390.13

23 57 19 13-0009 EA 24-1/4" W x 68-3/8"H Plate And Frame Heat Exchanger.....18,122.43 445.87

23 57 19 13-0010 EA 24" W x 69-11/16"H Plate And Frame Heat Exchanger.....22,184.27 501.59

23 57 19 13-0011 EA 26-5/16" W x 68-3/4"H Plate And Frame Heat Exchanger.....23,024.80 501.59

23 57 19 13-0012 EA 24" W x 89-13/16"H Plate And Frame Heat Exchanger.....28,532.97 596.94

23 57 19 13-0013 EA 26-5/16" W x 88-9/16"H Plate And Frame Heat Exchanger.....34,454.00 656.52

23 57 19 13-0014 EA 40-13/16" W x 89-1/4"H Plate And Frame Heat Exchanger.....39,786.54 716.10

23 57 19 19 Copper Tube, Water-To-Water Heat Exchanger (23 57 19)**23 57 19 19-0001 Heat Exchanger Hot Water 40-140 Degree By Water At 200 Degree F (23 57 19)**

Note: Cast iron head steel shell 4 pass 3/4" outside diameter copper tubes.

23 57 19 19-0002 EA 7 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....3,031.39 278.67
For Copper Nickel Tubes, Add 265.98
For Double Wall Tube Bundles, Add 398.97

23 57 19 19-0003 EA 16 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....4,219.12 278.67
For Copper Nickel Tubes, Add 377.33
For Double Wall Tube Bundles, Add 565.99

23 57 19 19-0004 EA 34 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....6,309.99 390.13
For Copper Nickel Tubes, Add 575.27
For Double Wall Tube Bundles, Add 862.90

23 57 19 19-0005 EA 55 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....9,031.89 390.13
For Copper Nickel Tubes, Add 828.88
For Double Wall Tube Bundles, Add 1,243.32

23 57 19 19-0006 EA 74 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....11,175.60 445.87
For Copper Nickel Tubes, Add 1,020.63
For Double Wall Tube Bundles, Add 1,530.95

23 57 19 19-0007 EA 86 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....14,905.49 445.87
For Copper Nickel Tubes, Add 1,373.22
For Double Wall Tube Bundles, Add 2,059.83



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heat Exchangers for HVAC			23 57

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 57 19 19-0008	EA	112 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	18,503.00 1,707.24 2,560.66	442.18
23 57 19 19-0009	EA	126 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	23,015.80 2,127.87 3,191.80	442.18
23 57 19 19-0010	EA	152 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	29,427.81 2,721.69 4,082.54	442.18
23 57 19 23 Refrigerant-To-Water Heat Exchanger (23 57 19)				
23 57 19 23-0001 Heat Exchanger Refrigerant To Water (23 57 19 23)				
23 57 19 23-0002	EA	10 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	3,423.27 297.74 446.61	222.93
23 57 19 23-0003	EA	53 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	9,163.68 842.06 1,263.09	371.52
23 57 19 23-0004	EA	70 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	12,351.07 1,138.35 1,707.52	484.65
23 57 19 23-0005	EA	87 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	13,236.55 1,206.57 1,809.86	586.64
23 57 19 23-0006	EA	105 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube For Copper Nickel Tubes, Add For Double Wall Tube Bundles, Add	15,984.83 1,455.76 2,183.64	702.28

23 60 Central Cooling Equipment (23)

Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 61 Refrigerant Compressors (23 60)

23 61 16 Reciprocating Refrigerant Compressors (23 61)

23 61 16 00-0001 Reciprocating Open Type Refrigerant Compressors (23 61 16)

Note: Includes manual reversible oil pump and automatic pressure regulator. Excludes muffler, vibration isolators, crank case oil heaters, couplings and flywheel.

23 61 16 00-0002	EA	1/4 Ton Refrigerant Compressor, Reciprocating Open Type	709.88	105.67
23 61 16 00-0003	EA	1/3 Ton Refrigerant Compressor, Reciprocating Open Type	847.40	105.67
23 61 16 00-0004	EA	1/2 Ton Refrigerant Compressor, Reciprocating Open Type	1,152.36	132.05
23 61 16 00-0005	EA	3/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,436.00	132.05
23 61 16 00-0006	EA	1 Ton Refrigerant Compressor, Reciprocating Open Type	1,607.90	132.05
23 61 16 00-0007	EA	1-1/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,628.49	137.38
23 61 16 00-0008	EA	1-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	1,638.52	137.38
23 61 16 00-0009	EA	1-3/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,800.06	147.95
23 61 16 00-0010	EA	2 Ton Refrigerant Compressor, Reciprocating Open Type	1,935.80	158.52
23 61 16 00-0011	EA	2-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,111.63	169.08
23 61 16 00-0012	EA	3 Ton Refrigerant Compressor, Reciprocating Open Type	2,406.73	169.08
23 61 16 00-0013	EA	3-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,702.91	179.64
23 61 16 00-0014	EA	4 Ton Refrigerant Compressor, Reciprocating Open Type	2,758.44	190.22
23 61 16 00-0015	EA	4-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,803.36	195.46
23 61 16 00-0016	EA	5 Ton Refrigerant Compressor, Reciprocating Open Type	4,043.24	1,023.18
23 61 16 00-0017	EA	7.5 Ton Refrigerant Compressor, Reciprocating Open Type	6,172.19	1,169.30
23 61 16 00-0018	EA	10 Ton Refrigerant Compressor, Reciprocating Open Type	8,301.30	1,315.52
23 61 16 00-0019	EA	12.5 Ton Refrigerant Compressor, Reciprocating Open Type	11,032.84	1,425.05
23 61 16 00-0020	EA	15 Ton Refrigerant Compressor, Reciprocating Open Type	13,764.70	1,534.77
23 61 16 00-0021	EA	20 Ton Refrigerant Compressor, Reciprocating Open Type	16,517.65	1,841.73
23 61 16 00-0022	EA	25 Ton Refrigerant Compressor, Reciprocating Open Type	19,924.78	1,979.50
23 61 16 00-0023	EA	30 Ton Refrigerant Compressor, Reciprocating Open Type	23,197.86	2,092.88
23 61 16 00-0024	EA	50 Ton Refrigerant Compressor, Reciprocating Open Type	30,476.88	2,361.22
23 61 16 00-0025	EA	60 Ton Refrigerant Compressor, Reciprocating Open Type	36,013.80	2,423.14
23 61 16 00-0026	EA	70 Ton Refrigerant Compressor, Reciprocating Open Type	45,178.89	2,484.96
23 61 16 00-0027	EA	75 Ton Refrigerant Compressor, Reciprocating Open Type	47,467.11	2,515.98
23 61 16 00-0028	EA	80 Ton Refrigerant Compressor, Reciprocating Open Type	49,659.01	2,546.89
23 61 16 00-0029	EA	90 Ton Refrigerant Compressor, Reciprocating Open Type	53,761.02	2,608.72
23 61 16 00-0030	EA	100 Ton Refrigerant Compressor, Reciprocating Open Type	57,483.56	2,670.74
23 61 16 00-0031	EA	110 Ton Refrigerant Compressor, Reciprocating Open Type	61,635.70	3,127.42
23 61 16 00-0032	EA	120 Ton Refrigerant Compressor, Reciprocating Open Type	64,604.66	3,197.41
23 61 16 00-0033	EA	130 Ton Refrigerant Compressor, Reciprocating Open Type	67,151.10	3,238.11
23 61 16 00-0034	EA	140 Ton Refrigerant Compressor, Reciprocating Open Type	69,405.69	3,338.30
23 61 16 00-0035	EA	150 Ton Refrigerant Compressor, Reciprocating Open Type	71,235.17	3,408.28
23 61 16 00-0036	EA	175 Ton Refrigerant Compressor, Reciprocating Open Type	73,098.96	3,501.68
23 61 16 00-0037	EA	185 Ton Refrigerant Compressor, Reciprocating Open Type	74,878.11	3,539.33
23 61 16 00-0038	EA	200 Ton Refrigerant Compressor, Reciprocating Open Type	76,689.82	3,597.91
23 61 16 00-0039	EA	225 Ton Refrigerant Compressor, Reciprocating Open Type	78,791.13	3,840.55
23 61 16 00-0040	EA	250 Ton Refrigerant Compressor, Reciprocating Open Type	80,834.59	4,047.59

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 61 Refrigerant Compressors**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 61 16 00-0041 Reciprocating Hermetic Type Refrigerant Compressors** ^(23 61 16)
Note: Includes automatic reversible oil pump, suction and discharge shut-off valves, device for loading and unloading compressor cylinders and crank case oil heater. Excludes mufflers and vibration isolators.**23 61 16 00-0042 Reciprocating Hermetic Type Refrigerant Compressors <5 Tons** ^(23 61 16 00-0041)

23 61 16 00-0043	EA	1/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,078.61	105.67
23 61 16 00-0044	EA	1/3 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,115.52	105.67
23 61 16 00-0045	EA	1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,205.26	132.05
23 61 16 00-0046	EA	3/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,242.15	132.05
23 61 16 00-0047	EA	1 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,260.60	132.05
23 61 16 00-0048	EA	1-1/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,300.69	137.38
23 61 16 00-0049	EA	1-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,341.29	137.38
23 61 16 00-0050	EA	1-3/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,439.92	147.95
23 61 16 00-0051	EA	2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,534.88	158.52
23 61 16 00-0052	EA	2-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,666.71	169.08
23 61 16 00-0053	EA	3 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,740.53	169.08
23 61 16 00-0054	EA	3-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,872.36	179.64
23 61 16 00-0055	EA	4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	2,225.65	190.22
23 61 16 00-0056	EA	4-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	2,439.17	195.46

23 61 16 00-0057 Reciprocating Hermetic Type Refrigerant Compressors ^(23 61 16 00-0041)

23 61 16 00-0058	EA	5 Ton Refrigerant Compressor, Reciprocating Hermetic Type	3,053.00	526.21
23 61 16 00-0059	EA	10 Ton Refrigerant Compressor, Reciprocating Hermetic Type	5,836.71	657.75
23 61 16 00-0060	EA	15 Ton Refrigerant Compressor, Reciprocating Hermetic Type	9,770.08	800.77
23 61 16 00-0061	EA	20 Ton Refrigerant Compressor, Reciprocating Hermetic Type	12,453.42	920.86
23 61 16 00-0062	EA	25 Ton Refrigerant Compressor, Reciprocating Hermetic Type	13,753.11	1,023.18
23 61 16 00-0063	EA	30 Ton Refrigerant Compressor, Reciprocating Hermetic Type	15,246.84	1,151.08
23 61 16 00-0064	EA	35 Ton Refrigerant Compressor, Reciprocating Hermetic Type	19,734.41	1,315.52
23 61 16 00-0065	EA	40 Ton Refrigerant Compressor, Reciprocating Hermetic Type	25,411.49	1,315.52
23 61 16 00-0066	EA	50 Ton Refrigerant Compressor, Reciprocating Hermetic Type	31,392.78	1,534.77
23 61 16 00-0067	EA	60 Ton Refrigerant Compressor, Reciprocating Hermetic Type	35,349.34	1,644.40
23 61 16 00-0068	EA	70 Ton Refrigerant Compressor, Reciprocating Hermetic Type	37,350.63	1,723.31
23 61 16 00-0069	EA	75 Ton Refrigerant Compressor, Reciprocating Hermetic Type	38,394.67	1,808.44
23 61 16 00-0070	EA	80 Ton Refrigerant Compressor, Reciprocating Hermetic Type	39,488.29	1,815.45
23 61 16 00-0071	EA	90 Ton Refrigerant Compressor, Reciprocating Hermetic Type	41,480.29	1,900.89
23 61 16 00-0072	EA	100 Ton Refrigerant Compressor, Reciprocating Hermetic Type	43,492.94	1,979.50

23 61 19 Scroll Refrigerant Compressors ^(23 61)**23 61 19 00-0001 Scroll Refrigerant Compressors** ^(23 61 19)

23 61 19 00-0002	EA	Up To 3 Ton Scroll Refrigerant Compressor	1,304.62	168.89
23 61 19 00-0003	EA	3.5 Ton Scroll Refrigerant Compressor	1,368.21	179.75
23 61 19 00-0004	EA	4 Ton Scroll Refrigerant Compressor	1,402.34	190.12
23 61 19 00-0005	EA	4.5 Ton Scroll Refrigerant Compressor	1,429.94	195.55
23 61 19 00-0006	EA	5 Ton Scroll Refrigerant Compressor	1,772.06	246.90
23 61 19 00-0007	EA	7.5 Ton Scroll Refrigerant Compressor	3,363.67	370.36
23 61 19 00-0008	EA	8.75 Ton Scroll Refrigerant Compressor	3,849.50	432.09
23 61 19 00-0009	EA	10 Ton Scroll Refrigerant Compressor	4,313.96	493.81
23 61 19 00-0010	EA	12 Ton Scroll Refrigerant Compressor	5,213.17	592.57
23 61 19 00-0011	EA	13.5 Ton Scroll Refrigerant Compressor	6,143.41	666.64
23 61 19 00-0012	EA	15 Ton Scroll Refrigerant Compressor	7,201.34	740.72
23 61 19 00-0013	EA	20 Ton Scroll Refrigerant Compressor	10,143.10	987.63
23 61 19 00-0014	EA	25 Ton Scroll Refrigerant Compressor	11,448.07	1,234.53
23 61 19 00-0015	EA	30 Ton Scroll Refrigerant Compressor	12,257.60	1,481.44

23 61 23 Rotary-Screw Refrigerant Compressors ^(23 61)**23 61 23 00-0001 Rotary Screw Type Refrigerant Compressors** ^(23 61 23)

23 61 23 00-0002	EA	75 Ton Refrigerant Compressor, Rotary Screw Type	44,831.61	2,515.98
23 61 23 00-0003	EA	80 Ton Refrigerant Compressor, Rotary Screw Type	46,201.87	2,546.89
23 61 23 00-0004	EA	90 Ton Refrigerant Compressor, Rotary Screw Type	49,173.19	2,608.72
23 61 23 00-0005	EA	100 Ton Refrigerant Compressor, Rotary Screw Type	52,113.03	2,670.74
23 61 23 00-0006	EA	110 Ton Refrigerant Compressor, Rotary Screw Type	56,365.78	3,127.42
23 61 23 00-0007	EA	120 Ton Refrigerant Compressor, Rotary Screw Type	59,816.44	3,197.41
23 61 23 00-0008	EA	130 Ton Refrigerant Compressor, Rotary Screw Type	63,192.52	3,238.11
23 61 23 00-0009	EA	140 Ton Refrigerant Compressor, Rotary Screw Type	66,686.15	3,338.30
23 61 23 00-0010	EA	150 Ton Refrigerant Compressor, Rotary Screw Type	70,139.80	3,408.28
23 61 23 00-0011	EA	170 Ton Refrigerant Compressor, Rotary Screw Type	74,997.72	3,501.68
23 61 23 00-0012	EA	185 Ton Refrigerant Compressor, Rotary Screw Type	78,398.22	3,539.33
23 61 23 00-0013	EA	200 Ton Refrigerant Compressor, Rotary Screw Type	79,980.34	3,597.91
23 61 23 00-0014	EA	215 Ton Refrigerant Compressor, Rotary Screw Type	89,787.22	3,840.55
23 61 23 00-0015	EA	225 Ton Refrigerant Compressor, Rotary Screw Type	99,462.70	4,047.59

23 62 Packaged Compressor and Condenser Units ^(23 60)**23 62 13 Packaged Air-Cooled Refrigerant Compressor and Condenser Units** ^(23 62)



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Packaged Compressor and Condenser Units			23 62

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 62 13 00-0001	Combination Direct-Expansion Liquid Cooler And Compressors ^(23 62 13) Note: Shell and tube type. Chilled water temperature rise is 12 degree F. Rated by cooling capacity in tons. Includes power panel, factory wired and installed control panel, pressure and safety switches and gauges for oil pressure and high and low refrigerant pressure, flow switches, phase monitoring, sight glasses and filter dryers, start-up costs and equipment rigging. Units greater than 5 tons include dual compressors. Excludes motor starter, piping or power wiring.		
23 62 13 00-0002	EA 1 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	6,867.90	912.57
23 62 13 00-0003	EA 5 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	15,245.76	977.75
23 62 13 00-0004	EA 10 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	26,782.48	1,042.93
23 62 13 00-0005	EA 15 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	31,727.83	1,108.12
23 62 13 00-0006	EA 20 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	37,642.52	1,173.30
23 62 13 00-0007	EA 25 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	41,717.31	1,303.66
23 62 13 00-0008	EA 30 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	42,994.02	1,506.54
23 62 13 00-0009	EA 40 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	46,357.88	1,790.73
23 62 13 00-0010	EA 50 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	49,486.62	1,939.95
23 62 13 00-0011	EA 60 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	56,687.92	2,089.18
23 62 13 00-0012	EA 75 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	64,087.00	2,313.03
23 62 13 00-0013	EA 80 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	67,734.05	2,405.32
23 62 13 00-0014	EA 90 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	76,467.89	2,555.66
23 62 13 00-0015	EA 100 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube.....	83,577.41	2,706.00
23 62 13 00-0016	Direct-Expansion Liquid Cooler Shell And Tube Type ^(23 62 13) Note: For built-up systems. Chilled water temperature rise is 12 degree F. Rated by cooling capacity in tons. Excludes compressors. Includes power panel, factory wired and installed control panel, pressure and safety switches and gauges for oil pressure and high and low refrigerant pressure, flow switches, phase monitoring, sight glasses and filter dryers, start-up costs and equipment rigging. Units greater than 5 tons include dual compressors. Excludes motor starter, piping or power wiring.		
23 62 13 00-0017	EA 1 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	6,554.87	912.57
23 62 13 00-0018	EA 5 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	13,464.07	977.75
23 62 13 00-0019	EA 10 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	21,018.45	1,042.93
23 62 13 00-0020	EA 15 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	22,701.07	1,108.12
23 62 13 00-0021	EA 20 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	24,383.69	1,173.30
23 62 13 00-0022	EA 25 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	28,900.82	1,303.66
23 62 13 00-0023	EA 30 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	32,807.89	1,506.54
23 62 13 00-0024	EA 40 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	42,165.67	1,790.73
23 62 13 00-0025	EA 50 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	47,287.33	1,939.95
23 62 13 00-0026	EA 60 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	51,174.98	2,089.18
23 62 13 00-0027	EA 75 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	58,851.27	2,313.03
23 62 13 00-0028	EA 80 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	62,332.25	2,405.32
23 62 13 00-0029	EA 90 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	68,371.94	2,555.66
23 62 13 00-0030	EA 100 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems.....	77,958.87	2,706.00
23 62 13 00-0031	Packaged Chiller With Remote Air Cooled Condenser ^(23 62 13) Note: With remote air cooled condenser rated by cooling capacity. Units are factory assembled package type. Includes hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3 valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, vibration eliminators, phase monitoring for 3 phase units, start-up and equipment rigging. Units include dual compressors. Excludes piping and power wiring.		
23 62 13 00-0032	EA 15 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	36,217.11 5,938.99	8,700.65
23 62 13 00-0033	EA 20 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	40,616.41 6,748.34	9,170.93
23 62 13 00-0034	EA 25 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	46,867.15 7,877.17	9,980.05
23 62 13 00-0035	EA 30 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	52,168.19 8,843.86	10,603.85
23 62 13 00-0036	EA 40 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	64,559.57 11,157.67	11,700.80
23 62 13 00-0037	EA 50 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	70,895.32 12,362.17	12,118.63
23 62 13 00-0038	EA 60 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	76,994.63 13,442.27	13,050.85
23 62 13 00-0039	EA 70 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	92,898.25 16,459.94	13,963.97
23 62 13 00-0040	EA 75 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	93,978.81 16,660.35	14,243.14
23 62 13 00-0041	EA 80 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	95,830.81 16,937.91	14,862.46
23 62 13 00-0042	EA 90 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	105,948.56 18,860.17	15,538.04
23 62 13 00-0043	EA 100 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	116,853.11 20,930.15	16,277.98
23 62 13 00-0044	EA 110 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	129,174.61 23,272.43	17,091.83
23 62 13 00-0045	EA 120 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	139,478.94 25,198.43	17,991.43
23 62 13 00-0046	EA 140 Ton Packaged Chiller With Remote Air Cooled Condensers..... For Gas Fired Engine Driven, Add	153,571.36 27,867.06	18,990.92

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 62 Packaged Compressor and Condenser Units**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 62 23 Packaged Water-Cooled Refrigerant Compressor and Condenser Units (23 62)****23 62 23 00-0001 Water Cooled Condensing Units (23 62 23)**

Note: Includes compressor, condenser and motor, and equipment rigging. Excludes piping and power wiring.

23 62 23 00-0002	EA	5 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	8,073.05	713.51
23 62 23 00-0003	EA	10 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	12,252.01	1,042.03
23 62 23 00-0004	EA	15 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	14,039.72	1,129.30
23 62 23 00-0005	EA	20 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	17,418.11	1,355.15
23 62 23 00-0006	EA	30 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	18,791.36	1,584.36
23 62 23 00-0007	EA	60 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	40,074.33	2,408.20
23 62 23 00-0008	EA	80 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	49,748.81	2,906.49
23 62 23 00-0009	EA	120 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor.....	68,937.00	3,180.15

23 63 Refrigerant Condensers (23 60)**23 63 13 Air-Cooled Refrigerant Condensers (23 63)****23 63 13 00-0001 Air Cooled Condensing Units (23 63 13)**

Note: Includes compressor(s), condenser, fan, motors, discharge/suction gauges, sight glass, fan cycling controls, standard oil hi/low safety control switches, standard controls and liquid line filter dryers and phase monitoring for 3 phase units and equipment rigging. Meets minimum ASHRAE EER requirements. Excludes piping and power wiring.

23 63 13 00-0002	EA	6 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	6,818.26	713.51
		For >10 To 25, Deduct	-172.13	
		For >25 To 50, Deduct	-286.88	
		For >50, Deduct	-459.01	
		For Low Ambient Protection, 0 Degree F, Add	1,016.05	
		For Winter Start Control, Add	337.57	
23 63 13 00-0003	EA	7.5 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	8,168.39	846.97
		For >10 To 25, Deduct	-206.55	
		For >25 To 50, Deduct	-344.26	
		For >50, Deduct	-550.81	
		For Low Ambient Protection, 0 Degree F, Add	871.63	
		For Winter Start Control, Add	266.03	
23 63 13 00-0004	EA	10 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	10,636.35	1,042.03
		For >10 To 25, Deduct	-271.71	
		For >25 To 50, Deduct	-452.85	
		For >50, Deduct	-724.55	
		For Low Ambient Protection, 0 Degree F, Add	1,028.84	
		For Winter Start Control, Add	339.08	
23 63 13 00-0005	EA	12.5 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	13,217.91	1,084.13
		For >10 To 25, Deduct	-347.26	
		For >25 To 50, Deduct	-578.77	
		For >50, Deduct	-926.02	
		For Low Ambient Protection, 0 Degree F, Add	1,220.92	
		For Winter Start Control, Add	395.77	
23 63 13 00-0006	EA	15 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	15,804.73	1,129.30
		For >10 To 25, Deduct	-422.81	
		For >25 To 50, Deduct	-704.68	
		For >50, Deduct	-1,127.49	
		For Low Ambient Protection, 0 Degree F, Add	1,273.38	
		For Winter Start Control, Add	312.04	
23 63 13 00-0007	EA	20 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	20,398.16	1,355.15
		For >10 To 25, Deduct	-550.35	
		For >25 To 50, Deduct	-917.24	
		For >50, Deduct	-1,467.59	
		For Low Ambient Protection, 0 Degree F, Add	1,614.01	
		For Winter Start Control, Add	388.78	
23 63 13 00-0008	EA	25 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	23,231.86	1,457.82
		For >10 To 25, Deduct	-630.75	
		For >25 To 50, Deduct	-1,051.25	
		For >50, Deduct	-1,682.00	
		For Low Ambient Protection, 0 Degree F, Add	1,708.09	
		For Winter Start Control, Add	430.94	
23 63 13 00-0009	EA	30 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	26,667.29	1,591.28
		For >10 To 25, Deduct	-727.79	
		For >25 To 50, Deduct	-1,212.98	
		For >50, Deduct	-1,940.77	
		For Low Ambient Protection, 0 Degree F, Add	1,814.90	
		For Winter Start Control, Add	483.36	
23 63 13 00-0010	EA	40 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	36,802.23	1,915.62
		For >10 To 25, Deduct	-1,015.44	
		For >25 To 50, Deduct	-1,692.40	
		For >50, Deduct	-2,707.84	
		For Low Ambient Protection, 0 Degree F, Add	2,430.97	
		For Winter Start Control, Add	633.91	
23 63 13 00-0011	EA	50 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	44,666.50	2,408.20
		For >10 To 25, Deduct	-1,228.58	
		For >25 To 50, Deduct	-2,047.63	
		For >50, Deduct	-3,276.20	
		For Low Ambient Protection, 0 Degree F, Add	2,566.59	
		For Winter Start Control, Add	576.16	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central Cooling Equipment		23 60	
Refrigerant Condensers		23 63	

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 63 13 00-0012	EA 60 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor..... For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For Low Ambient Protection, 0 Degree F, Add For Winter Start Control, Add	51,511.97 -1,425.63 -2,376.06 -3,801.69 2,898.56 636.69		2,657.92
23 63 13 00-0013	EA 80 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor..... For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For Low Ambient Protection, 0 Degree F, Add For Winter Start Control, Add	66,864.23 -1,871.46 -3,119.09 -4,990.55 3,615.86 760.14		2,906.49
23 63 13 00-0014	EA 100 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor..... For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For Low Ambient Protection, 0 Degree F, Add For Winter Start Control, Add	92,430.97 -2,613.11 -4,355.18 -6,968.29 3,944.95 968.26		2,616.98
23 63 13 00-0015	EA 120 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor..... For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For Low Ambient Protection, 0 Degree F, Add	114,098.65 -3,257.72 -5,429.53 -8,687.25 4,634.71		2,705.70
23 63 13 00-0016	Air Cooled Condensing Units (23 63 13) Note: Includes compressor(s), condenser, fan, motors, discharge/suction gauges, sight glass, fan cycling controls, standard oil hi/low safety control switches, standard controls and liquid line filter dryers, 14 SEER, 1 or 3 phase and equipment rigging. Higher SEER ratings can be obtained by oversizing evaporators. Includes 20' length of piping (liquid line and insulated suction line). Excludes additional piping and power wiring.			
23 63 13 00-0017	EA 1.5 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	2,165.34 -48.99 -81.66 -130.65 391.95 669.58 1,404.48		354.82
23 63 13 00-0018	EA 2 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	2,328.53 -52.12 -86.86 -138.97 416.92 712.24 1,493.97		394.43
23 63 13 00-0019	EA 2.5 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	2,470.56 -54.60 -91.00 -145.61 436.82 746.23 1,565.26		433.88
23 63 13 00-0020	EA 3 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	2,838.32 -63.86 -106.44 -170.30 510.89 872.77 1,830.68		473.08
23 63 13 00-0021	EA 3.5 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	3,005.04 -67.09 -111.81 -178.90 536.71 916.87 1,923.20		512.76
23 63 13 00-0022	EA 4 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	3,349.89 -75.66 -126.10 -201.76 605.28 1,034.02 2,168.91		552.21
23 63 13 00-0023	EA 5 Ton, 14 SEER, Air Cooled Condensing Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For >10 To 25, Deduct For >25 To 50, Deduct For >50, Deduct For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	3,781.95 -86.85 -144.75 -231.59 694.78 1,186.92 2,489.63		591.35

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 63 Refrigerant Condensers**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 63 13 00-0024 Removal And Reinstallation Of AC Condensing Unit^(23 63 13)**

Note: Includes storage and cleaning.

23 63 13 00-0025	EA	Removal And Reinstallation Of Up To 5 Tons Air Cooled Condensing Unit	363.81	
23 63 13 00-0026	EA	Removal And Reinstallation Of 7.5 To 15 Tons Air Cooled Condensing Unit	1,364.31	
23 63 13 00-0027	EA	Removal And Reinstallation Of 20 To 40 Tons Air Cooled Condensing Unit	2,156.79	

23 64 Packaged Water Chillers^(23 60)

See CSI section 26 29 23 00-0000 for variable frequency motor controllers.

23 64 13 Absorption Water Chillers^(23 64)**23 64 13 16 Indirect-Fired Absorption Water Chillers^(23 64 13)****23 64 13 16-0001 Packaged, Steam Driven, Water Cooled Absorption Chillers^(23 64 13 16)**

Note: Includes refrigerant monitor with scanner, audible alarm, and lights, 460 voltage motor rating, and all accessories, controls (water temperature controller with PE switches, flow switch, etc.) factory wired and installed control panel, and also includes start-up. Price includes closed transition starter. (rated by cooling capacity in tons). Units are factory assembled package type consisting of motor, cooler, condenser, internal piping and wiring, motor starters, insulation, purge unit, controls, gauges, lubrication system, refrigerant charge, oil, phase monitoring for 3 phase units, start-up costs and equipment rigging. Exclude piping and power wiring.

23 64 13 16-0002	EA	50 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	196,647.66	11,870.37
		For Two Stage Unit, Add	128,157.07	
23 64 13 16-0003	EA	100 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	248,124.18	13,666.63
		For Two Stage Unit, Add	162,753.62	
23 64 13 16-0004	EA	150 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	314,189.05	14,691.63
		For Two Stage Unit, Add	208,179.04	
23 64 13 16-0005	EA	200 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	348,900.26	15,716.62
		For Two Stage Unit, Add	231,656.89	
23 64 13 16-0006	EA	250 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	389,440.32	16,172.18
		For Two Stage Unit, Add	259,670.48	
23 64 13 16-0007	EA	300 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	438,482.33	16,741.62
		For Two Stage Unit, Add	293,544.33	
23 64 13 16-0008	EA	350 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	470,105.02	17,311.06
		For Two Stage Unit, Add	315,224.66	
23 64 13 16-0009	EA	400 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	559,023.80	18,222.18
		For Two Stage Unit, Add	376,738.92	
23 64 13 16-0010	EA	500 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	625,485.13	18,791.62
		For Two Stage Unit, Add	422,806.30	
23 64 13 16-0011	EA	650 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	757,268.88	19,361.05
		For Two Stage Unit, Add	514,599.36	
23 64 13 16-0012	EA	750 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	820,969.79	20,727.72
		For Two Stage Unit, Add	558,096.68	
23 64 13 16-0013	EA	850 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	880,088.12	21,980.50
		For Two Stage Unit, Add	598,477.29	
23 64 13 16-0014	EA	950 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	944,403.80	23,654.54
		For Two Stage Unit, Add	642,159.03	
23 64 13 16-0015	EA	1,125 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	1,080,672.79	24,231.47
		For Two Stage Unit, Add	737,039.61	
23 64 13 16-0016	EA	1,250 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	1,183,487.74	25,616.14
		For Two Stage Unit, Add	807,948.52	
23 64 13 16-0017	EA	1,450 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	1,381,762.83	26,770.01
		For Two Stage Unit, Add	945,817.96	
23 64 13 16-0018	EA	1,700 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller	1,614,619.63	27,577.73
		For Two Stage Unit, Add	1,108,171.57	

23 64 16 Centrifugal Water Chillers^(23 64)**23 64 16 13 Air-Cooled Centrifugal Water Chillers^(23 64 16)****23 64 16 13-0001 Magnetic Bearing, Air Cooled Centrifugal Chillers^(23 64 16 13)**

Note: SMARTT air cooled oil-free centrifugal chiller with variable speed control, magnetic bearings, lowest ARI IPLV in industry. Includes start up, freight, R-134a refrigerant charge, BACnet or equivalent interface.

23 64 16 13-0002	EA	85 Ton, Single Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller	238,961.23	6,307.12
		For 5 Year Parts Only Compressor Warranty, Add	6,649.50	
23 64 16 13-0003	EA	175 Ton, Two Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller	339,189.36	8,461.35
		For 5 Year Parts Only Compressor Warranty, Add	13,299.00	
23 64 16 13-0004	EA	240 Ton, Three Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller	424,242.25	8,948.57
		For 5 Year Parts Only Compressor Warranty, Add	19,948.50	

23 64 16 16 Water-Cooled Centrifugal Water Chillers^(23 64 16)**23 64 16 16-0001 Packaged Water-Cooled Centrifugal Water Chillers^(23 64 16 16)**

Note: Includes integral heat exchanger, refrigerant monitor with scanner, audible alarm, and lights, 460 voltage motor rating, controls (water temperature controller with PE switches, flow switch, etc.), start-up, and closed transition starter. Rated by cooling capacity in tons. Units are factory assembled package type consisting of compressor, motor, cooler, condenser, internal piping and wiring, motor starters, insulation, purge unit, factory wired and installed control panel, gauges, lubrication system, refrigerant charge, oil, phase monitoring for 3 phase units, start-up costs and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring.



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central Cooling Equipment		23 60	
Packaged Water Chillers		23 64	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 16 16-0002	EA		180 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	149,503.99 5,562.65	6,497.91
23 64 16 16-0003	EA		200 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	163,404.13 6,107.94	6,662.48
23 64 16 16-0004	EA		225 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	180,202.16 6,769.12	6,831.84
23 64 16 16-0005	EA		250 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	196,603.16 7,407.56	7,105.74
23 64 16 16-0006	EA		275 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	212,640.48 8,023.27	7,506.97
23 64 16 16-0007	EA		300 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	228,091.77 8,616.25	7,897.26
23 64 16 16-0008	EA		325 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	243,041.81 9,186.43	8,330.27
23 64 16 16-0009	EA		350 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	257,389.56 9,733.94	8,741.07
23 64 16 16-0010	EA		375 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	271,109.22 10,258.66	9,115.65
23 64 16 16-0011	EA		400 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	284,133.96 10,760.64	9,411.41
23 64 16 16-0012	EA		425 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	296,864.13 11,239.89	9,877.67
23 64 16 16-0013	EA		450 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	308,889.35 11,696.41	10,258.74
23 64 16 16-0014	EA		475 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	320,338.30 12,130.20	10,634.91
23 64 16 16-0015	EA		500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	331,082.74 12,541.26	10,926.24
23 64 16 16-0016	EA		550 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	350,551.38 13,295.11	11,313.69
23 64 16 16-0017	EA		600 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	367,519.53 13,958.03	11,559.69
23 64 16 16-0018	EA		650 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	382,735.58 14,529.96	12,131.07
23 64 16 16-0019	EA		700 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	395,692.23 15,010.96	12,711.10
23 64 16 16-0020	EA		750 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	406,472.61 15,401.17	13,349.22
23 64 16 16-0021	EA		800 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	431,737.09 16,370.36	13,993.26
23 64 16 16-0022	EA		850 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	456,823.27 17,332.57	14,635.26
23 64 16 16-0023	EA		900 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	481,830.36 18,287.64	15,338.86
23 64 16 16-0024	EA		950 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	506,771.73 19,235.52	16,113.52
23 64 16 16-0025	EA		1,000 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	531,585.28 20,176.20	17,103.03
23 64 16 16-0026	EA		1,100 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	576,837.20 21,819.01	19,734.34
23 64 16 16-0027	EA		1,200 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	620,399.75 23,393.77	22,373.15
23 64 16 16-0028	EA		1,300 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	661,460.70 24,900.32	24,510.72
23 64 16 16-0029	EA		1,400 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. For 208/230 Voltage Motor Rating, Add	699,511.14 26,338.68	25,826.83

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 64 Packaged Water Chillers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 16 16-0030 EA 1,500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	735,783.55 27,708.65	27,099.90
23 64 16 16-0031 EA 1,600 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	769,592.89 29,011.09	27,885.47
23 64 16 16-0032 EA 1,700 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	803,535.78 30,245.13	29,830.91
23 64 16 16-0033 EA 1,800 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	834,994.55 31,410.98	31,286.06
23 64 16 16-0034 EA 1,900 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	865,436.20 32,508.63	33,174.05
23 64 16 16-0035 EA 2,000 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	893,058.86 33,538.22	34,358.85
23 64 16 16-0036 EA 2,250 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	950,946.85 35,814.03	36,303.72
23 64 16 16-0037 EA 2,500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	1,002,753.66 37,663.92	38,481.89
23 64 16 16-0038 Magnetic Bearing, Water Cooled Centrifugal Water Chillers (23 64 16 16) Note: SMARTD water cooled oil-free centrifugal chiller with variable speed control, magnetic bearings, 10 amp maximum inrush current and ARI part load <0.4kW per ton. Includes start up, freight, R-134a refrigerant charge, BACnet or equivalent interface, 12/18 month compressor warranty.		
23 64 16 16-0039 EA 60 To 85 Ton, Single Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	150,410.62 6,649.50 4,447.80	5,466.65
23 64 16 16-0040 EA 130 To 137 Ton, Single Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	189,412.70 6,649.50 4,447.80	6,353.84
23 64 16 16-0041 EA 125 To 170 Ton, Dual Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	237,278.89 13,299.00 4,447.80	6,497.91
23 64 16 16-0042 EA 240 To 270 Ton, Dual Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	309,049.84 13,299.00 4,447.80	7,506.97
23 64 16 16-0043 EA 210 To 260 Ton, Three Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	311,457.40 19,948.50 4,447.80	7,105.74
23 64 16 16-0044 EA 355 To 405 Ton, Three Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	467,328.29 19,948.50 4,447.80	9,411.41
23 64 16 16-0045 EA 299 To 340 Ton, Four Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	414,012.91 24,381.50 6,195.15	8,741.07
23 64 16 16-0046 EA 540 Ton, Four Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	575,284.34 24,381.50 6,195.15	11,313.69
23 64 16 16-0047 EA 425 Ton, Five Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	515,339.59 28,814.50 6,195.15	9,877.67
23 64 16 16-0048 EA 650 Ton, Five Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	689,791.70 28,814.50 6,195.15	12,131.07
23 64 16 16-0049 EA 510 Ton, Six Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	613,665.70 33,247.50 6,512.85	10,926.24
23 64 16 16-0050 EA 800 Ton, Six Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	790,672.58 33,247.50 6,512.85	13,993.26
23 64 23 Scroll Water Chillers (23 64)		
23 64 23 13 Air-Cooled Scroll Water Chillers (23 64 23)		
23 64 23 13-0001 Packaged Air Cooled Scroll Water Chillers (23 64 23 13) Note: With integral heat exchanger. Rated by cooling capacity, tons. Units are factory assembled package type. Includes scroll compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3-valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, refrigerant charge, vibration eliminators, phase monitoring for 3 phase units, factory charge of refrigerant, start-up and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 64 23 13-0002 EA 10 Ton Packaged Air Cooled Scroll Water Chiller	25,304.30	1,624.88
23 64 23 13-0003 EA 15 Ton Packaged Air Cooled Scroll Water Chiller	37,055.48	1,645.71
23 64 23 13-0004 EA 18 Ton Packaged Air Cooled Scroll Water Chiller	40,439.88	1,760.28
23 64 23 13-0005 EA 22 Ton Packaged Air Cooled Scroll Water Chiller	44,488.33	1,885.27
23 64 23 13-0006 EA 25 Ton Packaged Air Cooled Scroll Water Chiller	45,217.31	2,010.27



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 23 13-0007	EA		30 Ton Packaged Air Cooled Scroll Water Chiller	47,714.18	2,156.08
23 64 23 13-0008	EA		40 Ton Packaged Air Cooled Scroll Water Chiller	54,552.64	2,333.16
23 64 23 13-0009	EA		45 Ton Packaged Air Cooled Scroll Water Chiller	58,586.78	2,531.06
23 64 23 13-0010	EA		50 Ton Packaged Air Cooled Scroll Water Chiller	61,863.75	2,603.97
23 64 23 13-0011	EA		55 Ton Packaged Air Cooled Scroll Water Chiller	64,612.68	2,718.55
23 64 23 13-0012	EA		60 Ton Packaged Air Cooled Scroll Water Chiller	66,782.95	2,812.29
23 64 23 13-0013	EA		70 Ton Packaged Air Cooled Scroll Water Chiller	77,044.40	3,166.43
23 64 23 13-0014	EA		80 Ton Packaged Air Cooled Scroll Water Chiller	82,933.83	3,468.49
23 64 23 13-0015	EA		90 Ton Packaged Air Cooled Scroll Water Chiller	84,442.71	3,478.90
23 64 23 13-0016	EA		100 Ton Packaged Air Cooled Scroll Water Chiller	89,339.70	3,489.33
23 64 23 13-0017	EA		110 Ton Packaged Air Cooled Scroll Water Chiller	94,106.98	3,499.74
23 64 23 13-0018	EA		120 Ton Packaged Air Cooled Scroll Water Chiller	98,933.53	3,510.15
23 64 23 13-0019	EA		130 Ton Packaged Air Cooled Scroll Water Chiller	104,008.19	3,520.57

23 64 23 16 Water-Cooled Scroll Water Chillers (23 64 23)

23 64 23 16-0001 Packaged Water Cooled Scroll Water Chillers (23 64 23 16)

Note: Integral heat exchanger. Rated by cooling capacity in tons. Units are factory assembled package type. Includes hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3 valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, refrigerant charge, vibration eliminators, phase monitoring for 3 phase units, start-up costs and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring.

23 64 23 16-0002	EA	20 Ton Packaged Water Cooled Scroll Water Chiller	26,484.50	2,081.35
23 64 23 16-0003	EA	25 Ton Packaged Water Cooled Scroll Water Chiller	30,391.64	2,144.23
23 64 23 16-0004	EA	30 Ton Packaged Water Cooled Scroll Water Chiller	33,707.73	2,353.92
23 64 23 16-0005	EA	40 Ton Packaged Water Cooled Scroll Water Chiller	41,535.23	3,029.66
23 64 23 16-0006	EA	50 Ton Packaged Water Cooled Scroll Water Chiller	45,937.80	3,320.20
23 64 23 16-0007	EA	60 Ton Packaged Water Cooled Scroll Water Chiller	48,333.78	3,668.39

23 64 26 Rotary-Screw Water Chillers (23 64)

23 64 26 13 Air-Cooled, Rotary-Screw Water Chillers (23 64 26)

23 64 26 13-0001 Packaged Air Cooled Rotary-Screw Water Chillers (23 64 26 13)

Note: Includes hermetic direct-drive compressors start-up, coil guards, copper fins, copper tubes, factory wired and installed control panel, refrigerant monitor with scanner, audible alarm, and lights, phase monitoring for 3 phase units, 440/460 voltage motor rating, motor starters, factory charge of refrigerant and equipment rigging. Units greater than 20 tons include dual compressors. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 64 26 13-0002	EA	70 Ton Packaged Air Cooled Rotary-Screw Water Chiller	100,430.22	3,989.28
		For Aluminum Fins Instead Of Copper, Deduct	-1,416.77	
		For 208/230 Voltage Motor Rating, Add	3,778.06	
23 64 26 13-0003	EA	80 Ton Packaged Air Cooled Rotary-Screw Water Chiller	107,934.37	4,333.01
		For Aluminum Fins Instead Of Copper, Deduct	-1,521.68	
		For 208/230 Voltage Motor Rating, Add	4,057.81	
23 64 26 13-0004	EA	90 Ton Packaged Air Cooled Rotary-Screw Water Chiller	113,540.00	4,520.50
		For Aluminum Fins Instead Of Copper, Deduct	-1,601.39	
		For 208/230 Voltage Motor Rating, Add	4,270.37	
23 64 26 13-0005	EA	100 Ton Packaged Air Cooled Rotary-Screw Water Chiller	117,726.72	4,864.22
		For Aluminum Fins Instead Of Copper, Deduct	-1,656.53	
		For 208/230 Voltage Motor Rating, Add	4,417.42	
23 64 26 13-0006	EA	110 Ton Packaged Air Cooled Rotary-Screw Water Chiller	126,353.36	5,103.79
		For Aluminum Fins Instead Of Copper, Deduct	-1,780.62	
		For 208/230 Voltage Motor Rating, Add	4,748.32	
23 64 26 13-0007	EA	120 Ton Packaged Air Cooled Rotary-Screw Water Chiller	134,283.93	5,207.94
		For Aluminum Fins Instead Of Copper, Deduct	-1,897.08	
		For 208/230 Voltage Motor Rating, Add	5,058.88	
23 64 26 13-0008	EA	130 Ton Packaged Air Cooled Rotary-Screw Water Chiller	141,757.51	5,385.01
		For Aluminum Fins Instead Of Copper, Deduct	-2,005.28	
		For 208/230 Voltage Motor Rating, Add	5,347.41	
23 64 26 13-0009	EA	140 Ton Packaged Air Cooled Rotary-Screw Water Chiller	146,293.88	5,499.59
		For Aluminum Fins Instead Of Copper, Deduct	-2,070.67	
		For 208/230 Voltage Motor Rating, Add	5,521.78	
23 64 26 13-0010	EA	160 Ton Packaged Air Cooled Rotary-Screw Water Chiller	154,488.43	5,614.17
		For Aluminum Fins Instead Of Copper, Deduct	-2,190.93	
		For 208/230 Voltage Motor Rating, Add	5,842.48	
23 64 26 13-0011	EA	170 Ton Packaged Air Cooled Rotary-Screw Water Chiller	161,262.35	5,791.24
		For Aluminum Fins Instead Of Copper, Deduct	-2,288.63	
		For 208/230 Voltage Motor Rating, Add	6,103.02	
23 64 26 13-0012	EA	180 Ton Packaged Air Cooled Rotary-Screw Water Chiller	170,055.86	6,020.38
		For Aluminum Fins Instead Of Copper, Deduct	-2,415.38	
		For 208/230 Voltage Motor Rating, Add	6,441.01	
23 64 26 13-0013	EA	200 Ton Packaged Air Cooled Rotary-Screw Water Chiller	177,767.25	6,145.37
		For Aluminum Fins Instead Of Copper, Deduct	-2,528.39	
		For 208/230 Voltage Motor Rating, Add	6,742.38	
23 64 26 13-0014	EA	215 Ton Packaged Air Cooled Rotary-Screw Water Chiller	190,575.87	6,249.53
		For Aluminum Fins Instead Of Copper, Deduct	-2,718.02	
		For 208/230 Voltage Motor Rating, Add	7,248.06	
23 64 26 13-0015	EA	225 Ton Packaged Air Cooled Rotary-Screw Water Chiller	199,087.18	6,312.03
		For Aluminum Fins Instead Of Copper, Deduct	-2,844.44	
		For 208/230 Voltage Motor Rating, Add	7,585.18	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 64 Packaged Water Chillers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 26 13-0016 EA 240 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	207,598.48 -2,970.86 7,922.30	6,364.11
23 64 26 13-0017 EA 260 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	233,069.91 -3,350.12 8,933.66	6,489.10
23 64 26 13-0018 EA 280 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	245,888.95 -3,539.75 9,439.34	6,614.09
23 64 26 13-0019 EA 300 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	262,911.56 -3,792.59 10,113.58	6,718.24
23 64 26 13-0020 EA 325 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	288,362.16 -4,171.85 11,124.93	6,832.82
23 64 26 13-0021 EA 350 Ton Packaged Air Cooled Rotary-Screw Water Chiller..... For Aluminum Fins Instead Of Copper, Deduct For 208/230 Voltage Motor Rating, Add	314,394.44 -4,560.30 12,160.81	6,916.15

23 64 26 16 Water-Cooled, Rotary-Screw Water Chillers (23 64 26)**23 64 26 16-0001 Packaged Water Cooled Helical Rotary Water Chillers (23 64 26 16)**

Note: Integral heat exchanger. Rated by cooling capacity in tons. Factory assembled package type includes semi-hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gages, lead-lag switch, compressor unloaders, removable core filter dryer, 3-valve by-pass, sight glass, internal wiring, motor starters, insulation, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, full factory refrigerant charge, vibration eliminators, NEMA 1 flow switches, wye-delta starter, extended warranty on compressor(s), start-up costs and equipment rigging. Excludes piping and power wiring.

23 64 26 16-0002 EA 70 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	66,470.84	5,124.99
23 64 26 16-0003 EA 80 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	72,120.50	5,324.29
23 64 26 16-0004 EA 90 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	77,029.83	5,466.65
23 64 26 16-0005 EA 100 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	81,311.26	5,697.28
23 64 26 16-0006 EA 110 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	85,557.90	5,853.88
23 64 26 16-0007 EA 125 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	90,729.11	6,018.21
23 64 26 16-0008 EA 130 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	122,286.95	6,186.43
23 64 26 16-0009 EA 150 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	100,729.30	6,353.84
23 64 26 16-0010 EA 175 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	108,180.88	6,511.13
23 64 26 16-0011 EA 190 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	111,902.75	6,836.73
23 64 26 16-0012 EA 200 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	130,864.42	7,166.44
23 64 26 16-0013 EA 210 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	132,646.54	7,319.84
23 64 26 16-0014 EA 235 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	144,096.71	7,479.97
23 64 26 16-0015 EA 255 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	153,076.46	7,822.33
23 64 26 16-0016 EA 275 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	161,571.04	8,138.93
23 64 26 16-0017 EA 300 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	171,452.62	8,461.35
23 64 26 16-0018 EA 350 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	188,219.51	9,211.30
23 64 26 16-0019 EA 400 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	201,978.74	10,131.53
23 64 26 16-0020 EA 450 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	212,746.56	11,145.13

23 65 Cooling Towers (23 60)**23 65 13 Forced-Draft Cooling Towers (23 65)****23 65 13 16 Closed-Circuit, Forced-Draft Cooling Towers (23 65 13)****23 65 13 16-0001 Closed-Circuit, Forced-Draft Cooling Towers (23 65 13 16)****23 65 13 16-0002 Blow-Thru Centrifugal Fan Type Galvanized Cooling Towers (23 65 13 16-0001)**

Note: Including 2-speed motor internal piping, vibration switch, basin, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Rated by cooling capacity in tons. Design temperature 95 degree F in, 85 degree F out. Excludes crane and associated personnel.

23 65 13 16-0003 EA 50 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	19,307.54	1,729.03
For Stainless Steel Cooling Tower, Add	10,028.39	
23 65 13 16-0004 EA 75 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	26,630.70	2,114.43
For Stainless Steel Cooling Tower, Add	14,084.81	
23 65 13 16-0005 EA 100 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	33,379.13	2,656.05
For Stainless Steel Cooling Tower, Add	17,465.17	
23 65 13 16-0006 EA 125 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	38,502.49	2,968.53
For Stainless Steel Cooling Tower, Add	20,239.21	
23 65 13 16-0007 EA 150 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	44,007.23	3,343.50
For Stainless Steel Cooling Tower, Add	23,179.58	
23 65 13 16-0008 EA 175 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	49,482.09	3,749.72
For Stainless Steel Cooling Tower, Add	26,077.03	
23 65 13 16-0009 EA 200 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	55,535.18	4,176.77
For Stainless Steel Cooling Tower, Add	29,296.41	
23 65 13 16-0010 EA 225 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	60,681.80	4,707.98
For Stainless Steel Cooling Tower, Add	31,871.92	
23 65 13 16-0011 EA 250 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	66,104.17	5,228.77
For Stainless Steel Cooling Tower, Add	34,619.13	
23 65 13 16-0012 EA 275 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	72,357.08	6,187.04
For Stainless Steel Cooling Tower, Add	37,452.19	
23 65 13 16-0013 EA 300 Ton Blow-Thru Centrifugal Fan Type Cooling Tower.....	78,627.12	6,853.66
For Stainless Steel Cooling Tower, Add	40,564.27	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Cooling Equipment

23 60

Cooling Towers

23 65

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 13 16-0014 EA 325 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	82,849.99 42,710.52	7,291.12
23 65 13 16-0015 EA 350 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	87,792.62 45,232.37	7,718.17
23 65 13 16-0016 EA 375 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	92,599.83 47,754.23	8,093.15
23 65 13 16-0017 EA 400 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	98,112.03 50,705.33	8,468.11
23 65 13 16-0018 EA 425 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	103,948.92 53,763.74	8,926.41
23 65 13 16-0019 EA 450 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	110,580.24 57,305.07	9,384.72
23 65 13 16-0020 EA 475 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	117,028.39 60,792.74	9,780.52
23 65 13 16-0021 EA 500 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	123,486.95 64,280.41	10,176.32
23 65 13 16-0022 EA 550 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	135,789.55 71,255.74	10,603.37
23 65 13 16-0023 EA 600 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	149,165.27 78,874.96	11,020.01
23 65 13 16-0024 EA 650 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	154,614.24 82,094.34	11,249.15
23 65 13 16-0025 EA 700 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	161,136.34 85,957.61	11,394.98
23 65 13 16-0026 EA 750 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	168,670.57 89,928.18	11,978.28
23 65 13 16-0027 EA 800 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	177,456.77 94,649.95	12,561.56
23 65 13 16-0028 EA 850 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	186,326.31 99,371.71	13,196.93
23 65 13 16-0029 EA 900 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	196,626.69 104,951.98	13,832.30
23 65 13 16-0030 EA 950 Ton Blow-Thru Centrifugal Fan Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	207,251.74 110,639.57	14,561.41
23 65 13 16-0031 EA 1,000 Ton Centrifugal Type Cooling Tower..... For Stainless Steel Cooling Tower, Add	219,297.20 117,185.65	15,290.52

23 65 14 Induced-Draft Cooling Towers (23 65)

23 65 14 13 Open-Circuit, Induced-Draft Counterflow Cooling Towers (23 65 14)

23 65 14 13-0001 Galvanized Induced Draft Axial Single Flow Propeller Type Cooling Towers

(23 65 14 13)

Note: Includes internal piping, fan, motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping or power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 78 degree F wet bulb. 3 GPM/ton. Excludes crane and associated personnel.

23 65 14 13-0002 EA 10 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	9,825.16 1,211.29 2,422.59	1,166.58
23 65 14 13-0003 EA 20 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	11,661.16 1,464.82 2,929.64	1,260.33
23 65 14 13-0004 EA 30 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	13,956.08 1,774.69 3,549.37	1,416.56
23 65 14 13-0005 EA 40 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	15,489.41 1,971.87 3,943.75	1,562.39
23 65 14 13-0006 EA 50 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	18,368.55 2,366.25 4,732.50	1,729.03
23 65 14 13-0007 EA 60 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	21,391.97 2,790.08 5,580.16	1,864.45
23 65 14 13-0008 EA 75 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	24,564.93 3,211.34 6,422.68	2,114.43
23 65 14 13-0009 EA 100 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	30,562.16 3,943.75 7,887.50	2,656.05
23 65 14 13-0010 EA 125 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	33,315.70 4,281.78 8,563.57	2,968.53
23 65 14 13-0011 EA 150 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	51,049.03 6,851.16 13,702.33	3,343.50
23 65 14 13-0012 EA 200 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	61,754.87 8,257.06 16,514.11	4,176.77
23 65 14 13-0013 EA 300 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	79,689.16 10,300.37 20,600.75	6,853.66

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 65 Cooling Towers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 65 14 13-0014 Galvanized Induced Draft Double Flow Propeller Type Packaged Cooling Towers (23 65 14 13)

Note: 3 GPM/ton draft. Includes internal piping, fan, 2-speed motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Excludes crane and associated personnel.

23 65 14 13-0015	EA	100 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	30,562.16	2,656.05
		For Polymer Coating Over Galvanized Components, Add	3,943.75	
		For Stainless Steel Support Structure, Add	7,887.50	
23 65 14 13-0016	EA	150 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	40,743.13	3,343.50
		For Polymer Coating Over Galvanized Components, Add	5,305.28	
		For Stainless Steel Support Structure, Add	10,610.56	
23 65 14 13-0017	EA	200 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	51,779.23	4,176.77
		For Polymer Coating Over Galvanized Components, Add	6,760.71	
		For Stainless Steel Support Structure, Add	13,521.42	
23 65 14 13-0018	EA	250 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	61,400.29	5,228.77
		For Polymer Coating Over Galvanized Components, Add	7,949.20	
		For Stainless Steel Support Structure, Add	15,898.40	
23 65 14 13-0019	EA	300 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	72,876.93	6,853.66
		For Polymer Coating Over Galvanized Components, Add	9,276.54	
		For Stainless Steel Support Structure, Add	18,557.08	
23 65 14 13-0020	EA	350 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	81,219.71	7,718.17
		For Polymer Coating Over Galvanized Components, Add	10,322.16	
		For Stainless Steel Support Structure, Add	20,644.31	
23 65 14 13-0021	EA	400 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	90,600.13	8,468.11
		For Polymer Coating Over Galvanized Components, Add	11,549.55	
		For Stainless Steel Support Structure, Add	23,099.09	
23 65 14 13-0022	EA	450 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	102,710.63	9,384.72
		For Polymer Coating Over Galvanized Components, Add	13,145.83	
		For Stainless Steel Support Structure, Add	26,291.65	
23 65 14 13-0023	EA	500 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	115,885.62	10,176.32
		For Polymer Coating Over Galvanized Components, Add	14,929.90	
		For Stainless Steel Support Structure, Add	29,859.80	
23 65 14 13-0024	EA	550 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	124,163.99	10,728.36
		For Polymer Coating Over Galvanized Components, Add	16,070.10	
		For Stainless Steel Support Structure, Add	32,140.20	
23 65 14 13-0025	EA	600 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	133,116.63	11,020.01
		For Polymer Coating Over Galvanized Components, Add	17,311.44	
		For Stainless Steel Support Structure, Add	34,622.89	
23 65 14 13-0026	EA	700 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	151,209.90	11,394.98
		For Polymer Coating Over Galvanized Components, Add	20,000.44	
		For Stainless Steel Support Structure, Add	40,000.87	
23 65 14 13-0027	EA	800 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	165,831.21	12,561.56
		For Polymer Coating Over Galvanized Components, Add	21,918.65	
		For Stainless Steel Support Structure, Add	43,837.31	
23 65 14 13-0028	EA	900 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	183,212.58	13,832.30
		For Polymer Coating Over Galvanized Components, Add	24,225.88	
		For Stainless Steel Support Structure, Add	48,451.76	

23 65 14 14 Open-Circuit, Induced-Draft Crossflow Cooling Towers (23 65 14)

23 65 14 14-0001 Galvanized Induced Draft Crossflow Film Filled Propeller Type Cooling Towers (23 65 14 14)

Note: Includes fan, 2-speed motor, geared speed reducer, louvers, drift eliminators, hot water distribution system, cold water collection basin, float valve and access door, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 65 14 14-0002	EA	10 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	8,327.29	1,166.58
		For Polymer Coating Over Galvanized Components, Add	986.61	
		For Stainless Steel Support Structure, Add	1,973.23	
23 65 14 14-0003	EA	15 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	8,997.39	1,187.41
		For Polymer Coating Over Galvanized Components, Add	1,084.00	
		For Stainless Steel Support Structure, Add	2,168.01	
23 65 14 14-0004	EA	20 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	9,785.08	1,291.57
		For Polymer Coating Over Galvanized Components, Add	1,177.16	
		For Stainless Steel Support Structure, Add	2,354.32	
23 65 14 14-0005	EA	25 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	11,459.67	1,354.07
		For Polymer Coating Over Galvanized Components, Add	1,414.29	
		For Stainless Steel Support Structure, Add	2,828.57	
23 65 14 14-0006	EA	30 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	12,993.10	1,416.56
		For Polymer Coating Over Galvanized Components, Add	1,630.24	
		For Stainless Steel Support Structure, Add	3,260.48	
23 65 14 14-0007	EA	35 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	14,490.90	1,489.47
		For Polymer Coating Over Galvanized Components, Add	1,837.72	
		For Stainless Steel Support Structure, Add	3,675.45	
23 65 14 14-0008	EA	40 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	15,865.39	1,562.39
		For Polymer Coating Over Galvanized Components, Add	2,028.27	
		For Stainless Steel Support Structure, Add	4,056.54	
23 65 14 14-0009	EA	45 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	17,391.42	1,645.71
		For Polymer Coating Over Galvanized Components, Add	2,239.99	
		For Stainless Steel Support Structure, Add	4,479.98	
23 65 14 14-0010	EA	50 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	18,881.84	1,729.03
		For Polymer Coating Over Galvanized Components, Add	2,443.24	
		For Stainless Steel Support Structure, Add	4,886.48	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Cooling Equipment

23 60

Cooling Towers

23 65



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 14 14-0011 EA 60 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	21,817.96 2,853.98 5,707.95	1,864.45
23 65 14 14-0012 EA 70 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	25,000.79 3,298.59 6,597.18	2,010.27
23 65 14 14-0013 EA 75 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	26,473.37 3,497.60 6,995.21	2,114.43
23 65 14 14-0014 EA 80 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	28,070.96 3,696.62 7,393.24	2,291.50
23 65 14 14-0015 EA 90 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	29,245.11 3,832.12 7,664.24	2,468.57
23 65 14 14-0016 EA 100 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	31,427.05 4,073.48 8,146.96	2,656.05
23 65 14 14-0017 EA 125 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	32,689.21 4,187.81 8,375.62	2,968.53
23 65 14 14-0018 EA 150 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	37,979.38 4,890.72 9,781.43	3,343.50
23 65 14 14-0019 EA 175 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	41,956.22 5,390.38 10,780.75	3,749.72
23 65 14 14-0020 EA 200 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	44,139.82 5,614.80 11,229.60	4,176.77
23 65 14 14-0021 EA 225 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	51,034.97 6,520.96 13,041.91	4,707.98
23 65 14 14-0022 EA 250 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	55,943.68 7,130.71 14,261.42	5,228.77
23 65 14 14-0023 EA 275 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	59,761.39 7,473.69 14,947.39	6,187.04
23 65 14 14-0024 EA 300 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	64,457.98 8,015.70 16,031.39	6,853.66
23 65 14 14-0025 EA 350 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	73,691.03 9,192.86 18,385.71	7,718.17
23 65 14 14-0026 EA 400 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	81,240.43 10,145.59 20,291.18	8,468.11
23 65 14 14-0027 EA 450 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	89,794.61 11,208.42 22,416.85	9,384.72
23 65 14 14-0028 EA 500 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	97,850.78 12,224.68 24,449.35	10,176.32
23 65 14 14-0029 EA 600 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	111,908.02 14,130.15 28,260.30	11,020.01
23 65 14 14-0030 EA 700 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	125,652.94 16,166.89 32,333.78	11,394.98
23 65 14 14-0031 EA 800 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	140,471.59 18,114.71 36,229.42	12,561.56
23 65 14 14-0032 EA 900 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	154,835.86 19,969.37 39,938.74	13,832.30
23 65 14 14-0033 EA 1,000 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	168,888.52 21,735.11 43,470.22	15,290.52
23 65 14 14-0034 EA 1,100 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	184,921.50 23,966.63 47,933.27	16,030.06
23 65 14 14-0035 EA 1,200 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	200,383.87 26,121.94 52,243.87	16,717.50
23 65 14 14-0036 EA 1,300 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	213,106.75 27,692.90 55,385.79	18,154.89
23 65 14 14-0037 EA 1,400 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	225,403.47 29,174.93 58,349.86	19,696.44
23 65 14 14-0038 EA 1,500 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower..... For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	237,242.81 30,568.04 61,136.09	21,321.32

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 65 Cooling Towers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 14 14-0039 EA 1,600 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	248,172.44 31,863.77 63,727.53	22,789.96
23 65 14 14-0040 EA 1,700 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	258,824.76 33,066.33 66,132.66	24,466.91
23 65 14 14-0041 EA 1,800 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	269,300.88 34,179.98 68,359.95	26,404.28
23 65 14 14-0042 EA 1,900 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	279,117.38 35,196.23 70,392.46	28,341.63
23 65 14 14-0043 EA 2,000 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	289,445.12 36,123.56 72,247.12	30,987.27
23 65 14 14-0044 Induced Draft Crossflow Stainless Steel Propeller Type Cooling Towers (23 65 14 14) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 65 14 14-0045 EA 100 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	84,710.16 4,021.98	2,656.05
23 65 14 14-0046 EA 125 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	96,016.84 4,562.32	2,947.70
23 65 14 14-0047 EA 150 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	104,926.04 4,977.57	3,343.50
23 65 14 14-0048 EA 200 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	116,598.50 5,494.53	4,176.77
23 65 14 14-0049 EA 250 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	132,021.57 6,180.80	5,228.77
23 65 14 14-0050 EA 300 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	151,494.59 7,023.73	6,853.66
23 65 14 14-0051 EA 350 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	165,025.88 7,631.03	7,718.17
23 65 14 14-0052 EA 400 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	178,369.66 8,238.33	8,468.11
23 65 14 14-0053 EA 500 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	205,836.75 9,474.19	10,176.32
23 65 14 14-0054 EA 600 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	232,543.69 10,741.83	11,020.01
23 65 14 14-0055 EA 750 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	288,118.59 13,416.42	11,978.28
23 65 14 14-0056 EA 1,000 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	374,075.90 17,504.41	15,290.52
23 65 14 16 Closed-Circuit, Induced-Draft Counterflow Cooling Towers (23 65 14)		
23 65 14 16-0001 Stainless Steel Packaged Propeller Type Cooling Towers (23 65 14 16) Note: Including internal piping, fan, motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping or power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 79 degree F wet Bulb. 3 GPM/ton.		
23 65 14 16-0002 Draw-Thru Stainless Steel Propeller Type Cooling Towers (23 65 14 16-0001) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 65 14 16-0003 EA 50 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	35,552.76	1,729.03
23 65 14 16-0004 EA 75 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	50,560.65	2,114.43
23 65 14 16-0005 EA 100 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	59,559.08	2,656.05
23 65 14 16-0006 EA 125 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	67,521.83	2,968.53
23 65 14 16-0007 EA 150 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	74,064.16	3,343.50
23 65 14 16-0008 EA 200 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	88,798.39	4,176.77
23 65 14 16-0009 EA 250 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	104,478.36	5,228.77
23 65 14 16-0010 EA 300 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	123,795.56	6,853.66
23 65 14 16-0011 EA 350 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	135,507.47	7,718.17
23 65 14 16-0012 EA 400 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	153,656.58	8,468.11
23 65 14 16-0013 EA 500 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	178,087.17	10,176.32
23 65 14 16-0014 EA 600 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	201,084.14	11,020.01
23 65 14 16-0015 EA 750 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	248,824.18	11,978.28
23 65 14 16-0016 EA 1,000 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower	317,002.89	15,123.87
23 65 14 16-0017 Belt Driven Stainless Steel Propeller Type Cooling Towers (23 65 14 16-0001) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 65 14 16-0018 EA 100 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower	62,048.08	2,656.05
23 65 14 16-0019 EA 125 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower	67,134.37	2,968.53
23 65 14 16-0020 EA 150 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower	72,329.03	3,343.50
23 65 14 16-0021 EA 200 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower	85,517.63	4,176.77
23 65 14 16-0022 EA 250 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower	94,206.51	5,228.77
23 65 14 16-0023 Fiberglass Packaged Draw-Thru Propeller Type Cooling Towers (23 65 14 16) Note: Includes internal piping, fan, 2-speed motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 78 degree F wet bulb. 3 GPM/ton. Excludes crane and associated personnel.		



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Central Cooling Equipment		23 60
Cooling Towers		23 65

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
23 65 14 16-0024	EA 5 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	4,138.63		1,083.25
23 65 14 16-0025	EA 8 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	4,356.38		1,135.34
23 65 14 16-0026	EA 10 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	5,056.73		1,166.58
23 65 14 16-0027	EA 15 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	5,709.35		1,187.41
23 65 14 16-0028	EA 20 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	7,462.22		1,291.57
23 65 14 16-0029	EA 25 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	7,892.03		1,354.07
23 65 14 16-0030	EA 30 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	8,913.30		1,416.56
23 65 14 16-0031	EA 40 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	10,274.66		1,562.89
23 65 14 16-0032	EA 50 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	11,465.61		1,729.03
23 65 14 16-0033	EA 60 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	12,846.44		1,864.45
23 65 14 16-0034	EA 70 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	14,812.72		2,010.27
23 65 14 16-0035	EA 80 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	16,129.98		2,291.50
23 65 14 16-0036	EA 100 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	19,528.37		2,656.05
23 65 14 16-0037	EA 125 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	24,127.68		2,968.53
23 65 14 16-0038	EA 150 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	27,097.68		3,343.50
23 65 14 16-0039	EA 175 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	32,891.94		3,749.72
23 65 14 16-0040	EA 200 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	36,684.61		4,176.77
23 65 14 16-0041	EA 225 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	40,549.83		4,707.98
23 65 14 16-0042	EA 250 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	44,243.32		5,228.77
23 65 14 16-0043	EA 300 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	53,027.82		6,853.66
23 65 14 16-0044	EA 350 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	60,260.63		7,718.17
23 65 14 16-0045	EA 400 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	66,969.87		8,468.11
23 65 14 16-0046	EA 500 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	81,414.64		9,968.01
23 65 14 16-0047	EA 600 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	92,985.01		11,020.01
23 65 14 16-0048	EA 700 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	98,373.87		8,468.11
23 65 14 16-0049	EA 800 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	112,675.19		12,561.56
23 65 14 16-0050	EA 1,000 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower	128,592.30		10,467.97

23 65 43 Cooling Tower Basins and Accessories (23 65)

23 65 43 00-0001 Fiberglass Cooling Tower Remote Sump Basins (23 65 43)

Note: Includes one inlet sleeve. Excludes cover, excavation, backfill, concrete cut and concrete patch. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 65 43 00-0002	EA 30" Diameter x 30" Depth, 92 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,282.18	
	For Anti-Flotation Flanges, Add	115.00	
	For Perforated Basins, Add	80.00	
23 65 43 00-0003	EA 30" Diameter x 36" Depth, 110 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,450.39	
	For Anti-Flotation Flanges, Add	115.00	
	For Perforated Basins, Add	80.00	
23 65 43 00-0004	EA 36" Diameter x 30" Depth, 132 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,427.41	
	For Anti-Flotation Flanges, Add	253.00	
	For Perforated Basins, Add	80.00	
23 65 43 00-0005	EA 36" Diameter x 36" Depth, 159 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,670.98	
	For Anti-Flotation Flanges, Add	253.00	
	For Perforated Basins, Add	80.00	
23 65 43 00-0006	EA 42" Diameter x 30" Depth, 180 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,810.06	
	For Anti-Flotation Flanges, Add	276.00	
	For Perforated Basins, Add	100.00	
23 65 43 00-0007	EA 42" Diameter x 36" Depth, 216 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	2,010.29	
	For Anti-Flotation Flanges, Add	276.00	
	For Perforated Basins, Add	100.00	
23 65 43 00-0008	EA 42" Diameter x 42" Depth, 252 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	2,210.50	
	For Anti-Flotation Flanges, Add	276.00	
	For Perforated Basins, Add	100.00	
23 65 43 00-0009	EA 48" Diameter x 36" Depth, 282 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	2,242.84	
	For Anti-Flotation Flanges, Add	294.00	
	For Perforated Basins, Add	140.00	
23 65 43 00-0010	EA 48" Diameter x 42" Depth, 329 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	2,480.89	
	For Anti-Flotation Flanges, Add	294.00	
	For Perforated Basins, Add	140.00	
23 65 43 00-0011	EA 48" Diameter x 48" Depth, 376 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	2,826.03	
	For Anti-Flotation Flanges, Add	294.00	
	For Perforated Basins, Add	140.00	
23 65 43 00-0012	EA 48" Diameter x 54" Depth, 423 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	3,174.07	
	For Anti-Flotation Flanges, Add	294.00	
	For Perforated Basins, Add	140.00	
23 65 43 00-0013	EA 48" Diameter x 60" Depth, 470 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	3,406.31	
	For Anti-Flotation Flanges, Add	294.00	
	For Perforated Basins, Add	140.00	

23 65 43 00-0014 Cooling Tower Accessories (23 65 43)

23 65 43 00-0015	EA 2" Deflection Vibration Isolator, Cooling Tower Accessory (M.M. Sausse RMLS-SB-EQ)	35,628.03	
23 65 43 00-0016	EA 3" Deflection Vibration Isolator, Cooling Tower Accessory (M.M. Sausse RMLS-SB-EQ)	41,646.83	

23 70 Central HVAC Equipment (23)

Note: New air filters shall be provided on HVAC equipment prior to turning over to owner. Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 71 Thermal Storage (23 70)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 71 Thermal Storage**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 71 13 Thermal Heat Storage (23 71)**23 71 13 23 Pressurized-Water Thermal Storage Tanks (23 71 13)****23 71 13 23-0001 Nickelshield Storage Tanks (23 71 13 23)**

23 71 13 23-0002	EA	325 Gallon Nickelshield Storage Tank.....	29,964.99	197.33
23 71 13 23-0003	EA	490 Gallon Nickelshield Storage Tank.....	41,818.68	261.63
23 71 13 23-0004	EA	605 Gallon Nickelshield Storage Tank.....	47,872.87	316.44
23 71 13 23-0005	EA	740 Gallon Nickelshield Storage Tank.....	56,678.00	395.54
23 71 13 23-0006	EA	940 Gallon Nickelshield Storage Tank.....	65,928.04	525.82
23 71 13 23-0007	EA	1,505 Gallon Nickelshield Storage Tank.....	85,159.38	791.19
23 71 13 23-0008	EA	1,615 Gallon Nickelshield Storage Tank.....	96,167.44	891.14
23 71 13 23-0009	EA	2,275 Gallon Nickelshield Storage Tank.....	132,071.89	1,183.67
23 71 13 23-0010	EA	3,815 Gallon Nickelshield Storage Tank.....	170,921.78	1,376.06

23 72 Air-To-Air Energy Recovery Equipment (23 70)**23 72 13 Heat-Wheel Air-To-Air Energy-Recovery Equipment (23 72)****23 72 13 00-0001 Enthalpy Recovery Wheel (23 72 13)**

23 72 13 00-0002	EA	Up To 1,000 CFM Enthalpy Recovery Wheel.....	10,524.54	742.92
23 72 13 00-0003	EA	>1,000 To 2,000 CFM Enthalpy Recovery Wheel.....	11,673.79	891.72
23 72 13 00-0004	EA	>2,000 To 4,000 CFM Enthalpy Recovery Wheel.....	14,607.91	1,114.66
23 72 13 00-0005	EA	>4,000 To 6,000 CFM Enthalpy Recovery Wheel.....	17,087.15	1,273.49
23 72 13 00-0006	EA	>6,000 To 8,000 CFM Enthalpy Recovery Wheel.....	18,917.13	1,337.59
23 72 13 00-0007	EA	>8,000 To 10,000 CFM Enthalpy Recovery Wheel.....	23,012.38	1,486.38
23 72 13 00-0008	EA	>10,000 To 15,000 CFM Enthalpy Recovery Wheel.....	30,628.53	1,560.51
23 72 13 00-0009	EA	>15,000 To 20,000 CFM Enthalpy Recovery Wheel.....	38,188.76	1,671.98
23 72 13 00-0010	EA	>20,000 To 25,000 CFM Enthalpy Recovery Wheel.....	46,263.46	1,910.52
23 72 13 00-0011	EA	>25,000 To 30,000 CFM Enthalpy Recovery Wheel.....	51,800.64	2,452.23
23 72 13 00-0012	EA	>30,000 To 40,000 CFM Enthalpy Recovery Wheel.....	69,496.63	2,786.63
23 72 13 00-0013	EA	>40,000 To 50,000 CFM Enthalpy Recovery Wheel.....	82,657.07	3,343.96

23 72 16 Heat-Pipe Air-To-Air Energy-Recovery Equipment (23 72)**23 72 16 00-0001 Glycol Heat Pipe Type, 50 Percent Efficient (23 72 16)**

23 72 16 00-0002	EA	100 MBH, 1,700 CFM Glycol Heat Recovery Unit.....	19,088.18	557.32
23 72 16 00-0003	EA	160 MBH, 2,700 CFM Glycol Heat Recovery Unit.....	30,032.37	743.14
23 72 16 00-0004	EA	620 MBH, 4,000 CFM Glycol Heat Recovery Unit.....	44,519.93	1,114.66

23 73 Indoor Central-Station Air-Handling Units (23 70)**23 73 13 Modular Indoor Central-Station Air-Handling Units (23 73)**

Note: Sized by CFM. Includes motor drive vibration isolators. Use modifiers for Filters and heating and cooling coils. Includes double wall insulated casing, fan section, fan motor, internal dampers, starter, vibration isolators and equipment rigging. Variable speed drives are included on units with 10 HP or greater fans. Modifiers include cooling coil sections with 6 row aluminum fin coil and drain pan, heating coil section with 1 row aluminum fin coil, and filter section with replaceable filters.

23 73 13 00-0001 Single Zone Units (23 73 13)

23 73 13 00-0002	EA	300 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan.....	2,655.76	603.86
		For Flat Filter Box And Throwaway Filters, Add.....	222.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add.....	419.01	
		For Combination Filter Mixing Box And Throwaway Filters, Add.....	624.20	
		For Manual Roll Filter, Add.....	1,072.47	
		For Automatic Roll Filter, Add.....	1,162.13	
		For Hot Water Heating Coil, Aluminum Fins, Add.....	534.54	
		For Electric Heating Coil, Add.....	893.16	
		For Chilled Water Cooling Coil, Aluminum Fins, Add.....	893.16	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add.....	803.51	
		For Steam Heating Coil, Aluminum Fins, Add.....	713.85	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add.....	581.06	
		For Chilled Water Cooling Coil, Copper Fins, Add.....	1,072.47	
		For Direct Expansion Cooling Coil, Copper Fins, Add.....	982.82	
		For Hot Water Heating Coil, Copper Fins, Add.....	713.85	
		For Variable Air Volume, Add.....	251.03	
		For Economizer, Panel, Controls And Damper(s), Add.....	1,243.86	
		For 2 Coils, Independent Circuits, Add.....	301.44	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0003	EA		500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan.....	4,206.77	724.63
			For Flat Filter Box And Throwaway Filters, Add	368.96	
			For Medium Capacity Filter Box And Throwaway Filters, Add	706.89	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,055.16	
			For Manual Roll Filter, Add	1,848.26	
			For Automatic Roll Filter, Add	2,006.88	
			For Hot Water Heating Coil, Aluminum Fins, Add	896.54	
			For Electric Heating Coil, Add	1,531.02	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	1,531.02	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,372.40	
			For Steam Heating Coil, Aluminum Fins, Add	1,213.78	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,003.44	
			For Chilled Water Cooling Coil, Copper Fins, Add	1,848.26	
			For Direct Expansion Cooling Coil, Copper Fins, Add	1,689.64	
			For Hot Water Heating Coil, Copper Fins, Add	1,213.78	
			For Variable Air Volume, Add	444.14	
			For Economizer, Panel, Controls And Damper(s), Add	1,364.06	
			For 2 Coils, Independent Circuits, Add	484.13	
23 73 13 00-0004	EA		800 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan.....	4,757.52	778.23
			For Flat Filter Box And Throwaway Filters, Add	420.17	
			For Medium Capacity Filter Box And Throwaway Filters, Add	806.99	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,204.92	
			For Manual Roll Filter, Add	2,116.38	
			For Automatic Roll Filter, Add	2,298.67	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,022.63	
			For Electric Heating Coil, Add	1,751.80	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	1,751.80	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,569.50	
			For Steam Heating Coil, Aluminum Fins, Add	1,387.21	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,149.34	
			For Chilled Water Cooling Coil, Copper Fins, Add	2,116.38	
			For Direct Expansion Cooling Coil, Copper Fins, Add	1,934.09	
			For Hot Water Heating Coil, Copper Fins, Add	1,387.21	
			For Variable Air Volume, Add	510.42	
			For Economizer, Panel, Controls And Damper(s), Add	1,418.18	
			For 2 Coils, Independent Circuits, Add	548.67	
23 73 13 00-0005	EA		1,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan.....	5,370.01	836.24
			For Flat Filter Box And Throwaway Filters, Add	477.26	
			For Medium Capacity Filter Box And Throwaway Filters, Add	918.68	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,372.04	
			For Manual Roll Filter, Add	2,415.84	
			For Automatic Roll Filter, Add	2,624.60	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,163.28	
			For Electric Heating Coil, Add	1,998.32	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	1,998.32	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,789.56	
			For Steam Heating Coil, Aluminum Fins, Add	1,580.80	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,312.30	
			For Chilled Water Cooling Coil, Copper Fins, Add	2,415.84	
			For Direct Expansion Cooling Coil, Copper Fins, Add	2,207.08	
			For Hot Water Heating Coil, Copper Fins, Add	1,580.80	
			For Variable Air Volume, Add	584.53	
			For Economizer, Panel, Controls And Damper(s), Add	1,476.37	
			For 2 Coils, Independent Circuits, Add	620.50	
23 73 13 00-0006	EA		1,200 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan.....	6,092.65	899.65
			For Flat Filter Box And Throwaway Filters, Add	545.08	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,051.65	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,571.05	
			For Manual Roll Filter, Add	2,773.28	
			For Automatic Roll Filter, Add	3,013.73	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,330.60	
			For Electric Heating Coil, Add	2,292.39	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	2,292.39	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,051.94	
			For Steam Heating Coil, Aluminum Fins, Add	1,811.50	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,506.87	
			For Chilled Water Cooling Coil, Copper Fins, Add	2,773.28	
			For Direct Expansion Cooling Coil, Copper Fins, Add	2,532.84	
			For Hot Water Heating Coil, Copper Fins, Add	1,811.50	
			For Variable Air Volume, Add	673.25	
			For Economizer, Panel, Controls And Damper(s), Add	1,538.60	
			For 2 Coils, Independent Circuits, Add	705.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0007	EA		1,400 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	6,935.64	966.83
			For Flat Filter Box And Throwaway Filters, Add	624.51	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,207.58	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,804.46	
			For Manual Roll Filter, Add	3,193.09	
			For Automatic Roll Filter, Add	3,470.81	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,526.74	
			For Electric Heating Coil, Add	2,637.64	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	2,637.64	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,359.97	
			For Steam Heating Coil, Aluminum Fins, Add	2,082.19	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,735.41	
			For Chilled Water Cooling Coil, Copper Fins, Add	3,193.09	
			For Direct Expansion Cooling Coil, Copper Fins, Add	2,915.36	
			For Hot Water Heating Coil, Copper Fins, Add	2,082.19	
			For Variable Air Volume, Add	777.63	
			For Economizer, Panel, Controls And Damper(s), Add	1,606.80	
			For 2 Coils, Independent Circuits, Add	804.65	
23 73 13 00-0008	EA		1,600 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	7,595.40	1,039.39
			For Flat Filter Box And Throwaway Filters, Add	685.45	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,326.46	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,962.27	
			For Manual Roll Filter, Add	3,510.69	
			For Automatic Roll Filter, Add	3,816.38	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,676.59	
			For Electric Heating Coil, Add	2,899.32	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	2,899.32	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,593.64	
			For Steam Heating Coil, Aluminum Fins, Add	2,287.96	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,908.19	
			For Chilled Water Cooling Coil, Copper Fins, Add	3,510.69	
			For Direct Expansion Cooling Coil, Copper Fins, Add	3,205.01	
			For Hot Water Heating Coil, Copper Fins, Add	2,287.96	
			For Variable Air Volume, Add	855.91	
			For Economizer, Panel, Controls And Damper(s), Add	1,677.21	
			For 2 Coils, Independent Circuits, Add	881.81	
23 73 13 00-0009	EA		1,800 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	8,310.02	1,120.16
			For Flat Filter Box And Throwaway Filters, Add	751.01	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,454.02	
			For Combination Filter Mixing Box And Throwaway Filters, Add	2,173.03	
			For Manual Roll Filter, Add	3,850.56	
			For Automatic Roll Filter, Add	4,186.07	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,837.52	
			For Electric Heating Coil, Add	3,179.55	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	3,179.55	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,844.04	
			For Steam Heating Coil, Aluminum Fins, Add	2,508.53	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,093.03	
			For Chilled Water Cooling Coil, Copper Fins, Add	3,850.56	
			For Direct Expansion Cooling Coil, Copper Fins, Add	3,515.05	
			For Hot Water Heating Coil, Copper Fins, Add	2,508.53	
			For Variable Air Volume, Add	939.42	
			For Economizer, Panel, Controls And Damper(s), Add	1,629.94	
			For 2 Coils, Independent Circuits, Add	965.20	
23 73 13 00-0010	EA		2,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	9,096.85	1,200.93
			For Flat Filter Box And Throwaway Filters, Add	823.90	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,596.33	
			For Combination Filter Mixing Box And Throwaway Filters, Add	2,385.91	
			For Manual Roll Filter, Add	4,231.20	
			For Automatic Roll Filter, Add	4,600.26	
			For Hot Water Heating Coil, Aluminum Fins, Add	2,016.86	
			For Electric Heating Coil, Add	3,493.08	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	3,493.08	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,124.03	
			For Steam Heating Coil, Aluminum Fins, Add	2,754.97	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,300.13	
			For Chilled Water Cooling Coil, Copper Fins, Add	4,231.20	
			For Direct Expansion Cooling Coil, Copper Fins, Add	3,862.14	
			For Hot Water Heating Coil, Copper Fins, Add	2,754.97	
			For Variable Air Volume, Add	1,033.36	
			For Economizer, Panel, Controls And Damper(s), Add	1,693.64	
			For 2 Coils, Independent Circuits, Add	1,057.31	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0011	EA	2,250 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	9,821.68 889.96 1,724.61 2,577.69 4,572.09 4,970.97 2,178.81 3,774.43 3,774.33 3,375.45 2,976.57 2,485.48 4,572.09 4,173.21 2,976.57 1,116.86 1,764.24 1,141.72	1,290.86
23 73	13 00-0012	EA	2,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	10,595.37 960.34 1,861.15 2,781.80 4,934.64 5,365.20 2,351.24 4,073.50 4,073.50 3,642.94 3,212.37 2,682.60 4,934.64 4,504.07 3,212.37 1,205.59 1,841.22 1,231.76	1,388.99
23 73	13 00-0013	EA	3,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	12,324.67 1,117.63 2,166.36 3,238.05 5,745.03 6,246.43 2,736.66 4,742.24 4,742.24 4,240.84 3,739.45 3,123.21 5,745.03 5,243.64 3,739.45 1,403.91 2,013.21 1,433.03	1,607.78
23 73	13 00-0014	EA	3,250 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	12,906.96 1,167.25 2,260.42 3,378.29 5,987.79 6,509.69 2,856.39 4,943.99 4,943.99 4,422.09 3,900.19 3,254.84 5,987.79 5,465.89 3,900.19 1,461.32 2,107.94 1,499.46	1,727.80

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0015	EA	3,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	13,500.75	1,856.87
		For Flat Filter Box And Throwaway Filters, Add	1,217.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,355.30	
		For Combination Filter Mixing Box And Throwaway Filters, Add	3,519.68	
		For Manual Roll Filter, Add	6,231.69	
		For Automatic Roll Filter, Add	6,774.10	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,977.28	
		For Electric Heating Coil, Add	5,146.89	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	5,146.89	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	4,604.49	
		For Steam Heating Coil, Aluminum Fins, Add	4,062.09	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	3,387.05	
		For Chilled Water Cooling Coil, Copper Fins, Add	6,231.69	
		For Direct Expansion Cooling Coil, Copper Fins, Add	5,689.29	
		For Hot Water Heating Coil, Copper Fins, Add	4,062.09	
		For Variable Air Volume, Add	1,518.73	
		For Economizer, Panel, Controls And Damper(s), Add	2,208.99	
		For 2 Coils, Independent Circuits, Add	1,567.04	
23 73 13 00-0016	EA	4,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	14,806.16	2,143.71
		For Flat Filter Box And Throwaway Filters, Add	1,327.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,562.99	
		For Combination Filter Mixing Box And Throwaway Filters, Add	3,829.16	
		For Manual Roll Filter, Add	6,764.84	
		For Automatic Roll Filter, Add	7,351.98	
		For Hot Water Heating Coil, Aluminum Fins, Add	3,242.03	
		For Electric Heating Coil, Add	5,590.57	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	5,590.57	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	5,003.44	
		For Steam Heating Coil, Aluminum Fins, Add	4,416.30	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	3,675.99	
		For Chilled Water Cooling Coil, Copper Fins, Add	6,764.84	
		For Direct Expansion Cooling Coil, Copper Fins, Add	6,177.71	
		For Hot Water Heating Coil, Copper Fins, Add	4,416.30	
		For Variable Air Volume, Add	1,643.98	
		For Economizer, Panel, Controls And Damper(s), Add	2,165.37	
		For 2 Coils, Independent Circuits, Add	1,715.47	
23 73 13 00-0017	EA	4,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	14,806.16	2,143.71
		For Flat Filter Box And Throwaway Filters, Add	1,327.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,562.99	
		For Combination Filter Mixing Box And Throwaway Filters, Add	3,829.16	
		For Manual Roll Filter, Add	6,764.84	
		For Automatic Roll Filter, Add	7,351.98	
		For Hot Water Heating Coil, Aluminum Fins, Add	3,242.03	
		For Electric Heating Coil, Add	5,590.57	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	5,590.57	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	5,003.44	
		For Steam Heating Coil, Aluminum Fins, Add	4,416.30	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	3,675.99	
		For Chilled Water Cooling Coil, Copper Fins, Add	6,764.84	
		For Direct Expansion Cooling Coil, Copper Fins, Add	6,177.71	
		For Hot Water Heating Coil, Copper Fins, Add	4,416.30	
		For Variable Air Volume, Add	1,643.98	
		For Economizer, Panel, Controls And Damper(s), Add	2,165.37	
		For 2 Coils, Independent Circuits, Add	1,715.47	
23 73 13 00-0018	EA	5,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	16,230.16	2,462.25
		For Flat Filter Box And Throwaway Filters, Add	1,447.11	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,788.67	
		For Combination Filter Mixing Box And Throwaway Filters, Add	4,165.41	
		For Manual Roll Filter, Add	7,343.40	
		For Automatic Roll Filter, Add	7,979.00	
		For Hot Water Heating Coil, Aluminum Fins, Add	3,529.81	
		For Electric Heating Coil, Add	6,072.21	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	6,072.21	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	5,436.61	
		For Steam Heating Coil, Aluminum Fins, Add	4,801.01	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	3,989.50	
		For Chilled Water Cooling Coil, Copper Fins, Add	7,343.40	
		For Direct Expansion Cooling Coil, Copper Fins, Add	6,707.80	
		For Hot Water Heating Coil, Copper Fins, Add	4,801.01	
		For Variable Air Volume, Add	1,779.68	
		For Economizer, Panel, Controls And Damper(s), Add	2,347.28	
		For 2 Coils, Independent Circuits, Add	1,877.26	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0019	EA	5,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	17,050.95 1,514.24 2,913.97 4,351.87 7,660.34 8,322.03 3,690.18 6,336.95 6,336.95 5,675.26 5,013.56 4,161.02 7,660.34 6,998.64 5,013.56 1,852.74 2,466.83 1,969.77	2,671.33
23 73	13 00-0020	EA	6,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	17,855.87 1,580.58 3,038.16 4,536.74 7,975.68 8,663.47 3,848.95 6,600.11 6,600.11 5,912.32 5,224.53 4,331.74 7,975.68 7,287.90 5,224.53 1,925.81 2,580.04 2,060.70	2,869.85
23 73	13 00-0021	EA	6,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	18,665.57 1,647.16 3,162.69 4,722.09 8,291.51 9,005.39 4,008.21 6,863.74 6,863.74 6,149.86 5,435.97 4,502.70 8,291.51 7,577.63 5,435.97 1,998.87 2,695.16 2,152.11	3,072.15
23 73	13 00-0022	EA	7,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	19,598.43 1,723.63 3,305.53 4,934.67 8,653.20 9,396.90 4,190.96 7,165.79 7,165.79 6,422.08 5,678.37 4,698.45 8,653.20 7,909.49 5,678.37 2,082.38 2,829.72 2,257.33	3,306.90

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0023	EA	7,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	20,545.06	3,543.16
		For Flat Filter Box And Throwaway Filters, Add	1,800.78	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,449.33	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,148.62	
		For Manual Roll Filter, Add	9,016.27	
		For Automatic Roll Filter, Add	9,789.80	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,375.09	
		For Electric Heating Coil, Add	7,469.21	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	7,469.21	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	6,695.68	
		For Steam Heating Coil, Aluminum Fins, Add	5,922.15	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	4,894.90	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,016.27	
		For Direct Expansion Cooling Coil, Copper Fins, Add	8,242.74	
		For Hot Water Heating Coil, Copper Fins, Add	5,922.15	
		For Variable Air Volume, Add	2,165.88	
		For Economizer, Panel, Controls And Damper(s), Add	2,702.34	
		For 2 Coils, Independent Circuits, Add	2,363.92	
23 73 13 00-0024	EA	8,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	21,520.01	3,815.55
		For Flat Filter Box And Throwaway Filters, Add	1,879.35	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,595.12	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,365.41	
		For Manual Roll Filter, Add	9,382.17	
		For Automatic Roll Filter, Add	10,185.52	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,562.06	
		For Electric Heating Coil, Add	7,775.47	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	7,775.47	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	6,972.11	
		For Steam Heating Coil, Aluminum Fins, Add	6,168.76	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,092.76	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,382.17	
		For Direct Expansion Cooling Coil, Copper Fins, Add	8,578.82	
		For Hot Water Heating Coil, Copper Fins, Add	6,168.76	
		For Variable Air Volume, Add	2,249.39	
		For Economizer, Panel, Controls And Damper(s), Add	2,815.89	
		For 2 Coils, Independent Circuits, Add	2,473.34	
23 73 13 00-0025	EA	9,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	22,630.54	4,133.43
		For Flat Filter Box And Throwaway Filters, Add	1,968.43	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,760.08	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,610.66	
		For Manual Roll Filter, Add	9,795.18	
		For Automatic Roll Filter, Add	10,632.08	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,773.76	
		For Electric Heating Coil, Add	8,121.37	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,121.37	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,284.47	
		For Steam Heating Coil, Aluminum Fins, Add	6,447.57	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,316.04	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,795.18	
		For Direct Expansion Cooling Coil, Copper Fins, Add	8,958.27	
		For Hot Water Heating Coil, Copper Fins, Add	6,447.57	
		For Variable Air Volume, Add	2,343.33	
		For Economizer, Panel, Controls And Damper(s), Add	2,947.75	
		For 2 Coils, Independent Circuits, Add	2,597.82	
23 73 13 00-0026	EA	10,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	23,715.05	4,413.15
		For Flat Filter Box And Throwaway Filters, Add	2,056.21	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,923.23	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,853.32	
		For Manual Roll Filter, Add	10,205.58	
		For Automatic Roll Filter, Add	11,076.04	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,982.86	
		For Electric Heating Coil, Add	8,464.68	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,464.68	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,594.22	
		For Steam Heating Coil, Aluminum Fins, Add	6,723.77	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,538.02	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,205.58	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,335.13	
		For Hot Water Heating Coil, Copper Fins, Add	6,723.77	
		For Variable Air Volume, Add	2,437.27	
		For Economizer, Panel, Controls And Damper(s), Add	3,071.80	
		For 2 Coils, Independent Circuits, Add	2,719.69	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0027	EA		11,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 23,828.21	4,273.08	
			For Flat Filter Box And Throwaway Filters, Add	2,078.64	
			For Medium Capacity Filter Box And Throwaway Filters, Add	3,974.77	
			For Combination Filter Mixing Box And Throwaway Filters, Add	5,931.74	
			For Manual Roll Filter, Add	10,367.88	
			For Automatic Roll Filter, Add	11,255.11	
			For Hot Water Heating Coil, Aluminum Fins, Add	5,044.51	
			For Electric Heating Coil, Add	8,593.42	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	8,593.42	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,706.19	
			For Steam Heating Coil, Aluminum Fins, Add	6,818.96	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,627.55	
			For Chilled Water Cooling Coil, Copper Fins, Add	10,367.88	
			For Direct Expansion Cooling Coil, Copper Fins, Add	9,480.65	
			For Hot Water Heating Coil, Copper Fins, Add	6,818.96	
			For Variable Air Volume, Add	2,484.24	
			For Economizer, Panel, Controls And Damper(s), Add	3,005.09	
			For 2 Coils, Independent Circuits, Add	2,737.71	
23 73 13 00-0028	EA		12,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 24,851.34	4,740.86	
			For Flat Filter Box And Throwaway Filters, Add	2,146.57	
			For Medium Capacity Filter Box And Throwaway Filters, Add	4,090.00	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,101.15	
			For Manual Roll Filter, Add	10,621.17	
			For Automatic Roll Filter, Add	11,525.17	
			For Hot Water Heating Coil, Aluminum Fins, Add	5,197.14	
			For Electric Heating Coil, Add	8,813.16	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	8,813.16	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,909.16	
			For Steam Heating Coil, Aluminum Fins, Add	7,005.15	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,762.58	
			For Chilled Water Cooling Coil, Copper Fins, Add	10,621.17	
			For Direct Expansion Cooling Coil, Copper Fins, Add	9,717.16	
			For Hot Water Heating Coil, Copper Fins, Add	7,005.15	
			For Variable Air Volume, Add	2,531.21	
			For Economizer, Panel, Controls And Damper(s), Add	3,211.38	
			For 2 Coils, Independent Circuits, Add	2,846.74	
23 73 13 00-0029	EA		13,700 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 26,174.65	4,931.29	
			For Flat Filter Box And Throwaway Filters, Add	2,266.79	
			For Medium Capacity Filter Box And Throwaway Filters, Add	4,323.18	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,449.70	
			For Manual Roll Filter, Add	11,239.98	
			For Automatic Roll Filter, Add	12,198.04	
			For Hot Water Heating Coil, Aluminum Fins, Add	5,491.64	
			For Electric Heating Coil, Add	9,323.87	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	9,323.87	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,365.81	
			For Steam Heating Coil, Aluminum Fins, Add	7,407.75	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,099.02	
			For Chilled Water Cooling Coil, Copper Fins, Add	11,239.98	
			For Direct Expansion Cooling Coil, Copper Fins, Add	10,281.93	
			For Hot Water Heating Coil, Copper Fins, Add	7,407.75	
			For Variable Air Volume, Add	2,682.56	
			For Economizer, Panel, Controls And Damper(s), Add	2,802.70	
			For 2 Coils, Independent Circuits, Add	3,000.69	
23 73 13 00-0030	EA		15,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 27,565.32	5,122.26	
			For Flat Filter Box And Throwaway Filters, Add	2,390.38	
			For Medium Capacity Filter Box And Throwaway Filters, Add	4,561.06	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,804.98	
			For Manual Roll Filter, Add	11,865.54	
			For Automatic Roll Filter, Add	12,877.65	
			For Hot Water Heating Coil, Aluminum Fins, Add	5,792.87	
			For Electric Heating Coil, Add	9,841.31	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	9,841.31	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,829.20	
			For Steam Heating Coil, Aluminum Fins, Add	7,817.09	
			For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,438.82	
			For Chilled Water Cooling Coil, Copper Fins, Add	11,865.54	
			For Direct Expansion Cooling Coil, Copper Fins, Add	10,853.42	
			For Hot Water Heating Coil, Copper Fins, Add	7,817.09	
			For Variable Air Volume, Add	2,833.91	
			For Economizer, Panel, Controls And Damper(s), Add	2,864.62	
			For 2 Coils, Independent Circuits, Add	3,161.38	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0031	EA	16,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	29,042.57	5,319.27
		For Flat Filter Box And Throwaway Filters, Add	2,525.75	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,824.39	
		For Combination Filter Mixing Box And Throwaway Filters, Add	7,198.74	
		For Manual Roll Filter, Add	12,566.85	
		For Automatic Roll Filter, Add	13,640.47	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,125.12	
		For Electric Heating Coil, Add	10,419.60	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	10,419.60	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,345.98	
		For Steam Heating Coil, Aluminum Fins, Add	8,272.36	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,820.23	
		For Chilled Water Cooling Coil, Copper Fins, Add	12,566.85	
		For Direct Expansion Cooling Coil, Copper Fins, Add	11,493.23	
		For Hot Water Heating Coil, Copper Fins, Add	8,272.36	
		For Variable Air Volume, Add	3,006.14	
		For Economizer, Panel, Controls And Damper(s), Add	2,914.03	
		For 2 Coils, Independent Circuits, Add	3,333.71	
23 73 13 00-0032	EA	17,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	30,579.98	5,516.49
		For Flat Filter Box And Throwaway Filters, Add	2,664.13	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,091.94	
		For Combination Filter Mixing Box And Throwaway Filters, Add	7,598.52	
		For Manual Roll Filter, Add	13,274.17	
		For Automatic Roll Filter, Add	14,409.30	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,463.39	
		For Electric Heating Coil, Add	11,003.91	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,003.91	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,568.78	
		For Steam Heating Coil, Aluminum Fins, Add	8,733.65	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	7,204.65	
		For Chilled Water Cooling Coil, Copper Fins, Add	13,274.17	
		For Direct Expansion Cooling Coil, Copper Fins, Add	12,139.04	
		For Hot Water Heating Coil, Copper Fins, Add	8,733.65	
		For Variable Air Volume, Add	3,178.37	
		For Economizer, Panel, Controls And Damper(s), Add	2,975.47	
		For 2 Coils, Independent Circuits, Add	3,512.05	
23 73 13 00-0033	EA	20,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	34,101.37	5,914.08
		For Flat Filter Box And Throwaway Filters, Add	2,987.45	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,721.29	
		For Combination Filter Mixing Box And Throwaway Filters, Add	9,822.04	
		For Manual Roll Filter, Add	14,182.13	
		For Automatic Roll Filter, Add	14,951.56	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,974.90	
		For Electric Heating Coil, Add	6,487.85	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,104.42	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,822.04	
		For Steam Heating Coil, Aluminum Fins, Add	8,539.66	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	6,834.59	
		For Chilled Water Cooling Coil, Copper Fins, Add	13,669.18	
		For Direct Expansion Cooling Coil, Copper Fins, Add	12,386.80	
		For Hot Water Heating Coil, Copper Fins, Add	9,822.04	
		For Variable Air Volume, Add	3,590.67	
		For Economizer, Panel, Controls And Damper(s), Add	3,214.41	
		For 2 Coils, Independent Circuits, Add	3,923.09	
23 73 13 00-0034	EA	22,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	37,842.80	6,373.76
		For Flat Filter Box And Throwaway Filters, Add	3,327.36	
		For Medium Capacity Filter Box And Throwaway Filters, Add	6,380.57	
		For Combination Filter Mixing Box And Throwaway Filters, Add	10,960.39	
		For Manual Roll Filter, Add	15,840.15	
		For Automatic Roll Filter, Add	16,701.28	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,654.73	
		For Electric Heating Coil, Add	7,228.81	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	12,395.62	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	10,960.39	
		For Steam Heating Coil, Aluminum Fins, Add	9,525.17	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	7,633.03	
		For Chilled Water Cooling Coil, Copper Fins, Add	15,266.06	
		For Direct Expansion Cooling Coil, Copper Fins, Add	13,830.84	
		For Hot Water Heating Coil, Copper Fins, Add	10,960.39	
		For Variable Air Volume, Add	4,018.62	
		For Economizer, Panel, Controls And Damper(s), Add	3,334.21	
		For 2 Coils, Independent Circuits, Add	4,358.37	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0035	EA	25,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	41,934.86 3,705.31 7,117.72 12,236.32 17,705.45 18,670.59 7,410.62 8,054.05 13,844.89 12,236.32 10,627.76 8,531.01 17,062.03 15,453.46 12,236.32 4,503.99 3,443.61 4,836.91	6,829.35
23 73	13 00-0036	EA	27,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	51,658.64 4,640.71 8,966.32 15,454.73 22,451.16 23,685.83 9,281.41 10,104.52 17,512.51 15,454.73 13,396.96 10,814.03 21,628.05 19,570.28 15,454.73 5,761.77 3,573.05 5,988.97	7,355.04
23 73	13 00-0037	EA	30,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	57,730.17 5,212.69 10,089.18 17,403.91 25,312.92 26,708.62 10,425.37 11,355.85 19,730.09 17,403.91 15,077.73 12,191.22 24,382.45 22,056.27 17,403.91 6,513.30 3,445.99 6,703.49	7,850.43
23 73	13 00-0038	EA	32,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	63,254.16 5,721.88 11,081.63 19,121.26 27,822.44 29,357.94 11,443.76 12,467.42 21,680.43 19,121.26 16,562.09 13,399.39 26,798.77 24,239.60 19,121.26 7,165.67 3,575.62 7,349.08	8,453.74

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0039	EA	35,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	69,405.34 6,284.79 12,176.14 21,013.17 30,582.56 32,271.28 12,569.59 13,695.40 23,827.70 21,013.17 18,198.64 14,728.38 29,456.75 26,642.22 21,013.17 7,880.65 3,732.22 8,066.34	9,579.82
23 73 13 00-0040	EA	37,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	74,705.17 6,775.32 13,133.52 22,670.83 33,007.04 34,831.08 13,550.64 14,766.67 25,710.89 22,670.83 19,630.77 15,895.51 31,791.01 28,750.95 22,670.83 8,512.17 3,850.59 8,686.54	9,737.38
23 73 13 00-0041	EA	40,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	80,578.15 7,311.28 14,174.64 24,469.68 35,629.74 37,599.16 14,622.56 15,935.51 27,752.05 24,469.68 21,187.30 17,158.40 34,316.79 31,034.42 24,469.68 9,190.64 3,696.34 9,370.76	10,416.62
23 73 13 00-0042	EA	45,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	86,971.51 7,893.76 15,305.49 26,423.08 38,476.71 40,603.82 15,787.52 17,205.60 29,968.26 26,423.08 22,877.89 18,529.32 37,058.64 33,513.45 26,423.08 9,926.52 3,838.48 10,115.23	11,247.04



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0043	EA	47,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	90,601.93 8,220.67 15,937.62 27,513.05 40,061.00 42,275.34 16,441.34 17,917.57 31,203.63 27,513.05 23,822.48 19,292.38 38,584.77 34,894.20 27,513.05 10,333.60 3,928.81 10,536.42	11,775.31
23 73	13 00-0044	EA	50,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	94,025.00 8,529.75 16,535.86 28,545.01 41,561.92 43,859.02 17,059.51 18,590.91 32,373.52 28,545.01 24,716.51 20,015.26 40,030.52 36,202.02 28,545.01 10,719.81 4,011.87 10,933.90	12,228.20
23 73	13 00-0045	EA	55,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	101,384.33 9,205.27 17,850.63 30,818.68 44,881.25 47,362.88 18,410.53 20,064.95 34,954.73 30,818.68 26,682.63 21,613.42 43,226.83 39,090.78 30,818.68 11,580.94 4,162.92 11,792.85	13,058.52
23 73	13 00-0046	EA	60,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	110,928.52 10,094.40 19,589.74 33,832.74 49,295.86 52,024.65 20,188.81 22,008.00 38,380.72 33,832.74 29,284.76 23,738.34 47,476.67 42,928.69 33,832.74 12,734.34 3,896.90 12,912.04	13,964.32

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0047	EA	65,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	121,622.01	15,096.55
		For Flat Filter Box And Throwaway Filters, Add	11,083.88	
		For Medium Capacity Filter Box And Throwaway Filters, Add	21,520.76	
		For Combination Filter Mixing Box And Throwaway Filters, Add	37,176.08	
		For Manual Roll Filter, Add	54,185.51	
		For Automatic Roll Filter, Add	57,187.18	
		For Hot Water Heating Coil, Aluminum Fins, Add	22,167.75	
		For Electric Heating Coil, Add	24,168.86	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	42,178.85	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	37,176.08	
		For Steam Heating Coil, Aluminum Fins, Add	32,173.30	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	26,092.20	
		For Chilled Water Cooling Coil, Copper Fins, Add	52,184.40	
		For Direct Expansion Cooling Coil, Copper Fins, Add	47,181.63	
		For Hot Water Heating Coil, Copper Fins, Add	37,176.08	
		For Variable Air Volume, Add	14,007.77	
		For Economizer, Panel, Controls And Damper(s), Add	4,056.65	
		For 2 Coils, Independent Circuits, Add	14,163.31	
23 73 13 00-0048	EA	70,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	133,525.23	16,379.76
		For Flat Filter Box And Throwaway Filters, Add	12,180.43	
		For Medium Capacity Filter Box And Throwaway Filters, Add	23,657.61	
		For Combination Filter Mixing Box And Throwaway Filters, Add	40,873.38	
		For Manual Roll Filter, Add	59,587.56	
		For Automatic Roll Filter, Add	62,890.06	
		For Hot Water Heating Coil, Aluminum Fins, Add	24,360.87	
		For Electric Heating Coil, Add	26,562.53	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	46,377.55	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	40,873.38	
		For Steam Heating Coil, Aluminum Fins, Add	35,369.21	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	28,692.95	
		For Chilled Water Cooling Coil, Copper Fins, Add	57,385.89	
		For Direct Expansion Cooling Coil, Copper Fins, Add	51,881.72	
		For Hot Water Heating Coil, Copper Fins, Add	40,873.38	
		For Variable Air Volume, Add	15,411.68	
		For Economizer, Panel, Controls And Damper(s), Add	4,244.18	
		For 2 Coils, Independent Circuits, Add	15,554.19	
23 73 13 00-0049		Multi-Zone Units (23 73 13)		
		Note: Horizontal/vertical blow-thru fan, motor and cabinet		
23 73 13 00-0050	EA	1,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	7,904.87	1,358.47
		For Economizer, Panel, Controls And Damper(s), Add	1,998.22	
		For Flat Filter Box And Throwaway Filters, Add	693.47	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,328.73	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,685.17	
		For Manual Roll Filter, Add	3,474.54	
		For Automatic Roll Filter, Add	3,474.54	
		For Hot Water Heating Coil, Aluminum Fins, Add	790.49	
		For Electric Heating Coil, Add	909.78	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	2,878.08	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,878.08	
		For Chilled Water Cooling Coil, Copper Fins, Add	3,474.54	
		For Direct Expansion Cooling Coil, Copper Fins, Add	3,474.54	
		For 2 Coils, Independent Circuits, Add	909.78	
23 73 13 00-0051	EA	1,200 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	9,849.81	1,701.92
		For Economizer, Panel, Controls And Damper(s), Add	2,341.97	
		For Flat Filter Box And Throwaway Filters, Add	863.41	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,653.88	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,097.74	
		For Manual Roll Filter, Add	4,323.27	
		For Automatic Roll Filter, Add	4,323.27	
		For Hot Water Heating Coil, Aluminum Fins, Add	984.98	
		For Electric Heating Coil, Add	1,133.35	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	3,581.43	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,581.43	
		For Chilled Water Cooling Coil, Copper Fins, Add	4,323.27	
		For Direct Expansion Cooling Coil, Copper Fins, Add	4,323.27	
		For 2 Coils, Independent Circuits, Add	1,133.35	
23 73 13 00-0052	EA	1,600 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	12,205.31	1,811.37
		For Economizer, Panel, Controls And Damper(s), Add	2,451.22	
		For Flat Filter Box And Throwaway Filters, Add	1,091.16	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,104.69	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,663.21	
		For Manual Roll Filter, Add	5,548.56	
		For Automatic Roll Filter, Add	5,548.56	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,220.53	
		For Electric Heating Coil, Add	1,412.89	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	4,586.78	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	4,586.78	
		For Chilled Water Cooling Coil, Copper Fins, Add	5,548.56	
		For Direct Expansion Cooling Coil, Copper Fins, Add	5,548.56	
		For 2 Coils, Independent Circuits, Add	1,412.89	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0053	EA	2,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	12,686.35 2,579.19 1,130.12 2,177.13 2,756.05 5,730.87 5,730.87 1,268.64 1,466.96 4,739.26 4,739.26 5,730.87 5,730.87 1,466.96	1,939.70
23 73	13 00-0054	EA	2,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	14,862.43 2,719.41 1,337.71 2,586.31 3,270.02 6,837.57 6,837.57 1,486.24 1,724.08 5,648.39 5,648.39 6,837.57 6,837.57 1,724.08	2,079.33
23 73	13 00-0055	EA	3,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	15,669.20 2,866.63 1,407.88 2,720.32 3,440.17 7,186.66 7,186.66 1,566.92 1,816.69 5,937.83 5,937.83 7,186.66 7,186.66 1,816.69	2,226.74
23 73	13 00-0056	EA	3,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	16,518.33 3,017.41 1,482.02 2,862.15 3,620.14 7,556.75 7,556.75 1,651.83 1,914.27 6,244.54 6,244.54 7,556.75 7,556.75 1,914.27	2,377.60
23 73	13 00-0057	EA	4,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	18,436.42 2,750.27 1,661.80 3,214.49 4,063.58 8,503.45 8,503.45 1,843.64 2,139.63 7,023.49 7,023.49 8,503.45 8,503.45 2,139.63	2,551.32
23 73	13 00-0058	EA	4,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	20,156.87 2,896.89 1,820.52 3,523.93 4,453.70 9,329.73 9,329.73 2,015.69 2,340.76 7,704.39 7,704.39 9,329.73 9,329.73 2,340.76	2,732.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0059	EA	5,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	21,307.51	2,918.16
		For Economizer, Panel, Controls And Damper(s), Add	3,037.67	
		For Flat Filter Box And Throwaway Filters, Add	1,922.78	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,720.78	
		For Combination Filter Mixing Box And Throwaway Filters, Add	4,702.97	
		For Manual Roll Filter, Add	9,847.40	
		For Automatic Roll Filter, Add	9,847.40	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,130.75	
		For Electric Heating Coil, Add	2,473.71	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,132.59	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,132.59	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,847.40	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,847.40	
		For 2 Coils, Independent Circuits, Add	2,473.71	
23 73 13 00-0060	EA	5,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	23,505.21	3,117.66
		For Economizer, Panel, Controls And Damper(s), Add	3,200.74	
		For Flat Filter Box And Throwaway Filters, Add	2,127.73	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,121.78	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,207.92	
		For Manual Roll Filter, Add	10,922.72	
		For Automatic Roll Filter, Add	10,922.72	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,350.52	
		For Electric Heating Coil, Add	2,731.51	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,017.78	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,017.78	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,922.72	
		For Direct Expansion Cooling Coil, Copper Fins, Add	10,922.72	
		For 2 Coils, Independent Circuits, Add	2,731.51	
23 73 13 00-0061	EA	6,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	25,008.31	3,336.56
		For Economizer, Panel, Controls And Damper(s), Add	3,371.34	
		For Flat Filter Box And Throwaway Filters, Add	2,262.53	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,382.07	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,537.17	
		For Manual Roll Filter, Add	11,609.83	
		For Automatic Roll Filter, Add	11,609.83	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,500.83	
		For Electric Heating Coil, Add	2,905.68	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,585.61	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,585.61	
		For Chilled Water Cooling Coil, Copper Fins, Add	11,609.83	
		For Direct Expansion Cooling Coil, Copper Fins, Add	11,609.83	
		For 2 Coils, Independent Circuits, Add	2,905.68	
23 73 13 00-0062	EA	6,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	27,427.09	3,623.17
		For Economizer, Panel, Controls And Damper(s), Add	3,594.50	
		For Flat Filter Box And Throwaway Filters, Add	2,484.12	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,813.08	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,081.00	
		For Manual Roll Filter, Add	12,757.58	
		For Automatic Roll Filter, Add	12,757.58	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,742.71	
		For Electric Heating Coil, Add	3,187.81	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	10,532.05	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	10,532.05	
		For Chilled Water Cooling Coil, Copper Fins, Add	12,757.58	
		For Direct Expansion Cooling Coil, Copper Fins, Add	12,757.58	
		For 2 Coils, Independent Circuits, Add	3,187.81	
23 73 13 00-0063	EA	7,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	29,468.26	3,902.57
		For Economizer, Panel, Controls And Damper(s), Add	3,815.01	
		For Flat Filter Box And Throwaway Filters, Add	2,668.19	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,169.20	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,531.15	
		For Manual Roll Filter, Add	13,699.81	
		For Automatic Roll Filter, Add	13,699.81	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,946.83	
		For Electric Heating Coil, Add	3,424.74	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,310.26	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	11,310.26	
		For Chilled Water Cooling Coil, Copper Fins, Add	13,699.81	
		For Direct Expansion Cooling Coil, Copper Fins, Add	13,699.81	
		For 2 Coils, Independent Circuits, Add	3,424.74	
23 73 13 00-0064	EA	7,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	30,917.80	4,219.49
		For Economizer, Panel, Controls And Damper(s), Add	3,346.30	
		For Flat Filter Box And Throwaway Filters, Add	2,790.99	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,401.51	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,827.09	
		For Manual Roll Filter, Add	14,297.70	
		For Automatic Roll Filter, Add	14,297.70	
		For Hot Water Heating Coil, Aluminum Fins, Add	3,091.78	
		For Electric Heating Coil, Add	3,589.82	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,807.49	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	11,807.49	
		For Chilled Water Cooling Coil, Copper Fins, Add	14,297.70	
		For Direct Expansion Cooling Coil, Copper Fins, Add	14,297.70	
		For 2 Coils, Independent Circuits, Add	3,589.82	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0065	EA	8,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	34,315.49 3,542.29 3,106.26 6,017.35 7,603.01 15,945.94 15,945.94 3,431.55 3,987.74 13,164.97 13,164.97 15,945.94 15,945.94 3,987.74	4,551.40
23 73	13 00-0066	EA	8,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	36,128.01 3,745.40 3,262.13 6,313.85 7,979.98 16,714.33 16,714.33 3,612.80 4,195.09 13,802.88 13,802.88 16,714.33 16,714.33 4,195.09	4,906.16
23 73	13 00-0067	EA	9,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	38,135.56 3,966.88 3,435.20 6,643.38 8,398.81 17,569.32 17,569.32 3,813.56 4,424.92 14,512.49 14,512.49 17,569.32 17,569.32 4,424.92	5,313.99
23 73	13 00-0068	EA	10,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	40,296.99 3,640.06 3,619.69 6,993.37 8,844.22 18,473.25 18,473.25 4,029.70 4,671.63 15,263.58 15,263.58 18,473.25 18,473.25 4,671.63	5,736.36
23 73	13 00-0069	EA	11,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	41,426.33 3,738.42 3,716.23 7,176.62 9,077.38 18,946.86 18,946.86 4,142.63 4,800.60 15,657.03 15,657.03 18,946.86 18,946.86 4,800.60	5,955.59
23 73	13 00-0070	EA	12,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	42,506.42 3,822.00 3,810.31 7,356.42 9,305.61 19,415.54 19,415.54 4,250.64 4,924.64 16,045.56 16,045.56 19,415.54 19,415.54 4,924.64	6,168.13

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0071	EA 13,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	48,109.03	6,416.04
	For Economizer, Panel, Controls And Damper(s), Add	3,238.05	
	For Flat Filter Box And Throwaway Filters, Add	4,351.39	
	For Medium Capacity Filter Box And Throwaway Filters, Add	8,427.07	
	For Combination Filter Mixing Box And Throwaway Filters, Add	10,648.72	
	For Manual Roll Filter, Add	22,324.35	
	For Automatic Roll Filter, Add	22,324.35	
	For Hot Water Heating Coil, Aluminum Fins, Add	4,810.90	
	For Electric Heating Coil, Add	5,589.28	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	18,432.47	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	18,432.47	
	For Chilled Water Cooling Coil, Copper Fins, Add	22,324.35	
	For Direct Expansion Cooling Coil, Copper Fins, Add	22,324.35	
	For 2 Coils, Independent Circuits, Add	5,589.28	
23 73 13 00-0072	EA 15,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	53,671.07	6,670.19
	For Economizer, Panel, Controls And Damper(s), Add	3,403.33	
	For Flat Filter Box And Throwaway Filters, Add	4,890.44	
	For Medium Capacity Filter Box And Throwaway Filters, Add	9,494.88	
	For Combination Filter Mixing Box And Throwaway Filters, Add	11,987.77	
	For Manual Roll Filter, Add	25,229.09	
	For Automatic Roll Filter, Add	25,229.09	
	For Hot Water Heating Coil, Aluminum Fins, Add	5,367.11	
	For Electric Heating Coil, Add	6,249.86	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	20,815.32	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	20,815.32	
	For Chilled Water Cooling Coil, Copper Fins, Add	25,229.09	
	For Direct Expansion Cooling Coil, Copper Fins, Add	25,229.09	
	For 2 Coils, Independent Circuits, Add	6,249.86	
23 73 13 00-0073	EA 16,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	61,793.14	6,921.77
	For Economizer, Panel, Controls And Damper(s), Add	3,464.49	
	For Flat Filter Box And Throwaway Filters, Add	5,685.17	
	For Medium Capacity Filter Box And Throwaway Filters, Add	11,073.86	
	For Combination Filter Mixing Box And Throwaway Filters, Add	13,965.86	
	For Manual Roll Filter, Add	29,538.96	
	For Automatic Roll Filter, Add	29,538.96	
	For Hot Water Heating Coil, Aluminum Fins, Add	6,179.31	
	For Electric Heating Coil, Add	7,217.52	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	24,347.93	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	24,347.93	
	For Chilled Water Cooling Coil, Copper Fins, Add	29,538.96	
	For Direct Expansion Cooling Coil, Copper Fins, Add	29,538.96	
	For 2 Coils, Independent Circuits, Add	7,217.52	
23 73 13 00-0074	EA 17,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	69,920.14	7,170.86
	For Economizer, Panel, Controls And Damper(s), Add	3,526.52	
	For Flat Filter Box And Throwaway Filters, Add	6,480.15	
	For Medium Capacity Filter Box And Throwaway Filters, Add	12,653.18	
	For Combination Filter Mixing Box And Throwaway Filters, Add	15,944.45	
	For Manual Roll Filter, Add	33,849.31	
	For Automatic Roll Filter, Add	33,849.31	
	For Hot Water Heating Coil, Aluminum Fins, Add	6,992.01	
	For Electric Heating Coil, Add	8,185.67	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	27,881.02	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	27,881.02	
	For Chilled Water Cooling Coil, Copper Fins, Add	33,849.31	
	For Direct Expansion Cooling Coil, Copper Fins, Add	33,849.31	
	For 2 Coils, Independent Circuits, Add	8,185.67	
23 73 13 00-0075	EA 20,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	78,540.87	7,774.72
	For Economizer, Panel, Controls And Damper(s), Add	3,678.21	
	For Flat Filter Box And Throwaway Filters, Add	7,298.88	
	For Medium Capacity Filter Box And Throwaway Filters, Add	10,892.81	
	For Combination Filter Mixing Box And Throwaway Filters, Add	17,969.61	
	For Manual Roll Filter, Add	28,085.13	
	For Automatic Roll Filter, Add	34,828.81	
	For Hot Water Heating Coil, Aluminum Fins, Add	7,854.09	
	For Electric Heating Coil, Add	9,202.82	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	28,085.13	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	28,085.13	
	For Steam Heating Coil, Aluminum Fins, Add	14,597.77	
	For Chilled Water Cooling Coil, Copper Fins, Add	34,828.81	
	For Direct Expansion Cooling Coil, Copper Fins, Add	34,828.81	
	For 2 Coils, Independent Circuits, Add	9,202.82	
23 73 13 00-0076	EA 22,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	84,704.11	8,454.07
	For Economizer, Panel, Controls And Damper(s), Add	3,566.65	
	For Flat Filter Box And Throwaway Filters, Add	7,869.86	
	For Medium Capacity Filter Box And Throwaway Filters, Add	11,744.73	
	For Combination Filter Mixing Box And Throwaway Filters, Add	19,374.37	
	For Manual Roll Filter, Add	30,278.34	
	For Automatic Roll Filter, Add	37,547.64	
	For Hot Water Heating Coil, Aluminum Fins, Add	8,470.41	
	For Electric Heating Coil, Add	9,924.27	
	For Chilled Water Cooling Coil, Aluminum Fins, Add	30,278.34	
	For Direct Expansion Cooling Coil, Aluminum Fins, Add	30,278.34	
	For Steam Heating Coil, Aluminum Fins, Add	15,739.72	
	For Chilled Water Cooling Coil, Copper Fins, Add	37,547.64	
	For Direct Expansion Cooling Coil, Copper Fins, Add	37,547.64	
	For 2 Coils, Independent Circuits, Add	9,924.27	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0077 EA 25,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	101,170.66	9,133.09
For Economizer, Panel, Controls And Damper(s), Add	3,721.64	
For Flat Filter Box And Throwaway Filters, Add	9,464.65	
For Medium Capacity Filter Box And Throwaway Filters, Add	14,132.06	
For Combination Filter Mixing Box And Throwaway Filters, Add	23,336.02	
For Manual Roll Filter, Add	36,554.98	
For Automatic Roll Filter, Add	45,367.62	
For Hot Water Heating Coil, Aluminum Fins, Add	10,117.07	
For Electric Heating Coil, Add	11,879.59	
For Chilled Water Cooling Coil, Aluminum Fins, Add	36,554.98	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	36,554.98	
For Steam Heating Coil, Aluminum Fins, Add	18,929.70	
For Chilled Water Cooling Coil, Copper Fins, Add	45,367.62	
For Direct Expansion Cooling Coil, Copper Fins, Add	45,367.62	
For 2 Coils, Independent Circuits, Add	11,879.59	
23 73 13 00-0078 EA 27,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	114,422.45	9,888.24
For Economizer, Panel, Controls And Damper(s), Add	3,880.90	
For Flat Filter Box And Throwaway Filters, Add	10,736.95	
For Medium Capacity Filter Box And Throwaway Filters, Add	16,034.89	
For Combination Filter Mixing Box And Throwaway Filters, Add	26,489.71	
For Manual Roll Filter, Add	41,537.18	
For Automatic Roll Filter, Add	51,568.83	
For Hot Water Heating Coil, Aluminum Fins, Add	11,442.25	
For Electric Heating Coil, Add	13,448.57	
For Chilled Water Cooling Coil, Aluminum Fins, Add	41,537.18	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	41,537.18	
For Steam Heating Coil, Aluminum Fins, Add	21,473.89	
For Chilled Water Cooling Coil, Copper Fins, Add	51,568.83	
For Direct Expansion Cooling Coil, Copper Fins, Add	51,568.83	
For 2 Coils, Independent Circuits, Add	13,448.57	
23 73 13 00-0079 EA 30,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	124,027.45	10,643.40
For Economizer, Panel, Controls And Damper(s), Add	4,046.73	
For Flat Filter Box And Throwaway Filters, Add	11,642.17	
For Medium Capacity Filter Box And Throwaway Filters, Add	17,387.20	
For Combination Filter Mixing Box And Throwaway Filters, Add	28,725.14	
For Manual Roll Filter, Add	45,047.53	
For Automatic Roll Filter, Add	55,929.13	
For Hot Water Heating Coil, Aluminum Fins, Add	12,402.75	
For Electric Heating Coil, Add	14,579.06	
For Chilled Water Cooling Coil, Aluminum Fins, Add	45,047.53	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	45,047.53	
For Steam Heating Coil, Aluminum Fins, Add	23,284.34	
For Chilled Water Cooling Coil, Copper Fins, Add	55,929.13	
For Direct Expansion Cooling Coil, Copper Fins, Add	55,929.13	
For 2 Coils, Independent Circuits, Add	14,579.06	
23 73 13 00-0080 EA 32,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	138,556.92	12,454.34
For Economizer, Panel, Controls And Damper(s), Add	4,051.82	
For Flat Filter Box And Throwaway Filters, Add	12,966.96	
For Medium Capacity Filter Box And Throwaway Filters, Add	19,361.57	
For Combination Filter Mixing Box And Throwaway Filters, Add	31,973.04	
For Manual Roll Filter, Add	50,090.40	
For Automatic Roll Filter, Add	62,168.63	
For Hot Water Heating Coil, Aluminum Fins, Add	13,855.69	
For Electric Heating Coil, Add	16,271.34	
For Chilled Water Cooling Coil, Aluminum Fins, Add	50,090.40	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	50,090.40	
For Steam Heating Coil, Aluminum Fins, Add	25,933.93	
For Chilled Water Cooling Coil, Copper Fins, Add	62,168.63	
For Direct Expansion Cooling Coil, Copper Fins, Add	62,168.63	
For 2 Coils, Independent Circuits, Add	16,271.34	
23 73 13 00-0081 EA 35,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	139,221.72	12,907.55
For Economizer, Panel, Controls And Damper(s), Add	4,134.92	
For Flat Filter Box And Throwaway Filters, Add	13,000.20	
For Medium Capacity Filter Box And Throwaway Filters, Add	19,408.11	
For Combination Filter Mixing Box And Throwaway Filters, Add	32,039.52	
For Manual Roll Filter, Add	50,156.88	
For Automatic Roll Filter, Add	62,235.11	
For Hot Water Heating Coil, Aluminum Fins, Add	13,922.17	
For Electric Heating Coil, Add	16,337.82	
For Chilled Water Cooling Coil, Aluminum Fins, Add	50,156.88	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	50,156.88	
For Steam Heating Coil, Aluminum Fins, Add	26,000.41	
For Chilled Water Cooling Coil, Copper Fins, Add	62,235.11	
For Direct Expansion Cooling Coil, Copper Fins, Add	62,235.11	
For 2 Coils, Independent Circuits, Add	16,337.82	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0082 EA 37,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	145,627.39	13,360.02
For Economizer, Panel, Controls And Damper(s), Add	4,218.02	
For Flat Filter Box And Throwaway Filters, Add	13,607.53	
For Medium Capacity Filter Box And Throwaway Filters, Add	20,315.78	
For Combination Filter Mixing Box And Throwaway Filters, Add	33,541.23	
For Manual Roll Filter, Add	52,519.71	
For Automatic Roll Filter, Add	65,172.04	
For Hot Water Heating Coil, Aluminum Fins, Add	14,562.74	
For Electric Heating Coil, Add	17,093.20	
For Chilled Water Cooling Coil, Aluminum Fins, Add	52,519.71	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	52,519.71	
For Steam Heating Coil, Aluminum Fins, Add	27,215.06	
For Chilled Water Cooling Coil, Copper Fins, Add	65,172.04	
For Direct Expansion Cooling Coil, Copper Fins, Add	65,172.04	
For 2 Coils, Independent Circuits, Add	17,093.20	
23 73 13 00-0083 EA 40,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	152,528.56	14,341.72
For Economizer, Panel, Controls And Damper(s), Add	4,389.31	
For Flat Filter Box And Throwaway Filters, Add	14,209.13	
For Medium Capacity Filter Box And Throwaway Filters, Add	21,211.32	
For Combination Filter Mixing Box And Throwaway Filters, Add	35,010.97	
For Manual Roll Filter, Add	54,789.08	
For Automatic Roll Filter, Add	67,974.48	
For Hot Water Heating Coil, Aluminum Fins, Add	15,232.86	
For Electric Heating Coil, Add	17,869.94	
For Chilled Water Cooling Coil, Aluminum Fins, Add	54,789.08	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	54,789.08	
For Steam Heating Coil, Aluminum Fins, Add	28,418.26	
For Chilled Water Cooling Coil, Copper Fins, Add	67,974.48	
For Direct Expansion Cooling Coil, Copper Fins, Add	67,974.48	
For 2 Coils, Independent Circuits, Add	17,869.94	
23 73 13 00-0084 EA 45,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	164,210.46	15,096.55
For Economizer, Panel, Controls And Damper(s), Add	4,513.88	
For Flat Filter Box And Throwaway Filters, Add	15,347.49	
For Medium Capacity Filter Box And Throwaway Filters, Add	22,913.88	
For Combination Filter Mixing Box And Throwaway Filters, Add	37,831.95	
For Manual Roll Filter, Add	59,242.86	
For Automatic Roll Filter, Add	73,516.80	
For Hot Water Heating Coil, Aluminum Fins, Add	16,421.05	
For Electric Heating Coil, Add	19,275.83	
For Chilled Water Cooling Coil, Aluminum Fins, Add	59,242.86	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	59,242.86	
For Steam Heating Coil, Aluminum Fins, Add	30,694.99	
For Chilled Water Cooling Coil, Copper Fins, Add	73,516.80	
For Direct Expansion Cooling Coil, Copper Fins, Add	73,516.80	
For 2 Coils, Independent Circuits, Add	19,275.83	
23 73 13 00-0085 EA 50,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	176,555.39	15,926.86
For Economizer, Panel, Controls And Damper(s), Add	4,178.16	
For Flat Filter Box And Throwaway Filters, Add	16,516.46	
For Medium Capacity Filter Box And Throwaway Filters, Add	24,660.78	
For Combination Filter Mixing Box And Throwaway Filters, Add	40,721.61	
For Manual Roll Filter, Add	63,787.69	
For Automatic Roll Filter, Add	79,165.07	
For Hot Water Heating Coil, Aluminum Fins, Add	17,655.54	
For Electric Heating Coil, Add	20,731.02	
For Chilled Water Cooling Coil, Aluminum Fins, Add	63,787.69	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	63,787.69	
For Steam Heating Coil, Aluminum Fins, Add	33,032.92	
For Chilled Water Cooling Coil, Copper Fins, Add	79,165.07	
For Direct Expansion Cooling Coil, Copper Fins, Add	79,165.07	
For 2 Coils, Independent Circuits, Add	20,731.02	
23 73 13 00-0086 EA 55,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	190,217.38	16,908.14
For Economizer, Panel, Controls And Damper(s), Add	4,314.17	
For Flat Filter Box And Throwaway Filters, Add	17,814.66	
For Medium Capacity Filter Box And Throwaway Filters, Add	26,601.28	
For Combination Filter Mixing Box And Throwaway Filters, Add	43,933.10	
For Manual Roll Filter, Add	68,844.46	
For Automatic Roll Filter, Add	85,452.03	
For Hot Water Heating Coil, Aluminum Fins, Add	19,021.74	
For Electric Heating Coil, Add	22,343.25	
For Chilled Water Cooling Coil, Aluminum Fins, Add	68,844.46	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	68,844.46	
For Steam Heating Coil, Aluminum Fins, Add	35,629.31	
For Chilled Water Cooling Coil, Copper Fins, Add	85,452.03	
For Direct Expansion Cooling Coil, Copper Fins, Add	85,452.03	
For 2 Coils, Independent Circuits, Add	22,343.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Indoor Central-Station Air-Handling Units			23 73

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73	13 00-0087	EA	60,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan For Economizer, Panel, Controls And Damper(s), Add For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For 2 Coils, Independent Circuits, Add	204,141.65 4,375.75 19,176.29 28,640.65 47,321.79 74,229.41 92,167.83 20,414.17 24,001.85 74,229.41 74,229.41 38,352.58 92,167.83 92,167.83 24,001.85	17,361.04
23 73	13 00-0088		Return/Supply Air Fan (23 73 13) Note: Includes vibration mounts.		
23 73	13 00-0089	EA	300 CFM Return Air Fan.....	3,342.73	603.75
23 73	13 00-0090	EA	500 CFM Return Air Fan.....	4,339.59	724.52
23 73	13 00-0091	EA	750 CFM Return Air Fan.....	4,533.06	754.72
23 73	13 00-0092	EA	1,000 CFM Return Air Fan.....	5,179.43	800.01
23 73	13 00-0093	EA	1,250 CFM Return Air Fan.....	5,335.96	837.75
23 73	13 00-0094	EA	1,500 CFM Return Air Fan.....	5,458.17	875.49
23 73	13 00-0095	EA	1,750 CFM Return Air Fan.....	5,728.25	920.78
23 73	13 00-0096	EA	2,000 CFM Return Air Fan.....	6,374.61	966.07
23 73	13 00-0097	EA	2,250 CFM Return Air Fan.....	6,678.79	1,011.37
23 73	13 00-0098	EA	2,500 CFM Return Air Fan.....	6,846.16	1,056.65
23 73	13 00-0099	EA	3,000 CFM Return Air Fan.....	7,247.06	1,169.87
23 73	13 00-0100	EA	3,500 CFM Return Air Fan.....	7,436.17	1,230.26
23 73	13 00-0101	EA	4,000 CFM Return Air Fan.....	7,614.24	1,283.09
23 73	13 00-0102	EA	4,500 CFM Return Air Fan.....	7,837.54	1,343.59
23 73	13 00-0103	EA	5,000 CFM Return Air Fan.....	8,037.10	1,411.52
23 73	13 00-0104	EA	5,500 CFM Return Air Fan.....	8,410.98	1,577.59
23 73	13 00-0105	EA	6,000 CFM Return Air Fan.....	9,549.87	1,871.98
23 73	13 00-0106	EA	6,500 CFM Return Air Fan.....	9,798.92	1,902.16
23 73	13 00-0107	EA	7,000 CFM Return Air Fan.....	9,911.86	1,909.71
23 73	13 00-0108	EA	8,000 CFM Return Air Fan.....	10,434.60	1,939.91
23 73	13 00-0109	EA	9,000 CFM Return Air Fan.....	10,668.65	1,962.55
23 73	13 00-0110	EA	10,000 CFM Return Air Fan.....	11,224.94	2,038.36
23 73	13 00-0111	EA	12,500 CFM Return Air Fan.....	11,961.14	2,075.67
23 73	13 00-0112	EA	15,000 CFM Return Air Fan.....	13,518.03	2,134.65
23 73	13 00-0113	EA	17,500 CFM Return Air Fan.....	14,742.13	2,249.28
23 73	13 00-0114	EA	20,000 CFM Return Air Fan.....	17,550.31	2,347.19
23 73	13 00-0115	EA	22,500 CFM Return Air Fan.....	18,393.10	2,429.03
23 73	13 00-0116	EA	25,000 CFM Return Air Fan.....	19,231.92	2,498.48
23 73	13 00-0117	EA	27,500 CFM Return Air Fan.....	20,378.74	2,747.58
23 73	13 00-0118	EA	30,000 CFM Return Air Fan.....	21,790.71	2,898.32
23 73	13 00-0119	EA	35,000 CFM Return Air Fan.....	24,598.57	3,018.98
23 73	13 00-0120	EA	40,000 CFM Return Air Fan.....	28,998.49	3,320.92
23 73	13 00-0121	EA	45,000 CFM Return Air Fan.....	35,699.81	3,773.82
23 73	13 00-0122	EA	50,000 CFM Return Air Fan.....	43,489.50	3,910.00
23 73	13 00-0123	EA	55,000 CFM Return Air Fan.....	45,527.17	4,022.90
23 73	13 00-0124	EA	60,000 CFM Return Air Fan.....	46,573.71	4,128.58
23 73	13 00-0125	EA	65,000 CFM Return Air Fan.....	48,844.50	4,309.64
23 73	13 00-0126	EA	70,000 CFM Return Air Fan.....	51,303.55	4,521.85
23 73	13 00-0127	EA	75,000 CFM Return Air Fan.....	55,186.06	4,743.66
23 73	13 00-0128	EA	80,000 CFM Return Air Fan.....	57,632.05	4,995.12
23 73	13 00-0129	EA	90,000 CFM Return Air Fan.....	59,502.50	5,279.58
23 73	13 00-0130	EA	100,000 CFM Return Air Fan.....	63,986.28	5,521.24
23 73	13 00-0131	EA	115,000 CFM Return Air Fan.....	68,845.17	5,785.33
23 73	13 00-0132	EA	130,000 CFM Return Air Fan.....	74,118.34	6,076.79
23 73	13 00-0133	EA	150,000 CFM Return Air Fan.....	81,111.72	6,400.51
23 73	13 00-0134		Removal And Reinstallation Of Air Handling Unit (23 73 13) Note: Air handling units with filter and coils. Includes storage and cleaning. Excludes ductwork.		
23 73	13 00-0135	EA	Removal And Reinstallation Of Up To 11,500 CFM Air Handling Unit.....	2,764.93	
23 73	13 00-0136	EA	Removal And Reinstallation Of >11,500 To 16,500 CFM Air Handling Unit	3,750.70	
23 73	13 00-0137	EA	Removal And Reinstallation Of >16,500 To 22,000 CFM Air Handling Unit	4,665.82	
23 73	13 00-0138	EA	Removal And Reinstallation Of >22,000 CFM Air Handling Unit	8,513.10	

23 74 Packaged Outdoor HVAC Equipment (23 70)

23 74 16 Packaged Rooftop Air-Conditioning Units (23 74)

23 74 16 13 Packaged, Large-Capacity, Rooftop Air-Conditioning Units (23 74 16)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 74 16 13-0001	Electric Cooling, Electric Heat, Self Contained Packaged Rooftop Air-Conditioning Units (23 74 16 13) Note: Electric heating capacity is approximately 1/2 the cooling capacity. Units < 5 tons have 14 SEER, units 5 to < 20 tons have 11 EER, and units 20 tons and over have 10 EER. Includes roof curb and economizer. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0002	EA 2 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	4,977.58 -363.45 -1,103.56 -724.43	1,718.62
23 74 16 13-0003	EA 3 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	6,424.22 -440.99 -1,103.56 -724.43	1,796.74
23 74 16 13-0004	EA 4 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	7,487.46 -499.36 -1,103.56 -724.43	1,874.86
23 74 16 13-0005	EA 5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	8,890.61 -577.33 -1,103.56 -724.43	1,992.04
23 74 16 13-0006	EA 6 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	9,678.54 -624.54 -1,103.56 -724.43	2,109.21
23 74 16 13-0007	EA 7.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	10,834.40 -692.75 -1,126.35 -869.33	2,265.45
23 74 16 13-0008	EA 8.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	11,622.33 -739.96 -1,126.35 -869.33	2,382.63
23 74 16 13-0009	EA 10 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	12,778.19 -808.17 -1,151.88 -869.33	2,538.87
23 74 16 13-0010	EA 12.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	15,441.06 -954.98 -1,244.02 -869.33	2,743.54
23 74 16 13-0011	EA 15 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	18,103.94 -1,101.80 -2,351.59 -869.33	2,949.00
23 74 16 13-0012	EA 17.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	20,684.41 -1,244.49 -2,351.59 -869.33	3,153.93
23 74 16 13-0013	EA 20 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	23,264.89 -1,387.19 -2,351.59 -869.33	3,359.13
23 74 16 13-0014	EA 22.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	26,082.58 -1,550.86 -2,351.59 -869.33	3,700.76
23 74 16 13-0015	EA 25 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	28,900.26 -1,714.52 -2,351.59 -869.33	4,042.67
23 74 16 13-0016	EA 27.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	31,824.96 -1,886.15 -2,351.59 -1,331.01	4,423.63
23 74 16 13-0017	EA 30 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	34,749.65 -2,057.77 -2,351.59 -1,331.01	4,804.33
23 74 16 13-0018	EA 35 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	40,486.33 -2,397.99 -2,351.59 -1,331.01	5,605.05
23 74 16 13-0019	EA 40 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	46,223.01 -2,738.20 -2,351.59 -2,029.39	6,405.77
23 74 16 13-0020	EA 45 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit For Unit Without Heat, Deduct For Unit Without Factory Installed Economizer, Deduct For Unit Without Roof Curb, Deduct	50,832.20 -3,023.35 -2,351.59 -2,029.39	7,226.02



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR		TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION		UNIT COST		UNIT COST
23 74 16 13-0021	EA 50 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	55,441.38		8,046.27
	For Unit Without Heat, Deduct	-3,308.49		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,029.39		
23 74 16 13-0022	EA 55 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	61,042.17		8,827.47
	For Unit Without Heat, Deduct	-3,640.61		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,525.99		
23 74 16 13-0023	EA 60 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	66,642.94		9,608.66
	For Unit Without Heat, Deduct	-3,972.72		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,525.99		
23 74 16 13-0024	EA 65 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	72,078.94		10,389.84
	For Unit Without Heat, Deduct	-4,296.80		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,587.79		
23 74 16 13-0025	EA 70 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	77,514.92		11,171.04
	For Unit Without Heat, Deduct	-4,620.48		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,587.79		
23 74 16 13-0026	EA 75 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	83,055.06		12,030.35
	For Unit Without Heat, Deduct	-4,954.78		
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,881.60		
23 74 16 13-0027	Electric Cooling, Gas Heat, Self Contained Packaged Rooftop Air-Conditioning Units (23 74 16 13) Note: Units < 5 tons have 14 SEER, units 5 to < 20 tons have 11 EER, and units 20 tons and over have 10 EER. Includes roof curb and economizer. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for Disconnects.			
23 74 16 13-0028	EA 2 Ton Electric Cooling, 50 MBH Gas Heating, Self Contained Package Rooftop Unit	4,890.48		1,562.39
	For Unit Without Factory Installed Economizer, Deduct	-1,103.56		
	For Unit Without Roof Curb, Deduct	-724.43		
23 74 16 13-0029	EA 3 Ton Electric Cooling, 60 To 80 MBH Gas Heating, Self Contained Package Rooftop Unit	5,575.79		1,796.74
	For Unit Without Factory Installed Economizer, Deduct	-1,103.56		
	For Unit Without Roof Curb, Deduct	-724.43		
23 74 16 13-0030	EA 4 Ton Electric Cooling, 80 To 110 MBH Gas Heating, Self Contained Package Rooftop Unit	6,872.46		2,070.16
	For Unit Without Factory Installed Economizer, Deduct	-1,103.56		
	For Unit Without Roof Curb, Deduct	-724.43		
23 74 16 13-0031	EA 5 Ton Electric Cooling, 100 To 120 MBH Gas Heating, Self Contained Package Rooftop Unit	7,875.81		2,226.40
	For Unit Without Factory Installed Economizer, Deduct	-1,103.56		
	For Unit Without Roof Curb, Deduct	-724.43		
23 74 16 13-0032	EA 6 Ton Electric Cooling, 140 MBH Gas Heating, Self Contained Package Rooftop Unit	8,822.97		2,402.17
	For Unit Without Factory Installed Economizer, Deduct	-1,103.56		
	For Unit Without Roof Curb, Deduct	-724.43		
23 74 16 13-0033	EA 7.5 Ton Electric Cooling, 150 To 180 MBH Gas Heating, Self Contained Package Rooftop Unit	9,637.17		2,519.35
	For Unit Without Factory Installed Economizer, Deduct	-1,126.35		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0034	EA 8.5 Ton Electric Cooling, 170 To 190 MBH Gas Heating, Self Contained Package Rooftop Unit	11,515.04		2,089.69
	For Unit Without Factory Installed Economizer, Deduct	-1,126.35		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0035	EA 10 Ton Electric Cooling, 200 To 240 MBH Gas Heating, Self Contained Package Rooftop Unit	14,359.32		2,812.29
	For Unit Without Factory Installed Economizer, Deduct	-1,151.88		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0036	EA 12.5 Ton Electric Cooling, 250 MBH Gas Heating, Self Contained Package Rooftop Unit	15,686.15		3,046.64
	For Unit Without Factory Installed Economizer, Deduct	-1,244.02		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0037	EA 15 Ton Electric Cooling, 300 MBH Gas Heating, Self Contained Package Rooftop Unit	18,959.45		3,281.01
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0038	EA 17.5 Ton Electric Cooling, 330 MBH Gas Heating, Self Contained Package Rooftop Unit	20,039.55		3,515.36
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0039	EA 20 Ton Electric Cooling, 350 MBH Gas Heating, Self Contained Package Rooftop Unit	30,660.07		3,749.72
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0040	EA 22.5 Ton Electric Cooling, 380 MBH Gas Heating, Self Contained Package Rooftop Unit	37,431.48		4,140.32
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0041	EA 25 Ton Electric Cooling, 400 MBH Gas Heating, Self Contained Package Rooftop Unit	44,202.90		4,478.83
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-869.33		
23 74 16 13-0042	EA 27.5 Ton Electric Cooling, 450 MBH Gas Heating, Self Contained Package Rooftop Unit	45,546.14		4,921.50
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-1,331.01		
23 74 16 13-0043	EA 30 Ton Electric Cooling, 500 MBH Gas Heating, Self Contained Package Rooftop Unit	48,879.71		5,312.10
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-1,331.01		
23 74 16 13-0044	EA 35 Ton Electric Cooling, 550 MBH Gas Heating, Self Contained Package Rooftop Unit	52,528.44		6,210.47
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-1,331.01		
23 74 16 13-0045	EA 40 Ton Electric Cooling, 600 MBH Gas Heating, Self Contained Package Rooftop Unit	58,167.50		7,108.84
	For Unit Without Factory Installed Economizer, Deduct	-2,351.59		
	For Unit Without Roof Curb, Deduct	-2,029.39		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0046 EA 45 Ton Electric Cooling, 650 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	62,709.95 -2,351.59 -2,029.39	8,007.21
23 74 16 13-0047 EA 50 Ton Electric Cooling, 750 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	67,252.41 -2,351.59 -2,029.39	8,905.58
23 74 16 13-0048 EA 55 Ton Electric Cooling, 800 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	73,659.09 -2,351.59 -2,525.99	9,803.95
23 74 16 13-0049 EA 60 Ton Electric Cooling, 850 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	80,065.76 -2,351.59 -2,525.99	10,702.33
23 74 16 13-0050 EA 65 Ton Electric Cooling, 900 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	85,736.46 -2,351.59 -2,587.79	11,151.51
23 74 16 13-0051 EA 70 Ton Electric Cooling, 950 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	91,381.10 -2,351.59 -2,587.79	11,581.16
23 74 16 13-0052 EA 75 Ton Electric Cooling, 1,000 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	97,051.78 -2,351.59 -2,881.60	12,030.35
23 74 16 13-0053 EA 80 Ton Electric Cooling, 1,100 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	102,748.52 -2,351.59 -2,881.60	12,499.07
23 74 16 13-0054 EA 90 Ton Electric Cooling, 1,200 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	139,659.57 -2,351.59 -2,881.60	14,686.40
23 74 16 13-0055 EA 100 Ton Electric Cooling, 1,350 MBH Gas Heating, Self Contained Package Rooftop Unit..... <i>For Unit Without Factory Installed Economizer, Deduct</i> <i>For Unit Without Roof Curb, Deduct</i>	160,927.39 -2,351.59 -2,881.60	17,889.29

23 74 16 13-0056**AAON Rooftop Units (23 74 16 13)**

Note: Units < 5 tons have 14 SEER minimum, units 5 to < 20 tons have 11 EER minimum, and units 20 tons and over have 10 EER minimum. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 07 12 13 00-0000 for roof curbs, 23 09 23 00-0000 for controls, 26 28 16 16-0001 for disconnects.

23 74 16 13-0057**AAON RQ Rooftop Units (23 74 16 13-0056)**

Note: Includes 2" double wall foam panel construction, direct drive fan with VFD (or ECM motor), single stage on/off scroll compressor, terminal strip for field supplied thermostat, gas heat, manually adjustable OSA damper, microchannel condenser coils. Excludes economizer, controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 74 16 13-0058 EA 2 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-002)	14,196.20	1,562.39
<i>For Factory Installed And Wired Dry Bulb Economizer, Add</i>	1,533.79	
<i>For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add</i>	1,664.07	
<i>For Factory Authorized Start Up, 4 Hour, One Trip, Add</i>	1,310.11	
<i>For Factory Installed Non-Fused Disconnect, Add</i>	1,499.38	
<i>For Factory Installed Exhaust Fan, Add</i>	7,644.38	
<i>For Hot Water Coil In Lieu Of Gas Heat, Add</i>	1,784.51	
23 74 16 13-0059 EA 3 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-003)	15,467.29	1,796.74
<i>For Factory Installed And Wired Dry Bulb Economizer, Add</i>	1,644.40	
<i>For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add</i>	1,784.51	
<i>For Factory Authorized Start Up, 4 Hour, One Trip, Add</i>	1,403.52	
<i>For Factory Installed Non-Fused Disconnect, Add</i>	1,607.53	
<i>For Factory Installed Exhaust Fan, Add</i>	7,644.38	
<i>For Hot Water Coil In Lieu Of Gas Heat, Add</i>	1,784.51	
23 74 16 13-0060 EA 4 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-004)	16,050.62	2,070.16
<i>For Factory Installed And Wired Dry Bulb Economizer, Add</i>	1,644.40	
<i>For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add</i>	1,784.51	
<i>For Factory Authorized Start Up, 4 Hour, One Trip, Add</i>	1,403.52	
<i>For Factory Installed Non-Fused Disconnect, Add</i>	1,607.53	
<i>For Factory Installed Exhaust Fan, Add</i>	7,644.38	
<i>For Hot Water Coil In Lieu Of Gas Heat, Add</i>	1,784.51	
23 74 16 13-0061 EA 5 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-005)	16,453.12	2,226.40
<i>For Factory Installed And Wired Dry Bulb Economizer, Add</i>	1,644.40	
<i>For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add</i>	1,784.51	
<i>For Factory Authorized Start Up, 4 Hour, One Trip, Add</i>	1,403.52	
<i>For Factory Installed Non-Fused Disconnect, Add</i>	1,607.53	
<i>For Factory Installed Exhaust Fan, Add</i>	7,644.38	
<i>For Hot Water Coil In Lieu Of Gas Heat, Add</i>	1,784.51	
23 74 16 13-0062 EA 6 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-006)	18,002.51	2,714.69
<i>For Factory Installed And Wired Dry Bulb Economizer, Add</i>	1,644.40	
<i>For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add</i>	1,784.51	
<i>For Factory Authorized Start Up, 4 Hour, One Trip, Add</i>	1,403.52	
<i>For Factory Installed Non-Fused Disconnect, Add</i>	1,607.53	
<i>For Factory Installed Exhaust Fan, Add</i>	7,644.38	
<i>For Hot Water Coil In Lieu Of Gas Heat, Add</i>	1,784.51	

23 74 16 13-0063**AAON RNA Rooftop Units (23 74 16 13-0056)**

Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, single stage on/off compressor, terminal strip for field provided thermostat, gas heat, manually adjustable OSA damper. Excludes economizer, controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Packaged Outdoor HVAC Equipment			23 74	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0064 EA 6 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-006)..... For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	21,839.45 1,600.16 2,458.00 1,639.49 1,514.13 4,082.74 1,391.23	2,402.22
23 74 16 13-0065 EA 7 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-007)..... For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	23,320.55 1,600.16 2,458.00 1,639.49 1,514.13 4,082.74 1,391.23	2,519.40
23 74 16 13-0066 EA 8 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-008)..... For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	26,796.00 1,600.16 2,458.00 1,639.49 1,514.13 4,082.74 1,391.23	2,714.69
23 74 16 13-0067 EA 10 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-010)..... For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	27,056.48 1,600.16 2,458.00 1,639.49 1,514.13 4,082.74 1,391.23	2,812.29
23 74 16 13-0068 AAON RNB Rooftop Units (23 74 16 13-0056) Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (1) on/off scroll compressors, terminal strip for field provided thermostat, gas heat, factory installed 3 position economizer. Excludes controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0069 EA 9 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-009)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	32,156.83 2,357.22 1,843.50 1,462.51 3,893.47 1,398.60	2,812.29
23 74 16 13-0070 EA 11 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-011)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	32,413.99 2,357.22 1,843.50 1,462.51 3,893.47 1,398.60	2,734.17
23 74 16 13-0071 EA 13 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-013)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	35,332.87 2,357.22 1,843.50 1,462.51 3,893.47 1,398.60	3,046.64
23 74 16 13-0072 EA 15 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-015)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	36,215.60 2,357.22 1,843.50 1,462.51 3,893.47 1,398.60	3,281.01
23 74 16 13-0073 AAON RNC Rooftop Units (23 74 16 13-0056) Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (2) on/off scroll compressors, terminal strip for field provided thermostat, gas heat, factory installed 3 position economizer. Excludes controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel.		
23 74 16 13-0074 EA 16 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-016)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	46,765.34 3,480.53 2,458.00 1,462.51 7,140.49 636.62	3,281.01
23 74 16 13-0075 EA 18 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-018)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	50,523.93 3,480.53 2,458.00 1,462.51 7,140.49 636.62	3,515.36
23 74 16 13-0076 EA 20 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-020)..... For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	53,532.84 3,480.53 2,458.00 1,462.51 7,140.49 636.62	3,749.72

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0077 EA 25 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-025).....	57,860.78	4,530.91
For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,480.53	
For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,458.00	
For Factory Installed Non-Fused Disconnect, Add	1,462.51	
For Factory Installed Exhaust Fan, Add	7,140.49	
For Hot Water Coil In Lieu Of Gas Heat, Add	636.62	
23 74 16 13-0078 EA 30 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-030).....	65,600.41	5,312.10
For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,480.53	
For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,458.00	
For Factory Installed Non-Fused Disconnect, Add	1,462.51	
For Factory Installed Exhaust Fan, Add	7,140.49	
For Hot Water Coil In Lieu Of Gas Heat, Add	636.62	
23 74 16 13-0079 AAON RND Rooftop Units (23 74 16 13-0056)		
Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (2) variable capacity digital scroll compressor and (2) on/off compressor, VAV unit controller (varies fan speed and compressor capacity for energy savings year round), cooling only - no heat, factory installed economizer with powered exhaust fans with VFD's, (building static pressure control), factory installed non-fused disconnect and factory start up. Excludes roof curb, items not specifically mentioned above. Excludes crane and associated personnel.		
23 74 16 13-0080 EA 26 Ton, Air Cooled Packaged Rooftop Units (AAON RND-026).....	88,160.54	4,530.91
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0081 EA 31 Ton, Air Cooled Packaged Rooftop Units (AAON RND-031).....	100,437.64	5,312.10
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0082 EA 40 Ton, Air Cooled Packaged Rooftop Units (AAON RND-040).....	118,242.50	7,108.84
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0083 EA 50 Ton, Air Cooled Packaged Rooftop Units (AAON RND-050).....	138,606.13	8,905.58
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0084 EA 60 Ton, Air Cooled Packaged Rooftop Units (AAON RND-060).....	152,148.81	10,702.33
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0085 EA 70 Ton, Air Cooled Packaged Rooftop Units (AAON RND-070).....	160,072.73	11,581.22
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,072.50	
For Factory Installed Non-Fused Disconnect, Add	3,328.13	
For Hot Water Coil In Lieu Of Gas Heat, Add	4,670.20	
23 74 16 13-0086 AAON RNE Rooftop Units (23 74 16 13-0056)		
Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (1 or 2) variable speed VFD controlled scroll compressor and (1 or 2) on/off compressor, VAV unit controller (varies fan speed and compressor capacity for energy savings year round), cooling only - no heat, factory installed economizer with powered exhaust fans with VFD's, (building static pressure control), Microchannel condenser coils with VFD controlled condenser fans, factory installed non-fused disconnect and factory start up. Excludes roof curb, items not specifically mentioned above. Excludes crane and associated personnel.		
23 74 16 13-0087 EA 55 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-055).....	147,912.90	9,803.95
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0088 EA 65 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-065).....	162,896.81	11,151.56
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0089 EA 75 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-075).....	173,185.32	12,030.35
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0090 EA 95 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-090).....	209,424.75	16,287.84
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0091 EA 105 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-105).....	226,746.47	18,592.36
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0092 EA 120 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-120).....	264,528.40	20,467.22
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0093 EA 130 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-130).....	270,931.51	21,717.12
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	
23 74 16 13-0094 EA 140 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-140).....	283,805.00	24,295.07
For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,470.70	
For Factory Installed Non-Fused Disconnect, Add	4,984.82	
For Hot Water Coil In Lieu Of Gas Heat, Add	6,636.60	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central HVAC Equipment		23 70	
Packaged Outdoor HVAC Equipment		23 74	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0095 Removal And Reinstallation Of Packaged Rooftop Air-Conditioning Units (23 74 16 13) Note: Includes storage and cleaning.		
23 74 16 13-0096 EA Removal And Reinstallation Of Up To 5 Ton, Roof Top Unit.....	600.35	
23 74 16 13-0097 EA Removal And Reinstallation Of >5 To 10 Ton, Roof Top Unit.....	818.66	
23 74 16 13-0098 EA Removal And Reinstallation Of >10 To 15 Ton, Roof Top Unit.....	1,091.44	
23 74 16 13-0099 EA Removal And Reinstallation Of >15 To 25 Ton, Roof Top Unit.....	1,745.75	
23 74 16 13-0100 EA Removal And Reinstallation Of >25 To 50 Ton, Roof Top Unit.....	3,055.55	
23 74 16 13-0101 EA Removal And Reinstallation Of >50 To 75 Ton, Roof Top Unit.....	4,365.77	
23 74 16 13-0102 Packaged Rooftop Units (Trane, Carrier Or Equal) (23 74 16 13) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0103 Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102)		
23 74 16 13-0104 Standard Efficiency Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0103) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0105 EA 3 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC036).....	11,129.81	1,796.74
For Factory Installed Economizer, Add	1,116.90	
For Roof Curb, Add	725.65	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0106 EA 4 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC048).....	12,391.61	2,070.16
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	725.65	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0107 EA 5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC060).....	13,523.23	2,226.40
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	725.65	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0108 EA 6 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC072).....	14,924.76	2,402.22
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	725.65	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0109 EA 7.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC092).....	17,463.72	2,519.40
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	870.77	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0110 EA 8.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC102).....	18,963.86	2,714.69
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	870.77	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0111 EA 10 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC120).....	25,075.06	2,812.29
For Factory Installed Economizer, Add	1,209.98	
For Roof Curb, Add	870.77	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0112 EA 12.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD150).....	28,790.36	3,046.64
For Economizer, Add	2,122.12	
For Roof Curb, Add	816.12	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0113 EA 15 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD180).....	31,453.91	3,281.01
For Economizer, Add	2,122.12	
For Roof Curb, Add	816.12	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0114	EA		17.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD210).....	36,308.45	3,515.36
			For Economizer, Add	2,122.12	
			For Roof Curb, Add	816.12	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.90	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0115	EA		20 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD240).....	39,664.48	3,749.72
			For Economizer, Add	2,122.12	
			For Roof Curb, Add	816.12	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.90	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0116	EA		25 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD300).....	45,767.49	4,530.91
			For Economizer, Add	2,122.12	
			For Roof Curb, Add	816.12	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.90	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0117	EA		27.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD330).....	49,929.38	4,921.50
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,749.94	
			For Roof Curb, Add	1,432.12	
23 74 16 13-0118	EA		30 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD360).....	52,631.84	5,312.10
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,749.94	
			For Roof Curb, Add	1,432.12	
23 74 16 13-0119	EA		35 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD420).....	59,080.97	6,210.47
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,749.94	
			For Roof Curb, Add	1,432.12	
23 74 16 13-0120	EA		40 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD480).....	64,394.57	7,108.84
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,749.94	
			For Roof Curb, Add	1,633.48	
23 74 16 13-0121	EA		50 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD600).....	75,042.25	8,905.58
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,749.94	
			For Roof Curb, Add	1,633.48	
23 74 16 13-0122	EA		55 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF554).....	108,900.10	9,803.95
			For Economizer And Powered Exhaust, Add	12,857.40	
			For Roof Curb, Add	2,590.46	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0123	EA		60 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF604).....	117,259.11	10,702.33
			For Economizer And Powered Exhaust, Add	14,559.42	
			For Roof Curb, Add	2,884.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0124	EA		70 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF704).....	131,636.38	11,581.22
			For Economizer And Powered Exhaust, Add	15,114.79	
			For Roof Curb, Add	2,884.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0125	EA		75 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF754).....	142,575.92	12,030.35
			For Roof Curb, Add	2,884.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	15,772.51	
23 74 16 13-0126	EA		90 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHKC904).....	171,895.38	14,686.40
			Note: Includes economizer, powered exhaust and roof curb.		
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0127	EA		105 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHKD114).....	187,162.88	18,592.36
			Note: Includes economizer, powered exhaust and roof curb.		
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central HVAC Equipment		23 70	
Packaged Outdoor HVAC Equipment		23 74	

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0128	High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) ^(23 74 16 13-0103) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0129	EA 3 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC036)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	11,889.30 725.65 975.20 1,761.54 1,103.56	1,796.74
23 74 16 13-0130	EA 4 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC048)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	14,744.28 725.65 975.20 1,761.54 1,103.56	2,070.16
23 74 16 13-0131	EA 5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC060)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	16,116.12 725.65 975.20 1,761.54 1,103.56	2,226.40
23 74 16 13-0132	EA 6 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC072)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	16,116.12 725.65 975.20 1,761.54 1,103.56	2,402.22
23 74 16 13-0133	EA 7.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC092)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	23,258.57 870.77 975.20 1,761.54 1,126.37	2,519.40
23 74 16 13-0134	EA 8.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC102)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	24,944.86 870.77 975.20 1,761.54 1,126.37	2,714.69
23 74 16 13-0135	EA 10 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC120)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	27,178.56 870.77 975.20 1,761.54 1,151.88	2,812.29
23 74 16 13-0136	EA 12.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD150)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes ventilation module and CO2 wall mounted sensor kit. For Factory Installed Economizer, Add	31,364.81 870.77 975.20 2,175.90 1,244.02	3,046.64
23 74 16 13-0137	EA 15 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD180)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes ventilation module and CO2 wall mounted sensor kit. For Factory Installed Economizer, Add	33,635.59 870.77 975.20 2,175.90 2,351.59	3,281.01
23 74 16 13-0138	EA 17.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD210)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes ventilation module and CO2 wall mounted sensor kit. For Factory Installed Economizer, Add	39,100.70 870.77 975.20 2,175.90 2,351.59	3,515.36
23 74 16 13-0139	EA 20 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD240)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes ventilation module and CO2 wall mounted sensor kit. For Factory Installed Economizer, Add	43,067.31 870.77 975.20 2,175.90 2,351.59	3,749.72
23 74 16 13-0140	EA 25 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD300)..... For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes ventilation module and CO2 wall mounted sensor kit. For Factory Installed Economizer, Add	57,818.84 870.77 975.20 2,175.90 2,351.59	4,530.91

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0141	EA		30 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF304).....	74,408.01	5,312.10
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	7,306.40	
			For Roof Curb, Add	1,332.99	
23 74 16 13-0142	EA		40 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF404).....	99,129.39	7,108.84
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	8,221.97	
			For Roof Curb, Add	2,031.59	
23 74 16 13-0143	EA		50 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF504).....	111,901.81	8,905.58
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	12,058.61	
			For Roof Curb, Add	2,031.59	
23 74 16 13-0144	EA		55 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF554).....	124,201.63	9,803.95
			For Economizer And Powered Exhaust, Add	12,857.40	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Roof Curb, Add	2,528.39	
23 74 16 13-0145	EA		60 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF604).....	131,886.78	10,702.33
			For Economizer And Powered Exhaust, Add	14,559.42	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Roof Curb, Add	2,528.39	
23 74 16 13-0146	EA		70 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF704).....	147,779.31	11,581.22
			For Economizer And Powered Exhaust, Add	15,114.79	
			For Roof Curb, Add	2,590.46	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0147			Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0148	EA		3 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC036E).....	8,356.90	1,617.06
			For Roof Curb, Add	725.65	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,199.72	
			For Demand Control Ventilation, Add	2,427.79	
23 74 16 13-0149	EA		4 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC048F).....	9,344.13	1,863.19
			For Roof Curb, Add	725.65	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.79	
23 74 16 13-0150	EA		5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC060E).....	10,206.74	2,003.81
			For Roof Curb, Add	725.65	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.79	
23 74 16 13-0151	EA		6 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC072F).....	11,415.93	2,161.92
			For Roof Curb, Add	725.65	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.79	
23 74 16 13-0152	EA		7.5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC090F).....	13,305.92	2,267.44
			For Roof Curb, Add	870.77	
			For Factory Installed Economizer, Add	1,126.37	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.12	
23 74 16 13-0153	EA		8.5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC102F).....	14,462.57	2,443.15
			For Roof Curb, Add	870.77	
			For Factory Installed Economizer, Add	1,126.37	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.12	
23 74 16 13-0154	EA		10 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC120F).....	15,853.19	2,531.06
			For Roof Curb, Add	870.77	
			For Factory Installed Economizer, Add	1,151.88	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Packaged Outdoor HVAC Equipment			23 74	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0155	EA		12.5 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*150F) Note: * = Downflow or Horizontal For Roof Curb, Add For Factory Installed Economizer, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add	17,734.22 870.77 1,244.02 3,760.20 3,038.33	2,741.99
23 74 16 13-0156	EA		15 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*180F) Note: * = Downflow or Horizontal For Roof Curb, Add For Factory Installed Economizer, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add	19,981.19 870.77 2,351.59 3,760.20 3,038.33	2,952.90
23 74 16 13-0157	EA		17.5 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*210F) Note: * = Downflow or Horizontal For Roof Curb, Add For Factory Installed Economizer, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add	23,676.01 870.77 2,351.59 3,760.20 3,038.33	3,163.83
23 74 16 13-0158	EA		20 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager TH*240) Note: * = Downflow or Horizontal For Roof Curb, Add For Factory Installed Economizer, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add	26,192.95 870.77 2,351.59 5,248.60 3,038.33	3,374.75
23 74 16 13-0159	EA		25 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager TH*300) Note: * = Downflow or Horizontal For Roof Curb, Add For Factory Installed Economizer, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add	30,273.99 870.77 2,351.59 5,248.60 3,434.36	4,077.82
23 74 16 13-0160	EA		55 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*55) For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add For Factory Installed Economizer, Add For Roof Curb, Add For Demand Control Ventilation, Add For Factory Installed BACnet, Add	108,209.06 2,071.80 2,351.59 2,528.39 4,849.72 13,787.39	8,823.61
23 74 16 13-0161	EA		60 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*60) For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add For Factory Installed Economizer, Add For Roof Curb, Add For Demand Control Ventilation, Add For Factory Installed BACnet, Add	118,054.77 2,071.80 2,351.59 2,528.39 4,849.72 13,787.39	9,632.09
23 74 16 13-0162	EA		70 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*70) For Roof Curb, Add For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add For Factory Installed Economizer, Add For Demand Control Ventilation, Add For Factory Installed BACnet, Add	130,520.38 2,590.46 2,071.80 2,351.59 7,982.92 13,787.39	10,423.08
23 74 16 13-0163			Cooling Only DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) ^(23 74 16 13-0102) See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0164			High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) ^(23 74 16 13-0163) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0165	EA		3 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC036) For Roof Curb, Add For Factory Installed Electric Heat, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	7,690.65 725.65 997.76 975.20 1,761.54 1,103.56	1,617.06
23 74 16 13-0166	EA		4 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC048) For Roof Curb, Add For Factory Installed Electric Heat, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	8,749.86 725.65 997.76 975.20 1,761.54 1,103.56	1,863.19
23 74 16 13-0167	EA		5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC060) For Roof Curb, Add For Factory Installed Electric Heat, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor. For Factory Installed Economizer, Add	9,566.97 725.65 997.76 975.20 1,761.54 1,103.56	2,003.81

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0168 EA 6 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC072)	10,362.78	2,161.92
For Roof Curb, Add	725.65	
For Factory Installed Electric Heat, Add	997.76	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0169 EA 7.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC092)	13,797.72	2,267.44
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0170 EA 8.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC102)	14,786.28	2,443.15
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0171 EA 10 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC120)	16,064.31	2,531.06
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,151.88	
23 74 16 13-0172 EA 12.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD150)	19,764.27	2,741.99
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,399.85	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	1,244.02	
23 74 16 13-0173 EA 15 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD180)	20,969.74	2,952.90
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,399.85	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0174 EA 17.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD210)	24,598.78	3,163.83
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,615.78	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0175 EA 20 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD240)	26,691.39	3,374.75
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,615.78	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0176 EA 25 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD300)	29,424.94	4,077.82
For Roof Curb, Add	870.77	
For Factory Installed Electric Heat, Add	1,615.78	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0177 Heat Pump Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102)		
See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0178 Standard Efficiency Heat Pump Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0177)		
Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0179 EA 3 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC036)	8,240.20	1,617.06
For Roof Curb, Add	725.65	
For High Efficiency, Add	745.30	
For Factory Installed Electric Heat, Add	997.76	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,103.56	



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Central HVAC Equipment		23 70
Packaged Outdoor HVAC Equipment		23 74

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0180 EA 4 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC048).....	9,125.00	1,863.19
For Roof Curb, Add	725.65	
For High Efficiency, Add	813.60	
For Factory Installed Electric Heat, Add	997.76	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0181 EA 5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC060).....	10,022.60	2,003.81
For Roof Curb, Add	725.65	
For High Efficiency, Add	900.49	
For Factory Installed Electric Heat, Add	997.76	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0182 EA 6 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC072).....	10,943.62	2,161.92
For Roof Curb, Add	725.65	
For High Efficiency, Add	987.47	
For Factory Installed Electric Heat, Add	997.76	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0183 EA 7.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC090).....	12,318.49	2,267.44
For Roof Curb, Add	870.77	
For High Efficiency, Add	1,138.67	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0184 EA 8.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC102).....	14,657.59	2,443.15
For Roof Curb, Add	870.77	
For High Efficiency, Add	1,396.50	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0185 EA 10 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC120).....	16,879.51	2,531.06
For Roof Curb, Add	870.77	
For High Efficiency, Add	1,654.33	
For Factory Installed Electric Heat, Add	1,211.84	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	1,761.54	
Note: Includes CO2 wall mounted sensor.		
For Factory Installed Economizer, Add	1,151.88	
23 74 16 13-0186 EA 12.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD150).....	21,069.22	2,741.99
For Roof Curb, Add	870.77	
For High Efficiency, Add	2,133.12	
For Factory Installed Electric Heat, Add	1,399.85	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	1,244.02	
23 74 16 13-0187 EA 15 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD180).....	22,997.28	2,952.90
For Roof Curb, Add	870.77	
For High Efficiency, Add	2,334.86	
For Factory Installed Electric Heat, Add	1,399.85	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0188 EA 20 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD240).....	30,318.98	3,374.75
For Roof Curb, Add	870.77	
For High Efficiency, Add	3,162.87	
For Factory Installed Electric Heat, Add	1,615.78	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.90	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0189 Trane Curb Adapters (23 74 16 13)		
Note: All adapter selections assume the existing unit rests on a factory standard curb. The new unit reference is based on current Trane units, Precedent and Voyager II models only. The existing unit reference is based on Trane, Carrier, York or Lennox units only. Non-standard L-shape and/or duct shroud configurations were not considered. Trane Intellipak or Voyager III footprints are not considered. Some units have larger than normal sizes or multiple footprints possible, which were not considered. Step-sized replacements (installing new unit that is either larger or smaller capacity than existing) are not considered.		
23 74 16 13-0190 EA 3 To 5 Ton, Trane Curb Adapter.....	1,589.58	
23 74 16 13-0191 EA 6 To 7-1/2 Ton, Trane Curb Adapter.....	2,077.18	
23 74 16 13-0192 EA 8-1/2 To 10 Ton, Trane Curb Adapter.....	2,174.70	
23 74 16 13-0193 EA 12-1/2 Ton, Standard Efficiency, Trane Curb Adapter.....	2,379.49	
23 74 16 13-0194 EA 12-1/2 Ton, High Efficiency, Trane Curb Adapter.....	2,428.25	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0195	EA	15 Ton, Trane Curb Adapter.....	2,662.30	
23 74 16 13-0196	EA	17-1/2 Ton, Trane Curb Adapter.....	2,681.80	
23 74 16 13-0197	EA	20 Ton, Trane Curb Adapter.....	2,993.86	
23 74 16 13-0198	EA	25 Ton, Trane Curb Adapter.....	3,413.20	
23 74 16 13-0199		Trane Condenser Coil Guards (23 74 16 13)		
23 74 16 13-0200	EA	Condenser Coil Guard (Trane BAYGARD058A).....	1,090.52	81.86
		Note: Coil Guard for TTA/TWA061, TTA/TWA073, TTA/TWA076 and CTA/TTA/TWA090 Condenser Coils.		
23 74 16 13-0201	EA	Condenser Coil Guard (Trane BAYGARD059A).....	1,387.30	95.50
		Note: Coil Guard for TTA086, TTA101 and CTA/TTA120 Condenser Coils.		
23 74 16 13-0202	EA	Condenser Coil Guard (Trane BAYGARD060A).....	1,480.29	109.14
		Note: Coil Guard for TWA101, TWA120, TTA126 and TTA150 Condenser Coils.		
23 74 16 13-0203	EA	Condenser Coil Guard (Trane BAYGARD061A).....	1,977.54	122.78
		Note: Coil Guard for TTA/TWA156, CTA/TTA/TWA180, TTA/TWA201 and TTA/TWA240 Condenser Coils.		
23 74 16 13-0204	EA	Condenser Coil Guard (Trane BAYGARD062A).....	2,195.44	136.43
		Note: Coil Guard for TTA300 and TTA251 Split-System Air Conditioners.		
23 74 16 13-0205		Heat Pump, Packaged Rooftop Heat Pump Units (23 74 16 13)		
		See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0206		Packaged Rooftop Heat Pump Units (23 74 16 13-0205)		
		Note: Includes evaporator and condenser coils, electric heat, thermostatic expansion valve, compressor, evaporator and condenser fans, refrigerant charge, filter section with filter, operation and safety controls, motors, condensate drain pan, condenser coil guards, manual outside air damper, and roof curb. Excludes crane and associated personnel.		
23 74 16 13-0207	EA	2 Ton Packaged Rooftop Heat Pump.....	6,322.81	1,406.15
		For Economizer With Outside Air Control, Add	1,871.50	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	222.40	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0208	EA	2.5 Ton Packaged Rooftop Heat Pump.....	6,658.93	1,511.66
		For Economizer With Outside Air Control, Add	1,982.86	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	232.17	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0209	EA	3 Ton Packaged Rooftop Heat Pump.....	7,043.94	1,617.06
		For Economizer With Outside Air Control, Add	2,104.49	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	244.39	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0210	EA	3.5 Ton Packaged Rooftop Heat Pump.....	7,559.12	1,740.08
		For Economizer With Outside Air Control, Add	2,050.70	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	261.95	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0211	EA	4 Ton Packaged Rooftop Heat Pump.....	8,074.51	1,863.19
		For Economizer With Outside Air Control, Add	2,192.45	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	279.52	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0212	EA	5 Ton Packaged Rooftop Heat Pump.....	8,654.63	2,003.81
		For Economizer With Outside Air Control, Add	2,352.94	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	239.32	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0213	EA	6 Ton Packaged Rooftop Heat Pump.....	9,732.34	2,161.92
		For Economizer With Outside Air Control, Add	2,605.76	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	205.49	
		For Unit Without Roof Curb, Deduct	-724.43	
23 74 16 13-0214	EA	7.5 Ton Packaged Rooftop Heat Pump.....	12,489.31	2,267.44
		For Economizer With Outside Air Control, Add	2,647.54	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	283.98	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0215	EA	8.5 Ton Packaged Rooftop Heat Pump.....	13,964.90	2,443.15
		For Economizer With Outside Air Control, Add	2,806.59	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	321.22	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0216	EA	10 Ton Packaged Rooftop Heat Pump.....	15,010.12	2,531.06
		For Economizer With Outside Air Control, Add	2,850.91	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	232.71	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0217	EA	12.5 Ton Packaged Rooftop Heat Pump.....	17,403.08	2,741.99
		For Economizer With Outside Air Control, Add	3,202.70	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	274.94	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0218	EA	15 Ton Packaged Rooftop Heat Pump.....	19,796.02	2,952.90
		For Economizer With Outside Air Control, Add	3,554.48	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	317.18	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0219	EA	17.5 Ton Packaged Rooftop Heat Pump.....	22,163.95	3,163.83
		For Economizer With Outside Air Control, Add	3,903.77	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	358.91	
		For Unit Without Roof Curb, Deduct	-869.33	
23 74 16 13-0220	EA	20 Ton Packaged Rooftop Heat Pump.....	24,531.86	3,374.75
		For Economizer With Outside Air Control, Add	4,253.05	
		For Upgrade Of Economizer To OS Air Enthalpy Control, Add	400.64	
		For Unit Without Roof Curb, Deduct	-869.33	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR CSI UOM DESCRIPTION		TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0221	Heating Only Packaged Rooftop Units (23 74 16 13-0205) Note: Includes throwaway filters, filter rack, manual outside air damper, roof curbs and electric heat. Units are shipped fully factory assembled in one piece, prewired and include start-up. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0222	EA 24 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	6,677.84 429.95 -724.43	1,406.15
23 74 16 13-0223	EA 32 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	7,846.89 506.16 -724.43	1,617.06
23 74 16 13-0224	EA 45 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	10,751.15 702.90 -724.43	1,863.19
23 74 16 13-0225	EA 60 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	12,132.10 795.81 -724.43	2,003.81
23 74 16 13-0226	EA 95 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	14,259.28 937.69 -869.33	2,267.44
23 74 16 13-0227	EA 112 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	16,065.53 1,059.44 -869.33	2,443.15
23 74 16 13-0228	EA 140 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	19,023.75 1,264.17 -869.33	2,531.06
23 74 16 13-0229	EA 170 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	24,721.03 1,651.73 -869.33	2,952.90
23 74 16 13-0230	EA 200 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	32,672.49 2,202.71 -869.33	3,163.83
23 74 16 13-0231	EA 230 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	38,149.66 2,580.48 -869.33	3,374.75
23 74 16 13-0232	EA 270 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	49,627.40 3,374.55 -869.33	3,726.29
23 74 16 13-0233	EA 330 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	62,071.62 4,226.90 -1,331.01	4,741.84
23 74 16 13-0234	EA 360 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	76,396.22 5,220.25 -1,331.01	4,780.89
23 74 16 13-0235	EA 450 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	93,062.14 6,365.30 -1,331.01	5,589.48
23 74 16 13-0236	EA 540 MBH Electric Heating Only, Self Contained Package Rooftop Unit..... For Gas Heat, Add..... For Unit Without Roof Curb, Deduct.....	120,703.16 8,257.05 -2,029.39	7,206.55
23 74 23	Packaged, Outdoor, Heating-Only Makeup-Air Units (23 74)		
23 74 23 13	Packaged, Direct-Fired, Outdoor, Heating-Only Makeup-Air Units (23 74 23)		
23 74 23 13-0001	Make-Up Air Units (23 74 23 13) Note: Units are shipped fully factory assembled in one piece, prewired, prepiped, charged with refrigerant. Includes throwaway filters and start-up. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 23 13-0002	Gas-Fired Electric Spark Make-Up Air Units (23 74 23 13-0001) Note: With 2-position damper curb filter and thermostat with capillary. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		
23 74 23 13-0003	EA 100,000 BTU 1/2 HP, 1,200 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	7,822.66 2,112.44 954.40	468.72
23 74 23 13-0004	EA 300,000 BTU 1-1/2 HP, 3,500 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	10,131.39 2,771.21 1,239.60	531.21
23 74 23 13-0005	EA 500,000 BTU 2 HP, 4,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	14,133.24 3,927.50 1,735.41	624.96
23 74 23 13-0006	EA 670,000 BTU 3 HP, 6,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	14,237.55 3,935.36 1,746.10	666.62
23 74 23 13-0007	EA 800,000 BTU 5 HP, 7,500 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	19,506.48 5,476.97 2,400.81	749.95
23 74 23 13-0008	EA 1,200,000 BTU 10 HP, 10,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark..... For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add..... For Equipment Base Roof Curb, Add.....	29,635.95 8,422.07 3,657.62	937.43
23 74 23 13-0009	Electric Make-Up Air Units (23 74 23 13-0001) Note: With 2-position damper curb filter and thermostat with capillary. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 74 23 13-0010	EA	33 KW, 1/2 HP, 1,200 CFM Make-up Air Unit, Electric	16,300.74	468.72
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	4,655.86	
		For Equipment Base Roof Curb, Add	2,014.16	
23 74 23 13-0011	EA	100 KW, 1-1/2 HP, 3,500 CFM Make-up Air Unit, Electric	23,362.85	531.21
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,740.65	
		For Equipment Base Roof Curb, Add	2,893.54	
23 74 23 13-0012	EA	150 KW, 2 HP, 4,000 CFM Make-up Air Unit, Electric	28,961.78	624.96
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	8,376.06	
		For Equipment Base Roof Curb, Add	3,588.98	
23 74 23 13-0013	EA	250 KW, 5 HP, 7,500 CFM Make-up Air Unit, Electric	37,491.27	749.95
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	10,872.41	
		For Equipment Base Roof Curb, Add	4,648.91	
23 74 23 13-0014	EA	400 KW, 10 HP, 10,000 CFM Make-up Air Unit, Electric	60,731.99	937.43
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	17,750.88	
		For Equipment Base Roof Curb, Add	7,544.63	

23 75 Custom-Packaged Outdoor HVAC Equipment (23 70)**23 75 16 Custom-Packaged, Rooftop Air-Conditioning Units (23 75)****23 75 16 00-0001 Custom Rooftop Units (23 75 16)**

Note: Includes testing, balancing and commissioning of Custom-Packaged Rooftop Unit. Excludes crane and associated personnel. Excludes balancing existing diffusers and devices, reworking ductwork, new diffusers, new wiring, or new piping. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 05 83 00-0000 for reconnecting existing control wires and electrical wires.

23 75 16 00-0002	EA	15 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	139,495.93	5,146.48
23 75 16 00-0003	EA	17.5 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	149,283.36	5,380.41
23 75 16 00-0004	EA	20 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	162,055.77	5,848.28
23 75 16 00-0005	EA	25 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	211,897.98	6,082.21
23 75 16 00-0006	EA	30 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	272,177.72	7,485.80
23 75 16 00-0007	EA	35 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	299,333.14	8,070.63
23 75 16 00-0008	EA	40 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	327,558.06	8,655.45
23 75 16 00-0009	EA	45 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	360,554.05	9,357.25
23 75 16 00-0010	EA	50 Ton, Custom-Packaged Rooftop Multi-Zone Air Conditioning Unit	410,338.30	10,059.04

23 76 Evaporative Air-Cooling Equipment (23 70)**23 76 13 Direct Evaporative Air Coolers (23 76)****23 76 13 00-0001 Residential Side Or Down Draft Evaporative Cooling Unit (23 76 13)**

Note: Includes motor, belt and pads.

23 76 13 00-0002	EA	3,000 CFM, 1/3 HP Residential Side Or Down Draft Evaporative Cooling Unit	1,436.43	327.43
23 76 13 00-0003	EA	4,300 CFM, 1/3 HP Residential Side Or Down Draft Evaporative Cooling Unit	1,697.55	382.00
23 76 13 00-0004	EA	4,400 CFM, 1/2 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,207.50	436.58
23 76 13 00-0005	EA	5,000 CFM, 3/4 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,400.14	491.15
23 76 13 00-0006	EA	6,000 CFM, 3/4 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,759.80	545.72
23 76 13 00-0007	EA	7,000 CFM, 1 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,969.14	600.29

23 76 13 00-0008 Industrial Side Draft/Side Discharge Evaporative Coolers (23 76 13)

Note: Excludes motor starter, piping, power wiring and equipment rigging.

23 76 13 00-0009	EA	7,500 CFM, 3/4 HP Industrial Side Or Down Draft Evaporative Cooling Unit	2,772.44	310.76
23 76 13 00-0010	EA	8,500 CFM, 1 HP Industrial Side Or Down Draft Evaporative Cooling Unit	2,861.10	320.82
23 76 13 00-0011	EA	9,500 CFM, 1 1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	3,394.54	445.56
23 76 13 00-0012	EA	11,375 CFM, 2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	7,349.53	525.95
23 76 13 00-0013	EA	13,020 CFM, 3 HP Industrial Side Or Down Draft Evaporative Cooling Unit	7,914.43	769.97
23 76 13 00-0014	EA	16,267 CFM, 3 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,079.23	821.31
23 76 13 00-0015	EA	15,438 CFM, 5 HP Industrial Side Or Down Draft Evaporative Cooling Unit	8,305.93	923.97
23 76 13 00-0016	EA	19,286 CFM, 5 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,840.06	1,154.96
23 76 13 00-0017	EA	17,672 CFM, 7-1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,808.16	1,509.76
23 76 13 00-0018	EA	22,077 CFM, 7-1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	10,945.71	1,539.95
23 76 13 00-0019	EA	24,301 CFM, 10 HP Industrial Side Or Down Draft Evaporative Cooling Unit	11,510.04	1,711.09
23 76 13 00-0020	EA	30,000 CFM, 20 HP Industrial Side Or Down Draft Evaporative Cooling Unit	15,367.19	2,673.55
23 76 13 00-0021	EA	35,000 CFM, 20 HP Industrial Side Or Down Draft Evaporative Cooling Unit	17,269.69	2,789.77
23 76 13 00-0022	EA	40,000 CFM, 30 HP Industrial Side Or Down Draft Evaporative Cooling Unit	19,193.34	2,916.56

23 80 Decentralized Unitary HVAC Equipment (23)

Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 23 05 29 00-0000 for hangers and supports, 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 81 Decentralized Unitary HVAC Equipment (23 80)**23 81 13 Packaged Terminal Air-Conditioners (23 81)**

Note: Units consists of fresh air intake, throwaway filters, exhaust, automatic thermostat, hermetically sealed compressor with 5 year guarantee, "sleeve-type" construction, condensing fan motor enclosed, fan to be aluminum, three wire ground cord, multi speed fan, exposed steel parts to be phosphate bonderized with baked enamel finish and copper tubes mechanically expanded into aluminum of evaporator and condensing coils. Includes equipment rigging. Efficiency Rating (ER) not less than 9.



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 13 11 Packaged Terminal Air-Conditioners, Through-Wall Units (23 81 13)		
23 81 13 11-0001 Packaged Terminal Air-Conditioners (23 81 13 11)		
23 81 13 11-0002 Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioners (23 81 13 11-0001)		
23 81 13 11-0003 EA 7,200 BTU, 13 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,017.34	204.65
For >35 To 70, Deduct	-48.24	
For >70 To 100, Deduct	-80.40	
For >100, Deduct	-112.56	
23 81 13 11-0004 EA 9,400 BTU, 12.1 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,109.77	237.42
For >35 To 70, Deduct	-49.06	
For >70 To 100, Deduct	-81.77	
For >100, Deduct	-114.48	
23 81 13 11-0005 EA 11,800 BTU, 11.6 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,232.73	253.02
For >35 To 70, Deduct	-51.78	
For >70 To 100, Deduct	-86.30	
For >100, Deduct	-120.82	
23 81 13 11-0006 EA 14,500 BTU, 10.4 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,413.11	271.98
For >35 To 70, Deduct	-56.08	
For >70 To 100, Deduct	-93.47	
For >100, Deduct	-130.86	
23 81 13 11-0007 Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioners (23 81 13 11-0001)		
23 81 13 11-0008 EA 7,200 BTU, 13 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,140.19	210.67
For >35 To 70, Deduct	-51.59	
For >70 To 100, Deduct	-85.98	
For >100, Deduct	-120.37	
23 81 13 11-0009 EA 9,400 BTU, 12.1 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,255.19	237.42
For >35 To 70, Deduct	-53.43	
For >70 To 100, Deduct	-89.04	
For >100, Deduct	-124.66	
23 81 13 11-0010 EA 11,800 BTU, 11.6 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,338.11	253.02
For >35 To 70, Deduct	-54.94	
For >70 To 100, Deduct	-91.57	
For >100, Deduct	-128.20	
23 81 13 11-0011 EA 14,500 BTU, 10.4 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,552.21	271.98
For >35 To 70, Deduct	-60.25	
For >70 To 100, Deduct	-100.42	
For >100, Deduct	-140.59	
23 81 13 11-0012 Packaged Terminal Air-Conditioners, Through-Wall Unit Sleeve (23 81 13 11)		
Note: Includes wall case, exterior grille, weather panel and steel closure panels. Includes bolts, nuts, washers, caulking and lintel supports. Not for use with new A/C units where wall sleeve is provided. Excludes cutting opening for unit or patching masonry or concrete.		
23 81 13 11-0013 EA Up To 10,000 BTU Unit, Thru Wall A/C Sleeve.....	92.71	
23 81 13 11-0014 EA >10,000 To 20,000 BTU Unit, Thru Wall A/C Sleeve.....	104.53	
23 81 13 11-0015 EA >20,000 To 30,000 BTU Unit, Thru Wall A/C Sleeve.....	116.33	
23 81 13 11-0016 Removal And Reinstallation Of Packaged Terminal Air-Conditioners, Through-Wall Units (23 81 13 11)		
Note: Includes storage and cleaning.		
23 81 13 11-0017 EA Removal And Reinstallation Of Packaged Terminal Air-Conditioners, Through-Wall Units.....	218.29	
23 81 13 12 Packaged Terminal Air-Conditioners, Freestanding Units (23 81 13)		
23 81 13 12-0001 Portable Air Conditioning Unit (23 81 13 12)		
23 81 13 12-0002 EA 11,800 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 12).....	5,173.34	
For HDK 12", 2X2 Metal, With Flex, Add	226.65	
For C PLEN-OP12/18- LAY84270-008A, Add	534.89	
23 81 13 12-0003 EA 16,800 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 18).....	5,723.98	
For HDK 12", 2X2 Metal, With Flex, Add	226.65	
For C PLEN-OP12/18- LAY84270-008A, Add	534.89	
23 81 13 12-0004 EA 24,000 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 24).....	6,608.38	
For HDK 12", 2X2 Metal, With Flex, Add	226.65	
For C PLEN-OP12/18- LAY84270-008A, Add	534.89	
23 81 13 13 Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units (23 81 13)		
23 81 13 13-0001 Single Package Vertical Wall Cooling Unit (23 81 13 13)		
Note: Air-to-air type with electric heat. Includes throwaway filters. Wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With solid state electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls, insulated steel cabinet, with wall sleeve and outdoor grille and stainless steel drain pan. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		
23 81 13 13-0002 EA 1/2 Ton Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat.....	5,010.84	248.37
23 81 13 13-0003 EA 1 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat.....	7,589.13	260.19
23 81 13 13-0004 EA 1-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat.....	9,931.04	272.03
23 81 13 13-0005 EA 2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat.....	11,422.49	295.68

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 81 13 13-0006	EA	2-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	14,329.41	342.98
23 81 13 13-0007	EA	3 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	15,369.08	425.77
23 81 13 13-0008	EA	3-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	17,014.68	473.08
23 81 13 13-0009	EA	4 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	18,736.30	532.22
23 81 13 13-0010	EA	5 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	21,077.41	638.66
23 81 13 13-0011	EA	7-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	27,249.35	792.41
23 81 13 13-0012	EA	10 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	32,494.07	1,064.44
23 81 13 13-0013	EA	15 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	45,577.31	1,300.98
23 81 13 13-0014	EA	20 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	52,503.89	1,549.35
23 81 13 13-0015	EA	25 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	62,763.41	1,738.58

23 81 16 Room Air-Conditioners (23 81)

Note: Units consists of fresh air intake, throwaway filters, exhaust, automatic thermostat, hermetically sealed compressor with 5 year guarantee, "sleeve-type" construction, condensing fan motor enclosed, fan to be aluminum, three wire ground cord, multi speed fan, exposed steel parts to be phosphate bonderized with baked enamel finish and copper tubes mechanically expanded into aluminum of evaporator and condensing coils. Includes equipment rigging. Efficiency Rating (ER) not less than 9.

23 81 16 00-0001 Window Unit, Room Air-Conditioners (23 81 16)**23 81 16 00-0002 Cooling Only, Window Unit, Room Air-Conditioners (23 81 16 00-0001)****23 81 16 00-0003 Cooling Only, Window Unit, Room Air-Conditioners (Frigidaire) (23 81 16 00-0002)**

23 81 16 00-0004	EA	5,000 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0533Q1)	496.91	114.60
		For >10 To 50, Deduct	-13.39	
		For >50 To 75, Deduct	-18.74	
		For >75 To 100, Deduct	-26.77	
		For >100, Deduct	-32.13	
23 81 16 00-0005	EA	6,000 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0633Q1)	523.82	114.60
		For >10 To 50, Deduct	-14.73	
		For >50 To 75, Deduct	-20.62	
		For >75 To 100, Deduct	-29.46	
		For >100, Deduct	-35.35	
23 81 16 00-0006	EA	8,000 BTU, 11.3 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0833U1)	591.09	114.60
		For >10 To 50, Deduct	-18.09	
		For >50 To 75, Deduct	-25.33	
		For >75 To 100, Deduct	-36.19	
		For >100, Deduct	-43.43	
23 81 16 00-0007	EA	10,000 BTU, 11.3 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1033U1)	685.26	114.60
		For >10 To 50, Deduct	-22.80	
		For >50 To 75, Deduct	-31.92	
		For >75 To 100, Deduct	-45.61	
		For >100, Deduct	-54.73	
23 81 16 00-0008	EA	12,000 BTU, 11.3 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1233Q1)	806.33	114.60
		For >10 To 50, Deduct	-28.86	
		For >50 To 75, Deduct	-40.40	
		For >75 To 100, Deduct	-57.71	
		For >100, Deduct	-69.26	
23 81 16 00-0009	EA	15,100 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1533Q1)	940.86	114.60
		For >10 To 50, Deduct	-35.58	
		For >50 To 75, Deduct	-49.82	
		For >75 To 100, Deduct	-71.17	
		For >100, Deduct	-85.40	
23 81 16 00-0010	EA	8,000 BTU, 10.9 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS0833Q1)	887.05	114.60
		For >10 To 50, Deduct	-32.89	
		For >50 To 75, Deduct	-46.05	
		For >75 To 100, Deduct	-65.79	
		For >100, Deduct	-78.94	
23 81 16 00-0011	EA	10,000 BTU, 9.5 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS1022Q1)	954.32	114.60
		For >10 To 50, Deduct	-36.26	
		For >50 To 75, Deduct	-50.76	
		For >75 To 100, Deduct	-72.51	
		For >100, Deduct	-87.01	
23 81 16 00-0012	EA	12,000 BTU, 9.5 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS1222Q1)	1,008.13	114.60
		For >10 To 50, Deduct	-38.95	
		For >50 To 75, Deduct	-54.53	
		For >75 To 100, Deduct	-77.89	
		For >100, Deduct	-93.47	
23 81 16 00-0013	EA	18,500 BTU, 11.2 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1833Q2)	1,061.94	114.60
		For >10 To 50, Deduct	-41.64	
		For >50 To 75, Deduct	-58.29	
		For >75 To 100, Deduct	-83.27	
		For >100, Deduct	-99.93	
23 81 16 00-0014	EA	22,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE2233S2)	1,169.56	114.60
		For >10 To 50, Deduct	-47.02	
		For >50 To 75, Deduct	-65.83	
		For >75 To 100, Deduct	-94.04	
		For >100, Deduct	-112.84	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Decentralized Unitary HVAC Equipment			23 81	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 16 00-0015	EA	25,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE2533S2)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,183.02 -47.69 -66.77 -95.38 -114.46	114.60
23 81 16 00-0016	EA	28,000 BTU, 9.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRA2822R2)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,905.60 -83.82 -117.35 -167.64 -201.17	114.60
23 81 16 00-0017		Cooling Only, Window Unit, Room Air-Conditioners (Friedrich Kuhl) (23 81 16 00-0002)		
23 81 16 00-0018	EA	8,000 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS08N10C).....	2,022.45	114.60
23 81 16 00-0019	EA	10,000 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS10N10C).....	2,221.91	114.60
23 81 16 00-0020	EA	11,900 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS12N10C).....	2,312.57	114.60
23 81 16 00-0021	EA	12,000 BTU, 12.2 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS12N30C).....	2,348.83	114.60
23 81 16 00-0022	EA	20,000 BTU, 10.4 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SM18N30C).....	2,675.21	114.60
23 81 16 00-0023	EA	24,000 BTU, 10.4 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL24N30C).....	3,491.15	114.60
23 81 16 00-0024	EA	28,000 BTU, 10.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL28N30C).....	3,763.13	114.60
23 81 16 00-0025	EA	36,000 BTU, 9.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL36N30B).....	4,125.77	114.60
23 81 16 00-0026		Heating And Cooling, Window Unit, Room Air-Conditioners (23 81 16 00-0001)		
23 81 16 00-0027		Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioners (Frigidaire) (23 81 16 00-0026)		
23 81 16 00-0028	EA	8,000 BTU, 9.8 EER, 115 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH0822R1)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,008.13 -38.95 -54.53 -77.89 -93.47	114.60
23 81 16 00-0029	EA	12,000 BTU, 10.9 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH1222R2)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,156.11 -46.35 -64.88 -92.69 -111.23	114.60
23 81 16 00-0030	EA	18,500 BTU, 10.7 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH1822R2)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,236.83 -50.38 -70.53 -100.76 -120.92	114.60
23 81 16 00-0031	EA	25,000 BTU, 9.4 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH2522R2)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	1,532.80 -65.18 -91.25 -130.36 -156.43	114.60
23 81 16 00-0032		Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioners (Friedrich) (23 81 16 00-0026)		
23 81 16 00-0033	EA	12,000 BTU, 11.3 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Friedrich ES12N33B).....	2,439.49	114.60
23 81 16 00-0034		Accessories (23 81 16 00-0001)		
23 81 16 00-0035	SET	Aluminum Air Conditioner Unit Frame And Bracket Assembly.....	598.35	61.30
23 81 16 00-0036		Removal And Reinstallation Of Room Air-Conditioners (23 81 16) Note: Includes storage and cleaning.		
23 81 16 00-0037	EA	Removal And Reinstallation Of Room Air-Conditioning Unit In Window Lower Sash.....	136.43	
23 81 16 00-0038	EA	Removal And Reinstallation Of Room Air-Conditioning Unit In Window Upper Sash.....	294.17	
23 81 16 00-0039		Through-The-Wall, Room Air-Conditioners (23 81 16) Note: Base unit excludes wall sleeve.		
23 81 16 00-0040		Cooling Only, Through-The-Wall, Room Air-Conditioners (23 81 16 00-0039)		
23 81 16 00-0041		Cooling Only, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 16 00-0040)		
23 81 16 00-0042	EA	8,000 BTU, 10.7 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS08D10A)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	1,521.81 -67.90 -95.07 -135.81 -162.97 273.03	81.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 16 00-0043	EA		9,800 BTU, 10.7 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS10D10B).....	1,648.73	81.86
			For >10 To 50, Deduct	-74.25	
			For >50 To 75, Deduct	-103.95	
			For >75 To 100, Deduct	-148.50	
			For >100, Deduct	-178.20	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 16 00-0044	EA		12,000 BTU, 9.8 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS12D10A).....	1,884.45	81.86
			For >10 To 50, Deduct	-86.04	
			For >50 To 75, Deduct	-120.45	
			For >75 To 100, Deduct	-172.07	
			For >100, Deduct	-206.49	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 16 00-0045	EA		10,000 BTU, 10.7 EER, 230/208 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS10D30A).....	1,648.73	81.86
			For >10 To 50, Deduct	-74.25	
			For >50 To 75, Deduct	-103.95	
			For >75 To 100, Deduct	-148.50	
			For >100, Deduct	-178.20	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 16 00-0046	EA		12,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS12D30A).....	1,884.45	81.86
			For >10 To 50, Deduct	-86.04	
			For >50 To 75, Deduct	-120.45	
			For >75 To 100, Deduct	-172.07	
			For >100, Deduct	-206.49	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 16 00-0047			Heating And Cooling, Through-The-Wall, Room Air-Conditioners (23 81 16 00-0039)		
23 81 16 00-0048			Electric Heat, Heating And Cooling, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 16 00-0047)		
23 81 16 00-0049	EA		10,000 BTU, 9.8 EER, 230/208 Volt, Heating And Cooling, Through-The-Wall, Room Air-Conditioner (Friedrich WE10D33).....	1,938.84	81.86
			For >10 To 50, Deduct	-88.76	
			For >50 To 75, Deduct	-124.26	
			For >75 To 100, Deduct	-177.51	
			For >100, Deduct	-213.01	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 16 00-0050	EA		12,000 BTU, 9.8 EER, 230/208 Volt, Heating And Cooling, Through-The-Wall, Room Air-Conditioner (Friedrich WE12D33).....	2,083.90	81.86
			For >10 To 50, Deduct	-96.01	
			For >50 To 75, Deduct	-134.41	
			For >75 To 100, Deduct	-192.02	
			For >100, Deduct	-230.42	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 23			Computer-Room Air-Conditioners (23 81)		
			Note: Includes equipment rigging. Indoor units include filters.		
23 81 23 12			Large-Capacity, Computer-Room Air-Conditioners, Floor Mounted Units (23 81 23)		
23 81 23 12-0001			Floor Mounted Air Cooled Direct Expansion Type (23 81 23 12)		
			Note: Includes compressor sequence switch, mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquid sensors, floor stand, and outdoor air cooled condenser complete with fan speed control. Excludes precharged copper pipe.		
23 81 23 12-0002	EA		3 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	37,373.70	2,329.58
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	4,234.44	
23 81 23 12-0003	EA		5 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	41,251.46	2,547.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	4,676.05	
23 81 23 12-0004	EA		6 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	57,201.42	2,911.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	6,608.79	
23 81 23 12-0005	EA		8 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	62,626.17	3,093.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	7,253.05	
23 81 23 12-0006	EA		10 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	68,050.92	3,275.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	7,897.30	
23 81 23 12-0007	EA		16 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	76,196.69	3,931.15
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	8,783.12	
23 81 23 12-0008	EA		20 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	86,113.95	4,367.95
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	9,952.16	
23 81 23 12-0009	EA		22 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	90,102.14	4,512.02
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	10,419.63	
23 81 23 12-0010	EA		24 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type	98,134.34	4,659.15
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add	11,392.24	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Decentralized Unitary HVAC Equipment			23 81



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81	23 12-0011	EA	30 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type..... Note: Includes interior unit and remote condenser. Excludes piping. For Liebert Unit, Add	106,117.94 12,290.24	5,241.54
23 81	23 12-0012		Floor Mounted Chilled Water Type (23 81 23 12) Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquitect sensors, floor stand. Excludes chilled water source. See CSI section 23 81 23 12-0020 for chilled water source.		
23 81	23 12-0013	EA	3 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	22,338.86 2,526.32	1,596.24
23 81	23 12-0014	EA	5 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	24,007.27 2,706.22	1,768.13
23 81	23 12-0015	EA	12 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	29,706.95 3,264.52	2,693.13
23 81	23 12-0016	EA	16 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	31,056.36 3,427.33	2,728.61
23 81	23 12-0017	EA	20 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	32,250.56 3,556.54	2,837.75
23 81	23 12-0018	EA	22 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	33,013.31 3,608.23	3,110.61
23 81	23 12-0019	EA	31 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source..... For Liebert Unit, Add	35,021.99 3,814.97	3,383.47
23 81	23 12-0020		Floor Mounted Water Source (23 81 23 12) Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquitect sensors, floor stand. Excludes water source.		
23 81	23 12-0021	EA	3 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	17,309.87 1,891.74	1,455.98
23 81	23 12-0022	EA	5 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	19,049.02 2,095.47	1,528.78
23 81	23 12-0023	EA	6 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	24,686.99 2,786.68	1,601.59
23 81	23 12-0024	EA	8 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	26,605.15 2,997.69	1,747.18
23 81	23 12-0025	EA	9 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	27,995.03 3,157.76	1,820.20
23 81	23 12-0026	EA	10 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	29,384.91 3,317.83	1,892.78
23 81	23 12-0027	EA	12 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	30,539.79 3,434.24	2,038.38
23 81	23 12-0028	EA	16 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	31,886.43 3,579.76	2,183.97
23 81	23 12-0029	EA	20 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	32,842.25 3,673.54	2,329.58
23 81	23 12-0030	EA	25 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... For Liebert Unit, Add	37,506.55 4,171.54	2,766.37
23 81	23 12-0031		Floor Mounted Glycol System Type (23 81 23 12) Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquitect sensors, floor stand. Excludes chilled water source. See CSI section 23 81 23 12-0020 for water source.		
23 81	23 12-0032	EA	3 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	45,459.33 16,230.01 8,700.00	1,596.24
23 81	23 12-0033	EA	5 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	48,912.74 17,473.09 8,700.00	1,768.13
23 81	23 12-0034	EA	6 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	64,019.59 22,803.05 8,700.00	1,980.97
23 81	23 12-0035	EA	8 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	74,078.95 26,366.39 8,700.00	2,193.80
23 81	23 12-0036	EA	9 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	78,267.26 27,853.59 8,700.00	2,300.21
23 81	23 12-0037	EA	10 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	83,590.22 29,737.90 8,700.00	2,406.63
23 81	23 12-0038	EA	12 Ton Computer Room Air Conditioner, Glycol System Type..... For Drycooler, Add Note: Installation is externally mounted. For Integrated Fluid Econocoil (Economizer Functionality), Add	89,267.49 31,746.23 8,700.00	2,513.59

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 23 12-0039	EA		15 Ton Computer Room Air Conditioner, Glycol System Type	95,862.15	2,608.55
			For Drycooler, Add	34,075.64	
			Note: Installation is externally mounted.		
			For Integrated Fluid Econocoil (Economizer Functionality), Add	8,700.00	
23 81 23 12-0040	EA		16 Ton Computer Room Air Conditioner, Glycol System Type	102,095.18	2,728.61
			For Drycooler, Add	36,281.76	
			Note: Installation is externally mounted.		
			For 10 HP Glycol Pump, Add	21,500.00	
			For Remote Pump Control Panel, Add	7,630.00	
			For Integrated Fluid Econocoil (Economizer Functionality), Add	8,700.00	
23 81 23 12-0041	EA		20 Ton Computer Room Air Conditioner, Glycol System Type	112,014.38	2,837.75
			For Drycooler, Add	39,774.77	
			Note: Installation is externally mounted.		
			For 10 HP Glycol Pump, Add	21,500.00	
			For Remote Pump Control Panel, Add	7,630.00	
			For Integrated Fluid Econocoil (Economizer Functionality), Add	8,700.00	
23 81 23 12-0042	EA		22 Ton Computer Room Air Conditioner, Glycol System Type	116,091.97	3,110.61
			For Drycooler, Add	41,254.31	
			Note: Installation is externally mounted.		
			For 10 HP Glycol Pump, Add	21,500.00	
			For Remote Pump Control Panel, Add	7,630.00	
			For Integrated Fluid Econocoil (Economizer Functionality), Add	8,700.00	
23 81 23 12-0043	EA		30 Ton Computer Room Air Conditioner, Glycol System Type	141,593.76	3,383.47
			For Drycooler, Add	50,233.15	
			Note: Installation is externally mounted.		
			For 10 HP Glycol Pump, Add	21,500.00	
			For Remote Pump Control Panel, Add	7,630.00	
			For Integrated Fluid Econocoil (Economizer Functionality), Add	8,700.00	
23 81 23 12-0044			Removal And Reinstallation Of Computer Room Unit (23 81 23 12)		
			Note: Includes storage and cleaning. Excludes main mechanical piping. Reconnection of existing valves are included.		
23 81 23 12-0045	EA		Removal And Reinstallation Up To 6 Ton, Floor Mounted Chilled Water Computer Room Unit	2,182.89	
23 81 23 12-0046	EA		Removal And Reinstallation Up To 6 Ton Direct Expansion Computer Room Unit	1,819.07	
23 81 23 13			Computer-Room Air-Conditioners, Ceiling Mounted Units (23 81 23)		
23 81 23 13-0001			Ceiling Mounted Packaged Computer Room Air Conditioner (23 81 23 13)		
			Note: Includes compressor sequence switch, mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquid sensors, floor stand, and outdoor air cooled condenser complete with fan speed control.		
23 81 23 13-0002	EA		1 Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System	14,839.97	691.98
			For Liebert Unit, Add	1,725.31	
23 81 23 13-0003	EA		1.5 Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System	16,404.58	831.02
			For Liebert Unit, Add	1,894.83	
23 81 23 13-0004	EA		2 Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System	18,731.26	1,040.04
			For Liebert Unit, Add	2,146.51	
23 81 23 13-0005	EA		3 Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System	23,017.98	1,213.36
			For Liebert Unit, Add	2,649.86	
23 81 23 13-0006	EA		5 Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System	31,229.88	1,318.79
			For Liebert Unit, Add	3,656.58	
23 81 23 13-0007			Horizontal Indoor Single Package Cooling Unit (23 81 23 13)		
			Note: Carrier 50AH With indoor scroll compressor, plenum mounted.		
23 81 23 13-0008	EA		2 Ton Horizontal Indoor Single-Package Cooling Unit, 800 CFM Nominal	20,314.30	654.86
23 81 23 13-0009	EA		3 Ton Horizontal Indoor Single-Package Cooling Unit, 1,200 CFM Nominal	23,801.06	818.58
23 81 23 13-0010	EA		4 Ton Horizontal Indoor Single-Package Cooling Unit, 1,600 CFM Nominal	27,709.86	982.29
23 81 23 13-0011	EA		5 Ton Horizontal Indoor Single-Package Cooling Unit, 2,000 CFM Nominal	32,261.84	1,091.44
23 81 26			Split-System Air-Conditioners (23 81)		
23 81 26 13			Small-Capacity Split-System Air-Conditioners (23 81 26)		
23 81 26 13-0001			Split System A/C Unit (23 81 26 13)		
			See CSI section 23 23 16 00-0001 for piping.		
23 81 26 13-0002			Ductless Split System Air Conditioners (23 81 26 13-0001)		
			Note: Excludes refrigerant piping, electrical, and pad. Panasonic units or equal. See CSI section 23 81 49 00-0025 for ductless heat pumps.		
23 81 26 13-0003			Wall Mounted Ductless Split System Air Conditioners (23 81 26 13-0002)		
23 81 26 13-0004	EA		9,000 BTU, 16 SEER, Wall Mounted Ductless Split System Air Conditioners	2,169.51	360.17
			Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.		
23 81 26 13-0005	EA		11,900 BTU, 17 SEER, Wall Mounted Ductless Split System Air Conditioner	2,349.21	392.92
			Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.		
23 81 26 13-0006	EA		17,500 BTU, 20 SEER, Wall Mounted Ductless Split System Air Conditioners	2,935.05	436.58
			Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.		
23 81 26 13-0007	EA		24,200 BTU, 17 SEER, Wall Mounted Ductless Split System Air Conditioners	3,260.55	480.24
			Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.		
23 81 26 13-0008	EA		25,200 BTU, 14.9 SEER, Wall Mounted Ductless Split System Air Conditioners	5,014.94	523.89
			Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.		



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Decentralized Unitary HVAC Equipment		23 80
Decentralized Unitary HVAC Equipment		23 81

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 13-0009	EA	29,800 BTU, 15 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,836.47	545.72
23 81 26 13-0010	EA	31,400 BTU, 15.9 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,403.11	581.73
23 81 26 13-0011		Dual and Tri Zone Wall Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Use this section only when matching indoor and outdoor capacity units are not used.		
23 81 26 13-0012	EA	7,500 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	935.55	174.63
23 81 26 13-0013	EA	9,000 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	988.87	185.55
23 81 26 13-0014	EA	11,900 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,043.09	196.46
23 81 26 13-0015	EA	17,500 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,179.01	207.38
23 81 26 13-0016	EA	24,200 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,261.06	218.29
23 81 26 13-0017	EA	19,700 BTU, 16.5 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	2,583.93	261.95
23 81 26 13-0018	EA	25,400 BTU, 16.2 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	2,858.45	283.77
23 81 26 13-0019	EA	30,600 BTU, 17.6 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	4,515.47	305.60
23 81 26 13-0020		Suspended Ceiling Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Excludes hangers.		
23 81 26 13-0021	EA	24,400 BTU, 14.5 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,368.05	523.89
23 81 26 13-0022	EA	31,200 BTU, 15.1 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,541.99	625.40
23 81 26 13-0023	EA	39,000 BTU, 15.6 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,980.22	654.86
23 81 26 13-0024		Recessed Ceiling Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Excludes hangers.		
23 81 26 13-0025	EA	11,900 BTU, 16 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,298.63	436.58
23 81 26 13-0026	EA	17,500 BTU, 16 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,844.98	480.24
23 81 26 13-0027	EA	24,800 BTU, 14.1 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,342.53	567.55
23 81 26 13-0028	EA	32,600 BTU, 14.6 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,182.90	625.40
23 81 26 13-0029	EA	39,500 BTU, 14.6 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,800.67	654.86
23 81 26 13-0030		Ductless Split System Accessories (23 81 26 13-0002)		
23 81 26 13-0031	LF	3" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	13.77	1.56
23 81 26 13-0032	LF	4" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	17.85	1.72
23 81 26 13-0033	LF	6" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	22.35	1.89
23 81 26 13-0034	EA	3" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	22.95	2.93
23 81 26 13-0035	EA	4" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	40.28	3.22
23 81 26 13-0036	EA	6" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	45.95	3.55
23 81 26 13-0037	EA	3" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	57.67	5.87
23 81 26 13-0038	EA	4" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	97.00	6.45
23 81 26 13-0039	EA	6" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	108.35	7.10
23 81 26 13-0040	EA	3" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	77.63	6.26
23 81 26 13-0041	EA	4" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	91.27	6.89
23 81 26 13-0042	EA	6" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	142.65	7.57
23 81 26 13-0043	EA	3" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	57.67	5.87
23 81 26 13-0044	EA	4" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	97.00	6.45
23 81 26 13-0045	EA	6" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	108.35	7.10
23 81 26 13-0046	EA	3" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	74.21	9.78
23 81 26 13-0047	EA	4" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	110.04	10.75
23 81 26 13-0048	EA	6" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	132.09	11.83
23 81 26 13-0049	EA	2-1/2" Wall Sleeve, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	43.47	1.95
23 81 26 13-0050	EA	3" x 20" Flexible Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	45.93	5.87
23 81 26 13-0051	EA	4" x 20" Flexible Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	75.87	6.45
23 81 26 13-0052	EA	3" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	41.23	5.87
23 81 26 13-0053	EA	4" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	57.09	6.45
23 81 26 13-0054	EA	6" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	61.39	7.10
23 81 26 13-0055	EA	4" T Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	209.15	7.82
23 81 26 13-0056	EA	6" T Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers.....	237.35	8.61
23 81 26 13-0057	EA	14" Condensing Unit Mounting Blocks With End Caps.....	121.72	29.33
23 81 26 13-0058	EA	17" Condensing Unit Mounting Blocks With End Caps.....	134.69	31.29
23 81 26 13-0059	EA	36" Condensing Unit Mounting Blocks With End Caps.....	187.57	33.24
23 81 26 13-0060	EA	End Cap, Set of 4.....	23.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 13-0061 EA 18" Condensing Unit Type 2 Wall Bracket, 165 LB Capacity	260.03	58.66
23 81 26 13-0062 EA 21" Condensing Unit Type 2 Wall Bracket, 220 LB Capacity	275.89	62.57
23 81 26 13-0063 LF 5/8" ID Condensate Drain Line	3.08	0.16
23 81 26 13-0064 LF 3/4" ID Condensate Drain Line	3.19	0.16
23 81 26 13-0065 Cased A/C Evaporator Coils (23 81 26 13-0001)		
23 81 26 13-0066 Vertical Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0067 EA 1-1/2 Ton Vertical Cased A/C Evaporator Coil.....	662.11	111.47
23 81 26 13-0068 EA 2 Ton Vertical Cased A/C Evaporator Coil.....	691.13	119.82
23 81 26 13-0069 EA 2-1/2 Ton Vertical Cased A/C Evaporator Coil.....	820.28	128.18
23 81 26 13-0070 EA 3 Ton Vertical Cased A/C Evaporator Coil.....	933.64	136.55
23 81 26 13-0071 EA 3-1/2 Ton Vertical Cased A/C Evaporator Coil.....	1,078.30	142.12
23 81 26 13-0072 EA 4 Ton Vertical Cased A/C Evaporator Coil.....	1,201.87	147.69
23 81 26 13-0073 EA 4-1/2 Ton Vertical Cased A/C Evaporator Coil.....	1,290.92	158.84
23 81 26 13-0074 EA 5 Ton Vertical Cased A/C Evaporator Coil.....	1,300.63	167.20
23 81 26 13-0075 "A" Style Horizontal Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0076 EA 2 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	808.24	114.25
23 81 26 13-0077 EA 2-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	928.16	120.66
23 81 26 13-0078 EA 3 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	1,061.61	128.18
23 81 26 13-0079 EA 3-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	1,100.08	132.81
23 81 26 13-0080 EA 4 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	1,151.78	139.33
23 81 26 13-0081 EA 4-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	1,166.41	146.57
23 81 26 13-0082 EA 5 Ton "A" Style Horizontal Cased A/C Evaporator Coil.....	1,180.76	153.82
23 81 26 13-0083 Slab Style Horizontal Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0084 EA 2 Ton Slab Style Horizontal Cased A/C Evaporator Coil.....	708.10	114.25
23 81 26 13-0085 EA 3 Ton Slab Style Horizontal Cased A/C Evaporator Coil.....	849.04	128.18
23 81 26 13-0086 EA 4 Ton Slab Style Horizontal Cased A/C Evaporator Coil.....	979.62	139.33
23 81 26 13-0087 EA 5 Ton Slab Style Horizontal Cased A/C Evaporator Coil.....	1,179.01	153.82
23 81 26 16 Large-Capacity Split-System Air-Conditioners (23 81 26)		
23 81 26 16-0001 Split System Air Conditioners, Variable Refrigerant Flow (Mitsubishi City Multi) (23 81 26 16)		
23 81 26 16-0002 Outdoor Units (23 81 26 16-0001)		
23 81 26 16-0003 EA 6 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P72YKMU-A).....	16,336.44	573.01
23 81 26 16-0004 EA 8 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P96YKMU-A).....	17,708.07	682.15
23 81 26 16-0005 EA 10 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P120YKMU-A).....	19,932.71	818.58
23 81 26 16-0006 EA 12 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P144YKMU-A).....	24,551.31	845.87
23 81 26 16-0007 EA 12 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P144YSKMU-A).....	32,679.18	873.15
23 81 26 16-0008 EA 14 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P168YSKMU-A).....	33,887.08	900.44
23 81 26 16-0009 EA 16 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P192YSKMU-A).....	35,094.98	927.72
23 81 26 16-0010 EA 18 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P216YSKMU-A).....	37,155.92	982.29
23 81 26 16-0011 EA 20 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P240YSKMU-A).....	39,216.85	1,036.87
23 81 26 16-0012 EA 22 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P264YSKMU-A).....	43,890.03	1,091.44
23 81 26 16-0013 EA 24 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P288YSKMU-A).....	48,563.19	1,146.01
23 81 26 16-0014 Indoor Units (23 81 26 16-0001)		
23 81 26 16-0015 EA 6 MBH Cooling, 6.7 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P06NBMU-E2).....	1,685.48	177.36
23 81 26 16-0016 EA 8 MBH Cooling, 9 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P08NHMU-E2).....	1,771.91	191.01
23 81 26 16-0017 EA 12 MBH Cooling, 13.5 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P12NHMU-E2).....	1,848.49	204.65
23 81 26 16-0018 EA 15 MBH Cooling, 17 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P15NHMU-E2).....	1,938.85	218.29
23 81 26 16-0019 EA 18 MBH Cooling, 20 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P18NHMU-E2).....	2,100.57	259.22
23 81 26 16-0020 EA 24 MBH Cooling, 27 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P24NKMU-E2).....	2,344.76	313.79
23 81 26 16-0021 EA 30 MBH Cooling, 34 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P30NKMU-E2).....	2,540.29	341.07
23 81 26 16-0022 EA 6 MBH Cooling, 6.7 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P06NMAU-E3).....	2,445.48	195.10
23 81 26 16-0023 EA 8 MBH Cooling, 9 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P08NMAU-E3).....	2,529.71	210.11
23 81 26 16-0024 EA 12 MBH Cooling, 13.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P12NMAU-E3).....	2,668.16	225.11
23 81 26 16-0025 EA 15 MBH Cooling, 17 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P15NMAU-E3).....	2,895.33	240.12
23 81 26 16-0026 EA 18 MBH Cooling, 20 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P18NMAU-E3).....	3,054.37	285.14
23 81 26 16-0027 EA 24 MBH Cooling, 27 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P24NMAU-E3).....	3,351.86	345.17
23 81 26 16-0028 EA 27 MBH Cooling, 30 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P27NMAU-E3).....	3,524.82	360.17
23 81 26 16-0029 EA 30 MBH Cooling, 34 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P30NMAU-E3).....	3,717.48	375.18
23 81 26 16-0030 EA 36 MBH Cooling, 40 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P36NMAU-E3).....	4,122.74	412.70
23 81 26 16-0031 EA 48 MBH Cooling, 54 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P48NMAU-E3).....	4,570.02	453.97
23 81 26 16-0032 EA 54 MBH Cooling, 60 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P54NMAU-E3).....	4,946.67	499.37
23 81 26 16-0033 EA 72 MBH Cooling, 80 MBH Heating Ceiling Concealed High Static Ducted Indoor Unit (Mitsubishi PEFY-P72NMHSU-E).....	6,273.80	549.31
23 81 26 16-0034 EA 96 MBH Cooling, 108 MBH Heating Ceiling Concealed High Static Ducted Indoor Unit (Mitsubishi PEFY-P96NMHSU-E).....	7,122.99	604.23
23 81 26 16-0035 EA 12 MBH Cooling, 13.5 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP12NEMU-E).....	2,779.55	225.11



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Decentralized Unitary HVAC Equipment		23 80
Decentralized Unitary HVAC Equipment		23 81

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 16-0036	EA	15 MBH Cooling, 17 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP15NEMU-E).....	2,930.82	240.12
23 81 26 16-0037	EA	18 MBH Cooling, 20 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP18NEMU-E).....	3,092.82	285.14
23 81 26 16-0038	EA	24 MBH Cooling, 27 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP24NEMU-E).....	3,466.21	345.17
23 81 26 16-0039	EA	30 MBH Cooling, 34 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP30NEMU-E).....	3,734.24	375.18
23 81 26 16-0040	EA	36 MBH Cooling, 40 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP36NEMU-E).....	4,571.25	412.71
23 81 26 16-0041	EA	6 MBH Cooling, 6.7 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P06NBMU-ER5).....	2,499.70	195.10
23 81 26 16-0042	EA	8 MBH Cooling, 9 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P08NBMU-ER5).....	2,628.28	210.11
23 81 26 16-0043	EA	12 MBH Cooling, 13.5 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P12NBMU-ER5).....	2,825.88	225.11
23 81 26 16-0044	EA	15 MBH Cooling, 17 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P15NBMU-ER5).....	2,974.19	240.12
23 81 26 16-0045	EA	8 MBH Cooling, 9 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P08NCMU-ER4).....	2,312.84	210.11
23 81 26 16-0046	EA	12 MBH Cooling, 13.5 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P12NCMU-ER4).....	2,431.58	225.11
23 81 26 16-0047	EA	15 MBH Cooling, 17 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P15NCMU-ER4).....	2,555.25	240.12
23 81 26 16-0048 Controllers For Outdoor Units (23 81 26 16-0001)				
23 81 26 16-0049	EA	8 Branch (Main BC) (Mitsubishi CMB-P108NU-HA1).....	8,854.18	163.72
23 81 26 16-0050	EA	10 Branch (Main BC) (Mitsubishi CMB-P1010NU-HA1).....	10,239.51	191.01
23 81 26 16-0051	EA	13 Branch (Main BC) (Mitsubishi CMB-P1013NU-GA).....	11,314.34	218.29
23 81 26 16-0052	EA	16 Branch (Main BC) (Mitsubishi CMB-P1016NU-HA).....	13,429.14	245.58
23 81 26 16-0053	EA	4 Branch (Sub BC) (Mitsubishi CMB-P104NU-GB).....	4,935.11	109.14
23 81 26 16-0054	EA	8 Branch (Sub BC) (Mitsubishi CMB-P108NU-GB).....	7,602.27	163.72
23 81 26 16-0055	EA	16 Branch (Sub BC) (Mitsubishi CMB-P1016NU-HB).....	11,620.28	245.58
23 81 26 16-0056 Energy Recovery Units (23 81 26 16-0001)				
23 81 26 16-0057	EA	36.2 MBH Cooling, 39.9 MBH Heating Hydronic Heat Exchanger Auxiliary Unit (Mitsubishi PWFY-P36NMU-E2-AU).....	6,261.65	163.72
23 81 26 16-0058	EA	39.9 MBH Hydronic Heat Exchanger Booster Unit (Mitsubishi PWFY-P36NMU-E-BU).....	11,860.72	163.72
23 81 26 16-0059	EA	112 MBH Cooling, 61.4 MBH Heating Reheat Unit (Mitsubishi PEFY-AF1200CFMR).....	12,028.65	191.01
23 81 26 16-0060	EA	Lossnay Energy Recovery Ventilator ERV, 300 CFM (Mitsubishi LGH-F300RX5-E).....	2,490.80	136.43
23 81 26 16-0061	EA	Lossnay Energy Recovery Ventilator ERV, 470 CFM (Mitsubishi LGH-F470RX5-E).....	3,176.95	141.88
23 81 26 16-0062	EA	Lossnay Energy Recovery Ventilator ERV, 600 CFM (Mitsubishi LGH-F600RX5-E).....	3,789.18	147.35
23 81 26 16-0063	EA	Lossnay Energy Recovery Ventilator ERV, 1,200 CFM (Mitsubishi LGH-F1200RX5-E1).....	6,917.18	163.72
23 81 26 16-0064 Piping Specialties (23 81 26 16-0001)				
23 81 26 16-0065	EA	Maintenance Tool Interface (Mitsubishi CMS-MNG-E).....	877.32	
23 81 26 16-0066	EA	Branch Joint (Mitsubishi CMY-Y102SS-G2).....	231.42	42.34
23 81 26 16-0067	EA	Branch Joint (Mitsubishi CMY-Y102LS-G2).....	231.42	42.34
23 81 26 16-0068	EA	Branch Joint (Mitsubishi CMY-Y202S-G2).....	256.71	44.57
23 81 26 16-0069	EA	Branch Joint (Mitsubishi CMY-Y302S-G2).....	322.06	50.14
23 81 26 16-0070	EA	Header - 4 Branch (Mitsubishi CMY-Y64-G-E).....	420.85	72.42
23 81 26 16-0071	EA	Header - 8 Branch (Mitsubishi CMY-Y68-G-E).....	713.56	144.84
23 81 26 16-0072	EA	Refrigeration Ball Valve-Flare/Schrader/Insulated - 3/8" (Mitsubishi BV38FFSI).....	129.30	17.83
23 81 26 16-0073	EA	Refrigeration Ball Valve-Flare/Schrader/Insulated - 5/8" (Mitsubishi BV58FFSI).....	145.63	24.51
23 81 26 16-0074 Split System Air Conditioners (Daikin VRV) (23 81 26 16)				
23 81 26 16-0075 Heat Pump Outdoor Units (23 81 26 16-0074)				
23 81 26 16-0076	EA	6 Ton Heat Pump Outdoor Unit (Daikin).....	25,379.87	573.01
23 81 26 16-0077	EA	8 Ton Heat Pump Outdoor Unit (Daikin).....	28,361.68	682.15
23 81 26 16-0078	EA	10 Ton Heat Pump Outdoor Unit (Daikin).....	31,610.63	818.58
23 81 26 16-0079	EA	12 Ton Heat Pump Outdoor Unit (Daikin).....	39,530.57	845.87
23 81 26 16-0080	EA	14 Ton Heat Pump Outdoor Unit (Daikin).....	53,032.11	900.44
23 81 26 16-0081	EA	16 Ton Heat Pump Outdoor Unit (Daikin).....	56,062.76	927.72
23 81 26 16-0082	EA	18 Ton Heat Pump Outdoor Unit (Daikin).....	58,935.42	982.29
23 81 26 16-0083	EA	20 Ton Heat Pump Outdoor Unit (Daikin).....	62,020.65	1,036.87
23 81 26 16-0084	EA	22 Ton Heat Pump Outdoor Unit (Daikin).....	80,411.48	1,091.44
23 81 26 16-0085	EA	24 Ton Heat Pump Outdoor Unit (Daikin).....	83,496.71	1,146.01
23 81 26 16-0086	EA	26 Ton Heat Pump Outdoor Unit (Daikin).....	86,581.94	1,200.58
23 81 26 16-0087	EA	28 Ton Heat Pump Outdoor Unit (Daikin).....	89,454.60	1,255.15
23 81 26 16-0088	EA	30 Ton Heat Pump Outdoor Unit (Daikin).....	92,539.83	1,309.73
23 81 26 16-0089 Heat Recovery Heat Pump Outdoor Units (23 81 26 16-0074)				
23 81 26 16-0090	EA	6 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	32,500.09	744.91
23 81 26 16-0091	EA	8 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	35,429.05	886.80
23 81 26 16-0092	EA	10 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	38,904.25	1,064.16
23 81 26 16-0093	EA	12 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	48,966.35	1,099.63
23 81 26 16-0094	EA	14 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	66,327.03	1,170.57

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 16-0095 EA 16 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	71,499.83	1,206.04
23 81 26 16-0096 EA 18 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	74,192.66	1,276.98
23 81 26 16-0097 EA 20 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	76,885.48	1,347.93
23 81 26 16-0098 EA 22 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	101,367.51	1,418.88
23 81 26 16-0099 EA 24 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	104,060.33	1,489.82
23 81 26 16-0100 EA 26 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	109,304.09	1,560.76
23 81 26 16-0101 EA 28 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin).....	111,996.90	1,631.71
23 81 26 16-0102 Indoor Units (23 81 26 16-0074)		
23 81 26 16-0103 EA 7.5 MBH Cooling, 8.5 MBH Heating Wall Mounted Indoor Unit (Daikin).....	2,868.76	191.01
23 81 26 16-0104 EA 9.5 MBH Cooling, 10.5 MBH Heating Wall Mounted Indoor Unit (Daikin).....	2,998.00	196.46
23 81 26 16-0105 EA 12 MBH Cooling, 13.5 MBH Heating Wall Mounted Indoor Unit (Daikin).....	3,397.41	204.65
23 81 26 16-0106 EA 18 MBH Cooling, 20 MBH Heating Wall Mounted Indoor Unit (Daikin).....	3,799.36	259.22
23 81 26 16-0107 EA 24 MBH Cooling, 26.5 MBH Heating Wall Mounted Indoor Unit (Daikin).....	4,161.18	313.79
23 81 26 16-0108 EA 7.5 MBH Cooling, 8.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	4,222.53	210.11
23 81 26 16-0109 EA 9.5 MBH Cooling, 10.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	4,364.90	216.10
23 81 26 16-0110 EA 12 MBH Cooling, 13.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	4,585.46	120.05
23 81 26 16-0111 EA 18 MBH Cooling, 20 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	4,856.93	285.14
23 81 26 16-0112 EA 24 MBH Cooling, 27 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	5,752.09	345.17
23 81 26 16-0113 EA 30 MBH Cooling, 34 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	6,584.22	375.18
23 81 26 16-0114 EA 36 MBH Cooling, 40 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	7,032.27	412.70
23 81 26 16-0115 EA 48 MBH Cooling, 54 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin).....	7,265.23	453.97
23 81 26 16-0116 EA 7.5 MBH Cooling, 8.7 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin).....	4,731.92	210.11
23 81 26 16-0117 EA 9.5 MBH Cooling, 11.1 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin).....	4,844.20	216.10
23 81 26 16-0118 EA 12 MBH Cooling, 14 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin).....	5,153.00	225.11
23 81 26 16-0119 EA 18 MBH Cooling, 21 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin).....	5,483.63	285.14
23 81 26 16-0120 Branch Selector Boxes (23 81 26 16-0074)		
23 81 26 16-0121 EA 144 MBH, 4 Branch, Multi Port Branch Selector Box (Daikin).....	14,521.28	245.58
23 81 26 16-0122 EA 216 MBH, 6 Branch, Multi Port Branch Selector Box (Daikin).....	21,487.47	327.43
23 81 26 16-0123 EA 36 MBH, 4 Branch, Single Port Branch Selector Box (Daikin).....	2,845.43	109.14
23 81 26 16-0124 EA 60 MBH, 8 Branch, Single Port Branch Selector Box (Daikin).....	3,830.95	163.72
23 81 26 16-0125 EA 96 MBH, 8 Branch, Single Port Branch Selector Box (Daikin).....	4,742.70	245.58
23 81 26 16-0126 Controllers (23 81 26 16-0074)		
23 81 26 16-0127 EA Up To 16 Units, Navigation Controller (Daikin).....	870.06	21.83
23 81 26 16-0128 EA Individual Zone Controller (Daikin).....	621.39	21.83
23 81 26 16-0129 EA Up To 16 Groups, Unified ON/OFF Controller (Daikin).....	1,229.04	21.83
23 81 26 16-0130 EA Up To 64 Units, Multizone Controller (Daikin).....	1,732.40	21.83
23 81 26 16-0131 EA I-Touch Manager Replaced Both Daikin IMP-128 thru 1024 and DCS601C71 (Daikin).....	16,055.98	261.95
23 81 26 16-0132 EA I-Touch Manager D3net Plus Adapter (Daikin).....	3,025.92	21.83
23 81 26 16-0133 EA 24 Volt AC, Wired Thermostat For Split A/C Systems (Daikin).....	661.73	38.52
23 81 26 16-0134 Energy Recovery Units (23 81 26 16-0074)		
23 81 26 16-0135 EA 300 CFM Energy Recovery Unit (Daikin).....	5,003.72	136.43
23 81 26 16-0136 EA 470 CFM Energy Recovery Unit (Daikin).....	6,502.67	141.88
23 81 26 16-0137 EA 600 CFM Energy Recovery Unit (Daikin).....	7,789.06	147.35
23 81 26 16-0138 EA 1,200 CFM Energy Recovery Unit (Daikin).....	14,570.14	163.72
23 81 43 Air-Source Unitary Heat Pumps (23 81)		
23 81 43 00-0001 Single Package Thru-Wall Heat Pumps (23 81 43)		
Note: Air-to-air type with electric heat. Includes throwaway filters. Through the wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls all mounted in a steel cabinet, wall sleeve and outdoor grille. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		
23 81 43 00-0002 EA 1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	2,057.48	177.40
For Unit Economizer, Add	274.33	
For >35 To 70, Deduct	-51.44	
For >70 To 100, Deduct	-85.73	
For >100, Deduct	-120.02	
For Low Ambient Protection, 0 Degree F, Add	240.05	
23 81 43 00-0003 EA 1 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	2,271.64	189.24
For Unit Economizer, Add	303.36	
For >35 To 70, Deduct	-57.15	
For >70 To 100, Deduct	-95.25	
For >100, Deduct	-133.35	
For Low Ambient Protection, 0 Degree F, Add	263.11	
23 81 43 00-0004 EA 1-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	3,871.84	189.24
For Unit Economizer, Add	527.39	
For >35 To 70, Deduct	-105.16	
For >70 To 100, Deduct	-175.26	
For >100, Deduct	-245.36	
For Low Ambient Protection, 0 Degree F, Add	407.13	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Decentralized Unitary HVAC Equipment			23 81	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 43 00-0005	EA	2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	4,238.39	189.24
		For Unit Economizer, Add	577.76	
		For >35 To 70, Deduct	-115.44	
		For >70 To 100, Deduct	-192.41	
		For >100, Deduct	-269.37	
		For Low Ambient Protection, 0 Degree F, Add	213.02	
23 81 43 00-0006	EA	2-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat	4,795.46	201.06
		For Unit Economizer, Add	654.81	
		For >35 To 70, Deduct	-131.45	
		For >70 To 100, Deduct	-219.08	
		For >100, Deduct	-306.71	
		For Low Ambient Protection, 0 Degree F, Add	234.93	
23 81 43 00-0007	EA	3 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	5,024.06	212.89
		For Unit Economizer, Add	686.81	
		For >35 To 70, Deduct	-138.30	
		For >70 To 100, Deduct	-230.51	
		For >100, Deduct	-322.71	
		For Low Ambient Protection, 0 Degree F, Add	702.80	
23 81 43 00-0008	EA	3-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat	5,657.32	212.89
		For Unit Economizer, Add	774.52	
		For >35 To 70, Deduct	-156.59	
		For >70 To 100, Deduct	-260.99	
		For >100, Deduct	-365.38	
		For Low Ambient Protection, 0 Degree F, Add	787.96	
23 81 43 00-0009	EA	4 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	6,240.64	224.71
		For Unit Economizer, Add	855.71	
		For >35 To 70, Deduct	-173.74	
		For >70 To 100, Deduct	-289.56	
		For >100, Deduct	-405.38	
		For Low Ambient Protection, 0 Degree F, Add	865.21	
23 81 43 00-0010	EA	5 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	7,187.90	260.19
		For Unit Economizer, Add	985.49	
		For >35 To 70, Deduct	-200.03	
		For >70 To 100, Deduct	-333.38	
		For >100, Deduct	-466.73	
		For Low Ambient Protection, 0 Degree F, Add	996.87	
23 81 43 00-0011	EA	7-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat	13,161.75	307.50
		For Unit Economizer, Add	1,817.57	
		For >35 To 70, Deduct	-376.05	
		For >70 To 100, Deduct	-626.75	
		For >100, Deduct	-877.44	
		For Low Ambient Protection, 0 Degree F, Add	1,786.25	
23 81 43 00-0012	EA	10 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	16,946.83	390.29
		For Unit Economizer, Add	2,340.86	
		For >35 To 70, Deduct	-484.63	
		For >70 To 100, Deduct	-807.72	
		For >100, Deduct	-1,130.81	
		For Low Ambient Protection, 0 Degree F, Add	359.65	
23 81 43 00-0013	EA	12-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat	20,687.22	437.61
		For Unit Economizer, Add	2,861.20	
		For >35 To 70, Deduct	-594.36	
		For >70 To 100, Deduct	-990.60	
		For >100, Deduct	-1,386.84	
		For Low Ambient Protection, 0 Degree F, Add	416.92	
23 81 43 00-0014	EA	15 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	25,518.08	496.74
		For Unit Economizer, Add	3,533.27	
		For >35 To 70, Deduct	-736.09	
		For >70 To 100, Deduct	-1,226.82	
		For >100, Deduct	-1,717.55	
		For Low Ambient Protection, 0 Degree F, Add	490.78	
23 81 43 00-0015	EA	20 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	33,982.88	532.22
		For Unit Economizer, Add	4,715.03	
		For >35 To 70, Deduct	-987.55	
		For >70 To 100, Deduct	-1,645.92	
		For >100, Deduct	-2,304.29	
		For Low Ambient Protection, 0 Degree F, Add	595.29	
23 81 43 00-0016	EA	25 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	40,935.51	579.53
		For Unit Economizer, Add	5,684.61	
		For >35 To 70, Deduct	-1,193.29	
		For >70 To 100, Deduct	-1,988.82	
		For >100, Deduct	-2,784.35	
		For Low Ambient Protection, 0 Degree F, Add	687.53	
23 81 43 00-0017		Single Package Vertical Wall Heat Pumps (23 81 43)		
Note: Air-to-air type with electric heat. Includes throwaway filters. Wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With solid state electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls, insulated steel cabinet, with wall sleeve and outdoor grille and stainless steel drain pan. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.				
23 81 43 00-0018	EA	1/2 Ton Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	3,160.40	236.54
23 81 43 00-0019	EA	1 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	3,831.96	260.19
23 81 43 00-0020	EA	1-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	4,949.88	272.03
23 81 43 00-0021	EA	2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	5,673.90	295.68
23 81 43 00-0022	EA	2-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	7,093.15	342.98
23 81 43 00-0023	EA	3 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	7,579.08	390.29

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 43 00-0024	EA		3-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat	8,232.65	437.61
23 81 43 00-0025	EA		4 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	9,263.15	484.91
23 81 43 00-0026	EA		5 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	10,445.87	579.53
23 81 43 00-0027			Heat Pump, Room Air-Conditioners (23 81 43)		
			Note: Includes throwaway filters and supplemental heat.		
23 81 43 00-0028			Heat Pump, Window Unit, Room Air-Conditioners (23 81 43 00-0027)		
23 81 43 00-0029			Heat Pump, Window Unit, Room Air-Conditioners (Friedrich) (23 81 43 00-0028)		
23 81 43 00-0030	EA		10,000 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YS10N10C)	2,493.89	114.60
			For >10 To 50, Deduct	-113.23	
			For >50 To 75, Deduct	-158.53	
			For >75 To 100, Deduct	-226.47	
			For >100, Deduct	-271.76	
23 81 43 00-0031	EA		12,000 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YS12N33C)	2,820.26	114.60
			For >10 To 50, Deduct	-129.55	
			For >50 To 75, Deduct	-181.37	
			For >75 To 100, Deduct	-259.11	
			For >100, Deduct	-310.93	
23 81 43 00-0032	EA		17,500 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich KHM18A34A)	3,309.83	114.60
			For >10 To 50, Deduct	-154.03	
			For >50 To 75, Deduct	-215.64	
			For >75 To 100, Deduct	-308.06	
			For >100, Deduct	-369.68	
23 81 43 00-0033	EA		24,000 BTU, 10.3 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YL24N35D)	3,853.79	114.60
			For >10 To 50, Deduct	-181.23	
			For >50 To 75, Deduct	-253.72	
			For >75 To 100, Deduct	-362.46	
			For >100, Deduct	-434.95	
23 81 43 00-0034			Heat Pump, Through-The-Wall, Room Air-Conditioners (23 81 43 00-0027)		
			Note: Base unit excludes wall sleeve.		
23 81 43 00-0035			Heat Pump, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 43 00-0034)		
23 81 43 00-0036	EA		9,300 BTU, 9.8 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich WY09C33D)	2,519.07	81.86
			For >10 To 50, Deduct	-117.77	
			For >50 To 75, Deduct	-164.87	
			For >75 To 100, Deduct	-235.54	
			For >100, Deduct	-282.64	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 43 00-0037	EA		11,300 BTU, 9.3 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich WY12D33A)	2,519.07	81.86
			For >10 To 50, Deduct	-117.77	
			For >50 To 75, Deduct	-164.87	
			For >75 To 100, Deduct	-235.54	
			For >100, Deduct	-282.64	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.03	
23 81 46			Water-Source Unitary Heat Pumps (23 81)		
23 81 46 00-0001			Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pumps (23 81 46)		
			Note: R410a. Includes rubber isolator hanger brackets. McQuay CCW Series.		
23 81 46 00-0002	EA		7 MBH, 300 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	3,432.60	222.93
23 81 46 00-0003	EA		9 MBH, 300 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	3,542.32	222.93
23 81 46 00-0004	EA		12 MBH, 400 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	4,096.47	245.23
23 81 46 00-0005	EA		19 MBH, 630 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	4,314.17	267.51
23 81 46 00-0006	EA		24 MBH, 800 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	4,626.95	289.81
23 81 46 00-0007	EA		30 MBH, 1,000 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	5,451.75	312.10
23 81 46 00-0008	EA		36 MBH, 1,200 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	5,569.47	334.40
23 81 46 00-0009	EA		42 MBH, 1,400 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	6,077.31	356.68
23 81 46 00-0010	EA		48 MBH, 1,600 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	6,487.61	378.98
23 81 46 00-0011	EA		60 MBH, 2,000 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump	6,593.16	401.28
23 81 49			Split System Heat Pumps (23 81)		
23 81 49 00-0001			Split System Heat Pump (23 81 49)		
			See CSI section 23 23 16 00-0001 for piping.		
23 81 49 00-0002			Air Cooled, Outdoor Section (23 81 49 00-0001)		
			Note: Includes 20' length of piping (liquid line and insulated suction line). Excludes additional piping.		
23 81 49 00-0003	EA		1.5 Ton, 14 SEER, Outdoor Heat Pump Unit.....	4,112.32	351.26
			Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
			For Low Ambient Protection, 0 Degree F, Add	741.67	
			For Winterstart Control, Add	196.43	
			For 15 SEER, Add	644.42	
			For 16 SEER, Add	1,038.23	
			For 18 SEER, Add	1,575.24	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 49 00-0004	EA		2 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	4,241.23 768.32 205.13 656.98 1,058.47 1,605.95	390.29
23 81 49 00-0005	EA		2.5 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	4,634.19 842.69 226.53 710.68 1,144.98 1,737.22	452.97
23 81 49 00-0006	EA		3 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	5,059.14 709.60 249.68 768.71 1,238.48 1,879.08	520.39
23 81 49 00-0007	EA		3.5 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	5,219.32 732.76 257.90 792.10 1,276.16 1,936.24	540.50
23 81 49 00-0008	EA		4 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	5,797.65 811.03 285.13 883.91 1,424.08 2,160.67	620.92
23 81 49 00-0009	EA		5 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	6,600.93 525.19 153.83 1,012.54 1,631.31 2,475.09	683.01
23 81 49 00-0010	EA		7.5 Ton, 11.5 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	6,987.78 567.68 168.11	764.01
23 81 49 00-0011	EA		10 Ton, 11.1 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	9,659.05 408.56 214.66	916.81
23 81 49 00-0012	EA		15 Ton, 10.9 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	12,697.60 461.69 264.17	1,069.62
23 81 49 00-0013	EA		20 Ton, 10.3 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	22,776.70 489.81 375.08	1,146.01
23 81 49 00-0014			Indoor Section, Horizontal Upflow (23 81 49 00-0001) Note: Electric heat. Includes throwaway filters.		
23 81 49 00-0015	EA		2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,210.45 109.31	116.78
23 81 49 00-0016	EA		2-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,335.75 119.02	145.49
23 81 49 00-0017	EA		3 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,396.78 122.07	175.72
23 81 49 00-0018	EA		3-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,879.88 167.40	205.74
23 81 49 00-0019	EA		4 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,932.46 170.02	231.93
23 81 49 00-0020	EA		5 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	2,144.31 187.81	266.31
23 81 49 00-0021	EA		7-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	4,564.10 412.75	436.58
23 81 49 00-0022	EA		10 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15 KW Electric Heat..... For Additional 5 KW Electric Heat, Add	6,715.66 622.46	491.15
23 81 49 00-0023	EA		15 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15KW Electric Heat For Additional 5 KW Electric Heat, Add	9,408.81 886.31	545.72
23 81 49 00-0024	EA		20 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15 KW Electric Heat For Additional 5 KW Electric Heat, Add	10,696.81 1,004.18	654.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 81 49 00-0025		Ductless Split System Heat Pumps (23 81 49 00-0001) Note: Excludes refrigerant piping, electrical, and pad. Sanyo units or equal. See CSI section 23 81 26 13-0030 for accessories.		
23 81 49 00-0026		Wall Mounted Ductless Split System Heat Pumps (23 81 49 00-0025)		
23 81 49 00-0027	EA	9,000 BTU Cooling, 12,200 BTU Heating, 16 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,349.06	360.17
23 81 49 00-0028	EA	11,900 BTU Cooling, 13,300 BTU Heating, 17 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,595.19	392.92
23 81 49 00-0029	EA	17,500 BTU Cooling, 20,400 BTU Heating, 20 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,164.87	436.58
23 81 49 00-0030	EA	24,200 BTU Cooling, 29,000 BTU Heating, 17 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,642.09	480.24
23 81 49 00-0031	EA	25,200 BTU Cooling, 29,200 BTU Heating, 14.9 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,157.98	523.89
23 81 49 00-0032	EA	29,800 BTU Cooling, 34,800 BTU Heating, 15 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,972.93	545.72
23 81 49 00-0033	EA	31,400 BTU Cooling, 36,400 BTU Heating, 15.9 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,551.24	581.73
23 81 49 00-0034		Dual and Tri Zone Wall Mounted Ductless Split System Heat Pumps (23 81 49 00-0025) Note: Use this section only when matching indoor and outdoor capacity units are not used.		
23 81 49 00-0035	EA	7,500 BTU Cooling, 8,500 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit and wireless thermostat.	975.05	174.63
23 81 49 00-0036	EA	9,000 BTU Cooling, 12,200 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit and wireless thermostat.	1,029.27	185.55
23 81 49 00-0037	EA	11,900 BTU Cooling, 14,300 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit and wireless thermostat.	1,084.39	196.46
23 81 49 00-0038	EA	17,500 BTU Cooling, 20,400 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit and wireless thermostat.	1,233.77	207.38
23 81 49 00-0039	EA	24,200 BTU Cooling, 29,000 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit and wireless thermostat.	1,314.92	218.29
23 81 49 00-0040	EA	19,700 BTU Cooling, 24,800 BTU Heating, 16.4 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	2,916.09	261.95
23 81 49 00-0041	EA	23,200 BTU Cooling, 29,200 BTU Heating, 16.5 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	3,455.44	283.77
23 81 49 00-0042	EA	30,600 BTU Cooling, 32,000 BTU Heating, 17.2 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	5,599.03	305.60
23 81 49 00-0043		Suspended Ceiling Mounted Ductless Split System Heat Pumps (23 81 49 00-0025) Note: Excludes hangers.		
23 81 49 00-0044	EA	24,400 BTU Cooling, 30,800 BTU Heating, 14.5 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,511.69	523.89
23 81 49 00-0045	EA	31,200 BTU Cooling, 37,400 BTU Heating, 15.1 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,690.12	625.40
23 81 49 00-0046	EA	39,000 BTU Cooling, 44,500 BTU Heating, 15.6 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	8,069.99	654.86
23 81 49 00-0047		Recessed Ceiling Mounted Ductless Split System Heat Pumps (23 81 49 00-0025) Note: Excludes hangers.		
23 81 49 00-0048	EA	11,900 BTU Cooling, 13,600 BTU Heating, 16 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,657.73	436.58
23 81 49 00-0049	EA	17,500 BTU Cooling, 20,400 BTU Heating, 16 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	4,147.51	480.24
23 81 49 00-0050	EA	24,800 BTU Cooling, 29,800 BTU Heating, 14.1 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,486.17	567.55
23 81 49 00-0051	EA	32,600 BTU Cooling, 37,600 BTU Heating, 14.6 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,331.03	625.40
23 81 49 00-0052	EA	39,500 BTU Cooling, 48,000 BTU Heating, 14.6 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,890.45	654.86
23 82 Convection Heating and Cooling Units (23 80)				
23 82 16 Air Coils (23 82)				
23 82 16 11 Hydronic Air Coils (23 82 16)				
23 82 16 11-0001		Chilled Water Cooling Coils (23 82 16 11) Note: Flanged construction, 16 gauge galvanized steel casing.		
23 82 16 11-0002		2 Row Chilled Water Cooling Coils (23 82 16 11-0001)		
23 82 16 11-0003	EA	12" x 12" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	1,862.65	55.73
23 82 16 11-0004	EA	12" x 24" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	3,101.01	75.80
23 82 16 11-0005	EA	24" x 30" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	4,164.75	119.27



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR			TOTAL DIRECT		DEMOLITION	
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST	UNIT COST
23 82 16 11-0006	EA	24" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,015.47		170.54	
23 82 16 11-0007	EA	30" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,307.40		209.56	
23 82 16 11-0008	EA	30" x 60" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,929.29		254.14	
23 82 16 11-0009	EA	30" x 72" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,340.59		294.26	
23 82 16 11-0010	EA	30" x 84" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,846.14		519.87	
23 82 16 11-0011	EA	34" x 32" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	4,279.92		197.63	
23 82 16 11-0012	EA	34" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,469.56		336.51	
23 82 16 11-0013	EA	34" x 60" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,113.90		418.00	
23 82 16 11-0014	EA	34" x 72" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,684.77		504.83	
23 82 16 11-0015	EA	34" x 84" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	7,288.97		587.86	
23 82 16 11-0016	SF	>20 SF, Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	367.52		29.64	
23 82 16 11-0017 4 Row Chilled Water Cooling Coils (23 82 16 11-0001)						
23 82 16 11-0018	EA	12" x 12" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	2,307.77		115.92	
23 82 16 11-0019	EA	12" x 24" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	3,722.80		167.20	
23 82 16 11-0020	EA	24" x 30" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,054.35		278.67	
23 82 16 11-0021	EA	24" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,152.92		413.53	
23 82 16 11-0022	EA	30" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	7,101.61		507.17	
23 82 16 11-0023	EA	30" x 60" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	8,433.74		619.74	
23 82 16 11-0024	EA	30" x 72" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,373.29		743.47	
23 82 16 11-0025	EA	30" x 84" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,108.10		865.41	
23 82 16 11-0026	EA	34" x 32" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,797.16		373.52	
23 82 16 11-0027	EA	34" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	7,359.08		561.79	
23 82 16 11-0028	EA	34" x 60" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	8,141.68		696.66	
23 82 16 11-0029	EA	34" x 72" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,056.38		839.34	
23 82 16 11-0030	EA	34" x 84" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,909.54		981.23	
23 82 16 11-0031 6 Row Chilled Water Cooling Coils (23 82 16 11-0001)						
23 82 16 11-0032	EA	12" x 12" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	3,268.29		147.14	
23 82 16 11-0033	EA	12" x 24" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	3,827.19		218.47	
23 82 16 11-0034	EA	24" x 30" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	5,170.94		372.29	
23 82 16 11-0035	EA	24" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	6,995.39		557.32	
23 82 16 11-0036	EA	30" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,211.22		696.66	
23 82 16 11-0037	EA	30" x 60" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	10,432.16		857.17	
23 82 16 11-0038	EA	30" x 72" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	12,127.65		1,013.22	
23 82 16 11-0039	EA	30" x 84" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	11,441.33		1,180.75	
23 82 16 11-0040	EA	34" x 32" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	7,236.18		510.40	
23 82 16 11-0041	EA	34" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	9,205.45		765.54	
23 82 16 11-0042	EA	34" x 60" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	10,312.67		958.60	
23 82 16 11-0043	EA	34" x 72" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	11,383.19		1,151.55	
23 82 16 11-0044	EA	34" x 84" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted	12,460.47		1,339.70	
23 82 16 11-0045 8 Row Chilled Water Cooling Coils (23 82 16 11-0001)						

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 11-0046	EA	12" x 12" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	4,089.85	177.23
23 82 16 11-0047	EA	12" x 24" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	4,971.57	271.98
23 82 16 11-0048	EA	24" x 30" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	7,368.87	484.88
23 82 16 11-0049	EA	24" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,719.22	743.47
23 82 16 11-0050	EA	30" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,647.44	929.63
23 82 16 11-0051	EA	30" x 60" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,506.47	1,114.66
23 82 16 11-0052	EA	30" x 72" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	15,552.98	1,238.38
23 82 16 11-0053	EA	30" x 84" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,087.56	1,436.45
23 82 16 11-0054	EA	34" x 32" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	8,236.44	621.98
23 82 16 11-0055	EA	34" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	10,503.86	935.09
23 82 16 11-0056	EA	34" x 60" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,786.20	1,164.81
23 82 16 11-0057	EA	34" x 72" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,001.84	1,393.31
23 82 16 11-0058	EA	34" x 84" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	14,282.13	1,639.20
23 82 16 11-0059		Hot Water Heating Coils (23 82 16 11)		
		Note: Flanged construction.		
23 82 16 11-0060		1 Row Hot Water Heating Coils (23 82 16 11-0059)		
23 82 16 11-0061	EA	12" x 12" Hot Water Heating Coil, 1 Row Flanged Construction.....	1,448.20	150.48
		For 10 Fins Per Inch, Add	22.94	
		For 12 Fins Per Inch, Add	57.35	
		For 230 PSIG Heavy Duty, Add	319.77	
23 82 16 11-0062	EA	12" x 24" Hot Water Heating Coil, 1 Row Flanged Construction.....	2,156.90	192.83
		For 10 Fins Per Inch, Add	35.45	
		For 12 Fins Per Inch, Add	88.63	
		For 230 PSIG Heavy Duty, Add	469.82	
23 82 16 11-0063	EA	24" x 30" Hot Water Heating Coil, 1 Row Flanged Construction.....	2,616.12	265.29
		For 10 Fins Per Inch, Add	41.71	
		For 12 Fins Per Inch, Add	104.27	
		For 230 PSIG Heavy Duty, Add	576.30	
23 82 16 11-0064	EA	24" x 48" Hot Water Heating Coil, 1 Row Flanged Construction.....	3,089.11	372.29
		For 10 Fins Per Inch, Add	46.92	
		For 12 Fins Per Inch, Add	117.30	
		For 230 PSIG Heavy Duty, Add	692.13	
23 82 16 11-0065	EA	30" x 48" Hot Water Heating Coil, 1 Row Flanged Construction.....	3,498.40	445.87
		For 10 Fins Per Inch, Add	52.13	
		For 12 Fins Per Inch, Add	130.33	
		For 230 PSIG Heavy Duty, Add	788.85	
23 82 16 11-0066	EA	30" x 60" Hot Water Heating Coil, 1 Row Flanged Construction.....	4,086.27	557.32
		For 10 Fins Per Inch, Add	59.43	
		For 12 Fins Per Inch, Add	148.58	
		For 230 PSIG Heavy Duty, Add	928.72	
23 82 16 11-0067	EA	30" x 72" Hot Water Heating Coil, 1 Row Flanged Construction.....	4,575.05	618.64
		For 10 Fins Per Inch, Add	66.73	
		For 12 Fins Per Inch, Add	166.83	
		For 230 PSIG Heavy Duty, Add	1,038.86	
23 82 16 11-0068	EA	30" x 84" Hot Water Heating Coil, 1 Row Flanged Construction.....	5,673.08	719.28
		For 10 Fins Per Inch, Add	84.58	
		For 12 Fins Per Inch, Add	211.46	
		For 230 PSIG Heavy Duty, Add	1,279.00	
23 82 16 11-0069	EA	34" x 32" Hot Water Heating Coil, 1 Row Flanged Construction.....	2,449.38	311.66
		For 10 Fins Per Inch, Add	36.52	
		For 12 Fins Per Inch, Add	91.30	
		For 230 PSIG Heavy Duty, Add	552.22	
23 82 16 11-0070	EA	34" x 48" Hot Water Heating Coil, 1 Row Flanged Construction.....	3,674.04	467.60
		For 10 Fins Per Inch, Add	54.78	
		For 12 Fins Per Inch, Add	136.95	
		For 230 PSIG Heavy Duty, Add	828.32	
23 82 16 11-0071	EA	34" x 72" Hot Water Heating Coil, 1 Row Flanged Construction.....	5,522.95	707.25
		For 10 Fins Per Inch, Add	82.17	
		For 12 Fins Per Inch, Add	205.42	
		For 230 PSIG Heavy Duty, Add	1,246.04	
23 82 16 11-0072	EA	34" x 84" Hot Water Heating Coil, 1 Row Flanged Construction.....	6,432.31	819.61
		For 10 Fins Per Inch, Add	95.86	
		For 12 Fins Per Inch, Add	239.66	
		For 230 PSIG Heavy Duty, Add	1,450.38	
23 82 16 11-0073	SF	>15 SF Hot Water Heating Coil, 1 Row, Flanged Construction.....	292.38	41.24
		For 10 Fins Per Inch, Add	4.20	
		For 12 Fins Per Inch, Add	10.49	
		For 230 PSIG Heavy Duty, Add	66.73	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 11-0074			2 Row Hot Water Heating Coils (23 82 16 11-0059)		
23 82 16 11-0075	EA		12" x 12" Hot Water Heating Coil, 2 Row Flanged Construction.....	2,352.64	186.15
			For 10 Fins Per Inch, Add	39.62	
			For 12 Fins Per Inch, Add	99.05	
			For 230 PSIG Heavy Duty, Add	507.68	
23 82 16 11-0076	EA		12" x 24" Hot Water Heating Coil, 2 Row Flanged Construction.....	2,528.61	247.45
			For 10 Fins Per Inch, Add	40.66	
			For 12 Fins Per Inch, Add	101.66	
			For 230 PSIG Heavy Duty, Add	555.26	
23 82 16 11-0077	EA		24" x 30" Hot Water Heating Coil, 2 Row Flanged Construction.....	3,401.91	372.29
			For 10 Fins Per Inch, Add	53.18	
			For 12 Fins Per Inch, Add	132.94	
			For 230 PSIG Heavy Duty, Add	754.69	
23 82 16 11-0078	EA		24" x 48" Hot Water Heating Coil, 2 Row Flanged Construction.....	4,085.33	530.57
			For 10 Fins Per Inch, Add	60.48	
			For 12 Fins Per Inch, Add	151.19	
			For 230 PSIG Heavy Duty, Add	923.22	
23 82 16 11-0079	EA		30" x 48" Hot Water Heating Coil, 2 Row Flanged Construction.....	4,700.04	655.41
			For 10 Fins Per Inch, Add	67.77	
			For 12 Fins Per Inch, Add	169.43	
			For 230 PSIG Heavy Duty, Add	1,071.14	
23 82 16 11-0080	EA		30" x 60" Hot Water Heating Coil, 2 Row Flanged Construction.....	4,981.04	795.86
			For 10 Fins Per Inch, Add	67.77	
			For 12 Fins Per Inch, Add	169.43	
			For 230 PSIG Heavy Duty, Add	1,155.44	
23 82 16 11-0081	EA		30" x 72" Hot Water Heating Coil, 2 Row Flanged Construction.....	5,611.38	929.63
			For 10 Fins Per Inch, Add	75.07	
			For 12 Fins Per Inch, Add	187.68	
			For 230 PSIG Heavy Duty, Add	1,308.05	
23 82 16 11-0082	EA		30" x 84" Hot Water Heating Coil, 2 Row Flanged Construction.....	6,918.07	1,080.10
			For 10 Fins Per Inch, Add	95.16	
			For 12 Fins Per Inch, Add	237.89	
			For 230 PSIG Heavy Duty, Add	1,599.63	
23 82 16 11-0083	EA		34" x 32" Hot Water Heating Coil, 2 Row Flanged Construction.....	2,986.17	466.04
			For 10 Fins Per Inch, Add	41.08	
			For 12 Fins Per Inch, Add	102.71	
			For 230 PSIG Heavy Duty, Add	690.43	
23 82 16 11-0084	EA		34" x 48" Hot Water Heating Coil, 2 Row Flanged Construction.....	4,481.60	700.12
			For 10 Fins Per Inch, Add	61.63	
			For 12 Fins Per Inch, Add	154.06	
			For 230 PSIG Heavy Duty, Add	1,036.35	
23 82 16 11-0085	EA		34" x 72" Hot Water Heating Coil, 2 Row Flanged Construction.....	6,733.01	1,055.57
			For 10 Fins Per Inch, Add	92.44	
			For 12 Fins Per Inch, Add	231.10	
			For 230 PSIG Heavy Duty, Add	1,557.71	
23 82 16 11-0086	EA		34" x 84" Hot Water Heating Coil, 2 Row Flanged Construction.....	7,858.34	1,233.03
			For 10 Fins Per Inch, Add	107.85	
			For 12 Fins Per Inch, Add	269.61	
			For 230 PSIG Heavy Duty, Add	1,818.27	
23 82 16 11-0087			Hot Water Preheat Coils For Multi-Zone Air Handling Units (23 82 16 11)		
			Note: 2 Row coils. Coils are sized by air handling unit capacity.		
23 82 16 11-0088	EA		3,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	1,913.97	141.57
23 82 16 11-0089	EA		4,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	2,456.16	140.45
23 82 16 11-0090	EA		5,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,017.42	150.48
23 82 16 11-0091	EA		6,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,507.99	163.85
23 82 16 11-0092	EA		7,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,523.12	171.65
23 82 16 11-0093	EA		9,200 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,269.59	180.58
23 82 16 11-0094	EA		11,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,419.61	202.87
23 82 16 11-0095	EA		13,200 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,886.31	227.39
23 82 16 11-0096	EA		16,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	5,496.42	271.98
23 82 16 11-0097	EA		19,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	5,993.51	285.35
23 82 16 11-0098	EA		22,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	7,692.67	302.07
23 82 16 11-0099	EA		27,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	9,792.64	413.53
23 82 16 11-0100	EA		34,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	12,305.46	507.17
23 82 16 11-0101	EA		40,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	14,346.31	530.57
23 82 16 11-0102	EA		47,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	16,852.50	618.64
23 82 16 12			Steam Air Coils (23 82 16)		
23 82 16 12-0001			Steam Heating Coils (23 82 16 12)		
			Note: Flanged construction.		
23 82 16 12-0002	EA		12" x 12" Steam Heating Coils, 1 Row Flanged Construction.....	2,275.48	104.78
			For 2 Row Coil, Add	724.31	
			For 4 Row Coil, Add	1,909.97	
23 82 16 12-0003	EA		12" x 24" Steam Heating Coils, 1 Row Flanged Construction.....	2,504.30	144.90
			For 2 Row Coil, Add	809.19	
			For 4 Row Coil, Add	2,127.93	
23 82 16 12-0004	EA		24" x 30" Steam Heating Coils, 1 Row Flanged Construction.....	3,250.01	259.71
			For 2 Row Coil, Add	1,078.69	
			For 4 Row Coil, Add	2,822.94	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 12-0005	EA	24" x 48" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	4,065.28 1,368.20 3,571.76	372.29
23 82 16 12-0006	EA	30" x 48" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	4,509.20 1,531.10 3,990.80	445.87
23 82 16 12-0007	EA	30" x 60" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	5,027.45 1,731.17 4,501.26	557.32
23 82 16 12-0008	EA	30" x 72" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	5,520.42 1,903.83 4,948.89	618.64
23 82 16 12-0009	EA	30" x 84" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	6,871.35 2,350.18 6,117.94	721.96
23 82 16 12-0010	EA	34" x 32" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	2,966.73 1,014.70 2,641.45	311.66
23 82 16 12-0011	EA	34" x 48" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	4,450.09 1,522.05 3,962.17	467.60
23 82 16 12-0012	EA	34" x 72" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	6,672.75 2,281.89 5,940.34	700.12
23 82 16 12-0013	EA	34" x 84" Steam Heating Coils, 1 Row Flanged Construction..... For 2 Row Coil, Add For 4 Row Coil, Add	7,790.38 2,664.95 6,937.16	819.61
23 82 16 13		Refrigerant Air Coils (23 82 16)		
23 82 16 13-0001		Direct Expansion Cooling Coils (23 82 16 13) Note: Flanged construction 16 gauge galvanized steel casing.		
23 82 16 13-0002		2 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		
23 82 16 13-0003	EA	12" x 12" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	1,787.08 32.39 80.97	83.60
23 82 16 13-0004	EA	12" x 24" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	3,468.74 64.78 161.95	114.81
23 82 16 13-0005	EA	24" x 30" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	4,768.98 88.19 220.47	180.58
23 82 16 13-0006	EA	24" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	5,729.56 104.22 260.56	259.71
23 82 16 13-0007	EA	30" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	6,649.77 120.26 300.64	317.68
23 82 16 13-0008	EA	30" x 60" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	7,422.92 133.08 332.71	384.55
23 82 16 13-0009	EA	30" x 72" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	8,507.98 152.33 380.81	445.87
23 82 16 13-0010	EA	30" x 84" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	10,693.74 193.08 482.70	519.87
23 82 16 13-0011	EA	34" x 32" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	4,106.81 74.23 185.58	197.63
23 82 16 13-0012	EA	34" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	5,255.78 91.65 229.13	336.51
23 82 16 13-0013	EA	34" x 72" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	6,431.87 108.44 271.11	504.83
23 82 16 13-0014	EA	34" x 84" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	7,016.37 116.81 292.03	587.86
23 82 16 13-0015		4 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		
23 82 16 13-0016	EA	12" x 12" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	2,982.09 55.00 137.49	115.92
23 82 16 13-0017	EA	12" x 24" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	4,261.11 78.57 196.42	167.20
23 82 16 13-0018	EA	24" x 30" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing..... For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	5,768.44 104.22 260.56	278.67



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Convection Heating and Cooling Units			23 82



MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 82 16 13-0019	EA 24" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	6,998.85	413.53		
23 82 16 13-0020	EA 30" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	8,068.39	507.17		
23 82 16 13-0021	EA 30" x 60" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	9,576.30	619.74		
23 82 16 13-0022	EA 30" x 72" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	10,625.71	743.47		
23 82 16 13-0023	EA 30" x 84" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	10,279.56	865.41		
23 82 16 13-0024	EA 34" x 32" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	6,599.08	373.52		
23 82 16 13-0025	EA 34" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	8,349.23	561.79		
23 82 16 13-0026	EA 34" x 72" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	12,505.43	988.14		
23 82 16 13-0027	EA 34" x 84" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	14,303.54	1,151.55		
23 82 16 13-0028 6 Row Direct Expansion Cooling Coils (23 82 16 13-0001)					
23 82 16 13-0029	EA 12" x 12" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	3,820.86	146.02		
23 82 16 13-0030	EA 12" x 24" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	4,365.50	218.47		
23 82 16 13-0031	EA 24" x 30" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	6,274.91	372.29		
23 82 16 13-0032	EA 24" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	7,929.21	557.32		
23 82 16 13-0033	EA 30" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	10,452.65	696.66		
23 82 16 13-0034	EA 30" x 60" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	11,816.41	857.17		
23 82 16 13-0035	EA 30" x 72" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	13,731.62	1,013.22		
23 82 16 13-0036	EA 30" x 84" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	12,883.14	1,180.75		
23 82 16 13-0037	EA 34" x 32" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	8,223.15	510.40		
23 82 16 13-0038	EA 34" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	10,424.08	765.54		
23 82 16 13-0039	EA 34" x 72" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	12,806.19	1,142.07		
23 82 16 13-0040	EA 34" x 84" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	14,013.63	1,339.70		
23 82 16 13-0041 8 Row Direct Expansion Cooling Coils (23 82 16 13-0001)					
23 82 16 13-0042	EA 12" x 12" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	4,763.27	176.12		
23 82 16 13-0043	EA 12" x 24" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	5,674.68	271.98		
23 82 16 13-0044	EA 24" x 30" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	8,385.09	484.88		
23 82 16 13-0045	EA 24" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	11,026.56	743.47		
23 82 16 13-0046	EA 30" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing For 10 Fins Per Inch, Add For 12 Fins Per Inch, Add	13,201.97	929.63		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 13-0047 EA 30" x 60" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	15,297.20	1,114.66
For 10 Fins Per Inch, Add	261.36	
For 12 Fins Per Inch, Add	653.39	
23 82 16 13-0048 EA 30" x 72" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	17,629.35	1,238.38
For 10 Fins Per Inch, Add	303.05	
For 12 Fins Per Inch, Add	757.62	
23 82 16 13-0049 EA 30" x 84" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	14,709.59	1,436.45
For 10 Fins Per Inch, Add	236.74	
For 12 Fins Per Inch, Add	591.84	
23 82 16 13-0050 EA 34" x 32" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	9,346.79	621.98
For 10 Fins Per Inch, Add	162.06	
For 12 Fins Per Inch, Add	405.14	
23 82 16 13-0051 EA 34" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	11,874.82	935.09
For 10 Fins Per Inch, Add	200.09	
For 12 Fins Per Inch, Add	500.23	
23 82 16 13-0052 EA 34" x 72" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	14,652.10	1,407.36
For 10 Fins Per Inch, Add	236.75	
For 12 Fins Per Inch, Add	591.87	
23 82 16 13-0053 EA 34" x 84" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	16,029.44	1,639.20
For 10 Fins Per Inch, Add	255.02	
For 12 Fins Per Inch, Add	637.55	

23 82 16 14 Electric-Resistance Air Coils (23 82 16)**23 82 16 14-0001 Standard Electric Slip-In Blast Coil Heater (23 82 16 14)****23 82 16 14-0002 Electric Slip-In Blast Coil Heater With Open Coil Element (23 82 16 14-0001)**

23 82 16 14-0003 EA 1/2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	600.30	84.04
23 82 16 14-0004 EA 1 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	614.29	90.59
23 82 16 14-0005 EA 2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	630.82	99.32
23 82 16 14-0006 EA 3 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	636.39	102.60
23 82 16 14-0007 EA 4 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	650.67	109.14
23 82 16 14-0008 EA 5 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	667.10	117.88
23 82 16 14-0009 EA 6 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	770.38	132.06
23 82 16 14-0010 EA 7 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	783.69	138.61
23 82 16 14-0011 EA 8 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	794.61	142.98
23 82 16 14-0012 EA 9 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	810.56	151.71
23 82 16 14-0013 EA 10 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	890.16	160.44
23 82 16 14-0014 EA 12-1/2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	921.23	175.72
23 82 16 14-0015 EA 15 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	952.11	191.01
23 82 16 14-0016 EA 20 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	985.42	206.28
23 82 16 14-0017 EA 30 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	1,389.58	288.14
23 82 16 14-0018 EA 40 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	2,577.80	306.70
23 82 16 14-0019 EA 50 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	2,826.67	351.45
23 82 16 14-0020 EA 60 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,351.89	389.65
23 82 16 14-0021 EA 70 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,509.85	423.48
23 82 16 14-0022 EA 80 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,845.53	464.95
23 82 16 14-0023 EA 90 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	4,758.85	496.61
23 82 16 14-0024 EA 100 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	5,233.74	533.71
23 82 16 14-0025 EA 125 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	6,388.19	576.28
23 82 16 14-0026 EA 150 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	7,205.34	626.48

23 82 16 14-0027 Electric Slip-In Blast Coil Heater With Finned Tubular Element (23 82 16 14-0001)

23 82 16 14-0028 EA 1 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	974.02	120.05
23 82 16 14-0029 EA 2 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,002.25	130.97
23 82 16 14-0030 EA 3 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,014.14	130.97
23 82 16 14-0031 EA 4 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,095.75	144.07
23 82 16 14-0032 EA 5 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,145.65	144.07
23 82 16 14-0033 EA 6 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,172.21	144.07
23 82 16 14-0034 EA 8 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,229.27	160.44
23 82 16 14-0035 EA 9 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,279.94	180.09
23 82 16 14-0036 EA 10 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,306.50	180.09
23 82 16 14-0037 EA 15 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,470.44	206.28
23 82 16 14-0038 EA 20 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,894.92	206.28
23 82 16 14-0039 EA 25 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,011.67	223.75
23 82 16 14-0040 EA 30 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,372.11	240.12
23 82 16 14-0041 EA 40 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,828.91	240.12
23 82 16 14-0042 EA 45 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	3,089.61	251.03
23 82 16 14-0043 EA 50 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	3,247.99	251.03

23 82 19 Fan Coil Units (23 82)**23 82 19 00-0001 Ceiling Suspended Horizontal Fan Coil Units (23 82 19)**

Note: Includes cabinet, chilled water coil, baked enamel finish, multispeed fan and fan switch with integral and/or remote thermostat to control valves and on/off and fan speeds. Excludes supports.

23 82 19 00-0002 Horizontal Fan Coil Units With Electric Heating Coil (23 82 19 00-0001)

23 82 19 00-0003 EA 200 CFM, 6 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	2,005.07	180.58
For 2-Way Valve Instead Of 3-Way, Deduct	-52.98	



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Decentralized Unitary HVAC Equipment		23 80
Convection Heating and Cooling Units		23 82

23

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 82 19 00-0004	EA 300 CFM, 9 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,280.76	-56.03	210.67
23 82 19 00-0005	EA 400 CFM, 12 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,706.49	-58.72	237.42
23 82 19 00-0006	EA 600 CFM, 18 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,110.72	-62.19	271.98
23 82 19 00-0007	EA 800 CFM, 24 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,510.62	-107.87	285.35
23 82 19 00-0008	EA 1,000 CFM, 30 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,508.79	-110.19	302.07
23 82 19 00-0009	EA 1,200 CFM, 36 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	5,306.00	-114.18	327.71
23 82 19 00-0010 Horizontal Fan Coil Units With Hot Water Heating Coil (23 82 19 00-0001)				
23 82 19 00-0011	EA 200 CFM, 6 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,920.13	-52.98	180.58
23 82 19 00-0012	EA 300 CFM, 9 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,288.45	-56.03	210.67
23 82 19 00-0013	EA 400 CFM, 12 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,059.10	-58.72	237.42
23 82 19 00-0014	EA 600 CFM, 18 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,393.39	-62.19	271.98
23 82 19 00-0015	EA 800 CFM, 24 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,686.16	-107.87	286.47
23 82 19 00-0016	EA 1,000 CFM, 30 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	6,235.51	-110.19	302.07
23 82 19 00-0017	EA 1,200 CFM, 36 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	7,313.16	-114.18	327.71
23 82 19 00-0018	EA 1,400 CFM, 42 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	7,797.49	-116.00	339.97
23 82 19 00-0019	EA 1,600 CFM, 48 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	8,703.48	-118.09	353.90
23 82 19 00-0020	EA 1,800 CFM, 54 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet..... <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	9,361.72	-120.18	367.84
23 82 19 00-0021 Floor Mounted Vertical Fan Coil Units (23 82 19)				
Note: Includes cabinet, chilled water coil, baked enamel finish, multispeed fan and fan switch with integral and/or remote thermostat to control valves and on/off and fan speeds.				
23 82 19 00-0022 Vertical Fan Coil Units With Electric Heating Coil (23 82 19 00-0021)				
23 82 19 00-0023	EA 200 CFM, 6 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	1,933.53	-254.07 126.91 -52.98	179.46
23 82 19 00-0024	EA 300 CFM, 9 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,209.22	-289.32 139.13 -56.03	210.67
23 82 19 00-0025	EA 400 CFM, 12 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,620.63	-345.66 149.86 -58.72	237.42
23 82 19 00-0026	EA 600 CFM, 18 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,011.98	-397.42 163.75 -62.19	271.98
23 82 19 00-0027	EA 800 CFM, 24 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,397.59	-452.48 169.32 -107.87	286.47
23 82 19 00-0028	EA 1,000 CFM, 30 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,358.55	-593.53 175.50 -110.19	302.07
23 82 19 00-0029	EA 1,200 CFM, 36 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet..... <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	5,127.14	-703.50 186.13 -114.18	327.71
23 82 19 00-0030 Vertical Fan Coil Units With Hot Water Heating Coil (23 82 19 00-0021)				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 19 00-0031	EA		200 CFM, 6 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	2,808.70 -385.35 126.91 -52.98	179.46
23 82 19 00-0032	EA		300 CFM, 9 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,163.65 -432.48 139.13 -56.03	210.67
23 82 19 00-0033	EA		400 CFM, 12 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	3,903.10 -538.03 149.86 -58.72	237.42
23 82 19 00-0034	EA		600 CFM, 18 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,462.34 -614.98 163.75 -62.19	271.98
23 82 19 00-0035	EA		800 CFM, 24 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	4,980.05 -689.85 169.32 -107.87	286.47
23 82 19 00-0036	EA		1,000 CFM, 30 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	5,990.60 -838.34 175.50 -110.19	302.07
23 82 19 00-0037	EA		1,200 CFM, 36 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	7,023.41 -987.94 186.13 -114.18	327.71
23 82 19 00-0038	EA		1,400 CFM, 42 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	7,696.20 -1,086.44 190.99 -116.00	339.97
23 82 19 00-0039	EA		1,600 CFM, 48 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	8,500.89 -1,204.35 196.56 -118.09	353.90
23 82 19 00-0040	EA		1,800 CFM, 54 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet <i>For Fan Coil Units Without Cabinet, Deduct</i> <i>For Thru-Wall Sleeve, Add</i> <i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	9,066.37 -1,286.39 202.14 -120.18	353.90
23 82 19 00-0041			Removal And Reinstallation Of Fan Coil Units (23 82 19) Note: Includes storage and cleaning. Excludes supports.		
23 82 19 00-0042	EA		Removal And Reinstallation Of Fan Coil Unit Horizontal Or Vertical	473.92	
23 82 19 00-0043			Fan Coil Units (Carrier) (23 82 19) Note: Provide Pre-Manufactured Or Field Fabricated Filter Rack With 2" Merv 13, Pleated Throwaway Filters. Disconnect Switch Provided By Division 26 Contractor. Suspend Unit From Structure In Horizontal Position With All -Thread Rod And Spring Vibration Isolation (2" Minimum Deflection). Provide Necessary Mounting Bracket And Accessories For Specified Mounting. Provide Auxiliary Drain Pan With Auxiliary Drain Provided By Plumbing Contractor. Provide Unit With Space Temperature Control Devices Consistent With The Following Control Methods: Thermostat Or Room Controller For Local Override Of Centralized Controller With Integral Temperature Sensor. Temperature Sensor Without Local Override. Thermostat Or Room Controller For Local Override Of Centralized Controller With Remote Temperature Sensor. Fan Coil Unit With Integral Temperature Sensor In Return Airstream Without Local Override (Factory Default Setting).		
23 82 19 00-0044	EA		450 To 500 CFM, 12.1 To 14.2 MBH Cooling, Deck Mount, Fan Coil Unit (Carrier MMD-AP0184BH2UL-1).....	2,051.64	237.42
23 82 19 00-0045	EA		1,200 CFM, 33.3 To 39.5 MBH Cooling, Floor Mount, Fan Coil Unit (Carrier MMD-AP0360VHG2UL)	3,563.09	327.71
			<i>For Filter Box With 2" MERV 8 Filter (Carrier TCB-FB2F361VDGUL), Add</i>	292.48	
23 82 19 00-0046	EA		150 To 230 CFM, 3.9 To 7.5 MBH Cooling, Wall Mount, Fan Coil Unit (Carrier MMK-AP0073H2UL).....	1,104.71	180.58
			<i>For Filter Boxes For Toshiba (Carrier) High Static, Medium Static, OSA Units, and Slim Duct (Carrier FS-SPBH202), Add</i>	482.25	
23 82 19 00-0047	EA		470 CFM, 15.8 MBH Cooling, Wall Mount, Fan Coil Unit (Carrier MMK-AP0183H2UL).....	1,278.93	210.67
			<i>For Filter Boxes For Toshiba (Carrier) High Static, Medium Static, OSA Units, and Slim Duct (Carrier FS-SPBH202), Add</i>	482.25	
23 82 19 00-0048	EA		Single Port Flow Selector (Carrier RBM-Y0963FUL).....	1,236.62	262.27
23 82 19 00-0049	EA		Multiport Flow Selector 4-Branch Unit (Carrier RBM-Y0611F4PUL).....	3,798.81	342.98
23 82 19 00-0050	EA		Y-Branch For Heat Recovery, 61-135k BTU (Carrier RBM-BY105FUL).....	196.42	39.01
23 82 19 00-0051	EA		Y-Branch For Heat Recovery, 136-238k BTU (Carrier RBM-BY205FUL).....	269.88	41.79
23 82 19 00-0052	EA		12 MBH, Ductless Variable Flow (VRF), Wall Mounted, Indoor Heat Pump (Carrier MMK-AP0123H2UL).....	1,060.71	180.58
23 82 19 00-0053	EA		Single Port Flow Selector (Carrier RBM-Y0383FUL).....	3,113.86	262.27
23 82 19 00-0054	EA		Outdoor Heat Recovery Connection (Carrier RBM-BT14FUL)	427.81	39.01
23 82 29			Radiators (23 82)		
23 82 29 00-0001			Demolish Cast Iron Radiators (23 82 29)		
23 82 29 00-0002	LF		Demolish Cast Iron Radiator.....	33.43	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
23 82 29 00-0003	EA	Cap Radiator.....	55.14		
23 82 29 00-0004		Cast Iron Radiator (23 82 29)			
23 82 29 00-0005	EA	19" High Cast Iron Radiator Section, Free Standing.....	67.52		
		For Wall Support Bracket, Add	28.29		
23 82 29 00-0006	EA	25" High Cast Iron Radiator Section, Free Standing.....	98.60		
		For Wall Support Bracket, Add	29.73		
23 82 29 00-0007	EA	30" High Cast Iron Radiator Section, Free Standing.....	115.71		
23 82 29 00-0008	EA	36" High Cast Iron Radiator Section, Free Standing.....	147.54		
23 82 29 00-0009	EA	20" High Cast Iron Radiator Section, Recessed With Grille.....	91.88		
23 82 29 00-0010		Radiator Covers (23 82 29)			
		Note: Includes field cutouts, vent grilles, and insulation backing. To calculate quantity, measure the surface area of front, top and sides.			
23 82 29 00-0011	SF	14 Gauge Stainless Steel Radiator Cover.....	132.28		5.93
23 82 29 00-0012	SF	Primed And Painted, Galvanized Steel Radiator Cover.....	82.10		5.93
23 82 29 00-0013		Radiator Shields (23 82 29)			
23 82 29 00-0014	SF	Stainless Steel Radiator Shield.....	67.56		5.93
23 82 29 00-0015	SF	Primed And Painted, Galvanized Steel Radiator Shield.....	48.99		5.93
23 82 29 00-0016		Removal And Reinstallation Of Radiator (23 82 29)			
		Note: Includes storage and cleaning.			
23 82 29 00-0017	LF	Removal And Reinstallation Of Cast Iron Radiator.....	83.60		
23 82 29 00-0018	LF	Removal And Reinstallation Of Electric Radiator.....	55.73		
23 82 33		Convectors (23 82)			
23 82 33 00-0001		Multi-Fin Convectors For Two-Pipe System (23 82 33)			
		Note: Complete with 6-1/4" deep cabinet enclosure.			
23 82 33 00-0002		20" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)			
23 82 33 00-0003	EA	20" High x 2' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	585.45		122.61
		For Metal Trim Strips, Add	61.73		
		For Snap-On Inlet Grille, Add	47.16		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	139.88		
		For Knob Operated Damper, Add	15.00		
23 82 33 00-0004	EA	20" High x 3' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	691.14		133.76
		For Metal Trim Strips, Add	66.80		
		For Snap-On Inlet Grille, Add	50.53		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	170.97		
		For Knob Operated Damper, Add	15.00		
23 82 33 00-0005	EA	20" High x 4' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	794.69		158.28
		For Metal Trim Strips, Add	77.88		
		For Snap-On Inlet Grille, Add	57.92		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	194.28		
		For Knob Operated Damper, Add	15.00		
23 82 33 00-0006	EA	20" High x 6' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	952.27		183.91
		For Metal Trim Strips, Add	89.59		
		For Snap-On Inlet Grille, Add	65.73		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	235.77		
		For Knob Operated Damper, Add	15.00		
23 82 33 00-0007	EA	20" High x 8' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	1,135.40		220.70
		For Metal Trim Strips, Add	106.30		
		For Snap-On Inlet Grille, Add	76.87		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	280.37		
		For Knob Operated Damper, Add	15.00		
23 82 33 00-0008	EA	20" High x 10' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet.....	1,278.04		242.77
		For Metal Trim Strips, Add	116.32		
		For Snap-On Inlet Grille, Add	83.55		
		For Access Doors Hinged, Add	15.00		
		For Air Chamber, Auto-vent, Add	18.00		
		For 3 Tubes System, Add	318.61		
		For Knob Operated Damper, Add	15.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0009	EA	20" High x 12" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,483.46	294.26
		For Metal Trim Strips, Add	139.71	
		For Snap-On Inlet Grille, Add	99.14	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	363.21	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0010	EA	20" High x 14" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,620.58	312.66
		For Metal Trim Strips, Add	148.08	
		For Snap-On Inlet Grille, Add	104.72	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	401.45	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0011	EA	20" High x 16" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,767.29	349.44
		For Metal Trim Strips, Add	164.78	
		For Snap-On Inlet Grille, Add	115.85	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	433.31	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0012	EA	20" High x 18" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,950.53	386.23
		For Metal Trim Strips, Add	181.52	
		For Snap-On Inlet Grille, Add	127.01	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	477.91	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0013	EA	20" High x 20" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,097.25	423.01
		For Metal Trim Strips, Add	198.23	
		For Snap-On Inlet Grille, Add	138.15	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	509.78	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0014		26" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)		
23 82 33 00-0015	EA	26" High x 2" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	685.97	161.29
		For Metal Trim Strips, Add	78.57	
		For Snap-On Inlet Grille, Add	58.38	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	155.43	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0016	EA	26" High x 3" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	805.73	187.37
		For Metal Trim Strips, Add	90.27	
		For Snap-On Inlet Grille, Add	66.18	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	183.69	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0017	EA	26" High x 4" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	975.71	220.04
		For Metal Trim Strips, Add	104.93	
		For Snap-On Inlet Grille, Add	75.96	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	226.08	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0018	EA	26" High x 6" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,145.37	245.34
		For Metal Trim Strips, Add	116.29	
		For Snap-On Inlet Grille, Add	83.53	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	272.21	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0019	EA	26" High x 8" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,338.34	275.88
		For Metal Trim Strips, Add	130.04	
		For Snap-On Inlet Grille, Add	92.69	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	323.71	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0020	EA	26" High x 10" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,499.01	298.84
		For Metal Trim Strips, Add	140.40	
		For Snap-On Inlet Grille, Add	99.60	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	367.85	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0021	EA	26" High x 12" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,709.46	340.52
		For Metal Trim Strips, Add	159.39	
		For Snap-On Inlet Grille, Add	112.26	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	419.35	
		For Knob Operated Damper, Add	15.00	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0022	EA		26" High x 14' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,866.42	361.37
			For Metal Trim Strips, Add	168.65	
			For Snap-On Inlet Grille, Add	118.43	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	463.49	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0023	EA		26" High x 16' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,019.76	394.02
			For Metal Trim Strips, Add	183.12	
			For Snap-On Inlet Grille, Add	128.08	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	500.28	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0024	EA		26" High x 18' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,215.65	426.02
			For Metal Trim Strips, Add	197.74	
			For Snap-On Inlet Grille, Add	137.83	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	551.78	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0025	EA		26" High x 20' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,364.61	455.34
			For Metal Trim Strips, Add	210.90	
			For Snap-On Inlet Grille, Add	146.60	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	588.56	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0026			32" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)		
23 82 33 00-0027	EA		32" High x 2' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	785.57	196.18
			For Metal Trim Strips, Add	95.13	
			For Snap-On Inlet Grille, Add	69.42	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	170.97	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0028	EA		32" High x 3' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	936.86	237.42
			For Metal Trim Strips, Add	113.87	
			For Snap-On Inlet Grille, Add	81.91	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	202.05	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0029	EA		32" High x 4' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,130.82	277.55
			For Metal Trim Strips, Add	132.09	
			For Snap-On Inlet Grille, Add	94.06	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	248.68	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0030	EA		32" High x 6' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,312.49	301.63
			For Metal Trim Strips, Add	143.09	
			For Snap-On Inlet Grille, Add	101.40	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	299.43	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0031	EA		32" High x 8' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,510.74	325.92
			For Metal Trim Strips, Add	154.01	
			For Snap-On Inlet Grille, Add	108.68	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	356.08	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0032	EA		32" High x 10' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,685.36	349.44
			For Metal Trim Strips, Add	164.78	
			For Snap-On Inlet Grille, Add	115.85	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	404.63	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0033	EA		32" High x 12' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,892.04	378.87
			For Metal Trim Strips, Add	178.23	
			For Snap-On Inlet Grille, Add	124.82	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	461.28	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0034	EA		32" High x 14' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,067.78	403.17
			For Metal Trim Strips, Add	189.33	
			For Snap-On Inlet Grille, Add	132.22	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	509.84	
			For Knob Operated Damper, Add	15.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0035	EA	32" High x 16" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,223.52	430.37
		For Metal Trim Strips, Add	201.37	
		For Snap-On Inlet Grille, Add	140.25	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	550.30	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0036	EA	32" High x 18" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,425.44	456.11
		For Metal Trim Strips, Add	213.39	
		For Snap-On Inlet Grille, Add	148.26	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	606.95	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0037	EA	32" High x 20" Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,573.93	478.19
		For Metal Trim Strips, Add	223.25	
		For Snap-On Inlet Grille, Add	154.84	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	647.41	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0038		Electric Convectors, Floor Standing Units (23 82 33)		
23 82 33 00-0039		4" Deep Electric Convectors (23 82 33 00-0038)		
23 82 33 00-0040	EA	38" Long x 14" High x 4" Deep Electric Convectors, Floor Standing Units	613.59	117.09
23 82 33 00-0041	EA	50" Long x 14" High x 4" Deep Electric Convectors, Floor Standing Units	679.53	117.09
23 82 33 00-0042		6" Deep Electric Convectors (23 82 33 00-0038)		
23 82 33 00-0043	EA	38" Long x 14" High x 6" Deep Electric Convectors, Floor Standing Units	709.96	117.09
23 82 33 00-0044	EA	50" Long x 14" High x 6" Deep Electric Convectors, Floor Standing Units	811.40	117.09
23 82 33 00-0045	EA	62" Long x 20" High x 6" Deep Electric Convectors, Floor Standing Units	900.16	117.09
23 82 33 00-0046	EA	74" Long x 20" High x 6" Deep Electric Convectors, Floor Standing Units	1,039.64	117.09
23 82 36		Finned-Tube Radiation Heaters (23 82)		
23 82 36 00-0001		Finned Tube Baseboard Units (23 82 36)		
		Note: Complete with steel enclosure. Single heating element.		
23 82 36 00-0002		3/4" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0003	EA	4' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	365.73	43.47
		For 90 Degree Corner, Add	52.06	
		For Valve Enclosure, Add	52.06	
		For Filler Piece, Add	45.06	
		For End Cap, Add	35.34	
		For Copper Tube With Aluminum Fins, Add	8.55	
23 82 36 00-0004	EA	6' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	486.46	65.76
		For 90 Degree Corner, Add	60.67	
		For Valve Enclosure, Add	60.67	
		For Filler Piece, Add	53.67	
		For End Cap, Add	40.93	
		For Copper Tube With Aluminum Fins, Add	12.82	
23 82 36 00-0005	EA	8' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	589.51	86.94
		For 90 Degree Corner, Add	65.73	
		For Valve Enclosure, Add	65.73	
		For Filler Piece, Add	58.73	
		For End Cap, Add	44.23	
		For Copper Tube With Aluminum Fins, Add	17.10	
23 82 36 00-0006	EA	10' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	734.28	121.72
		For 90 Degree Corner, Add	79.55	
		For Valve Enclosure, Add	79.55	
		For Filler Piece, Add	72.55	
		For End Cap, Add	53.21	
		For Copper Tube With Aluminum Fins, Add	21.26	
23 82 36 00-0007	EA	12' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	878.11	146.24
		For 90 Degree Corner, Add	93.60	
		For Valve Enclosure, Add	93.60	
		For Filler Piece, Add	86.60	
		For End Cap, Add	62.34	
		For Copper Tube With Aluminum Fins, Add	25.31	
23 82 36 00-0008	EA	14' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	998.03	156.05
		For 90 Degree Corner, Add	99.17	
		For Valve Enclosure, Add	99.17	
		For Filler Piece, Add	92.17	
		For End Cap, Add	65.96	
		For Copper Tube With Aluminum Fins, Add	30.37	
23 82 36 00-0009	EA	16' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	1,100.06	172.44
		For 90 Degree Corner, Add	108.54	
		For Valve Enclosure, Add	108.54	
		For Filler Piece, Add	101.54	
		For End Cap, Add	72.05	
		For Copper Tube With Aluminum Fins, Add	33.41	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Decentralized Unitary HVAC Equipment		23 80	
Convection Heating and Cooling Units		23 82	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 36 00-0010	EA		18' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element.....	1,256.72	195.07
			For 90 Degree Corner, Add	121.46	
			For Valve Enclosure, Add	121.46	
			For Filler Piece, Add	114.46	
			For End Cap, Add	80.45	
			For Copper Tube With Aluminum Fins, Add	38.47	
23 82 36 00-0011	EA		20' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element.....	1,386.14	214.57
			For 90 Degree Corner, Add	132.62	
			For Valve Enclosure, Add	132.62	
			For Filler Piece, Add	125.62	
			For End Cap, Add	87.71	
			For Copper Tube With Aluminum Fins, Add	42.52	
23 82 36 00-0012			1" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0013	EA		4' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	432.35	43.47
			For 90 Degree Corner, Add	52.06	
			For Valve Enclosure, Add	52.06	
			For Filler Piece, Add	45.06	
			For End Cap, Add	35.34	
			For Copper Tube With Aluminum Fins, Add	12.21	
23 82 36 00-0014	EA		6' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	586.38	65.76
			For 90 Degree Corner, Add	60.67	
			For Valve Enclosure, Add	60.67	
			For Filler Piece, Add	53.67	
			For End Cap, Add	40.93	
			For Copper Tube With Aluminum Fins, Add	18.32	
23 82 36 00-0015	EA		8' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	722.74	86.94
			For 90 Degree Corner, Add	65.73	
			For Valve Enclosure, Add	65.73	
			For Filler Piece, Add	58.73	
			For End Cap, Add	44.23	
			For Copper Tube With Aluminum Fins, Add	24.42	
23 82 36 00-0016	EA		10' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	900.07	121.72
			For 90 Degree Corner, Add	79.58	
			For Valve Enclosure, Add	79.58	
			For Filler Piece, Add	72.58	
			For End Cap, Add	53.23	
			For Copper Tube With Aluminum Fins, Add	30.37	
23 82 36 00-0017	EA		12' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	1,075.12	146.24
			For 90 Degree Corner, Add	93.56	
			For Valve Enclosure, Add	93.56	
			For Filler Piece, Add	86.56	
			For End Cap, Add	62.31	
			For Copper Tube With Aluminum Fins, Add	36.15	
23 82 36 00-0018	EA		14' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	1,234.68	156.05
			For 90 Degree Corner, Add	99.17	
			For Valve Enclosure, Add	99.17	
			For Filler Piece, Add	92.17	
			For End Cap, Add	65.96	
			For Copper Tube With Aluminum Fins, Add	43.38	
23 82 36 00-0019	EA		16' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	1,360.02	172.44
			For 90 Degree Corner, Add	108.47	
			For Valve Enclosure, Add	108.47	
			For Filler Piece, Add	101.47	
			For End Cap, Add	72.00	
			For Copper Tube With Aluminum Fins, Add	47.72	
23 82 36 00-0020	EA		18' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	1,556.48	195.07
			For 90 Degree Corner, Add	121.46	
			For Valve Enclosure, Add	121.46	
			For Filler Piece, Add	114.46	
			For End Cap, Add	80.45	
			For Copper Tube With Aluminum Fins, Add	54.95	
23 82 36 00-0021	EA		20' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element.....	1,716.78	214.57
			For 90 Degree Corner, Add	132.49	
			For Valve Enclosure, Add	132.49	
			For Filler Piece, Add	125.49	
			For End Cap, Add	87.62	
			For Copper Tube With Aluminum Fins, Add	60.74	
23 82 36 00-0022			1-1/4" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0023	EA		4' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	498.96	43.47
			For 90 Degree Corner, Add	52.06	
			For Valve Enclosure, Add	52.06	
			For Filler Piece, Add	45.06	
			For End Cap, Add	35.34	
			For Copper Tube With Aluminum Fins, Add	15.88	
23 82 36 00-0024	EA		6' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	686.30	65.76
			For 90 Degree Corner, Add	60.67	
			For Valve Enclosure, Add	60.67	
			For Filler Piece, Add	53.67	
			For End Cap, Add	40.93	
			For Copper Tube With Aluminum Fins, Add	23.81	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 36 00-0025	EA		8' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	855.96	86.94
			For 90 Degree Corner, Add	65.73	
			For Valve Enclosure, Add	65.73	
			For Filler Piece, Add	58.73	
			For End Cap, Add	44.23	
			For Copper Tube With Aluminum Fins, Add	31.75	
23 82 36 00-0026	EA		10' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	1,065.72	121.72
			For 90 Degree Corner, Add	79.58	
			For Valve Enclosure, Add	79.58	
			For Filler Piece, Add	72.58	
			For End Cap, Add	53.23	
			For Copper Tube With Aluminum Fins, Add	39.48	
23 82 36 00-0027	EA		12' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	1,272.32	146.24
			For 90 Degree Corner, Add	93.56	
			For Valve Enclosure, Add	93.56	
			For Filler Piece, Add	86.56	
			For End Cap, Add	62.31	
			For Copper Tube With Aluminum Fins, Add	47.00	
23 82 36 00-0028	EA		14' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	1,471.32	156.05
			For 90 Degree Corner, Add	99.17	
			For Valve Enclosure, Add	99.17	
			For Filler Piece, Add	92.17	
			For End Cap, Add	65.96	
			For Copper Tube With Aluminum Fins, Add	56.40	
23 82 36 00-0029	EA		16' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	1,620.33	172.44
			For 90 Degree Corner, Add	108.47	
			For Valve Enclosure, Add	108.47	
			For Filler Piece, Add	101.47	
			For End Cap, Add	72.00	
			For Copper Tube With Aluminum Fins, Add	62.04	
23 82 36 00-0030	EA		18' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	1,856.23	195.07
			For 90 Degree Corner, Add	121.46	
			For Valve Enclosure, Add	121.46	
			For Filler Piece, Add	114.46	
			For End Cap, Add	80.45	
			For Copper Tube With Aluminum Fins, Add	71.44	
23 82 36 00-0031	EA		20' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element.....	2,048.08	214.57
			For 90 Degree Corner, Add	132.49	
			For Valve Enclosure, Add	132.49	
			For Filler Piece, Add	125.49	
			For End Cap, Add	87.62	
			For Copper Tube With Aluminum Fins, Add	78.96	
23 82 36 00-0032			Electric Baseboard Heating (23 82 36)		
			Note: Includes 24 gauge steel enclosure and heating element		
23 82 36 00-0033			Electric Wall Heating 10" Enclosure (23 82 36 00-0032)		
23 82 36 00-0034	LF		Electric Wall Heating, 10" Enclosure, Low Capacity Electric Unit, Element <250 Watts/FT.....	140.68	65.05
23 82 36 00-0035	LF		Electric Wall Heating, 10" Enclosure, Low Capacity Electric Unit, Element >= 250 Watts/FT.....	143.73	65.05
23 82 36 00-0036			Electric Wall Heating 16" Enclosure (23 82 36 00-0032)		
23 82 36 00-0037	LF		Electric Wall Heating, 16" Enclosure, Low Capacity Electric Unit, Element <350 Watts/FT.....	171.11	65.05
23 82 36 00-0038	LF		Electric Wall Heating, 16" Enclosure, Low Capacity Electric Unit, Element >= 350 Watts/FT.....	178.72	65.05
23 82 39			Unit Heaters (23 82)		
23 82 39 13			Cabinet Unit Heaters (23 82 39)		
23 82 39 13-0001			Electric Cabinet Unit Heaters (23 82 39 13)		
			Note: Can be mounted on the ceiling, floor or wall. Includes built-in thermostat. 208, 240/208, 277, or 480 Volt.		
23 82 39 13-0002			Electric Cabinet Unit Heaters, 35" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0003	EA		2 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,067.64	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0004	EA		3 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,091.97	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0005	EA		4 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,116.30	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0006	EA		5 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,140.61	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0007	EA		6 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,164.94	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0008	EA		7 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,189.27	147.84
			Note: Wall or floor mounted.		
23 82 39 13-0009	EA		8 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,214.56	147.84
23 82 39 13-0010	EA		For Ceiling Installation of 35" Cabinet Unit Heater, Add.....	197.51	98.17
23 82 39 13-0011			Electric Cabinet Unit Heaters, 45" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0012	EA		4 KW, 500 CFM, 45" Electric Cabinet Unit Heater.....	3,258.13	177.40
			Note: Wall or floor mounted.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 82 39 13-0013	EA	6 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,306.79	177.40
23 82 39 13-0014	EA	8 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,355.42	177.40
23 82 39 13-0015	EA	10 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,404.08	177.40
23 82 39 13-0016	EA	12 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,452.72	177.40
23 82 39 13-0017	EA	14 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,501.38	177.40
23 82 39 13-0018	EA	16 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,550.02	177.40
23 82 39 13-0019	EA	For Ceiling Installation of 45" Cabinet Unit Heater, Add	236.54	118.27
23 82 39 13-0020		Electric Cabinet Unit Heaters, 58" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0021	EA	6 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,089.58	236.54
23 82 39 13-0022	EA	8 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,138.21	236.54
23 82 39 13-0023	EA	10 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,186.87	236.54
23 82 39 13-0024	EA	12 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,235.51	236.54
23 82 39 13-0025	EA	14 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,284.17	236.54
23 82 39 13-0026	EA	16 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,332.81	236.54
23 82 39 13-0027	EA	For Ceiling Installation of 58" Cabinet Unit Heater, Add	295.68	147.84
23 82 39 13-0028		Electric Cabinet Unit Heaters, 68" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0029	EA	6 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,823.74	295.68
23 82 39 13-0030	EA	9 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,896.71	295.68
23 82 39 13-0031	EA	12 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,969.67	295.68
23 82 39 13-0032	EA	15 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,042.64	295.68
23 82 39 13-0033	EA	18 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,115.63	295.68
23 82 39 13-0034	EA	21 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,188.60	295.68
23 82 39 13-0035	EA	24 KW, 750 CFM, 68" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,261.56	295.68
23 82 39 13-0036	EA	For Ceiling Installation of 68" Cabinet Unit Heater, Add	395.03	197.51
23 82 39 13-0037		Electric Cabinet Unit Heaters, 78" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0038	EA	8 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,655.18	354.82
23 82 39 13-0039	EA	12 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,752.48	354.82
23 82 39 13-0040	EA	16 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,849.77	354.82
23 82 39 13-0041	EA	20 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	5,947.07	354.82
23 82 39 13-0042	EA	24 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	6,044.36	354.82
23 82 39 13-0043	EA	28 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	6,141.66	354.82
23 82 39 13-0044	EA	32 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	6,238.96	354.82
23 82 39 13-0045	EA	For Ceiling Installation of 78" Cabinet Unit Heater, Add	473.08	236.54
23 82 39 13-0046		Removal and Reinstallation of Cabinet Unit Heaters (23 82 39 13) Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.		
23 82 39 13-0047	EA	Removal And Reinstallation Of Up To 58" Cabinet Unit Heater, Floor or Wall	306.53	
23 82 39 13-0048	EA	Removal And Reinstallation Of >58" Cabinet Unit Heater, Floor or Wall	529.47	
23 82 39 13-0049	EA	Removal And Reinstallation Of Up To 58" Cabinet Unit Heater, Ceiling.....	632.01	
23 82 39 13-0050	EA	Removal And Reinstallation Of >58" Cabinet Unit Heater, Ceiling	854.94	
23 82 39 16		Propeller Unit Heaters (23 82 39)		
23 82 39 16-0001		Hydronic Unit Heaters Using Steam Or Hot Water (23 82 39 16) Note: For use with either steam or heating hot water. Heating output capacities for both are listed.		
23 82 39 16-0002		Horizontal Hydronic Unit Heaters, Fan Propelled, 115 Volt (23 82 39 16-0001)		
23 82 39 16-0003	EA	18 MBH Steam, 13 MBH Hot Water, 395 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,001.14	111.47

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 82 39 16-0004	EA	24 MBH Steam, 17.4 MBH Hot Water, 450 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,003.26	111.47
23 82 39 16-0005	EA	36 MBH Steam, 26.1 MBH Hot Water, 550 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,125.27	111.47
23 82 39 16-0006	EA	48 MBH Steam, 34.8 MBH Hot Water, 750 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,363.73	167.20
23 82 39 16-0007	EA	60 MBH Steam, 43.6 MBH Hot Water, 900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,426.15	167.20
23 82 39 16-0008	EA	72 MBH Steam, 52.3 MBH Hot Water, 1,100 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,519.10	167.20
23 82 39 16-0009	EA	84 MBH Steam, 61 MBH Hot Water, 2,400 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,813.57	222.93
23 82 39 16-0010	EA	96 MBH Steam, 69.7 MBH Hot Water, 2,400 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,000.85	222.93
23 82 39 16-0011	EA	108 MBH Steam, 78.4 MBH Hot Water, 2,800 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,120.03	222.93
23 82 39 16-0012	EA	120 MBH Steam, 87.1 MBH Hot Water, 2,900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,216.60	222.93
23 82 39 16-0013	EA	132 MBH Steam, 95.8 MBH Hot Water, 2,000 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,489.69	278.67
23 82 39 16-0014	EA	144 MBH Steam, 104 MBH Hot Water, 2,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,522.34	278.67
23 82 39 16-0015	EA	156 MBH Steam, 113 MBH Hot Water, 2,600 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,553.55	278.67
23 82 39 16-0016	EA	180 MBH Steam, 118 MBH Hot Water, 2,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,703.27	334.40
23 82 39 16-0017	EA	204 MBH Steam, 148 MBH Hot Water, 2,900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,947.30	334.40
23 82 39 16-0018	EA	240 MBH Steam, 174 MBH Hot Water, 3,500 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	3,358.28	390.13
23 82 39 16-0019	EA	280 MBH Steam, 209.1 MBH Hot Water, 4,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	4,242.17	390.13
23 82 39 16-0020	EA	300 MBH Steam, 230 MBH Hot Water, 5,000 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	4,498.25	445.87
23 82 39 16-0021	EA	360 MBH Steam, 261.3 MBH Hot Water, 5,500 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	5,406.27	445.87
23 82 39 16-0022	EA	Fan Guard For Fan Propelled Steam Unit Heater, Horizontal.....	272.07	27.87

Note: Required only for unit heaters located within 7' of a working surface.

23 82 39 16-0023 Vertical Hydronic Unit Heaters, Fan Propelled, 115 Volt (23 82 39 16-0001)

23 82 39 16-0024	EA	41.3 MBH Steam, 22.7 MBH Hot Water, 595 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	1,447.45	111.47
23 82 39 16-0025	EA	65.5 MBH Steam, 39.6 MBH Hot Water, 989 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	1,514.83	167.20
23 82 39 16-0026	EA	80.6 MBH Steam, 48.4 MBH Hot Water, 1,200 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	1,637.56	167.20
23 82 39 16-0027	EA	101.8 MBH Steam, 68.3 MBH Hot Water, 1,490 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	2,005.12	222.93
23 82 39 16-0028	EA	124.4 MBH Steam, 83.7 MBH Hot Water, 1,790 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	2,125.70	222.93
23 82 39 16-0029	EA	152 MBH Steam, 105.2 MBH Hot Water, 2,220 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	2,484.77	334.40
23 82 39 16-0030	EA	173 MBH Steam, 118.6 MBH Hot Water, 2,620 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	2,669.22	334.40
23 82 39 16-0031	EA	210.2 MBH Steam, 139.7 MBH Hot Water, 3,200 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	2,823.88	334.40
23 82 39 16-0032	EA	249.8 MBH Steam, 180.1 MBH Hot Water, 4,180 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	3,146.87	390.13
23 82 39 16-0033	EA	283.8 MBH Steam, 205.4 MBH Hot Water, 4,430 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	3,329.91	390.13
23 82 39 16-0034	EA	333.4 MBH Steam, 242.9 MBH Hot Water, 5,210 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	3,700.19	390.13
23 82 39 16-0035	EA	386 MBH Steam, 280.8 MBH Hot Water, 6,140 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	4,260.70	501.59
23 82 39 16-0036	EA	496 MBH Steam, 368.1 MBH Hot Water, 8,020 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	5,492.20	501.59
23 82 39 16-0037	EA	585 MBH Steam, 431.1 MBH Hot Water, 9,450 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	5,869.60	501.59
23 82 39 16-0038	EA	705 MBH Steam, 519.4 MBH Hot Water, 11,000 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	6,687.62	557.32
23 82 39 16-0039	EA	Fan Guard For Fan Propelled Steam Unit Heater, Vertical.....	377.06	27.87

Note: Required only for unit heaters located within 7' of a working surface.

23 82 39 16-0040 Removal and Reinstallation of Propeller Unit Heaters (23 82 39 16)

Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.

23 82 39 16-0041	EA	Removal And Reinstallation Of Up To 120 MBH Steam, 87.1 MBH Hot Water Hydronic Unit Heater, Horizontal or Vertical.....	668.79	
23 82 39 16-0042	EA	Removal And Reinstallation Of >120 MBH Steam, 87.1 MBH Hot Water Hydronic Unit Heater, Horizontal or Vertical.....	891.72	

23 82 39 19 Wall and Ceiling Unit Heaters (23 82 39)**23 82 39 19-0001 Electric Unit Heaters (23 82 39 19)**

Note: May be mounted both vertically and horizontally.

23 82 39 19-0002	EA	3 KW, 350 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	885.86	118.27
23 82 39 19-0003	EA	5 KW, 350 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	885.86	118.27
23 82 39 19-0004	EA	7.5 KW, 650 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,189.44	147.84
23 82 39 19-0005	EA	10 KW, 650 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,363.37	177.40
23 82 39 19-0006	EA	15 KW, 910 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,991.79	236.54
23 82 39 19-0007	EA	20 KW, 1,320 CFM Electric Unit Heater, 208, 240/208, 277, or 480 Volt	2,906.70	295.68
23 82 39 19-0008	EA	30 KW, 2,100 CFM Electric Unit Heater, Two speed; 208, 240/208, 277, or 480 Volt	4,017.83	354.82
23 82 39 19-0009	EA	50 KW, 3,000 CFM Electric Unit Heater, Two speed; 208, 240/208, 277, or 480 Volt	5,884.47	413.95
23 82 39 19-0010	EA	3 KW, 350 CFM Electric Unit Heater - 480 Volt	1,096.95	118.27
23 82 39 19-0011	EA	5 KW, 350 CFM Electric Unit Heater - 480 Volt	1,055.74	118.27
23 82 39 19-0012	EA	7.5 KW, 650 CFM Electric Unit Heater - 480 Volt	1,249.77	147.84
23 82 39 19-0013	EA	10 KW, 650 CFM Electric Unit Heater - 480 Volt	1,441.85	177.40
23 82 39 19-0014	EA	15 KW, 910 CFM Electric Unit Heater - 480 Volt	2,148.76	236.54

23 82 39 19-0015 Electric Ceiling and Wall Heaters (23 82 39 19)

Note: The "/" between wattages indicates two or three speed operation. 120, 240/208 or 277 Volt.

23 82 39 19-0016	EA	1,000, 1,500 Or 2,000 Watt Recessed Electric Wall Heater	403.12	73.92
23 82 39 19-0017	EA	1,500/750 Or 2,000/1,000 Watt Recessed Electric Wall Heater	472.01	82.79
23 82 39 19-0018	EA	3,000, 3,600, 4,000 Or 4,800 Watt Recessed Electric Wall Heater	742.76	82.79
23 82 39 19-0019	EA	1,000, 1,500 Or 2,000 Watt Surface Mounted Electric Wall Heater	458.72	73.92
23 82 39 19-0020	EA	1,500/750 Or 2,000/1,000 Watt Surface Mounted Electric Wall Heater	559.77	82.79
23 82 39 19-0021	EA	3,000, 3,600, 4,000 Or 4,800 Watt Surface Mounted Electric Wall Heater	845.83	82.79
23 82 39 19-0022	EA	1,000, 1,500 Or 2,000/1,500 Watt Recessed Electric Ceiling Heater	603.27	97.57
23 82 39 19-0023	EA	3,000, 4,000 Or 4,000/3,000 Watt Recessed Electric Ceiling Heater	1,132.13	103.48
23 82 39 19-0024	EA	4,800/3,600 Watt Recessed Electric Ceiling Heater	1,275.21	103.48
23 82 39 19-0025	EA	4,000/3,000/2,000 Watt Recessed Or Surface Mounted Electric Ceiling Heater	1,481.28	109.40



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 39 19-0026 EA 5,000/3,800/2,500 Watt Recessed Or Surface Mounted Electric Ceiling Heater	1,606.91	109.40
23 82 39 19-0027 EA 1,000, 1,500 Or 2,000/1,500 Watt Surface Mounted Electric Ceiling Heater	677.58	97.57
23 82 39 19-0028 EA 3,000, 4,000 Or 4,000/3,000 Watt Surface Mounted Electric Ceiling Heater	1,249.20	103.48
23 82 39 19-0029 EA 4,800/3,600 Watt Surface Mounted Electric Ceiling Heater	1,392.28	103.48
23 82 39 19-0030 EA Selectable Wattage (500 Or 750 Or 1000 Or 1,250 Or 1,500 Or 1,750 Or 2,250 Watt), 240 Volt, Surface Mounted, Electric Wall Heater (Markel Series 305 - Model H30522T2DWB)	652.56	73.92
23 82 39 19-0031 Removal And Reinstallation Of Electric Unit Heaters (23 82 39 19) Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.		
23 82 39 19-0032 EA Removal And Reinstallation Of Up To 15KW Electric Unit Heater	401.30	
23 82 39 19-0033 EA Removal And Reinstallation Of >15 KW Electric Unit Heater	824.94	

23 83 Radiant Heating Units (23 83)

23 83 13 Radiant-Heating Electric Cables (23 83)

23 83 13 13 Radiant-Heating Electric Cables (23 83 13)

23 83 13 13-0001 Self Regulating Heating Cable (23 83 13 13)

23 83 13 13-0002 LF 3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable	9.13	0.86
Note: Tinned copper braid, at 50 Degrees F.		
23 83 13 13-0003 LF 5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable	9.74	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0004 LF 8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable	10.17	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0005 LF 3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable	9.13	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0006 LF 5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable	10.77	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0007 LF 8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable	11.38	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0008 LF 3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.36	0.86
Note: Tinned copper braid, at 50 Degrees F.		
23 83 13 13-0009 LF 5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.65	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0010 LF 8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.93	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0011 LF 3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.36	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0012 LF 5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.65	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0013 LF 8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions	11.93	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0014 LF 3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	14.17	0.86
Note: Tinned copper braid, at 50 Degrees F.		
23 83 13 13-0015 LF 5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	14.73	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0016 LF 8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	15.01	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0017 LF 3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	14.17	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0018 LF 5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	14.73	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0019 LF 8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments.....	15.01	0.86
Note: Tinned copper braid, at 50 degrees F.		
23 83 13 13-0020 EA Power Connection Kit With Pre-set Thermostat For Self Regulating Low Temperature Heating Cable	326.50	67.76
23 83 13 13-0021 EA Splice And Tee Kit For Self Regulating Low Temperature Heating Cable	326.50	67.76
23 83 13 13-0022 EA End Seal Kit For Self Regulating Low Temperature Heating Cable.....	215.62	12.32
23 83 13 13-0023 EA Ambient Air Sensing Thermostat For Self Regulating Low Temperature Heating Cable	584.59	30.80
23 83 13 13-0024 EA Mechanical Or Electrical Line Sensing Thermostat For Self Regulating Low Temperature Heating Cable	644.01	30.80

23 83 33 Electric Radiant Heaters (23 83)

23 83 33 00-0001 Residential Wall Heaters (23 83 33)

23 83 33 00-0002 EA 750 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	484.94	118.27
23 83 33 00-0003 EA 1,000 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	484.94	118.27
23 83 33 00-0004 EA 1,250 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	547.04	118.27
23 83 33 00-0005 EA 1,500 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	547.04	118.27

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 83 Radiant Heating Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 83 33 00-0006	EA	2,000 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	559.46	118.27
23 83 33 00-0007	EA	2,500 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	559.46	118.27
23 83 33 00-0008	EA	3,000 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	609.14	118.27
23 83 33 00-0009	EA	4,000 Watt Wall Heater With Fan, Recessed, Residential 120-277 Volt.....	633.98	118.27
23 83 33 00-0010		Commercial Wall Heaters (23 83 33)		
23 83 33 00-0011	EA	750 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	584.30	118.27
23 83 33 00-0012	EA	1,000 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	584.30	118.27
23 83 33 00-0013	EA	1,250 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	584.30	118.27
23 83 33 00-0014	EA	1,500 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	633.98	118.27
23 83 33 00-0015	EA	2,000 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	671.24	118.27
23 83 33 00-0016	EA	2,500 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	671.24	118.27
23 83 33 00-0017	EA	3,000 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	857.54	118.27
23 83 33 00-0018	EA	4,000 Watt Wall Heater With Fan, Recessed, Commercial 120-277 Volt.....	857.54	118.27
23 84 Humidity Control Equipment (23 80)				
23 84 13 Humidifiers (23 84)				
23 84 13 16 Wetted-Element Humidifiers (23 84 13)				
23 84 13 16-0001		Electric Steam Humidifiers, Self-Steam Producing (23 84 13 16)		
		Note: Electronic modulating duct or air handling unit installation 208V-108V with 12" to 72" manifolds included.		
23 84 13 16-0002	EA	1-96 LB/Hour Electric Steam Humidifier, Self-Steam Producing With 12-72" Manifold.....	12,974.95	459.24
23 84 13 16-0003	EA	20-168 LB/Hour Electric Steam Humidifier, Self-Steam Producing With 12-72" Manifold.....	16,469.74	460.35
23 84 13 23 Direct-Steam-Injection Humidifiers (23 84 13)				
23 84 13 23-0001		Steam Type Pneumatically Controlled (23 84 13 23)		
		Note: For duct or air handling installation standard unit with integral operator distribution manifold strainer trap and pneumatic modulating valve. Excludes humidistat and piping.		
23 84 13 23-0002	EA	3-191 LB/Hour Steam Humidifier, 24" Manifold, Pneumatic Controls.....	2,063.16	294.26
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	633.81	
23 84 13 23-0003	EA	3-191 LB/Hour Steam Humidifier, 48" Manifold, Pneumatic Controls.....	2,063.16	294.26
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	633.81	
23 84 13 23-0004	EA	65-334 LB/Hour Steam Humidifier, 36" Manifold, Pneumatic Controls.....	2,982.65	294.26
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	909.66	
23 84 13 23-0005	EA	65-334 LB/Hour Steam Humidifier, 72" Manifold, Pneumatic Controls.....	3,094.10	367.84
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	946.81	
23 84 13 23-0006	EA	100-690 LB/Hour Steam Humidifier, 48" Manifold, Pneumatic Controls.....	4,494.54	294.26
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	1,363.22	
23 84 13 23-0007	EA	100-690 LB/Hour Steam Humidifier, 84" Manifold, Pneumatic Controls.....	4,605.99	367.84
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	1,400.37	
23 84 13 23-0008	EA	220-2,000 LB/Hour Steam Humidifier, 72" Manifold, Pneumatic Controls.....	6,968.31	367.84
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	2,109.07	
23 84 13 23-0009	EA	220-2,000 LB/Hour Steam Humidifier, 144" Manifold, Pneumatic Controls.....	7,107.65	460.35
		For Electrically Controlled Unit, Add.....	700.00	
		For Each Additional Manifold, Add.....	2,155.52	
23 84 13 29 Self-Contained Steam Humidifiers (23 84 13)				
23 84 13 29-0001		Residential Humidifiers (23 84 13 29)		
		Note: Includes solenoid valve and flow through water supply.		
23 84 13 29-0002	EA	Duct Or Furnace Mounted Humidifier, Residential Type.....	586.37	55.73
23 84 16 Mechanical Dehumidification Units (23 84)				
23 84 16 16 Indoor, Mechanical Dehumidification Units (23 84 16)				
23 84 16 16-0001		Mechanical Dehumidification Units (23 84 16 16)		
		Note: Sized by moisture removal per 24 hours.		
23 84 16 16-0002	EA	65 Pint Per Day, 160 CFM, 8" Duct Connection, Refrigerant Dehumidifier.....	2,307.19	59.13
23 84 16 16-0003	EA	90 Pint Per Day, 235 CFM, 10"/6" Duct Connection, Refrigerant Dehumidifier.....	2,904.43	68.98
23 84 16 16-0004	EA	120 Pint Per Day, 350 CFM, 10"/6" Duct Connection, Refrigerant Dehumidifier.....	3,897.39	78.85
23 84 16 33 Portable Dehumidifiers (23 84 16)				
23 84 16 33-0001		Self Contained Free Standing Unit (23 84 16 33)		
		Note: Sized by moisture removal per 24 hours.		
23 84 16 33-0002	EA	30 Pint/24 Hour Dehumidifier.....	513.94	127.99
23 84 16 33-0003	EA	50 Pint/24 Hour Dehumidifier.....	621.21	127.99



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Decentralized Unitary HVAC Equipment		23 80	
Humidity Control Equipment		23 84	

MINOR				TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION				UNIT COST		UNIT COST
23 84 16 33-0004	EA	70 Pint/24 Hour Dehumidifier.....		685.58		127.99

END OF SECTION 23

23	23	Heating, Ventilating, and Air-Conditioning (HVAC)
	23 80	Decentralized Unitary HVAC Equipment
	23 84	Humidity Control Equipment



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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Integrated Automation		25	25
Integrated Automation Facility Controls		25 50	
Integrated Automation Control of HVAC		25 55	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT		DEMOLITION
	UNIT COST		UNIT COST

- 25 Integrated Automation
- 25 50 Integrated Automation Facility Controls ⁽²⁵⁾
- 25 55 Integrated Automation Control of HVAC ^(25 50)
See CSI section 23 09 00 00-0000 for Instrumentation And Control For HVAC.

END OF SECTION 25

25	25	Integrated Automation
	25 50	Integrated Automation Facility Controls
	25 55	Integrated Automation Control of HVAC



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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