

23 57 Heat Exchangers for HVAC

23 57 19 – Liquid-to-Liquid Heat Exchangers

| 23 57 19.16 Shell-Type, Liquid-to-Liquid Heat Exchangers | | Daily Crew | Output | Labor-Hours | Unit | Material | 2022 Bare Costs | | Total | Total Incl O&P |
|--|---|------------|--------|-------------|------|----------|-----------------|-----------|--------|----------------|
| | | | | | | | Labor | Equipment | | |
| 0010 | SHELL-TYPE, LIQUID-TO-LIQUID HEAT EXCHANGERS | | | | | | | | | |
| 1000 | Hot water 40°F to 140°F, by water at 200°F | | | | | | | | | |
| 1020 | 7 GPM | Q-5 | 6 | 2.667 | Ea. | 13,300 | 169 | | 13,469 | 14,900 |
| 1040 | 16 GPM | | 5 | 3.200 | | 19,600 | 203 | | 19,803 | 21,800 |
| 1060 | 34 GPM | ↓ | 4 | 4 | ↓ | 28,900 | 253 | | 29,153 | 32,200 |
| 1100 | 74 GPM | Q-5 | 1.50 | 10.667 | Ea. | 53,000 | 675 | | 53,675 | 59,500 |

23 62 Packaged Compressor and Condenser Units

23 62 13 – Packaged Air-Cooled Refrigerant Compressor and Condenser Units

23 62 13.10 Packaged Air-Cooled Refrig. Condensing Units

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|------|---|-----|------|--------|-----|-------|-------|--|--------|--------|
| 0010 | PACKAGED AIR-COOLED REFRIGERANT CONDENSING UNITS | | | | | | | | | |
| 0020 | Condensing unit | | | | | | | | | |
| 0030 | Air cooled, compressor, standard controls | | | | | | | | | |
| 0050 | 1.5 ton | Q-5 | 2.50 | 6.400 | Ea. | 1,325 | 405 | | 1,730 | 2,050 |
| 0500 | 5 ton | | .60 | 26.667 | | 2,325 | 1,700 | | 4,025 | 5,075 |
| 0600 | 10 ton | ↓ | .50 | 32 | | 3,425 | 2,025 | | 5,450 | 6,800 |
| 0700 | 20 ton | Q-6 | .40 | 60 | ↓ | 9,550 | 3,950 | | 13,500 | 16,400 |

23 63 Refrigerant Condensers

23 63 13 – Air-Cooled Refrigerant Condensers

23 63 13.10 Air-Cooled Refrig. Condensers

| | | | | | | | | | | |
|------|---|-----|------|--------|-----|--------|-------|--|--------|--------|
| 0010 | AIR-COOLED REFRIG. CONDENSERS | | | | | | | | | |
| 0080 | Air cooled, belt drive, propeller fan | | | | | | | | | |
| 0240 | 50 ton | Q-6 | .69 | 34.985 | Ea. | 21,200 | 2,300 | | 23,500 | 26,700 |
| 0280 | 59 ton | | .58 | 41.308 | | 25,400 | 2,725 | | 28,125 | 32,000 |
| 0320 | 73 ton | | .47 | 51.173 | | 33,200 | 3,350 | | 36,550 | 41,500 |
| 0360 | 86 ton | | .40 | 60.302 | | 38,400 | 3,950 | | 42,350 | 48,200 |
| 0380 | 88 ton | ↓ | .39 | 61.697 | ↓ | 41,200 | 4,050 | | 45,250 | 51,500 |
| 1550 | Air cooled, direct drive, propeller fan | | | | | | | | | |
| 1590 | 1 ton | Q-5 | 3.80 | 4.211 | Ea. | 1,850 | 267 | | 2,117 | 2,425 |
| 1600 | 1-1/2 ton | | 3.60 | 4.444 | | 2,275 | 281 | | 2,556 | 2,925 |
| 1620 | 2 ton | | 3.20 | 5 | | 2,425 | 315 | | 2,740 | 3,150 |
| 1640 | 5 ton | | 2 | 8 | | 4,950 | 505 | | 5,455 | 6,200 |
| 1660 | 10 ton | | 1.40 | 11.429 | | 7,650 | 725 | | 8,375 | 9,475 |
| 1690 | 16 ton | | 1.10 | 14.545 | | 10,800 | 920 | | 11,720 | 13,200 |
| 1720 | 26 ton | ↓ | .84 | 19.002 | | 13,900 | 1,200 | | 15,100 | 17,100 |
| 1760 | 41 ton | Q-6 | .77 | 31.008 | | 19,000 | 2,025 | | 21,025 | 23,900 |
| 1800 | 63 ton | " | .55 | 44.037 | ↓ | 30,000 | 2,900 | | 32,900 | 37,300 |