

23 81 Decentralized Unitary HVAC Equipment

23 81 46 – Water-Source Unitary Heat Pumps

		Daily Crew	Output	Labor- Hours	Unit	Material	2022 Bare Costs		Total	Total Incl O&P
23 81 46.10 Water Source Heat Pumps							Labor	Equipment		
4000	For increase in capacity thru use									
4020	of solar collector, size boiler at 60%									

23 82 Convection Heating and Cooling Units

23 82 16 – Air Coils

23 82 16.10 Flanged Coils

0010 FLANGED COILS										
0500	Chilled water cooling, 6 rows, 24" x 48"	Q-5	3.20	5	Ea.	5,225	315		5,540	6,225
1000	Direct expansion cooling, 6 rows, 24" x 48"		2.80	5.714		6,050	360		6,410	7,225
1500	Hot water heating, 1 row, 24" x 48"		4	4		2,075	253		2,328	2,675
2000	Steam heating, 1 row, 24" x 48"	↓	3.06	5.229	↓	2,950	330		3,280	3,750

23 82 16.20 Duct Heaters

0010 DUCT HEATERS, Electric, 480 V, 3 Ph.										
0020	Finned tubular insert, 500°F									
0100	8" wide x 6" high, 4.0 kW	Q-20	16	1.250	Ea.	920	77.50		997.50	1,125
0120	12" high, 8.0 kW		15	1.333		1,525	82.50		1,607.50	1,800
0140	18" high, 12.0 kW		14	1.429		2,150	88.50		2,238.50	2,475
0160	24" high, 16.0 kW		13	1.538		2,750	95		2,845	3,175
0180	30" high, 20.0 kW		12	1.667		3,350	103		3,453	3,850
0300	12" wide x 6" high, 6.7 kW		15	1.333		975	82.50		1,057.50	1,200
0360	24" high, 26.7 kW		12	1.667		2,850	103		2,953	3,275
0700	24" wide x 6" high, 17.8 kW		13	1.538		1,175	95		1,270	1,450
0760	24" high, 71.1 kW	↓	10	2	↓	3,550	124		3,674	4,075
8000	To obtain BTU multiply kW by 3413									

23 82 19 – Fan Coil Units

23 82 19.10 Fan Coil Air Conditioning

0010 FAN COIL AIR CONDITIONING										
0030	Fan coil AC, cabinet mounted, filters and controls									
0100	Chilled water, 1/2 ton cooling	Q-5	8	2	Ea.	750	127		877	1,025
0120	1 ton cooling		6	2.667		860	169		1,029	1,200
0140	1-1/2 ton cooling		5.50	2.909		905	184		1,089	1,275
0150	2 ton cooling		5.25	3.048		1,225	193		1,418	1,650
0180	3 ton cooling	↓	4	4	↓	2,625	253		2,878	3,250
0262	For hot water coil, add					40%	10%			
0320	1 ton cooling	Q-5	6	2.667	Ea.	2,000	169		2,169	2,450
0940	Direct expansion, for use w/air cooled condensing unit, 1-1/2 ton cooling	Q-5	5	3.200	Ea.	770	203		973	1,150
1000	5 ton cooling	"	3	5.333		1,375	340		1,715	2,025
1040	10 ton cooling	Q-6	2.60	9.231		2,400	605		3,005	3,550
1060	20 ton cooling	"	.70	34.286		4,750	2,250		7,000	8,575
1500	For hot water coil, add				↓	40%	10%			

23 82 19.20 Heating and Ventilating Units

0010 HEATING AND VENTILATING UNITS, Classroom units										
0020	Includes filter, heating/cooling coils, standard controls									
0080	750 CFM, 2 tons cooling	Q-6	2	12	Ea.	5,425	790		6,215	7,125
0120	1,250 CFM, 3 tons cooling		1.40	17.143		6,450	1,125		7,575	8,775
0140	1,500 CFM, 4 tons cooling	↓	.80	30		6,900	1,975		8,875	10,600
0500	For electric heat, add					35%				
1000	For no cooling, deduct				↓	25%	10%			