

HW
Water-to-Water Geothermal Heat Pump
Sizes 024, 036, 048, 060



Product Data



Features & Benefits

Energy Efficiency

- 3.15 COP, 16.0 - 22.1 EER (Closed Loop)
- 3.7 COP, 20.55 - 26.30 EER (Open Loop)
- Optional supplemental domestic water heating

Comfort

- Two-stage scroll compressor

Control

- Microprocessor control

Sound

- Fully insulated cabinet with fiberglass
- Compressor blanket

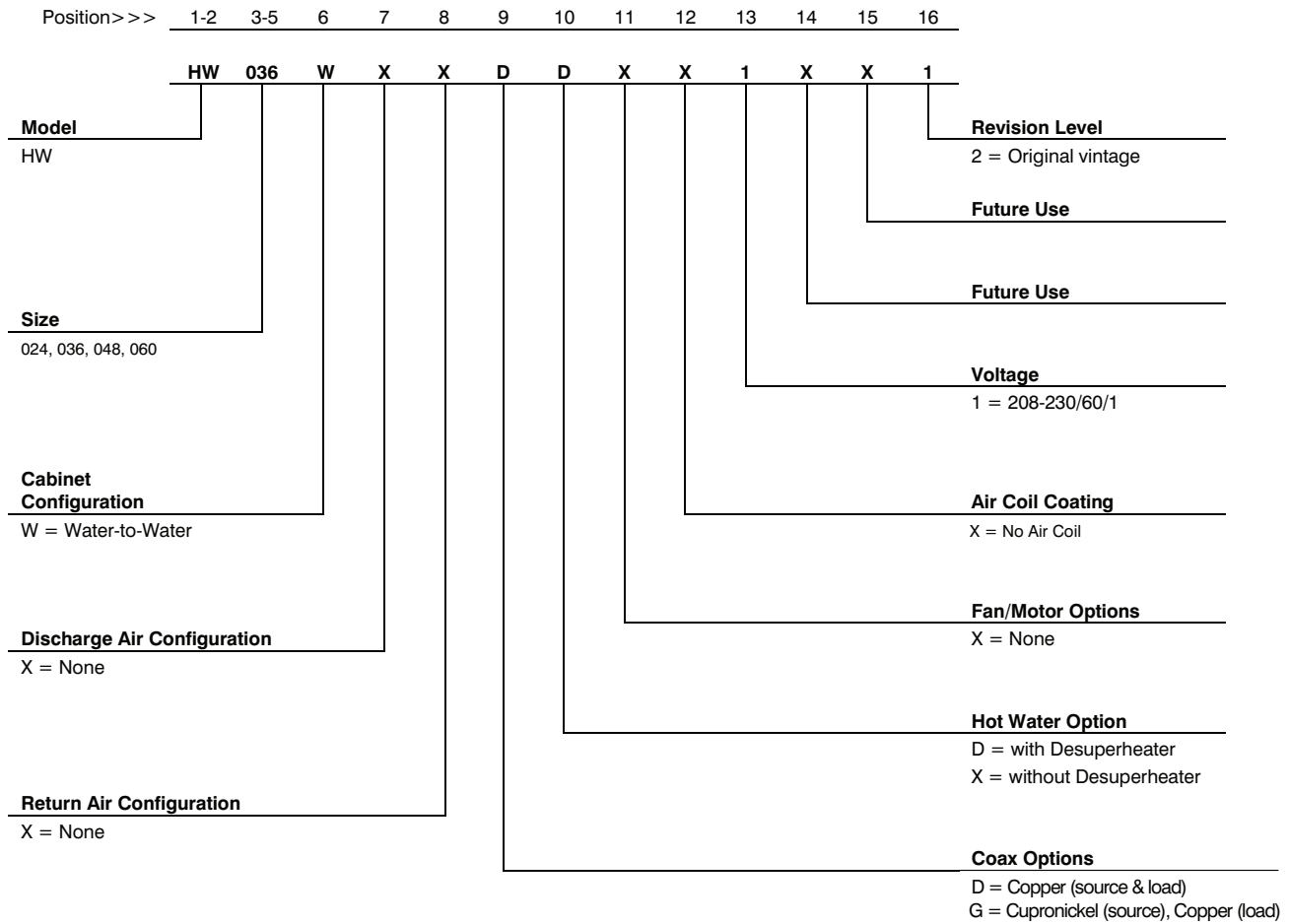
Reliability, Quality and Durability

- R-410A refrigerant
- Computerized run-tested

Flexibility and Installation

- Unit designed for variety of hydronic applications

Model Number Nomenclature



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



Accessories

Factory Installed Options

- **Cupro-nickel Coil** - Recommended in conditions anticipating moderate scale formation or in brackish water (available on load and source side).
- **Domestic Hot Water Heat Recovery Package:** - Used to heat domestic hot water using the wasted heat from the hot compressed gas of the compressor.

Field Installed Accessories

- **Thermostats** - Compatible with many 2 stage heat, 2 stage cool heat pump thermostats
- **Flow Centers, hose kits, mounting pads, etc** - see Geothermal accessories catalog.

AHRI Ratings

| FULL LOAD | | | | | | | | | | | | | |
|------------|-----|----------------------|------------|---------------|------|------------------------|------------|---------------|------|-----------------------|------------|---------------|------|
| Model Size | GPM | Water Loop Heat Pump | | | | Ground Water Heat Pump | | | | Ground Loop Heat Pump | | | |
| | | Cooling 86°F | | Heating 68°F | | Cooling 59°F | | Heating 50°F | | Cooling 77°F | | Heating 32°F | |
| | | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP |
| 024 | 8 | 22200 | 14.45 | 29700 | 4.55 | 25400 | 22.10 | 23800 | 3.70 | 23400 | 16.90 | 18700 | 3.05 |
| 036 | 9 | 32500 | 13.80 | 44100 | 4.60 | 37200 | 21.30 | 35800 | 3.70 | 34100 | 16.10 | 28300 | 3.05 |
| 048 | 12 | 42700 | 14.40 | 55800 | 4.50 | 48500 | 22.10 | 46200 | 3.60 | 44800 | 16.70 | 37300 | 3.05 |
| 060 | 13 | 52000 | 13.90 | 67500 | 4.40 | 58500 | 21.00 | 55900 | 3.60 | 54400 | 16.20 | 45400 | 3.05 |

| PART LOAD | | | | | | | | | | | | | |
|------------|-----|----------------------|------------|---------------|------|------------------------|------------|---------------|------|-----------------------|------------|---------------|------|
| Model Size | GPM | Water Loop Heat Pump | | | | Ground Water Heat Pump | | | | Ground Loop Heat Pump | | | |
| | | Cooling 86°F | | Heating 68°F | | Cooling 59°F | | Heating 50°F | | Cooling 68°F | | Heating 41°F | |
| | | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP | Capacity Btuh | EER Btuh/W | Capacity Btuh | COP |
| 024 | 8 | 16900 | 15.55 | 22200 | 4.85 | 19400 | 25.50 | 17600 | 3.70 | 18800 | 22.10 | 15300 | 3.15 |
| 036 | 9 | 23700 | 14.60 | 32500 | 4.90 | 27600 | 25.50 | 25500 | 3.70 | 26400 | 21.30 | 22100 | 3.15 |
| 048 | 12 | 31600 | 15.10 | 40800 | 4.60 | 36600 | 26.30 | 33500 | 3.60 | 35200 | 22.10 | 29800 | 3.15 |
| 060 | 13 | 38500 | 14.50 | 49600 | 4.50 | 44100 | 25.00 | 41100 | 3.60 | 42300 | 21.00 | 36700 | 3.15 |

NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.

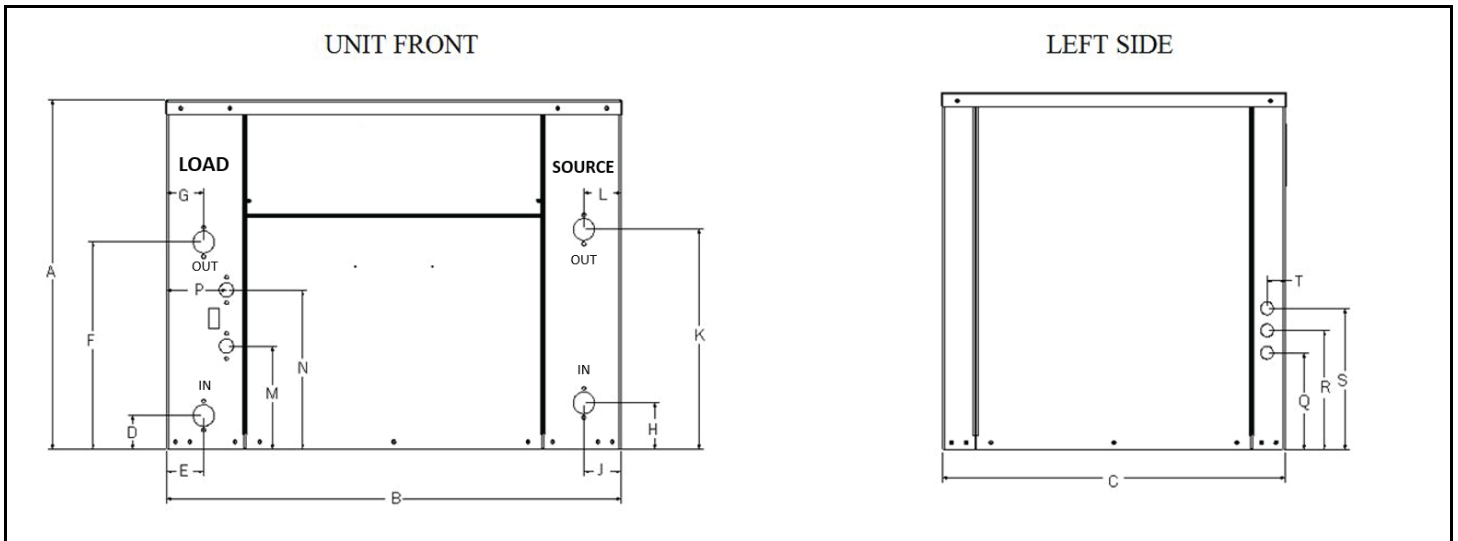
Physical Data

| Description | HW024 | HW036 | HW048 | HW060 |
|---------------------------------------|--|------------|------------|------------|
| Compressor Type (Qty) | Scroll (1) | Scroll (1) | Scroll (1) | Scroll (1) |
| Refrigeration Charge (oz) | 54 | 59 | 72 | 72 |
| Refrigerant Metering Device | Bi-directional thermal expansion valve (TXV) | | | |
| Max Water Working Pressure (PSIG/kPa) | 450/3100 | 450/3100 | 450/3100 | 450/3100 |
| Load - Water Connection Size | | | | |
| FPT | 3/4" | 3/4" | 1.0" | 1.0" |
| Coaxial Coil Volume (gal) | 0.47 | 0.50 | 0.64 | 0.74 |
| Source - Water Connection Size | | | | |
| FPT | 3/4" | 3/4" | 1.0" | 1.0" |
| Coaxial Coil Volume (gal) | 0.47 | 0.50 | 0.39 | 0.47 |
| Cabinet | | | | |
| Weight - Operating (lbs) | 290 | 360 | 360 | 360 |
| Weight - Shipping (lbs) | 310 | 310 | 360 | 380 |

Electrical data

| Model Size | Rated Voltage | Voltage Min/Max | Compressor | | | | | |
|------------|---------------|-----------------|------------|------|-------|------------------|-----------------|---------------|
| | | | QTY | RLA | LRA | Min Circuit Amps | MOP Calculation | Max Fuse/HACR |
| 024 | 208-230/60/1 | 197/253 | 1 | 11.7 | 58.3 | 14.6 | 26.2 | 25 |
| 036 | 208-230/60/1 | 197/253 | 1 | 15.6 | 83.0 | 19.5 | 35.1 | 35 |
| 048 | 208-230/60/1 | 197/253 | 1 | 21.2 | 104.0 | 26.4 | 47.6 | 45 |
| 060 | 208-230/60/1 | 197/253 | 1 | 26.9 | 139.0 | 33.6 | 60.5 | 60 |

DIMENSIONS



| MODEL SIZE | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | WATER CONN | HRP CONN |
|------------|--------|-------|-------|------|------|-------|------|------|------|-------|------|------|-------|------|------|------|------|------|------------|----------|
| | Height | Width | Depth | | | | | | | | | | | | | | | | | |
| 024 | 24 | 32.5 | 24 | 2.70 | 2.50 | 13.70 | 2.50 | 3.25 | 1.95 | 14.25 | 1.95 | 7.15 | 11.00 | 4.25 | 6.55 | 8.05 | 9.55 | 1.25 | 3/4 FPT | 1/2 FPT |
| 036 | 24 | 32.5 | 24 | 2.30 | 2.55 | 14.30 | 2.65 | 3.80 | 2.67 | 15.80 | 2.67 | 7.24 | 11.12 | 4.31 | 5.80 | 8.05 | 10.3 | 1.25 | 3/4 FPT | 1/2 FPT |
| 048 | 24 | 32.5 | 24 | 2.90 | 2.19 | 16.90 | 2.19 | 3.10 | 2.17 | 17.10 | 2.17 | 7.24 | 11.12 | 4.31 | 5.80 | 8.05 | 10.3 | 1.25 | 1 FPT | 1/2 FPT |
| 060 | 24 | 32.5 | 24 | 2.90 | 2.19 | 16.90 | 2.19 | 3.10 | 2.17 | 17.10 | 2.17 | 7.24 | 11.12 | 4.31 | 5.80 | 8.05 | 10.3 | 1.25 | 1 FPT | 1/2 FPT |

NOTES: All dimensions within +/- 0.125"

Specifications subject to change without notice.

HW024 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 4 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4 | 0.5 | 60 | | | | | | |
| | | | 80 | 13.0 | 1.00 | 10.4 | 86.5 | 3.8 | 0.4 |
| | | | 100 | 12.0 | 1.30 | 8.8 | 106.0 | 2.7 | 0.3 |
| | | | 120 | 11.0 | 1.64 | 7.1 | 125.6 | 2.0 | 0.3 |
| | 6 | 1.0 | 60 | | | | | | |
| | | | 80 | 13.5 | 1.01 | 10.8 | 86.8 | 3.9 | 0.4 |
| | | | 100 | 12.4 | 1.30 | 9.1 | 106.2 | 2.8 | 0.3 |
| | | | 120 | 11.3 | 1.65 | 7.4 | 125.7 | 2.0 | 0.3 |
| | 8 | 1.6 | 60 | | | | | | |
| | | | 80 | 13.7 | 1.02 | 11.0 | 86.9 | 3.9 | 0.4 |
| | | | 100 | 12.6 | 1.31 | 9.3 | 106.3 | 2.8 | 0.3 |
| | | | 120 | 11.5 | 1.66 | 7.5 | 125.8 | 2.0 | 0.3 |
| 50 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | 17.7 | 0.98 | 15.0 | 88.9 | 5.3 | 0.4 |
| | | | 100 | 16.5 | 1.28 | 13.1 | 108.3 | 3.8 | 0.3 |
| | | | 120 | 15.4 | 1.65 | 11.2 | 127.8 | 2.7 | 0.3 |
| | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 18.4 | 0.99 | 15.7 | 89.2 | 5.5 | 0.4 |
| | | | 100 | 17.1 | 1.28 | 13.7 | 108.6 | 3.9 | 0.3 |
| | | | 120 | 15.9 | 1.65 | 11.6 | 128.0 | 2.8 | 0.3 |
| | 8 | 1.5 | 60 | | | | | | |
| | | | 80 | 18.8 | 0.99 | 16.1 | 89.4 | 5.5 | 0.4 |
| | | | 100 | 17.4 | 1.29 | 14.0 | 108.8 | 4.0 | 0.3 |
| | | | 120 | 16.1 | 1.66 | 11.8 | 128.2 | 2.8 | 0.3 |
| 70 | 4 | 0.4 | 60 | 24.3 | 0.71 | 22.3 | 72.1 | 10.1 | 0.4 |
| | | | 80 | 22.8 | 0.93 | 20.2 | 91.4 | 7.2 | 0.4 |
| | | | 100 | 21.3 | 1.24 | 18.0 | 110.7 | 5.0 | 0.3 |
| | | | 120 | | | | | | |
| | 6 | 0.8 | 60 | 25.5 | 0.70 | 23.5 | 72.7 | 10.6 | 0.4 |
| | | | 80 | 23.8 | 0.93 | 21.2 | 91.9 | 7.5 | 0.4 |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 8 | 1.4 | 60 | 26.2 | 0.70 | 24.2 | 73.1 | 10.9 | 0.4 |
| | | | 80 | 24.3 | 0.93 | 21.7 | 92.2 | 7.6 | 0.4 |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 8 | 1.3 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 6 GPM | | | | | | | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|------|---------------------|------|------|------|-------|-----|-----|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | | | | | | |
| 30 | 4 | 0.5 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | 13.1 | 0.98 | 10.5 | 84.4 | 3.9 | 0.8 | | | | | | |
| | 6 | 1.0 | 60 | 13.6 | 0.99 | 11.0 | 84.5 | 4.0 | 0.8 | | | | | | |
| | | | 80 | 13.9 | 1.00 | 11.2 | 84.6 | 4.1 | 0.8 | | | | | | |
| | | | 100 | 12.1 | 1.28 | 8.9 | 104.1 | 2.8 | 0.7 | | | | | | |
| | | | 120 | 12.5 | 1.28 | 9.3 | 104.2 | 2.9 | 0.7 | | | | | | |
| | 8 | 1.6 | 60 | 12.7 | 1.29 | 9.4 | 104.3 | 2.9 | 0.7 | | | | | | |
| | | | 80 | 11.1 | 1.62 | 7.2 | 123.7 | 2.0 | 0.7 | | | | | | |
| | | | 100 | 11.4 | 1.63 | 7.5 | 123.8 | 2.1 | 0.7 | | | | | | |
| | | | 120 | 11.6 | 1.64 | 7.6 | 123.9 | 2.1 | 0.7 | | | | | | |
| 50 | 4 | 0.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | 17.8 | 0.95 | 15.3 | 86.0 | 5.5 | 0.8 | | | | | | |
| | 6 | 0.9 | 60 | 18.6 | 0.95 | 16.0 | 86.2 | 5.7 | 0.8 | | | | | | |
| | | | 80 | 19.0 | 0.96 | 16.4 | 86.4 | 5.8 | 0.8 | | | | | | |
| | | | 100 | 16.6 | 1.25 | 13.4 | 105.6 | 3.9 | 0.7 | | | | | | |
| | | | 120 | 17.2 | 1.25 | 13.9 | 105.8 | 4.0 | 0.7 | | | | | | |
| | 8 | 1.5 | 60 | 17.6 | 1.26 | 14.2 | 105.9 | 4.1 | 0.7 | | | | | | |
| | | | 80 | 15.5 | 1.62 | 11.4 | 125.2 | 2.8 | 0.7 | | | | | | |
| | | | 100 | 16.0 | 1.62 | 11.8 | 125.4 | 2.9 | 0.7 | | | | | | |
| | | | 120 | 16.3 | 1.62 | 12.1 | 125.5 | 2.9 | 0.7 | | | | | | |
| 70 | 4 | 0.4 | 60 | 24.6 | 0.67 | 22.7 | 68.2 | 10.7 | 0.8 | | | | | | |
| | | | 80 | 25.9 | 0.67 | 24.0 | 68.6 | 11.4 | 0.8 | | | | | | |
| | | | 100 | 26.6 | 0.67 | 24.7 | 68.9 | 11.7 | 0.8 | | | | | | |
| | | | 120 | 23.1 | 0.89 | 20.6 | 87.7 | 7.6 | 0.8 | | | | | | |
| | 6 | 0.8 | 60 | 24.1 | 0.88 | 21.7 | 88.1 | 8.0 | 0.8 | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | 21.5 | 1.19 | 18.3 | 107.2 | 5.3 | 0.7 |
| | | | 120 | | | | | | | | | | | | |
| | 8 | 1.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| | 6 | 0.8 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| | 8 | 1.3 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 8 GPM | | | | | | | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|------|------|------|-------|-----|-----|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | | | | | | |
| 30 | 4 | 0.5 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | 13.2 | 0.98 | 10.6 | 83.3 | 4.0 | 1.3 | | | | | | |
| | 6 | 1.0 | 60 | 13.7 | 0.98 | 11.1 | 83.4 | 4.1 | 1.3 | | | | | | |
| | | | 80 | 13.9 | 0.99 | 11.3 | 83.5 | 4.1 | 1.3 | | | | | | |
| | | | 100 | 12.1 | 1.27 | 9.0 | 103.1 | 2.8 | 1.3 | | | | | | |
| | | | 120 | 12.5 | 1.28 | 9.3 | 103.2 | 2.9 | 1.3 | | | | | | |
| | 8 | 1.6 | 60 | 12.8 | 1.28 | 9.5 | 103.2 | 2.9 | 1.3 | | | | | | |
| | | | 80 | 11.2 | 1.62 | 7.3 | 122.8 | 2.0 | 1.2 | | | | | | |
| | | | 100 | 11.5 | 1.62 | 7.5 | 122.9 | 2.1 | 1.2 | | | | | | |
| | | | 120 | 11.6 | 1.63 | 7.7 | 122.9 | 2.1 | 1.2 | | | | | | |
| 50 | 4 | 0.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | 18.0 | 0.94 | 15.4 | 84.5 | 5.6 | 1.3 | | | | | | |
| | 6 | 0.9 | 60 | 18.7 | 0.94 | 16.1 | 84.7 | 5.8 | 1.3 | | | | | | |
| | | | 80 | 19.1 | 0.95 | 16.5 | 84.8 | 5.9 | 1.3 | | | | | | |
| | | | 100 | 16.7 | 1.24 | 13.5 | 104.2 | 4.0 | 1.3 | | | | | | |
| | | | 120 | 17.3 | 1.24 | 14.1 | 104.4 | 4.1 | 1.3 | | | | | | |
| | 8 | 1.5 | 60 | 17.7 | 1.24 | 14.4 | 104.5 | 4.2 | 1.3 | | | | | | |
| | | | 80 | 15.6 | 1.60 | 11.5 | 123.9 | 2.9 | 1.2 | | | | | | |
| | | | 100 | 16.1 | 1.60 | 11.9 | 124.1 | 2.9 | 1.2 | | | | | | |
| | | | 120 | 16.4 | 1.61 | 12.2 | 124.1 | 3.0 | 1.2 | | | | | | |
| 70 | 4 | 0.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | 23.3 | 0.88 | 20.8 | 85.8 | 7.8 | 1.3 | | | | | | |
| | 6 | 0.8 | 60 | 24.3 | 0.87 | 21.9 | 86.1 | 8.2 | 1.3 | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | 21.7 | 1.17 | 18.5 | 105.5 | 5.4 | 1.3 |
| | 8 | 1.4 | 60 | 22.5 | 1.17 | 19.4 | 105.7 | 5.7 | 1.3 | | | | | | |
| | | | 80 | 23.0 | 1.17 | 19.8 | 105.8 | 5.8 | 1.3 | | | | | | |
| | | | 100 | 20.2 | 1.56 | 16.1 | 125.1 | 3.8 | 1.2 | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| | 6 | 0.8 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |
| | 8 | 1.3 | 60 | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |
| | | | 120 | | | | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Heating Performance - FULL LOAD

| SOURCE | | | LOAD 4 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4 | 0.5 | 60 | | | | | | |
| | | | 80 | 18.0 | 1.32 | 14.3 | 89.0 | 4.0 | 0.4 |
| | | | 100 | 17.1 | 1.66 | 12.6 | 108.6 | 3.0 | 0.3 |
| | | | 120 | 16.3 | 2.12 | 10.8 | 128.3 | 2.3 | 0.3 |
| | 6 | 1.0 | 60 | | | | | | |
| | | | 80 | 18.8 | 1.34 | 15.0 | 89.4 | 4.1 | 0.4 |
| | | | 100 | 17.7 | 1.67 | 13.2 | 108.9 | 3.1 | 0.3 |
| | | | 120 | 16.9 | 2.13 | 11.2 | 128.5 | 2.3 | 0.3 |
| | 8 | 1.6 | 60 | | | | | | |
| | | | 80 | 19.2 | 1.35 | 15.4 | 89.7 | 4.2 | 0.4 |
| | | | 100 | 18.1 | 1.69 | 13.5 | 109.1 | 3.1 | 0.3 |
| | | | 120 | 17.1 | 2.15 | 11.4 | 128.7 | 2.3 | 0.3 |
| 50 | 4 | 0.4 | 60 | 24.0 | 1.12 | 20.7 | 72.0 | 6.3 | 0.4 |
| | | | 80 | 23.3 | 1.39 | 19.3 | 91.7 | 4.9 | 0.4 |
| | | | 100 | 22.2 | 1.73 | 17.4 | 111.2 | 3.8 | 0.3 |
| | | | 120 | 21.3 | 2.20 | 15.3 | 130.8 | 2.8 | 0.3 |
| | 6 | 0.9 | 60 | 25.7 | 1.14 | 22.4 | 72.9 | 6.6 | 0.4 |
| | | | 80 | 24.5 | 1.41 | 20.4 | 92.3 | 5.1 | 0.4 |
| | | | 100 | 23.2 | 1.75 | 18.3 | 111.7 | 3.9 | 0.3 |
| | | | 120 | 22.1 | 2.22 | 16.0 | 131.2 | 2.9 | 0.3 |
| | 8 | 1.5 | 60 | 26.6 | 1.16 | 23.2 | 73.3 | 6.7 | 0.4 |
| | | | 80 | 25.2 | 1.43 | 21.1 | 92.6 | 5.2 | 0.4 |
| | | | 100 | 23.7 | 1.77 | 18.8 | 112.0 | 3.9 | 0.3 |
| | | | 120 | 22.5 | 2.23 | 16.4 | 131.4 | 3.0 | 0.3 |
| 70 | 4 | 0.4 | 60 | 29.9 | 1.18 | 26.4 | 75.0 | 7.4 | 0.4 |
| | | | 80 | 29.6 | 1.47 | 25.4 | 94.9 | 5.9 | 0.4 |
| | | | 100 | 28.3 | 1.81 | 23.2 | 114.3 | 4.6 | 0.3 |
| | | | 120 | 27.0 | 2.28 | 20.6 | 133.7 | 3.5 | 0.3 |
| | 6 | 0.8 | 60 | 32.8 | 1.22 | 29.2 | 76.4 | 7.9 | 0.4 |
| | | | 80 | 31.3 | 1.49 | 27.0 | 95.7 | 6.2 | 0.4 |
| | | | 100 | 29.6 | 1.83 | 24.4 | 114.9 | 4.7 | 0.3 |
| | | | 120 | | | | | | |
| | 8 | 1.4 | 60 | 34.1 | 1.24 | 30.4 | 77.0 | 8.1 | 0.4 |
| | | | 80 | 32.2 | 1.51 | 27.9 | 96.2 | 6.3 | 0.4 |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 8 | 1.3 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW024 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4 | 0.5 | 60 | | | | | | |
| | | | 80 | 18.1 | 1.29 | 14.5 | 86.1 | 4.1 | 0.8 |
| | | | 100 | 17.2 | 1.62 | 12.8 | 105.8 | 3.1 | 0.7 |
| | | | 120 | 16.4 | 2.08 | 10.9 | 125.5 | 2.3 | 0.7 |
| | 6 | 1.0 | 60 | | | | | | |
| | | | 80 | 18.9 | 1.30 | 15.3 | 86.3 | 4.3 | 0.8 |
| | | | 100 | 17.8 | 1.63 | 13.4 | 106.0 | 3.2 | 0.7 |
| | | | 120 | 16.9 | 2.09 | 11.4 | 125.7 | 2.4 | 0.7 |
| | 8 | 1.6 | 60 | | | | | | |
| | | | 80 | 19.4 | 1.32 | 15.7 | 86.5 | 4.3 | 0.8 |
| | | | 100 | 18.2 | 1.64 | 13.7 | 106.1 | 3.2 | 0.7 |
| | | | 120 | 17.2 | 2.10 | 11.6 | 125.8 | 2.4 | 0.7 |
| 50 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | 23.4 | 1.35 | 19.6 | 87.8 | 5.1 | 0.8 |
| | | | 100 | 22.4 | 1.68 | 17.7 | 107.5 | 3.9 | 0.7 |
| | | | 120 | 21.4 | 2.14 | 15.5 | 127.2 | 2.9 | 0.7 |
| | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 24.7 | 1.36 | 20.8 | 88.3 | 5.3 | 0.8 |
| | | | 100 | 23.4 | 1.69 | 18.7 | 107.9 | 4.1 | 0.7 |
| | | | 120 | 22.2 | 2.15 | 16.3 | 127.5 | 3.0 | 0.7 |
| | 8 | 1.5 | 60 | | | | | | |
| | | | 80 | 25.5 | 1.38 | 21.5 | 88.5 | 5.4 | 0.8 |
| | | | 100 | 24.0 | 1.71 | 19.2 | 108.1 | 4.1 | 0.7 |
| | | | 120 | 22.7 | 2.16 | 16.7 | 127.7 | 3.1 | 0.7 |
| 70 | 4 | 0.4 | 60 | 30.4 | 1.12 | 27.1 | 70.1 | 7.9 | 0.8 |
| | | | 80 | 29.9 | 1.41 | 25.8 | 90.0 | 6.2 | 0.8 |
| | | | 100 | 28.5 | 1.74 | 23.6 | 109.6 | 4.8 | 0.7 |
| | | | 120 | 27.2 | 2.20 | 21.0 | 129.2 | 3.6 | 0.7 |
| | 6 | 0.8 | 60 | 33.8 | 1.16 | 30.4 | 71.3 | 8.6 | 0.8 |
| | | | 80 | 31.8 | 1.43 | 27.6 | 90.6 | 6.5 | 0.8 |
| | | | 100 | 30.0 | 1.75 | 25.0 | 110.1 | 5.0 | 0.7 |
| | | | 120 | | | | | | |
| | 8 | 1.4 | 60 | 34.5 | 1.17 | 31.0 | 71.5 | 8.7 | 0.8 |
| | | | 80 | 32.7 | 1.44 | 28.5 | 91.0 | 6.7 | 0.8 |
| | | | 100 | 30.8 | 1.77 | 25.7 | 110.4 | 5.1 | 0.7 |
| | | | 120 | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 8 | 1.3 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 8 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4 | 0.5 | 60 | | | | | | |
| | | | 80 | 18.2 | 1.28 | 14.6 | 84.6 | 4.2 | 1.3 |
| | | | 100 | 17.2 | 1.61 | 12.9 | 104.3 | 3.2 | 1.3 |
| | | | 120 | 16.5 | 2.06 | 11.0 | 124.2 | 2.3 | 1.2 |
| | 6 | 1.0 | 60 | | | | | | |
| | | | 80 | 19.1 | 1.29 | 15.4 | 84.8 | 4.3 | 1.3 |
| | | | 100 | 17.9 | 1.62 | 13.5 | 104.5 | 3.3 | 1.3 |
| | | | 120 | 17.0 | 2.07 | 11.5 | 124.3 | 2.4 | 1.2 |
| | 8 | 1.6 | 60 | | | | | | |
| | | | 80 | 19.5 | 1.31 | 15.8 | 84.9 | 4.4 | 1.3 |
| | | | 100 | 18.3 | 1.63 | 13.8 | 104.6 | 3.3 | 1.3 |
| | | | 120 | 17.3 | 2.08 | 11.7 | 124.4 | 2.4 | 1.2 |
| 50 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | 23.6 | 1.33 | 19.8 | 85.9 | 5.2 | 1.3 |
| | | | 100 | 22.5 | 1.66 | 17.8 | 105.7 | 4.0 | 1.3 |
| | | | 120 | 21.5 | 2.11 | 15.7 | 125.4 | 3.0 | 1.2 |
| | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 24.9 | 1.34 | 21.0 | 86.2 | 5.4 | 1.3 |
| | | | 100 | 23.5 | 1.67 | 18.8 | 105.9 | 4.1 | 1.3 |
| | | | 120 | 22.3 | 2.12 | 16.4 | 125.6 | 3.1 | 1.2 |
| | 8 | 1.5 | 60 | | | | | | |
| | | | 80 | 25.6 | 1.36 | 21.7 | 86.4 | 5.5 | 1.3 |
| | | | 100 | 24.1 | 1.68 | 19.4 | 106.1 | 4.2 | 1.3 |
| | | | 120 | 22.8 | 2.14 | 16.9 | 125.8 | 3.1 | 1.2 |
| 70 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | 30.1 | 1.38 | 26.1 | 87.5 | 6.4 | 1.3 |
| | | | 100 | 28.7 | 1.71 | 23.8 | 107.2 | 4.9 | 1.3 |
| | | | 120 | 27.3 | 2.15 | 21.3 | 126.9 | 3.7 | 1.2 |
| | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | 32.0 | 1.40 | 27.9 | 88.0 | 6.7 | 1.3 |
| | | | 100 | 30.2 | 1.72 | 25.3 | 107.6 | 5.1 | 1.3 |
| | | | 120 | | | | | | |
| | 8 | 1.4 | 60 | 34.7 | 1.14 | 31.3 | 68.7 | 8.9 | 1.4 |
| | | | 80 | 33.0 | 1.41 | 28.9 | 88.3 | 6.9 | 1.3 |
| | | | 100 | 31.0 | 1.74 | 26.1 | 107.8 | 5.2 | 1.3 |
| | | | 120 | | | | | | |
| 90 | 4 | 0.4 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 8 | 1.3 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Cooling Performance - PART LOAD

| SOURCE | | | LOAD 4 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4 | 0.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 4 | 0.4 | 50 | 14.1 | 0.80 | 16.3 | 43.0 | 17.6 | 0.4 |
| | | | 60 | 18.8 | 0.78 | 20.9 | 50.7 | 23.9 | 0.4 |
| | | | 70 | 21.7 | 0.77 | 23.8 | 59.2 | 28.4 | 0.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 16.2 | 0.77 | 18.4 | 41.9 | 21.0 | 0.4 |
| | | | 60 | 19.0 | 0.75 | 21.1 | 50.5 | 25.2 | 0.4 |
| | | | 70 | 22.0 | 0.73 | 24.0 | 59.0 | 30.1 | 0.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 16.4 | 0.77 | 18.5 | 41.9 | 21.4 | 0.4 |
| | | | 60 | 19.0 | 0.75 | 21.2 | 50.5 | 25.5 | 0.4 |
| 70 | | | 22.1 | 0.72 | 24.2 | 58.9 | 30.8 | 0.4 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 4 | 0.4 | 50 | 14.5 | 1.09 | 17.4 | 42.8 | 13.4 | 0.4 |
| | | | 60 | 17.1 | 1.08 | 20.0 | 51.5 | 15.9 | 0.4 |
| | | | 70 | 19.8 | 1.06 | 22.7 | 60.1 | 18.7 | 0.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 14.8 | 1.06 | 17.6 | 42.7 | 14.0 | 0.4 |
| | | | 60 | 17.3 | 1.04 | 20.2 | 51.4 | 16.7 | 0.4 |
| | | | 70 | 20.2 | 1.01 | 23.0 | 59.9 | 20.0 | 0.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 14.9 | 1.05 | 17.7 | 42.6 | 14.2 | 0.4 |
| | | | 60 | 17.5 | 1.02 | 20.3 | 51.3 | 17.1 | 0.4 |
| 70 | | | 20.4 | 1.00 | 23.1 | 59.8 | 20.5 | 0.4 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 4 | 0.3 | 50 | 12.7 | 1.40 | 16.4 | 43.7 | 9.1 | 0.4 |
| | | | 60 | 15.1 | 1.40 | 18.8 | 52.5 | 10.8 | 0.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.7 | 50 | 12.9 | 1.37 | 16.5 | 43.6 | 9.4 | 0.4 |
| | | | 60 | 15.4 | 1.36 | 19.0 | 52.3 | 11.4 | 0.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.2 | 50 | 13.0 | 1.36 | 16.6 | 43.5 | 9.6 | 0.4 |
| | | | 60 | 15.5 | 1.34 | 19.1 | 52.3 | 11.6 | 0.4 |
| 70 | | | 18.2 | 1.32 | 21.7 | 60.9 | 13.8 | 0.4 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 [Redacted] = Operation not recommended

HW024 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4 | 0.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 4 | 0.4 | 50 | 16.8 | 0.80 | 19.0 | 44.4 | 20.9 | 0.9 |
| | | | 60 | 19.5 | 0.79 | 21.7 | 53.5 | 24.9 | 0.9 |
| | | | 70 | 22.7 | 0.76 | 24.8 | 62.4 | 29.8 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 16.8 | 0.77 | 19.0 | 44.4 | 21.7 | 0.9 |
| | | | 60 | 20.1 | 0.75 | 22.2 | 53.3 | 26.8 | 0.9 |
| | | | 70 | 23.1 | 0.72 | 25.2 | 62.3 | 31.9 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 17.1 | 0.77 | 19.3 | 44.3 | 22.4 | 0.9 |
| | | | 60 | 19.6 | 0.75 | 21.7 | 53.5 | 26.3 | 0.9 |
| | | | 70 | 23.5 | 0.71 | 25.5 | 62.2 | 33.0 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 90 | 4 | 0.4 | 50 | 15.3 | 1.09 | 18.2 | 44.9 | 14.0 | 0.9 |
| | | | 60 | 18.0 | 1.08 | 20.9 | 54.0 | 16.8 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 15.6 | 1.06 | 18.4 | 44.8 | 14.8 | 0.9 |
| | | | 60 | 18.4 | 1.03 | 21.2 | 53.9 | 17.8 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 15.7 | 1.04 | 18.5 | 44.8 | 15.0 | 0.9 |
| | | | 60 | 18.5 | 1.02 | 21.3 | 53.8 | 18.2 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 110 | 4 | 0.3 | 50 | 13.3 | 1.41 | 16.9 | 45.6 | 9.4 | 0.9 |
| | | | 60 | 15.8 | 1.40 | 19.5 | 54.7 | 11.3 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.7 | 50 | 13.5 | 1.37 | 17.1 | 45.5 | 9.9 | 0.9 |
| | | | 60 | 16.1 | 1.36 | 19.7 | 54.6 | 11.9 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.2 | 50 | 13.6 | 1.36 | 17.2 | 45.5 | 10.0 | 0.9 |
| | | | 60 | 16.3 | 1.34 | 19.9 | 54.6 | 12.1 | 0.9 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 8 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4 | 0.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 6 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 8 | 1.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| 70 | 4 | 0.4 | 50 | 17.2 | 0.81 | 19.5 | 45.7 | 21.4 | 1.5 |
| | | | 60 | 20.2 | 0.79 | 22.4 | 55.0 | 25.5 | 1.4 |
| | | | 70 | 23.3 | 0.77 | 25.4 | 64.2 | 30.4 | 1.4 |
| | | | 80 | | | | | | |
| | 6 | 0.8 | 50 | 17.5 | 0.78 | 19.7 | 45.6 | 22.5 | 1.5 |
| | | | 60 | 20.6 | 0.76 | 22.7 | 54.9 | 27.3 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 8 | 1.3 | 50 | 17.7 | 0.77 | 19.9 | 45.6 | 23.0 | 1.5 |
| | | | 60 | 20.7 | 0.75 | 22.8 | 54.8 | 27.8 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| 90 | 4 | 0.4 | 50 | 15.7 | 1.10 | 18.6 | 46.1 | 14.3 | 1.5 |
| | | | 60 | 18.5 | 1.08 | 21.4 | 55.4 | 17.1 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 6 | 0.8 | 50 | 16.0 | 1.06 | 18.8 | 46.0 | 15.0 | 1.5 |
| | | | 60 | 18.9 | 1.04 | 21.7 | 55.3 | 18.2 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 8 | 1.3 | 50 | 16.1 | 1.05 | 19.0 | 46.0 | 15.4 | 1.5 |
| | | | 60 | 19.1 | 1.02 | 21.9 | 55.2 | 18.7 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| 110 | 4 | 0.3 | 50 | 13.6 | 1.42 | 17.3 | 46.6 | 9.6 | 1.5 |
| | | | 60 | 16.2 | 1.41 | 19.9 | 56.0 | 11.5 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 6 | 0.7 | 50 | 13.8 | 1.38 | 17.4 | 46.6 | 10.0 | 1.5 |
| | | | 60 | 16.5 | 1.36 | 20.1 | 55.9 | 12.1 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 8 | 1.2 | 50 | 13.9 | 1.37 | 17.5 | 46.5 | 10.2 | 1.5 |
| | | | 60 | 16.7 | 1.35 | 20.3 | 55.8 | 12.4 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 [Redacted] = Operation not recommended

HW024 Cooling Performance - FULL LOAD

| SOURCE | | | LOAD | | | | | | | |
|--------|-----|---------------------|-------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | 4 GPM | | | | | | | |
| | | | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 4 | 0.4 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 90 | 36.6 | 1.09 | 39.9 | 71.6 | 33.7 | 0.4 | |
| | 6 | 0.9 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | | | 90 | | | | | | | |
| | 8 | 1.4 | 50 | | | | | | | |
| 60 | | | | | | | | | | |
| 70 | | | | | | | | | | |
| 80 | | | | | | | | | | |
| 90 | | | | | | | | | | |
| 90 | | | | | | | | | | |
| 70 | 4 | 0.4 | 50 | 20.5 | 1.19 | 23.9 | 39.8 | 17.2 | 0.4 | |
| | | | 60 | 23.9 | 1.23 | 27.4 | 48.1 | 19.4 | 0.4 | |
| | | | 70 | 26.6 | 1.26 | 30.3 | 56.7 | 21.2 | 0.4 | |
| | | | 80 | 30.6 | 1.30 | 34.4 | 64.7 | 23.7 | 0.4 | |
| | | | 90 | | | | | | | |
| | 6 | 0.8 | 50 | 20.5 | 1.15 | 23.9 | 39.8 | 17.9 | 0.4 | |
| | | | 60 | 24.3 | 1.18 | 27.8 | 47.9 | 20.7 | 0.4 | |
| | | | 70 | 27.3 | 1.20 | 30.9 | 56.4 | 22.8 | 0.4 | |
| | | | 80 | 31.0 | 1.23 | 34.6 | 64.5 | 25.3 | 0.4 | |
| | | | 90 | | | | | | | |
| | 8 | 1.3 | 50 | 20.7 | 1.13 | 24.0 | 39.7 | 18.3 | 0.4 | |
| | | | 60 | 24.0 | 1.15 | 27.4 | 48.0 | 20.8 | 0.4 | |
| | | | 70 | 27.5 | 1.18 | 31.0 | 56.3 | 23.4 | 0.4 | |
| | | | 80 | 29.4 | 1.19 | 32.9 | 65.3 | 24.8 | 0.4 | |
| | | | 90 | | | | | | | |
| 90 | 4 | 0.4 | 50 | 18.5 | 1.49 | 22.7 | 40.8 | 12.4 | 0.4 | |
| | | | 60 | 21.5 | 1.53 | 25.9 | 49.3 | 14.1 | 0.4 | |
| | | | 70 | 24.9 | 1.57 | 29.4 | 57.5 | 15.9 | 0.4 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 6 | 0.8 | 50 | 18.5 | 1.44 | 22.6 | 40.8 | 12.8 | 0.4 | |
| | | | 60 | 20.8 | 1.47 | 25.0 | 49.6 | 14.2 | 0.4 | |
| | | | 70 | 25.5 | 1.50 | 29.9 | 57.3 | 17.0 | 0.4 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 8 | 1.3 | 50 | 19.2 | 1.43 | 23.2 | 40.5 | 13.4 | 0.4 | |
| | | | 60 | 21.7 | 1.45 | 25.8 | 49.2 | 15.0 | 0.4 | |
| | | | 70 | 25.1 | 1.47 | 29.3 | 57.5 | 17.1 | 0.4 | |
| | | | 80 | 28.6 | 1.49 | 33.0 | 65.7 | 19.2 | 0.4 | |
| | | | 90 | | | | | | | |
| 110 | 4 | 0.3 | 50 | 16.5 | 1.88 | 21.7 | 41.8 | 8.8 | 0.4 | |
| | | | 60 | 19.6 | 1.92 | 25.0 | 50.2 | 10.2 | 0.4 | |
| | | | 70 | 22.6 | 1.96 | 28.1 | 58.7 | 11.6 | 0.4 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 6 | 0.7 | 50 | 15.5 | 1.81 | 20.5 | 42.3 | 8.6 | 0.4 | |
| | | | 60 | 20.0 | 1.85 | 25.2 | 50.0 | 10.8 | 0.4 | |
| | | | 70 | 22.9 | 1.88 | 28.2 | 58.5 | 12.2 | 0.4 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 8 | 1.2 | 50 | 17.1 | 1.80 | 22.1 | 41.5 | 9.5 | 0.4 | |
| | | | 60 | 20.0 | 1.82 | 25.1 | 50.0 | 11.0 | 0.4 | |
| | | | 70 | 23.2 | 1.84 | 28.4 | 58.4 | 12.6 | 0.4 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 XXXXXXXXXX = Operation not recommended

HW024 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4 | 0.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | 35.5 | 1.08 | 38.8 | 68.2 | 32.9 | 0.8 |
| | | | 90 | 39.2 | 1.11 | 42.5 | 76.9 | 35.2 | 0.8 |
| | 6 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.4 | 50 | | | | | | |
| 60 | | | | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 4 | 0.4 | 50 | 21.3 | 1.21 | 24.8 | 42.9 | 17.7 | 0.9 |
| | | | 60 | 25.4 | 1.25 | 29.1 | 51.6 | 20.3 | 0.9 |
| | | | 70 | 28.4 | 1.28 | 32.1 | 60.5 | 22.2 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 22.1 | 1.16 | 25.5 | 42.7 | 19.0 | 0.9 |
| | | | 60 | 25.3 | 1.19 | 28.8 | 51.6 | 21.3 | 0.9 |
| | | | 70 | 29.5 | 1.22 | 33.1 | 60.2 | 24.1 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 22.5 | 1.15 | 25.9 | 42.5 | 19.6 | 0.9 |
| 60 | | | 26.3 | 1.17 | 29.8 | 51.3 | 22.4 | 0.9 | |
| 70 | | | 29.4 | 1.19 | 32.9 | 60.2 | 24.6 | 0.8 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 4 | 0.4 | 50 | 18.6 | 1.50 | 22.9 | 43.8 | 12.4 | 0.9 |
| | | | 60 | 22.7 | 1.55 | 27.1 | 52.4 | 14.7 | 0.9 |
| | | | 70 | 26.2 | 1.59 | 30.8 | 61.3 | 16.5 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 19.9 | 1.46 | 24.1 | 43.4 | 13.6 | 0.9 |
| | | | 60 | 23.4 | 1.49 | 27.7 | 52.2 | 15.7 | 0.9 |
| | | | 70 | 27.0 | 1.52 | 31.4 | 61.0 | 17.8 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 20.0 | 1.44 | 24.2 | 43.4 | 13.9 | 0.9 |
| 60 | | | 23.4 | 1.47 | 27.6 | 52.2 | 16.0 | 0.9 | |
| 70 | | | 27.2 | 1.49 | 31.6 | 60.9 | 18.3 | 0.8 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 4 | 0.3 | 50 | 17.5 | 1.90 | 22.8 | 44.2 | 9.2 | 0.9 |
| | | | 60 | 20.5 | 1.93 | 25.9 | 53.2 | 10.6 | 0.9 |
| | | | 70 | 23.7 | 1.97 | 29.3 | 62.1 | 12.0 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.7 | 50 | 17.8 | 1.84 | 22.9 | 44.1 | 9.7 | 0.9 |
| | | | 60 | 20.9 | 1.86 | 26.1 | 53.1 | 11.2 | 0.9 |
| | | | 70 | 24.2 | 1.89 | 29.6 | 61.9 | 12.8 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.2 | 50 | 17.9 | 1.81 | 23.0 | 44.1 | 9.9 | 0.9 |
| 60 | | | 20.9 | 1.83 | 26.0 | 53.1 | 11.4 | 0.9 | |
| 70 | | | 24.6 | 1.86 | 29.8 | 61.8 | 13.2 | 0.8 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW024 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 8 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4 | 0.4 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | 37.1 | 1.10 | 40.5 | 70.7 | 33.6 | 1.3 |
| | | | 90 | 40.7 | 1.13 | 44.1 | 79.8 | 36.0 | 1.3 |
| | 6 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.4 | 50 | | | | | | |
| 60 | | | | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 4 | 0.4 | 50 | 21.9 | 1.22 | 25.5 | 44.6 | 17.9 | 1.5 |
| | | | 60 | 25.9 | 1.26 | 29.6 | 53.5 | 20.5 | 1.4 |
| | | | 70 | 29.7 | 1.30 | 33.5 | 62.6 | 22.8 | 1.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 21.9 | 1.17 | 25.4 | 44.5 | 18.7 | 1.5 |
| | | | 60 | 26.6 | 1.21 | 30.2 | 53.4 | 22.0 | 1.4 |
| | | | 70 | 30.0 | 1.23 | 33.7 | 62.5 | 24.3 | 1.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 23.2 | 1.16 | 26.7 | 44.2 | 20.0 | 1.5 |
| 60 | | | 27.1 | 1.19 | 30.6 | 53.3 | 22.8 | 1.4 | |
| 70 | | | 29.3 | 1.20 | 32.9 | 62.7 | 24.4 | 1.4 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 4 | 0.4 | 50 | 20.1 | 1.53 | 24.5 | 45.0 | 13.2 | 1.5 |
| | | | 60 | 23.5 | 1.57 | 28.0 | 54.1 | 15.0 | 1.4 |
| | | | 70 | 27.0 | 1.61 | 31.6 | 63.2 | 16.8 | 1.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.8 | 50 | 20.7 | 1.48 | 24.9 | 44.8 | 14.0 | 1.5 |
| | | | 60 | 24.0 | 1.51 | 28.3 | 54.0 | 15.9 | 1.4 |
| | | | 70 | 27.7 | 1.54 | 32.2 | 63.1 | 18.1 | 1.4 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.3 | 50 | 20.6 | 1.46 | 24.7 | 44.9 | 14.1 | 1.5 |
| 60 | | | 24.2 | 1.48 | 28.5 | 54.0 | 16.3 | 1.4 | |
| 70 | | | 27.6 | 1.50 | 32.0 | 63.1 | 18.4 | 1.4 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 4 | 0.3 | 50 | 18.0 | 1.91 | 23.4 | 45.5 | 9.4 | 1.5 |
| | | | 60 | 21.1 | 1.95 | 26.6 | 54.7 | 10.8 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6 | 0.7 | 50 | 18.4 | 1.85 | 23.5 | 45.4 | 9.9 | 1.5 |
| | | | 60 | 21.6 | 1.88 | 26.9 | 54.6 | 11.5 | 1.4 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | | | 90 | | | | | | |
| | 8 | 1.2 | 50 | 18.5 | 1.83 | 23.7 | 45.4 | 10.2 | 1.5 |
| 60 | | | 21.8 | 1.85 | 27.0 | 54.6 | 11.8 | 1.4 | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW036 Heating Performance - PART LOAD

| SOURCE | | | LOAD 4.5 GPM | | | | | | |
|--------|------|---------------------|-----------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4.5 | 0.6 | 60 | | | | | | |
| | | | 80 | 18.4 | 1.48 | 14.3 | 88.2 | 3.6 | 0.5 |
| | | | 100 | 17.6 | 1.95 | 12.3 | 107.9 | 2.6 | 0.4 |
| | | | 120 | 16.9 | 2.55 | 10.2 | 127.6 | 2.0 | 0.4 |
| | 6.75 | 1.2 | 60 | | | | | | |
| | | | 80 | 19.2 | 1.49 | 15.0 | 88.6 | 3.8 | 0.5 |
| | | | 100 | 18.3 | 1.95 | 13.0 | 108.2 | 2.7 | 0.4 |
| | | | 120 | 17.5 | 2.55 | 10.7 | 127.9 | 2.0 | 0.4 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 19.7 | 1.50 | 15.5 | 88.8 | 3.9 | 0.5 |
| | | | 100 | 18.7 | 1.97 | 13.3 | 108.4 | 2.8 | 0.4 |
| | | | 120 | 17.7 | 2.56 | 10.9 | 128.0 | 2.0 | 0.4 |
| 50 | 4.5 | 0.5 | 60 | 28.9 | 1.31 | 25.0 | 72.9 | 6.5 | 0.5 |
| | | | 80 | 27.5 | 1.69 | 22.6 | 92.3 | 4.8 | 0.5 |
| | | | 100 | 26.2 | 2.19 | 19.9 | 111.7 | 3.5 | 0.4 |
| | | | 120 | 25.8 | 2.83 | 17.8 | 131.6 | 2.7 | 0.4 |
| | 6.75 | 1.1 | 60 | 31.0 | 1.32 | 27.1 | 73.8 | 6.9 | 0.5 |
| | | | 80 | 29.7 | 1.70 | 24.7 | 93.3 | 5.1 | 0.5 |
| | | | 100 | 28.0 | 2.20 | 21.6 | 112.5 | 3.7 | 0.4 |
| | | | 120 | 27.1 | 2.84 | 18.9 | 132.2 | 2.8 | 0.4 |
| | 9 | 1.8 | 60 | 32.4 | 1.34 | 28.3 | 74.4 | 7.1 | 0.5 |
| | | | 80 | 30.6 | 1.71 | 25.6 | 93.7 | 5.2 | 0.5 |
| | | | 100 | 28.7 | 2.22 | 22.3 | 112.9 | 3.8 | 0.4 |
| | | | 120 | 27.7 | 2.85 | 19.6 | 132.5 | 2.9 | 0.4 |
| 70 | 4.5 | 0.5 | 60 | 34.3 | 1.11 | 30.9 | 75.2 | 9.1 | 0.5 |
| | | | 80 | 33.0 | 1.43 | 28.8 | 94.7 | 6.8 | 0.5 |
| | | | 100 | 31.6 | 1.88 | 26.3 | 114.2 | 4.9 | 0.4 |
| | | | 120 | 30.0 | 2.42 | 23.1 | 133.5 | 3.6 | 0.4 |
| | 6.75 | 1.0 | 60 | 37.4 | 1.11 | 34.0 | 76.6 | 9.9 | 0.5 |
| | | | 80 | 35.0 | 1.44 | 30.8 | 95.6 | 7.1 | 0.5 |
| | | | 100 | 33.0 | 1.89 | 27.6 | 114.8 | 5.1 | 0.4 |
| | | | 120 | 31.4 | 2.42 | 24.5 | 134.1 | 3.8 | 0.4 |
| | 9 | 1.7 | 60 | 38.3 | 1.12 | 35.0 | 77.0 | 10.0 | 0.5 |
| | | | 80 | 36.2 | 1.45 | 31.9 | 96.2 | 7.3 | 0.5 |
| | | | 100 | 34.0 | 1.90 | 28.6 | 115.3 | 5.3 | 0.4 |
| | | | 120 | | | | | | |
| 90 | 4.5 | 0.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9 | 1.6 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW036 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 6.75 GPM | | | | | | | | |
|--------|------|---------------------|------------------|---------------------|-----------------------|-----------|------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Pressure Drop (PSI) | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 4.5 | 0.6 | 60 | | | | | | | | |
| | | | 80 | 0.5 | 18.3 | 1.45 | 14.2 | 85.4 | 3.7 | 1.0 | |
| | | | 100 | 0.4 | 17.6 | 1.92 | 12.4 | 105.3 | 2.7 | 0.9 | |
| | | | 120 | 0.4 | 17.0 | 2.52 | 10.3 | 125.1 | 2.0 | 0.9 | |
| | 6.75 | 1.2 | 60 | | | | | | | | |
| | | | 80 | 0.5 | 19.3 | 1.45 | 15.2 | 85.7 | 3.9 | 1.0 | |
| | | | 100 | 0.4 | 18.4 | 1.92 | 13.1 | 105.5 | 2.8 | 0.9 | |
| | | | 120 | 0.4 | 17.5 | 2.52 | 10.8 | 125.3 | 2.0 | 0.9 | |
| | 9 | 1.9 | 60 | | | | | | | | |
| | | | 80 | 0.5 | 19.9 | 1.46 | 15.7 | 85.9 | 4.0 | 1.0 | |
| | | | 100 | 0.4 | 18.8 | 1.93 | 13.5 | 105.6 | 2.9 | 0.9 | |
| | | | 120 | 0.4 | 17.8 | 2.53 | 11.1 | 125.3 | 2.1 | 0.9 | |
| 50 | 4.5 | 0.5 | 60 | 0.5 | 29.5 | 1.25 | 25.7 | 68.7 | 6.9 | 1.0 | |
| | | | 80 | 0.5 | 28.3 | 1.61 | 23.5 | 88.4 | 5.1 | 1.0 | |
| | | | 100 | 0.4 | 26.8 | 2.11 | 20.7 | 108.0 | 3.7 | 0.9 | |
| | | | 120 | 0.4 | 25.9 | 2.75 | 18.0 | 127.8 | 2.8 | 0.9 | |
| | 6.75 | 1.1 | 60 | 0.5 | 31.2 | 1.26 | 27.4 | 69.2 | 7.3 | 1.0 | |
| | | | 80 | 0.5 | 30.1 | 1.62 | 25.3 | 89.0 | 5.5 | 1.0 | |
| | | | 100 | 0.4 | 28.3 | 2.12 | 22.2 | 108.5 | 3.9 | 0.9 | |
| | | | 120 | 0.4 | 27.2 | 2.75 | 19.3 | 128.2 | 2.9 | 0.9 | |
| | 9 | 1.8 | 60 | 0.5 | 32.7 | 1.27 | 28.8 | 69.7 | 7.5 | 1.0 | |
| | | | 80 | 0.5 | 30.8 | 1.63 | 26.0 | 89.2 | 5.5 | 1.0 | |
| | | | 100 | 0.4 | 29.5 | 2.13 | 23.3 | 108.8 | 4.1 | 0.9 | |
| | | | 120 | 0.4 | 27.9 | 2.76 | 20.0 | 128.4 | 3.0 | 0.9 | |
| 70 | 4.5 | 0.5 | 60 | 0.5 | 35.8 | 1.05 | 32.6 | 70.6 | 10.0 | 1.0 | |
| | | | 80 | 0.5 | 30.6 | 1.36 | 26.6 | 89.1 | 6.6 | 1.0 | |
| | | | 100 | 0.4 | 32.0 | 1.79 | 26.8 | 109.5 | 5.2 | 0.9 | |
| | | | 120 | 0.4 | 30.0 | 2.33 | 23.4 | 129.0 | 3.8 | 0.9 | |
| | 6.75 | 1.0 | 60 | 0.5 | 37.3 | 1.05 | 34.1 | 71.0 | 10.4 | 1.0 | |
| | | | 80 | 0.5 | 34.1 | 1.36 | 30.2 | 90.2 | 7.4 | 1.0 | |
| | | | 100 | 0.4 | 33.8 | 1.79 | 28.6 | 110.1 | 5.5 | 0.9 | |
| | | | 120 | 0.4 | 31.6 | 2.33 | 25.0 | 129.5 | 4.0 | 0.9 | |
| | 9 | 1.7 | 60 | 0.5 | 38.6 | 1.05 | 35.5 | 71.4 | 10.8 | 1.0 | |
| | | | 80 | 0.5 | 36.6 | 1.36 | 32.6 | 90.9 | 7.9 | 1.0 | |
| | | | 100 | 0.4 | 33.9 | 1.80 | 28.7 | 110.1 | 5.5 | 0.9 | |
| | | | 120 | | | | | | | | |
| 90 | 4.5 | 0.5 | 60 | | | | | | | | |
| | | | 80 | | | | | | | | |
| | | | 100 | | | | | | | | |
| | | | 120 | | | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | | | |
| | | | 80 | | | | | | | | |
| | | | 100 | | | | | | | | |
| | | | 120 | | | | | | | | |
| | 9 | 1.6 | 60 | | | | | | | | |
| | | | 80 | | | | | | | | |
| | | | 100 | | | | | | | | |
| | | | 120 | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW036 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|------|---------------------|---------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4.5 | 0.6 | 60 | | | | | | |
| | | | 80 | 18.2 | 1.47 | 14.1 | 84.1 | 3.6 | 1.6 |
| | | | 100 | 17.7 | 1.94 | 12.4 | 104.0 | 2.7 | 1.6 |
| | | | 120 | 17.0 | 2.54 | 10.3 | 123.8 | 2.0 | 1.5 |
| | 6.75 | 1.2 | 60 | | | | | | |
| | | | 80 | 19.4 | 1.44 | 15.3 | 84.3 | 3.9 | 1.6 |
| | | | 100 | 18.4 | 1.94 | 13.1 | 104.1 | 2.8 | 1.6 |
| | | | 120 | 17.6 | 2.51 | 10.9 | 124.0 | 2.1 | 1.5 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 20.0 | 1.45 | 15.8 | 84.5 | 4.0 | 1.6 |
| | | | 100 | 18.9 | 1.91 | 13.6 | 104.2 | 2.9 | 1.5 |
| | | | 120 | 17.9 | 2.55 | 11.0 | 124.0 | 2.1 | 1.5 |
| 50 | 4.5 | 0.5 | 60 | | | | | | |
| | | | 80 | 28.6 | 1.59 | 23.9 | 86.4 | 5.3 | 1.6 |
| | | | 100 | 26.9 | 2.08 | 20.9 | 106.0 | 3.8 | 1.5 |
| | | | 120 | 26.0 | 2.73 | 18.2 | 125.8 | 2.8 | 1.5 |
| | 6.75 | 1.1 | 60 | 31.9 | 1.24 | 28.1 | 67.1 | 7.5 | 1.7 |
| | | | 80 | 29.7 | 1.59 | 25.0 | 86.6 | 5.5 | 1.6 |
| | | | 100 | 28.4 | 2.08 | 22.3 | 106.4 | 4.0 | 1.5 |
| | | | 120 | 27.3 | 2.72 | 19.5 | 126.1 | 2.9 | 1.5 |
| | 9 | 1.8 | 60 | 32.6 | 1.25 | 28.8 | 67.2 | 7.6 | 1.7 |
| | | | 80 | 30.7 | 1.60 | 26.0 | 86.9 | 5.6 | 1.6 |
| | | | 100 | 29.0 | 2.09 | 22.9 | 106.5 | 4.1 | 1.5 |
| | | | 120 | 28.0 | 2.73 | 20.2 | 126.3 | 3.0 | 1.5 |
| 70 | 4.5 | 0.5 | 60 | 33.7 | 1.04 | 30.5 | 67.5 | 9.5 | 1.7 |
| | | | 80 | 33.0 | 1.33 | 29.1 | 87.4 | 7.3 | 1.6 |
| | | | 100 | 31.0 | 1.75 | 26.0 | 106.9 | 5.2 | 1.5 |
| | | | 120 | 29.9 | 2.29 | 23.4 | 126.7 | 3.8 | 1.5 |
| | 6.75 | 1.0 | 60 | 38.6 | 1.02 | 35.5 | 68.6 | 11.1 | 1.7 |
| | | | 80 | 36.0 | 1.32 | 32.1 | 88.0 | 8.0 | 1.6 |
| | | | 100 | 33.3 | 1.75 | 28.2 | 107.5 | 5.6 | 1.5 |
| | | | 120 | 31.1 | 2.29 | 24.6 | 127.0 | 4.0 | 1.5 |
| | 9 | 1.7 | 60 | 39.1 | 1.03 | 36.0 | 68.7 | 11.1 | 1.7 |
| | | | 80 | 32.9 | 1.34 | 29.0 | 87.3 | 7.2 | 1.6 |
| | | | 100 | 34.6 | 1.76 | 29.5 | 107.8 | 5.8 | 1.5 |
| | | | 120 | | | | | | |
| 90 | 4.5 | 0.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9 | 1.6 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [REDACTED] = Operation not recommended

HW036 heating Performance - FULL LOAD

| SOURCE | | | LOAD | | | | | | | |
|--------|------|---------------------|---------|-----------------------|-----------|------------------|----------------|-----|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | 4.5 GPM | | | | | | | |
| | | | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 4.5 | 0.6 | 60 | 26.9 | 1.60 | 22.1 | 71.9 | 4.9 | 0.5 | |
| | | | 80 | 26.0 | 2.03 | 20.0 | 91.6 | 3.8 | 0.5 | |
| | | | 100 | 25.2 | 2.56 | 17.8 | 111.3 | 2.9 | 0.4 | |
| | | | 120 | 25.3 | 3.22 | 16.1 | 131.4 | 2.3 | 0.4 | |
| | 6.75 | 1.2 | 60 | 28.5 | 1.63 | 23.5 | 72.6 | 5.1 | 0.5 | |
| | | | 80 | 27.3 | 2.06 | 21.3 | 92.2 | 3.9 | 0.5 | |
| | | | 100 | 27.2 | 2.61 | 19.6 | 112.2 | 3.1 | 0.4 | |
| | | | 120 | 26.5 | 3.26 | 17.1 | 131.9 | 2.4 | 0.4 | |
| | 9 | 2.0 | 60 | 29.5 | 1.66 | 24.5 | 73.1 | 5.2 | 0.5 | |
| | | | 80 | 28.5 | 2.09 | 22.3 | 92.7 | 4.0 | 0.5 | |
| | | | 100 | 27.6 | 2.63 | 20.0 | 112.4 | 3.1 | 0.4 | |
| | | | 120 | 27.1 | 3.29 | 17.6 | 132.2 | 2.4 | 0.4 | |
| 50 | 4.5 | 0.5 | 60 | 35.5 | 1.70 | 30.3 | 75.8 | 6.1 | 0.5 | |
| | | | 80 | 34.2 | 2.13 | 27.8 | 95.3 | 4.7 | 0.5 | |
| | | | 100 | 31.0 | 2.65 | 23.2 | 113.9 | 3.4 | 0.4 | |
| | | | 120 | 31.9 | 3.34 | 22.1 | 134.4 | 2.8 | 0.4 | |
| | 6.75 | 1.1 | 60 | 38.1 | 1.75 | 32.7 | 76.9 | 6.4 | 0.5 | |
| | | | 80 | 34.2 | 2.15 | 27.8 | 95.3 | 4.7 | 0.5 | |
| | | | 100 | 34.7 | 2.72 | 26.6 | 115.6 | 3.7 | 0.4 | |
| | | | 120 | 33.2 | 3.37 | 23.3 | 134.9 | 2.9 | 0.4 | |
| | 9 | 1.8 | 60 | 39.5 | 1.78 | 34.1 | 77.6 | 6.5 | 0.5 | |
| | | | 80 | 37.6 | 2.21 | 31.0 | 96.8 | 5.0 | 0.5 | |
| | | | 100 | 36.0 | 2.75 | 27.8 | 116.1 | 3.8 | 0.4 | |
| | | | 120 | 35.0 | 3.41 | 25.0 | 135.8 | 3.0 | 0.4 | |
| 70 | 4.5 | 0.5 | 60 | 44.8 | 1.84 | 39.1 | 79.9 | 7.1 | 0.5 | |
| | | | 80 | 39.2 | 2.23 | 32.6 | 97.5 | 5.2 | 0.5 | |
| | | | 100 | 41.3 | 2.81 | 32.9 | 118.5 | 4.3 | 0.4 | |
| | | | 120 | 39.9 | 3.48 | 29.6 | 138.0 | 3.4 | 0.4 | |
| | 6.75 | 1.0 | 60 | 48.5 | 1.89 | 42.7 | 81.6 | 7.5 | 0.5 | |
| | | | 80 | 43.1 | 2.28 | 36.3 | 99.3 | 5.5 | 0.5 | |
| | | | 100 | 44.3 | 2.85 | 35.8 | 119.9 | 4.6 | 0.4 | |
| | | | 120 | 42.0 | 3.52 | 31.5 | 138.9 | 3.5 | 0.4 | |
| | 9 | 1.7 | 60 | 50.6 | 1.93 | 44.7 | 82.5 | 7.7 | 0.5 | |
| | | | 80 | 48.0 | 2.34 | 40.8 | 101.4 | 6.0 | 0.5 | |
| | | | 100 | 46.0 | 2.88 | 37.3 | 120.6 | 4.7 | 0.4 | |
| | | | 120 | 43.7 | 3.55 | 33.1 | 139.7 | 3.6 | 0.4 | |
| 90 | 4.5 | 0.5 | 60 | 55.9 | 1.97 | 49.8 | 84.9 | 8.3 | 0.5 | |
| | | | 80 | 53.5 | 2.38 | 46.3 | 103.9 | 6.6 | 0.5 | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9 | 1.6 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW036 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD | | | | | | | |
|--------|------|---------------------|----------|-----------------------|-----------|------------------|----------------|-----|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | 6.75 GPM | | | | | | | |
| | | | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 4.5 | 0.6 | 60 | 27.1 | 1.54 | 22.4 | 68.0 | 5.1 | 1.0 | |
| | | | 80 | 26.2 | 1.97 | 20.4 | 87.8 | 3.9 | 1.0 | |
| | | | 100 | 25.7 | 2.50 | 18.5 | 107.7 | 3.0 | 0.9 | |
| | | | 120 | 25.0 | 3.16 | 16.0 | 127.5 | 2.3 | 0.9 | |
| | 6.75 | 1.2 | 60 | 28.7 | 1.57 | 23.9 | 68.5 | 5.4 | 1.0 | |
| | | | 80 | 27.9 | 2.00 | 22.0 | 88.3 | 4.1 | 1.0 | |
| | | | 100 | 26.5 | 2.52 | 19.2 | 107.9 | 3.1 | 0.9 | |
| | | | 120 | 26.5 | 3.20 | 17.3 | 128.0 | 2.4 | 0.9 | |
| | 9 | 2.0 | 60 | 29.7 | 1.59 | 24.9 | 68.8 | 5.5 | 1.0 | |
| | | | 80 | 28.7 | 2.02 | 22.7 | 88.5 | 4.2 | 1.0 | |
| | | | 100 | 27.8 | 2.55 | 20.3 | 108.3 | 3.2 | 0.9 | |
| | | | 120 | 27.2 | 3.22 | 17.9 | 128.2 | 2.5 | 0.9 | |
| 50 | 4.5 | 0.5 | 60 | 36.0 | 1.62 | 31.0 | 70.6 | 6.5 | 1.0 | |
| | | | 80 | 34.4 | 2.04 | 28.3 | 90.2 | 5.0 | 1.0 | |
| | | | 100 | 33.5 | 2.58 | 25.9 | 110.0 | 3.8 | 0.9 | |
| | | | 120 | 33.1 | 3.25 | 23.5 | 129.9 | 3.0 | 0.9 | |
| | 6.75 | 1.1 | 60 | 38.6 | 1.65 | 33.5 | 71.4 | 6.9 | 1.0 | |
| | | | 80 | 36.4 | 2.06 | 30.2 | 90.8 | 5.2 | 1.0 | |
| | | | 100 | 35.9 | 2.62 | 28.1 | 110.7 | 4.0 | 0.9 | |
| | | | 120 | 34.3 | 3.27 | 24.6 | 130.3 | 3.1 | 0.9 | |
| | 9 | 1.8 | 60 | 40.2 | 1.68 | 35.0 | 71.9 | 7.0 | 1.0 | |
| | | | 80 | 38.1 | 2.09 | 31.7 | 91.3 | 5.3 | 1.0 | |
| | | | 100 | 36.3 | 2.63 | 28.4 | 110.8 | 4.0 | 0.9 | |
| | | | 120 | 35.9 | 3.30 | 26.1 | 130.8 | 3.2 | 0.9 | |
| 70 | 4.5 | 0.5 | 60 | 45.6 | 1.73 | 40.3 | 73.5 | 7.7 | 1.0 | |
| | | | 80 | 44.0 | 2.14 | 37.5 | 93.1 | 6.0 | 1.0 | |
| | | | 100 | 41.7 | 2.66 | 33.7 | 112.5 | 4.6 | 0.9 | |
| | | | 120 | 40.1 | 3.34 | 30.2 | 132.0 | 3.5 | 0.9 | |
| | 6.75 | 1.0 | 60 | 49.5 | 1.77 | 44.0 | 74.7 | 8.2 | 1.0 | |
| | | | 80 | 47.4 | 2.17 | 40.8 | 94.1 | 6.4 | 1.0 | |
| | | | 100 | 45.2 | 2.70 | 37.0 | 113.5 | 4.9 | 0.9 | |
| | | | 120 | 43.8 | 3.37 | 33.7 | 133.1 | 3.8 | 0.9 | |
| | 9 | 1.7 | 60 | 51.8 | 1.81 | 46.2 | 75.3 | 8.4 | 1.0 | |
| | | | 80 | 47.7 | 2.18 | 41.0 | 94.2 | 6.4 | 1.0 | |
| | | | 100 | 47.9 | 2.73 | 39.7 | 114.3 | 5.1 | 0.9 | |
| | | | 120 | 44.5 | 3.39 | 34.3 | 133.4 | 3.8 | 0.9 | |
| 90 | 4.5 | 0.5 | 60 | 56.9 | 1.84 | 51.2 | 76.9 | 9.1 | 1.0 | |
| | | | 80 | 54.8 | 2.22 | 48.0 | 96.3 | 7.3 | 1.0 | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9 | 1.6 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW036 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|------|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 4.5 | 0.6 | 60 | | | | | | |
| | | | 80 | 26.3 | 2.00 | 20.4 | 85.9 | 3.9 | 1.6 |
| | | | 100 | 25.1 | 2.47 | 18.0 | 105.6 | 3.0 | 1.5 |
| | | | 120 | 25.3 | 3.14 | 16.3 | 125.7 | 2.4 | 1.5 |
| | 6.75 | 1.2 | 60 | 28.8 | 1.54 | 24.1 | 66.4 | 5.5 | 1.7 |
| | | | 80 | 27.6 | 1.97 | 21.8 | 86.2 | 4.1 | 1.6 |
| | | | 100 | 26.6 | 2.50 | 19.4 | 106.0 | 3.1 | 1.5 |
| | | | 120 | 26.6 | 3.18 | 17.5 | 126.0 | 2.5 | 1.5 |
| | 9 | 2.0 | 60 | 29.9 | 1.57 | 25.1 | 66.6 | 5.6 | 1.7 |
| | | | 80 | 28.6 | 1.99 | 22.6 | 86.4 | 4.2 | 1.6 |
| | | | 100 | 27.7 | 2.56 | 20.1 | 106.2 | 3.2 | 1.6 |
| | | | 120 | 27.3 | 3.20 | 18.0 | 126.1 | 2.5 | 1.5 |
| 50 | 4.5 | 0.5 | 60 | 36.2 | 1.58 | 31.3 | 68.0 | 6.7 | 1.7 |
| | | | 80 | 34.6 | 2.00 | 28.6 | 87.7 | 5.1 | 1.6 |
| | | | 100 | 32.3 | 2.52 | 24.9 | 107.2 | 3.8 | 1.5 |
| | | | 120 | 32.5 | 3.22 | 23.0 | 127.3 | 3.0 | 1.5 |
| | 6.75 | 1.1 | 60 | 39.0 | 1.62 | 34.0 | 68.7 | 7.1 | 1.7 |
| | | | 80 | 37.0 | 2.02 | 30.8 | 88.3 | 5.4 | 1.6 |
| | | | 100 | 35.3 | 2.56 | 27.7 | 107.9 | 4.0 | 1.5 |
| | | | 120 | 32.2 | 3.21 | 22.8 | 127.3 | 2.9 | 1.5 |
| | 9 | 1.8 | 60 | 40.6 | 1.65 | 35.5 | 69.0 | 7.2 | 1.7 |
| | | | 80 | 38.1 | 2.05 | 31.9 | 88.5 | 5.5 | 1.6 |
| | | | 100 | 36.6 | 2.58 | 28.9 | 108.2 | 4.2 | 1.5 |
| | | | 120 | 35.1 | 3.25 | 25.5 | 127.9 | 3.2 | 1.5 |
| 70 | 4.5 | 0.5 | 60 | 46.0 | 1.69 | 40.8 | 70.2 | 8.0 | 1.7 |
| | | | 80 | 44.0 | 2.08 | 37.7 | 89.8 | 6.2 | 1.6 |
| | | | 100 | 42.6 | 2.62 | 34.7 | 109.5 | 4.8 | 1.5 |
| | | | 120 | 40.9 | 3.28 | 31.0 | 129.2 | 3.7 | 1.5 |
| | 6.75 | 1.0 | 60 | 50.0 | 1.73 | 44.6 | 71.1 | 8.5 | 1.7 |
| | | | 80 | 46.8 | 2.10 | 40.4 | 90.4 | 6.5 | 1.6 |
| | | | 100 | 44.9 | 2.63 | 37.0 | 110.1 | 5.0 | 1.5 |
| | | | 120 | 42.1 | 3.29 | 32.3 | 129.5 | 3.8 | 1.5 |
| | 9 | 1.7 | 60 | 52.4 | 1.76 | 46.9 | 71.6 | 8.7 | 1.7 |
| | | | 80 | 49.3 | 2.13 | 42.8 | 91.0 | 6.8 | 1.6 |
| | | | 100 | 44.9 | 2.64 | 36.9 | 110.1 | 5.0 | 1.5 |
| | | | 120 | 44.1 | 3.32 | 34.1 | 129.9 | 3.9 | 1.5 |
| 90 | 4.5 | 0.5 | 60 | 58.5 | 1.80 | 52.9 | 73.0 | 9.5 | 1.7 |
| | | | 80 | 54.5 | 2.14 | 47.9 | 92.2 | 7.5 | 1.6 |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 6.75 | 1.0 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9 | 1.6 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW036 COOLING PERFORMANCE - PART LOAD

| SOURCE | | | LOAD 4.5 GPM | | | | | | |
|--------|------|---------------------|-----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4.5 | 0.5 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 32.5 | 0.90 | 35.3 | 55.6 | 36.1 | 0.5 |
| | | | 80 | 37.0 | 0.89 | 39.7 | 63.5 | 41.6 | 0.5 |
| | | | 90 | | | | | | |
| | 6.75 | 1.1 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 4.5 | 0.5 | 50 | 22.0 | 1.19 | 25.6 | 40.3 | 18.5 | 0.5 |
| | | | 60 | 25.9 | 1.19 | 29.4 | 48.5 | 21.8 | 0.5 |
| | | | 70 | 29.9 | 1.19 | 33.5 | 56.7 | 25.3 | 0.5 |
| | | | 80 | 34.2 | 1.18 | 37.7 | 64.8 | 28.9 | 0.5 |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 22.5 | 1.15 | 25.9 | 40.1 | 19.6 | 0.5 |
| | | | 60 | 26.4 | 1.14 | 29.8 | 48.3 | 23.3 | 0.5 |
| | | | 70 | 30.6 | 1.12 | 34.0 | 56.4 | 27.3 | 0.5 |
| | | | 80 | 35.0 | 1.11 | 38.3 | 64.4 | 31.7 | 0.5 |
| | | | 90 | | | | | | |
| | 9 | 1.7 | 50 | 22.7 | 1.14 | 26.0 | 40.0 | 19.9 | 0.5 |
| | | | 60 | 26.7 | 1.12 | 30.1 | 48.2 | 23.9 | 0.5 |
| | | | 70 | 31.0 | 1.10 | 34.3 | 56.2 | 28.2 | 0.5 |
| | | | 80 | 35.5 | 1.08 | 38.7 | 64.2 | 33.0 | 0.5 |
| | | | 90 | | | | | | |
| 90 | 4.5 | 0.5 | 50 | 19.6 | 1.64 | 24.3 | 41.3 | 12.0 | 0.5 |
| | | | 60 | 23.2 | 1.63 | 27.9 | 49.7 | 14.2 | 0.5 |
| | | | 70 | 27.0 | 1.63 | 31.8 | 58.0 | 16.5 | 0.5 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 20.0 | 1.58 | 24.5 | 41.2 | 12.6 | 0.5 |
| | | | 60 | 23.7 | 1.56 | 28.3 | 49.5 | 15.2 | 0.5 |
| | | | 70 | 27.7 | 1.55 | 32.2 | 57.7 | 17.8 | 0.5 |
| | | | 80 | 31.8 | 1.54 | 36.3 | 65.9 | 20.6 | 0.5 |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 20.1 | 1.57 | 24.6 | 41.1 | 12.9 | 0.5 |
| | | | 60 | 24.0 | 1.54 | 28.4 | 49.4 | 15.6 | 0.5 |
| | | | 70 | 28.0 | 1.52 | 32.4 | 57.6 | 18.4 | 0.5 |
| | | | 80 | 32.2 | 1.50 | 36.6 | 65.7 | 21.4 | 0.5 |
| | | | 90 | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 17.0 | 2.13 | 23.0 | 42.5 | 8.0 | 0.5 |
| | | | 60 | 20.4 | 2.13 | 26.5 | 51.0 | 9.6 | 0.5 |
| | | | 70 | 23.9 | 2.13 | 30.1 | 59.4 | 11.2 | 0.5 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 0.9 | 50 | 17.3 | 2.08 | 23.2 | 42.4 | 8.3 | 0.5 |
| | | | 60 | 20.8 | 2.06 | 26.7 | 50.8 | 10.1 | 0.5 |
| | | | 70 | 24.5 | 2.05 | 30.4 | 59.1 | 12.0 | 0.5 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 17.4 | 2.07 | 23.3 | 42.3 | 8.4 | 0.5 |
| | | | 60 | 21.0 | 2.03 | 26.8 | 50.7 | 10.3 | 0.5 |
| | | | 70 | 24.7 | 2.01 | 30.5 | 59.0 | 12.3 | 0.5 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW036 COOLING PERFORMANCE - PART LOAD cont.

| SOURCE | | | LOAD 6.75 GPM | | | | | | |
|--------|------|---------------------|------------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | LoopRej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4.5 | 0.5 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 34.9 | 0.90 | 37.7 | 59.7 | 38.7 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.1 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 4.5 | 0.5 | 50 | 23.5 | 1.20 | 27.0 | 43.1 | 19.6 | 1.1 |
| | | | 60 | 27.6 | 1.20 | 31.2 | 51.8 | 23.1 | 1.1 |
| | | | 70 | 32.0 | 1.19 | 35.6 | 60.5 | 26.9 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 24.0 | 1.15 | 27.4 | 42.9 | 20.9 | 1.1 |
| | | | 60 | 28.3 | 1.14 | 31.7 | 51.6 | 24.9 | 1.1 |
| | | | 70 | 32.9 | 1.12 | 36.2 | 60.3 | 29.3 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.7 | 50 | 24.2 | 1.14 | 27.6 | 42.9 | 21.3 | 1.1 |
| | | | 60 | 28.6 | 1.12 | 32.0 | 51.5 | 25.6 | 1.1 |
| 70 | | | 33.3 | 1.09 | 36.6 | 60.1 | 30.4 | 1.0 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 4.5 | 0.5 | 50 | 20.8 | 1.64 | 25.5 | 43.9 | 12.7 | 1.1 |
| | | | 60 | 24.7 | 1.64 | 29.5 | 52.7 | 15.1 | 1.0 |
| | | | 70 | 28.8 | 1.64 | 33.6 | 61.5 | 17.5 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 21.2 | 1.58 | 25.8 | 43.7 | 13.4 | 1.1 |
| | | | 60 | 25.3 | 1.57 | 29.8 | 52.5 | 16.2 | 1.0 |
| | | | 70 | 29.5 | 1.55 | 34.1 | 61.3 | 19.0 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 21.4 | 1.56 | 25.9 | 43.7 | 13.7 | 1.1 |
| | | | 60 | 25.6 | 1.54 | 30.0 | 52.4 | 16.6 | 1.0 |
| 70 | | | 29.9 | 1.52 | 34.4 | 61.1 | 19.7 | 1.0 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 18.0 | 2.14 | 24.0 | 44.7 | 8.4 | 1.1 |
| | | | 60 | 21.6 | 2.14 | 27.7 | 53.6 | 10.1 | 1.0 |
| | | | 70 | 25.4 | 2.14 | 31.6 | 62.5 | 11.9 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 0.9 | 50 | 18.3 | 2.08 | 24.2 | 44.6 | 8.8 | 1.1 |
| | | | 60 | 22.1 | 2.06 | 28.0 | 53.5 | 10.7 | 1.0 |
| | | | 70 | 26.1 | 2.05 | 32.0 | 62.3 | 12.8 | 1.0 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 18.5 | 2.06 | 24.3 | 44.6 | 9.0 | 1.1 |
| | | | 60 | 22.3 | 2.03 | 28.1 | 53.4 | 11.0 | 1.0 |
| 70 | | | 26.4 | 2.01 | 32.2 | 62.2 | 13.1 | 1.0 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

HW036 COOLING PERFORMANCE - PART LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | | |
|--------|------|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|-----|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 4.5 | 0.5 | 50 | | | | | | | |
| | | | 60 | 31.4 | 0.93 | 34.3 | 53.0 | 34.0 | 1.8 | |
| | | | 70 | 36.3 | 0.91 | 39.1 | 61.9 | 39.9 | 1.7 | |
| | | | | 80 | | | | | | |
| | | 6.75 | 1.1 | 50 | | | | | | |
| | 60 | | | | | | | | | |
| | 70 | | | | | | | | | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 9 | 1.8 | 50 | | | | | | |
| | 60 | | | | | | | | | |
| | 70 | | | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| 70 | 4.5 | 0.5 | 50 | 24.3 | 1.21 | 27.9 | 44.6 | 20.1 | 1.8 | |
| | | | 60 | 28.6 | 1.21 | 32.2 | 53.7 | 23.7 | 1.8 | |
| | | | 70 | 33.2 | 1.20 | 36.8 | 62.6 | 27.6 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 6.75 | 1.0 | 50 | 24.8 | 1.16 | 28.3 | 44.5 | 21.4 | 1.8 |
| | 60 | | | 29.3 | 1.15 | 32.8 | 53.5 | 25.6 | 1.8 | |
| | 70 | | | 34.1 | 1.13 | 37.5 | 62.4 | 30.3 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 9 | 1.7 | 50 | 25.1 | 1.15 | 28.5 | 44.5 | 21.9 | 1.8 |
| | 60 | | | 29.7 | 1.12 | 33.1 | 53.4 | 26.4 | 1.8 | |
| 70 | 34.6 | | | 1.10 | 37.9 | 62.3 | 31.5 | 1.7 | | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| 90 | 4.5 | 0.5 | 50 | 21.4 | 1.65 | 26.2 | 45.3 | 13.0 | 1.8 | |
| | | | 60 | 25.5 | 1.65 | 30.3 | 54.3 | 15.4 | 1.8 | |
| | | | 70 | 29.8 | 1.66 | 34.6 | 63.4 | 18.0 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 6.75 | 1.0 | 50 | 21.9 | 1.59 | 26.5 | 45.2 | 13.8 | 1.8 |
| | 60 | | | 26.1 | 1.57 | 30.7 | 54.2 | 16.6 | 1.8 | |
| | 70 | | | 30.6 | 1.56 | 35.2 | 63.2 | 19.6 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 9 | 1.6 | 50 | 22.1 | 1.57 | 26.7 | 45.1 | 14.1 | 1.8 |
| | 60 | | | 26.4 | 1.55 | 31.0 | 54.1 | 17.1 | 1.8 | |
| 70 | 31.0 | | | 1.53 | 35.5 | 63.1 | 20.3 | 1.7 | | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 18.5 | 2.15 | 24.6 | 45.9 | 8.6 | 1.8 | |
| | | | 60 | 22.2 | 2.15 | 28.4 | 55.1 | 10.4 | 1.8 | |
| | | | 70 | 26.3 | 2.15 | 32.4 | 64.2 | 12.2 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 6.75 | 0.9 | 50 | 18.9 | 2.09 | 24.8 | 45.8 | 9.0 | 1.8 |
| | 60 | | | 22.8 | 2.07 | 28.7 | 55.0 | 11.0 | 1.8 | |
| | 70 | | | 26.9 | 2.05 | 32.9 | 64.0 | 13.1 | 1.7 | |
| | | | | 80 | | | | | | |
| | | | | 90 | | | | | | |
| | | 9 | 1.5 | 50 | 19.0 | 2.07 | 24.9 | 45.8 | 9.2 | 1.8 |
| | 60 | | | 23.0 | 2.04 | 28.9 | 54.9 | 11.3 | 1.8 | |
| 70 | 27.3 | | | 2.01 | 33.1 | 63.9 | 13.5 | 1.7 | | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW036 Cooling Performance - FULL LOAD

| SOURCE | | | LOAD | | | | | | | |
|--------|------|---------------------|---------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | 4.5 GPM | | | | | | | |
| | | | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 4.5 | 0.5 | 50 | 31.9 | 1.47 | 36.4 | 35.9 | 21.6 | 0.6 | |
| | | | 60 | 36.6 | 1.54 | 41.4 | 43.8 | 23.7 | 0.5 | |
| | | | 70 | 41.7 | 1.61 | 46.7 | 51.5 | 25.9 | 0.5 | |
| | | | 80 | 47.0 | 1.68 | 52.3 | 59.1 | 28.1 | 0.5 | |
| | | | 90 | 52.6 | 1.75 | 58.1 | 66.5 | 30.1 | 0.5 | |
| | 6.75 | 1.1 | 50 | | | | | | | |
| | | | 60 | 37.4 | 1.46 | 42.0 | 43.4 | 25.7 | 0.5 | |
| | | | 70 | 42.7 | 1.52 | 47.5 | 51.1 | 28.2 | 0.5 | |
| | | | 80 | 48.3 | 1.57 | 53.3 | 58.5 | 30.7 | 0.5 | |
| | | | 90 | 54.2 | 1.64 | 59.4 | 65.9 | 33.0 | 0.5 | |
| | 9 | 1.8 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | 49.0 | 1.54 | 53.9 | 58.2 | 31.9 | 0.5 | |
| | | | 90 | 54.9 | 1.60 | 60.1 | 65.5 | 34.3 | 0.5 | |
| 70 | 4.5 | 0.5 | 50 | 29.5 | 1.84 | 35.1 | 37.0 | 16.0 | 0.6 | |
| | | | 60 | 34.0 | 1.91 | 39.8 | 45.0 | 17.8 | 0.5 | |
| | | | 70 | 38.8 | 1.97 | 44.8 | 52.8 | 19.8 | 0.5 | |
| | | | 80 | 44.0 | 2.02 | 50.1 | 60.4 | 21.8 | 0.5 | |
| | | | 90 | 49.3 | 2.08 | 55.7 | 68.0 | 23.7 | 0.5 | |
| | 6.75 | 1.0 | 50 | 30.0 | 1.76 | 35.4 | 36.7 | 17.1 | 0.6 | |
| | | | 60 | 34.7 | 1.81 | 40.3 | 44.6 | 19.3 | 0.5 | |
| | | | 70 | 39.8 | 1.85 | 45.5 | 52.4 | 21.5 | 0.5 | |
| | | | 80 | 45.2 | 1.89 | 51.0 | 59.9 | 24.0 | 0.5 | |
| | | | 90 | 50.8 | 1.93 | 56.8 | 67.4 | 26.3 | 0.5 | |
| | 9 | 1.6 | 50 | 30.3 | 1.74 | 35.6 | 36.6 | 17.4 | 0.6 | |
| | | | 60 | 35.1 | 1.77 | 40.5 | 44.5 | 19.8 | 0.5 | |
| | | | 70 | 40.2 | 1.81 | 45.8 | 52.1 | 22.3 | 0.5 | |
| | | | 80 | 45.8 | 1.83 | 51.5 | 59.6 | 25.0 | 0.5 | |
| | | | 90 | 51.5 | 1.88 | 57.4 | 67.0 | 27.5 | 0.5 | |
| 90 | 4.5 | 0.4 | 50 | 26.8 | 2.33 | 33.7 | 38.2 | 11.5 | 0.5 | |
| | | | 60 | 31.0 | 2.39 | 38.2 | 46.3 | 13.0 | 0.5 | |
| | | | 70 | 35.6 | 2.45 | 43.0 | 54.2 | 14.6 | 0.5 | |
| | | | 80 | 40.5 | 2.50 | 48.0 | 62.0 | 16.2 | 0.5 | |
| | | | 90 | | | | | | | |
| | 6.75 | 1.0 | 50 | 27.3 | 2.24 | 34.0 | 38.0 | 12.2 | 0.5 | |
| | | | 60 | 31.7 | 2.28 | 38.6 | 46.0 | 13.9 | 0.5 | |
| | | | 70 | 36.5 | 2.32 | 43.5 | 53.8 | 15.7 | 0.5 | |
| | | | 80 | 41.6 | 2.35 | 48.7 | 61.5 | 17.7 | 0.5 | |
| | | | 90 | | | | | | | |
| | 9 | 1.6 | 50 | 27.3 | 2.26 | 34.1 | 37.9 | 12.1 | 0.5 | |
| | | | 60 | 32.0 | 2.24 | 38.8 | 45.8 | 14.3 | 0.5 | |
| | | | 70 | 36.9 | 2.27 | 43.7 | 53.6 | 16.3 | 0.5 | |
| | | | 80 | 42.1 | 2.28 | 49.1 | 61.3 | 18.5 | 0.5 | |
| | | | 90 | | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 23.9 | 2.94 | 32.6 | 39.4 | 8.2 | 0.5 | |
| | | | 60 | 27.9 | 2.99 | 36.8 | 47.6 | 9.3 | 0.5 | |
| | | | 70 | 32.2 | 3.05 | 41.3 | 55.7 | 10.6 | 0.5 | |
| | | | 80 | 36.8 | 3.11 | 46.1 | 63.6 | 11.8 | 0.5 | |
| | | | 90 | | | | | | | |
| | 6.75 | 0.9 | 50 | 24.3 | 2.84 | 32.7 | 39.3 | 8.6 | 0.5 | |
| | | | 60 | 28.5 | 2.88 | 37.1 | 47.4 | 9.9 | 0.5 | |
| | | | 70 | 33.0 | 2.91 | 41.7 | 55.4 | 11.4 | 0.5 | |
| | | | 80 | 37.8 | 2.94 | 46.6 | 63.2 | 12.9 | 0.5 | |
| | | | 90 | | | | | | | |
| | 9 | 1.5 | 50 | 24.4 | 2.85 | 32.8 | 39.2 | 8.6 | 0.5 | |
| | | | 60 | 28.7 | 2.84 | 37.2 | 47.3 | 10.1 | 0.5 | |
| | | | 70 | 33.3 | 2.86 | 41.9 | 55.2 | 11.7 | 0.5 | |
| | | | 80 | 38.2 | 2.87 | 46.8 | 63.0 | 13.3 | 0.5 | |
| | | | 90 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 ██████████ = Operation not recommended

HW036 COOLING performance - FULL LOAD cont.

| SOURCE | | | LOAD | | | | | | | | | |
|--------|------|---------------------|----------|-----------------------|-----------|-------------------|----------------|------|---------------------|------------|---------------------|--|
| | | | 6.75 GPM | | | | | | | | | |
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | EER | Pressure Drop (PSI) | |
| 50 | 4.5 | 0.5 | 50 | 34.5 | 1.52 | 39.2 | 39.9 | 22.7 | 1.1 | 23.1 | 1.8 | |
| | | | 60 | 39.7 | 1.60 | 44.7 | 48.3 | 24.9 | 1.1 | 25.5 | 1.8 | |
| | | | 70 | 45.4 | 1.66 | 50.6 | 56.6 | 27.3 | 1.0 | 28.0 | 1.7 | |
| | | | 80 | 51.4 | 1.74 | 56.8 | 64.8 | 29.5 | 1.0 | 30.2 | 1.6 | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 6.75 | 1.1 | 50 | [REDACTED] | | | | | | | | |
| | | | 60 | 40.7 | 1.51 | 45.5 | 48.0 | 27.1 | 1.1 | 27.8 | 1.8 | |
| | | | 70 | 46.7 | 1.56 | 51.7 | 56.2 | 29.9 | 1.0 | 30.6 | 1.7 | |
| | | | 80 | 53.0 | 1.64 | 58.2 | 64.3 | 32.4 | 1.0 | 33.2 | 1.6 | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 9 | 1.8 | 50 | [REDACTED] | | | | | | | | |
| | | | 60 | [REDACTED] | | | | | | | | |
| | | | 70 | 47.4 | 1.53 | 52.3 | 56.0 | 31.0 | 1.0 | 31.8 | 1.7 | |
| | | | 80 | 53.9 | 1.60 | 59.0 | 64.0 | 33.7 | 1.0 | 34.5 | 1.6 | |
| | | | 90 | [REDACTED] | | | | | | | | |
| 70 | 4.5 | 0.5 | 50 | 31.8 | 1.88 | 37.5 | 40.7 | 16.9 | 1.1 | 17.3 | 1.8 | |
| | | | 60 | 36.7 | 1.95 | 42.7 | 49.2 | 18.8 | 1.1 | 19.3 | 1.8 | |
| | | | 70 | 42.1 | 2.01 | 48.3 | 57.5 | 21.0 | 1.0 | 21.6 | 1.7 | |
| | | | 80 | 47.8 | 2.07 | 54.2 | 65.8 | 23.2 | 1.0 | [REDACTED] | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 6.75 | 1.0 | 50 | 32.5 | 1.79 | 37.9 | 40.4 | 18.1 | 1.1 | 18.6 | 1.8 | |
| | | | 60 | 37.7 | 1.84 | 43.3 | 48.9 | 20.4 | 1.1 | 21.1 | 1.8 | |
| | | | 70 | 43.4 | 1.88 | 49.2 | 57.2 | 23.1 | 1.0 | 23.8 | 1.7 | |
| | | | 80 | 49.4 | 1.93 | 55.3 | 65.3 | 25.6 | 1.0 | 26.4 | 1.6 | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 9 | 1.6 | 50 | 32.8 | 1.76 | 38.2 | 40.3 | 18.6 | 1.1 | 19.2 | 1.8 | |
| | | | 60 | 38.1 | 1.80 | 43.7 | 48.7 | 21.2 | 1.1 | 21.9 | 1.8 | |
| | | | 70 | 44.0 | 1.83 | 49.6 | 57.0 | 24.0 | 1.0 | 24.9 | 1.7 | |
| | | | 80 | 50.1 | 1.87 | 56.0 | 65.1 | 26.8 | 1.0 | 27.7 | 1.6 | |
| | | | 90 | [REDACTED] | | | | | | | | |
| 90 | 4.5 | 0.4 | 50 | 28.7 | 2.37 | 35.8 | 41.5 | 12.2 | 1.1 | 12.4 | 1.8 | |
| | | | 60 | 33.4 | 2.43 | 40.7 | 50.1 | 13.8 | 1.1 | 14.1 | 1.8 | |
| | | | 70 | 38.4 | 2.49 | 46.0 | 58.6 | 15.5 | 1.0 | 15.9 | 1.7 | |
| | | | 80 | 43.8 | 2.54 | 51.6 | 67.0 | 17.3 | 1.0 | [REDACTED] | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 6.75 | 1.0 | 50 | 29.3 | 2.27 | 36.1 | 41.4 | 12.9 | 1.1 | 13.3 | 1.8 | |
| | | | 60 | 34.2 | 2.31 | 41.2 | 49.9 | 14.8 | 1.1 | 15.3 | 1.8 | |
| | | | 70 | 39.5 | 2.34 | 46.7 | 58.3 | 16.9 | 1.0 | 17.5 | 1.7 | |
| | | | 80 | 45.2 | 2.37 | 52.5 | 66.6 | 19.1 | 1.0 | [REDACTED] | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 9 | 1.6 | 50 | 29.6 | 2.24 | 36.3 | 41.3 | 13.2 | 1.1 | 13.7 | 1.8 | |
| | | | 60 | 34.6 | 2.27 | 41.5 | 49.8 | 15.3 | 1.1 | 15.8 | 1.8 | |
| | | | 70 | 40.1 | 2.28 | 47.0 | 58.1 | 17.6 | 1.0 | 18.2 | 1.7 | |
| | | | 80 | 45.9 | 2.30 | 53.0 | 66.4 | 19.9 | 1.0 | [REDACTED] | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 25.5 | 2.97 | 34.3 | 42.5 | 8.6 | 1.1 | 8.8 | 1.8 | |
| | | | 60 | 29.9 | 3.02 | 38.9 | 51.2 | 9.9 | 1.1 | 10.2 | 1.8 | |
| | | | 70 | 34.6 | 3.09 | 43.9 | 59.7 | 11.2 | 1.0 | 11.6 | 1.7 | |
| | | | 80 | [REDACTED] | | | | | | | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 6.75 | 0.9 | 50 | 26.0 | 2.87 | 34.5 | 42.3 | 9.1 | 1.1 | 9.4 | 1.8 | |
| | | | 60 | 30.7 | 2.90 | 39.3 | 50.9 | 10.6 | 1.1 | 10.9 | 1.8 | |
| | | | 70 | 35.6 | 2.93 | 44.4 | 59.5 | 12.1 | 1.0 | 12.5 | 1.7 | |
| | | | 80 | [REDACTED] | | | | | | | | |
| | | | 90 | [REDACTED] | | | | | | | | |
| | 9 | 1.5 | 50 | 26.2 | 2.86 | 34.7 | 42.3 | 9.2 | 1.1 | 9.6 | 1.8 | |
| | | | 60 | 30.9 | 2.86 | 39.5 | 50.9 | 10.8 | 1.1 | 11.2 | 1.8 | |
| | | | 70 | 36.0 | 2.88 | 44.6 | 59.3 | 12.5 | 1.0 | 13.0 | 1.7 | |
| | | | 80 | 41.4 | 2.89 | 50.1 | 67.7 | 14.3 | 1.0 | [REDACTED] | | |
| | | | 90 | [REDACTED] | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [REDACTED] = Operation not recommended

HW036 COOLING performance - FULL LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|------|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 4.5 | 0.5 | 50 | 36.0 | 1.55 | 40.8 | 42.1 | 23.1 | 1.8 |
| | | | 60 | 41.5 | 1.63 | 46.7 | 50.8 | 25.5 | 1.8 |
| | | | 70 | 47.6 | 1.70 | 52.9 | 59.4 | 28.0 | 1.7 |
| | | | 80 | 53.9 | 1.79 | 59.5 | 68.0 | 30.2 | 1.6 |
| | | | 90 | | | | | | |
| | 6.75 | 1.1 | 50 | 36.9 | 1.47 | 41.5 | 41.9 | 25.0 | 1.8 |
| | | | 60 | 42.7 | 1.54 | 47.6 | 50.5 | 27.8 | 1.8 |
| | | | 70 | 49.1 | 1.60 | 54.2 | 59.1 | 30.6 | 1.7 |
| | | | 80 | 55.8 | 1.68 | 61.1 | 67.6 | 33.2 | 1.6 |
| | | | 90 | | | | | | |
| | 9 | 1.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 49.9 | 1.57 | 54.9 | 58.9 | 31.8 | 1.7 |
| | | | 80 | 56.8 | 1.65 | 62.0 | 67.4 | 34.5 | 1.6 |
| | | | 90 | | | | | | |
| 70 | 4.5 | 0.5 | 50 | 33.0 | 1.91 | 38.9 | 42.7 | 17.3 | 1.8 |
| | | | 60 | 38.3 | 1.98 | 44.4 | 51.5 | 19.3 | 1.8 |
| | | | 70 | 44.1 | 2.04 | 50.3 | 60.2 | 21.6 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 33.9 | 1.82 | 39.4 | 42.5 | 18.6 | 1.8 |
| | | | 60 | 39.4 | 1.87 | 45.1 | 51.3 | 21.1 | 1.8 |
| | | | 70 | 45.5 | 1.91 | 51.4 | 59.9 | 23.8 | 1.7 |
| | | | 80 | 51.8 | 1.96 | 57.9 | 68.5 | 26.4 | 1.6 |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 34.2 | 1.78 | 39.7 | 42.4 | 19.2 | 1.8 |
| | | | 60 | 39.9 | 1.82 | 45.6 | 51.2 | 21.9 | 1.8 |
| | | | 70 | 46.2 | 1.86 | 51.9 | 59.7 | 24.9 | 1.7 |
| | | | 80 | 52.7 | 1.91 | 58.7 | 68.3 | 27.7 | 1.6 |
| | | | 90 | | | | | | |
| 90 | 4.5 | 0.4 | 50 | 29.8 | 2.40 | 37.0 | 43.4 | 12.4 | 1.8 |
| | | | 60 | 34.8 | 2.46 | 42.2 | 52.3 | 14.1 | 1.8 |
| | | | 70 | 40.1 | 2.52 | 47.7 | 61.1 | 15.9 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 1.0 | 50 | 30.5 | 2.29 | 37.4 | 43.3 | 13.3 | 1.8 |
| | | | 60 | 35.7 | 2.33 | 42.7 | 52.1 | 15.3 | 1.8 |
| | | | 70 | 41.3 | 2.36 | 48.5 | 60.8 | 17.5 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 30.8 | 2.26 | 37.6 | 43.2 | 13.7 | 1.8 |
| | | | 60 | 36.1 | 2.28 | 43.0 | 52.0 | 15.8 | 1.8 |
| | | | 70 | 41.9 | 2.30 | 49.0 | 60.7 | 18.2 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 110 | 4.5 | 0.4 | 50 | 26.4 | 2.99 | 35.3 | 44.2 | 8.8 | 1.8 |
| | | | 60 | 31.0 | 3.05 | 40.2 | 53.1 | 10.2 | 1.8 |
| | | | 70 | 36.0 | 3.12 | 45.3 | 62.0 | 11.6 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 6.75 | 0.9 | 50 | 27.0 | 2.89 | 35.6 | 44.0 | 9.4 | 1.8 |
| | | | 60 | 31.8 | 2.92 | 40.6 | 52.9 | 10.9 | 1.8 |
| | | | 70 | 37.1 | 2.95 | 46.0 | 61.8 | 12.5 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 27.3 | 2.85 | 35.7 | 44.0 | 9.6 | 1.8 |
| | | | 60 | 32.2 | 2.87 | 40.8 | 52.9 | 11.2 | 1.8 |
| | | | 70 | 37.5 | 2.89 | 46.3 | 61.7 | 13.0 | 1.7 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Heating Performance - PART LOAD

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 25.4 | 1.93 | 19.9 | 88.5 | 3.9 | 0.7 |
| | | | 100 | 23.2 | 2.50 | 16.4 | 107.8 | 2.7 | 0.7 |
| | | | 120 | 21.3 | 3.25 | 12.7 | 127.2 | 1.9 | 0.6 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 26.4 | 1.94 | 20.8 | 88.8 | 4.0 | 0.7 |
| | | | 100 | 24.0 | 2.52 | 17.1 | 108.1 | 2.8 | 0.7 |
| | | | 120 | 21.9 | 3.27 | 13.2 | 127.4 | 2.0 | 0.6 |
| | 12 | 3.1 | 60 | | | | | | |
| | | | 80 | 26.9 | 1.97 | 21.3 | 89.0 | 4.0 | 0.7 |
| | | | 100 | 24.4 | 2.55 | 17.4 | 108.2 | 2.8 | 0.7 |
| | | | 120 | 22.2 | 3.30 | 13.4 | 127.5 | 2.0 | 0.6 |
| 50 | 6 | 0.8 | 60 | 36.0 | 1.44 | 31.6 | 72.0 | 7.3 | 0.8 |
| | | | 80 | 33.4 | 1.90 | 27.9 | 91.2 | 5.2 | 0.7 |
| | | | 100 | 31.1 | 2.48 | 24.0 | 110.4 | 3.7 | 0.7 |
| | | | 120 | 29.0 | 3.23 | 20.0 | 129.8 | 2.6 | 0.6 |
| | 9 | 1.7 | 60 | 37.8 | 1.45 | 33.4 | 72.6 | 7.6 | 0.8 |
| | | | 80 | 35.0 | 1.91 | 29.4 | 91.7 | 5.4 | 0.7 |
| | | | 100 | 32.3 | 2.50 | 25.2 | 110.9 | 3.8 | 0.7 |
| | | | 120 | 30.0 | 3.24 | 20.9 | 130.1 | 2.7 | 0.6 |
| | 12 | 2.9 | 60 | 38.8 | 1.47 | 34.4 | 72.9 | 7.7 | 0.8 |
| | | | 80 | 35.8 | 1.93 | 30.2 | 92.0 | 5.4 | 0.7 |
| | | | 100 | 33.0 | 2.52 | 25.8 | 111.1 | 3.8 | 0.7 |
| | | | 120 | 30.5 | 3.27 | 21.3 | 130.3 | 2.7 | 0.6 |
| 70 | 6 | 0.8 | 60 | 44.6 | 1.35 | 40.6 | 74.9 | 9.7 | 0.8 |
| | | | 80 | 41.7 | 1.82 | 36.4 | 94.0 | 6.7 | 0.7 |
| | | | 100 | 39.1 | 2.40 | 32.2 | 113.1 | 4.8 | 0.7 |
| | | | 120 | 36.7 | 3.13 | 27.8 | 132.4 | 3.4 | 0.6 |
| | 9 | 1.6 | 60 | 47.0 | 1.35 | 43.0 | 75.7 | 10.2 | 0.8 |
| | | | 80 | 43.8 | 1.82 | 38.5 | 94.7 | 7.1 | 0.7 |
| | | | 100 | 40.8 | 2.41 | 33.9 | 113.7 | 5.0 | 0.7 |
| | | | 120 | | | | | | |
| | 12 | 2.7 | 60 | 48.4 | 1.36 | 44.3 | 76.1 | 10.4 | 0.8 |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| 90 | 6 | 0.7 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9 | 1.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 12 | 2.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW048 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 25.7 | 1.88 | 20.3 | 85.7 | 4.0 | 1.5 |
| | | | 100 | 23.5 | 2.46 | 16.7 | 105.3 | 2.8 | 1.4 |
| | | | 120 | 21.5 | 3.21 | 13.0 | 124.8 | 2.0 | 1.4 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 26.7 | 1.90 | 21.3 | 86.0 | 4.1 | 1.5 |
| | | | 100 | 24.3 | 2.47 | 17.4 | 105.4 | 2.9 | 1.4 |
| | | | 120 | 22.1 | 3.22 | 13.5 | 125.0 | 2.0 | 1.4 |
| | 12 | 3.1 | 60 | | | | | | |
| | | | 80 | 27.3 | 1.92 | 21.8 | 86.1 | 4.2 | 1.5 |
| | | | 100 | 24.7 | 2.50 | 17.8 | 105.5 | 2.9 | 1.4 |
| | | | 120 | 22.4 | 3.25 | 13.7 | 125.0 | 2.0 | 1.4 |
| 50 | 6 | 0.8 | 60 | | | | | | |
| | | | 80 | 33.9 | 1.83 | 28.6 | 87.6 | 5.4 | 1.5 |
| | | | 100 | 31.4 | 2.41 | 24.6 | 107.0 | 3.8 | 1.4 |
| | | | 120 | 29.2 | 3.16 | 20.4 | 126.6 | 2.7 | 1.4 |
| | 9 | 1.7 | 60 | | | | | | |
| | | | 80 | 35.5 | 1.83 | 30.1 | 87.9 | 5.7 | 1.5 |
| | | | 100 | 32.7 | 2.42 | 25.8 | 107.3 | 4.0 | 1.4 |
| | | | 120 | 30.2 | 3.17 | 21.3 | 126.8 | 2.8 | 1.4 |
| | 12 | 2.9 | 60 | | | | | | |
| | | | 80 | 36.4 | 1.86 | 30.9 | 88.1 | 5.7 | 1.5 |
| | | | 100 | 33.4 | 2.44 | 26.4 | 107.5 | 4.0 | 1.4 |
| | | | 120 | 30.8 | 3.19 | 21.8 | 126.9 | 2.8 | 1.4 |
| 70 | 6 | 0.8 | 60 | 45.4 | 1.26 | 41.5 | 70.1 | 10.5 | 1.6 |
| | | | 80 | 42.4 | 1.72 | 37.3 | 89.5 | 7.2 | 1.5 |
| | | | 100 | 39.6 | 2.30 | 32.9 | 108.9 | 5.0 | 1.4 |
| | | | 120 | 37.1 | 3.03 | 28.4 | 128.3 | 3.6 | 1.4 |
| | 9 | 1.6 | 60 | 47.9 | 1.25 | 44.1 | 70.6 | 11.2 | 1.6 |
| | | | 80 | 44.6 | 1.72 | 39.5 | 89.9 | 7.6 | 1.5 |
| | | | 100 | 41.4 | 2.30 | 34.7 | 109.3 | 5.3 | 1.4 |
| | | | 120 | | | | | | |
| | 12 | 2.7 | 60 | 49.3 | 1.27 | 45.5 | 71.0 | 11.4 | 1.6 |
| | | | 80 | 45.8 | 1.74 | 40.7 | 90.2 | 7.7 | 1.5 |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| 90 | 6 | 0.7 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9 | 1.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 12 | 2.5 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD | | | | | | | |
|--------|-----|---------------------|--------|-----------------------|-----------|------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | 12 GPM | | | | | | | |
| | | | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6 | 0.9 | 60 | | | | | | | |
| | | | 80 | 25.9 | 1.88 | 20.6 | 84.3 | 4.0 | 2.6 | |
| | | | 100 | 23.6 | 2.45 | 16.9 | 104.0 | 2.8 | 2.4 | |
| | | | 120 | 21.6 | 3.21 | 13.1 | 123.6 | 2.0 | 2.3 | |
| | 9 | 1.9 | 60 | | | | | | | |
| | | | 80 | 27.0 | 1.89 | 21.5 | 84.5 | 4.2 | 2.6 | |
| | | | 100 | 24.5 | 2.46 | 17.6 | 104.1 | 2.9 | 2.4 | |
| | | | 120 | 22.2 | 3.22 | 13.6 | 123.7 | 2.0 | 2.3 | |
| | 12 | 3.1 | 60 | | | | | | | |
| | | | 80 | 27.5 | 1.92 | 22.0 | 84.6 | 4.2 | 2.6 | |
| | | | 100 | 24.9 | 2.49 | 18.0 | 104.2 | 2.9 | 2.4 | |
| | | | 120 | 22.6 | 3.25 | 13.8 | 123.8 | 2.0 | 2.3 | |
| 50 | 6 | 0.8 | 60 | | | | | | | |
| | | | 80 | 34.2 | 1.81 | 28.9 | 85.7 | 5.5 | 2.6 | |
| | | | 100 | 31.6 | 2.39 | 24.8 | 105.3 | 3.9 | 2.4 | |
| | | | 120 | 29.4 | 3.14 | 20.6 | 125.0 | 2.7 | 2.3 | |
| | 9 | 1.7 | 60 | | | | | | | |
| | | | 80 | 35.8 | 1.82 | 30.5 | 86.0 | 5.8 | 2.6 | |
| | | | 100 | 33.0 | 2.39 | 26.1 | 105.5 | 4.0 | 2.4 | |
| | | | 120 | 30.4 | 3.15 | 21.6 | 125.1 | 2.8 | 2.3 | |
| | 12 | 2.9 | 60 | | | | | | | |
| | | | 80 | 36.7 | 1.84 | 31.3 | 86.1 | 5.9 | 2.6 | |
| | | | 100 | 33.7 | 2.42 | 26.7 | 105.7 | 4.1 | 2.4 | |
| | | | 120 | 31.0 | 3.17 | 22.0 | 125.2 | 2.9 | 2.3 | |
| 70 | 6 | 0.8 | 60 | 45.8 | 1.24 | 42.0 | 67.6 | 10.8 | 2.7 | |
| | | | 80 | 42.8 | 1.69 | 37.8 | 87.2 | 7.4 | 2.6 | |
| | | | 100 | 39.9 | 2.27 | 33.3 | 106.7 | 5.2 | 2.4 | |
| | | | 120 | 37.3 | 2.99 | 28.8 | 126.3 | 3.7 | 2.3 | |
| | 9 | 1.6 | 60 | 48.4 | 1.23 | 44.7 | 68.1 | 11.6 | 2.7 | |
| | | | 80 | 45.0 | 1.69 | 40.0 | 87.5 | 7.8 | 2.6 | |
| | | | 100 | 41.7 | 2.27 | 35.2 | 107.0 | 5.4 | 2.4 | |
| | | | 120 | | | | | | | |
| | 12 | 2.7 | 60 | 49.9 | 1.24 | 46.1 | 68.3 | 11.8 | 2.7 | |
| | | | 80 | 46.2 | 1.70 | 41.2 | 87.7 | 8.0 | 2.6 | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| 90 | 6 | 0.7 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9 | 1.5 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 12 | 2.5 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [Redacted] = Operation not recommended

HW048 Heating Performance - FULL LOAD

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6 | 0.9 | 60 | 35.9 | 2.02 | 29.8 | 71.9 | 5.2 | 0.8 |
| | | | 80 | 34.6 | 2.60 | 27.0 | 91.6 | 3.9 | 0.7 |
| | | | 100 | 33.5 | 3.31 | 23.9 | 111.3 | 3.0 | 0.7 |
| | | | 120 | 32.7 | 4.22 | 20.6 | 131.0 | 2.3 | 0.6 |
| | 9 | 1.9 | 60 | 38.0 | 2.07 | 31.7 | 72.7 | 5.4 | 0.8 |
| | | | 80 | 36.4 | 2.64 | 28.5 | 92.2 | 4.0 | 0.7 |
| | | | 100 | 34.9 | 3.35 | 25.2 | 111.7 | 3.1 | 0.7 |
| | | | 120 | 33.8 | 4.26 | 21.5 | 131.4 | 2.3 | 0.6 |
| | 12 | 3.1 | 60 | 39.2 | 2.12 | 32.7 | 73.1 | 5.4 | 0.8 |
| | | | 80 | 37.4 | 2.69 | 29.4 | 92.5 | 4.1 | 0.7 |
| | | | 100 | 35.7 | 3.39 | 25.8 | 112.0 | 3.1 | 0.7 |
| | | | 120 | 34.4 | 4.30 | 22.0 | 131.6 | 2.3 | 0.6 |
| 50 | 6 | 0.9 | 60 | 45.8 | 2.15 | 39.2 | 75.3 | 6.3 | 0.8 |
| | | | 80 | 44.1 | 2.69 | 36.0 | 94.8 | 4.8 | 0.7 |
| | | | 100 | 42.5 | 3.38 | 32.5 | 114.3 | 3.7 | 0.7 |
| | | | 120 | 41.2 | 4.27 | 28.7 | 133.9 | 2.8 | 0.6 |
| | 9 | 1.7 | 60 | 48.8 | 2.20 | 42.1 | 76.3 | 6.5 | 0.8 |
| | | | 80 | 46.6 | 2.74 | 38.4 | 95.6 | 5.0 | 0.7 |
| | | | 100 | 44.6 | 3.43 | 34.4 | 115.0 | 3.8 | 0.7 |
| | | | 120 | 42.9 | 4.31 | 30.2 | 134.5 | 2.9 | 0.6 |
| | 12 | 2.9 | 60 | 50.5 | 2.26 | 43.6 | 76.8 | 6.6 | 0.8 |
| | | | 80 | 48.0 | 2.79 | 39.6 | 96.1 | 5.0 | 0.7 |
| | | | 100 | 45.7 | 3.47 | 35.4 | 115.4 | 3.9 | 0.7 |
| | | | 120 | 43.8 | 4.35 | 31.0 | 134.8 | 3.0 | 0.6 |
| 70 | 6 | 0.8 | 60 | 57.5 | 2.26 | 50.6 | 79.2 | 7.5 | 0.8 |
| | | | 80 | 55.2 | 2.79 | 46.8 | 98.5 | 5.8 | 0.7 |
| | | | 100 | 53.0 | 3.48 | 42.5 | 117.8 | 4.5 | 0.7 |
| | | | 120 | 51.1 | 4.38 | 38.1 | 137.3 | 3.4 | 0.6 |
| | 9 | 1.6 | 60 | 61.5 | 2.30 | 54.4 | 80.5 | 7.8 | 0.8 |
| | | | 80 | 58.6 | 2.83 | 50.0 | 99.6 | 6.1 | 0.7 |
| | | | 100 | 55.9 | 3.53 | 45.2 | 118.8 | 4.6 | 0.7 |
| | | | 120 | 53.5 | 4.44 | 40.3 | 138.1 | 3.5 | 0.6 |
| | 12 | 2.7 | 60 | 63.7 | 2.34 | 56.5 | 81.2 | 8.0 | 0.8 |
| | | | 80 | 60.5 | 2.87 | 51.7 | 100.3 | 6.2 | 0.7 |
| | | | 100 | 57.5 | 3.58 | 46.7 | 119.3 | 4.7 | 0.7 |
| | | | 120 | 54.8 | 4.48 | 41.4 | 138.5 | 3.6 | 0.6 |
| 90 | 6 | 0.7 | | | | | | | |
| | 9 | 1.5 | | | | | | | |
| | 12 | 2.5 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 34.9 | 2.52 | 27.4 | 87.8 | 4.1 | 1.5 |
| | | | 100 | 33.7 | 3.21 | 24.3 | 107.6 | 3.1 | 1.4 |
| | | | 120 | 32.8 | 4.13 | 20.9 | 127.4 | 2.3 | 1.4 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 36.7 | 2.55 | 29.1 | 88.2 | 4.2 | 1.5 |
| | | | 100 | 35.2 | 3.25 | 25.7 | 107.9 | 3.2 | 1.4 |
| | | | 120 | 33.9 | 4.16 | 21.9 | 127.6 | 2.4 | 1.4 |
| | 12 | 3.1 | 60 | | | | | | |
| | | | 80 | 37.7 | 2.59 | 30.0 | 88.4 | 4.3 | 1.5 |
| | | | 100 | 36.0 | 3.28 | 26.3 | 108.1 | 3.2 | 1.4 |
| | | | 120 | 34.6 | 4.19 | 22.4 | 127.8 | 2.4 | 1.4 |
| 50 | 6 | 0.9 | 60 | 46.2 | 2.04 | 39.9 | 70.3 | 6.6 | 1.6 |
| | | | 80 | 44.5 | 2.58 | 36.8 | 89.9 | 5.1 | 1.5 |
| | | | 100 | 42.8 | 3.26 | 33.2 | 109.6 | 3.9 | 1.4 |
| | | | 120 | 41.4 | 4.14 | 29.2 | 129.3 | 2.9 | 1.4 |
| | 9 | 1.7 | 60 | 49.4 | 2.10 | 43.0 | 71.0 | 6.9 | 1.6 |
| | | | 80 | 47.2 | 2.62 | 39.2 | 90.5 | 5.3 | 1.5 |
| | | | 100 | 45.0 | 3.30 | 35.2 | 110.1 | 4.0 | 1.4 |
| | | | 120 | 43.2 | 4.17 | 30.9 | 129.7 | 3.0 | 1.4 |
| | 12 | 2.9 | 60 | 51.3 | 2.14 | 44.6 | 71.4 | 7.0 | 1.6 |
| | | | 80 | 48.7 | 2.67 | 40.6 | 90.9 | 5.4 | 1.5 |
| | | | 100 | 46.2 | 3.34 | 36.2 | 110.4 | 4.1 | 1.4 |
| | | | 120 | 44.2 | 4.21 | 31.7 | 129.9 | 3.1 | 1.4 |
| 70 | 6 | 0.8 | 60 | 58.2 | 2.13 | 51.6 | 72.9 | 8.0 | 1.6 |
| | | | 80 | 55.9 | 2.65 | 47.8 | 92.5 | 6.2 | 1.5 |
| | | | 100 | 53.5 | 3.32 | 43.6 | 112.0 | 4.7 | 1.4 |
| | | | 120 | 51.5 | 4.20 | 39.0 | 131.6 | 3.6 | 1.4 |
| | 9 | 1.6 | 60 | 63.0 | 2.16 | 56.3 | 74.0 | 8.5 | 1.6 |
| | | | 80 | 59.5 | 2.67 | 51.3 | 93.3 | 6.5 | 1.5 |
| | | | 100 | 56.6 | 3.35 | 46.5 | 112.7 | 5.0 | 1.4 |
| | | | 120 | 54.0 | 4.24 | 41.3 | 132.2 | 3.7 | 1.4 |
| | 12 | 2.7 | 60 | 64.9 | 2.19 | 58.0 | 74.4 | 8.7 | 1.6 |
| | | | 80 | 61.5 | 2.71 | 53.2 | 93.7 | 6.7 | 1.5 |
| | | | 100 | 58.2 | 3.38 | 48.0 | 113.1 | 5.0 | 1.4 |
| | | | 120 | 55.4 | 4.28 | 42.6 | 132.5 | 3.8 | 1.4 |
| 90 | 6 | 0.7 | | | | | | | |
| | 9 | 1.5 | | | | | | | |
| | 12 | 2.5 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 12 GPM | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6 | 0.9 | 60 | | | | | | |
| | | | 80 | 35.1 | 2.49 | 27.7 | 85.9 | 4.1 | 2.6 |
| | | | 100 | 33.9 | 3.19 | 24.6 | 105.7 | 3.1 | 2.4 |
| | | | 120 | 32.9 | 4.09 | 21.1 | 125.6 | 2.4 | 2.3 |
| | 9 | 1.9 | 60 | | | | | | |
| | | | 80 | 36.9 | 2.52 | 29.4 | 86.2 | 4.3 | 2.6 |
| | | | 100 | 35.4 | 3.21 | 25.9 | 105.9 | 3.2 | 2.4 |
| | | | 120 | 34.1 | 4.12 | 22.1 | 125.7 | 2.4 | 2.3 |
| | 12 | 3.1 | 60 | | | | | | |
| | | | 80 | 38.0 | 2.56 | 30.3 | 86.4 | 4.3 | 2.6 |
| | | | 100 | 36.2 | 3.25 | 26.6 | 106.1 | 3.3 | 2.4 |
| | | | 120 | 34.7 | 4.16 | 22.6 | 125.9 | 2.5 | 2.3 |
| 50 | 6 | 0.9 | 60 | 46.5 | 2.01 | 40.3 | 67.7 | 6.8 | 2.7 |
| | | | 80 | 44.8 | 2.54 | 37.1 | 87.5 | 5.2 | 2.6 |
| | | | 100 | 43.1 | 3.21 | 33.5 | 107.2 | 3.9 | 2.4 |
| | | | 120 | 41.6 | 4.08 | 29.5 | 127.0 | 3.0 | 2.3 |
| | 9 | 1.7 | 60 | 49.8 | 2.06 | 43.4 | 68.3 | 7.1 | 2.7 |
| | | | 80 | 47.5 | 2.58 | 39.7 | 88.0 | 5.4 | 2.6 |
| | | | 100 | 45.3 | 3.25 | 35.6 | 107.6 | 4.1 | 2.4 |
| | | | 120 | 43.4 | 4.11 | 31.2 | 127.3 | 3.1 | 2.3 |
| | 12 | 2.9 | 60 | 51.7 | 2.10 | 45.1 | 68.6 | 7.2 | 2.7 |
| | | | 80 | 49.1 | 2.62 | 41.1 | 88.2 | 5.5 | 2.6 |
| | | | 100 | 46.5 | 3.29 | 36.7 | 107.8 | 4.2 | 2.4 |
| | | | 120 | 44.4 | 4.15 | 32.1 | 127.5 | 3.1 | 2.3 |
| 70 | 6 | 0.8 | 60 | 58.6 | 2.08 | 52.2 | 69.8 | 8.3 | 2.7 |
| | | | 80 | 56.3 | 2.59 | 48.4 | 89.4 | 6.4 | 2.5 |
| | | | 100 | 53.9 | 3.25 | 44.1 | 109.1 | 4.9 | 2.4 |
| | | | 120 | 51.7 | 4.12 | 39.4 | 128.7 | 3.7 | 2.3 |
| | 9 | 1.6 | 60 | 63.0 | 2.11 | 56.4 | 70.5 | 8.8 | 2.7 |
| | | | 80 | 60.0 | 2.61 | 52.0 | 90.0 | 6.7 | 2.5 |
| | | | 100 | 57.0 | 3.27 | 47.1 | 109.6 | 5.1 | 2.4 |
| | | | 120 | 54.3 | 4.16 | 41.9 | 129.2 | 3.8 | 2.3 |
| | 12 | 2.7 | 60 | 65.6 | 2.14 | 58.9 | 70.9 | 9.0 | 2.7 |
| | | | 80 | 62.1 | 2.64 | 54.0 | 90.4 | 6.9 | 2.5 |
| | | | 100 | 58.7 | 3.31 | 48.7 | 109.9 | 5.2 | 2.4 |
| | | | 120 | 55.8 | 4.20 | 43.2 | 129.4 | 3.9 | 2.3 |
| 90 | 6 | 0.7 | | | | | | | |
| | 9 | 1.5 | | | | | | | |
| | 12 | 2.5 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 [REDACTED] = Operation not recommended

HW048 Cooling Performance - PART LOAD

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6 | 0.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | 49.6 | 1.06 | 52.8 | 63.5 | 46.7 | 0.8 |
| | | | 90 | | | | | | |
| | 9 | 1.7 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 6 | 0.8 | 50 | 29.2 | 1.57 | 33.9 | 40.3 | 18.6 | 0.9 |
| | | | 60 | 34.0 | 1.56 | 38.6 | 48.7 | 21.9 | 0.8 |
| | | | 70 | 40.0 | 1.53 | 44.6 | 56.7 | 26.1 | 0.8 |
| | | | 80 | 44.7 | 1.51 | 49.2 | 65.1 | 29.7 | 0.8 |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 30.0 | 1.51 | 34.5 | 40.1 | 19.8 | 0.9 |
| | | | 60 | 35.0 | 1.48 | 39.5 | 48.4 | 23.6 | 0.8 |
| | | | 70 | 40.6 | 1.45 | 44.9 | 56.5 | 28.0 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.6 | 50 | 30.6 | 1.50 | 35.1 | 39.9 | 20.4 | 0.9 |
| | | | 60 | 34.7 | 1.47 | 39.1 | 48.5 | 23.6 | 0.8 |
| | | | 70 | 40.3 | 1.43 | 44.6 | 56.6 | 28.3 | 0.8 |
| | | | 80 | 47.1 | 1.36 | 51.2 | 64.3 | 34.5 | 0.8 |
| | | | 90 | | | | | | |
| 90 | 6 | 0.7 | 50 | 25.8 | 2.15 | 32.0 | 41.5 | 12.0 | 0.8 |
| | | | 60 | 30.3 | 2.14 | 36.6 | 49.9 | 14.2 | 0.8 |
| | | | 70 | 35.2 | 2.13 | 41.4 | 58.3 | 16.5 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 26.3 | 2.08 | 32.3 | 41.3 | 12.6 | 0.8 |
| | | | 60 | 30.9 | 2.06 | 36.9 | 49.7 | 15.0 | 0.8 |
| | | | 70 | 36.3 | 2.03 | 42.2 | 57.9 | 17.9 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.5 | 50 | 26.5 | 2.07 | 32.5 | 41.2 | 12.9 | 0.8 |
| | | | 60 | 31.3 | 2.03 | 37.3 | 49.6 | 15.4 | 0.8 |
| | | | 70 | 36.4 | 2.00 | 42.3 | 57.9 | 18.3 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 110 | 6 | 0.7 | 50 | 22.0 | 2.81 | 30.0 | 42.7 | 7.8 | 0.8 |
| | | | 60 | 26.4 | 2.80 | 34.4 | 51.2 | 9.4 | 0.8 |
| | | | 70 | 31.1 | 2.78 | 39.2 | 59.6 | 11.2 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.4 | 50 | 22.5 | 2.73 | 30.2 | 42.6 | 8.2 | 0.8 |
| | | | 60 | 27.0 | 2.71 | 34.8 | 51.0 | 10.0 | 0.8 |
| | | | 70 | 31.9 | 2.67 | 39.7 | 59.4 | 12.0 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.3 | 50 | 22.7 | 2.71 | 30.4 | 42.5 | 8.4 | 0.8 |
| | | | 60 | 27.3 | 2.68 | 35.0 | 50.9 | 10.2 | 0.8 |
| | | | 70 | 32.2 | 2.64 | 39.9 | 59.3 | 12.2 | 0.8 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 XXXXXXXXXX = Operation not recommended

HW048 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6 | 0.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.7 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 6 | 0.8 | 50 | 30.2 | 1.58 | 34.9 | 43.3 | 19.1 | 1.7 |
| | | | 60 | 36.3 | 1.56 | 40.9 | 52.0 | 23.2 | 1.6 |
| | | | 70 | 42.1 | 1.54 | 46.7 | 60.6 | 27.4 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 31.9 | 1.52 | 36.4 | 43.0 | 21.0 | 1.7 |
| | | | 60 | 36.4 | 1.49 | 40.8 | 51.9 | 24.5 | 1.6 |
| | | | 70 | 40.7 | 1.45 | 45.1 | 61.0 | 28.0 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.6 | 50 | 31.9 | 1.51 | 36.4 | 43.0 | 21.2 | 1.7 |
| | | | 60 | 37.5 | 1.46 | 41.9 | 51.7 | 25.7 | 1.7 |
| 70 | | | 43.4 | 1.42 | 47.7 | 60.4 | 30.6 | 1.6 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 6 | 0.7 | 50 | 27.2 | 2.17 | 33.4 | 44.0 | 12.5 | 1.7 |
| | | | 60 | 32.1 | 2.15 | 38.3 | 52.9 | 14.9 | 1.6 |
| | | | 70 | 37.3 | 2.14 | 43.5 | 61.7 | 17.4 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 27.8 | 2.09 | 33.9 | 43.9 | 13.3 | 1.7 |
| | | | 60 | 32.8 | 2.06 | 38.8 | 52.7 | 15.9 | 1.6 |
| | | | 70 | 38.1 | 2.03 | 44.0 | 61.5 | 18.8 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.5 | 50 | 28.1 | 2.07 | 34.1 | 43.8 | 13.6 | 1.7 |
| | | | 60 | 33.2 | 2.03 | 39.1 | 52.7 | 16.3 | 1.6 |
| 70 | | | 38.7 | 1.99 | 44.6 | 61.4 | 19.4 | 1.6 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 6 | 0.7 | 50 | 23.1 | 2.82 | 31.1 | 44.9 | 8.2 | 1.7 |
| | | | 60 | 27.7 | 2.81 | 35.8 | 53.9 | 9.9 | 1.6 |
| | | | 70 | 32.8 | 2.78 | 40.9 | 62.7 | 11.8 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9 | 1.4 | 50 | 23.6 | 2.74 | 31.4 | 44.8 | 8.6 | 1.7 |
| | | | 60 | 28.4 | 2.72 | 36.2 | 53.7 | 10.5 | 1.6 |
| | | | 70 | 33.7 | 2.67 | 41.4 | 62.5 | 12.6 | 1.6 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 12 | 2.3 | 50 | 23.9 | 2.72 | 31.6 | 44.7 | 8.8 | 1.7 |
| | | | 60 | 28.8 | 2.68 | 36.5 | 53.6 | 10.7 | 1.6 |
| 70 | | | 34.1 | 2.63 | 41.7 | 62.4 | 13.0 | 1.6 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 12 GPM | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6 | 0.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 47.4 | 1.12 | 50.9 | 62.1 | 42.2 | 2.7 |
| | | | 80 | | | | | | |
| | 9 | 1.7 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 12 | 2.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| 70 | 6 | 0.8 | 50 | 31.7 | 1.61 | 36.5 | 44.7 | 19.7 | 2.9 |
| | | | 60 | 37.1 | 1.59 | 41.9 | 53.8 | 23.4 | 2.8 |
| | | | 70 | 42.7 | 1.56 | 47.4 | 62.9 | 27.3 | 2.7 |
| | | | 80 | | | | | | |
| | 9 | 1.6 | 50 | 32.4 | 1.54 | 37.1 | 44.6 | 21.1 | 2.9 |
| | | | 60 | 38.4 | 1.50 | 43.0 | 53.6 | 25.6 | 2.8 |
| | | | 70 | 43.5 | 1.46 | 47.9 | 62.8 | 29.7 | 2.7 |
| | | | 80 | | | | | | |
| | 12 | 2.6 | 50 | 32.9 | 1.53 | 37.5 | 44.5 | 21.6 | 2.9 |
| | | | 60 | 39.1 | 1.48 | 43.5 | 53.5 | 26.4 | 2.8 |
| | | | 70 | 44.6 | 1.43 | 49.0 | 62.6 | 31.2 | 2.7 |
| | | | 80 | | | | | | |
| 90 | 6 | 0.7 | 50 | 27.9 | 2.19 | 34.2 | 45.4 | 12.7 | 2.9 |
| | | | 60 | 33.0 | 2.18 | 39.3 | 54.5 | 15.1 | 2.8 |
| | | | 70 | 38.4 | 2.16 | 44.7 | 63.6 | 17.8 | 2.7 |
| | | | 80 | | | | | | |
| | 9 | 1.5 | 50 | 28.5 | 2.11 | 34.7 | 45.3 | 13.5 | 2.9 |
| | | | 60 | 33.8 | 2.08 | 39.9 | 54.4 | 16.2 | 2.8 |
| | | | 70 | 39.4 | 2.05 | 45.4 | 63.4 | 19.2 | 2.7 |
| | | | 80 | | | | | | |
| | 12 | 2.5 | 50 | 28.9 | 2.09 | 35.0 | 45.2 | 13.8 | 2.9 |
| | | | 60 | 34.2 | 2.05 | 40.2 | 54.3 | 16.7 | 2.8 |
| | | | 70 | 39.8 | 2.01 | 45.8 | 63.4 | 19.8 | 2.7 |
| | | | 80 | | | | | | |
| 110 | 6 | 0.7 | 50 | 23.6 | 2.85 | 31.7 | 46.1 | 8.3 | 2.9 |
| | | | 60 | 28.4 | 2.84 | 36.6 | 55.3 | 10.0 | 2.8 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 9 | 1.4 | 50 | 24.2 | 2.77 | 32.1 | 46.0 | 8.7 | 2.9 |
| | | | 60 | 29.1 | 2.74 | 37.0 | 55.2 | 10.7 | 2.8 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | 12 | 2.3 | 50 | 24.5 | 2.74 | 32.3 | 45.9 | 8.9 | 2.9 |
| | | | 60 | 29.5 | 2.70 | 37.3 | 55.1 | 10.9 | 2.8 |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 [Redacted] = Operation not recommended

HW048 Cooling Performance - FULL LOAD

| SOURCE | | | LOAD 6 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6 | 0.8 | 50 | | | | | | |
| | | | 60 | 47.2 | 1.96 | 53.4 | 44.3 | 24.1 | 0.8 |
| | | | 70 | 54.0 | 2.02 | 60.3 | 52.0 | 26.7 | 0.8 |
| | | | 80 | 61.0 | 2.08 | 67.5 | 59.7 | 29.4 | 0.8 |
| | | | 90 | 68.0 | 2.12 | 74.6 | 67.3 | 32.1 | 0.7 |
| | 9 | 1.7 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | 70.2 | 1.96 | 76.4 | 66.5 | 35.8 | 0.7 |
| | 12 | 2.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 6 | 0.7 | 50 | 37.9 | 2.39 | 45.2 | 37.5 | 15.9 | 0.9 |
| | | | 60 | 43.8 | 2.47 | 51.3 | 45.5 | 17.7 | 0.8 |
| | | | 70 | 50.2 | 2.52 | 57.9 | 53.3 | 19.9 | 0.8 |
| | | | 80 | 56.8 | 2.58 | 64.7 | 61.0 | 22.1 | 0.8 |
| | | | 90 | | | | | | |
| | 9 | 1.6 | 50 | 38.7 | 2.28 | 45.7 | 37.2 | 17.0 | 0.9 |
| | | | 60 | 44.8 | 2.35 | 52.0 | 45.1 | 19.1 | 0.8 |
| | | | 70 | 51.5 | 2.38 | 58.8 | 52.9 | 21.6 | 0.8 |
| | | | 80 | 58.5 | 2.41 | 66.0 | 60.5 | 24.3 | 0.8 |
| | | | 90 | 64.6 | 2.44 | 72.2 | 68.4 | 26.5 | 0.7 |
| | 12 | 2.6 | 50 | 39.1 | 2.25 | 46.1 | 37.0 | 17.4 | 0.9 |
| | | | 60 | 45.3 | 2.31 | 52.5 | 44.9 | 19.7 | 0.8 |
| | | | 70 | 52.1 | 2.33 | 59.4 | 52.6 | 22.4 | 0.8 |
| | | | 80 | 59.4 | 2.35 | 66.7 | 60.2 | 25.2 | 0.8 |
| | | | 90 | 66.9 | 2.37 | 74.3 | 67.6 | 28.2 | 0.7 |
| 90 | 6 | 0.7 | 50 | 34.1 | 3.01 | 43.1 | 38.7 | 11.3 | 0.9 |
| | | | 60 | 39.7 | 3.09 | 49.0 | 46.8 | 12.8 | 0.8 |
| | | | 70 | 45.4 | 3.15 | 54.9 | 54.9 | 14.4 | 0.8 |
| | | | 80 | 51.9 | 3.22 | 61.7 | 62.7 | 16.1 | 0.8 |
| | | | 90 | | | | | | |
| | 9 | 1.5 | 50 | 34.9 | 2.89 | 43.6 | 38.5 | 12.1 | 0.9 |
| | | | 60 | 40.6 | 2.96 | 49.5 | 46.5 | 13.7 | 0.8 |
| | | | 70 | 46.9 | 2.99 | 56.0 | 54.4 | 15.7 | 0.8 |
| | | | 80 | 53.8 | 3.03 | 63.1 | 62.0 | 17.8 | 0.8 |
| | | | 90 | | | | | | |
| | 12 | 2.5 | 50 | 35.2 | 2.85 | 43.8 | 38.3 | 12.4 | 0.9 |
| | | | 60 | 41.1 | 2.91 | 49.9 | 46.4 | 14.1 | 0.8 |
| | | | 70 | 47.6 | 2.93 | 56.5 | 54.2 | 16.3 | 0.8 |
| | | | 80 | 54.3 | 2.95 | 63.3 | 61.9 | 18.4 | 0.8 |
| | | | 90 | | | | | | |
| 110 | 6 | 0.7 | 50 | 30.2 | 3.77 | 41.4 | 40.0 | 8.0 | 0.8 |
| | | | 60 | 35.5 | 3.87 | 47.1 | 48.2 | 9.2 | 0.8 |
| | | | 70 | 41.5 | 3.96 | 53.4 | 56.2 | 10.5 | 0.8 |
| | | | 80 | 47.4 | 4.05 | 59.7 | 64.2 | 11.7 | 0.8 |
| | | | 90 | | | | | | |
| | 9 | 1.4 | 50 | 30.9 | 3.67 | 41.8 | 39.8 | 8.4 | 0.9 |
| | | | 60 | 36.3 | 3.71 | 47.4 | 47.9 | 9.8 | 0.8 |
| | | | 70 | 42.1 | 3.76 | 53.4 | 56.0 | 11.2 | 0.8 |
| | | | 80 | 48.1 | 3.82 | 59.7 | 64.0 | 12.6 | 0.8 |
| | | | 90 | | | | | | |
| | 12 | 2.3 | 50 | 31.2 | 3.63 | 41.9 | 39.7 | 8.6 | 0.9 |
| | | | 60 | 36.7 | 3.65 | 47.7 | 47.8 | 10.1 | 0.8 |
| | | | 70 | 42.7 | 3.69 | 53.9 | 55.8 | 11.6 | 0.8 |
| | | | 80 | 49.4 | 3.73 | 60.7 | 63.5 | 13.2 | 0.8 |
| | | | 90 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW048 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 9 GPM | | | | | | |
|--------|-----|---------------------|---------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6 | 0.8 | 50 | | | | | | |
| | | | 60 | 51.1 | 2.01 | 57.4 | 48.7 | 25.4 | 1.7 |
| | | | 70 | 58.5 | 2.07 | 65.0 | 57.0 | 28.2 | 1.6 |
| | | | 80 | 66.2 | 2.13 | 72.9 | 65.3 | 31.2 | 1.6 |
| | 9 | 1.7 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | 68.3 | 1.97 | 74.6 | 64.8 | 34.7 | 1.6 |
| | 12 | 2.8 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| 70 | 6 | 0.7 | 50 | 40.6 | 2.44 | 48.1 | 41.0 | 16.6 | 1.7 |
| | | | 60 | 47.1 | 2.51 | 54.8 | 49.6 | 18.8 | 1.7 |
| | | | 70 | 54.2 | 2.57 | 62.2 | 58.0 | 21.1 | 1.6 |
| | | | 80 | 61.6 | 2.63 | 69.8 | 66.3 | 23.5 | 1.6 |
| | 9 | 1.6 | 50 | 41.6 | 2.33 | 48.8 | 40.8 | 17.9 | 1.7 |
| | | | 60 | 48.4 | 2.38 | 55.8 | 49.3 | 20.3 | 1.7 |
| | | | 70 | 55.8 | 2.42 | 63.3 | 57.6 | 23.1 | 1.6 |
| | | | 80 | 63.7 | 2.45 | 71.3 | 65.8 | 26.0 | 1.6 |
| | 12 | 2.6 | 50 | 42.1 | 2.29 | 49.2 | 40.7 | 18.4 | 1.7 |
| | | | 60 | 49.1 | 2.33 | 56.3 | 49.1 | 21.0 | 1.7 |
| | | | 70 | 56.7 | 2.36 | 64.0 | 57.4 | 24.0 | 1.6 |
| | | | 80 | 64.7 | 2.38 | 72.1 | 65.6 | 27.2 | 1.6 |
| 90 | 6 | 0.7 | 50 | 36.4 | 3.06 | 45.6 | 42.0 | 11.9 | 1.7 |
| | | | 60 | 42.5 | 3.14 | 52.0 | 50.6 | 13.5 | 1.7 |
| | | | 70 | 49.2 | 3.21 | 58.9 | 59.1 | 15.3 | 1.6 |
| | | | 80 | 56.1 | 3.28 | 66.1 | 67.5 | 17.1 | 1.6 |
| | 9 | 1.5 | 50 | 37.3 | 2.94 | 46.1 | 41.8 | 12.7 | 1.7 |
| | | | 60 | 43.6 | 2.99 | 52.7 | 50.3 | 14.6 | 1.7 |
| | | | 70 | 50.7 | 3.02 | 59.9 | 58.7 | 16.8 | 1.6 |
| | | | 80 | 58.0 | 3.06 | 67.3 | 67.1 | 18.9 | 1.6 |
| | 12 | 2.5 | 50 | 37.8 | 2.89 | 46.5 | 41.7 | 13.1 | 1.7 |
| | | | 60 | 44.2 | 2.93 | 53.2 | 50.2 | 15.1 | 1.7 |
| | | | 70 | 51.4 | 2.95 | 60.5 | 58.6 | 17.4 | 1.6 |
| | | | 80 | 58.9 | 2.98 | 68.1 | 66.9 | 19.8 | 1.6 |
| 110 | 6 | 0.7 | 50 | 32.2 | 3.84 | 43.6 | 42.9 | 8.4 | 1.7 |
| | | | 60 | 37.8 | 3.92 | 49.6 | 51.6 | 9.7 | 1.6 |
| | | | 70 | 43.7 | 4.00 | 55.8 | 60.3 | 10.9 | 1.6 |
| | | | 80 | | | | | | |
| | 9 | 1.4 | 50 | 32.8 | 3.70 | 43.8 | 42.8 | 8.9 | 1.7 |
| | | | 60 | 38.9 | 3.75 | 50.1 | 51.4 | 10.4 | 1.6 |
| | | | 70 | 45.2 | 3.81 | 56.7 | 60.0 | 11.9 | 1.6 |
| | | | 80 | | | | | | |
| | 12 | 2.3 | 50 | 33.2 | 3.65 | 44.1 | 42.7 | 9.1 | 1.7 |
| | | | 60 | 39.3 | 3.69 | 50.4 | 51.3 | 10.7 | 1.6 |
| | | | 70 | 43.3 | 3.71 | 54.5 | 60.4 | 11.7 | 1.6 |
| | | | 80 | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 [Redacted] = Operation not recommended

HW048 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 12 GPM | | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 6 | 0.8 | 50 | 45.9 | 1.99 | 52.1 | 42.4 | 23.1 | 2.9 | |
| | | | 60 | 53.2 | 2.06 | 59.7 | 51.2 | 25.9 | 2.8 | |
| | | | 70 | 61.1 | 2.12 | 67.7 | 59.8 | 28.8 | 2.7 | |
| | | | 80 | 69.3 | 2.17 | 76.1 | 68.4 | 32.0 | 2.6 | |
| | 9 | 1.7 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | 71.6 | 2.00 | 78.0 | 68.0 | 35.8 | 2.6 | |
| | 12 | 2.8 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | | | | | | | |
| 70 | 6 | 0.7 | 50 | 42.1 | 2.49 | 49.7 | 43.0 | 16.9 | 2.9 | |
| | | | 60 | 49.0 | 2.56 | 56.9 | 51.9 | 19.2 | 2.8 | |
| | | | 70 | 56.5 | 2.62 | 64.6 | 60.6 | 21.6 | 2.7 | |
| | | | 80 | | | | | | | |
| | 9 | 1.6 | 50 | 43.2 | 2.38 | 50.5 | 42.8 | 18.2 | 2.9 | |
| | | | 60 | 50.5 | 2.42 | 58.0 | 51.6 | 20.9 | 2.8 | |
| | | | 70 | 58.3 | 2.45 | 65.9 | 60.3 | 23.8 | 2.7 | |
| | | | 80 | | | | | | | |
| | 12 | 2.6 | 50 | 43.7 | 2.34 | 51.0 | 42.8 | 18.7 | 2.9 | |
| | | | 60 | 51.2 | 2.37 | 58.6 | 51.5 | 21.6 | 2.8 | |
| | | | 70 | 59.3 | 2.39 | 66.7 | 60.1 | 24.8 | 2.7 | |
| | | | 80 | 67.7 | 2.41 | 75.3 | 68.7 | 28.1 | 2.6 | |
| 90 | 6 | 0.7 | 50 | 37.6 | 3.11 | 47.0 | 43.8 | 12.1 | 2.9 | |
| | | | 60 | 44.0 | 3.18 | 53.7 | 52.7 | 13.8 | 2.8 | |
| | | | 70 | 51.1 | 3.25 | 61.0 | 61.5 | 15.7 | 2.7 | |
| | | | 80 | | | | | | | |
| | 9 | 1.5 | 50 | 38.5 | 2.98 | 47.5 | 43.6 | 12.9 | 2.9 | |
| | | | 60 | 45.3 | 3.02 | 54.5 | 52.5 | 15.0 | 2.8 | |
| | | | 70 | 52.7 | 3.06 | 62.1 | 61.2 | 17.2 | 2.7 | |
| | | | 80 | | | | | | | |
| | 12 | 2.5 | 50 | 39.1 | 2.93 | 48.0 | 43.5 | 13.3 | 2.9 | |
| | | | 60 | 46.0 | 2.96 | 55.1 | 52.4 | 15.5 | 2.8 | |
| | | | 70 | 53.6 | 2.99 | 62.7 | 61.1 | 17.9 | 2.7 | |
| | | | 80 | | | | | | | |
| 110 | 6 | 0.7 | 50 | 33.0 | 3.88 | 44.5 | 44.5 | 8.5 | 2.9 | |
| | | | 60 | 39.1 | 3.96 | 51.0 | 53.5 | 9.9 | 2.8 | |
| | | | 70 | 45.5 | 4.06 | 57.8 | 62.4 | 11.2 | 2.7 | |
| | | | 80 | | | | | | | |
| | 9 | 1.4 | 50 | 33.9 | 3.74 | 45.1 | 44.4 | 9.1 | 2.9 | |
| | | | 60 | 40.2 | 3.79 | 51.6 | 53.3 | 10.6 | 2.8 | |
| | | | 70 | 46.9 | 3.85 | 58.6 | 62.2 | 12.2 | 2.7 | |
| | | | 80 | | | | | | | |
| | 12 | 2.3 | 50 | 34.3 | 3.68 | 45.4 | 44.3 | 9.3 | 2.9 | |
| | | | 60 | 40.7 | 3.72 | 51.9 | 53.2 | 10.9 | 2.8 | |
| | | | 70 | 47.6 | 3.76 | 59.0 | 62.1 | 12.6 | 2.7 | |
| | | | 80 | | | | | | | |
| 90 | | | | | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - PART LOAD

| SOURCE | | | LOAD 6.5 GPM | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|------------------|----------------|-----|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) |
| 30 | 6.5 | 1.0 | 60 | 33.9 | 1.90 | 28.1 | 70.4 | 5.2 | 0.9 |
| | | | 80 | 31.9 | 2.42 | 24.8 | 89.8 | 3.9 | 0.9 |
| | | | 100 | 29.1 | 3.09 | 20.3 | 109.0 | 2.8 | 0.8 |
| | | | 120 | 26.4 | 3.91 | 15.6 | 128.2 | 2.0 | 0.8 |
| | 9.8 | 2.1 | 60 | 36.4 | 1.93 | 30.5 | 71.2 | 5.5 | 0.9 |
| | | | 80 | 33.3 | 2.45 | 26.1 | 90.3 | 4.0 | 0.9 |
| | | | 100 | 30.3 | 3.12 | 21.3 | 109.4 | 2.9 | 0.8 |
| | | | 120 | 27.3 | 3.94 | 16.3 | 128.5 | 2.0 | 0.8 |
| | 13 | 3.5 | 60 | 37.4 | 1.97 | 31.4 | 71.5 | 5.6 | 0.9 |
| | | | 80 | 34.1 | 2.49 | 26.8 | 90.6 | 4.0 | 0.9 |
| | | | 100 | 30.9 | 3.16 | 21.8 | 109.6 | 2.9 | 0.8 |
| | | | 120 | 27.7 | 3.98 | 16.6 | 128.6 | 2.0 | 0.8 |
| 50 | 6.5 | 1.0 | 60 | 45.5 | 1.90 | 39.7 | 74.0 | 7.0 | 0.9 |
| | | | 80 | 41.8 | 2.44 | 34.5 | 92.9 | 5.0 | 0.9 |
| | | | 100 | 39.1 | 3.12 | 29.9 | 112.1 | 3.7 | 0.8 |
| | | | 120 | 36.4 | 3.97 | 24.8 | 131.3 | 2.7 | 0.8 |
| | 9.8 | 2.0 | 60 | 46.9 | 1.92 | 41.0 | 74.4 | 7.2 | 0.9 |
| | | | 80 | 44.0 | 2.46 | 36.6 | 93.6 | 5.2 | 0.9 |
| | | | 100 | 40.9 | 3.15 | 31.6 | 112.7 | 3.8 | 0.8 |
| | | | 120 | 37.8 | 3.99 | 26.2 | 131.8 | 2.8 | 0.8 |
| | 13 | 3.3 | 60 | 48.7 | 1.95 | 42.7 | 75.0 | 7.3 | 0.9 |
| | | | 80 | 45.3 | 2.50 | 37.8 | 94.0 | 5.3 | 0.9 |
| | | | 100 | 41.9 | 3.19 | 32.4 | 113.0 | 3.9 | 0.8 |
| | | | 120 | 38.6 | 4.02 | 26.8 | 132.0 | 2.8 | 0.8 |
| 70 | 6.5 | 0.9 | 60 | 55.3 | 1.82 | 49.8 | 77.0 | 8.9 | 0.9 |
| | | | 80 | 52.0 | 2.37 | 44.9 | 96.1 | 6.4 | 0.9 |
| | | | 100 | 49.0 | 3.06 | 39.9 | 115.2 | 4.7 | 0.8 |
| | | | 120 | 46.0 | 3.89 | 34.5 | 134.3 | 3.5 | 0.8 |
| | 9.8 | 1.9 | 60 | 58.9 | 1.81 | 53.3 | 78.1 | 9.5 | 0.9 |
| | | | 80 | 55.0 | 2.37 | 47.8 | 97.0 | 6.8 | 0.8 |
| | | | 100 | 51.4 | 3.07 | 42.3 | 116.0 | 4.9 | 0.8 |
| | | | 120 | 48.0 | 3.90 | 36.4 | 134.9 | 3.6 | 0.8 |
| | 13 | 3.1 | 60 | 59.8 | 1.84 | 54.1 | 78.4 | 9.6 | 0.9 |
| | | | 80 | 56.6 | 2.39 | 49.4 | 97.5 | 6.9 | 0.8 |
| | | | 100 | 52.8 | 3.09 | 43.5 | 116.4 | 5.0 | 0.8 |
| | | | 120 | | | | | | |
| 90 | 6.5 | 0.9 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 9.8 | 1.8 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |
| | 13 | 2.9 | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 100 | | | | | | |
| | | | 120 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 9.8 GPM | | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6.5 | 1.0 | 60 | | | | | | | |
| | | | 80 | 32.3 | 2.36 | 25.3 | 86.7 | 4.0 | 1.8 | |
| | | | 100 | 29.5 | 3.03 | 20.8 | 106.1 | 2.9 | 1.6 | |
| | | | 120 | 26.6 | 3.86 | 15.9 | 125.5 | 2.0 | 1.6 | |
| | 9.8 | 2.1 | 60 | | | | | | | |
| | | | 80 | 33.8 | 2.38 | 26.8 | 87.0 | 4.2 | 1.8 | |
| | | | 100 | 30.7 | 3.05 | 21.9 | 106.3 | 3.0 | 1.6 | |
| | | | 120 | 27.5 | 3.88 | 16.7 | 125.7 | 2.1 | 1.6 | |
| | 13 | 3.5 | 60 | | | | | | | |
| | | | 80 | 34.7 | 2.42 | 27.5 | 87.1 | 4.2 | 1.8 | |
| | | | 100 | 31.3 | 3.09 | 22.4 | 106.5 | 3.0 | 1.6 | |
| | | | 120 | 28.0 | 3.92 | 17.0 | 125.8 | 2.1 | 1.6 | |
| 50 | 6.5 | 1.0 | 60 | 45.2 | 1.82 | 39.6 | 69.3 | 7.3 | 1.9 | |
| | | | 80 | 42.3 | 2.34 | 35.3 | 88.7 | 5.3 | 1.7 | |
| | | | 100 | 39.6 | 3.02 | 30.6 | 108.2 | 3.8 | 1.6 | |
| | | | 120 | 36.7 | 3.87 | 25.5 | 127.6 | 2.8 | 1.6 | |
| | 9.8 | 2.0 | 60 | 47.8 | 1.83 | 42.1 | 69.8 | 7.7 | 1.9 | |
| | | | 80 | 44.7 | 2.36 | 37.6 | 89.2 | 5.6 | 1.7 | |
| | | | 100 | 41.5 | 3.04 | 32.4 | 108.6 | 4.0 | 1.6 | |
| | | | 120 | 38.2 | 3.89 | 26.9 | 127.9 | 2.9 | 1.6 | |
| | 13 | 3.3 | 60 | 48.8 | 1.86 | 43.0 | 70.0 | 7.7 | 1.9 | |
| | | | 80 | 46.0 | 2.39 | 38.8 | 89.5 | 5.7 | 1.7 | |
| | | | 100 | 42.5 | 3.08 | 33.4 | 108.8 | 4.1 | 1.6 | |
| | | | 120 | 39.0 | 3.92 | 27.5 | 128.1 | 2.9 | 1.6 | |
| 70 | 6.5 | 0.9 | 60 | 56.2 | 1.70 | 51.0 | 71.5 | 9.7 | 1.9 | |
| | | | 80 | 52.8 | 2.24 | 46.0 | 90.9 | 6.9 | 1.7 | |
| | | | 100 | 49.7 | 2.93 | 41.0 | 110.3 | 5.0 | 1.6 | |
| | | | 120 | 46.5 | 3.76 | 35.4 | 129.7 | 3.6 | 1.6 | |
| | 9.8 | 1.9 | 60 | 59.2 | 1.69 | 53.9 | 72.1 | 10.3 | 1.9 | |
| | | | 80 | 55.9 | 2.23 | 49.2 | 91.5 | 7.4 | 1.7 | |
| | | | 100 | 52.2 | 2.92 | 43.5 | 110.8 | 5.2 | 1.6 | |
| | | | 120 | 48.6 | 3.76 | 37.5 | 130.1 | 3.8 | 1.6 | |
| | 13 | 3.1 | 60 | 60.1 | 1.72 | 54.8 | 72.3 | 10.3 | 1.9 | |
| | | | 80 | 57.7 | 2.24 | 50.9 | 91.9 | 7.6 | 1.7 | |
| | | | 100 | 53.7 | 2.94 | 44.9 | 111.1 | 5.4 | 1.6 | |
| | | | 120 | 49.7 | 3.78 | 38.5 | 130.3 | 3.9 | 1.6 | |
| 90 | 6.5 | 0.9 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9.8 | 1.8 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 13 | 2.9 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - PART LOAD cont.

| SOURCE | | | LOAD 13 GPM | | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6.5 | 1.0 | 60 | | | | | | | |
| | | | 80 | 32.6 | 2.35 | 25.7 | 85.0 | 4.1 | 2.9 | |
| | | | 100 | 29.7 | 3.02 | 21.1 | 104.6 | 2.9 | 2.8 | |
| | | | 120 | 26.8 | 3.85 | 16.1 | 124.2 | 2.0 | 2.6 | |
| | 9.8 | 2.1 | 60 | | | | | | | |
| | | | 80 | 34.2 | 2.37 | 27.1 | 85.3 | 4.2 | 2.9 | |
| | | | 100 | 31.0 | 3.04 | 22.2 | 104.8 | 3.0 | 2.8 | |
| | | | 120 | 27.7 | 3.88 | 16.9 | 124.3 | 2.1 | 2.6 | |
| | 13 | 3.5 | 60 | | | | | | | |
| | | | 80 | 35.0 | 2.41 | 27.8 | 85.4 | 4.3 | 2.9 | |
| | | | 100 | 31.6 | 3.07 | 22.7 | 104.9 | 3.0 | 2.8 | |
| | | | 120 | 28.3 | 3.91 | 17.2 | 124.4 | 2.1 | 2.6 | |
| 50 | 6.5 | 1.0 | 60 | | | | | | | |
| | | | 80 | 42.6 | 2.32 | 35.6 | 86.6 | 5.4 | 2.9 | |
| | | | 100 | 39.9 | 2.99 | 31.0 | 106.2 | 3.9 | 2.8 | |
| | | | 120 | 37.0 | 3.85 | 25.8 | 125.8 | 2.8 | 2.6 | |
| | 9.8 | 2.0 | 60 | 48.0 | 1.81 | 42.4 | 67.4 | 7.8 | 3.1 | |
| | | | 80 | 45.1 | 2.33 | 38.1 | 87.0 | 5.7 | 2.9 | |
| | | | 100 | 41.8 | 3.01 | 32.9 | 106.5 | 4.1 | 2.8 | |
| | | | 120 | 38.5 | 3.86 | 27.2 | 126.0 | 2.9 | 2.6 | |
| | 13 | 3.3 | 60 | 48.7 | 1.84 | 43.0 | 67.5 | 7.8 | 3.1 | |
| | | | 80 | 46.5 | 2.36 | 39.3 | 87.2 | 5.8 | 2.9 | |
| | | | 100 | 42.9 | 3.04 | 33.8 | 106.7 | 4.1 | 2.8 | |
| | | | 120 | 39.4 | 3.89 | 27.9 | 126.1 | 3.0 | 2.6 | |
| 70 | 6.5 | 0.9 | 60 | 57.2 | 1.67 | 52.0 | 68.8 | 10.1 | 3.1 | |
| | | | 80 | 53.2 | 2.20 | 46.6 | 88.2 | 7.1 | 2.9 | |
| | | | 100 | 50.1 | 2.88 | 41.5 | 107.8 | 5.1 | 2.8 | |
| | | | 120 | 46.9 | 3.70 | 36.0 | 127.3 | 3.7 | 2.6 | |
| | 9.8 | 1.9 | 60 | 58.8 | 1.67 | 53.6 | 69.0 | 10.3 | 3.1 | |
| | | | 80 | 56.5 | 2.18 | 49.8 | 88.7 | 7.6 | 2.9 | |
| | | | 100 | 52.7 | 2.87 | 44.2 | 108.2 | 5.4 | 2.8 | |
| | | | 120 | 49.1 | 3.70 | 38.1 | 127.6 | 3.9 | 2.6 | |
| | 13 | 3.1 | 60 | 62.5 | 1.66 | 57.3 | 69.6 | 11.0 | 3.1 | |
| | | | 80 | 58.4 | 2.19 | 51.7 | 89.0 | 7.8 | 2.9 | |
| | | | 100 | 54.2 | 2.88 | 45.6 | 108.4 | 5.5 | 2.8 | |
| | | | 120 | | | | | | | |
| 90 | 6.5 | 0.9 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9.8 | 1.8 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 13 | 2.9 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - FULL LOAD

| SOURCE | | | LOAD 6.5 GPM | | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|------------------|----------------|-----|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6.5 | 1.0 | 60 | 44.4 | 2.60 | 36.3 | 73.6 | 5.0 | 0.9 | |
| | | | 80 | 42.5 | 3.25 | 32.6 | 93.1 | 3.8 | 0.9 | |
| | | | 100 | 40.8 | 4.03 | 28.7 | 112.7 | 3.0 | 0.8 | |
| | | | 120 | 41.4 | 5.05 | 26.4 | 132.9 | 2.4 | 0.8 | |
| | 9.8 | 2.2 | 60 | 47.1 | 2.67 | 38.8 | 74.5 | 5.2 | 0.9 | |
| | | | 80 | 44.9 | 3.31 | 34.8 | 93.9 | 4.0 | 0.9 | |
| | | | 100 | 42.6 | 4.10 | 30.3 | 113.2 | 3.1 | 0.8 | |
| | | | 120 | 43.0 | 5.11 | 27.8 | 133.4 | 2.5 | 0.8 | |
| | 13 | 3.6 | 60 | 48.6 | 2.73 | 40.1 | 74.9 | 5.2 | 0.9 | |
| | | | 80 | 46.1 | 3.37 | 35.8 | 94.3 | 4.0 | 0.9 | |
| | | | 100 | 44.8 | 4.18 | 32.1 | 113.9 | 3.1 | 0.8 | |
| | | | 120 | 43.9 | 5.16 | 28.4 | 133.7 | 2.5 | 0.8 | |
| 50 | 6.5 | 1.0 | 60 | 56.1 | 2.77 | 47.4 | 77.3 | 5.9 | 0.9 | |
| | | | 80 | 53.8 | 3.44 | 43.2 | 96.6 | 4.6 | 0.9 | |
| | | | 100 | 52.5 | 4.26 | 39.5 | 116.3 | 3.6 | 0.8 | |
| | | | 120 | 51.7 | 5.28 | 35.8 | 136.1 | 2.9 | 0.8 | |
| | 9.8 | 2.0 | 60 | 60.1 | 2.84 | 51.2 | 78.5 | 6.2 | 0.9 | |
| | | | 80 | 57.3 | 3.49 | 46.5 | 97.7 | 4.8 | 0.8 | |
| | | | 100 | 56.9 | 4.35 | 43.6 | 117.7 | 3.8 | 0.8 | |
| | | | 120 | 52.9 | 5.30 | 36.8 | 136.5 | 2.9 | 0.8 | |
| | 13 | 3.3 | 60 | 62.3 | 2.89 | 53.2 | 79.2 | 6.3 | 0.9 | |
| | | | 80 | 59.4 | 3.55 | 48.4 | 98.4 | 4.9 | 0.8 | |
| | | | 100 | 56.2 | 4.37 | 42.8 | 117.4 | 3.8 | 0.8 | |
| | | | 120 | 54.9 | 5.40 | 38.5 | 137.1 | 3.0 | 0.8 | |
| 70 | 6.5 | 0.9 | 60 | 69.3 | 2.93 | 60.1 | 81.3 | 6.9 | 0.9 | |
| | | | 80 | 67.0 | 3.59 | 55.9 | 100.7 | 5.5 | 0.8 | |
| | | | 100 | 66.8 | 4.48 | 53.0 | 120.7 | 4.4 | 0.8 | |
| | | | 120 | 64.2 | 5.53 | 47.3 | 140.0 | 3.4 | 0.8 | |
| | 9.8 | 1.9 | 60 | 75.2 | 3.03 | 65.7 | 83.2 | 7.3 | 0.9 | |
| | | | 80 | 71.4 | 3.67 | 60.0 | 102.1 | 5.7 | 0.8 | |
| | | | 100 | 70.7 | 4.55 | 56.7 | 122.0 | 4.6 | 0.8 | |
| | | | 120 | 66.7 | 5.59 | 49.5 | 140.8 | 3.5 | 0.8 | |
| | 13 | 3.1 | 60 | 78.1 | 3.10 | 68.4 | 84.1 | 7.4 | 0.9 | |
| | | | 80 | 73.9 | 3.74 | 62.3 | 102.9 | 5.8 | 0.8 | |
| | | | 100 | 73.7 | 4.63 | 59.5 | 122.9 | 4.7 | 0.8 | |
| | | | 120 | 66.7 | 5.60 | 49.5 | 140.8 | 3.5 | 0.8 | |
| 90 | 6.5 | 0.9 | 60 | 90.7 | 3.22 | 80.5 | 87.9 | 8.3 | 0.9 | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9.8 | 1.8 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 13 | 3.3 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 9.8 GPM | | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|------------------|----------------|-----|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6.5 | 1.0 | 60 | 45.0 | 2.50 | 37.3 | 69.2 | 5.3 | 1.9 | |
| | | | 80 | 42.9 | 3.14 | 33.3 | 88.8 | 4.0 | 1.7 | |
| | | | 100 | 40.8 | 3.91 | 29.0 | 108.4 | 3.1 | 1.6 | |
| | | | 120 | 41.5 | 4.93 | 26.8 | 128.6 | 2.5 | 1.6 | |
| | 9.8 | 2.2 | 60 | 47.7 | 2.55 | 39.7 | 69.8 | 5.5 | 1.9 | |
| | | | 80 | 45.1 | 3.19 | 35.3 | 89.3 | 4.1 | 1.7 | |
| | | | 100 | 44.0 | 3.99 | 32.0 | 109.1 | 3.2 | 1.6 | |
| | | | 120 | 43.2 | 4.98 | 28.3 | 129.0 | 2.5 | 1.6 | |
| | 13 | 3.6 | 60 | 49.3 | 2.61 | 41.1 | 70.1 | 5.5 | 1.9 | |
| | | | 80 | 46.4 | 3.25 | 36.4 | 89.6 | 4.2 | 1.7 | |
| | | | 100 | 45.3 | 4.05 | 33.0 | 109.4 | 3.3 | 1.6 | |
| | | | 120 | 44.1 | 5.02 | 29.0 | 129.2 | 2.6 | 1.6 | |
| 50 | 6.5 | 1.0 | 60 | 56.8 | 2.63 | 48.5 | 71.6 | 6.3 | 1.9 | |
| | | | 80 | 54.3 | 3.28 | 44.2 | 91.2 | 4.9 | 1.7 | |
| | | | 100 | 54.0 | 4.11 | 41.5 | 111.2 | 3.9 | 1.6 | |
| | | | 120 | 52.1 | 5.10 | 36.6 | 130.8 | 3.0 | 1.6 | |
| | 9.8 | 2.0 | 60 | 61.0 | 2.68 | 52.6 | 72.5 | 6.7 | 1.9 | |
| | | | 80 | 58.0 | 3.32 | 47.7 | 92.0 | 5.1 | 1.7 | |
| | | | 100 | 55.0 | 4.14 | 42.3 | 111.4 | 3.9 | 1.6 | |
| | | | 120 | 52.6 | 5.11 | 37.1 | 130.9 | 3.0 | 1.6 | |
| | 13 | 3.3 | 60 | 63.6 | 2.74 | 54.9 | 73.0 | 6.8 | 1.9 | |
| | | | 80 | 60.2 | 3.38 | 49.8 | 92.4 | 5.2 | 1.7 | |
| | | | 100 | 57.2 | 4.19 | 44.4 | 111.8 | 4.0 | 1.6 | |
| | | | 120 | 55.8 | 5.20 | 39.9 | 131.6 | 3.1 | 1.6 | |
| 70 | 6.5 | 0.9 | 60 | 70.5 | 2.76 | 61.8 | 74.5 | 7.5 | 1.9 | |
| | | | 80 | 67.7 | 3.39 | 57.1 | 93.9 | 5.9 | 1.7 | |
| | | | 100 | 67.2 | 4.23 | 54.2 | 113.9 | 4.7 | 1.6 | |
| | | | 120 | 64.7 | 5.28 | 48.4 | 133.4 | 3.6 | 1.6 | |
| | 9.8 | 1.9 | 60 | 76.4 | 2.84 | 67.4 | 75.7 | 7.9 | 1.9 | |
| | | | 80 | 69.1 | 3.42 | 58.5 | 94.2 | 5.9 | 1.7 | |
| | | | 100 | 69.6 | 4.26 | 56.4 | 114.4 | 4.8 | 1.6 | |
| | | | 120 | 68.5 | 5.34 | 52.1 | 134.2 | 3.8 | 1.6 | |
| | 13 | 3.1 | 60 | 79.8 | 2.90 | 70.6 | 76.4 | 8.1 | 1.8 | |
| | | | 80 | 75.6 | 3.51 | 64.6 | 95.6 | 6.3 | 1.7 | |
| | | | 100 | 71.5 | 4.31 | 58.1 | 114.8 | 4.9 | 1.6 | |
| | | | 120 | 70.5 | 5.40 | 53.9 | 134.6 | 3.8 | 1.6 | |
| 90 | 6.5 | 0.9 | 60 | 92.2 | 2.99 | 82.7 | 78.9 | 9.0 | 1.8 | |
| | | | 80 | 87.7 | 3.58 | 76.5 | 98.1 | 7.2 | 1.7 | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 9.8 | 1.8 | 60 | 96.2 | 3.05 | 86.5 | 79.7 | 9.2 | 1.8 | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 13 | 3.3 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Heating Performance - FULL LOAD cont.

| SOURCE | | | LOAD 13 GPM | | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|------------------|----------------|-----|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Heating Capacity, MBH | Power, KW | Heat Absorb, MBH | Lvg Water Temp | COP | Pressure Drop (PSI) | |
| 30 | 6.5 | 1.0 | 60 | | | | | | | |
| | | | 80 | 43.1 | 3.11 | 33.6 | 86.7 | 4.1 | 2.9 | |
| | | | 100 | 41.2 | 3.88 | 29.5 | 106.4 | 3.1 | 2.8 | |
| | | | 120 | 41.6 | 4.89 | 27.1 | 126.5 | 2.5 | 2.6 | |
| | 9.8 | 2.2 | 60 | 48.1 | 2.52 | 40.2 | 67.4 | 5.6 | 3.1 | |
| | | | 80 | 45.5 | 3.15 | 35.8 | 87.0 | 4.2 | 2.9 | |
| | | | 100 | 43.2 | 3.93 | 31.3 | 106.7 | 3.2 | 2.8 | |
| | | | 120 | 43.0 | 4.93 | 28.2 | 126.7 | 2.6 | 2.6 | |
| | 13 | 3.6 | 60 | 49.7 | 2.57 | 41.6 | 67.6 | 5.7 | 3.1 | |
| | | | 80 | 47.2 | 3.21 | 37.3 | 87.3 | 4.3 | 2.9 | |
| | | | 100 | 45.9 | 4.01 | 33.7 | 107.1 | 3.4 | 2.8 | |
| | | | 120 | 44.3 | 4.98 | 29.3 | 126.9 | 2.6 | 2.6 | |
| 50 | 6.5 | 1.0 | 60 | 57.3 | 2.59 | 49.1 | 68.8 | 6.5 | 3.1 | |
| | | | 80 | 54.8 | 3.23 | 44.8 | 88.5 | 5.0 | 2.9 | |
| | | | 100 | 51.0 | 4.02 | 38.8 | 107.9 | 3.7 | 2.8 | |
| | | | 120 | 52.5 | 5.04 | 37.3 | 128.2 | 3.1 | 2.6 | |
| | 9.8 | 2.0 | 60 | 61.6 | 2.63 | 53.3 | 69.5 | 6.9 | 3.1 | |
| | | | 80 | 58.6 | 3.26 | 48.5 | 89.1 | 5.3 | 2.9 | |
| | | | 100 | 55.7 | 4.07 | 43.2 | 108.6 | 4.0 | 2.8 | |
| | | | 120 | 55.2 | 5.09 | 39.7 | 128.6 | 3.2 | 2.6 | |
| | 13 | 3.3 | 60 | 64.3 | 2.69 | 55.7 | 69.9 | 7.0 | 3.1 | |
| | | | 80 | 60.8 | 3.31 | 50.5 | 89.4 | 5.4 | 2.9 | |
| | | | 100 | 57.6 | 4.11 | 44.9 | 108.9 | 4.1 | 2.8 | |
| | | | 120 | 56.7 | 5.14 | 41.1 | 128.8 | 3.2 | 2.6 | |
| 70 | 6.5 | 0.9 | 60 | 71.5 | 2.71 | 62.9 | 71.0 | 7.7 | 3.1 | |
| | | | 80 | 71.6 | 3.33 | 61.2 | 91.1 | 6.3 | 2.9 | |
| | | | 100 | 66.9 | 4.12 | 54.2 | 110.4 | 4.8 | 2.8 | |
| | | | 120 | 63.3 | 5.16 | 47.4 | 129.9 | 3.6 | 2.6 | |
| | 9.8 | 1.9 | 60 | 77.2 | 2.77 | 68.4 | 71.9 | 8.2 | 3.1 | |
| | | | 80 | 71.3 | 3.35 | 60.8 | 91.0 | 6.2 | 2.9 | |
| | | | 100 | 69.5 | 4.16 | 56.7 | 110.8 | 4.9 | 2.8 | |
| | | | 120 | 66.7 | 5.21 | 50.7 | 130.4 | 3.8 | 2.6 | |
| | 13 | 3.1 | 60 | 80.9 | 2.84 | 71.8 | 72.4 | 8.4 | 3.1 | |
| | | | 80 | 80.0 | 3.44 | 69.2 | 92.4 | 6.8 | 2.9 | |
| | | | 100 | 72.1 | 4.20 | 59.1 | 111.2 | 5.0 | 2.8 | |
| | | | 120 | 70.7 | 5.27 | 54.5 | 131.0 | 3.9 | 2.6 | |
| 90 | 6.5 | 0.9 | 60 | 89.6 | 2.87 | 80.5 | 73.8 | 9.2 | 3.1 | |
| | | | 80 | 89.4 | 3.47 | 78.5 | 93.8 | 7.5 | 2.9 | |
| | | | 100 | 81.0 | 4.22 | 67.9 | 112.6 | 5.6 | 2.7 | |
| | | | 120 | | | | | | | |
| | 9.8 | 1.8 | 60 | 97.6 | 2.97 | 88.1 | 75.0 | 9.6 | 3.1 | |
| | | | 80 | 87.5 | 3.47 | 76.7 | 93.5 | 7.4 | 2.9 | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |
| | 13 | 3.3 | 60 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 100 | | | | | | | |
| | | | 120 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Cooling Performance - PART LOAD

| SOURCE | | | LOAD 6.5 GPM | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6.5 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 51.1 | 1.40 | 55.5 | 54.3 | 36.5 | 0.9 |
| | | | 80 | 57.8 | 1.36 | 62.1 | 62.2 | 42.6 | 0.9 |
| | | | 90 | | | | | | |
| | 9.8 | 1.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 3.2 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 6.5 | 0.9 | 50 | 34.9 | 1.91 | 40.7 | 39.3 | 18.3 | 1.0 |
| | | | 60 | 40.6 | 1.91 | 46.4 | 47.6 | 21.2 | 1.0 |
| | | | 70 | 46.7 | 1.89 | 52.5 | 55.6 | 24.7 | 0.9 |
| | | | 80 | 53.3 | 1.86 | 58.9 | 63.6 | 28.7 | 0.9 |
| | | | 90 | | | | | | |
| | 9.8 | 1.8 | 50 | 35.8 | 1.84 | 41.4 | 39.0 | 19.5 | 1.0 |
| | | | 60 | 41.7 | 1.82 | 47.3 | 47.2 | 22.9 | 1.0 |
| | | | 70 | 48.1 | 1.79 | 53.6 | 55.2 | 27.0 | 0.9 |
| | | | 80 | 54.9 | 1.73 | 60.2 | 63.1 | 31.7 | 0.9 |
| | | | 90 | | | | | | |
| | 13 | 3.0 | 50 | 36.3 | 1.82 | 41.9 | 38.9 | 19.9 | 1.0 |
| | | | 60 | 42.3 | 1.80 | 47.8 | 47.0 | 23.5 | 1.0 |
| | | | 70 | 48.8 | 1.75 | 54.2 | 55.0 | 27.9 | 0.9 |
| | | | 80 | 55.8 | 1.69 | 61.0 | 62.8 | 33.0 | 0.9 |
| | | | 90 | | | | | | |
| 90 | 6.5 | 0.8 | 50 | 31.4 | 2.62 | 39.2 | 40.4 | 12.0 | 1.0 |
| | | | 60 | 37.1 | 2.63 | 44.9 | 48.6 | 14.1 | 1.0 |
| | | | 70 | 43.2 | 2.62 | 51.0 | 56.7 | 16.5 | 0.9 |
| | | | 80 | 49.6 | 2.59 | 57.4 | 64.7 | 19.1 | 0.9 |
| | | | 90 | | | | | | |
| | 9.8 | 1.7 | 50 | 32.3 | 2.53 | 39.8 | 40.1 | 12.8 | 1.0 |
| | | | 60 | 38.1 | 2.52 | 45.7 | 48.3 | 15.1 | 1.0 |
| | | | 70 | 44.5 | 2.49 | 52.0 | 56.3 | 17.9 | 0.9 |
| | | | 80 | 51.2 | 2.44 | 58.6 | 64.2 | 21.0 | 0.9 |
| | | | 90 | | | | | | |
| | 13 | 2.8 | 50 | 32.7 | 2.50 | 40.2 | 40.0 | 13.1 | 1.0 |
| | | | 60 | 38.6 | 2.49 | 46.1 | 48.2 | 15.5 | 1.0 |
| | | | 70 | 45.1 | 2.44 | 52.5 | 56.1 | 18.5 | 0.9 |
| | | | 80 | 52.1 | 2.38 | 59.3 | 64.0 | 21.9 | 0.9 |
| | | | 90 | | | | | | |
| 110 | 6.5 | 0.8 | 50 | 27.0 | 3.34 | 36.8 | 41.7 | 8.1 | 1.0 |
| | | | 60 | 31.8 | 3.35 | 41.7 | 50.2 | 9.5 | 1.0 |
| | | | 70 | 38.1 | 3.35 | 48.0 | 58.3 | 11.4 | 0.9 |
| | | | 80 | 43.1 | 3.33 | 53.1 | 66.7 | 12.9 | 0.9 |
| | | | 90 | | | | | | |
| | 9.8 | 1.6 | 50 | 27.3 | 3.24 | 36.8 | 41.7 | 8.4 | 1.0 |
| | | | 60 | 32.9 | 3.24 | 42.4 | 49.9 | 10.1 | 1.0 |
| | | | 70 | 38.5 | 3.21 | 48.1 | 58.2 | 12.0 | 0.9 |
| | | | 80 | 45.0 | 3.17 | 54.4 | 66.1 | 14.2 | 0.9 |
| | | | 90 | | | | | | |
| | 13 | 2.7 | 50 | 27.6 | 3.22 | 37.1 | 41.6 | 8.6 | 1.0 |
| | | | 60 | 33.4 | 3.20 | 42.9 | 49.8 | 10.4 | 1.0 |
| | | | 70 | 39.2 | 3.16 | 48.7 | 57.9 | 12.4 | 0.9 |
| | | | 80 | 45.6 | 3.11 | 54.9 | 66.0 | 14.6 | 0.9 |
| | | | 90 | | | | | | |

- Notes::
- 1 Antifreeze required on Load side for this operation
 - 2 Interpolation is permissible. Not extrapolation
 - 3 = Operation not recommended

HW060 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 9.8 GPM | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6.5 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | 54.9 | 1.39 | 59.3 | 58.7 | 39.4 | 1.9 |
| | | | 80 | 62.3 | 1.35 | 66.5 | 67.2 | 46.2 | 1.8 |
| | | | 90 | | | | | | |
| | 9.8 | 1.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 3.2 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 70 | 6.5 | 0.9 | 50 | 37.1 | 1.93 | 43.0 | 42.4 | 19.2 | 2.0 |
| | | | 60 | 43.2 | 1.93 | 49.1 | 51.2 | 22.4 | 1.9 |
| | | | 70 | 50.1 | 1.89 | 55.9 | 59.7 | 26.5 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.8 | 50 | 38.1 | 1.85 | 43.8 | 42.2 | 20.6 | 2.0 |
| | | | 60 | 44.5 | 1.83 | 50.2 | 50.9 | 24.3 | 1.9 |
| | | | 70 | 51.7 | 1.77 | 57.1 | 59.4 | 29.2 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 3.0 | 50 | 38.7 | 1.83 | 44.3 | 42.1 | 21.1 | 2.0 |
| | | | 60 | 45.2 | 1.80 | 50.8 | 50.7 | 25.1 | 1.9 |
| | | | 70 | 52.5 | 1.74 | 57.9 | 59.2 | 30.3 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 90 | 6.5 | 0.8 | 50 | 33.4 | 2.64 | 41.2 | 43.2 | 12.6 | 2.0 |
| | | | 60 | 39.4 | 2.66 | 47.4 | 51.9 | 14.9 | 1.9 |
| | | | 70 | 46.2 | 2.63 | 54.1 | 60.5 | 17.6 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.7 | 50 | 34.4 | 2.54 | 42.0 | 43.0 | 13.5 | 2.0 |
| | | | 60 | 40.7 | 2.54 | 48.3 | 51.7 | 16.0 | 1.9 |
| | | | 70 | 47.8 | 2.48 | 55.3 | 60.2 | 19.3 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 2.8 | 50 | 34.9 | 2.51 | 42.4 | 42.9 | 13.9 | 2.0 |
| | | | 60 | 41.4 | 2.49 | 48.9 | 51.5 | 16.6 | 1.9 |
| | | | 70 | 48.6 | 2.43 | 55.9 | 60.0 | 20.0 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| 110 | 6.5 | 0.8 | 50 | 28.0 | 3.37 | 37.8 | 44.3 | 8.3 | 2.0 |
| | | | 60 | 33.7 | 3.37 | 43.7 | 53.1 | 10.0 | 1.9 |
| | | | 70 | 40.1 | 3.36 | 50.1 | 61.8 | 12.0 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.6 | 50 | 29.0 | 3.27 | 38.6 | 44.1 | 8.9 | 2.0 |
| | | | 60 | 34.9 | 3.24 | 44.5 | 52.9 | 10.7 | 1.9 |
| | | | 70 | 41.2 | 3.21 | 50.8 | 61.6 | 12.8 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 2.7 | 50 | 29.2 | 3.23 | 38.8 | 44.0 | 9.0 | 2.0 |
| | | | 60 | 35.3 | 3.21 | 44.8 | 52.8 | 11.0 | 1.9 |
| | | | 70 | 41.9 | 3.16 | 51.4 | 61.4 | 13.3 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Cooling Performance - PART LOAD cont.

| SOURCE | | | LOAD 13 GPM | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) |
| 50 | 6.5 | 0.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.9 | 50 | | | | | | |
| | | | 60 | | | | | | |
| | | | 70 | | | | | | |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 3.2 | 50 | | | | | | |
| | | | 60 | | | | | | |
| 70 | | | | | | | | | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 70 | 6.5 | 0.9 | 50 | 38.2 | 1.97 | 44.2 | 44.2 | 19.4 | 3.3 |
| | | | 60 | 44.8 | 1.96 | 50.7 | 53.1 | 22.9 | 3.2 |
| | | | 70 | 51.9 | 1.92 | 57.8 | 62.0 | 27.1 | 3.1 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.8 | 50 | 39.4 | 1.88 | 45.2 | 44.0 | 20.9 | 3.3 |
| | | | 60 | 46.2 | 1.85 | 51.9 | 52.9 | 25.0 | 3.2 |
| | | | 70 | 53.7 | 1.79 | 59.2 | 61.7 | 30.0 | 3.1 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 3.0 | 50 | 40.0 | 1.86 | 45.7 | 43.9 | 21.5 | 3.3 |
| | | | 60 | 47.0 | 1.82 | 52.6 | 52.8 | 25.8 | 3.2 |
| 70 | | | 54.6 | 1.75 | 60.0 | 61.6 | 31.3 | 3.1 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 90 | 6.5 | 0.8 | 50 | 34.3 | 2.68 | 42.3 | 44.7 | 12.8 | 3.3 |
| | | | 60 | 40.7 | 2.68 | 48.8 | 53.7 | 15.2 | 3.2 |
| | | | 70 | 47.8 | 2.65 | 55.8 | 62.6 | 18.0 | 3.1 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.7 | 50 | 35.4 | 2.58 | 43.1 | 44.6 | 13.7 | 3.3 |
| | | | 60 | 42.1 | 2.56 | 49.9 | 53.5 | 16.5 | 3.2 |
| | | | 70 | 49.5 | 2.50 | 57.1 | 62.4 | 19.8 | 3.1 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 2.8 | 50 | 36.0 | 2.55 | 43.7 | 44.5 | 14.2 | 3.3 |
| | | | 60 | 42.9 | 2.51 | 50.5 | 53.4 | 17.1 | 3.2 |
| 70 | | | 50.4 | 2.44 | 57.9 | 62.2 | 20.7 | 3.1 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | 6.5 | 0.8 | 50 | 28.0 | 3.37 | 37.8 | 44.3 | 8.3 | 2.0 |
| | | | 60 | 33.7 | 3.37 | 43.7 | 53.1 | 10.0 | 1.9 |
| | | | 70 | 40.1 | 3.36 | 50.1 | 61.8 | 12.0 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 9.8 | 1.6 | 50 | 29.0 | 3.27 | 38.6 | 44.1 | 8.9 | 2.0 |
| | | | 60 | 34.9 | 3.24 | 44.5 | 52.9 | 10.7 | 1.9 |
| | | | 70 | 41.2 | 3.21 | 50.8 | 61.6 | 12.8 | 1.9 |
| | | | 80 | | | | | | |
| | | | 90 | | | | | | |
| | 13 | 2.7 | 50 | 29.2 | 3.23 | 38.8 | 44.0 | 9.0 | 2.0 |
| | | | 60 | 35.3 | 3.21 | 44.8 | 52.8 | 11.0 | 1.9 |
| 70 | | | 41.9 | 3.16 | 51.4 | 61.4 | 13.3 | 1.9 | |
| 80 | | | | | | | | | |
| 90 | | | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Cooling Performance - FULL LOAD

| SOURCE | | | LOAD 6.5 GPM | | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 6.5 | 0.9 | 50 | 49.4 | 2.34 | 56.8 | 34.9 | 21.1 | 1.0 | |
| | | | 60 | 56.7 | 2.42 | 64.4 | 42.6 | 23.4 | 1.0 | |
| | | | 70 | 64.5 | 2.51 | 72.5 | 50.2 | 25.7 | 0.9 | |
| | | | 80 | 72.7 | 2.62 | 81.0 | 57.6 | 27.8 | 0.9 | |
| | | | 90 | 81.2 | 2.73 | 89.8 | 65.0 | 29.7 | 0.9 | |
| | 9.8 | 1.9 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | 66.2 | 2.36 | 73.7 | 49.7 | 28.0 | 0.9 | |
| | | | 80 | 74.7 | 2.45 | 82.6 | 57.0 | 30.5 | 0.9 | |
| | | | 90 | | | | | | | |
| | 13 | 3.2 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | | | | | | | |
| | | | 90 | 84.8 | 2.48 | 92.9 | 63.8 | 34.2 | 0.9 | |
| 70 | 6.5 | 0.9 | 50 | 45.9 | 2.95 | 55.1 | 36.0 | 15.6 | 1.0 | |
| | | | 60 | 53.0 | 3.02 | 62.4 | 43.8 | 17.5 | 1.0 | |
| | | | 70 | 60.5 | 3.11 | 70.2 | 51.4 | 19.5 | 0.9 | |
| | | | 80 | 68.3 | 3.21 | 78.4 | 59.0 | 21.3 | 0.9 | |
| | | | 90 | 76.4 | 3.31 | 86.8 | 66.4 | 23.1 | 0.9 | |
| | 9.8 | 1.8 | 50 | 47.0 | 2.81 | 55.7 | 35.6 | 16.7 | 1.0 | |
| | | | 60 | 54.3 | 2.86 | 63.3 | 43.4 | 19.0 | 1.0 | |
| | | | 70 | 62.1 | 2.92 | 71.3 | 50.9 | 21.3 | 0.9 | |
| | | | 80 | 70.3 | 2.99 | 79.8 | 58.3 | 23.5 | 0.9 | |
| | | | 90 | 78.9 | 3.08 | 88.6 | 65.7 | 25.6 | 0.9 | |
| | 13 | 3.0 | 50 | 47.5 | 2.76 | 56.2 | 35.5 | 17.2 | 1.0 | |
| | | | 60 | 55.0 | 2.80 | 63.8 | 43.1 | 19.6 | 1.0 | |
| | | | 70 | 63.0 | 2.85 | 72.0 | 50.7 | 22.1 | 0.9 | |
| | | | 80 | 71.3 | 2.91 | 80.6 | 58.0 | 24.5 | 0.9 | |
| | | | 90 | 80.1 | 2.99 | 89.6 | 65.3 | 26.8 | 0.9 | |
| 90 | 6.5 | 0.8 | 50 | 41.9 | 3.70 | 53.2 | 37.2 | 11.3 | 1.0 | |
| | | | 60 | 48.5 | 3.77 | 60.2 | 45.1 | 12.9 | 1.0 | |
| | | | 70 | 55.6 | 3.86 | 67.6 | 52.9 | 14.4 | 0.9 | |
| | | | 80 | 63.0 | 3.96 | 75.3 | 60.6 | 15.9 | 0.9 | |
| | | | 90 | 70.6 | 4.07 | 83.3 | 68.2 | 17.4 | 0.9 | |
| | 9.8 | 1.7 | 50 | 42.8 | 3.54 | 53.7 | 36.9 | 12.1 | 1.0 | |
| | | | 60 | 49.8 | 3.58 | 60.9 | 44.7 | 13.9 | 1.0 | |
| | | | 70 | 57.2 | 3.64 | 68.5 | 52.4 | 15.7 | 0.9 | |
| | | | 80 | 64.9 | 3.71 | 76.5 | 60.0 | 17.5 | 0.9 | |
| | | | 90 | 73.0 | 3.78 | 84.8 | 67.5 | 19.3 | 0.9 | |
| | 13 | 2.8 | 50 | 43.3 | 3.48 | 54.0 | 36.8 | 12.4 | 1.0 | |
| | | | 60 | 50.4 | 3.51 | 61.3 | 44.6 | 14.3 | 1.0 | |
| | | | 70 | 57.9 | 3.55 | 69.0 | 52.2 | 16.3 | 0.9 | |
| | | | 80 | 65.9 | 3.61 | 77.2 | 59.7 | 18.3 | 0.9 | |
| | | | 90 | 74.2 | 3.67 | 85.7 | 67.1 | 20.2 | 0.9 | |
| 110 | 6.5 | 0.8 | 50 | 37.6 | 4.58 | 51.5 | 38.5 | 8.2 | 1.0 | |
| | | | 60 | 43.8 | 4.67 | 58.1 | 46.6 | 9.4 | 1.0 | |
| | | | 70 | 50.3 | 4.78 | 65.0 | 54.5 | 10.5 | 0.9 | |
| | | | 80 | 57.2 | 4.89 | 72.3 | 62.4 | 11.7 | 0.9 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.6 | 50 | 38.4 | 4.40 | 51.8 | 38.3 | 8.7 | 1.0 | |
| | | | 60 | 44.9 | 4.48 | 58.6 | 46.2 | 10.0 | 1.0 | |
| | | | 70 | 51.7 | 4.54 | 65.7 | 54.1 | 11.4 | 0.9 | |
| | | | 80 | 58.9 | 4.61 | 73.2 | 61.8 | 12.8 | 0.9 | |
| | | | 90 | 66.4 | 4.69 | 81.0 | 69.5 | 14.2 | 0.9 | |
| | 13 | 2.7 | 50 | 38.8 | 4.35 | 52.1 | 38.1 | 8.9 | 1.0 | |
| | | | 60 | 45.4 | 4.40 | 58.9 | 46.1 | 10.3 | 1.0 | |
| | | | 70 | 52.4 | 4.45 | 66.2 | 53.9 | 11.8 | 0.9 | |
| | | | 80 | 59.8 | 4.49 | 73.7 | 61.6 | 13.3 | 0.9 | |
| | | | 90 | 67.5 | 4.55 | 81.7 | 69.2 | 14.9 | 0.9 | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 9.8 GPM | | | | | | | |
|--------|-----|---------------------|-----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 6.5 | 0.9 | 50 | 53.4 | 2.41 | 61.1 | 39.1 | 22.2 | 2.0 | |
| | | | 60 | 61.6 | 2.50 | 69.6 | 47.4 | 24.7 | 1.9 | |
| | | | 70 | 70.3 | 2.61 | 78.6 | 55.6 | 27.0 | 1.9 | |
| | | | 80 | 79.5 | 2.73 | 88.2 | 63.7 | 29.2 | 1.8 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.9 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | 72.4 | 2.44 | 80.3 | 55.2 | 29.7 | 1.9 | |
| | | | 80 | 82.1 | 2.55 | 90.2 | 63.1 | 32.2 | 1.8 | |
| | | | 90 | 92.1 | 2.66 | 100.7 | 71.0 | 34.6 | 1.8 | |
| | 13 | 3.2 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | 83.4 | 2.49 | 91.4 | 62.9 | 33.6 | 1.8 | |
| | | | 90 | 93.8 | 2.60 | 102.1 | 70.7 | 36.1 | 1.8 | |
| 70 | 6.5 | 0.9 | 50 | 49.5 | 3.01 | 58.9 | 39.9 | 16.5 | 2.0 | |
| | | | 60 | 57.4 | 3.09 | 67.0 | 48.3 | 18.6 | 1.9 | |
| | | | 70 | 65.7 | 3.19 | 75.7 | 56.5 | 20.6 | 1.9 | |
| | | | 80 | 74.4 | 3.30 | 84.8 | 64.7 | 22.5 | 1.8 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.8 | 50 | 50.8 | 2.85 | 59.7 | 39.7 | 17.8 | 2.0 | |
| | | | 60 | 59.0 | 2.91 | 68.1 | 47.9 | 20.2 | 1.9 | |
| | | | 70 | 67.7 | 2.99 | 77.2 | 56.1 | 22.7 | 1.9 | |
| | | | 80 | 76.9 | 3.08 | 86.6 | 64.2 | 25.0 | 1.8 | |
| | | | 90 | | | | | | | |
| | 13 | 3.0 | 50 | 51.4 | 2.80 | 60.2 | 39.5 | 18.4 | 2.0 | |
| | | | 60 | 59.8 | 2.85 | 68.8 | 47.8 | 21.0 | 1.9 | |
| | | | 70 | 68.8 | 2.91 | 78.0 | 55.9 | 23.6 | 1.9 | |
| | | | 80 | 78.2 | 2.99 | 87.7 | 63.9 | 26.2 | 1.8 | |
| | | | 90 | | | | | | | |
| 90 | 6.5 | 0.8 | 50 | 44.9 | 3.75 | 56.4 | 40.8 | 12.0 | 2.0 | |
| | | | 60 | 52.3 | 3.84 | 64.2 | 49.3 | 13.6 | 1.9 | |
| | | | 70 | 60.1 | 3.94 | 72.3 | 57.7 | 15.3 | 1.9 | |
| | | | 80 | 68.3 | 4.05 | 80.9 | 66.0 | 16.8 | 1.8 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.7 | 50 | 46.1 | 3.58 | 57.1 | 40.6 | 12.9 | 2.0 | |
| | | | 60 | 53.8 | 3.63 | 65.1 | 49.0 | 14.8 | 1.9 | |
| | | | 70 | 62.0 | 3.70 | 73.5 | 57.3 | 16.8 | 1.9 | |
| | | | 80 | 70.6 | 3.78 | 82.4 | 65.5 | 18.7 | 1.8 | |
| | | | 90 | | | | | | | |
| | 13 | 2.8 | 50 | 46.7 | 3.52 | 57.5 | 40.5 | 13.3 | 2.0 | |
| | | | 60 | 54.6 | 3.55 | 65.6 | 48.8 | 15.4 | 1.9 | |
| | | | 70 | 63.0 | 3.60 | 74.3 | 57.1 | 17.5 | 1.9 | |
| | | | 80 | 71.9 | 3.67 | 83.4 | 65.2 | 19.6 | 1.8 | |
| | | | 90 | | | | | | | |
| 110 | 6.5 | 0.8 | 50 | 40.1 | 4.64 | 54.2 | 41.8 | 8.6 | 2.0 | |
| | | | 60 | 46.9 | 4.75 | 61.4 | 50.4 | 9.9 | 1.9 | |
| | | | 70 | 54.1 | 4.86 | 69.1 | 58.9 | 11.1 | 1.9 | |
| | | | 80 | 61.4 | 4.99 | 76.9 | 67.4 | 12.3 | 1.8 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.6 | 50 | 41.1 | 4.45 | 54.7 | 41.6 | 9.2 | 2.0 | |
| | | | 60 | 48.2 | 4.53 | 62.1 | 50.2 | 10.6 | 1.9 | |
| | | | 70 | 55.8 | 4.60 | 70.0 | 58.6 | 12.1 | 1.9 | |
| | | | 80 | 63.8 | 4.68 | 78.3 | 66.9 | 13.6 | 1.8 | |
| | | | 90 | | | | | | | |
| | 13 | 2.7 | 50 | 41.6 | 4.39 | 55.0 | 41.5 | 9.5 | 2.0 | |
| | | | 60 | 48.8 | 4.44 | 62.5 | 50.0 | 11.0 | 1.9 | |
| | | | 70 | 56.7 | 4.49 | 70.5 | 58.4 | 12.6 | 1.9 | |
| | | | 80 | 64.9 | 4.55 | 79.0 | 66.7 | 14.3 | 1.8 | |
| | | | 90 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

HW060 Cooling Performance - FULL LOAD cont.

| SOURCE | | | LOAD 13 GPM | | | | | | | |
|--------|-----|---------------------|----------------|-----------------------|-----------|-------------------|----------------|------|---------------------|--|
| EWT | GPM | Pressure Drop (PSI) | EWT | Cooling Capacity, MBH | Power, KW | Loop Rej/Add, MBH | Lvg Water Temp | EER | Pressure Drop (PSI) | |
| 50 | 6.5 | 0.9 | 50 | 55.7 | 2.47 | 63.6 | 41.5 | 22.6 | 3.3 | |
| | | | 60 | 64.4 | 2.57 | 72.6 | 50.1 | 25.1 | 3.2 | |
| | | | 70 | 73.7 | 2.68 | 82.2 | 58.7 | 27.5 | 3.1 | |
| | | | 80 | 83.4 | 2.81 | 92.4 | 67.1 | 29.7 | 3.0 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.9 | 50 | | | | | | | |
| | | | 60 | 66.3 | 2.42 | 74.1 | 49.8 | 27.5 | 3.2 | |
| | | | 70 | 76.1 | 2.52 | 84.2 | 58.3 | 30.3 | 3.1 | |
| | | | 80 | 86.4 | 2.63 | 94.8 | 66.7 | 32.9 | 3.0 | |
| | | | 90 | | | | | | | |
| | 13 | 3.2 | 50 | | | | | | | |
| | | | 60 | | | | | | | |
| | | | 70 | | | | | | | |
| | | | 80 | 87.9 | 2.57 | 96.2 | 66.4 | 34.3 | 3.0 | |
| | | | 90 | | | | | | | |
| 70 | 6.5 | 0.9 | 50 | 51.5 | 3.06 | 61.1 | 42.1 | 16.8 | 3.3 | |
| | | | 60 | 59.8 | 3.15 | 69.7 | 50.8 | 19.0 | 3.2 | |
| | | | 70 | 68.6 | 3.26 | 78.9 | 59.4 | 21.0 | 3.1 | |
| | | | 80 | 77.8 | 3.39 | 88.5 | 68.0 | 23.0 | 3.0 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.8 | 50 | 52.9 | 2.90 | 62.0 | 41.9 | 18.2 | 3.3 | |
| | | | 60 | 61.6 | 2.97 | 71.0 | 50.5 | 20.8 | 3.2 | |
| | | | 70 | 70.9 | 3.05 | 80.6 | 59.1 | 23.3 | 3.1 | |
| | | | 80 | 80.8 | 3.15 | 90.7 | 67.6 | 25.7 | 3.0 | |
| | | | 90 | | | | | | | |
| | 13 | 3.0 | 50 | 53.7 | 2.85 | 62.6 | 41.8 | 18.8 | 3.3 | |
| | | | 60 | 62.6 | 2.90 | 71.8 | 50.4 | 21.6 | 3.2 | |
| | | | 70 | 72.1 | 2.97 | 81.6 | 58.9 | 24.3 | 3.1 | |
| | | | 80 | 82.3 | 3.06 | 92.0 | 67.3 | 26.9 | 3.0 | |
| | | | 90 | | | | | | | |
| 90 | 6.5 | 0.8 | 50 | 46.6 | 3.80 | 58.3 | 42.9 | 12.3 | 3.3 | |
| | | | 60 | 54.4 | 3.90 | 66.4 | 51.7 | 14.0 | 3.2 | |
| | | | 70 | 62.6 | 4.01 | 75.0 | 60.4 | 15.6 | 3.1 | |
| | | | 80 | 71.2 | 4.13 | 84.0 | 69.0 | 17.2 | 3.0 | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.7 | 50 | 47.9 | 3.63 | 59.1 | 42.7 | 13.2 | 3.3 | |
| | | | 60 | 56.0 | 3.68 | 67.5 | 51.4 | 15.2 | 3.2 | |
| | | | 70 | 64.7 | 3.76 | 76.5 | 60.0 | 17.2 | 3.1 | |
| | | | 80 | 73.9 | 3.84 | 85.9 | 68.6 | 19.2 | 3.0 | |
| | | | 90 | | | | | | | |
| | 13 | 2.8 | 50 | 48.5 | 3.56 | 59.6 | 42.6 | 13.6 | 3.3 | |
| | | | 60 | 56.9 | 3.60 | 68.1 | 51.3 | 15.8 | 3.2 | |
| | | | 70 | 65.9 | 3.66 | 77.3 | 59.9 | 18.0 | 3.1 | |
| | | | 80 | 75.3 | 3.72 | 87.0 | 68.4 | 20.2 | 3.0 | |
| | | | 90 | | | | | | | |
| 110 | 6.5 | 0.8 | 50 | 40.1 | 4.64 | 54.2 | 41.8 | 8.6 | 2.0 | |
| | | | 60 | 46.9 | 4.75 | 61.4 | 50.4 | 9.9 | 1.9 | |
| | | | 70 | 54.1 | 4.86 | 69.1 | 58.9 | 11.1 | 1.9 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 9.8 | 1.6 | 50 | 41.1 | 4.45 | 54.7 | 41.6 | 9.2 | 2.0 | |
| | | | 60 | 48.2 | 4.53 | 62.1 | 50.2 | 10.6 | 1.9 | |
| | | | 70 | 55.8 | 4.60 | 70.0 | 58.6 | 12.1 | 1.9 | |
| | | | 80 | | | | | | | |
| | | | 90 | | | | | | | |
| | 13 | 2.7 | 50 | 41.6 | 4.39 | 55.0 | 41.5 | 9.5 | 2.0 | |
| | | | 60 | 48.8 | 4.44 | 62.5 | 50.0 | 11.0 | 1.9 | |
| | | | 70 | 56.7 | 4.49 | 70.5 | 58.4 | 12.6 | 1.9 | |
| | | | 80 | 64.9 | 4.55 | 79.0 | 66.7 | 14.3 | 1.8 | |
| | | | 90 | | | | | | | |

Notes::

- 1 Antifreeze required on Load side for this operation
- 2 Interpolation is permissible. Not extrapolation
- 3 XXXXXXXXXX = Operation not recommended

Anti-freeze correction table

| Antifreeze Type | Antifreeze % volume | Cooling EWT 90 °F | | | Heating EWT 30 °F | | WPD Correction Factor EWT 30°F |
|------------------|---------------------|----------------------|-----------|-------|----------------------|-------|-----------------------------------|
| | | Total Cap. | Sens. Cap | Power | Htg. Cap | Power | |
| Water | 0 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| | 5 | 0.997 | 0.997 | 1.004 | 0.989 | 0.997 | 1.060 |
| Propylene Glycol | 10 | 0.994 | 0.994 | 1.006 | 0.986 | 0.995 | 1.125 |
| | 15 | 0.990 | 0.990 | 1.009 | 0.978 | 0.988 | 1.190 |
| | 25 | 0.983 | 0.983 | 1.016 | 0.960 | 0.979 | 1.300 |
| | | | | | | | |
| Methanol | 5 | 0.997 | 0.997 | 1.003 | 0.990 | 0.997 | 1.060 |
| | 10 | 0.996 | 0.996 | 1.005 | 0.979 | 0.993 | 1.100 |
| | 15 | 0.994 | 0.994 | 1.008 | 0.970 | 0.990 | 1.140 |
| | | | | | | | |
| Ethanol | 5 | 0.998 | 0.998 | 1.002 | 0.981 | 0.994 | 1.160 |
| | 10 | 0.996 | 0.996 | 1.004 | 0.960 | 0.988 | 1.230 |
| | 15 | 0.992 | 0.992 | 1.006 | 0.944 | 0.983 | 1.280 |
| | 25 | 0.986 | 0.986 | 1.009 | 0.917 | 0.974 | 1.400 |
| Ethylene Glycol | 5 | 0.997 | 0.997 | 1.003 | 0.993 | 0.998 | 1.060 |
| | 10 | 0.995 | 0.995 | 1.004 | 0.986 | 0.996 | 1.120 |
| | 15 | 0.992 | 0.992 | 1.005 | 0.980 | 0.993 | 1.190 |
| | 25 | 0.988 | 0.988 | 1.009 | 0.970 | 0.990 | 1.330 |
| | 30 | 0.985 | 0.985 | 1.012 | 0.965 | 0.987 | 1.400 |

| Operating Limits for Heat and Cooling | |
|---|----------------------|
| Cooling | Standard Unit |
| Minimum ambient air temperature | 50 |
| Maximum ambient air temperature | 100 |
| Minimum entering load fluid temperature °F | 50 |
| Typical entering load fluid temperature °F | 55 |
| Maximum entering load fluid temperature °F | 90 |
| Minimum entering source fluid temperature °F | 50 |
| Water loop typical entering source fluid range temperature °F | 70-90 |
| Maximum entering source fluid temperature °F | 110 |
| Heating | Standard Unit |
| Minimum ambient air temperature °F | 50 |
| Maximum ambient air temperature °F | 100 |
| Minimum entering load fluid temperature °F | 60 |
| Typical entering load fluid temperature °F | 100-110 |
| Maximum entering load fluid temperature °F | 120 |
| Minimum entering source fluid temperature °F | 30* |
| Water loop typical entering source fluid range temperature °F | 50-70 |
| Maximum entering source fluid temperature °F | 90 |

*Antifreeze required for fluid temperatures below 50 °F

*Maximum and minimum fluid conditions are at unit rated flow rate.

*Maximum and minimum operating limits may not be combined. If one value is at either maximum or minimum, the other value(s) must be within normal operating range.

