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*Comfort-Cire*®

**Century**®

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**HE Series  
Design Guide**

**Two-Stage Horizontal & Vertical  
Systems Sizes 024-060  
[7.0-17.5 kW]**



**MARS**®

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## What's New with Comfort-Aire/Century's HE Series?

### Overview

The HE Series is a game-changing new geothermal heat pump that is the first in the industry to integrate digital communicating controls, two-stage capacity, variable-speed fan and variable-flow geothermal source functions within a single compact "plug and play" package. Available at a breakthrough price point, this innovative product line has been specifically designed and developed for price sensitive, and many times space limited, new home construction and replacement/retrofit applications.

The HE Series is a packaged water-to-air system that provides high efficiency heating and cooling and, via an integrated desuperheating package, most of the annual hot water requirement. The eco-friendly series already meets ENERGY STAR® Tier 3 efficiency levels, so it will qualify for the uncapped 30% federal geothermal heat pump tax credit in 2012 and beyond. Systems are available in vertical and horizontal configurations in nominal capacities of 24, 30, 36, 42, 48 and 60 kBtuh.



### Digital 2-Way Communicating Controls – Monitor, Configure and Diagnose Digitally

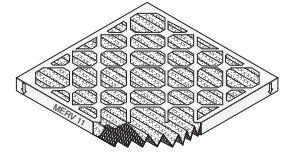
The units also break new ground in optimized comfort, efficiency, and serviceability, utilizing industry first and exclusive Two-Way Communicating Controls as a standard option with every unit. The digital two-way communicating controls make installation and service of the system easy and effective by allowing monitoring, configuration and diagnosis of the system on a Communicating Digital Thermostat. Furthermore, two-way communication between the intelligent components inside the system ensures precise coordination of operation to achieve optimized comfort AND efficiency. A homeowner can see and give their dealer the fault code and possible causes to help prepare for a service call. Once on the job, a dealer can see what the operating conditions of the unit were at the time of the fault, to help narrow down diagnosis.

### Internal Variable Speed Water Flow Control

Employing the revolutionary communicating system, Variable Water Flow (VWF) brings another industry first - internal variable water flow control. The system facilitates intelligent communication between the thermostat, communicating controls and internal water pump/valve to make true variable water flow a reality. Compared to conventional units that can just turn the water-flow on or off, the HE Series varies the water-flow, which results in significantly lower operating cost and longer system life. Comfort-Aire/Century takes ease and speed of installation of geothermal heating and cooling systems to the next level. VWF integrates water-flow control inside the unit.

### One Inch Merv 8 Filter

All units include a factory installed 1" filter frame/duct collar with a 1" pleated high efficiency MERV 8 air filter.



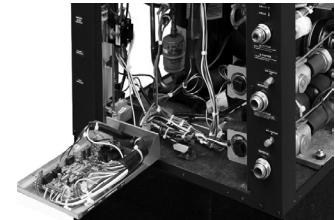
### ENERGY STAR® Most Efficient – Communicating AND Efficient

The HE Series has been recognized as ENERGY STAR® Most Efficient for both exceeding stringent efficiency requirements AND for meeting 2-way communication requirements. With these systems the customer is getting both an EFFICIENT system and an INTELLIGENT system – buying a system can't get SMARTER than that!



### Easy to Install, Easy to Service – A Technician's Dream Machine

Comfort-Aire/Century has designed the HE units with the technician in mind. From industry-exclusive VWF, with built-in water flow components that cut down on installation time and space, to easy access panels, to a swing out control panel (exclusive to Comfort-Aire/Century), to refrigerant pressure ports right in the front of the unit, to easy connect water connections... the list goes on and on. The new digital 2-way controls make understanding unit faults significantly easier by displaying information on the thermostat.



# Communicating Controls

## Two-Way Communicating System and a Gateway Into the HE System

HE is equipped with industry first, – Information Gateway – communicating system that allow users to interact with their geothermal system in plain English AND delivers improved reliability and efficiency by precisely controlling smart variable speed components.

### Precise operation:

The Microprocessor on the new DXM2 board enables intelligent, 2-way communication between the DXM2 board and smart components like the communicating thermostat, fan motor, and water pump. The control can also directly control the modulating valve and accepts various feedback/ input (see figure). The Intelligent DXM2 board uses information received from the smart components and sensors to precisely control operation of variable speed fan, variable speed water pump (or modulating valve) to deliver higher efficiency, reliability and increased comfort.

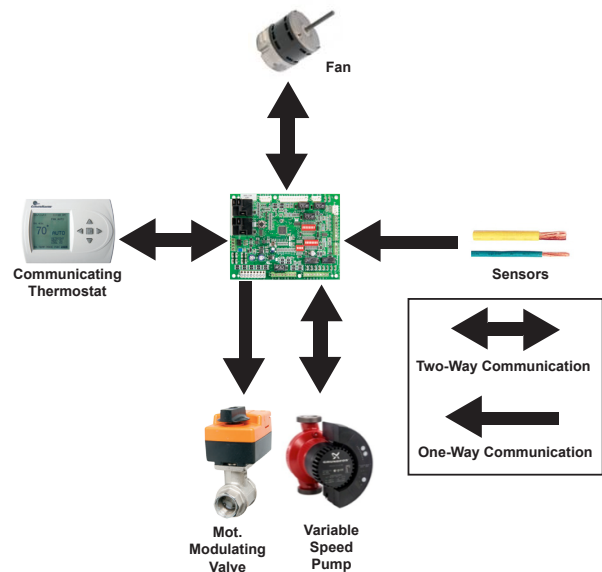
### Plain English communication:

Digital controls allow users to interact with their HE system in PLAIN ENGLISH, through digital communicating thermostat (ATC) or configuration / diagnostic tool (ACDU). It enables configuration, monitoring and diagnostics of the system from the thermostat.

Configuration – Installers can configure the units from the thermostat, including: Air flow, entering/leaving water  $\Delta T$ , water-flow option configuration, unit configuration, accessory configuration, and demand reduction (optional, to limit unit operation during peak times).

Monitoring and Diagnostics – In the rare case there's an issue with the unit, the unit will communicate "Service needed" to the thermostat for consumers to see. From the thermostat, a consumer can also access dealer information (if programmed), fault description, possible causes and current system status (temperature readings, fan RPM and water flow status) to help the servicing contractor understand what's happening with the unit even before a service visit. Once the installer is on the job, in "service mode", the servicing contractor can diagnose the units much faster with possible causes shown on the thermostat and with system operating conditions at the time of the fault.

With the communicating system, consumers and contractors have a gateway to system information that no other geothermal system offers as standard at this time.



AIRFLOW SELECTION	
	CFM
HEAT STAGE 1	600
HEAT STAGE 2	750
AUXILIARY HEAT	850
EMERGENCY HEAT	850
COOL STAGE 1	525
COOL STAGE 2	700
COOL DEHUMID 1	425
COOL DEHUMID 2	550
CONTINUOUS FAN	350
HEAT OFF DELAY	60
COOL OFF DELAY	30

◀ PREVIOUS NEXT ▶

POSSIBLE FAULT CAUSES	
LOW WATER COIL TEMP	
LOW WATER TEMP - HTG	
LOW WATER FLOW - HTG	
LOW REFRIG CHARGE - HTG	
INCORRECT LT1 SETTING	
BAD LT1 THERMISTOR	

◀ PREVIOUS

FAULT TEMPERATURE CONDITIONS		
LT1 LOW WATER TEMP		
HEAT 1 11:11 AM 11/14		
LT1 TEMP		28.1
LT2 TEMP		97.3
HOT WATER EWT		121.5
COMP DISCHARGE		157.7
LEAVING AIR		92.7
LEAVING WATER		34.9
ENTERING WATER		42.1
CONTROL VOLTAGE		26.4

◀ PREVIOUS

# Internal Variable Water Flow (VWF) Control

## Internal Variable Water Flow (VWF)

Industry-first, built-in VWF replaces a traditionally inefficient, external component of the geothermal system (water circulation) with an ultra-high-efficient, variable speed, internal water flow system. This saves homeowners 70-80% on operating water circulator vs traditional single speed pump systems. It saves installers time and labor by avoiding installing bulky external flow centers or flow regulators. Multi-unit installations are also much simpler with VWF systems, as the units automatically adjust water flow across the system.

VWF is enabled by our digital controls, which facilitates intelligent communication between the thermostat, DXM2 control, sensors and internal water pump/valve to make true variable water flow a reality.

### VWF is available for three applications:

- 1) Closed loop – individual unit pumping: VWF Internal Flow Controller model "2" (high head) ("2" in Position 11 of the unit model number) would be used. This includes variable speed pump, flushing ports, 3 way flushing valves and expansion tank. Copper water coil is standard with this option.
- 2) Closed loop – multi unit / central pumping: VWF Internal Low Pressure Drop (high Cv) Motorized Modulating Valve ("5" in Position 11 of the unit model number) would be used. Copper water coil is standard with this option.
- 3) Open loop: VWF Internal Motorized Modulating Valve ("6" in Position 11 of the unit model number) would be used. Cupro-Nickel water coil is standard with this option. Valves in open loop models have higher pressure drop than the valves in the closed loop (modulating valve) models for better flow control when used in systems with higher pressure water supply pumps, and are not recommended for closed loop applications.

### VWF delivers three main benefits:

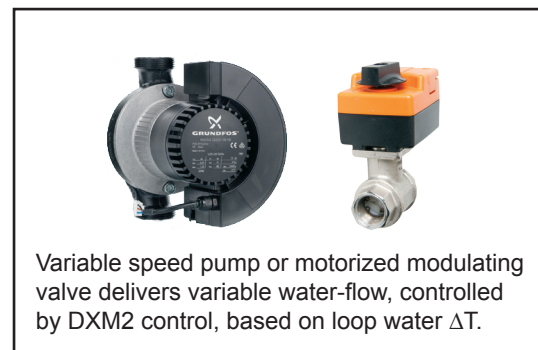
- 1) Easier and quicker unit installation as the flow control is built in to the unit.
- 2) Superior reliability by varying the water flow to deliver more stable operation.
- 3) Higher cost savings by varying the flow (and pump watt consumption) to match the unit's mode of operation.

### Internal components

HE Series can be installed more easily and compactly than its predecessors because water-flow components are internal to the unit. It also saves installing contractors labor and time by eliminating the need for an external flow regulator or a bulky external pumping module.

### Variable flow

VWF technology enables variable water flow through the unit, with the DXM2 control adjusting the pump speed to maintain an installer-set loop  $\Delta T$ . By controlling the water flow, the system is able to operate at its optimal capacity and efficiency. VWF provides a lower flow rate for part load where units typically operate 80% of the time and a higher, more normal flow rate for full load operation.

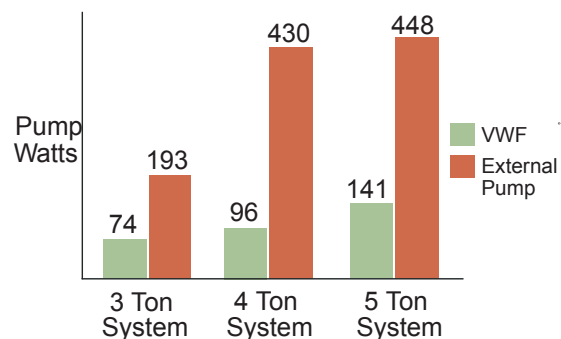


### Energy Savings with water circulation control

Units with VWF deliver higher operating cost savings by varying the water flow to match the unit's operation (ex: lower water flow when unit is in part load operation). Lowering the flow results in lower energy consumption by the water pump (=higher cost savings) in VWF units (whether internal or external pump).

In closed loop applications, using VWF with an internal variable-speed (ECM) flow controller, the ECM pump uses fewer watts than a fixed speed (PSC) pump, even at full load (see chart). The ECM pump excels in energy savings in part load, saving 70-80% watts compared to fixed speed pumps (see chart). The ECM pump can operate with independent flow rates for heating and cooling, further saving even more energy.

In open loop applications, when the motorized modulating valve slows down the water flow during part load operation, the external pump consumes fewer watts, thus saving more energy.



## How to Use this Manual

As with any unit selection the first step is to perform a proper load calculation. Once the design cooling and heating loads are known the predominant load can be used to select the appropriate unit. In northern climates the heating load may be used to select the unit, whereas in southern climates the cooling load may be used. Likewise, the anticipated maximum EWT should be used for the cooling mode and the minimum anticipated EWT should be used when selecting for the heating mode. These EWTs may be the same temperature in the case of a ground water application.

Use the Full Load performance pages to select the unit size. Once the unit size is determined read the associated flow rate (gpm) for the needed capacity. Typically this is 1.5 – 2 gpm/nominal ton for ground water applications and 2.25 – 3 gpm/ton for ground loop applications.

### For Closed Loop Applications

For closed loop systems where an internal circulating pump is desired, the HE units can be ordered with an internal, variable speed loop circulator. This would typically be for a ground loop or secondary pumping application. This internal loop circulator is the variable speed Grundfos Magna 25-140 for all HE units. The Grundfos UPM 25-85 is also available for size 024 and 036. Units with UPM pumps should not be combined with units with Magna pumps on the same loop. UPM pumps are best suited for small applications with a single unit. The maximum possible pump curve is shown below. The pump can also operate at any point below the curve as a “partial load” pumping condition. The designer/installer should use the information presented in this manual to determine the available pump head for any external piping/accessories and ground loop (if applicable). This can be done in the following manner.

1. Determine the desired flow rate through the unit from the performance pages (as described above). Read the associated pressure drop in feet of head for the worst case condition (lowest anticipated entering water temperature) at the required flow rate.
2. Determine the maximum pump head from the pump curve associated with the required flow rate from step 1.
3. Subtract the unit pressure drop (from step 1) from the maximum available pump head (from step 2).
4. The remainder is the available pump head to overcome any external piping/accessories and the ground loop.

If the available pump head is equal to or greater than the calculated external piping and loop pressure drop, no other steps are required. If the available pump head is less than the calculated pressure drop of all external piping and the loop, then changes to the loop design should be considered.

Typically residential loops consist of ¾” circuit piping and 1 ¼” supply and return piping. If the available pump head is less than the calculated pressure drop of all external piping and the loop, it is recommended that larger pipe sizes be investigated such as 1” circuit piping and/or 1 ½” or 2” supply and return piping. This will significantly reduce system pressure drop with little change in Reynolds number. If this causes the

Reynolds number to fall to an unacceptable level, try reducing the overall number of circuits. This will increase the flow rate through each circuit, increasing the Reynolds number.

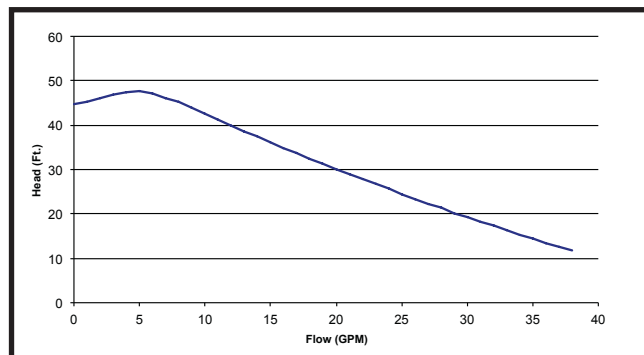
Another solution might be to allow the system flow rate to be reduced. Typical geothermal flow rates are between 2.25 and 3 gpm/ton. As long as the system flow rate using the internal variable speed circulator is at or above 2.25 gpm/ton it is safe to operate the system. A quick review of the unit performance tables will show that this causes very little change in unit performance.

For secondary pumping applications follow the above steps except do not consider the pressure drop of the loop. The internal 25-140 circulator will only need to overcome the pressure drop of the unit and any piping connecting the unit to the primary loop.

The HE Series can also be ordered with an internal modulating water control valve for closed loop systems with multiple units and a central pump. In this case the modulating water valve will stop water flow through the unit when the unit is not operating and control the flow rate through the unit during operation, saving pumping energy in both cases.

When using an internal modulating water valve the central pump must be able to overcome the pressure drop of the valve in addition to the pressure drop of the unit. Because of

### Magna Geo 25-140 Pump Performance



GPM	Head (ft)
0.0	44.7
1.0	45.4
2.0	46.1
3.0	46.8
4.0	47.5
5.0	47.7
6.0	47.1
7.0	46.1
8.0	45.3
9.0	43.9
10.0	42.6
11.0	41.2
12.0	39.9

GPM	Head (ft)
13.0	38.7
14.0	37.4
15.0	36.1
16.0	34.9
17.0	33.7
18.0	32.5
19.0	31.3
20.0	30.1
21.0	28.9
22.0	27.8
23.0	26.7
24.0	25.6
25.0	24.5



# How to Use this Manual

this, internal modulating valves for closed loop systems are designed with a low pressure drop in mind. The minimum pressure drop for the internal closed loop valve is shown in the 'Modulating Valves for Closed Loop Applications' table. This pressure drop should be added to the unit pressure drop when determining system pressure drop for central pump selection.

When using an internal modulating water valve the external pump must be able to overcome the minimum pressure drop of the valve in addition to the pressure drop of the unit. The minimum pressure drop for the open loop internal valve is shown in the 'Modulating Valves for Open Loop Applications' table below. This pressure drop should be added to the unit pressure drop when determining overall equipment pressure drop.

### For Open Loop Applications

The HE units can also be ordered with the internal modulating water control valve for open loop systems with an external well pump. In this case the modulating water valve will stop water flow through the unit when the unit is not operating and act as a flow control device to control the flow rate through the unit during operation.

### Modulating Valves for Closed Loop Applications

HE024			HE030 & 036			HE042 & 048			HE060		
Valve Cv = 4.7			Valve Cv = 7.4			Valve Cv = 10			Valve Cv = 19		
60°F Water			60°F Water			60°F Water			60°F Water		
GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)	GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)	GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)	GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)
2.0	0.181	0.4	3.0	0.2	0.4	4.0	0.2	0.4	6.0	0.1	0.2
3.0	0.407	0.9	4.0	0.3	0.7	5.0	0.3	0.6	7.0	0.1	0.3
4.0	0.724	1.7	5.0	0.5	1.1	6.0	0.4	0.8	8.0	0.2	0.4
5.0	1.132	2.6	6.0	0.7	1.5	7.0	0.5	1.1	9.0	0.2	0.5
6.0	1.630	3.8	7.0	0.9	2.1	8.0	0.6	1.5	10.0	0.3	0.6
			8.0	1.2	2.7	9.0	0.8	1.9	11.0	0.3	0.8
			9.0	1.5	3.4	10.0	1.0	2.3	12.0	0.4	0.9
						11.0	1.2	2.8	13.0	0.5	1.1
						12.0	1.4	3.3	14.0	0.5	1.3
									15.0	0.6	1.4

### Modulating Valves for Open Loop Applications

HE024, 030, 036, 042, & 048			HE060		
Valve Cv = 4.7			Valve Cv = 7.4		
60°F Water			60°F Water		
GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)	GPM	Valve ΔP @ GPM (psi)	Valve ΔP @ GPM (ft hd)
2.0	0.181	0.4	4.0	0.292	0.7
3.0	0.407	0.9	5.0	0.457	1.1
4.0	0.724	1.7	6.0	0.657	1.5
5.0	1.132	2.6	7.0	0.895	2.1
6.0	1.630	3.8	8.0	1.169	2.7
7.0	2.218	5.1	9.0	1.479	3.4
8.0	2.897	6.7	10.0	1.826	4.2
9.0	3.667	8.5			
10.0	4.527	10.5			
11.0	5.478	12.7			
12.0	6.519	15.1			

# HE Design Features

The HE Digital Series has abundant features and ultra-high efficiency.

## Application Flexibility

- Six Capacities 024, 030, 036, 042, 048 and 060 KBTUH
- Entering water temperature operation range (20-120°F EWT) and flow rates as low as 1.5 gpm per ton
- Two-stage upflow and horizontal right or left return
- Optional external electric heat unit designed for easy field installation
- Exceeds the federal requirements for 30% tax credit on installation costs
- Field selectable low-temperature protection settings for GWHP or GLHP installations
- Standard pre-installed 1" with 1" high performance MERV 8 pleated air filter
- Integrated VWF functionality for most geothermal applications

## Operating Efficiencies

- Exceeds ASHRAE 90.1 and Energy Star® Tier 3 efficiency levels
- Energy Star® Most Efficient
- 410A zero ozone depletion refrigerant.
- Rugged and highly efficient next generation Copeland UltraTech™ 2-stage scroll compressors provide ultra-high efficiencies and unsurpassed comfort.
- Optional hot water generator with advanced control logic and internally mounted pump.
- Convoluted copper (and optional cupro-nickel) water tube functions efficiently at low-flow rates and provides low-temperature-damage resistance.
- Tin plated, rifled tube/lanced aluminum fin, air to refrigerant heat exchangers provide high efficiency at low face velocity
- Large low RPM blowers with variable speed ECM fan motors provide quiet, efficient air movement with high static capability. Installer selectable ECM air flow provides the ultimate in comfort optimization.

## Service & Installation Advantages

The HE Series incorporates features that are industry firsts, which make it extremely easy to install:

- Ease of installation:
  - 1) VWF - with the industry exclusive features, these units are ready to install out of the box with no requirement for external pumps, expansion tanks, or valves for the ground loop removing a lot of the complexity of installation.
  - 2) Full digital controls that communicate with the thermostat which allows all unit configuration from the thermostat... the easiest installation setup for any level of installer. Far simpler than the use of dip-switches on the unit control board.
- The HE only requires 4 wires between the communicating thermostat and the unit. Others require up to 9 or 14 wires for full functionality. This is achieved by leveraging the full power of the microprocessor on the control.
- Internal variable speed circulator includes an internal check valve for multiple unit/ shared loop installations.
- Standard cornerpost schrader ports provide access to source pressure drop across unit coaxial heat exchanger.

- The communicating DXM2 control board diagnostic and communicating thermostat features allow the home owner to tell the service technician what is wrong with the unit before the technician leaves the shop.
- Small footprint: The small size of the units allows the dealer to install this unit in places they either (1) couldn't install before or (2) were very tight fit before, like 2.0/3.0 door jams, small mechanical closets, attic doors and crawl spaces.
- The two-section swing-out and removable control box design provides wide-open service access to the compressor section. Multiple unit access panels allow technicians to access any side of the cabinet. Service friendly highly accessible high/low refrigerant pressure ports are located on a service bracket at the front of the unit. No other product / manufacturer in the geothermal segment offer this convenience.
- An innovative two-section electrical control box design that tucks the stationary line voltage components safely behind a swing-out low voltage control panel to provide clear service access through the front of the unit. The low voltage panel can even be quickly pulled off the hinges and removed. Harness connections make controller replacement a snap.
- 3/4" MPT condensate connection directly from condensate drain pan eliminates internal plastic drain tubing that is subject to clogging and avoids the need for a fitting that reduces the drain opening size.
- Diagnostic display of system inputs, outputs, and configuration settings at thermostat or Configuration/Diagnostic tool.
- Diagnostic display of system temperatures at thermostat (ATC32U\*\*):
  - Geo source in and out
  - Compressor discharge line
  - LT1 and LT2 Refrigerant Line Temperature Sensors
  - Leaving air
  - Entering potable hot water to HWG
- Immediate manual control of all DXM2 outputs is available at the thermostat (ATC32U\*\*) or Configuration/Diagnostic tool (ACDU\*\*) for rapid troubleshooting.
- Expansion tank eliminates "flat loop" callbacks by working to maintain steady loop pressure.
- Brass swivel geo and hot water connections for quick connection and elimination of wrenches or sealants during installation.
- Intelligent fault retry with history retention.
- Two configurable auxiliary relays for low voltage control of accessories.
- UPS (Unit Performance Sentinel) provides early warning of inefficient operation.

## Factory Quality & Industry Certifications

All units are built and factory run tested on our Integrated Process Control Assembly System (IPCS). The IPCS is a unique state of the art manufacturing system that is designed to assure quality of the highest standards of any manufacturer in the water-source industry. Our IPCS system:

- Verifies that the correct components are being assembled.
- Automatically performs special leak tests on all joints
- Conducts pressure tests
- Performs detailed run test



# HE Design Features

- Automatically disables packaging for a “failed” unit
- Creates computer database for future service analysis and diagnostics from run test results
- All refrigerant brazing is done in a nitrogen atmosphere
- All units are deep evacuated to less than 100 microns prior to refrigerant charging
- All joints are both helium and halogen leak tested to insure annual leak rate of less than ¼ ounce
- AHRI/ASHRAE/ANSI/ISO 13256-1 certified.
- ETL listed.
- US EPA “Energy Star” Tier 3 compliant.

### Advanced Controls

Digital communicating controls provide advanced unit functionality and comprehensive configuration, monitoring and diagnostic capabilities through digital communication links with the variable-speed fan motor, variable-speed source pump (or modulating valve) and communicating thermostat or Configuration/Diagnostic tool.

- 7 temperature sensor inputs for system protection and control
- Anti-short cycle and over/under voltage protection
- High pressure, loss of charge, and condensate overflow protection
- LED fault and status indication at controller
- Service tool port for optional setup and diagnostics at unit

### Factory Options and Accessories

- Hot water generator with internally mounted pump and advanced logic control

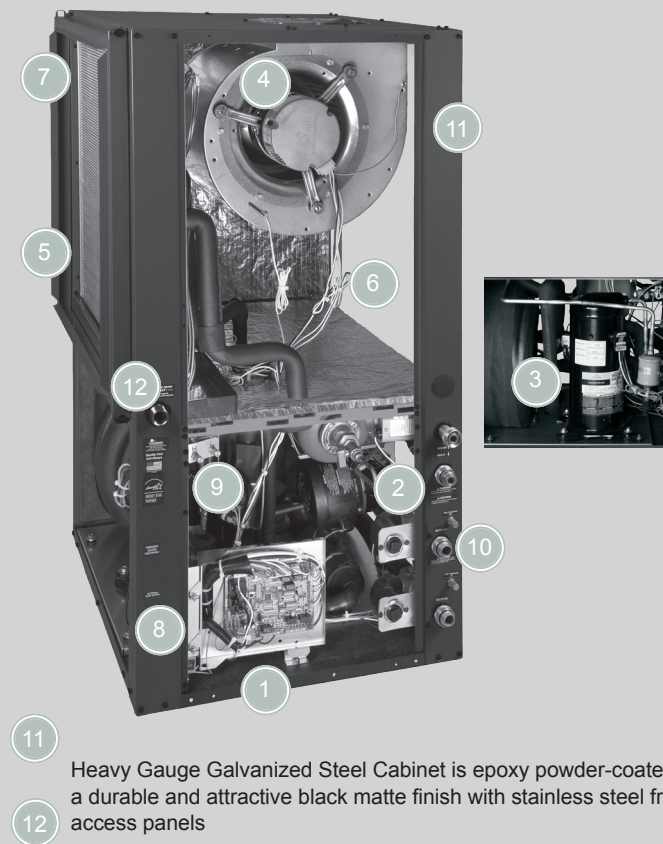
### Field Installed Accessories

- Communicating, Programmable Thermostat (ATC32U\*\*)
- Auxiliary Electric Heater
- Configuration / Diagnostic Tool (ACDU\*\*)
- Outdoor/Remote Temperature Sensor (AST008)
- Secure Start Compressor Soft Start Kit (13B0045N01)
- Unit Vibration Isolation Pad
- Unit Stand
- Secondary Drain Pan (Horizontal Units)

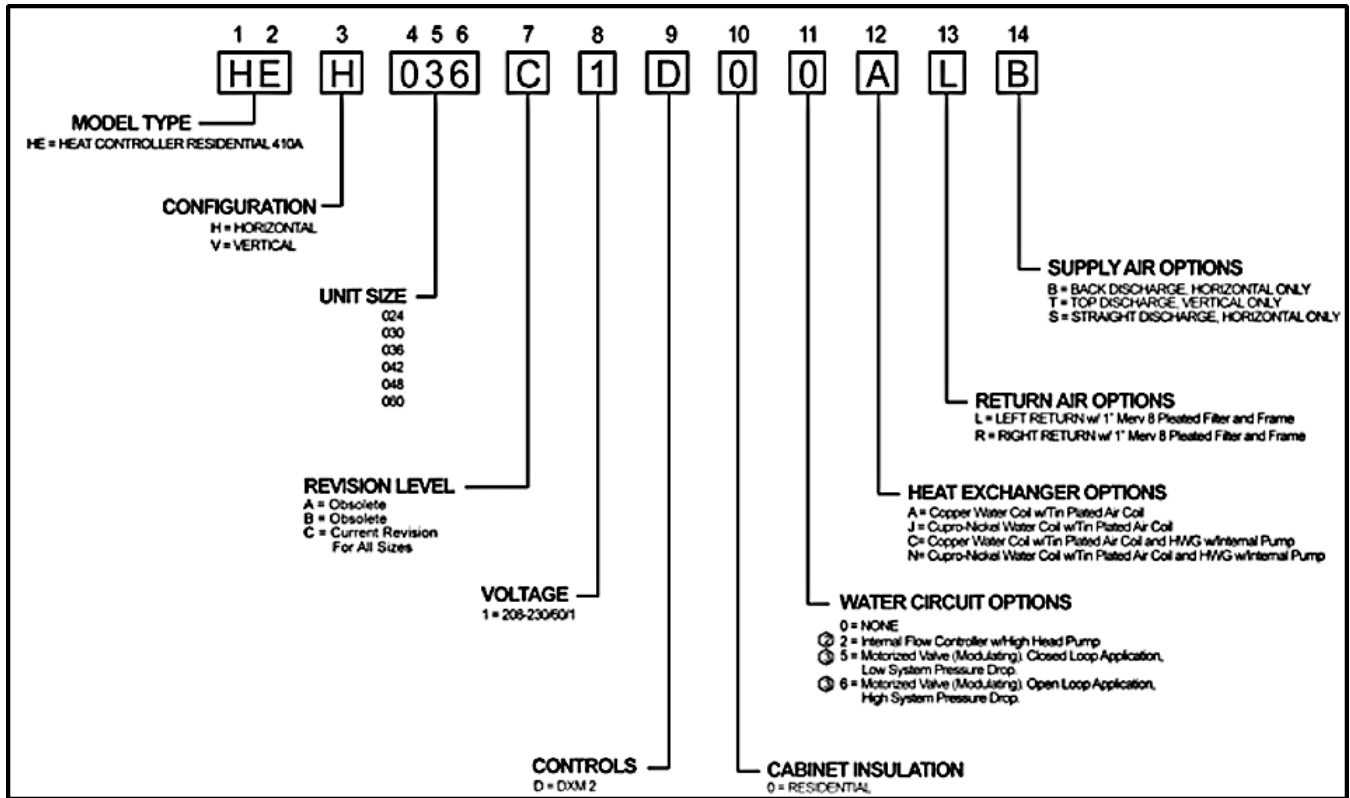
### Warranty

- Comfort-Aire/Century residential class heat pumps are backed by a 12-year limited warranty on all unit parts, including the following accessories when installed with Comfort-Aire/Century units: Flow Controllers, Thermostats & Electric Heaters.
- Comfort-Aire/Century goes even further to back up its commitment to quality by including a service labor allowance for the first five years on unit parts and thermostats, auxiliary electric heaters and geothermal pumping modules with completion of Start Up Form.

- 1 Exclusive Two-Way Communicating Control to configure, monitor and diagnose AT THERMOSTAT
- 2 Internal Variable Water Flow System with Internal Flow Center or Internal Motorized Modulating Valve for optimized efficiency and reliability
- 3 Next generation Copeland™ Ultra-Tech™ Two-Stage Scroll Compressor with dual-level isolation for ultra-quiet and high-efficiency operation
- 4 Emerson UltraTech® Variable-Speed Communicating Fan Motor with soft start and constant CFM control
- 5 Tin-Plated Copper Air Coils to resist formicary corrosion
- 6 Foil-Faced Insulation in the blower section and fully insulated compressor section conform to ASHRAE 62 specifications
- 7 One-inch high-efficiency MERV 11 Filter (standard) or EarthPure® Air Cleaner for high quality indoor air
- 8 Two-Section Swing-out Control Box design provides wide-open service access
- 9 Refrigerant Schrader Ports Located on bracket at the front access panel for easy service access
- 10 Water Schrader Ports located on corner post to easily read pressure drop across water heat exchanger for easy troubleshooting



# Unit Model Key



# AHRI/ISO/ASHRAE 13256-1

ASHRAE/AHRI/ISO 13256-1

Model	Capacity Modulation	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 Full Load 77°F Part Load 68°F		Heating Full Load 32°F Part Load 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	Part	18,100	16.1	20,600	5.2	20,300	27.2	16,700	4.4	19,400	22.2	14,700	4.0
	Full	23,700	14.3	28,000	4.6	26,500	21.7	23,000	4.1	24,600	16.0	17,800	3.6
030	Part	21,900	15.2	26,300	5.0	24,900	24.8	22,000	4.3	24,200	20.9	19,400	3.9
	Full	28,500	14.0	35,800	4.6	32,300	20.7	30,000	4.2	29,900	15.7	23,800	3.6
036	Part	25,800	17.2	29,900	5.3	29,000	29.4	24,900	4.6	27,300	23.4	21,500	4.0
	Full	34,300	15.1	42,000	4.6	38,200	22.3	35,100	4.3	35,200	16.7	27,300	3.6
042	Part	31,000	15.8	36,800	5.1	35,200	26.4	30,500	4.3	34,000	22.0	26,900	3.8
	Full	41,100	14.3	50,200	4.6	46,300	21.3	42,300	4.1	43,100	16.1	33,300	3.4
048	Part	34,100	15.2	39,500	5.5	39,200	26.8	32,600	4.6	37,600	21.2	29,200	4.1
	Full	45,900	14.0	53,800	4.9	51,800	20.9	45,000	4.4	48,150	15.5	35,600	3.7
060	Part	45,500	17.7	49,000	5.3	50,400	28.9	39,800	4.5	48,600	23.7	34,800	4.0
	Full	61,700	15.7	67,500	4.8	68,000	22.7	55,400	4.3	63,200	17.3	43,700	3.6

Ground Loop Heat Pump ratings based on 15% methanol antifreeze solution  
 All ratings based upon operation at lower voltage of dual voltage rated models

### About AHRI/ISO/ASHRAE 13256-1

AHRI/ASHRAE/ISO 13256-1 (Air-Conditioning and Refrigeration Institute/American Society of Heating, Refrigerating and Air Conditioning Engineers/International Standards Organization) is a certification standard for water-source heat pumps used in the following applications:

- WLHP (Water Loop Heat Pump – Boiler/Tower)
- GWHP (Ground Water Heat Pump – Open Loop)
- GLHP (Ground Loop Heat Pump – Geothermal)

The directory at <http://www.ahrinet.org/> is constantly being updated and immediately available on the Internet.

Water and air temperatures used in AHRI certification standards are shown below.

Test Condition Comparison Table	WLHP	GWHP	GLHP
<b>Cooling</b>			
Entering Air Temperature - DB/WB °F [°C]	80.6/66.2 [27/19]	80.6/66.2 [27/19]	80.6/66.2 [27/19]
Entering Water Temperature - °F [°C]	86 [30]	59 [15]	77 [25]
Fluid Flow Rate	*	*	*
<b>Heating</b>			
Entering Air Temperature - DB/WB °F [°C]	68 [20]	68 [20]	68 [20]
Entering Water Temperature - °F [°C]	68 [20]	50 [10]	32 [0]
Fluid Flow Rate	*	*	*

\*Flow rate is specified by the manufacturer

Data certified by AHRI include heating/cooling capacities, EER (Energy Efficiency Ratio – Btuh per Watt) and COP (Btuh per Btuh) at the various conditions shown above. Pump power correction is calculated to adjust efficiencies for pumping Watts. Fan power is corrected to zero external static pressure using the equation below. The nominal airflow is rated at a specific external static pressure.

• Fan Power Correction = (cfm x 0.472) x (esp x 249)/300

Capacities and efficiencies are calculated using the following equations:

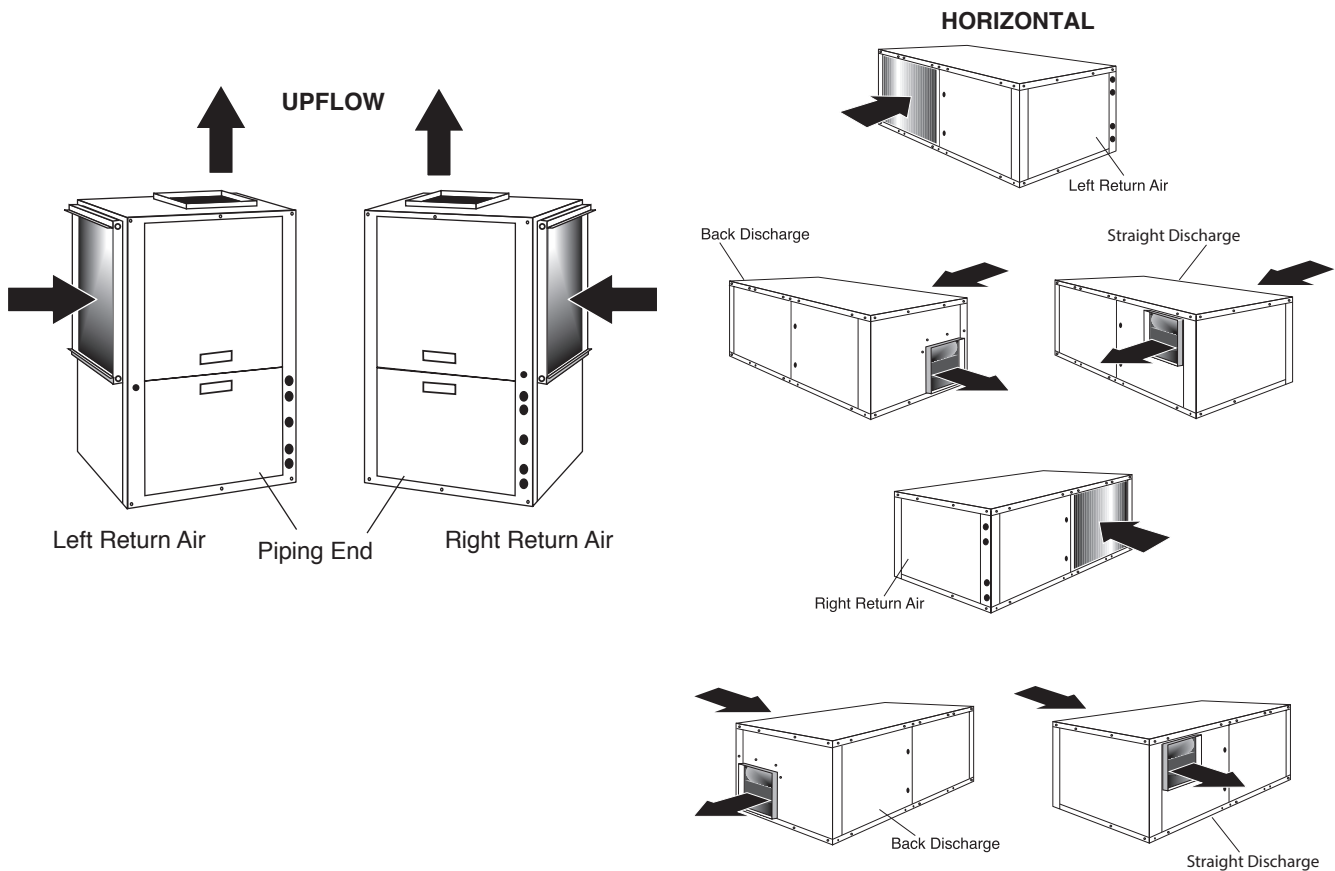
- ISO Cooling Capacity = Cooling Capacity (Btuh) + [Fan Power Correction (Watts) x 3.412]
- ISO EER Efficiency (Btuh/W) =  
 ISO Cooling Capacity (Btuh)/[Power Input (Watts) – Fan Power Correction (Watts) + Pump Power Correction (Watts)]
- ISO Heating Capacity = Heating Capacity (Btuh) – [Fan Power Correction (Watts) x 3.412]
- ISO COP Efficiency (Btuh/Btuh) =  
 ISO Heating Capacity (Btuh) x 3.412/[Power Input (Watts) - Fan Power Correction (Watts) + Pump Power Correction (Watts)]

# Reference Calculations & Legend

Heating	Cooling	
$LWT = EWT - \frac{HE}{GPM \times 500}$	$LWT = EWT + \frac{HR}{GPM \times 500}$	$LC = TC - SC$
$LAT = EAT + \frac{HC}{CFM \times 1.08}$	$LAT (DB) = EAT (DB) - \frac{SC}{CFM \times 1.08}$	$S/T = \frac{SC}{TC}$

Hot Water Generator capacities (HWC) are based on potable water flow rate of 0.4 gpm per nominal equipment ton and 90°F entering potable water temperature.

CFM = airflow, cubic feet/minute	HE = total heat of extraction, Mbtuh
EWT = entering water temperature, °F	HWC = Hot Water Generator (desuperheater) capacity, Mbtuh
GPM = water flow in US gallons/minute	WPD = Water coil pressure drop (psi & ft hd)
EAT = entering air temperature, Fahrenheit (dry bulb/wet bulb)	EER = Energy Efficiency Ratio = BTU output/Watt input
HC = air heating capacity, Mbtuh	COP = Coefficient of Performance = BTU output/BTU input
TC = total cooling capacity, Mbtuh	LWT = leaving water temperature, °F
SC = sensible cooling capacity, Mbtuh	LAT = leaving air temperature, °F
KW = total power unit input, KiloWatts	LC = latent cooling capacity, Mbtuh
HR = total heat of rejection, Mbtuh	S/T = sensible to total cooling ratio



# Full Load Correction Factors

## Air Flow Correction Table

Airflow	Cooling					Heating		
	% of Rated	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection	Heating Capacity	Power
80%	0.976	0.919	0.941	0.939	0.969	0.983	1.040	0.967
85%	0.984	0.941	0.957	0.953	0.977	0.987	1.018	0.978
90%	0.990	0.962	0.972	0.968	0.986	0.991	1.004	0.988
95%	0.996	0.982	0.986	0.983	0.993	0.996	0.998	0.995
100%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
105%	1.003	1.017	1.014	1.018	1.006	1.005	1.010	1.003
110%	1.005	1.032	1.027	1.036	1.012	1.009	1.028	1.004

## Entering Air Correction Table

Heating			
Entering Air DB°F	Heating Capacity	Power	Heat of Extraction
50	1.030	0.808	1.092
55	1.026	0.858	1.073
60	1.020	0.905	1.052
65	1.011	0.951	1.027
70	1.000	1.000	1.000
75	0.989	1.054	0.971
80	0.978	1.114	0.940

Cooling											
Entering Air WB°F	Total Capacity	Sensible Cooling Capacity Multiplier - Entering DB °F								Power	Heat of Rejection
		65	70	75	80	85	90	95	100		
45	0.638	*	*	*	*	*	*	*	*	0.914	0.694
50	0.720	*	*	*	*	*	*	*	*	0.934	0.763
55	0.803	1.044	*	*	*	*	*	*	*	0.953	0.833
60	0.885	0.751	0.927	1.114	*	*	*	*	*	0.973	0.903
65	0.967		0.693	0.886	1.089	1.300	*	*	*	0.992	0.972
67	1.000		0.607	0.798	1.000	1.211	1.432	*	*	1.000	1.000
70	1.049			0.669	0.866	1.076	1.299	*	*	1.012	1.042
75	1.132				0.644	0.848	1.077	1.329	1.605	1.031	1.111

\* = Sensible capacity equals total capacity  
 AHRI/ISO/ASHRAE 13256-1 uses entering air conditions of Cooling - 80.6°F DB/66.2°F WB, and Heating - 68°F DB/59°F WB entering air temperature



# Part Load Correction Factors

## Air Flow Correction Table

Airflow	Cooling					Heating		
	% of Rated	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection	Heating Capacity	Power
80%	0.980	0.917	0.936	0.955	0.975	0.979	1.035	0.965
85%	0.986	0.939	0.953	0.964	0.982	0.984	1.021	0.975
90%	0.992	0.961	0.969	0.975	0.988	0.990	1.011	0.984
95%	0.996	0.981	0.985	0.986	0.994	0.995	1.004	0.993
100%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
105%	1.003	1.017	1.014	1.016	1.005	1.006	1.002	1.007
110%	1.004	1.031	1.027	1.033	1.010	1.011	1.006	1.012

## Entering Air Correction Table

Heating			
Entering Air DB°F	Heating Capacity	Power	Heat of Extraction
50	1.023	0.773	1.084
55	1.021	0.827	1.068
60	1.016	0.882	1.049
65	1.009	0.940	1.026
70	1.000	1.000	1.000
75	0.989	1.063	0.971
80	0.978	1.128	0.941

Cooling											
Entering Air WB°F	Total Capacity	Sensible Cooling Capacity Multiplier - Entering DB °F								Power	Heat of Rejection
		65	70	75	80	85	90	95	100		
45	0.628	*	*	*	*	*	*	*	*	1.010	0.698
50	0.712	*	*	*	*	*	*	*	*	1.008	0.767
55	0.797	1.026	*	*	*	*	*	*	*	1.006	0.835
60	0.882	0.669	0.894	1.111	*	*	*	*	*	1.003	0.904
65	0.966		0.693	0.890	1.092	1.298	*	*	*	1.001	0.973
67	1.000		0.640	0.810	1.000	1.202	*	*	*	1.000	1.000
70	1.051			0.706	0.862	1.060	1.298	*	*	0.999	1.041
75	1.135				0.633	0.860	1.087	1.314	1.541	0.996	1.110

\* = Sensible capacity equals total capacity  
 AHRI/ISO/ASHRAE 13256-1 uses entering air conditions of Cooling - 80.6°F DB/66.2°F WB,  
 and Heating - 68°F DB/59°F WB entering air temperature

# Performance Data Selection Notes - Variable Water Flow (VWF) Models

### Operation in Shaded Area: Closed Loop Application

For operation in the shaded area, appropriate levels of a proper antifreeze should be used in systems with leaving water temperatures of 40°F or below and the JW3 jumper should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F [0°C] with 40°F [4.4°C] LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for systems without antifreeze.

### Open Loop Application:

For operation in shaded area (below 40°F LWT) in open loop applications, ΔT (on DXM2) should be set such that the LWT (=EWT - ΔT) doesn't drop below 40°F. JW3 should NEVER be clipped for systems without antifreeze.

Recommended in this range. Also Clip JW3 on DXM2 board.

Heating - EAT 70°F

Model	TD	CFM	HC	kW	COP	HE	LAT	LWT	HWC
5	5.8	725	11.3	1.1	2.9	7.4	84	16.7	1.2
5.5	5.8	850	11.5	1.1	3.1	7.7	82	16.6	1.2
6.7	1.7	725	12.5	1.1	3.2	8.6	86	22.4	1.4
6.7	1.7	850	12.7	1.1	3.4	8.9	84	22.1	1.3
7.3	3.0	725	13.1	1.1	3.3	9.1	87	24.6	1.4
7.3	3.0	850	13.2	1.1	3.5	9.5	84	24.4	1.4
8.0	4.6	725	13.4	1.1	3.4	9.4	87	25.8	1.4
8.0	4.6	850	13.5	1.1	3.6	9.8	85	25.7	1.4
9.2	1.2	725	14.5	1.2	3.7	10.6	89	30.6	1.6
9.2	1.2	850	14.7	1.1	3.9	10.9	86	30.3	1.6
10.4	2.4	725	15.2	1.2	3.9	11.3	89	33.4	1.7
10.4	2.4	850	15.4	1.1	4.1	11.7	87	33.1	1.7
11.6	4.4	725	15.6	1.2	4.0	11.7	90	34.8	1.8
11.6	4.4	850	15.8	1.1	4.2	12.1	87	34.5	1.8
12.8	6.6	725	16.6	1.2	4.2	12.6	91	36.6	1.9
12.8	6.6	850	16.8	1.1	4.4	13.0	88	36.3	1.9

### Performance Data Selection Notes - Models without VWF

For operation in the shaded area when water is used in lieu of an antifreeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 40°F [4.4°C] when the JW3 jumper is not clipped (see example below). Otherwise, appropriate levels of a proper antifreeze solution should be used in systems with leaving water temperatures of 40°F [4.4°C] or below and the JW3 jumper should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F [0°C] with 40°F [4.4°C] LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

### Example:

At 50°F EWT (Entering Water Temperature) and 1.5 gpm/ton, a 3 ton unit has a HE of 22,500 Btuh. To calculate LWT, rearrange the formula for HE as follows:

HE = TD x GPM x 500, where HE = Heat of Extraction (Btuh);  
 TD = temperature difference (EWT - LWT) and GPM = U.S. Gallons per Minute.

$$TD = HE / (GPM \times 500)$$

$$TD = 22,500 / (4.5 \times 500)$$

$$TD = 10^\circ\text{F}$$

$$\text{LWT} = \text{EWT} - \text{TD}$$

$$\text{LWT} = 50 - 10 = 40^\circ\text{F}$$

In this example, as long as the EWT does not fall below 50°F, the system will operate as designed. For EWTs below 50°F, higher flow rates will be required (open loop systems, for example, require at least 2 gpm/ton when EWT is below 50°F).

Heating - EAT 70°F

Model	Airflow CFM	HC	kW	HE	LAT	COP
5	825	11.7	1.02	8.4	83.2	3.38
5.5	710	13.6	1.09	10.1	87.8	3.66
6.7	825	13.8	1.06	10.3	85.5	3.81
6.7	710	14.2	1.09	10.7	88.5	3.81
7.3	825	14.4	1.06	10.9	86.1	3.97
7.3	710	14.4	1.09	10.9	88.8	3.86
8.0	825	14.6	1.06	11.1	86.3	4.02
8.0	710	16.1	1.15	12.3	90.9	4.08
9.2	825	16.2	1.12	12.6	88.2	4.25
9.2	710	16.7	1.15	13.0	91.8	4.25
10.4	825	16.9	1.12	13.3	89.0	4.42
10.4	710	16.9	1.16	13.2	92.1	4.30
11.6	825	17.1	1.12	13.5	89.2	4.47
11.6	710	18.3	1.18	14.5	93.9	4.56
12.8	825	18.5	1.14	14.8	90.8	4.75
12.8	710	19.1	1.18	15.2	94.8	4.73
14.0	825	19.3	1.15	15.5	91.6	4.97
14.0	710	19.3	1.18	15.4	95.1	4.97
15.2	825	19.5	1.15	15.7	91.9	5.15
15.2	710	20.4	1.21	16.5	95.1	5.15

# Antifreeze Correction Table

Antifreeze Type	Antifreeze %	Cooling			Heating		WPD Corr. Fct. EWT 30°F
		EWT 90°F			EWT 30°F		
		Total Cap	Sens Cap	Power	Htg Cap	Power	
<b>Water</b>	0	1.000	1.000	1.000	1.000	1.000	1.000
<b>Propylene Glycol</b>	5	0.995	0.995	1.003	0.989	0.997	1.070
	15	0.986	0.986	1.009	0.968	0.990	1.210
	25	0.978	0.978	1.014	0.947	0.983	1.360
<b>Methanol</b>	5	0.997	0.997	1.002	0.989	0.997	1.070
	15	0.990	0.990	1.007	0.968	0.990	1.160
	25	0.982	0.982	1.012	0.949	0.984	1.220
<b>Ethanol</b>	5	0.998	0.998	1.002	0.981	0.994	1.140
	15	0.994	0.994	1.005	0.944	0.983	1.300
	25	0.986	0.986	1.009	0.917	0.974	1.360
<b>Ethylene Glycol</b>	5	0.998	0.998	1.002	0.993	0.998	1.040
	15	0.994	0.994	1.004	0.980	0.994	1.120
	25	0.988	0.988	1.008	0.966	0.990	1.200

# Performance Data — HE Model 024 - Part Load, with VWF

Performance capacities shown in thousands of Btuh

Cooling - EAT 80/67°F											Heating - EAT 70°F											
EWT °F	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	1.2	0.3	0.7	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	5.0	3.7	8.4	480	10.6	1.16	2.7	6.7	90.5	17.3	2.0
	1.2	0.3	0.7	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	5.0	3.7	8.4	600	10.9	1.12	2.8	7.0	86.7	17.2	1.9
30	1.7	0.3	0.6	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	2.5	0.8	1.9	480	12.2	1.18	3.0	8.1	93.5	23.5	2.0
	1.7	0.3	0.6	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	2.5	0.8	1.9	600	12.4	1.14	3.2	8.5	89.2	23.2	1.9
	1.7	0.3	0.6	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	3.8	1.8	4.2	480	12.7	1.19	3.1	8.7	94.5	25.4	2.0
	1.7	0.3	0.6	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	3.8	1.8	4.2	600	13.0	1.15	3.3	9.1	90.0	25.2	1.9
	1.7	0.3	0.6	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	5.0	2.9	6.7	480	13.0	1.19	3.2	9.0	95.1	26.4	2.1
	1.7	0.3	0.6	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	5.0	2.9	6.7	600	13.3	1.15	3.4	9.4	90.5	26.3	2.0
40	2.5	0.5	1.2	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	2.5	0.5	1.2	480	14.5	1.21	3.5	10.3	97.9	31.7	2.1
	2.5	0.5	1.2	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	2.5	0.5	1.2	600	14.8	1.17	3.7	10.8	92.8	31.4	2.0
	2.5	0.5	1.2	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	3.8	1.4	3.2	480	15.2	1.22	3.6	11.0	99.3	34.1	2.2
	2.5	0.5	1.2	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	3.8	1.4	3.2	600	15.5	1.18	3.8	11.5	93.9	33.9	2.1
	2.5	0.5	1.2	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	5.0	2.4	5.4	480	15.6	1.22	3.7	11.4	100.0	35.4	2.2
	2.5	0.5	1.2	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	5.0	2.4	5.4	600	15.9	1.18	3.9	11.9	94.5	35.2	2.1
50	2.5	0.3	0.8	480	21.3	13.6	0.76	27.8	23.9	69.1	1.1	2.5	0.3	0.8	480	16.8	1.23	4.0	12.6	102.4	39.9	2.3
	2.5	0.3	0.8	600	21.7	14.8	0.80	27.1	24.4	69.6	1.1	2.5	0.3	0.8	600	17.2	1.19	4.2	13.1	96.5	39.5	2.2
	3.8	1.1	2.5	480	21.8	13.8	0.71	30.8	24.2	62.9	0.9	3.8	1.1	2.6	480	17.7	1.24	4.2	13.4	104.1	42.8	2.3
	3.8	1.1	2.5	600	22.2	15.1	0.74	30.0	24.7	63.2	0.9	3.8	1.1	2.6	600	18.0	1.20	4.4	13.9	97.8	42.6	2.2
	5.0	2.0	4.5	480	22.0	13.9	0.68	32.4	24.3	60.0	0.9	5.0	2.0	4.5	480	18.1	1.25	4.2	13.9	105.0	44.4	2.4
	5.0	2.0	4.5	600	22.4	15.2	0.71	31.6	24.9	60.0	0.9	5.0	2.0	4.5	600	18.5	1.21	4.5	14.4	98.6	44.2	2.3
60	2.5	0.3	0.6	480	20.4	13.2	0.88	23.3	23.4	78.7	1.6	2.5	0.3	0.6	480	19.1	1.26	4.4	14.8	106.8	48.2	2.4
	2.5	0.3	0.6	600	20.9	14.4	0.92	22.7	24.0	79.2	1.6	2.5	0.3	0.6	600	19.5	1.22	4.7	15.3	100.1	47.7	2.3
	3.8	0.9	2.2	480	21.0	13.4	0.80	26.2	23.7	72.7	1.3	3.8	0.9	2.2	480	20.0	1.27	4.6	15.7	108.6	51.6	2.5
	3.8	0.9	2.2	600	21.4	14.7	0.84	25.5	24.3	73.0	1.3	3.8	0.9	2.2	600	20.4	1.23	4.9	16.2	101.5	51.3	2.4
	5.0	1.7	3.9	480	21.3	13.6	0.76	27.8	23.9	69.5	1.1	5.0	1.7	3.9	480	20.5	1.28	4.7	16.1	109.6	53.5	2.6
	5.0	1.7	3.9	600	21.7	14.8	0.80	27.1	24.4	69.8	1.1	5.0	1.7	3.9	600	20.9	1.24	5.0	16.7	102.3	53.3	2.5
70	2.5	0.2	0.6	480	19.5	12.7	1.01	19.2	22.9	88.3	2.1	2.5	0.2	0.6	480	21.2	1.29	4.8	16.8	110.9	56.6	2.6
	2.5	0.2	0.6	600	19.9	13.9	1.06	18.7	23.5	88.8	2.2	2.5	0.2	0.6	600	21.6	1.25	5.1	17.4	103.4	56.1	2.5
	3.8	0.9	2.0	480	20.1	13.0	0.92	21.9	23.2	82.4	1.8	3.8	0.9	2.0	480	22.1	1.30	5.0	17.6	112.6	60.6	2.8
	3.8	0.9	2.0	600	20.5	14.2	0.96	21.4	23.8	82.7	1.8	3.8	0.9	2.0	600	22.6	1.26	5.2	18.3	104.8	60.3	2.7
	5.0	1.6	3.6	480	20.4	13.1	0.88	23.2	23.4	79.4	1.6	5.0	1.6	3.6	480	22.5	1.31	5.0	18.1	113.5	62.8	2.8
	5.0	1.6	3.6	600	20.8	14.3	0.92	22.6	24.0	79.6	1.6	5.0	1.6	3.6	600	23.0	1.27	5.3	18.7	105.5	62.5	2.7
80	2.5	0.3	0.6	480	18.3	12.3	1.18	15.6	22.3	97.9	2.9	2.5	0.3	0.6	480	22.9	1.32	5.1	18.4	114.3	65.3	2.9
	2.5	0.3	0.6	600	18.7	13.4	1.23	15.2	22.9	98.3	3.0	2.5	0.3	0.6	600	23.4	1.28	5.4	19.1	106.2	64.8	2.8
	3.8	0.8	1.9	480	19.1	12.5	1.07	17.8	22.7	92.1	2.4	3.8	0.8	1.9	480	23.7	1.35	5.2	19.1	115.7	69.8	3.1
	3.8	0.8	1.9	600	19.4	13.7	1.12	17.4	23.3	92.4	2.5	3.8	0.8	1.9	600	24.2	1.30	5.5	19.7	107.3	69.5	3.0
	5.0	1.5	3.4	480	19.1	12.6	1.06	18.0	22.7	89.1	2.1	4.0	0.9	2.1	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	5.0	1.5	3.4	600	19.5	13.7	1.11	17.6	23.3	91.8	2.2	4.0	0.9	2.1	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
90	2.5	0.3	0.7	480	17.1	11.8	1.36	12.6	21.7	107.4	3.9	2.0	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	2.5	0.3	0.7	600	18.2	13.2	1.30	14.0	22.7	107.8	3.4	2.0	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	3.8	0.8	1.9	480	17.9	12.1	1.24	14.4	22.1	101.8	3.3	2.0	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	3.8	0.8	1.9	600	18.2	13.2	1.30	14.0	22.7	102.1	3.4	2.0	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	5.0	1.4	3.3	480	18.2	12.2	1.18	15.4	22.3	98.9	3.0	2.0	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	5.0	1.4	3.3	600	18.6	13.3	1.24	15.0	22.8	99.1	3.1	2.0	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
100	2.5	0.3	0.7	480	15.7	11.4	1.57	10.0	21.0	116.8	5.1	1.3	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	2.5	0.3	0.7	600	16.0	12.4	1.64	9.7	21.6	117.3	5.2	1.3	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	3.8	0.8	1.9	480	16.5	11.6	1.44	11.4	21.4	111.4	4.3	1.3	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	3.8	0.8	1.9	600	16.9	12.7	1.51	11.2	22.0	111.7	4.4	1.3	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	5.0	1.4	3.2	480	16.9	11.8	1.39	12.2	21.7	108.7	4.0	1.3	0.2	0.5	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	5.0	1.4	3.2	600	17.3	12.8	1.45	11.9	22.2	108.9	4.1	1.3	0.2	0.5	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
110	2.5	0.3	0.6	480	14.1	10.9	1.81	7.8	20.3	126.2	6.3	1.0	0.1	0.2	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	2.5	0.3	0.6	600	14.4	11.9	1.89	7.6	20.8	126.7	6.5	1.0	0.1	0.2	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	3.8	0.8	1.8	480	15.0	11.2	1.67	9.0	20.7	121.0	5.6	1.0	0.1	0.2	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	3.8	0.8	1.8	600	15.3	12.2	1.75	8.7	21.3	121.3	5.7	1.0	0.1	0.2	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	5.0	1.4	3.1	480	15.5	11.3	1.60	9.6	20.9	118.4	5.2	1.0	0.1	0.2	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	5.0	1.4	3.1	600	15.8	12.3	1.68	9.4	21.5	118.6	5.3	1.0	0.1	0.2	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
120	2.5	0.1	0.3	480	12.4	10.3	2.06	6.0	19.4	135.5	7.8	0.8	0.1	0.2	480	23.7	1.35	5.2	19.2	115.8	70.0	3.1
	2.5	0.1	0.3	600	12.6	11.3	2.16	5.8	20.0	136.0	8.0	0.8	0.1	0.2	600	24.2	1.30	5.5	19.8	107.4	70.0	3.0
	3.8	0.7	1.5	480	13.3	10.6	1.92	6.9	19.9	130.6	7.0	0.8	0.1	0.2	480	23.7	1.35	5.2	19.2			

# Performance Data — HE Model 024 - Full Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.										
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F										
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	1.7	0.7	1.5	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	6.0	4.8	11.1	600	15.4	1.55	2.9	10.2	93.8	16.6	2.4
	1.7	0.7	1.5	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	6.0	4.8	11.1	750	15.7	1.49	3.1	10.6	89.4	16.5	2.3
30	2.2	0.6	1.4	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	3.0	1.2	2.7	600	17.1	1.59	3.2	11.7	96.4	22.2	2.5
	2.2	0.6	1.4	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	3.0	1.2	2.7	750	17.4	1.53	3.3	12.2	91.5	21.9	2.4
	2.2	0.6	1.4	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	4.5	2.4	5.6	600	17.9	1.62	3.2	12.4	97.7	24.5	2.6
	2.2	0.6	1.4	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	4.5	2.4	5.6	750	18.2	1.56	3.4	12.9	92.5	24.3	2.5
	2.2	0.6	1.4	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	6.0	3.9	9.1	600	18.4	1.63	3.3	12.8	98.4	25.7	2.6
	2.2	0.6	1.4	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	6.0	3.9	9.1	750	18.7	1.57	3.5	13.3	93.1	25.6	2.5
40	3.0	0.8	1.9	600	28.4	17.5	1.13	25.2	32.2	61.5	1.4	3.0	0.8	1.9	600	20.0	1.67	3.5	14.3	100.8	30.5	2.7
	3.0	0.8	1.9	750	29.1	19.1	1.20	24.2	33.2	62.1	1.4	3.0	0.8	1.9	750	20.3	1.61	3.7	14.8	95.1	30.1	2.6
	3.3	1.0	2.4	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	4.5	1.9	4.5	600	21.0	1.70	3.6	15.2	102.5	33.2	2.8
	3.3	1.0	2.4	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	4.5	1.9	4.5	750	21.4	1.63	3.8	15.8	96.4	33.0	2.7
	3.3	1.0	2.4	600	28.6	17.6	1.11	25.8	32.4	60.0	1.3	6.0	3.3	7.6	600	21.6	1.72	3.7	15.8	103.3	34.7	2.9
	3.3	1.0	2.4	750	29.3	19.2	1.18	24.8	33.3	60.0	1.3	6.0	3.3	7.6	750	22.0	1.65	3.9	16.4	97.1	34.5	2.8
50	3.0	0.6	1.4	600	27.4	17.2	1.24	22.1	31.6	71.1	1.7	3.0	0.6	1.4	600	23.0	1.75	3.9	17.0	105.5	38.7	3.0
	3.0	0.6	1.4	750	28.1	18.7	1.32	21.3	32.6	71.7	1.8	3.0	0.6	1.4	750	23.4	1.68	4.1	17.6	98.9	38.2	2.9
	4.5	1.6	3.7	600	28.1	17.5	1.15	24.3	32.1	64.2	1.5	4.5	1.6	3.7	600	24.2	1.78	4.0	18.2	107.4	41.9	3.1
	4.5	1.6	3.7	750	28.8	19.0	1.23	23.4	33.0	64.7	1.5	4.5	1.6	3.7	750	24.6	1.71	4.2	18.8	100.4	41.6	3.0
	6.0	2.8	6.4	600	28.5	17.6	1.12	25.5	32.3	60.8	1.3	6.0	2.8	6.5	600	24.9	1.80	4.1	18.8	108.4	43.7	3.2
	6.0	2.8	6.4	750	29.2	19.1	1.19	24.5	33.2	61.1	1.3	6.0	2.8	6.5	750	25.3	1.73	4.3	19.4	101.3	43.5	3.1
60	3.0	0.5	1.2	600	26.4	16.7	1.36	19.4	31.0	80.7	2.3	3.0	0.5	1.2	600	25.9	1.82	4.2	19.7	110.0	46.9	3.3
	3.0	0.5	1.2	750	27.0	18.2	1.45	18.6	32.0	81.3	2.4	3.0	0.5	1.2	750	26.4	1.75	4.4	20.4	102.6	46.4	3.2
	4.5	1.4	3.2	600	27.1	17.0	1.27	21.4	31.4	74.0	1.9	4.5	1.4	3.2	600	27.3	1.86	4.3	20.9	112.1	50.7	3.5
	4.5	1.4	3.2	750	27.8	18.5	1.35	20.6	32.4	74.4	2.0	4.5	1.4	3.2	750	27.7	1.79	4.5	21.6	104.2	50.4	3.4
	6.0	2.5	5.7	600	27.5	17.2	1.23	22.3	31.7	70.6	1.7	6.0	2.5	5.7	600	28.0	1.88	4.4	21.6	113.2	52.8	3.5
	6.0	2.5	5.7	750	28.2	18.7	1.31	21.5	32.6	70.9	1.8	6.0	2.5	5.7	750	28.5	1.81	4.6	22.3	105.1	52.6	3.4
70	3.0	0.5	1.1	600	25.2	16.2	1.52	16.6	30.4	90.3	3.0	3.0	0.5	1.1	600	28.6	1.90	4.4	22.2	114.2	55.2	3.6
	3.0	0.5	1.1	750	25.8	17.7	1.62	15.9	31.4	90.9	3.1	3.0	0.5	1.1	750	29.1	1.83	4.7	22.9	106.0	54.7	3.5
	4.5	1.2	2.9	600	26.0	16.6	1.41	18.5	30.8	83.7	2.5	4.5	1.2	2.9	600	29.9	1.96	4.5	23.3	116.2	59.7	3.8
	4.5	1.2	2.9	750	26.7	18.0	1.50	17.8	31.8	84.1	2.6	4.5	1.2	2.9	750	30.5	1.88	4.7	24.1	107.6	59.3	3.7
	6.0	2.2	5.2	600	26.4	16.7	1.35	19.5	31.0	80.3	2.3	6.0	2.2	5.2	600	30.6	1.98	4.5	23.8	117.2	62.1	3.9
	6.0	2.2	5.2	750	27.1	18.2	1.44	18.8	32.0	80.7	2.4	6.0	2.2	5.2	750	31.1	1.90	4.8	24.6	108.4	61.8	3.8
80	3.0	0.5	1.1	600	23.9	15.8	1.72	13.9	29.8	99.8	3.9	3.0	0.5	1.1	600	30.9	1.99	4.6	24.2	117.8	63.9	4.0
	3.0	0.5	1.1	750	24.5	17.1	1.83	13.4	30.7	100.5	4.0	3.0	0.5	1.1	750	31.5	1.91	4.8	25.0	108.9	63.4	3.9
	4.5	1.2	2.7	600	24.8	16.1	1.58	15.7	30.2	93.4	3.3	4.5	1.2	2.7	600	32.0	2.05	4.6	25.0	119.3	68.9	4.3
	4.5	1.2	2.7	750	25.4	17.5	1.68	15.1	31.2	93.8	3.4	4.5	1.2	2.7	750	32.5	1.97	4.8	25.8	110.1	68.5	4.2
	6.0	2.1	4.9	600	25.3	16.3	1.51	16.7	30.4	90.1	3.0	6.0	2.1	4.9	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	6.0	2.1	4.9	750	25.9	17.7	1.61	16.1	31.4	90.5	3.1	6.0	2.1	4.9	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
90	3.0	0.5	1.1	600	22.4	15.2	1.99	11.2	29.1	109.4	4.8	2.6	0.3	0.8	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	3.0	0.5	1.1	750	24.0	17.0	1.92	12.5	30.6	110.1	4.3	2.6	0.3	0.8	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	4.5	1.2	2.7	600	23.4	15.6	1.80	13.0	29.6	103.1	4.2	2.6	0.3	0.8	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	4.5	1.2	2.7	750	24.0	17.0	1.92	12.5	30.6	103.6	4.3	2.6	0.3	0.8	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	6.0	2.0	4.7	600	23.9	15.8	1.72	13.9	29.8	99.9	3.8	2.6	0.3	0.8	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	6.0	2.0	4.7	750	24.5	17.2	1.83	13.4	30.8	100.3	3.9	2.6	0.3	0.8	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
100	3.0	0.5	1.1	600	20.5	14.7	2.34	8.8	28.5	119.0	5.9	1.7	0.2	0.5	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	3.0	0.5	1.1	750	21.0	16.0	2.49	8.4	29.5	119.7	6.1	1.7	0.2	0.5	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	4.5	1.2	2.7	600	21.8	15.1	2.09	10.4	28.9	112.9	5.1	1.7	0.2	0.5	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	4.5	1.2	2.7	750	22.3	16.4	2.23	10.0	29.9	113.3	5.3	1.7	0.2	0.5	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	6.0	2.0	4.6	600	22.4	15.2	1.99	11.2	29.2	109.7	4.8	1.7	0.2	0.5	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	6.0	2.0	4.6	750	22.9	16.6	2.12	10.8	30.1	110.0	5.0	1.7	0.2	0.5	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
110	3.0	0.5	1.0	600	18.3	14.0	2.79	6.6	27.9	128.6	7.2	1.3	0.1	0.2	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	3.0	0.5	1.0	750	18.8	15.2	2.97	6.3	28.9	129.3	7.4	1.3	0.1	0.2	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	4.5	1.1	2.5	600	19.8	14.4	2.49	8.0	28.3	122.6	6.3	1.3	0.1	0.2	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	4.5	1.1	2.5	750	20.3	15.7	2.65	7.7	29.3	123.0	6.5	1.3	0.1	0.2	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	6.0	1.9	4.4	600	20.5	14.7	2.35	8.7	28.5	119.5	5.9	1.3	0.1	0.2	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	6.0	1.9	4.4	750	21.0	16.0	2.50	8.4	29.5	119.8	6.1	1.3	0.1	0.2	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
120	3.0	0.3	0.8	600	15.8	13.0	3.36	4.7	27.2	138.2	8.5	1.0	0.1	0.2	600	32.2	2.06	4.6	25.2	119.7	70.0	4.3
	3.0	0.3	0.8	750	16.2	14.1	3.58	4.5	28.4	138.9	8.8	1.0	0.1	0.2	750	32.8	1.98	4.8	26.0	110.4	70.0	4.2
	4.5	1.0	2.3	600	17.5	13.7	2.98	5.9	27.6													



# Performance Data — HE Model 030 - Part Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.										
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F										
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	1.5	1.2	2.8	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	6.0	4.3	9.9	600	15.4	1.5	2.9	10.1	94	16.6	2.1
	1.5	1.2	2.8	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	6.0	4.3	9.9	750	15.7	1.5	3.1	10.6	89	16.5	2.1
30	2.0	1.0	2.4	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	3.0	1.7	4.0	600	16.8	1.6	3.1	11.5	96	22.4	2.2
	2.0	1.0	2.4	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	3.0	1.7	4.0	750	17.2	1.5	3.3	12.0	91	22.0	2.1
	2.0	1.0	2.4	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	4.5	2.7	6.3	600	17.4	1.6	3.2	12.1	97	24.6	2.2
	2.0	1.0	2.4	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	4.5	2.7	6.3	750	17.8	1.5	3.4	12.6	92	24.4	2.2
	2.0	1.0	2.4	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	6.0	3.8	8.9	600	17.8	1.6	3.3	12.4	97	25.9	2.3
	2.0	1.0	2.4	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	6.0	3.8	8.9	750	18.2	1.5	3.5	13.0	92	25.7	2.2
40	3.0	1.2	2.8	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	3.0	1.3	3.0	600	19.1	1.6	3.5	13.6	99	30.9	2.3
	3.0	1.2	2.8	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	3.0	1.3	3.0	750	19.5	1.5	3.7	14.2	94	30.5	2.3
	3.0	1.2	2.8	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	4.5	2.2	5.0	600	19.8	1.6	3.6	14.3	101	33.6	2.4
	3.0	1.2	2.8	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	4.5	2.2	5.0	750	20.3	1.6	3.8	14.9	95	33.4	2.3
	3.0	1.2	2.8	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	6.0	3.1	7.3	600	20.2	1.6	3.7	14.7	101	35.1	2.4
	3.0	1.2	2.8	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	6.0	3.1	7.3	750	20.7	1.6	3.9	15.3	96	34.9	2.4
50	3.0	0.9	2.0	600	25.1	15.7	1.0	24.3	28.7	69.1	1.3	3.0	0.9	2.0	600	21.4	1.6	3.8	15.8	103	39.5	2.5
	3.0	0.9	2.0	750	25.7	17.1	1.1	23.6	29.4	69.6	1.3	3.0	0.9	2.0	750	21.8	1.6	4.0	16.4	97	39.1	2.4
	4.5	1.6	3.6	600	25.7	15.9	1.0	27.0	29.0	62.9	1.1	4.5	1.6	3.6	600	22.3	1.7	3.9	16.6	104	42.6	2.6
	4.5	1.6	3.6	750	26.3	17.3	1.0	26.3	29.7	63.2	1.1	4.5	1.6	3.6	750	22.7	1.6	4.2	17.3	98	42.3	2.5
	6.0	2.4	5.5	600	26.0	16.0	0.9	28.3	29.1	60.0	1.0	6.0	2.4	5.6	600	22.7	1.7	4.0	17.1	105	44.3	2.6
	6.0	2.4	5.5	750	26.5	17.4	1.0	27.6	29.8	60.0	1.0	6.0	2.4	5.6	750	23.2	1.6	4.2	17.7	99	44.1	2.6
60	3.0	0.8	1.9	600	24.1	15.2	1.2	20.4	28.1	78.7	1.8	3.0	0.8	1.9	600	23.7	1.7	4.1	18.0	107	48.0	2.7
	3.0	0.8	1.9	750	24.6	16.6	1.2	19.9	28.8	79.2	1.8	3.0	0.8	1.9	750	24.2	1.6	4.4	18.6	100	47.6	2.6
	4.5	1.5	3.4	600	24.8	15.5	1.1	22.9	28.5	72.7	1.4	4.5	1.5	3.4	600	24.7	1.7	4.3	18.9	108	51.6	2.8
	4.5	1.5	3.4	750	25.3	16.9	1.1	22.3	29.2	73.0	1.5	4.5	1.5	3.4	750	25.2	1.6	4.5	19.6	101	51.3	2.7
	6.0	2.3	5.3	600	25.1	15.6	1.0	24.2	28.7	69.6	1.3	6.0	2.3	5.3	600	25.3	1.7	4.3	19.4	109	53.5	2.9
	6.0	2.3	5.3	750	25.6	17.1	1.1	23.6	29.4	69.8	1.3	6.0	2.3	5.3	750	25.8	1.7	4.6	20.2	102	53.3	2.8
70	3.0	0.8	1.8	600	22.9	14.8	1.3	17.1	27.5	88.3	2.4	3.0	0.8	1.8	600	26.0	1.7	4.4	20.1	110	56.6	2.9
	3.0	0.8	1.8	750	23.4	16.1	1.4	16.7	28.2	88.8	2.5	3.0	0.8	1.8	750	26.6	1.7	4.7	20.9	103	56.1	2.9
	4.5	1.4	3.2	600	23.7	15.1	1.2	19.2	27.9	82.4	2.0	4.5	1.4	3.2	600	27.2	1.7	4.6	21.2	112	60.6	3.1
	4.5	1.4	3.2	750	24.2	16.4	1.3	18.7	28.6	82.7	2.0	4.5	1.4	3.2	750	27.7	1.7	4.8	22.0	104	60.2	3.0
	6.0	2.2	5.0	600	24.1	15.2	1.2	20.3	28.1	79.4	1.8	6.0	2.2	5.0	600	27.8	1.8	4.7	21.8	113	62.7	3.1
	6.0	2.2	5.0	750	24.5	16.6	1.2	19.8	28.8	79.6	1.8	6.0	2.2	5.0	750	28.4	1.7	4.9	22.6	105	62.5	3.0
80	3.0	0.8	1.8	600	21.6	14.2	1.5	14.2	26.8	97.9	3.2	3.0	0.8	1.8	600	28.4	1.8	4.7	22.4	114	65.1	3.2
	3.0	0.8	1.8	750	22.1	15.5	1.6	13.9	27.5	98.3	3.3	3.0	0.8	1.8	750	29.0	1.7	5.0	23.2	106	64.6	3.1
	4.5	1.4	3.2	600	22.4	14.6	1.4	15.9	27.2	92.1	2.7	4.5	1.4	3.2	600	29.6	1.8	4.9	23.6	116	69.5	3.3
	4.5	1.4	3.2	750	22.9	15.9	1.5	15.5	27.9	92.4	2.8	4.5	1.4	3.2	750	30.2	1.7	5.2	24.4	107	69.2	3.2
	6.0	2.1	4.9	600	22.8	14.7	1.4	16.9	27.4	89.1	2.5	4.9	1.6	3.6	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	6.0	2.1	4.9	750	23.3	16.1	1.4	16.5	28.1	89.4	2.5	4.9	1.6	3.6	750	30.5	1.7	5.2	24.6	108	70.0	3.2
90	3.0	0.8	1.8	600	20.3	13.7	1.7	11.8	26.2	107.4	4.2	2.5	0.6	1.5	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	3.0	0.8	1.8	750	21.5	15.3	1.7	12.9	27.2	107.9	3.7	2.5	0.6	1.5	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	4.5	1.4	3.2	600	21.1	14.0	1.6	13.2	26.5	101.8	3.6	2.5	0.6	1.5	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	4.5	1.4	3.2	750	21.5	15.3	1.7	12.9	27.2	102.1	3.7	2.5	0.6	1.5	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	6.0	2.1	4.8	600	21.5	14.2	1.5	14.0	26.7	98.9	3.3	2.5	0.6	1.5	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	6.0	2.1	4.8	750	21.9	15.5	1.6	13.6	27.4	99.1	3.4	2.5	0.6	1.5	750	30.5	1.7	5.2	24.6	108	70.0	3.2
100	3.0	0.7	1.7	600	18.9	13.1	1.9	9.8	25.6	117.0	5.3	1.6	0.4	0.9	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	3.0	0.7	1.7	750	19.3	14.3	2.0	9.5	26.3	117.5	5.5	1.6	0.4	0.9	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	4.5	1.3	3.0	600	19.7	13.4	1.8	10.9	25.9	111.5	4.6	1.6	0.4	0.9	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	4.5	1.3	3.0	750	20.1	14.7	1.9	10.6	26.6	111.8	4.8	1.6	0.4	0.9	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	6.0	2.0	4.6	600	20.1	13.6	1.7	11.5	26.1	108.7	4.3	1.6	0.4	0.9	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	6.0	2.0	4.6	750	20.5	14.8	1.8	11.3	26.8	108.9	4.4	1.6	0.4	0.9	750	30.5	1.7	5.2	24.6	108	70.0	3.2
110	3.0	0.7	1.5	600	17.7	12.6	2.2	8.1	25.1	126.7	6.7	1.2	0.2	0.6	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	3.0	0.7	1.5	750	18.0	13.7	2.3	7.9	25.8	127.2	6.8	1.2	0.2	0.6	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	4.5	1.2	2.8	600	18.4	12.9	2.0	9.0	25.4	121.3	5.9	1.2	0.2	0.6	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	4.5	1.2	2.8	750	18.8	14.0	2.1	8.8	26.1	121.6	6.0	1.2	0.2	0.6	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	6.0	1.9	4.4	600	18.8	13.0	2.0	9.5	25.5	118.5	5.5	1.2	0.2	0.6	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	6.0	1.9	4.4	750	19.2	14.2	2.1	9.3	26.2	118.7	5.6	1.2	0.2	0.6	750	30.5	1.7	5.2	24.6	108	70.0	3.2
120												1.0	0.1	0.2	600	29.9	1.8	4.9	23.8	116	70.0	3.3
												1.0	0.1	0.2	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	4.5	1.1	2.6	600	17.1	12.3	2.3	7.5	25.0	131.1	7.3	1.0	0.1	0.2	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	4.5	1.1	2.6	750	17.5	13.5	2.4	7.3	25.7	131.4	7.5	1.0	0.1	0.2	750	30.5	1.7	5.2	24.6	108	70.0	3.2
	6.0	1.8	4.1	600	17.5	12.5	2.2	7.9	25.1	128.4	6.9	1.0	0.1	0.2	600	29.9	1.8	4.9	23.8	116	70.0	3.3
	6.0	1.8	4.1	750	17.9	13.6	2.3	7.7	25.8	128.6	7.0	1.0	0.1	0.2	750	30.5	1.7	5.2	24.6	108</		

# Performance Data — HE Model 030 - Full Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC	
		PSI	FT										PSI	FT									
20	2.0	1.5	3.4	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	7.5	5.7	13.3	720	21.4	2.0	3.1	14.5	98	16.1	2.8	
	2.0	1.5	3.4	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	7.5	5.7	13.3	900	21.8	1.9	3.3	15.2	92	16.0	2.7	
30	2.7	1.4	3.2	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	3.8	2.3	5.2	720	23.1	2.1	3.3	16.1	100	21.4	2.9	
	2.7	1.4	3.2	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	3.8	2.3	5.2	900	23.5	2.0	3.5	16.7	94	21.1	2.8	
	2.7	1.4	3.2	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	5.6	3.5	8.1	720	24.0	2.1	3.4	16.9	101	24.0	3.0	
	2.7	1.4	3.2	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	5.6	3.5	8.1	900	24.5	2.0	3.6	17.6	95	23.7	2.9	
	2.7	1.4	3.2	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	7.5	5.1	11.8	720	24.6	2.1	3.4	17.3	102	25.4	3.0	
	2.7	1.4	3.2	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	7.5	5.1	11.8	900	25.0	2.0	3.6	18.0	96	25.2	2.9	
40	3.8	1.7	4.0	720	33.7	19.7	1.4	23.5	38.6	60.6	1.6	3.8	1.7	4.0	720	26.1	2.2	3.5	18.7	104	30.0	3.1	
	3.8	1.7	4.0	900	34.5	21.5	1.5	22.6	39.7	61.2	1.7	3.8	1.7	4.0	900	26.6	2.1	3.7	19.5	97	29.6	3.0	
	4.0	1.8	4.2	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	5.6	2.9	6.6	720	27.2	2.2	3.6	19.7	105	33.0	3.2	
	4.0	1.8	4.2	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	5.6	2.9	6.6	900	27.7	2.1	3.8	20.5	98	32.7	3.1	
	4.0	1.8	4.2	720	33.8	19.8	1.4	23.9	38.7	60.0	1.6	7.5	4.3	10.0	720	27.8	2.2	3.7	20.3	106	34.6	3.3	
	4.0	1.8	4.2	900	34.7	21.5	1.5	23.0	39.8	60.0	1.7	7.5	4.3	10.0	900	28.3	2.1	3.9	21.0	99	34.4	3.2	
50	3.8	1.2	2.8	720	32.7	19.3	1.6	20.8	38.0	70.3	2.2	3.8	1.2	2.8	720	29.2	2.3	3.8	21.5	108	38.5	3.4	
	3.8	1.2	2.8	900	33.5	21.0	1.7	20.0	39.2	70.9	2.2	3.8	1.2	2.8	900	29.7	2.2	4.0	22.3	101	38.1	3.3	
	5.6	2.2	5.1	720	33.4	19.6	1.5	22.7	38.4	63.7	1.8	5.6	2.2	5.1	720	30.5	2.3	3.9	22.6	109	42.0	3.6	
	5.6	2.2	5.1	900	34.2	21.4	1.6	21.8	39.6	64.1	1.8	5.6	2.2	5.1	900	31.0	2.2	4.1	23.5	102	41.7	3.5	
	7.5	3.5	8.1	720	33.8	19.8	1.4	23.7	38.6	60.3	1.6	7.5	3.5	8.1	720	31.2	2.3	3.9	23.3	110	43.8	3.6	
	7.5	3.5	8.1	900	34.6	21.5	1.5	22.8	39.8	60.6	1.7	7.5	3.5	8.1	900	31.7	2.2	4.2	24.1	103	43.6	3.5	
60	3.8	1.2	2.7	720	31.4	18.9	1.7	18.2	37.3	79.9	2.8	3.8	1.2	2.7	720	32.3	2.4	4.0	24.3	112	47.1	3.8	
	3.8	1.2	2.7	900	32.1	20.5	1.8	17.5	38.4	80.5	2.9	3.8	1.2	2.7	900	32.9	2.3	4.2	25.1	104	46.6	3.7	
	5.6	2.0	4.6	720	32.3	19.2	1.6	20.0	37.8	73.4	2.3	5.6	2.0	4.6	720	33.8	2.4	4.1	25.6	113	50.9	4.0	
	5.6	2.0	4.6	900	33.1	20.9	1.7	19.2	38.9	73.8	2.4	5.6	2.0	4.6	900	34.4	2.3	4.4	26.5	105	50.6	3.9	
	7.5	3.3	7.6	720	32.7	19.4	1.6	20.9	38.0	70.1	2.1	7.5	3.3	7.6	720	34.6	2.4	4.2	26.3	114	53.0	4.1	
	7.5	3.3	7.6	900	33.5	21.1	1.7	20.1	39.2	70.5	2.2	7.5	3.3	7.6	900	35.2	2.3	4.4	27.2	106	52.8	4.0	
70	3.8	1.1	2.5	720	29.9	18.3	1.9	15.7	36.4	89.4	3.5	3.8	1.1	2.5	720	35.4	2.5	4.2	27.0	116	55.6	4.2	
	3.8	1.1	2.5	900	30.7	19.9	2.0	15.1	37.6	90.0	3.7	3.8	1.1	2.5	900	36.0	2.4	4.5	28.0	107	55.1	4.1	
	5.6	1.9	4.5	720	30.9	18.7	1.8	17.4	37.0	83.2	3.0	5.6	1.9	4.5	720	37.0	2.5	4.3	28.5	118	59.9	4.5	
	5.6	1.9	4.5	900	31.7	20.3	1.9	16.7	38.1	83.6	3.1	5.6	1.9	4.5	900	37.7	2.4	4.6	29.4	109	59.5	4.4	
	7.5	3.1	7.2	720	31.4	18.9	1.7	18.2	37.3	79.9	2.8	7.5	3.1	7.2	720	37.9	2.5	4.4	29.2	119	62.2	4.6	
	7.5	3.1	7.2	900	32.2	20.5	1.8	17.6	38.4	80.2	2.9	7.5	3.1	7.2	900	38.6	2.4	4.6	30.2	110	61.9	4.5	
80	3.8	1.1	2.5	720	28.3	17.7	2.1	13.5	35.5	98.9	4.4	3.8	1.1	2.5	720	38.5	2.6	4.4	29.8	120	64.1	4.7	
	3.8	1.1	2.5	900	29.0	19.2	2.2	13.0	36.7	99.6	4.6	3.8	1.1	2.5	900	39.2	2.5	4.7	30.8	110	63.6	4.6	
	5.6	1.9	4.4	720	29.4	18.1	2.0	14.9	36.1	92.8	3.8	5.6	1.9	4.4	720	40.3	2.6	4.5	31.3	122	68.9	5.1	
	5.6	1.9	4.4	900	30.1	19.7	2.1	14.4	37.3	93.2	3.9	5.6	1.9	4.4	900	40.9	2.5	4.8	32.4	112	68.5	4.9	
	7.5	3.0	7.0	720	29.9	18.3	1.9	15.7	36.4	89.7	3.5	6.6	2.4	5.5	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	7.5	3.0	7.0	900	30.7	19.9	2.0	15.1	37.6	90.0	3.7	6.6	2.4	5.5	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
90	3.8	1.1	2.5	720	26.7	17.0	2.3	11.4	34.6	108.5	5.4	3.3	0.9	2.0	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	3.8	1.1	2.5	900	28.4	19.0	2.3	12.2	36.4	109.1	4.9	3.3	0.9	2.0	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	5.6	1.9	4.3	720	27.8	17.4	2.2	12.7	35.2	102.5	4.7	3.3	0.9	2.0	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	5.6	1.9	4.3	900	28.4	19.0	2.3	12.2	36.4	102.9	4.9	3.3	0.9	2.0	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	7.5	2.9	6.8	720	28.3	17.6	2.1	13.4	35.5	99.5	4.4	3.3	0.9	2.0	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	7.5	2.9	6.8	900	29.0	19.2	2.2	12.9	36.7	99.8	4.6	3.3	0.9	2.0	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
100	3.8	1.0	2.3	720	25.0	16.2	2.6	9.6	33.8	118.0	6.5	2.2	0.5	1.2	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	3.8	1.0	2.3	900	25.6	17.7	2.8	9.2	35.0	118.7	6.7	2.2	0.5	1.2	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	5.6	1.8	4.1	720	26.0	16.7	2.4	10.7	34.3	112.2	5.8	2.2	0.5	1.2	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	5.6	1.8	4.1	900	26.7	18.2	2.6	10.3	35.5	112.6	6.0	2.2	0.5	1.2	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	7.5	2.8	6.5	720	26.6	16.9	2.3	11.3	34.6	109.2	5.4	2.2	0.5	1.2	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	7.5	2.8	6.5	900	27.2	18.4	2.5	10.9	35.8	109.5	5.6	2.2	0.5	1.2	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
110	3.8	0.9	2.2	720	23.2	15.5	2.9	8.0	33.2	127.7	7.7	1.6	0.3	0.8	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	3.8	0.9	2.2	900	23.8	16.9	3.1	7.7	34.4	128.3	8.0	1.6	0.3	0.8	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	5.6	1.7	3.9	720	24.3	16.0	2.7	8.9	33.6	121.9	7.0	1.6	0.3	0.8	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	5.6	1.7	3.9	900	24.9	17.4	2.9	8.6	34.8	122.4	7.2	1.6	0.3	0.8	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	7.5	2.7	6.2	720	24.8	16.2	2.6	9.5	33.8	119.0	6.6	1.6	0.3	0.8	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	7.5	2.7	6.2	900	25.5	17.6	2.8	9.1	35.0	119.3	6.8	1.6	0.3	0.8	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
120												1.3	0.1	0.2	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
												1.3	0.1	0.2	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	5.6	1.6	3.7	720	22.6	15.2	3.0	7.4	33.0	131.7	8.3	1.3	0.1	0.2	720	40.8	2.6	4.5	31.8	122	70.0	5.3	
	5.6	1.6	3.7	900	23.1	16.5	3.2	7.1	34.2	132.2	8.5	1.3	0.1	0.2	900	41.5	2.5	4.8	32.8	113	70.0	5.1	
	7.5	2.6	6.0	720	23.1	15.4	2.9	7.9	33.1	128.8	7.8	1.3	0.1	0.2	720	40.8	2.6	4.5	31.8	122	7		

# Performance Data — HE Model 036 - Part Load, with VWF

Performance capacities shown in thousands of Btuh											Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F										Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	1.7	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	8.0	4.1	9.4	760	16.8	1.72	2.9	11.0	90.5	17.3	2.6
	1.7	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	8.0	4.1	9.4	950	17.2	1.66	3.0	11.5	86.8	17.1	2.5
30	2.3	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	4.0	0.6	1.3	760	18.7	1.73	3.2	12.8	92.8	23.6	2.8
	2.3	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	4.0	0.6	1.3	950	19.1	1.67	3.3	13.4	88.6	23.3	2.7
	2.3	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	6.0	1.8	4.1	760	19.4	1.73	3.3	13.5	93.6	25.5	2.8
	2.3	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	6.0	1.8	4.1	950	19.8	1.67	3.5	14.1	89.3	25.3	2.7
	2.3	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	8.0	3.2	7.5	760	19.7	1.74	3.3	13.8	94.0	26.6	2.8
	2.3	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	8.0	3.2	7.5	950	20.1	1.68	3.5	14.4	89.6	26.4	2.7
40	3.5	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	4.0	0.2	0.5	760	21.7	1.75	3.6	15.7	96.4	32.1	2.9
	3.5	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	4.0	0.2	0.5	950	22.2	1.69	3.8	16.4	91.6	31.8	2.8
	3.5	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	6.0	1.3	3.0	760	22.6	1.76	3.8	16.6	97.6	34.5	3.0
	3.5	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	6.0	1.3	3.0	950	23.1	1.70	4.0	17.3	92.5	34.2	2.9
	3.5	0.1	0.2	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	8.0	2.6	6.1	760	23.1	1.77	3.8	17.1	98.2	35.7	3.0
	3.5	0.1	0.2	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	8.0	2.6	6.1	950	23.6	1.71	4.0	17.8	93.0	35.6	2.9
50	4.0	0.1	0.2	760	29.7	20.2	1.03	28.8	33.3	66.6	1.4	4.0	0.1	0.1	760	24.9	1.78	4.1	18.8	100.4	40.6	3.1
	4.0	0.1	0.2	950	30.3	22.0	1.08	28.1	34.0	67.0	1.4	4.0	0.1	0.1	950	25.4	1.72	4.3	19.6	94.8	40.2	3.0
	6.0	1.0	2.3	760	30.4	20.2	0.96	31.8	33.6	61.2	1.2	6.0	1.0	2.3	760	26.0	1.80	4.2	19.9	101.7	43.4	3.2
	6.0	1.0	2.3	950	31.0	22.0	1.00	31.0	34.4	61.5	1.2	6.0	1.0	2.3	950	26.6	1.74	4.5	20.6	95.9	43.1	3.1
	6.9	1.5	3.5	760	30.5	20.2	0.94	32.6	33.7	60.0	1.2	8.0	2.2	5.1	760	26.6	1.80	4.3	20.5	102.4	44.9	3.3
	6.9	1.5	3.5	950	31.1	22.0	0.98	31.8	34.5	60.0	1.2	8.0	2.2	5.1	950	27.2	1.74	4.6	21.2	96.5	44.7	3.2
60	4.0	0.1	0.2	760	28.6	19.9	1.18	24.4	32.6	76.3	1.9	4.0	0.1	0.2	760	28.1	1.82	4.5	21.9	104.2	49.1	3.4
	4.0	0.1	0.2	950	29.2	21.7	1.23	23.8	33.4	76.7	1.9	4.0	0.1	0.2	950	28.7	1.76	4.8	22.7	98.0	48.7	3.3
	6.0	0.8	1.9	760	29.3	20.1	1.09	26.9	33.0	71.0	1.6	6.0	0.8	1.9	760	29.3	1.83	4.7	23.0	105.7	52.3	3.5
	6.0	0.8	1.9	950	29.9	21.9	1.14	26.2	33.8	71.3	1.6	6.0	0.8	1.9	950	29.9	1.77	4.9	23.8	99.1	52.1	3.4
	8.0	1.9	4.5	760	29.6	20.1	1.05	28.1	33.2	68.3	1.5	8.0	1.9	4.5	760	29.9	1.84	4.8	23.6	106.4	54.1	3.5
	8.0	1.9	4.5	950	30.2	22.0	1.10	27.4	33.9	68.5	1.5	8.0	1.9	4.5	950	30.5	1.78	5.0	24.4	99.7	53.9	3.4
70	4.0	0.1	0.2	760	27.5	19.3	1.36	20.3	32.1	86.1	2.5	4.0	0.1	0.2	760	30.9	1.85	4.9	24.6	107.7	57.7	3.7
	4.0	0.1	0.2	950	28.0	21.1	1.42	19.8	32.9	86.4	2.6	4.0	0.1	0.2	950	31.6	1.79	5.2	25.5	100.8	57.3	3.6
	6.0	0.7	1.7	760	28.1	19.6	1.25	22.5	32.4	80.8	2.1	6.0	0.7	1.7	760	32.0	1.87	5.0	25.6	109.0	61.5	3.8
	6.0	0.7	1.7	950	28.7	21.4	1.31	21.9	33.2	81.1	2.2	6.0	0.7	1.7	950	32.6	1.81	5.3	26.5	101.8	61.2	3.7
	8.0	1.8	4.1	760	28.5	19.8	1.20	23.6	32.6	78.1	2.0	8.0	1.8	4.1	760	32.5	1.87	5.1	26.1	109.6	63.5	3.9
	8.0	1.8	4.1	950	29.0	21.6	1.26	23.0	33.3	78.3	2.0	8.0	1.8	4.1	950	33.2	1.81	5.4	27.0	102.3	63.3	3.8
80	4.0	0.1	0.2	760	26.2	18.7	1.57	16.7	31.6	95.8	3.3	4.0	0.1	0.2	760	33.1	1.88	5.1	26.6	110.3	66.7	4.0
	4.0	0.1	0.2	950	26.8	20.4	1.64	16.3	32.3	96.2	3.4	4.0	0.1	0.2	950	33.8	1.82	5.4	27.6	102.9	66.2	3.9
	6.0	0.7	1.6	760	26.9	19.0	1.44	18.7	31.8	90.6	2.9	6.0	0.5	1.3	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	6.0	0.7	1.6	950	27.5	20.8	1.51	18.2	32.6	90.9	3.0	6.0	0.5	1.3	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	8.0	1.7	4.0	760	27.3	19.2	1.39	19.5	32.0	88.0	2.6	8.0	0.5	1.3	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	8.0	1.7	4.0	950	27.8	20.9	1.46	19.1	32.8	88.2	2.7	8.0	0.5	1.3	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
90	4.0	0.1	0.1	760	24.8	18.0	1.81	13.7	31.0	105.5	4.3	2.8	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	4.0	0.1	0.1	950	26.1	20.0	1.75	14.9	32.1	105.9	3.9	2.8	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	6.0	0.7	1.7	760	25.6	18.3	1.67	15.3	31.3	100.4	3.8	2.8	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	6.0	0.7	1.7	950	26.1	20.0	1.75	14.9	32.1	100.7	3.9	2.8	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	8.0	1.7	3.9	760	26.0	18.5	1.60	16.2	31.4	97.9	3.5	2.8	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	8.0	1.7	3.9	950	26.5	20.2	1.68	15.8	32.2	98.1	3.6	2.8	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
100	4.0	0.1	0.2	760	23.2	17.3	2.07	11.2	30.2	115.1	5.5	1.9	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	4.0	0.1	0.2	950	23.6	18.8	2.17	10.9	31.0	115.5	5.6	1.9	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	6.0	0.7	1.7	760	24.0	17.6	1.93	12.5	30.6	110.2	4.8	1.9	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	6.0	0.7	1.7	950	24.5	19.2	2.02	12.1	31.4	110.5	4.9	1.9	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	8.0	1.7	3.9	760	24.5	17.8	1.85	13.2	30.8	107.7	4.5	1.9	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	8.0	1.7	3.9	950	25.0	19.4	1.94	12.9	31.6	107.9	4.6	1.9	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
110	4.0	0.1	0.1	760	21.3	16.6	2.37	9.0	29.4	124.7	6.6	1.4	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	4.0	0.1	0.1	950	21.7	18.1	2.48	8.8	30.2	125.1	6.8	1.4	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	6.0	0.7	1.6	760	22.3	16.9	2.21	10.1	29.8	119.9	6.0	1.4	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	6.0	0.7	1.6	950	22.7	18.5	2.31	9.8	30.6	120.2	6.2	1.4	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	8.0	1.7	3.9	760	22.8	17.1	2.13	10.7	30.0	117.5	5.7	1.4	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	8.0	1.7	3.9	950	23.2	18.7	2.23	10.4	30.8	117.7	5.8	1.4	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
120	4.0	0.1	0.2	760	19.1	15.9	2.69	7.1	28.3	134.2	8.1	1.1	0.1	0.2	760	33.6	1.88	5.2	27.2	111.0	70.0	4.1
	4.0	0.1	0.2	950	19.5	17.3	2.82	6.9	29.2	134.6	8.3	1.1	0.1	0.2	950	34.3	1.82	5.5	28.1	103.5	70.0	4.0
	6.0	0.6	1.4	760	20.3	16.2	2.53	8.0	28.9	129.6	7.4	1.1	0.1	0.2	760	33.6	1.88	5.2	27.2	1		

# Performance Data — HE Model 036 - Full Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.										
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F										
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	2.3	0.2	0.4	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	9.0	4.9	11.4	920	24.7	2.40	3.0	16.5	94.8	16.3	3.4
	2.3	0.2	0.4	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	9.0	4.9	11.4	1150	25.1	2.31	3.2	17.2	90.2	16.2	3.3
30	3.1	0.1	0.3	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	4.5	0.8	1.9	920	26.8	2.45	3.2	18.4	97.0	21.8	3.5
	3.1	0.1	0.3	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	4.5	0.8	1.9	1150	27.3	2.36	3.4	19.2	92.0	21.5	3.4
	3.1	0.1	0.3	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	6.8	2.3	5.4	920	27.9	2.48	3.3	19.5	98.1	24.2	3.6
	3.1	0.1	0.3	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	6.8	2.3	5.4	1150	28.4	2.38	3.5	20.3	92.9	24.0	3.5
	3.1	0.1	0.3	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	9.0	4.0	9.3	920	28.5	2.50	3.4	20.0	98.7	25.6	3.6
	3.1	0.1	0.3	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	9.0	4.0	9.3	1150	29.0	2.40	3.5	20.8	93.4	25.4	3.5
40	4.5	0.5	1.1	920	39.8	25.3	1.60	24.9	45.2	60.1	1.7	4.5	0.5	1.1	920	30.6	2.54	3.5	22.0	100.8	30.2	3.8
	4.5	0.5	1.1	1150	40.8	27.6	1.70	24.0	46.6	60.7	1.8	4.5	0.5	1.1	1150	31.1	2.44	3.7	22.8	95.1	29.9	3.7
	4.7	0.6	1.3	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	6.8	1.8	4.2	920	32.0	2.57	3.7	23.3	102.2	33.1	3.9
	4.7	0.6	1.3	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	6.8	1.8	4.2	1150	32.6	2.47	3.9	24.2	96.2	32.8	3.8
	4.7	0.6	1.3	920	39.8	25.3	1.59	25.1	45.2	60.0	1.7	9.0	3.4	7.8	920	32.8	2.59	3.7	24.0	103.0	34.7	4.0
	4.7	0.6	1.3	1150	40.8	27.6	1.69	24.2	46.6	60.0	1.8	9.0	3.4	7.8	1150	33.4	2.49	3.9	24.9	96.9	34.5	3.9
50	4.5	0.2	0.5	920	39.0	25.2	1.73	22.6	44.9	70.0	2.3	4.5	0.2	0.5	920	34.6	2.63	3.9	25.7	104.9	38.6	4.2
	4.5	0.2	0.5	1150	40.0	27.4	1.84	21.7	46.2	70.6	2.4	4.5	0.2	0.5	1150	35.2	2.53	4.1	26.6	98.4	38.2	4.1
	6.8	1.5	3.3	920	39.6	25.3	1.63	24.2	45.2	63.4	1.9	6.8	1.5	3.4	920	36.3	2.66	4.0	27.2	106.6	41.9	4.3
	6.8	1.5	3.3	1150	40.6	27.5	1.74	23.3	46.5	63.8	2.0	6.8	1.5	3.4	1150	37.0	2.56	4.2	28.2	99.8	41.6	4.2
	9.0	2.9	6.7	920	39.8	25.3	1.60	24.9	45.3	60.1	1.7	9.0	2.9	6.7	920	37.3	2.69	4.1	28.1	107.5	43.8	4.4
	9.0	2.9	6.7	1150	40.8	27.6	1.70	24.0	46.6	60.4	1.8	9.0	2.9	6.7	1150	37.9	2.59	4.3	29.1	100.5	43.5	4.3
60	4.5	0.1	0.3	920	37.8	24.7	1.90	19.9	44.3	79.7	3.1	4.5	0.1	0.3	920	38.7	2.72	4.2	29.4	108.9	46.9	4.6
	4.5	0.1	0.3	1150	38.8	26.9	2.02	19.2	45.7	80.3	3.2	4.5	0.1	0.3	1150	39.3	2.62	4.4	30.4	101.7	46.5	4.5
	6.8	1.2	2.8	920	38.7	25.0	1.78	21.7	44.8	73.3	2.5	6.8	1.2	2.9	920	40.5	2.79	4.3	31.0	110.8	50.8	4.9
	6.8	1.2	2.8	1150	39.6	27.2	1.90	20.9	46.1	73.7	2.6	6.8	1.2	2.9	1150	41.2	2.68	4.5	32.1	103.2	50.5	4.8
	9.0	2.6	5.9	920	39.0	25.2	1.73	22.6	44.9	70.0	2.3	9.0	2.6	5.9	920	41.5	2.82	4.3	31.9	111.8	52.9	5.0
	9.0	2.6	5.9	1150	40.0	27.4	1.84	21.7	46.3	70.3	2.4	9.0	2.6	5.9	1150	42.2	2.71	4.6	33.0	104.0	52.7	4.9
70	4.5	0.1	0.3	920	36.4	24.1	2.10	17.3	43.6	89.4	4.1	4.5	0.1	0.3	920	42.5	2.86	4.4	32.7	112.8	55.5	5.2
	4.5	0.1	0.3	1150	37.3	26.3	2.24	16.6	44.9	90.0	4.2	4.5	0.1	0.3	1150	43.2	2.75	4.6	33.8	104.8	55.0	5.0
	6.8	1.1	2.6	920	37.4	24.6	1.96	19.1	44.1	83.1	3.4	6.8	1.1	2.6	920	44.3	2.94	4.4	34.3	114.6	59.8	5.6
	6.8	1.1	2.6	1150	38.3	26.7	2.09	18.3	45.4	83.5	3.5	6.8	1.1	2.6	1150	45.1	2.83	4.7	35.4	106.3	59.5	5.4
	9.0	2.4	5.5	920	37.9	24.7	1.90	20.0	44.3	79.9	3.0	9.0	2.4	5.5	920	45.2	2.98	4.4	35.0	115.5	62.2	5.7
	9.0	2.4	5.5	1150	38.8	26.9	2.02	19.2	45.7	80.2	3.1	9.0	2.4	5.5	1150	46.0	2.87	4.7	36.2	107.0	62.0	5.5
80	4.5	0.1	0.3	920	34.7	23.4	2.36	14.7	42.7	99.0	5.2	4.5	0.1	0.3	920	45.8	3.03	4.4	35.5	116.1	64.2	5.9
	4.5	0.1	0.3	1150	35.5	25.5	2.51	14.1	44.1	99.6	5.4	4.5	0.1	0.3	1150	46.6	2.91	4.7	36.7	107.5	63.7	5.7
	6.8	1.1	2.5	920	35.8	23.9	2.19	16.4	43.3	92.8	4.5	6.8	1.1	2.5	920	47.4	3.14	4.4	36.7	117.7	69.2	6.3
	6.8	1.1	2.5	1150	36.7	26.0	2.33	15.7	44.6	93.2	4.6	6.8	1.1	2.5	1150	48.2	3.02	4.7	37.9	108.8	68.8	6.1
	9.0	2.3	5.3	920	36.4	24.1	2.10	17.3	43.5	89.7	4.1	9.0	2.3	5.3	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	9.0	2.3	5.3	1150	37.3	26.3	2.24	16.6	44.9	90.0	4.2	9.0	2.3	5.3	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
90	4.5	0.2	0.4	920	32.7	22.6	2.65	12.4	41.8	108.6	6.6	3.8	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	4.5	0.2	0.4	1150	34.8	25.2	2.61	13.3	43.7	109.2	5.9	3.8	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	6.8	1.1	2.5	920	34.0	23.2	2.45	13.9	42.4	102.6	5.7	3.8	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	6.8	1.1	2.5	1150	34.8	25.2	2.61	13.3	43.7	103.0	5.9	3.8	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	9.0	2.3	5.2	920	34.6	23.4	2.36	14.7	42.7	99.5	5.2	3.8	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	9.0	2.3	5.2	1150	35.5	25.5	2.51	14.1	44.0	99.8	5.4	3.8	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
100	4.5	0.2	0.5	920	30.6	21.8	2.99	10.3	40.8	118.1	8.2	2.5	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	4.5	0.2	0.5	1150	31.4	23.7	3.18	9.9	42.2	118.8	8.5	2.5	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	6.8	1.1	2.5	920	32.0	22.3	2.76	11.6	41.4	112.3	7.2	2.5	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	6.8	1.1	2.5	1150	32.8	24.3	2.94	11.1	42.8	112.7	7.4	2.5	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	9.0	2.3	5.2	920	32.6	22.6	2.66	12.3	41.7	109.3	6.7	2.5	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	9.0	2.3	5.2	1150	33.4	24.6	2.83	11.8	43.1	109.6	6.9	2.5	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
110	4.5	0.2	0.4	920	28.4	20.9	3.38	8.4	40.0	127.8	10.1	1.9	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	4.5	0.2	0.4	1150	29.1	22.8	3.60	8.1	41.4	128.4	10.4	1.9	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	6.8	1.1	2.5	920	29.8	21.5	3.13	9.5	40.5	122.0	8.9	1.9	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	6.8	1.1	2.5	1150	30.5	23.4	3.33	9.2	41.9	122.4	9.2	1.9	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	9.0	2.3	5.2	920	30.5	21.7	3.01	10.1	40.8	119.1	8.3	1.9	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	9.0	2.3	5.2	1150	31.2	23.7	3.21	9.7	42.2	119.4	8.6	1.9	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
120												1.5	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
												1.5	0.1	0.2	1150	48.5	3.05	4.7	38.1	109.1	70.0	6.2
	6.8	1.0	2.3	920	27.5	20.6	3.56	7.7	39.7	131.8	10.9	1.5	0.1	0.2	920	47.7	3.17	4.4	36.9	118.0	70.0	6.4
	6.8	1.0	2.3	1150	28.2	22.4	3.79	7.4	41.1	1												



# Performance Data — HE Model 042 - Part Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC	
		PSI	FT										PSI	FT									
20	2.1	1.1	2.6	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	7.5	5.0	11.7	880	19.4	2.2	2.6	12.0	90	16.8	2.6	
	2.1	1.1	2.6	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	7.5	5.0	11.7	1,100	19.8	2.1	2.8	12.7	87	16.6	2.5	
30	2.8	1.1	2.5	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	3.8	1.7	3.9	880	21.7	2.2	2.9	14.2	93	22.4	2.7	
	2.8	1.1	2.5	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	3.8	1.7	3.9	1,100	22.1	2.1	3.1	14.9	89	22.1	2.6	
	2.8	1.1	2.5	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	5.6	2.9	6.7	880	22.6	2.2	3.0	15.1	94	24.6	2.8	
	2.8	1.1	2.5	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	5.6	2.9	6.7	1,100	23.1	2.1	3.2	15.8	89	24.4	2.7	
	2.8	1.1	2.5	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	7.5	4.5	10.3	880	23.2	2.2	3.1	15.6	94	25.8	2.8	
	2.8	1.1	2.5	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	7.5	4.5	10.3	1,100	23.7	2.1	3.2	16.4	90	25.6	2.7	
40	3.8	1.4	3.2	880	36.6	26.1	1.2	29.4	40.9	61.8	1.2	3.8	1.4	3.2	880	25.1	2.2	3.3	17.5	96	30.7	2.9	
	3.8	1.4	3.2	1100	37.4	28.5	1.3	28.6	41.8	62.3	1.2	3.8	1.4	3.2	1,100	25.6	2.2	3.5	18.3	92	30.3	2.8	
	4.2	1.6	3.7	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	5.6	2.4	5.6	880	26.3	2.2	3.4	18.6	98	33.4	3.0	
	4.2	1.6	3.7	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	5.6	2.4	5.6	1,100	26.8	2.2	3.6	19.4	93	33.1	2.9	
	4.2	1.6	3.7	880	36.8	25.9	1.2	30.5	41.0	60.0	1.2	7.5	3.8	8.8	880	26.9	2.3	3.5	19.3	98	34.9	3.0	
	4.2	1.6	3.7	1100	37.6	28.3	1.3	29.8	41.9	60.0	1.2	7.5	3.8	8.8	1,100	27.5	2.2	3.7	20.1	93	34.6	2.9	
50	3.8	1.0	2.4	880	35.5	25.6	1.4	24.9	40.4	71.6	1.6	3.8	1.0	2.4	880	28.5	2.3	3.7	20.8	100	38.9	3.1	
	3.8	1.0	2.4	1100	36.3	27.9	1.5	24.3	41.4	72.1	1.6	3.8	1.0	2.4	1,100	29.1	2.2	3.9	21.6	95	38.5	3.0	
	5.6	2.0	4.5	880	36.4	26.0	1.3	28.2	40.8	64.5	1.3	5.6	2.0	4.5	880	29.9	2.3	3.8	22.1	101	42.1	3.2	
	5.6	2.0	4.5	1100	37.1	28.4	1.4	27.5	41.7	64.8	1.3	5.6	2.0	4.5	1,100	30.5	2.2	4.1	23.0	96	41.8	3.1	
	7.5	3.1	7.2	880	36.7	26.2	1.2	29.9	40.9	60.9	1.1	7.5	3.1	7.2	880	30.6	2.3	3.9	22.8	102	43.9	3.2	
	7.5	3.1	7.2	1100	37.5	28.6	1.3	29.2	41.9	61.2	1.2	7.5	3.1	7.2	1,100	31.3	2.2	4.2	23.8	96	43.7	3.1	
60	3.8	1.0	2.3	880	34.1	24.8	1.6	20.9	39.7	81.2	2.2	3.8	1.0	2.3	880	31.9	2.3	4.1	24.0	104	47.2	3.3	
	3.8	1.0	2.3	1100	34.8	27.1	1.7	20.4	40.7	81.7	2.2	3.8	1.0	2.3	1,100	32.5	2.2	4.3	25.0	97	46.7	3.2	
	5.6	1.8	4.2	880	35.2	25.4	1.5	23.8	40.2	74.3	1.7	5.6	1.8	4.2	880	33.4	2.3	4.2	25.5	105	50.9	3.5	
	5.6	1.8	4.2	1100	35.9	27.7	1.5	23.2	41.2	74.6	1.8	5.6	1.8	4.2	1,100	34.1	2.2	4.5	26.5	99	50.6	3.4	
	7.5	3.0	6.9	880	35.7	25.6	1.4	25.4	40.5	70.8	1.5	7.5	3.0	6.9	880	34.3	2.3	4.3	26.4	106	53.0	3.5	
	7.5	3.0	6.9	1100	36.4	28.0	1.5	24.7	41.4	71.0	1.6	7.5	3.0	6.9	1,100	35.0	2.2	4.6	27.3	99	52.7	3.4	
70	3.8	0.9	2.1	880	32.4	24.0	1.9	17.4	38.8	90.7	3.0	3.8	0.9	2.1	880	35.1	2.3	4.4	27.2	107	55.5	3.6	
	3.8	0.9	2.1	1100	33.1	26.2	2.0	16.9	39.8	91.2	3.0	3.8	0.9	2.1	1,100	35.9	2.2	4.7	28.2	100	54.9	3.5	
	5.6	1.7	4.0	880	33.7	24.6	1.7	19.8	39.5	84.0	2.4	5.6	1.7	4.0	880	36.8	2.3	4.6	28.9	109	59.7	3.8	
	5.6	1.7	4.0	1100	34.4	26.8	1.8	19.3	40.4	84.4	2.4	5.6	1.7	4.0	1,100	37.6	2.3	4.9	29.9	102	59.4	3.6	
	7.5	2.8	6.5	880	34.3	24.9	1.6	21.2	39.8	80.6	2.1	7.5	2.8	6.5	880	37.8	2.3	4.7	29.8	110	62.1	3.8	
	7.5	2.8	6.5	1100	35.0	27.2	1.7	20.7	40.7	80.9	2.2	7.5	2.8	6.5	1,100	38.6	2.3	5.0	30.8	102	61.8	3.7	
80	3.8	0.9	2.1	880	30.5	23.2	2.1	14.4	37.8	100.1	3.9	3.8	0.9	2.1	880	38.3	2.3	4.8	30.3	110	63.8	3.9	
	3.8	0.9	2.1	1100	31.1	25.3	2.2	14.0	38.7	100.7	4.0	3.8	0.9	2.1	1,100	39.1	2.3	5.1	31.4	103	63.3	3.8	
	5.6	1.7	3.9	880	31.9	23.8	1.9	16.4	38.5	93.7	3.2	5.6	1.7	3.9	880	40.1	2.4	5.0	32.1	112	68.6	4.1	
	5.6	1.7	3.9	1100	32.5	25.9	2.0	16.0	39.5	94.0	3.3	5.6	1.7	3.9	1,100	41.0	2.3	5.3	33.2	104	68.2	4.0	
	7.5	2.7	6.3	880	32.5	24.1	1.9	17.6	38.9	90.4	2.9	7.5	2.7	6.3	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	7.5	2.7	6.3	1100	33.2	26.2	1.9	17.1	39.8	90.6	3.0	7.5	2.7	6.3	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
90	3.8	0.9	2.0	880	28.4	22.3	2.4	11.8	36.6	109.5	5.1	3.4	0.9	2.0	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	3.8	0.9	2.0	1100	30.5	25.0	2.3	13.2	38.4	110.1	4.4	3.4	0.9	2.0	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	5.6	1.6	3.8	880	29.9	22.9	2.2	13.5	37.4	103.3	4.3	3.4	0.9	2.0	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	5.6	1.6	3.8	1100	30.5	25.0	2.3	13.2	38.4	103.6	4.4	3.4	0.9	2.0	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	7.5	2.6	6.1	880	30.6	23.2	2.1	14.5	37.8	100.1	3.9	3.4	0.9	2.0	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	7.5	2.6	6.1	1100	31.2	25.3	2.2	14.1	38.8	100.3	4.0	3.4	0.9	2.0	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
100	3.8	0.9	2.0	880	26.3	21.6	2.7	9.7	35.5	118.9	6.4	2.3	0.6	1.5	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	3.8	0.9	2.0	1100	26.8	23.5	2.8	9.5	36.4	119.4	6.5	2.3	0.6	1.5	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	5.6	1.6	3.6	880	27.7	22.1	2.5	11.1	36.2	112.9	5.5	2.3	0.6	1.5	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	5.6	1.6	3.6	1100	28.3	24.1	2.6	10.8	37.2	113.2	5.6	2.3	0.6	1.5	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	7.5	2.6	5.9	880	28.5	22.3	2.4	11.8	36.6	109.8	5.0	2.3	0.6	1.5	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	7.5	2.6	5.9	1100	29.0	24.4	2.5	11.5	37.6	110.0	5.2	2.3	0.6	1.5	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
110	3.8	0.8	1.9	880	24.0	20.8	3.0	7.9	34.3	128.3	7.9	1.7	0.5	1.2	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	3.8	0.8	1.9	1100	24.5	22.7	3.2	7.7	35.3	128.8	8.1	1.7	0.5	1.2	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	5.6	1.5	3.5	880	25.4	21.3	2.8	9.0	35.0	122.5	6.9	1.7	0.5	1.2	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	5.6	1.5	3.5	1100	26.0	23.2	2.9	8.8	36.0	122.8	7.1	1.7	0.5	1.2	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	7.5	2.5	5.7	880	26.2	21.5	2.7	9.7	35.4	119.4	6.4	1.7	0.5	1.2	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	7.5	2.5	5.7	1100	26.7	23.5	2.8	9.4	36.4	119.7	6.6	1.7	0.5	1.2	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
120												1.4	0.3	0.7	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	5.6	1.5	3.4	880	23.1	20.5	3.1	7.3	33.8	132.0	8.5	1.4	0.3	0.7	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	5.6	1.5	3.4	1100	23.6	22.4	3.3	7.2	34.8	132.4	8.7	1.4	0.3	0.7	880	40.7	2.4	5.0	32.7	113	70.0	4.2	
	7.5	2.4	5.5	880	23.8	20.8	3.0	7.8	34.2	129.1	7.9	1.4	0.3	0.7	1,100	41.6	2.3	5.3	33.8	105	70.0	4.1	
	7																						



# Performance Data — HE Model 042 - Full Load, with VWF

Performance capacities shown in thousands of Btuh												Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC	
		PSI	FT										PSI	FT									
20	2.8	1.5	3.4	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	10.5	8.4	19.4	1,040	29.1	2.9	2.9	19.0	96	16.4	3.4	
	2.8	1.5	3.4	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	10.5	8.4	19.4	1,300	29.6	2.8	3.1	19.9	91	16.2	3.3	
30	3.8	1.6	3.6	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	5.3	2.7	6.2	1,040	31.8	3.0	3.1	21.5	98	21.8	3.6	
	3.8	1.6	3.6	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	5.3	2.7	6.2	1,300	32.4	2.9	3.3	22.5	93	21.4	3.4	
	3.8	1.6	3.6	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	7.9	4.8	11.1	1,040	33.1	3.0	3.2	22.8	100	24.2	3.6	
	3.8	1.6	3.6	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	7.9	4.8	11.1	1,300	33.7	2.9	3.4	23.7	94	24.0	3.5	
	3.8	1.6	3.6	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	10.5	7.4	17.0	1,040	33.9	3.1	3.2	23.4	100	25.5	3.7	
	3.8	1.6	3.6	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	10.5	7.4	17.0	1,300	34.4	2.9	3.4	24.4	95	25.4	3.6	
40	5.3	1.8	4.1	1040	48.0	33.0	2.0	24.1	54.8	60.9	1.7	5.3	1.8	4.1	1,040	36.2	3.1	3.4	25.6	102	30.3	3.8	
	5.3	1.8	4.1	1300	49.2	35.9	2.1	23.2	56.4	61.5	1.8	5.3	1.8	4.1	1,300	36.9	3.0	3.6	26.6	96	29.9	3.7	
	5.7	2.2	5.1	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	7.9	4.1	9.5	1,040	37.8	3.2	3.5	27.0	104	33.1	3.9	
	5.7	2.2	5.1	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	7.9	4.1	9.5	1,300	38.5	3.0	3.7	28.1	97	32.9	3.8	
	5.7	2.2	5.1	1040	48.2	33.2	2.0	24.6	54.9	60.0	1.6	10.5	6.4	14.7	1,040	38.6	3.2	3.6	27.8	104	34.7	4.0	
	5.7	2.2	5.1	1300	49.4	36.1	2.1	23.6	56.6	60.0	1.7	10.5	6.4	14.7	1,300	39.3	3.1	3.8	28.9	98	34.5	3.9	
50	5.3	1.8	4.1	1040	46.6	32.2	2.2	21.4	54.0	70.6	2.2	5.3	1.8	4.1	1,040	40.6	3.2	3.7	29.6	106	38.7	4.2	
	5.3	1.8	4.1	1300	47.8	35.0	2.3	20.6	55.7	71.2	2.3	5.3	1.8	4.1	1,300	41.3	3.1	3.9	30.7	99	38.3	4.1	
	7.9	3.4	7.9	1040	47.7	32.8	2.0	23.3	54.6	63.9	1.8	7.9	3.4	7.9	1,040	42.4	3.3	3.8	31.2	108	42.1	4.4	
	7.9	3.4	7.9	1300	48.8	35.7	2.2	22.5	56.2	64.3	1.9	7.9	3.4	7.9	1,300	43.2	3.2	4.0	32.4	101	41.8	4.2	
	10.5	5.4	12.5	1040	48.1	33.1	2.0	24.3	54.9	60.5	1.7	10.5	5.4	12.5	1,040	43.4	3.3	3.8	32.1	109	43.9	4.5	
	10.5	5.4	12.5	1300	49.3	36.0	2.1	23.4	56.5	60.8	1.7	10.5	5.4	12.5	1,300	44.1	3.2	4.1	33.3	101	43.7	4.3	
60	5.3	1.7	3.9	1040	45.0	31.3	2.4	18.8	53.1	80.2	2.9	5.3	1.7	3.9	1,040	45.0	3.3	3.9	33.6	110	47.2	4.6	
	5.3	1.7	3.9	1300	46.1	34.1	2.5	18.1	54.7	80.9	3.0	5.3	1.7	3.9	1,300	45.8	3.2	4.2	34.8	103	46.7	4.5	
	7.9	3.2	7.5	1040	46.1	31.9	2.2	20.6	53.8	73.7	2.4	7.9	3.2	7.5	1,040	47.0	3.4	4.0	35.4	112	51.0	4.9	
	7.9	3.2	7.5	1300	47.3	34.8	2.4	19.8	55.4	74.1	2.5	7.9	3.2	7.5	1,300	47.8	3.3	4.3	36.6	104	50.7	4.7	
	10.5	5.2	11.9	1040	46.7	32.3	2.2	21.6	54.1	70.3	2.2	10.5	5.2	11.9	1,040	48.1	3.4	4.1	36.4	113	53.1	5.0	
	10.5	5.2	11.9	1300	47.9	35.1	2.3	20.7	55.7	70.6	2.3	10.5	5.2	11.9	1,300	48.9	3.3	4.3	37.6	105	52.8	4.9	
70	5.3	1.6	3.6	1040	43.1	30.4	2.6	16.3	52.1	89.8	3.7	5.3	1.6	3.6	1,040	49.3	3.5	4.2	37.5	114	55.7	5.2	
	5.3	1.6	3.6	1300	44.1	33.1	2.8	15.7	53.7	90.5	3.8	5.3	1.6	3.6	1,300	50.1	3.3	4.4	38.8	106	55.2	5.0	
	7.9	3.1	7.1	1040	44.4	31.0	2.5	18.0	52.8	83.4	3.1	7.9	3.1	7.1	1,040	51.5	3.5	4.3	39.4	116	60.0	5.5	
	7.9	3.1	7.1	1300	45.5	33.8	2.6	17.3	54.4	83.8	3.2	7.9	3.1	7.1	1,300	52.4	3.4	4.5	40.8	107	59.6	5.3	
	10.5	4.9	11.3	1040	45.0	31.4	2.4	18.9	53.2	80.1	2.9	10.5	4.9	11.3	1,040	52.6	3.6	4.3	40.5	117	62.3	5.7	
	10.5	4.9	11.3	1300	46.1	34.1	2.5	18.2	54.8	80.4	3.0	10.5	4.9	11.3	1,300	53.5	3.4	4.6	41.9	108	62.0	5.5	
80	5.3	1.5	3.5	1040	41.0	29.5	2.9	14.1	50.9	99.4	4.6	5.3	1.5	3.5	1,040	53.5	3.6	4.4	41.2	118	64.3	5.8	
	5.3	1.5	3.5	1300	42.0	32.2	3.1	13.5	52.6	100.0	4.7	5.3	1.5	3.5	1,300	54.4	3.4	4.6	42.6	109	63.8	5.6	
	7.9	3.0	6.9	1040	42.4	30.1	2.7	15.6	51.7	93.1	4.0	7.9	3.0	6.9	1,040	55.8	3.7	4.5	43.3	120	69.0	6.2	
	7.9	3.0	6.9	1300	43.5	32.8	2.9	15.0	53.3	93.5	4.1	7.9	3.0	6.9	1,300	56.8	3.5	4.7	44.8	110	68.6	6.0	
	10.5	4.8	11.0	1040	43.1	30.4	2.6	16.4	52.1	89.9	3.7	10.5	4.8	11.0	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	10.5	4.8	11.0	1300	44.2	33.1	2.8	15.8	53.7	90.2	3.8	10.5	4.8	11.0	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
90	5.3	1.5	3.4	1040	38.7	28.7	3.2	12.0	49.7	108.9	5.6	4.5	1.2	2.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	5.3	1.5	3.4	1300	41.2	31.8	3.2	12.8	52.2	109.6	5.1	4.5	1.2	2.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	7.9	2.9	6.6	1040	40.2	29.3	3.0	13.3	50.5	102.8	4.9	4.5	1.2	2.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	7.9	2.9	6.6	1300	41.2	31.8	3.2	12.8	52.2	103.3	5.1	4.5	1.2	2.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	10.5	4.7	10.7	1040	41.0	29.5	2.9	14.1	50.9	99.7	4.6	4.5	1.2	2.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	10.5	4.7	10.7	1300	42.0	32.2	3.1	13.5	52.6	100.0	4.7	4.5	1.2	2.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
100	5.3	1.4	3.3	1040	36.2	27.9	3.6	10.1	48.5	118.5	6.7	3.0	0.8	1.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	5.3	1.4	3.3	1300	37.1	30.4	3.8	9.7	50.2	119.1	6.9	3.0	0.8	1.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	7.9	2.8	6.4	1040	37.8	28.4	3.4	11.3	49.3	112.5	6.0	3.0	0.8	1.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	7.9	2.8	6.4	1300	38.8	31.0	3.6	10.9	51.0	112.9	6.2	3.0	0.8	1.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	10.5	4.5	10.4	1040	38.6	28.7	3.2	11.9	49.7	109.5	5.6	3.0	0.8	1.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	10.5	4.5	10.4	1300	39.6	31.2	3.4	11.5	51.4	109.8	5.8	3.0	0.8	1.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
110	5.3	1.4	3.2	1040	33.6	27.2	4.0	8.4	47.3	128.0	8.0	2.3	0.6	1.3	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	5.3	1.4	3.2	1300	34.5	29.6	4.3	8.1	49.0	128.7	8.2	2.3	0.6	1.3	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	7.9	2.7	6.2	1040	35.3	27.7	3.7	9.4	48.0	122.2	7.2	2.3	0.6	1.3	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	7.9	2.7	6.2	1300	36.2	30.1	4.0	9.1	49.7	122.6	7.4	2.3	0.6	1.3	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	10.5	4.4	10.1	1040	36.1	27.9	3.6	10.0	48.4	119.2	6.8	2.3	0.6	1.3	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	10.5	4.4	10.1	1300	37.0	30.4	3.8	9.6	50.1	119.5	7.0	2.3	0.6	1.3	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
120												1.8	0.3	0.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	7.9	2.6	6.0	1040	32.6	26.9	4.2	7.8	46.8	131.9	8.5	1.8	0.3	0.8	1,300	57.4	3.5	4.8	45.4	111	70.0	6.1	
	7.9	2.6	6.0	1300	33.4	29.3	4.4	7.5	48.5	132.3	8.8	1.8	0.3	0.8	1,040	56.4	3.7	4.5	43.9	120	70.0	6.3	
	10.5	4.2	9.8	1040	33.4	27.2																	

# Performance Data — HE Model 048 - Part Load, with VWF

Performance capacities shown in thousands of Btuh

Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.

EWT °F	Cooling - EAT 80/67°F										Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	2.3	0.7	1.6	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	9.0	5.2	12.1	1,000	22.6	2.3	2.9	14.9	91	16.7	3.1
	2.3	0.7	1.6	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	9.0	5.2	12.1	1,250	23.0	2.2	3.1	15.6	87	16.5	3.0
30	3.1	0.7	1.7	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	4.5	1.4	3.2	1,000	24.8	2.3	3.2	17.0	93	22.4	3.1
	3.1	0.7	1.7	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	4.5	1.4	3.2	1,250	25.3	2.2	3.4	17.8	89	22.1	3.0
	3.1	0.7	1.7	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	6.8	2.5	5.7	1,000	25.7	2.3	3.3	17.9	94	24.7	3.1
	3.1	0.7	1.7	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	6.8	2.5	5.7	1,250	26.3	2.2	3.5	18.8	89	24.4	3.1
	3.1	0.7	1.7	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	9.0	4.0	9.2	1,000	26.2	2.3	3.4	18.5	94	25.9	3.2
	3.1	0.7	1.7	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	9.0	4.0	9.2	1,250	26.8	2.2	3.6	19.3	90	25.7	3.1
40	4.5	1.2	2.8	1000	40.3	25.9	1.4	28.0	45.2	60.1	1.5	4.5	1.2	2.8	1,000	28.2	2.3	3.6	20.4	96	30.9	3.2
	4.5	1.2	2.8	1250	41.1	28.3	1.5	27.3	46.3	60.6	1.5	4.5	1.2	2.8	1,250	28.8	2.2	3.8	21.3	91	30.5	3.1
	4.6	1.3	2.9	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	6.8	2.4	5.5	1,000	29.4	2.3	3.7	21.5	97	33.6	3.3
	4.6	1.3	2.9	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	6.8	2.4	5.5	1,250	30.0	2.2	4.0	22.4	92	33.4	3.2
	4.6	1.3	2.9	1000	40.4	26.0	1.4	28.2	45.2	60.0	1.5	9.0	3.8	8.7	1,000	30.0	2.3	3.8	22.2	98	35.1	3.3
	4.6	1.3	2.9	1250	41.2	28.3	1.5	27.5	46.3	60.0	1.5	9.0	3.8	8.7	1,250	30.7	2.2	4.0	23.1	93	34.9	3.2
50	4.5	1.1	2.5	1000	39.1	25.5	1.6	23.8	44.7	69.9	2.1	4.5	1.1	2.5	1,000	31.8	2.3	4.0	23.9	99	39.4	3.4
	4.5	1.1	2.5	1250	39.9	27.8	1.7	23.3	45.7	70.3	2.1	4.5	1.1	2.5	1,250	32.4	2.2	4.3	24.8	94	39.0	3.3
	6.8	2.1	4.9	1000	40.0	25.8	1.5	26.7	45.1	63.4	1.7	6.8	2.1	4.9	1,000	33.1	2.3	4.2	25.2	101	42.5	3.5
	6.8	2.1	4.9	1250	40.8	28.2	1.6	26.0	46.1	63.7	1.7	6.8	2.1	4.9	1,250	33.8	2.2	4.4	26.2	95	42.2	3.4
	9.0	3.4	7.9	1000	40.3	25.9	1.4	28.1	45.2	60.1	1.5	9.0	3.4	7.9	1,000	33.9	2.3	4.3	26.0	101	44.2	3.5
	9.0	3.4	7.9	1250	41.2	28.3	1.5	27.4	46.3	60.3	1.5	9.0	3.4	7.9	1,250	34.6	2.2	4.5	26.9	96	44.0	3.4
60	4.5	1.0	2.3	1000	37.5	24.9	1.9	19.9	44.0	79.5	2.8	4.5	1.0	2.3	1,000	35.3	2.3	4.4	27.4	103	47.8	3.6
	4.5	1.0	2.3	1250	38.3	27.2	2.0	19.4	45.1	80.0	2.9	4.5	1.0	2.3	1,250	36.1	2.3	4.7	28.4	97	47.4	3.5
	6.8	2.0	4.6	1000	38.6	25.3	1.7	22.5	44.5	73.2	2.3	6.8	2.0	4.6	1,000	36.9	2.3	4.6	28.9	104	51.4	3.7
	6.8	2.0	4.6	1250	39.4	27.6	1.8	22.0	45.5	73.5	2.4	6.8	2.0	4.6	1,250	37.7	2.3	4.9	29.9	98	51.1	3.6
	9.0	3.2	7.5	1000	39.1	25.5	1.6	23.9	44.7	69.9	2.1	9.0	3.2	7.5	1,000	37.7	2.3	4.7	29.7	105	53.4	3.8
	9.0	3.2	7.5	1250	39.9	27.9	1.7	23.3	45.8	70.2	2.1	9.0	3.2	7.5	1,250	38.5	2.3	5.0	30.8	99	53.2	3.7
70	4.5	0.9	2.0	1000	35.7	24.1	2.2	16.4	43.2	89.2	3.8	4.5	0.9	2.0	1,000	38.8	2.3	4.8	30.8	106	56.3	3.9
	4.5	0.9	2.0	1250	36.5	26.3	2.3	16.0	44.2	89.7	3.9	4.5	0.9	2.0	1,250	39.7	2.3	5.1	31.9	99	55.8	3.7
	6.8	1.8	4.2	1000	37.0	24.7	2.0	18.7	43.7	83.0	3.1	6.8	1.8	4.2	1,000	40.6	2.4	5.0	32.5	108	60.4	4.0
	6.8	1.8	4.2	1250	37.7	26.9	2.1	18.2	44.8	83.3	3.2	6.8	1.8	4.2	1,250	41.4	2.3	5.3	33.7	101	60.0	3.9
	9.0	3.0	6.9	1000	37.6	24.9	1.9	19.9	44.0	79.8	2.8	9.0	3.0	6.9	1,000	41.5	2.4	5.2	33.5	108	62.6	4.1
	9.0	3.0	6.9	1250	38.3	27.2	2.0	19.4	45.1	80.0	2.9	9.0	3.0	6.9	1,250	42.4	2.3	5.4	34.6	101	62.3	4.0
80	4.5	0.9	2.0	1000	33.7	23.3	2.5	13.4	42.2	98.8	4.9	4.5	0.9	2.0	1,000	42.3	2.4	5.2	34.2	109	64.8	4.2
	4.5	0.9	2.0	1250	34.4	25.4	2.6	13.1	43.3	99.3	5.1	4.5	0.9	2.0	1,250	43.2	2.3	5.5	35.4	102	64.3	4.0
	6.8	1.8	4.0	1000	35.0	23.8	2.3	15.3	42.9	92.7	4.2	6.8	1.8	4.0	1,000	44.2	2.4	5.5	36.1	111	69.3	4.3
	6.8	1.8	4.0	1250	35.8	26.0	2.4	14.9	43.9	93.0	4.3	6.8	1.8	4.0	1,250	45.1	2.3	5.8	37.3	103	68.9	4.2
	9.0	2.9	6.7	1000	35.7	24.1	2.2	16.3	43.1	89.6	3.8	7.5	2.1	4.8	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	9.0	2.9	6.7	1250	36.4	26.3	2.3	15.9	44.2	89.8	3.9	7.5	2.1	4.8	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
90	4.5	0.8	1.8	1000	31.5	22.4	2.9	11.0	41.3	108.3	6.3	3.8	0.7	1.6	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	4.5	0.8	1.8	1250	33.6	25.1	2.8	12.2	43.0	108.8	5.5	3.8	0.7	1.6	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	6.8	1.7	3.9	1000	32.9	23.0	2.6	12.5	41.9	102.4	5.4	3.8	0.7	1.6	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	6.8	1.7	3.9	1250	33.6	25.1	2.8	12.2	43.0	102.7	5.5	3.8	0.7	1.6	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	9.0	2.8	6.5	1000	33.6	23.3	2.5	13.3	42.2	99.4	5.0	3.8	0.7	1.6	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	9.0	2.8	6.5	1250	34.3	25.4	2.6	13.0	43.3	99.6	5.1	3.8	0.7	1.6	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
100	4.5	0.8	1.8	1000	29.1	21.6	3.3	8.9	40.3	117.9	7.8	2.5	0.4	1.0	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	4.5	0.8	1.8	1250	29.7	23.5	3.4	8.7	41.4	118.4	8.0	2.5	0.4	1.0	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	6.8	1.6	3.7	1000	30.6	22.1	3.0	10.1	40.9	112.1	6.8	2.5	0.4	1.0	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	6.8	1.6	3.7	1250	31.2	24.1	3.2	9.9	42.0	112.4	7.0	2.5	0.4	1.0	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	9.0	2.7	6.1	1000	31.3	22.4	2.9	10.8	41.2	109.2	6.4	2.5	0.4	1.0	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	9.0	2.7	6.1	1250	32.0	24.4	3.0	10.5	42.3	109.4	6.5	2.5	0.4	1.0	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
110	4.5	0.7	1.7	1000	26.7	20.7	3.7	7.3	39.3	127.5	9.6	1.9	0.3	0.7	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	4.5	0.7	1.7	1250	27.3	22.6	3.9	7.1	40.4	128.0	9.8	1.9	0.3	0.7	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	6.8	1.5	3.5	1000	28.2	21.2	3.4	8.2	39.9	121.8	8.5	1.9	0.3	0.7	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	6.8	1.5	3.5	1250	28.8	23.2	3.6	8.0	41.0	122.2	8.7	1.9	0.3	0.7	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	9.0	2.6	5.9	1000	28.9	21.5	3.3	8.8	40.2	118.9	8.0	1.9	0.3	0.7	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	9.0	2.6	5.9	1250	29.5	23.4	3.5	8.5	41.3	119.2	8.2	1.9	0.3	0.7	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
120	4.5	0.7	1.7	1000	24.3	20.0	4.1	5.9	38.4	137.1	11.5	1.5	0.1	0.3	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	4.5	0.7	1.7	1250	24.8	21.8	4.3	5.8	39.5	137.6	11.8	1.5	0.1	0.3	1,250	45.5	2.3	5.8	37.7	104	70.0	4.3
	6.8	1.5	3.5	1000	25.8	20.4	3.9	6.7	38.9	131.5	10.3	1.5	0.1	0.3	1,000	44.6	2.4	5.5	36.5	111	70.0	4.5
	6.8	1.5	3.5	1250	26.3	22.3	4.0	6.5	40.1	131.9	10.6	1.5										

# Performance Data — HE Model 048 - Full Load, with VWF

Performance capacities shown in thousands of Btuh											Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F										Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	3.1	1.1	2.5	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	12.0	7.7	17.8	1,200	31.9	3.0	3.1	21.7	95	16.4	3.6
	3.1	1.1	2.5	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	12.0	7.7	17.8	1,500	32.4	2.9	3.3	22.6	90	16.2	3.5
30	4.1	1.2	2.8	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	6.0	2.0	4.6	1,200	34.6	3.0	3.3	24.1	97	22.0	3.8
	4.1	1.2	2.8	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	6.0	2.0	4.6	1,500	35.2	2.9	3.5	25.1	92	21.6	3.6
	4.1	1.2	2.8	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	9.0	4.0	9.2	1,200	35.8	3.1	3.4	25.3	98	24.4	3.8
	4.1	1.2	2.8	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	9.0	4.0	9.2	1,500	36.5	3.0	3.6	26.4	93	24.1	3.7
	4.1	1.2	2.8	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	12.0	6.5	15.1	1,200	36.6	3.1	3.5	26.0	98	25.7	3.9
	4.1	1.2	2.8	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	12.0	6.5	15.1	1,500	37.2	3.0	3.7	27.0	93	25.5	3.8
40	6.0	1.9	4.4	1200	52.8	33.1	2.2	23.7	60.4	60.1	2.5	6.0	1.9	4.4	1,200	39.1	3.1	3.6	28.3	100	30.6	4.0
	6.0	1.9	4.4	1500	54.1	36.1	2.4	22.8	62.2	60.7	2.5	6.0	1.9	4.4	1,500	39.7	3.0	3.9	29.4	95	30.2	3.9
	6.2	2.0	4.7	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	9.0	3.8	8.7	1,200	40.7	3.2	3.8	29.8	101	33.4	4.1
	6.2	2.0	4.7	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	9.0	3.8	8.7	1,500	41.4	3.1	4.0	30.9	96	33.1	4.0
	6.2	2.0	4.7	1200	52.8	33.2	2.2	23.9	60.4	60.0	2.4	12.0	6.0	13.9	1,200	41.5	3.2	3.8	30.6	102	34.9	4.2
	6.2	2.0	4.7	1500	54.1	36.1	2.4	23.0	62.2	60.0	2.5	12.0	6.0	13.9	1,500	42.3	3.1	4.0	31.8	96	34.7	4.1
50	6.0	1.7	4.0	1200	51.7	32.7	2.4	21.4	60.0	70.0	3.1	6.0	1.7	4.0	1,200	43.8	3.2	4.0	32.7	104	39.1	4.4
	6.0	1.7	4.0	1500	53.0	35.6	2.6	20.5	61.8	70.6	3.2	6.0	1.7	4.0	1,500	44.6	3.1	4.2	33.9	98	38.7	4.2
	9.0	3.4	7.9	1200	52.5	33.0	2.3	23.0	60.3	63.4	2.6	9.0	3.4	7.9	1,200	45.7	3.3	4.1	34.5	105	42.3	4.5
	9.0	3.4	7.9	1500	53.8	36.0	2.4	22.2	62.1	63.8	2.7	9.0	3.4	7.9	1,500	46.5	3.2	4.3	35.7	99	42.1	4.4
	12.0	5.5	12.7	1200	52.8	33.2	2.2	23.8	60.4	60.1	2.4	12.0	5.5	12.7	1,200	46.8	3.3	4.1	35.5	106	44.1	4.6
	12.0	5.5	12.7	1500	54.1	36.1	2.4	22.9	62.2	60.4	2.5	12.0	5.5	12.7	1,500	47.6	3.2	4.4	36.7	99	43.9	4.5
60	6.0	1.6	3.7	1200	50.0	32.1	2.7	18.6	59.2	79.7	3.9	6.0	1.6	3.7	1,200	48.7	3.3	4.3	37.3	108	47.6	4.7
	6.0	1.6	3.7	1500	51.3	34.9	2.9	17.9	61.0	80.3	4.0	6.0	1.6	3.7	1,500	49.5	3.2	4.5	38.5	101	47.2	4.6
	9.0	3.2	7.5	1200	51.2	32.6	2.5	20.5	59.8	73.3	3.3	9.0	3.2	7.5	1,200	50.9	3.4	4.4	39.3	109	51.3	4.9
	9.0	3.2	7.5	1500	52.5	35.4	2.7	19.7	61.6	73.7	3.4	9.0	3.2	7.5	1,500	51.8	3.3	4.7	40.7	102	51.0	4.8
	12.0	5.3	12.2	1200	51.8	32.7	2.4	21.4	60.0	70.0	3.0	12.0	5.3	12.2	1,200	52.1	3.4	4.5	40.5	110	53.3	5.0
	12.0	5.3	12.2	1500	53.0	35.6	2.6	20.6	61.8	70.3	3.1	12.0	5.3	12.2	1,500	53.0	3.3	4.7	41.8	103	53.0	4.9
70	6.0	1.4	3.3	1200	47.9	31.3	3.0	15.9	58.1	89.4	4.8	6.0	1.4	3.3	1,200	53.7	3.5	4.6	41.9	111	56.0	5.2
	6.0	1.4	3.3	1500	49.1	34.0	3.2	15.3	60.0	90.0	5.0	6.0	1.4	3.3	1,500	54.6	3.3	4.8	43.2	104	55.6	5.0
	9.0	3.0	6.9	1200	49.4	31.8	2.8	17.7	58.9	83.1	4.2	9.0	3.0	6.9	1,200	56.2	3.5	4.7	44.2	113	60.2	5.4
	9.0	3.0	6.9	1500	50.6	34.7	3.0	17.1	60.7	83.5	4.3	9.0	3.0	6.9	1,500	57.2	3.4	5.0	45.6	105	59.9	5.3
	12.0	4.9	11.3	1200	50.1	32.1	2.7	18.7	59.2	79.9	3.8	12.0	4.9	11.3	1,200	57.6	3.5	4.8	45.5	114	62.4	5.6
	12.0	4.9	11.3	1500	51.3	34.9	2.9	18.0	61.0	80.2	4.0	12.0	4.9	11.3	1,500	58.6	3.4	5.0	46.9	106	62.2	5.4
80	6.0	1.4	3.3	1200	45.4	30.3	3.4	13.3	57.0	99.0	6.0	6.0	1.4	3.3	1,200	58.6	3.6	4.8	46.5	115	64.5	5.7
	6.0	1.4	3.3	1500	46.5	33.0	3.6	12.8	58.9	99.6	6.2	6.0	1.4	3.3	1,500	59.7	3.4	5.1	47.9	107	64.0	5.5
	9.0	2.9	6.7	1200	47.1	31.0	3.1	15.0	57.8	92.8	5.2	9.0	2.9	6.7	1,200	61.4	3.6	4.9	49.0	117	69.1	6.0
	9.0	2.9	6.7	1500	48.2	33.7	3.3	14.4	59.6	93.2	5.4	9.0	2.9	6.7	1,500	62.5	3.5	5.2	50.5	109	68.8	5.8
	12.0	4.8	11.1	1200	47.9	31.3	3.0	15.9	58.1	89.7	4.8	10.2	3.6	8.3	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	12.0	4.8	11.1	1500	49.1	34.0	3.2	15.3	60.0	90.0	5.0	10.2	3.6	8.3	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
90	6.0	1.3	3.1	1200	42.8	29.3	3.9	11.1	55.9	108.6	7.3	5.1	1.1	2.5	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	6.0	1.3	3.1	1500	45.6	32.6	3.8	12.0	58.5	109.3	6.6	5.1	1.1	2.5	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	9.0	2.8	6.5	1200	44.5	30.0	3.6	12.5	56.6	102.6	6.4	5.1	1.1	2.5	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	9.0	2.8	6.5	1500	45.6	32.6	3.8	12.0	58.5	103.0	6.6	5.1	1.1	2.5	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	12.0	4.7	10.9	1200	45.4	30.3	3.4	13.3	57.0	99.5	6.0	5.1	1.1	2.5	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	12.0	4.7	10.9	1500	46.5	33.0	3.6	12.8	58.9	99.8	6.2	5.1	1.1	2.5	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
100	6.0	1.3	3.0	1200	40.0	28.2	4.4	9.1	55.0	118.3	8.9	3.4	0.6	1.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	6.0	1.3	3.0	1500	41.0	30.7	4.7	8.8	57.0	119.0	9.2	3.4	0.6	1.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	9.0	2.7	6.1	1200	41.8	28.9	4.0	10.3	55.6	112.3	7.9	3.4	0.6	1.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	9.0	2.7	6.1	1500	42.8	31.5	4.3	9.9	57.5	112.8	8.1	3.4	0.6	1.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	12.0	4.5	10.4	1200	42.7	29.3	3.9	11.0	55.9	109.3	7.4	3.4	0.6	1.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	12.0	4.5	10.4	1500	43.7	31.8	4.1	10.6	57.8	109.6	7.6	3.4	0.6	1.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
110	6.0	1.2	2.8	1200	37.4	27.2	5.0	7.5	54.4	128.1	10.6	2.6	0.4	0.9	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	6.0	1.2	2.8	1500	38.3	29.5	5.3	7.2	56.5	128.8	11.0	2.6	0.4	0.9	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	9.0	2.6	5.9	1200	39.0	27.8	4.6	8.5	54.7	122.2	9.5	2.6	0.4	0.9	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	9.0	2.6	5.9	1500	40.0	30.3	4.9	8.2	56.7	122.6	9.8	2.6	0.4	0.9	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
	12.0	4.4	10.1	1200	39.9	28.2	4.4	9.0	55.0	119.2	9.0	2.6	0.4	0.9	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
	12.0	4.4	10.1	1500	40.9	30.6	4.7	8.7	56.9	119.5	9.2	2.6	0.4	0.9	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
120												2.0	0.2	0.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
												2.0	0.2	0.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
												2.0	0.2	0.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1
												2.0	0.2	0.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9
											2.0	0.2	0.4	1,200	62.1	3.7	5.0	49.6	118	70.0	6.1	
											2.0	0.2	0.4	1,500	63.2	3.5	5.3	51.2	109	70.0	5.9	

# Performance Data — HE Model 060 - Part Load, with VWF

Performance capacities shown in thousands of Btuh											Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.											
EWT °F	Cooling - EAT 80/67°F										Heating - EAT 70°F											
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	3.0	0.1	0.1	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	12.0	6.0	13.8	1280	26.8	2.78	2.8	17.3	89.4	17.1	3.8
	3.0	0.1	0.1	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	12.0	6.0	13.8	1600	27.4	2.69	3.0	18.2	85.8	17.0	3.7
30	4.0	0.2	0.5	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	6.0	1.2	2.8	1280	29.8	2.82	3.1	20.2	91.6	23.3	3.9
	4.0	0.2	0.5	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	6.0	1.2	2.8	1600	30.4	2.72	3.3	21.1	87.6	23.0	3.8
	4.0	0.2	0.5	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	9.0	3.1	7.1	1280	30.9	2.84	3.2	21.2	92.3	25.3	3.9
	4.0	0.2	0.5	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	9.0	3.1	7.1	1600	31.5	2.74	3.4	22.2	88.2	25.1	3.8
	4.0	0.2	0.5	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	12.0	5.4	12.5	1280	31.5	2.84	3.3	21.8	92.8	26.4	3.9
	4.0	0.2	0.5	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	12.0	5.4	12.5	1600	32.1	2.74	3.4	22.8	88.6	26.2	3.8
40	5.9	1.0	2.2	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	6.0	1.0	2.3	1280	34.2	2.88	3.5	24.4	94.8	31.9	4.0
	5.9	1.0	2.2	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	6.0	1.0	2.3	1600	35.0	2.78	3.7	25.5	90.2	31.5	3.9
	5.9	1.0	2.2	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	9.0	2.8	6.4	1280	35.6	2.89	3.6	25.8	95.8	34.3	4.1
	5.9	1.0	2.2	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	9.0	2.8	6.4	1600	36.4	2.79	3.8	26.8	91.0	34.0	4.0
	5.9	1.0	2.2	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	12.0	4.9	11.4	1280	36.3	2.90	3.7	26.5	96.3	35.6	4.1
	5.9	1.0	2.2	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	12.0	4.9	11.4	1600	37.1	2.80	3.9	27.6	91.5	35.4	4.0
50	6.0	0.9	2.1	1280	51.0	32.8	1.82	28.0	57.3	69.1	2.0	6.0	0.9	2.1	1280	38.8	2.92	3.9	28.9	98.1	40.4	4.2
	6.0	0.9	2.1	1600	52.1	35.7	1.91	27.3	58.6	69.5	2.0	6.0	0.9	2.1	1600	39.6	2.82	4.1	30.0	92.9	39.9	4.1
	9.0	2.5	5.8	1280	52.1	33.2	1.66	31.3	57.8	62.8	1.6	9.0	2.5	5.9	1280	40.5	2.94	4.0	30.4	99.3	43.2	4.3
	9.0	2.5	5.8	1600	53.2	36.2	1.74	30.5	59.1	63.1	1.6	9.0	2.5	5.9	1600	41.3	2.84	4.3	31.6	93.9	42.9	4.2
	12.0	4.6	10.6	1280	52.6	33.4	1.59	33.2	58.0	60.0	1.5	12.0	4.6	10.6	1280	41.4	2.95	4.1	31.3	99.9	44.8	4.3
	12.0	4.6	10.6	1600	53.7	36.4	1.66	32.3	59.3	60.0	1.5	12.0	4.6	10.6	1600	42.2	2.85	4.3	32.5	94.4	44.5	4.2
60	6.0	0.8	1.9	1280	49.3	32.1	2.08	23.7	56.4	78.8	2.6	6.0	0.8	1.9	1280	43.6	2.98	4.3	33.4	101.5	48.9	4.5
	6.0	0.8	1.9	1600	50.3	35.0	2.18	23.1	57.8	79.3	2.7	6.0	0.8	1.9	1600	44.5	2.88	4.5	34.7	95.7	48.4	4.4
	9.0	2.4	5.5	1280	50.4	32.5	1.91	26.4	57.0	72.7	2.1	9.0	2.4	5.5	1280	45.5	3.00	4.4	35.3	102.9	52.2	4.6
	9.0	2.4	5.5	1600	51.5	35.5	2.00	25.7	58.3	73.0	2.2	9.0	2.4	5.5	1600	46.5	2.90	4.7	36.6	96.9	51.9	4.5
	12.0	4.3	10.0	1280	51.0	32.7	1.83	27.8	57.2	69.5	2.0	12.0	4.3	10.0	1280	46.6	3.01	4.5	36.3	103.7	54.0	4.6
	12.0	4.3	10.0	1600	52.0	35.7	1.92	27.1	58.6	69.8	2.0	12.0	4.3	10.0	1600	47.5	2.91	4.8	37.6	97.5	53.7	4.5
70	6.0	0.8	1.8	1280	47.3	31.4	2.38	19.9	55.4	88.5	3.5	6.0	0.8	1.9	1280	48.4	3.03	4.7	38.0	105.0	57.3	4.8
	6.0	0.8	1.8	1600	48.3	34.3	2.49	19.4	56.8	88.9	3.6	6.0	0.8	1.9	1600	49.4	2.93	4.9	39.4	98.6	56.9	4.7
	9.0	2.3	5.3	1280	48.6	31.9	2.19	22.2	56.1	82.5	2.9	9.0	2.3	5.3	1280	50.6	3.05	4.9	40.2	106.6	61.1	4.9
	9.0	2.3	5.3	1600	49.6	34.8	2.29	21.7	57.4	82.8	3.0	9.0	2.3	5.3	1600	51.7	2.95	5.1	41.6	99.9	60.8	4.8
	12.0	4.2	9.6	1280	49.2	32.1	2.09	23.5	56.4	79.4	2.7	12.0	4.2	9.6	1280	51.8	3.07	4.9	41.3	107.5	63.1	5.0
	12.0	4.2	9.6	1600	50.2	35.0	2.19	22.9	57.7	79.6	2.8	12.0	4.2	9.6	1600	52.9	2.97	5.2	42.8	100.6	62.9	4.9
80	6.0	0.8	1.8	1280	45.0	30.7	2.70	16.6	54.2	98.1	4.7	6.0	0.8	1.8	1280	53.2	3.08	5.1	42.7	108.5	65.8	5.2
	6.0	0.8	1.8	1600	45.9	33.4	2.83	16.2	55.6	98.5	4.8	6.0	0.8	1.8	1600	54.3	2.98	5.3	44.1	101.4	65.3	5.0
	9.0	2.2	5.1	1280	46.5	31.2	2.49	18.7	55.0	92.2	4.0	9.0	2.2	5.1	1280	55.7	3.12	5.2	45.0	110.3	70.0	5.5
	9.0	2.2	5.1	1600	47.5	34.0	2.61	18.2	56.4	92.5	4.1	9.0	2.2	5.1	1600	56.9	3.01	5.5	46.6	102.9	69.6	5.3
	12.0	4.0	9.3	1280	47.2	31.4	2.39	19.8	55.4	89.2	3.6	9.4	2.4	5.6	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	12.0	4.0	9.3	1600	48.2	34.2	2.50	19.3	56.7	89.5	3.7	9.4	2.4	5.6	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
90	6.0	0.8	1.8	1280	42.2	29.7	3.09	13.7	52.8	107.6	5.9	4.7	0.3	0.7	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	6.0	0.8	1.8	1600	44.9	33.1	2.98	15.1	55.1	108.0	5.3	4.7	0.3	0.7	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	9.0	2.2	5.0	1280	44.0	30.3	2.85	15.5	53.7	101.9	5.2	4.7	0.3	0.7	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	9.0	2.2	5.0	1600	44.9	33.1	2.98	15.1	55.1	102.2	5.3	4.7	0.3	0.7	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	12.0	3.9	9.1	1280	44.8	30.6	2.73	16.4	54.1	99.0	4.8	4.7	0.3	0.7	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	12.0	3.9	9.1	1600	45.7	33.4	2.86	16.0	55.5	99.2	4.9	4.7	0.3	0.7	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
100	6.0	0.7	1.6	1280	38.9	28.6	3.52	11.1	50.9	117.0	7.4	3.1	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	6.0	0.7	1.6	1600	39.7	31.1	3.68	10.8	52.3	117.4	7.6	3.1	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	9.0	2.1	4.8	1280	41.0	29.3	3.25	12.6	52.0	111.6	6.5	3.1	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	9.0	2.1	4.8	1600	41.8	31.9	3.40	12.3	53.4	111.9	6.7	3.1	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	12.0	3.9	8.9	1280	41.9	29.6	3.12	13.4	52.6	108.8	6.1	3.1	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	12.0	3.9	8.9	1600	42.8	32.3	3.27	13.1	53.9	109.0	6.3	3.1	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
110	6.0	0.6	1.4	1280	35.0	27.0	4.03	8.7	48.8	126.3	9.1	2.3	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	6.0	0.6	1.4	1600	35.7	29.4	4.22	8.5	50.1	126.7	9.3	2.3	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	9.0	2.0	4.6	1280	37.3	27.9	3.73	10.0	50.0	121.1	8.1	2.3	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	9.0	2.0	4.6	1600	38.1	30.5	3.90	9.8	51.4	121.4	8.3	2.3	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	12.0	3.8	8.7	1280	38.4	28.4	3.58	10.7	50.7	118.4	7.6	2.3	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	12.0	3.8	8.7	1600	39.2	30.9	3.75	10.5	52.0	118.7	7.8	2.3	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
120	6.0	0.4	1.0	1280	30.4	24.8	4.61	6.6	46.1	135.4	11.0	1.9	0.1	0.2	1280	55.9	3.12	5.3	45.3	110.4	70.0	5.5
	6.0	0.4	1.0	1600	31.0	27.1	4.83	6.4	47.5	135.8	11.3	1.9	0.1	0.2	1600	57.1	3.01	5.6	46.8	103.0	70.0	5.3
	9.0	1.9</																				



# Performance Data — HE Model 060 - Full Load, with VWF

Performance capacities shown in thousands of Btuh

Antifreeze use recommended in this range. Also Clip JW3 on DXM2 board.

EWT °F	Cooling - EAT 80/67°F											Heating - EAT 70°F										
	GPM	WPD		CFM	TC	SC	kW	EER	HR	LWT	HWC	GPM	WPD		CFM	HC	kW	COP	HE	LAT	LWT	HWC
		PSI	FT										PSI	FT								
20	4.1	0.5	1.1	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	14.0	7.9	18.2	1520	39.3	3.81	3.0	26.3	93.9	16.2	4.6
	4.1	0.5	1.1	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	14.0	7.9	18.2	1900	39.9	3.66	3.2	27.5	89.5	16.1	4.5
30	5.5	0.9	2.2	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	7.0	1.8	4.1	1520	42.3	3.87	3.2	29.1	95.8	21.7	4.8
	5.5	0.9	2.2	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	7.0	1.8	4.1	1900	43.0	3.72	3.4	30.3	91.0	21.3	4.7
	5.5	0.9	2.2	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	10.5	4.2	9.7	1520	43.9	3.90	3.3	30.6	96.8	24.2	4.9
	5.5	0.9	2.2	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	10.5	4.2	9.7	1900	44.7	3.75	3.5	31.9	91.8	23.9	4.8
	5.5	0.9	2.2	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	14.0	7.2	16.5	1520	44.8	3.92	3.3	31.4	97.3	25.5	4.9
	5.5	0.9	2.2	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	14.0	7.2	16.5	1900	45.6	3.77	3.5	32.7	92.2	25.3	4.8
40	7.0	1.6	3.6	1520	69.6	43.2	2.80	24.9	79.2	62.6	2.5	7.0	1.5	3.6	1520	47.8	3.99	3.5	34.2	99.1	30.2	5.2
	7.0	1.6	3.6	1900	71.4	47.0	2.98	23.9	81.5	63.3	2.6	7.0	1.5	3.6	1900	48.6	3.84	3.7	35.5	93.7	29.8	5.0
	8.2	2.3	5.2	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	10.5	3.8	8.8	1520	49.9	4.04	3.6	36.1	100.4	33.1	5.4
	8.2	2.3	5.2	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	10.5	3.8	8.8	1900	50.7	3.88	3.8	37.5	94.7	32.9	5.2
	8.2	2.3	5.2	1520	70.3	43.4	2.71	25.9	79.5	60.0	2.4	14.0	6.6	15.2	1520	51.0	4.07	3.7	37.2	101.1	34.7	5.4
	8.2	2.3	5.2	1900	72.0	47.3	2.89	24.9	81.9	60.0	2.5	14.0	6.6	15.2	1900	51.9	3.91	3.9	38.6	95.3	34.5	5.2
50	7.0	1.4	3.2	1520	67.8	42.5	3.06	22.2	78.3	72.4	3.2	7.0	1.4	3.2	1520	53.7	4.13	3.8	39.7	102.7	38.7	5.6
	7.0	1.4	3.2	1900	69.5	46.3	3.26	21.3	80.6	73.0	3.3	7.0	1.4	3.2	1900	54.7	3.97	4.0	41.1	96.6	38.3	5.4
	10.5	3.5	8.1	1520	69.2	43.0	2.86	24.2	79.0	65.0	2.7	10.5	3.5	8.1	1520	56.3	4.20	3.9	42.0	104.3	42.0	5.8
	10.5	3.5	8.1	1900	70.9	46.8	3.05	23.3	81.3	65.5	2.8	10.5	3.5	8.1	1900	57.3	4.04	4.2	43.5	97.9	41.7	5.6
	14.0	6.2	14.3	1520	70.0	43.3	2.76	25.3	79.4	61.3	2.5	14.0	6.2	14.3	1520	57.7	4.23	4.0	43.2	105.1	43.8	5.9
	14.0	6.2	14.3	1900	71.7	47.1	2.94	24.4	81.7	61.7	2.6	14.0	6.2	14.3	1900	58.7	4.07	4.2	44.8	98.6	43.6	5.7
60	7.0	1.3	3.0	1520	65.9	41.8	3.34	19.7	77.3	82.1	4.0	7.0	1.3	3.0	1520	59.9	4.30	4.1	45.3	106.5	47.1	6.1
	7.0	1.3	3.0	1900	67.5	45.5	3.56	19.0	79.6	82.7	4.1	7.0	1.3	3.0	1900	61.0	4.13	4.3	46.9	99.7	46.6	5.9
	10.5	3.3	7.6	1520	67.4	42.3	3.13	21.5	78.0	74.9	3.4	10.5	3.3	7.6	1520	62.9	4.37	4.2	48.0	108.3	50.9	6.3
	10.5	3.3	7.6	1900	69.0	46.1	3.33	20.7	80.4	75.3	3.5	10.5	3.3	7.6	1900	64.0	4.20	4.5	49.7	101.2	50.5	6.1
	14.0	5.9	13.5	1520	68.1	42.6	3.02	22.5	78.4	71.2	3.1	14.0	5.8	13.5	1520	64.6	4.42	4.3	49.5	109.3	52.9	6.5
	14.0	5.9	13.5	1900	69.8	46.4	3.22	21.7	80.8	71.5	3.2	14.0	5.8	13.5	1900	65.7	4.25	4.5	51.2	102.0	52.7	6.3
70	7.0	1.2	2.8	1520	63.7	41.0	3.65	17.4	76.1	91.7	5.0	7.0	1.2	2.9	1520	66.3	4.46	4.4	51.0	110.4	55.4	6.6
	7.0	1.2	2.8	1900	65.2	44.6	3.89	16.8	78.5	92.4	5.2	7.0	1.2	2.9	1900	67.4	4.29	4.6	52.8	102.9	54.9	6.4
	10.5	3.2	7.3	1520	65.3	41.6	3.41	19.2	77.0	84.7	4.3	10.5	3.2	7.3	1520	69.6	4.56	4.5	54.1	112.4	59.7	6.9
	10.5	3.2	7.3	1900	67.0	45.3	3.63	18.4	79.3	85.1	4.4	10.5	3.2	7.3	1900	70.8	4.38	4.7	55.9	104.5	59.4	6.7
	14.0	5.6	13.0	1520	66.1	41.9	3.30	20.1	77.4	81.1	4.0	14.0	5.6	13.0	1520	71.4	4.61	4.5	55.7	113.5	62.0	7.1
	14.0	5.6	13.0	1900	67.8	45.6	3.51	19.3	79.7	81.4	4.1	14.0	5.6	13.0	1900	72.7	4.43	4.8	57.6	105.4	61.8	6.9
80	7.0	1.2	2.8	1520	61.1	40.1	4.03	15.2	74.8	101.4	6.2	7.0	1.2	2.8	1520	72.5	4.64	4.6	56.7	114.2	63.8	7.2
	7.0	1.2	2.8	1900	62.6	43.6	4.29	14.6	77.2	102.1	6.4	7.0	1.2	2.8	1900	73.8	4.46	4.8	58.6	106.0	63.3	7.0
	10.5	3.1	7.1	1520	63.0	40.8	3.75	16.8	75.8	94.4	5.3	10.5	3.1	7.1	1520	76.2	4.75	4.7	60.0	116.4	68.6	7.6
	10.5	3.1	7.1	1900	64.6	44.4	3.99	16.2	78.2	94.9	5.5	10.5	3.1	7.1	1900	77.5	4.57	5.0	61.9	107.8	68.2	7.4
	14.0	5.4	12.5	1520	63.9	41.1	3.62	17.7	76.3	90.9	4.9	14.0	5.4	12.6	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	14.0	5.4	12.5	1900	65.5	44.7	3.85	17.0	78.7	91.2	5.1	14.0	5.4	12.6	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
90	7.0	1.2	2.7	1520	57.9	39.0	4.48	12.9	73.2	110.9	7.6	6.3	0.9	2.0	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	7.0	1.2	2.7	1900	61.8	43.3	4.41	14.0	76.8	111.6	6.8	6.3	0.9	2.0	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	10.5	3.0	6.9	1520	60.3	39.8	4.14	14.6	74.4	104.2	6.6	6.3	0.9	2.0	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	10.5	3.0	6.9	1900	61.8	43.3	4.41	14.0	76.8	104.6	6.8	6.3	0.9	2.0	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	14.0	5.3	12.3	1520	61.4	40.2	3.99	15.4	75.0	100.7	6.1	6.3	0.9	2.0	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	14.0	5.3	12.3	1900	62.9	43.7	4.25	14.8	77.4	101.0	6.3	6.3	0.9	2.0	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
100	7.0	1.1	2.6	1520	54.2	37.6	5.02	10.8	71.3	120.4	9.1	4.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	7.0	1.1	2.6	1900	55.5	40.9	5.35	10.4	73.8	121.1	9.4	4.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	10.5	2.9	6.8	1520	56.9	38.6	4.62	12.3	72.7	113.8	8.0	4.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	10.5	2.9	6.8	1900	58.3	42.0	4.92	11.9	75.1	114.3	8.3	4.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	14.0	5.2	12.1	1520	58.2	39.1	4.44	13.1	73.4	110.5	7.5	4.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	14.0	5.2	12.1	1900	59.7	42.5	4.73	12.6	75.8	110.8	7.7	4.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
110	7.0	1.0	2.4	1520	49.7	35.9	5.67	8.8	69.0	129.7	10.9	3.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	7.0	1.0	2.4	1900	50.9	39.0	6.04	8.4	71.5	130.4	11.2	3.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	10.5	2.8	6.6	1520	52.9	37.1	5.21	10.2	70.7	123.5	9.7	3.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	10.5	2.8	6.6	1900	54.2	40.4	5.55	9.8	73.1	123.9	10.0	3.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	14.0	5.1	11.9	1520	54.4	37.7	4.99	10.9	71.4	120.2	9.1	3.2	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	14.0	5.1	11.9	1900	55.8	41.0	5.31	10.5	73.9	120.6	9.4	3.2	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
120	7.0	0.9	2.0	1520	44.3	33.5	6.44	6.9	66.3	139.0	12.8	2.5	0.1	0.1	1520	77.4	4.78	4.7	61.1	117.2	70.0	7.7
	7.0	0.9	2.0	1900	45.4	36.5	6.86	6.6	68.8	139.7	13.2	2.5	0.1	0.1	1900	78.8	4.60	5.0	63.1	108.4	70.0	7.5
	10.5	2.7	6.3	1520	48																	



# Performance Data — HE Model 024 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	4.5	3.1	7.2								480	10.6	1.16	6.7	90.4	2.7	1.8
	4.5	3.1	7.2								600	10.8	1.12	7.0	86.6	2.8	1.9
30	2.3	0.6	1.5	480	22.4	14.1	0.63	24.5	35.6	0.9	480	12.0	1.18	8.1	93.2	3.0	1.9
	2.3	0.6	1.5	600	22.9	15.4	0.66	25.2	34.7	0.9	600	12.3	1.14	8.4	88.9	3.2	1.9
	3.4	1.5	3.4	480	22.8	14.2	0.60	24.8	38.2	0.8	480	12.6	1.19	8.6	94.3	3.1	1.9
	3.4	1.5	3.4	600	23.3	15.5	0.63	25.5	37.2	0.8	600	12.9	1.15	9.0	89.9	3.3	1.9
	4.5	2.4	5.6	480	23.0	14.2	0.59	25.0	39.1	0.8	480	12.9	1.19	8.9	94.9	3.2	1.9
	4.5	2.4	5.6	600	23.5	15.5	0.62	25.6	38.2	0.8	600	13.2	1.15	9.3	90.3	3.4	2.0
40	2.3	0.4	0.8	480	21.8	13.9	0.70	24.2	31.4	0.9	480	14.2	1.21	10.2	97.5	3.5	2.0
	2.3	0.4	0.8	600	22.3	15.1	0.73	24.8	30.6	0.9	600	14.5	1.16	10.6	92.4	3.7	2.0
	3.4	1.1	2.5	480	22.3	14.1	0.64	24.5	34.6	0.8	480	15.0	1.21	10.9	99.0	3.6	2.0
	3.4	1.1	2.5	600	22.8	15.4	0.67	25.1	33.8	0.8	600	15.3	1.17	11.3	93.7	3.8	2.1
	4.5	1.9	4.5	480	22.5	14.2	0.62	24.6	36.0	0.8	480	15.4	1.22	11.3	99.8	3.7	2.0
	4.5	1.9	4.5	600	23.0	15.4	0.65	25.2	35.1	0.8	600	15.8	1.18	11.7	94.3	3.9	2.1
50	2.3	0.2	0.5	480	21.1	13.5	0.79	23.7	26.8	1.2	480	16.5	1.23	12.4	101.9	3.9	2.1
	2.3	0.2	0.5	600	21.5	14.7	0.82	24.3	26.2	1.2	600	16.9	1.19	12.8	96.1	4.2	2.1
	3.4	0.8	2.0	480	21.6	13.8	0.72	24.1	30.2	0.9	480	17.5	1.24	13.3	103.7	4.1	2.1
	3.4	0.8	2.0	600	22.1	15.0	0.75	24.7	29.5	1.0	600	17.8	1.20	13.7	97.5	4.4	2.2
	4.5	1.6	3.7	480	21.9	13.9	0.69	24.2	31.8	0.9	480	18.0	1.25	13.7	104.7	4.2	2.2
	4.5	1.6	3.7	600	22.4	15.2	0.72	24.8	31.0	0.9	600	18.4	1.21	14.2	98.3	4.5	2.2
60	2.3	0.1	0.3	480	20.2	13.1	0.90	23.3	22.4	1.6	480	18.8	1.26	14.5	106.2	4.4	2.2
	2.3	0.1	0.3	600	20.7	14.3	0.94	23.9	21.9	1.7	600	19.2	1.22	15.0	99.6	4.6	2.3
	3.4	0.7	1.6	480	20.9	13.4	0.81	23.6	25.6	1.3	480	19.8	1.27	15.5	108.2	4.6	2.3
	3.4	0.7	1.6	600	21.3	14.6	0.85	24.2	25.0	1.3	600	20.2	1.23	16.0	101.2	4.8	2.4
	4.5	1.4	3.2	480	21.2	13.5	0.78	23.8	27.2	1.1	480	20.3	1.28	16.0	109.2	4.7	2.4
	4.5	1.4	3.2	600	21.6	14.8	0.81	24.4	26.5	1.2	600	20.8	1.24	16.6	102.1	4.9	2.5
70	2.3	0.1	0.3	480	19.2	12.6	1.04	22.8	18.4	2.3	480	20.9	1.29	16.5	110.3	4.7	2.4
	2.3	0.1	0.3	600	19.6	13.8	1.09	23.4	18.0	2.3	600	21.3	1.25	17.1	102.9	5.0	2.5
	3.4	0.7	1.5	480	19.9	12.9	0.94	23.1	21.2	1.8	480	21.9	1.31	17.4	112.2	4.9	2.6
	3.4	0.7	1.5	600	20.4	14.1	0.98	23.7	20.7	1.8	600	22.4	1.26	18.1	104.5	5.2	2.6
	4.5	1.2	2.9	480	20.3	13.1	0.89	23.3	22.7	1.6	480	22.4	1.31	17.9	113.2	5.0	2.6
	4.5	1.2	2.9	600	20.7	14.3	0.94	23.9	22.1	1.6	600	22.9	1.27	18.5	105.3	5.3	2.7
80	2.3	0.2	0.4	480	18.1	12.2	1.21	22.2	15.0	3.1	480	22.7	1.32	18.2	113.7	5.0	2.7
	2.3	0.2	0.4	600	18.5	13.3	1.26	22.8	14.6	3.2	600	23.2	1.27	18.8	105.7	5.3	2.8
	3.4	0.6	1.5	480	18.9	12.5	1.09	22.6	17.3	2.5	480	23.5	1.34	18.9	115.4	5.2	2.9
	3.4	0.6	1.5	600	19.3	13.6	1.14	23.2	16.9	2.6	600	24.0	1.29	19.6	107.1	5.4	2.9
	4.5	1.2	2.7	480	19.3	12.6	1.04	22.8	18.6	2.3	480	23.9	1.35	19.3	116.1	5.2	3.0
	4.5	1.2	2.7	600	19.7	13.8	1.08	23.4	18.1	2.3	600	24.4	1.30	20.0	107.6	5.5	3.0
85	2.3	0.2	0.4	480	17.4	12.0	1.30	21.9	13.5	3.6	480	23.3	1.34	18.8	115.0	5.1	2.8
	2.3	0.2	0.4	600	17.8	13.0	1.36	22.5	13.2	3.7	600	23.8	1.29	19.4	106.8	5.4	2.9
	3.4	0.6	1.5	480	18.3	12.3	1.18	22.3	15.7	3.0	480	24.0	1.35	19.3	116.3	5.2	3.0
	3.4	0.6	1.5	600	18.7	13.4	1.23	22.9	15.3	3.0	600	24.5	1.31	20.1	107.8	5.5	3.1
	4.5	1.2	2.7	480	18.7	12.4	1.12	22.5	16.8	2.7	480	24.2	1.36	19.5	116.7	5.2	3.1
	4.5	1.2	2.7	600	19.1	13.5	1.17	23.1	16.4	2.7	600	24.7	1.32	20.3	108.2	5.5	3.2
90	2.3	0.2	0.5	480	16.8	11.7	1.40	21.6	12.0	4.1	480	24.0	1.35	19.4	116.3	5.2	3.0
	2.3	0.2	0.5	600	17.2	12.8	1.46	22.2	11.7	4.2	600	24.5	1.31	20.1	107.8	5.5	3.1
	3.4	0.7	1.5	480	17.7	12.0	1.27	22.0	14.0	3.4	480	24.5	1.37	19.8	117.2	5.2	3.2
	3.4	0.7	1.5	600	18.1	13.1	1.33	22.6	13.6	3.5	600	25.0	1.33	20.5	108.6	5.5	3.3
	4.5	1.2	2.7	480	18.1	12.2	1.21	22.2	15.0	3.1	480	24.6	1.38	19.8	117.4	5.2	3.3
	4.5	1.2	2.7	600	18.5	13.3	1.26	22.8	14.6	3.2	600	25.1	1.33	20.5	108.7	5.5	3.4
100	2.3	0.2	0.5	480	15.4	11.3	1.61	20.9	9.5	5.3							
	2.3	0.2	0.5	600	15.7	12.3	1.69	21.5	9.3	5.4							
	3.4	0.7	1.5	480	16.3	11.6	1.47	21.4	11.1	4.5							
	3.4	0.7	1.5	600	16.7	12.6	1.54	21.9	10.8	4.6							
	4.5	1.1	2.7	480	16.8	11.7	1.40	21.6	12.0	4.1							
	4.5	1.1	2.7	600	17.1	12.8	1.47	22.1	11.7	4.2							
110	2.3	0.2	0.4	480	13.8	10.8	1.85	20.2	7.4	6.6							
	2.3	0.2	0.4	600	14.1	11.8	1.94	20.7	7.3	6.8							
	3.4	0.6	1.4	480	14.8	11.1	1.70	20.7	8.7	5.7							
	3.4	0.6	1.4	600	15.1	12.1	1.78	21.2	8.5	5.9							
	4.5	1.1	2.6	480	15.3	11.3	1.62	20.9	9.4	5.3							
	4.5	1.1	2.6	600	15.6	12.3	1.70	21.4	9.2	5.5							
120	2.3	0.0	0.1	480	12.0	10.2	2.12	19.4	5.7	8.1							
	2.3	0.0	0.1	600	12.3	11.1	2.22	19.8	5.5	8.3							
	3.4	0.5	1.1	480	13.1	10.6	1.95	19.9	6.7	7.2							
	3.4	0.5	1.1	600	13.4	11.5	2.04	20.4	6.6	7.4							
	4.5	1.0	2.3	480	13.6	10.8	1.87	20.1	7.3	6.7							
	4.5	1.0	2.3	600	13.9	11.7	1.96	20.6	7.1	6.9							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHR/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 024 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	KW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	6.0	4.8	11.1								600	15.4	1.5	10.3	93.8	2.9	2.2
	6.0	4.8	11.1								750	15.7	1.5	10.6	89.4	3.1	2.3
30	3.0	1.2	2.7	600	29.4	17.8	1.0	32.7	28.9	1.1	600	17.1	1.6	11.8	96.4	3.2	2.3
	3.0	1.2	2.7	750	30.1	19.4	1.1	33.8	27.9	1.1	750	17.4	1.5	12.2	91.5	3.3	2.4
	4.5	2.4	5.6	600	30.1	17.9	0.9	33.2	32.8	0.9	600	17.9	1.6	12.5	97.7	3.2	2.4
	4.5	2.4	5.6	750	30.9	19.5	1.0	34.2	31.5	0.9	750	18.2	1.6	12.9	92.5	3.4	2.5
	6.0	3.9	9.1	600	30.6	18.0	0.9	33.4	35.8	0.9	600	18.4	1.6	12.9	98.4	3.3	2.4
	6.0	3.9	9.1	750	31.3	19.5	0.9	34.4	34.4	0.9	750	18.7	1.6	13.3	93.1	3.5	2.5
40	3.0	0.8	1.9	600	28.4	17.5	1.1	32.1	25.2	1.4	600	20.0	1.7	14.4	100.8	3.5	2.5
	3.0	0.8	1.9	750	29.1	19.1	1.2	33.2	24.2	1.4	750	20.3	1.6	14.8	95.1	3.7	2.6
	4.5	1.9	4.5	600	29.1	17.8	1.0	32.6	27.9	1.1	600	21.0	1.7	15.3	102.5	3.6	2.6
	4.5	1.9	4.5	750	29.8	19.3	1.1	33.6	26.9	1.1	750	21.4	1.6	15.8	96.4	3.8	2.7
	6.0	3.3	7.6	600	29.5	17.9	1.0	32.8	29.6	1.0	600	21.6	1.7	15.8	103.3	3.7	2.7
	6.0	3.3	7.6	750	30.2	19.4	1.1	33.8	28.5	1.0	750	22.0	1.7	16.4	97.1	3.9	2.8
50	3.0	0.6	1.4	600	27.4	17.2	1.2	31.6	22.1	1.7	600	23.0	1.7	17.1	105.5	3.9	2.8
	3.0	0.6	1.4	750	28.1	18.7	1.3	32.6	21.3	1.8	750	23.4	1.7	17.6	98.9	4.1	2.9
	4.5	1.6	3.7	600	28.1	17.5	1.2	32.0	24.3	1.5	600	24.2	1.8	18.2	107.4	4.0	2.9
	4.5	1.6	3.7	750	28.8	19.0	1.2	33.0	23.4	1.5	750	24.6	1.7	18.8	100.4	4.2	3.0
	6.0	2.8	6.5	600	28.5	17.6	1.1	32.2	25.5	1.3	600	24.9	1.8	18.8	108.4	4.1	3.0
	6.0	2.8	6.5	750	29.2	19.1	1.2	33.2	24.5	1.3	750	25.3	1.7	19.4	101.3	4.3	3.1
60	3.0	0.5	1.2	600	26.4	16.7	1.4	31.0	19.4	2.3	600	25.9	1.8	19.7	110.0	4.2	3.1
	3.0	0.5	1.2	750	27.0	18.2	1.5	32.0	18.6	2.4	750	26.4	1.8	20.4	102.6	4.4	3.2
	4.5	1.4	3.2	600	27.1	17.0	1.3	31.4	21.4	1.9	600	27.3	1.9	20.9	112.1	4.3	3.3
	4.5	1.4	3.2	750	27.8	18.5	1.4	32.4	20.6	2.0	750	27.7	1.8	21.6	104.2	4.5	3.4
	6.0	2.5	5.7	600	27.5	17.2	1.2	31.6	22.3	1.7	600	28.0	1.9	21.5	113.2	4.4	3.3
	6.0	2.5	5.7	750	28.2	18.7	1.3	32.6	21.5	1.8	750	28.5	1.8	22.3	105.1	4.6	3.4
70	3.0	0.5	1.1	600	25.2	16.2	1.5	30.4	16.6	3.0	600	28.6	1.9	22.1	114.2	4.4	3.4
	3.0	0.5	1.1	750	25.8	17.7	1.6	31.3	15.9	3.1	750	29.1	1.8	22.9	106.0	4.7	3.5
	4.5	1.2	2.9	600	26.0	16.6	1.4	30.8	18.5	2.5	600	29.9	2.0	23.3	116.2	4.5	3.6
	4.5	1.2	2.9	750	26.7	18.0	1.5	31.8	17.8	2.6	750	30.5	1.9	24.1	107.6	4.7	3.7
	6.0	2.2	5.2	600	26.4	16.7	1.4	31.0	19.5	2.3	600	30.6	2.0	23.8	117.2	4.5	3.7
	6.0	2.2	5.2	750	27.1	18.2	1.4	32.0	18.8	2.4	750	31.1	1.9	24.6	108.4	4.8	3.8
80	3.0	0.5	1.1	600	23.9	15.8	1.7	29.8	13.9	3.9	600	30.9	2.0	24.1	117.8	4.6	3.8
	3.0	0.5	1.1	750	24.5	17.1	1.8	30.7	13.4	4.0	750	31.5	1.9	25.0	108.9	4.8	3.9
	4.5	1.2	2.7	600	24.8	16.1	1.6	30.2	15.7	3.3	600	32.0	2.0	25.0	119.3	4.6	4.1
	4.5	1.2	2.7	750	25.4	17.5	1.7	31.2	15.1	3.4	750	32.5	2.0	25.8	110.1	4.8	4.2
	6.0	2.1	4.9	600	25.3	16.3	1.5	30.4	16.7	3.0	600	32.4	2.1	25.3	120.0	4.6	4.2
	6.0	2.1	4.9	750	25.9	17.7	1.6	31.4	16.1	3.1	750	32.9	2.0	26.1	110.7	4.9	4.3
85	3.0	0.5	1.1	600	23.1	15.5	1.9	29.5	12.6	4.4	600	31.7	2.0	24.8	119.0	4.6	4.0
	3.0	0.5	1.1	750	23.7	16.9	2.0	30.4	12.1	4.5	750	32.3	2.0	25.6	109.9	4.8	4.2
	4.5	1.2	2.7	600	24.1	15.8	1.7	29.9	14.4	3.7	600	32.4	2.1	25.3	120.1	4.5	4.3
	4.5	1.2	2.7	750	24.7	17.2	1.8	30.9	13.8	3.9	750	33.0	2.0	26.1	110.8	4.8	4.5
	6.0	2.1	4.8	600	24.6	16.0	1.6	30.1	15.3	3.4	600	32.7	2.1	25.4	120.4	4.5	4.4
	6.0	2.1	4.8	750	25.2	17.4	1.7	31.1	14.7	3.5	750	33.2	2.0	26.2	111.0	4.8	4.6
90	3.0	0.5	1.1	600	22.4	15.2	2.0	29.2	11.2	4.8	600	32.5	2.1	25.4	120.2	4.6	4.3
	3.0	0.5	1.1	750	22.9	16.6	2.1	30.1	10.8	5.0	750	33.1	2.0	26.2	110.8	4.8	4.4
	4.5	1.2	2.7	600	23.4	15.6	1.8	29.6	13.0	4.2	600	32.9	2.2	25.6	120.8	4.5	4.6
	4.5	1.2	2.7	750	24.0	17.0	1.9	30.5	12.5	4.3	750	33.5	2.1	26.5	111.4	4.7	4.7
	6.0	2.0	4.7	600	23.9	15.8	1.7	29.8	13.9	3.8	600	32.9	2.2	25.5	120.8	4.4	4.7
	6.0	2.0	4.7	750	24.5	17.2	1.8	30.8	13.4	3.9	750	33.5	2.1	26.3	111.4	4.7	4.8
100	3.0	0.5	1.1	600	20.5	14.7	2.3	28.6	8.8	5.9							
	3.0	0.5	1.1	750	21.0	16.0	2.5	29.5	8.4	6.1							
	4.5	1.2	2.7	600	21.8	15.1	2.1	29.0	10.4	5.1							
	4.5	1.2	2.7	750	22.3	16.4	2.2	29.9	10.0	5.3							
	6.0	2.0	4.6	600	22.4	15.2	2.0	29.2	11.2	4.8							
	6.0	2.0	4.6	750	22.9	16.6	2.1	30.1	10.8	5.0							
110	3.0	0.5	1.0	600	18.3	14.0	2.8	28.0	6.6	7.2							
	3.0	0.5	1.0	750	18.8	15.2	3.0	28.9	6.3	7.4							
	4.5	1.1	2.6	600	19.8	14.4	2.5	28.4	8.0	6.3							
	4.5	1.1	2.6	750	20.3	15.7	2.7	29.3	7.7	6.5							
	6.0	1.9	4.4	600	20.5	14.7	2.3	28.6	8.7	5.9							
	6.0	1.9	4.4	750	21.0	16.0	2.5	29.5	8.4	6.1							
120	3.0	0.3	0.8	600	15.8	13.0	3.4	27.5	4.7	8.5							
	3.0	0.3	0.8	750	16.2	14.1	3.6	28.4	4.5	8.8							
	4.5	1.0	2.3	600	17.5	13.7	3.0	27.8	5.9	7.7							
	4.5	1.0	2.3	750	17.9	14.9	3.2	28.7	5.6	7.9							
	6.0	1.8	4.2	600	18.3	13.9	2.8	28.0	6.5	7.2							
	6.0	1.8	4.2	750	18.7	15.2	3.0	28.9	6.3	7.4							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHR/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 030 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	6.0	4.3	9.9								600	15.3	1.54	10.2	93.7	2.9	2.0
	6.0	4.3	9.9								750	15.7	1.49	10.6	89.4	3.1	2.1
30	3.0	1.7	4.0	600	26.5	16.2	0.81	29.3	32.7	0.8	600	16.8	1.56	11.6	95.9	3.1	2.1
	3.0	1.7	4.0	750	27.1	17.7	0.85	30.0	31.9	0.8	750	17.2	1.51	12.0	91.2	3.3	2.1
	4.5	2.7	6.3	600	26.7	16.3	0.76	29.3	35.4	0.8	600	17.4	1.57	12.2	96.9	3.2	2.1
	4.5	2.7	6.3	750	27.3	17.7	0.79	30.0	34.5	0.8	750	17.8	1.52	12.6	92.0	3.4	2.2
	6.0	3.8	8.9	600	26.8	16.3	0.73	29.2	36.6	0.9	600	17.8	1.58	12.5	97.4	3.3	2.1
	6.0	3.8	8.9	750	27.3	17.8	0.77	29.9	35.7	0.9	750	18.2	1.52	13.0	92.4	3.5	2.2
40	3.0	1.3	3.0	600	26.0	16.0	0.91	29.0	28.4	1.0	600	19.1	1.60	13.7	99.4	3.5	2.2
	3.0	1.3	3.0	750	26.5	17.4	0.96	29.8	27.7	1.0	750	19.5	1.55	14.2	94.0	3.7	2.3
	4.5	2.2	5.0	600	26.4	16.1	0.84	29.2	31.3	0.9	600	19.8	1.61	14.4	100.6	3.6	2.3
	4.5	2.2	5.0	750	26.9	17.6	0.88	30.0	30.5	0.9	750	20.3	1.56	14.9	95.0	3.8	2.3
	6.0	3.1	7.3	600	26.5	16.2	0.81	29.3	32.7	0.8	600	20.2	1.62	14.8	101.2	3.7	2.3
	6.0	3.1	7.3	750	27.1	17.7	0.85	30.0	31.9	0.8	750	20.7	1.56	15.3	95.5	3.9	2.4
50	3.0	0.9	2.0	600	25.1	15.7	1.04	28.6	24.2	1.3	600	21.4	1.64	15.8	103.0	3.8	2.4
	3.0	0.9	2.0	750	25.7	17.1	1.09	29.4	23.6	1.3	750	21.8	1.58	16.4	96.9	4.0	2.4
	4.5	1.6	3.6	600	25.7	15.9	0.95	28.9	27.0	1.1	600	22.3	1.66	16.7	104.3	3.9	2.5
	4.5	1.6	3.6	750	26.3	17.3	1.00	29.7	26.3	1.1	750	22.7	1.60	17.3	98.1	4.2	2.5
	6.0	2.4	5.6	600	26.0	16.0	0.91	29.0	28.4	1.0	600	22.7	1.66	17.1	105.1	4.0	2.5
	6.0	2.4	5.6	750	26.5	17.4	0.96	29.8	27.7	1.0	750	23.2	1.61	17.7	98.7	4.2	2.6
60	3.0	0.8	1.9	600	24.1	15.2	1.18	28.1	20.4	1.8	600	23.7	1.68	18.0	106.5	4.1	2.6
	3.0	0.8	1.9	750	24.6	16.6	1.23	28.8	19.9	1.8	750	24.2	1.62	18.6	99.9	4.4	2.6
	4.5	1.5	3.4	600	24.8	15.5	1.08	28.5	22.9	1.4	600	24.7	1.70	18.9	108.1	4.3	2.7
	4.5	1.5	3.4	750	25.3	16.9	1.14	29.2	22.3	1.5	750	25.2	1.64	19.6	101.1	4.5	2.7
	6.0	2.3	5.3	600	25.1	15.7	1.04	28.6	24.2	1.3	600	25.2	1.71	19.5	109.0	4.3	2.7
	6.0	2.3	5.3	750	25.6	17.1	1.09	29.4	23.6	1.3	750	25.8	1.65	20.2	101.8	4.6	2.8
70	3.0	0.8	1.8	600	22.9	14.8	1.34	27.5	17.1	2.4	600	26.0	1.72	20.2	110.1	4.4	2.8
	3.0	0.8	1.8	750	23.4	16.1	1.40	28.2	16.7	2.5	750	26.6	1.66	20.9	102.8	4.7	2.9
	4.5	1.4	3.2	600	23.7	15.1	1.24	27.9	19.2	2.0	600	27.2	1.74	21.2	111.9	4.6	2.9
	4.5	1.4	3.2	750	24.2	16.4	1.29	28.6	18.7	2.0	750	27.7	1.68	22.0	104.2	4.8	3.0
	6.0	2.2	5.0	600	24.0	15.2	1.18	28.1	20.3	1.8	600	27.8	1.75	21.8	112.9	4.7	3.0
	6.0	2.2	5.0	750	24.5	16.6	1.24	28.8	19.8	1.8	750	28.4	1.69	22.6	105.0	4.9	3.0
80	3.0	0.8	1.8	600	21.6	14.2	1.52	26.8	14.2	3.2	600	28.3	1.76	22.3	113.7	4.7	3.0
	3.0	0.8	1.8	750	22.1	15.5	1.59	27.5	13.9	3.3	750	29.0	1.70	23.2	105.7	5.0	3.1
	4.5	1.4	3.2	600	22.4	14.6	1.41	27.2	15.9	2.7	600	29.6	1.78	23.5	115.7	4.9	3.2
	4.5	1.4	3.2	750	22.9	15.9	1.47	27.9	15.5	2.8	750	30.2	1.72	24.4	107.3	5.2	3.2
	6.0	2.1	4.9	600	22.8	14.7	1.35	27.4	16.9	2.5	600	30.3	1.79	24.2	116.8	5.0	3.2
	6.0	2.1	4.9	750	23.3	16.1	1.41	28.1	16.5	2.5	750	30.9	1.73	25.1	108.2	5.3	3.3
85	3.0	0.8	1.8	600	20.9	14.0	1.62	26.5	13.0	3.7	600	29.5	1.78	23.4	115.5	4.9	3.2
	3.0	0.8	1.8	750	21.4	15.2	1.70	27.2	12.7	3.8	750	30.1	1.72	24.3	107.2	5.2	3.2
	4.5	1.4	3.2	600	21.7	14.3	1.50	26.9	14.6	3.1	600	30.8	1.79	24.7	117.6	5.0	3.3
	4.5	1.4	3.2	750	22.2	15.6	1.57	27.6	14.2	3.2	750	31.5	1.73	25.6	108.9	5.3	3.4
	6.0	2.1	4.9	600	22.1	14.5	1.44	27.1	15.4	2.9	600	31.6	1.80	25.4	118.7	5.1	3.4
	6.0	2.1	4.9	750	22.6	15.8	1.51	27.8	15.1	3.0	750	32.2	1.74	26.3	109.8	5.4	3.5
90	3.0	0.8	1.8	600	20.3	13.7	1.72	26.2	11.8	4.2	600	30.7	1.79	24.5	117.3	5.0	3.3
	3.0	0.8	1.8	750	20.7	14.9	1.80	26.8	11.5	4.3	750	31.3	1.73	25.4	108.7	5.3	3.4
	4.5	1.4	3.2	600	21.1	14.0	1.60	26.5	13.2	3.6	600	32.1	1.81	25.9	119.5	5.2	3.5
	4.5	1.4	3.2	750	21.5	15.3	1.67	27.2	12.9	3.7	750	32.8	1.75	26.8	110.4	5.5	3.5
	6.0	2.1	4.8	600	21.5	14.2	1.54	26.7	14.0	3.3	600	32.8	1.81	26.6	120.6	5.3	3.5
	6.0	2.1	4.8	750	21.9	15.5	1.61	27.4	13.6	3.4	750	33.5	1.75	27.5	111.4	5.6	3.6
100	3.0	0.7	1.7	600	18.9	13.1	1.94	25.6	9.7	5.3							
	3.0	0.7	1.7	750	19.3	14.3	2.03	26.3	9.5	5.5							
	4.5	1.3	3.0	600	19.7	13.4	1.81	25.9	10.9	4.6							
	4.5	1.3	3.0	750	20.1	14.7	1.89	26.6	10.6	4.8							
	6.0	2.0	4.6	600	20.1	13.6	1.74	26.1	11.5	4.3							
	6.0	2.0	4.6	750	20.5	14.8	1.83	26.8	11.3	4.4							
110	3.0	0.7	1.5	600	17.7	12.6	2.18	25.2	8.1	6.7							
	3.0	0.7	1.5	750	18.0	13.7	2.29	25.8	7.9	6.8							
	4.5	1.2	2.8	600	18.4	12.9	2.04	25.4	9.0	5.9							
	4.5	1.2	2.8	750	18.8	14.0	2.14	26.1	8.8	6.0							
	6.0	1.9	4.4	600	18.8	13.0	1.97	25.6	9.5	5.5							
	6.0	1.9	4.4	750	19.2	14.2	2.06	26.2	9.3	5.6							
120	3.0	0.6	1.4														
	3.0	0.6	1.4														
	4.5	1.1	2.6	600	17.1	12.3	2.29	25.1	7.5	7.3							
	4.5	1.1	2.6	750	17.5	13.5	2.40	25.7	7.3	7.5							
	6.0	1.8	4.1	600	17.5	12.5	2.22	25.1	7.9	6.9							
6.0	1.8	4.1	750	17.9	13.6	2.32	25.8	7.7	7.0								

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHR/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 030 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	7.5	5.7	13.3								720	21.4	2.0	14.7	97.5	3.1	2.6
	7.5	5.7	13.3								900	21.8	1.9	15.2	92.4	3.3	2.7
30	3.8	2.3	5.2	720	34.5	20.0	1.3	38.9	26.3	1.2	720	23.1	2.1	16.2	99.7	3.3	2.7
	3.8	2.3	5.2	900	35.3	21.8	1.4	40.1	25.3	1.3	900	23.5	2.0	16.7	94.2	3.5	2.8
	5.6	3.5	8.1	720	34.8	20.2	1.2	38.9	28.4	1.0	720	24.0	2.1	17.0	100.9	3.4	2.8
	5.6	3.5	8.1	900	35.7	22.0	1.3	40.2	27.3	1.1	900	24.5	2.0	17.6	95.2	3.6	2.9
	7.5	5.1	11.8	720	34.9	20.2	1.2	38.9	29.4	0.9	720	24.6	2.1	17.4	101.6	3.4	2.8
	7.5	5.1	11.8	900	35.8	22.0	1.3	40.1	28.3	1.0	900	25.0	2.0	18.0	95.7	3.6	2.9
40	3.8	1.7	4.0	720	33.7	19.7	1.4	38.5	23.5	1.6	720	26.1	2.2	18.8	103.6	3.5	2.9
	3.8	1.7	4.0	900	34.5	21.5	1.5	39.7	22.6	1.7	900	26.6	2.1	19.5	97.3	3.7	3.0
	5.6	2.9	6.6	720	34.3	20.0	1.3	38.8	25.5	1.3	720	27.2	2.2	19.8	105.0	3.6	3.0
	5.6	2.9	6.6	900	35.1	21.7	1.4	40.0	24.5	1.4	900	27.7	2.1	20.5	98.5	3.8	3.1
	7.5	4.3	10.0	720	34.5	20.1	1.3	38.9	26.5	1.2	720	27.8	2.2	20.3	105.8	3.7	3.1
	7.5	4.3	10.0	900	35.4	21.8	1.4	40.1	25.5	1.3	900	28.3	2.1	21.0	99.1	3.9	3.2
50	3.8	1.2	2.8	720	32.7	19.3	1.6	37.9	20.8	2.2	720	29.2	2.3	21.5	107.5	3.8	3.2
	3.8	1.2	2.8	900	33.5	21.0	1.7	39.2	20.0	2.2	900	29.7	2.2	22.3	100.5	4.0	3.3
	5.6	2.2	5.1	720	33.4	19.6	1.5	38.4	22.7	1.8	720	30.5	2.3	22.7	109.2	3.9	3.4
	5.6	2.2	5.1	900	34.2	21.4	1.6	39.6	21.8	1.8	900	31.0	2.2	23.5	101.9	4.1	3.5
	7.5	3.5	8.1	720	33.8	19.8	1.4	38.5	23.7	1.6	720	31.2	2.3	23.3	110.1	3.9	3.4
	7.5	3.5	8.1	900	34.6	21.5	1.5	39.8	22.8	1.7	900	31.7	2.2	24.1	102.6	4.2	3.5
60	3.8	1.2	2.7	720	31.4	18.9	1.7	37.2	18.2	2.8	720	32.3	2.4	24.3	111.5	4.0	3.6
	3.8	1.2	2.7	900	32.1	20.5	1.8	38.4	17.5	2.9	900	32.9	2.3	25.1	103.8	4.2	3.7
	5.6	2.0	4.6	720	32.3	19.2	1.6	37.7	20.0	2.3	720	33.8	2.4	25.6	113.4	4.1	3.7
	5.6	2.0	4.6	900	33.1	20.9	1.7	38.9	19.2	2.4	900	34.4	2.3	26.5	105.3	4.4	3.9
	7.5	3.3	7.6	720	32.7	19.4	1.6	38.0	20.9	2.1	720	34.6	2.4	26.3	114.4	4.2	3.9
	7.5	3.3	7.6	900	33.5	21.1	1.7	39.2	20.1	2.2	900	35.2	2.3	27.2	106.2	4.4	4.0
70	3.8	1.1	2.5	720	29.9	18.3	1.9	36.4	15.7	3.5	720	35.4	2.5	27.0	115.5	4.2	4.0
	3.8	1.1	2.5	900	30.7	19.9	2.0	37.6	15.1	3.7	900	36.0	2.4	28.0	107.1	4.5	4.1
	5.6	1.9	4.5	720	30.9	18.7	1.8	37.0	17.4	3.0	720	37.0	2.5	28.5	117.6	4.3	4.2
	5.6	1.9	4.5	900	31.7	20.3	1.9	38.1	16.7	3.1	900	37.7	2.4	29.4	108.8	4.6	4.4
	7.5	3.1	7.2	720	31.4	18.9	1.7	37.2	18.2	2.8	720	37.9	2.5	29.2	118.8	4.4	4.4
	7.5	3.1	7.2	900	32.2	20.5	1.8	38.4	17.6	2.9	900	38.6	2.4	30.2	109.7	4.6	4.5
80	3.8	1.1	2.5	720	28.3	17.7	2.1	35.5	13.5	4.4	720	38.5	2.6	29.8	119.5	4.4	4.5
	3.8	1.1	2.5	900	29.0	19.2	2.2	36.7	13.0	4.6	900	39.2	2.5	30.8	110.3	4.7	4.6
	5.6	1.9	4.4	720	29.4	18.1	2.0	36.1	14.9	3.8	720	40.3	2.6	31.3	121.8	4.5	4.8
	5.6	1.9	4.4	900	30.1	19.7	2.1	37.3	14.4	3.9	900	40.9	2.5	32.4	112.1	4.8	4.9
	7.5	3.0	7.0	720	29.9	18.3	1.9	36.4	15.7	3.5	720	41.2	2.7	32.1	123.0	4.6	4.9
	7.5	3.0	7.0	900	30.7	19.9	2.0	37.6	15.1	3.7	900	41.9	2.5	33.2	113.1	4.8	5.1
85	3.8	1.1	2.5	720	27.5	17.3	2.2	35.1	12.4	4.9	720	40.0	2.6	31.1	121.5	4.5	4.7
	3.8	1.1	2.5	900	28.2	18.8	2.4	36.2	12.0	5.1	900	40.7	2.5	32.1	111.9	4.8	4.9
	5.6	1.9	4.4	720	28.6	17.7	2.1	35.7	13.8	4.3	720	41.8	2.7	32.6	123.8	4.6	5.1
	5.6	1.9	4.4	900	29.3	19.3	2.2	36.8	13.3	4.4	900	42.5	2.6	33.8	113.8	4.8	5.2
	7.5	3.0	6.9	720	29.1	18.0	2.0	36.0	14.6	4.0	720	42.8	2.7	33.5	125.0	4.6	5.3
	7.5	3.0	6.9	900	29.8	19.5	2.1	37.1	14.0	4.1	900	43.5	2.6	34.6	114.7	4.9	5.4
90	3.8	1.1	2.5	720	26.7	17.0	2.3	34.7	11.4	5.4	720	41.5	2.7	32.4	123.4	4.6	5.0
	3.8	1.1	2.5	900	27.3	18.5	2.5	35.8	11.0	5.6	900	42.2	2.6	33.5	113.5	4.8	5.2
	5.6	1.9	4.3	720	27.8	17.4	2.2	35.2	12.7	4.7	720	43.4	2.7	34.0	125.8	4.7	5.4
	5.6	1.9	4.3	900	28.4	19.0	2.3	36.4	12.2	4.9	900	44.1	2.6	35.2	115.4	4.9	5.6
	7.5	2.9	6.8	720	28.3	17.6	2.1	35.5	13.4	4.4	720	44.3	2.8	34.8	127.0	4.7	5.6
	7.5	2.9	6.8	900	29.0	19.2	2.2	36.7	12.9	4.6	900	45.1	2.7	36.0	116.4	5.0	5.8
100	3.8	1.0	2.3	720	25.0	16.2	2.6	33.9	9.6	6.5							
	3.8	1.0	2.3	900	25.6	17.7	2.8	35.0	9.2	6.7							
	5.6	1.8	4.1	720	26.0	16.7	2.4	34.4	10.7	5.8							
	5.6	1.8	4.1	900	26.7	18.2	2.6	35.5	10.3	6.0							
	7.5	2.8	6.5	720	26.6	16.9	2.3	34.7	11.3	5.4							
	7.5	2.8	6.5	900	27.2	18.4	2.5	35.8	10.9	5.6							
110	3.8	0.9	2.2	720	23.2	15.5	2.9	33.3	8.0	7.7							
	3.8	0.9	2.2	900	23.8	16.9	3.1	34.4	7.7	8.0							
	5.6	1.7	3.9	720	24.3	16.0	2.7	33.7	8.9	7.0							
	5.6	1.7	3.9	900	24.9	17.4	2.9	34.8	8.6	7.2							
	7.5	2.7	6.2	720	24.8	16.2	2.6	33.9	9.5	6.6							
	7.5	2.7	6.2	900	25.5	17.6	2.8	35.0	9.1	6.8							
120	3.8	0.9	2.0														
	3.8	0.9	2.0														
	5.6	1.6	3.7	720	22.6	15.2	3.0	33.1	7.4	8.3							
	5.6	1.6	3.7	900	23.1	16.5	3.2	34.2	7.1	8.5							
	7.5	2.6	6.0	720	23.1	15.4	2.9	33.3	7.9	7.8							
7.5	2.6	6.0	900	23.7	16.8	3.1	34.4	7.6	8.1								

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 036 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	6.0	2.4	5.5								760	16.6	1.72	10.9	90.2	2.8	2.5
	6.0	2.4	5.5								950	17.0	1.66	11.3	86.5	3.0	2.5
30	3.0	0.1	0.3	760	31.3	20.0	0.87	34.2	36.0	1.0	760	18.1	1.72	12.4	92.0	3.1	2.6
	3.0	0.1	0.3	950	31.9	21.8	0.91	35.0	35.1	1.0	950	18.5	1.66	12.8	88.0	3.3	2.6
	4.5	0.8	1.8	760	32.1	19.5	0.80	34.8	40.0	0.9	760	18.9	1.73	13.1	93.0	3.2	2.6
	4.5	0.8	1.8	950	32.8	21.3	0.84	35.7	39.0	0.9	950	19.3	1.67	13.6	88.8	3.4	2.7
	6.0	1.8	4.0	760	32.6	19.1	0.78	35.2	42.0	0.8	760	19.4	1.73	13.6	93.6	3.3	2.6
	6.0	1.8	4.0	950	33.3	20.8	0.81	36.1	41.0	0.9	950	19.8	1.67	14.1	89.3	3.5	2.7
40	3.0	0.1	0.2	760	30.2	20.2	0.98	33.4	30.9	1.2	760	20.9	1.74	15.0	95.4	3.5	2.7
	3.0	0.1	0.2	950	30.8	22.0	1.02	34.3	30.2	1.3	950	21.3	1.69	15.6	90.8	3.7	2.8
	4.5	0.5	1.1	760	31.0	20.1	0.89	34.0	34.8	1.0	760	22.0	1.75	16.1	96.8	3.7	2.8
	4.5	0.5	1.1	950	31.7	21.9	0.93	34.9	34.0	1.0	950	22.5	1.70	16.7	91.9	3.9	2.9
	6.0	1.3	3.0	760	31.4	19.9	0.85	34.3	36.9	0.9	760	22.6	1.76	16.7	97.5	3.8	2.8
	6.0	1.3	3.0	950	32.1	21.7	0.89	35.2	36.0	1.0	950	23.1	1.70	17.3	92.5	4.0	2.9
50	3.0	0.1	0.2	760	29.1	20.0	1.11	32.8	26.2	1.7	760	23.9	1.77	17.9	99.1	3.9	2.9
	3.0	0.1	0.2	950	29.7	21.8	1.16	33.7	25.6	1.7	950	24.4	1.71	18.6	93.8	4.2	3.0
	4.5	0.3	0.6	760	29.9	20.2	1.00	33.3	29.8	1.3	760	25.3	1.79	19.2	100.8	4.1	3.0
	4.5	0.3	0.6	950	30.6	22.0	1.05	34.1	29.0	1.4	950	25.8	1.73	19.9	95.2	4.4	3.1
	6.0	1.0	2.3	760	30.3	20.2	0.96	33.5	31.7	1.2	760	26.0	1.80	19.9	101.7	4.2	3.0
	6.0	1.0	2.3	950	31.0	22.0	1.00	34.4	30.9	1.2	950	26.6	1.74	20.7	95.9	4.5	3.1
60	3.0	0.1	0.2	760	28.0	19.6	1.27	32.3	22.0	2.2	760	27.0	1.81	20.8	102.8	4.4	3.1
	3.0	0.1	0.2	950	28.6	21.4	1.33	33.1	21.5	2.3	950	27.5	1.75	21.6	96.8	4.6	3.2
	4.5	0.2	0.4	760	28.8	19.9	1.15	32.7	25.1	1.8	760	28.5	1.83	22.2	104.7	4.6	3.2
	4.5	0.2	0.4	950	29.4	21.7	1.20	33.5	24.5	1.8	950	29.1	1.76	23.1	98.3	4.8	3.3
	6.0	0.8	1.9	760	29.2	20.1	1.09	32.9	26.8	1.6	760	29.3	1.84	23.0	105.6	4.7	3.3
	6.0	0.8	1.9	950	29.9	21.9	1.14	33.8	26.1	1.6	950	29.9	1.77	23.8	99.1	4.9	3.4
70	3.0	0.1	0.2	760	26.8	19.0	1.46	31.8	18.3	3.0	760	29.8	1.84	23.5	106.3	4.7	3.4
	3.0	0.1	0.2	950	27.4	20.7	1.53	32.6	17.8	3.1	950	30.5	1.78	24.4	99.7	5.0	3.4
	4.5	0.2	0.4	760	27.7	19.4	1.32	32.2	21.0	2.4	760	31.3	1.86	24.9	108.1	4.9	3.5
	4.5	0.2	0.4	950	28.3	21.2	1.38	33.0	20.4	2.5	950	31.9	1.80	25.8	101.1	5.2	3.6
	6.0	0.7	1.7	760	28.1	19.6	1.25	32.4	22.4	2.2	760	32.0	1.87	25.6	108.9	5.0	3.6
	6.0	0.7	1.7	950	28.7	21.4	1.31	33.2	21.9	2.2	950	32.6	1.81	26.5	101.8	5.3	3.7
80	3.0	0.1	0.2	760	25.5	18.3	1.69	31.2	15.1	3.8	760	32.2	1.87	25.8	109.2	5.0	3.6
	3.0	0.1	0.2	950	26.0	20.0	1.77	32.0	14.7	3.9	950	32.9	1.81	26.7	102.1	5.3	3.7
	4.5	0.2	0.4	760	26.4	18.8	1.52	31.6	17.3	3.2	760	33.3	1.88	26.8	110.6	5.2	3.8
	4.5	0.2	0.4	950	27.0	20.5	1.60	32.4	16.9	3.3	950	34.0	1.82	27.8	103.2	5.5	3.9
	6.0	0.7	1.6	760	26.9	19.0	1.45	31.8	18.6	2.9	760	33.7	1.89	27.2	111.1	5.2	3.9
	6.0	0.7	1.6	950	27.5	20.8	1.51	32.6	18.1	3.0	950	34.4	1.82	28.2	103.6	5.5	4.0
85	3.0	0.1	0.2	760	24.7	18.0	1.81	30.9	13.7	4.4	760	33.0	1.88	26.5	110.2	5.1	3.8
	3.0	0.1	0.2	950	25.2	19.6	1.90	31.7	13.4	4.5	950	33.7	1.82	27.5	102.8	5.4	3.9
	4.5	0.2	0.4	760	25.7	18.4	1.64	31.3	15.8	3.7	760	33.7	1.89	27.2	111.0	5.2	4.0
	4.5	0.2	0.4	950	26.3	20.1	1.72	32.1	15.4	3.8	950	34.4	1.82	28.2	103.5	5.5	4.1
	6.0	0.7	1.6	760	26.2	18.7	1.56	31.5	16.9	3.3	760	33.8	1.89	27.3	111.2	5.3	4.1
	6.0	0.7	1.6	950	26.8	20.4	1.63	32.4	16.5	3.4	950	34.5	1.82	28.3	103.6	5.6	4.3
90	3.0	0.1	0.2	760	23.9	17.6	1.94	30.6	12.4	4.9	760	33.8	1.89	27.3	111.1	5.2	4.0
	3.0	0.1	0.2	950	24.5	19.2	2.03	31.4	12.1	5.0	950	34.5	1.82	28.3	103.6	5.5	4.1
	4.5	0.2	0.4	760	25.0	18.1	1.76	31.1	14.3	4.1	760	34.0	1.89	27.6	111.5	5.3	4.2
	4.5	0.2	0.4	950	25.6	19.7	1.84	31.8	13.9	4.2	950	34.8	1.83	28.6	103.9	5.6	4.3
	6.0	0.7	1.6	760	25.6	18.3	1.67	31.3	15.3	3.8	760	33.9	1.88	27.4	111.3	5.3	4.4
	6.0	0.7	1.6	950	26.1	20.0	1.75	32.1	14.9	3.9	950	34.6	1.82	28.4	103.7	5.6	4.5
100	3.0	0.1	0.2	760	22.2	16.9	2.22	29.9	10.0	6.0							
	3.0	0.1	0.2	950	22.7	18.5	2.32	30.6	9.8	6.2							
	4.5	0.2	0.4	760	23.4	17.4	2.02	30.4	11.6	5.2							
	4.5	0.2	0.4	950	23.9	19.0	2.12	31.2	11.3	5.4							
	6.0	0.7	1.6	760	24.0	17.6	1.92	30.6	12.5	4.8							
	6.0	0.7	1.6	950	24.5	19.2	2.02	31.4	12.2	4.9							
110	3.0	0.1	0.2	760	20.3	16.3	2.52	29.0	8.0	7.4							
	3.0	0.1	0.2	950	20.7	17.7	2.64	29.7	7.8	7.5							
	4.5	0.2	0.4	760	21.6	16.7	2.31	29.6	9.3	6.5							
	4.5	0.2	0.4	950	22.1	18.2	2.42	30.3	9.1	6.6							
	6.0	0.7	1.6	760	22.3	16.9	2.21	29.9	10.1	6.0							
	6.0	0.7	1.6	950	22.7	18.5	2.31	30.6	9.8	6.2							
120	3.0	0.1	0.2	760	18.0	15.5	2.86	27.9	6.3	8.8							
	3.0	0.1	0.2	950	18.4	16.9	2.99	28.6	6.1	9.0							
	4.5	0.2	0.4	760	19.5	16.0	2.64	28.6	7.4	7.8							
	4.5	0.2	0.4	950	19.9	17.5	2.76	29.3	7.2	8.0							
	6.0	0.6	1.5	760	20.2	16.2	2.53	29.0	8.0	7.4							
	6.0	0.6	1.5	950	20.7	17.7	2.65	29.7	7.8	7.6							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHR/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.



# Performance Data — HE Model 036 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	KW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	9.0	5.0	11.5								920	24.7	2.4	16.7	94.8	3.0	3.2
	9.0	5.0	11.5								1150	25.1	2.3	17.3	90.2	3.2	3.3
30	4.5	0.8	1.8	920	40.2	25.2	1.5	45.1	26.9	1.5	920	26.8	2.5	18.6	97.0	3.2	3.3
	4.5	0.8	1.8	1150	41.2	27.4	1.6	46.6	25.9	1.5	1150	27.3	2.4	19.2	92.0	3.4	3.4
	6.8	2.3	5.3	920	40.1	24.9	1.4	44.9	27.9	1.4	920	27.9	2.5	19.6	98.1	3.3	3.4
	6.8	2.3	5.3	1150	41.1	27.1	1.5	46.3	26.9	1.4	1150	28.4	2.4	20.3	92.9	3.5	3.5
	9.0	4.1	9.5	920	40.0	24.7	1.4	44.7	28.4	1.4	920	28.5	2.5	20.2	98.7	3.4	3.4
	9.0	4.1	9.5	1150	41.0	26.9	1.5	46.1	27.3	1.4	1150	29.0	2.4	20.9	93.4	3.5	3.5
40	4.5	0.5	1.1	920	39.8	25.3	1.6	45.1	24.9	1.7	920	30.6	2.5	22.1	100.8	3.5	3.6
	4.5	0.5	1.1	1150	40.8	27.6	1.7	46.6	24.0	1.8	1150	31.1	2.4	22.8	95.1	3.7	3.7
	6.8	1.8	4.2	920	40.1	25.3	1.5	45.2	26.4	1.6	920	32.0	2.6	23.4	102.2	3.7	3.7
	6.8	1.8	4.2	1150	41.1	27.5	1.6	46.6	25.4	1.6	1150	32.6	2.5	24.2	96.2	3.9	3.8
	9.0	3.4	7.9	920	40.2	25.2	1.5	45.1	27.1	1.5	920	32.8	2.6	24.1	103.0	3.7	3.8
	9.0	3.4	7.9	1150	41.2	27.4	1.6	46.6	26.0	1.5	1150	33.4	2.5	24.9	96.9	3.9	3.9
50	4.5	0.3	0.6	920	39.0	25.2	1.7	44.8	22.6	2.3	920	34.6	2.6	25.7	104.9	3.9	4.0
	4.5	0.3	0.6	1150	40.0	27.4	1.8	46.3	21.7	2.4	1150	35.2	2.5	26.6	98.4	4.1	4.1
	6.8	1.5	3.4	920	39.6	25.3	1.6	45.1	24.2	1.9	920	36.3	2.7	27.3	106.6	4.0	4.1
	6.8	1.5	3.4	1150	40.6	27.5	1.7	46.5	23.3	2.0	1150	37.0	2.6	28.2	99.8	4.2	4.2
	9.0	3.0	6.8	920	39.8	25.3	1.6	45.1	24.9	1.7	920	37.3	2.7	28.1	107.5	4.1	4.2
	9.0	3.0	6.8	1150	40.8	27.6	1.7	46.6	24.0	1.8	1150	37.9	2.6	29.1	100.5	4.3	4.3
60	4.5	0.2	0.4	920	37.8	24.7	1.9	44.3	19.9	3.1	920	38.7	2.7	29.4	108.9	4.2	4.4
	4.5	0.2	0.4	1150	38.8	26.9	2.0	45.7	19.2	3.2	1150	39.3	2.6	30.4	101.7	4.4	4.5
	6.8	1.2	2.8	920	38.7	25.0	1.8	44.7	21.7	2.5	920	40.5	2.8	31.0	110.8	4.3	4.7
	6.8	1.2	2.8	1150	39.6	27.2	1.9	46.1	20.9	2.6	1150	41.2	2.7	32.1	103.2	4.5	4.8
	9.0	2.6	6.0	920	39.0	25.2	1.7	44.8	22.6	2.3	920	41.5	2.8	31.9	111.8	4.3	4.7
	9.0	2.6	6.0	1150	40.0	27.4	1.8	46.3	21.7	2.4	1150	42.2	2.7	33.0	104.0	4.6	4.9
70	4.5	0.1	0.3	920	36.4	24.1	2.1	43.5	17.3	4.1	920	42.5	2.9	32.7	112.8	4.4	4.8
	4.5	0.1	0.3	1150	37.3	26.3	2.2	44.9	16.6	4.2	1150	43.2	2.8	33.8	104.8	4.6	5.0
	6.8	1.1	2.6	920	37.4	24.6	2.0	44.0	19.1	3.4	920	44.3	2.9	34.3	114.6	4.4	5.2
	6.8	1.1	2.6	1150	38.3	26.7	2.1	45.4	18.3	3.5	1150	45.1	2.8	35.4	106.3	4.7	5.4
	9.0	2.4	5.6	920	37.9	24.7	1.9	44.3	20.0	3.0	920	45.2	3.0	35.0	115.5	4.4	5.3
	9.0	2.4	5.6	1150	38.8	26.9	2.0	45.7	19.2	3.1	1150	46.0	2.9	36.2	107.0	4.7	5.5
80	4.5	0.2	0.4	920	34.7	23.4	2.4	42.7	14.7	5.2	920	45.8	3.0	35.5	116.1	4.4	5.5
	4.5	0.2	0.4	1150	35.5	25.5	2.5	44.1	14.1	5.4	1150	46.6	2.9	36.7	107.5	4.7	5.7
	6.8	1.1	2.4	920	35.8	23.9	2.2	43.3	16.4	4.5	920	47.4	3.1	36.6	117.7	4.4	5.9
	6.8	1.1	2.4	1150	36.7	26.0	2.3	44.6	15.7	4.6	1150	48.2	3.0	37.9	108.8	4.7	6.1
	9.0	2.3	5.3	920	36.4	24.1	2.1	43.5	17.3	4.1	920	48.1	3.2	37.1	118.4	4.4	6.1
	9.0	2.3	5.3	1150	37.3	26.3	2.2	44.9	16.6	4.2	1150	48.9	3.1	38.4	109.4	4.6	6.3
85	4.5	0.2	0.4	920	33.7	23.0	2.5	42.2	13.5	5.9	920	47.1	3.1	36.4	117.4	4.4	5.9
	4.5	0.2	0.4	1150	34.5	25.1	2.7	43.6	13.0	6.1	1150	47.9	3.0	37.6	108.6	4.7	6.1
	6.8	1.0	2.4	920	34.9	23.5	2.3	42.8	15.1	5.1	920	48.3	3.3	37.1	118.6	4.3	6.3
	6.8	1.0	2.4	1150	35.8	25.6	2.5	44.2	14.5	5.3	1150	49.2	3.2	38.4	109.6	4.6	6.5
	9.0	2.3	5.2	920	35.5	23.8	2.2	43.1	16.0	4.7	920	48.8	3.4	37.3	119.1	4.3	6.5
	9.0	2.3	5.2	1150	36.4	25.9	2.4	44.5	15.4	4.8	1150	49.6	3.2	38.6	110.0	4.5	6.8
90	4.5	0.2	0.4	920	32.7	22.6	2.6	41.8	12.4	6.6	920	48.4	3.2	37.3	118.7	4.4	6.2
	4.5	0.2	0.4	1150	33.5	24.6	2.8	43.1	11.9	6.8	1150	49.2	3.1	38.6	109.6	4.6	6.4
	6.8	1.0	2.4	920	34.0	23.2	2.5	42.4	13.9	5.7	920	49.3	3.4	37.6	119.6	4.2	6.7
	6.8	1.0	2.4	1150	34.8	25.2	2.6	43.7	13.3	5.9	1150	50.1	3.3	38.9	110.4	4.5	6.9
	9.0	2.2	5.2	920	34.6	23.4	2.4	42.7	14.7	5.2	920	49.5	3.5	37.6	119.8	4.1	7.0
	9.0	2.2	5.2	1150	35.5	25.5	2.5	44.0	14.1	5.4	1150	50.4	3.4	38.9	110.5	4.4	7.2
100	4.5	0.2	0.5	920	30.6	21.8	3.0	40.9	10.3	8.2							
	4.5	0.2	0.5	1150	31.4	23.7	3.2	42.2	9.9	8.5							
	6.8	1.0	2.4	920	32.0	22.3	2.8	41.5	11.6	7.2							
	6.8	1.0	2.4	1150	32.8	24.3	2.9	42.8	11.1	7.4							
	9.0	2.2	5.1	920	32.6	22.6	2.7	41.8	12.3	6.7							
	9.0	2.2	5.1	1150	33.4	24.6	2.8	43.1	11.8	6.9							
110	4.5	0.2	0.5	920	28.4	20.9	3.4	40.1	8.4	10.1							
	4.5	0.2	0.5	1150	29.1	22.8	3.6	41.4	8.1	10.4							
	6.8	1.0	2.4	920	29.8	21.5	3.1	40.6	9.5	8.9							
	6.8	1.0	2.4	1150	30.5	23.4	3.3	41.9	9.2	9.2							
	9.0	2.2	5.1	920	30.5	21.7	3.0	40.9	10.1	8.3							
	9.0	2.2	5.1	1150	31.2	23.7	3.2	42.2	9.7	8.6							
120	4.5	0.1	0.3	920	26.1	20.0	3.8	39.5	6.8	12.2							
	4.5	0.1	0.3	1150	26.8	21.8	4.1	40.7	6.5	12.6							
	6.8	1.0	2.2	920	27.5	20.6	3.6	39.9	7.7	10.9							
	6.8	1.0	2.2	1150	28.2	22.4	3.8	41.1	7.4	11.2							
	9.0	2.2	5.0	920	28.2	20.9	3.4	40.1	8.3	10.3							
	9.0	2.2	5.0	1150	28.9	22.7	3.6	41.4	7.9	10.6							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.



# Performance Data — HE Model 042 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	7.5	5.0	11.7								880	19.4	2.2	12.2	90.4	2.6	2.5
	7.5	5.0	11.7								1100	19.8	2.1	12.7	86.7	2.8	2.5
30	3.8	1.7	3.9	880	37.3	26.5	1.1	41.0	34.0	1.0	880	21.7	2.2	14.4	92.8	2.9	2.6
	3.8	1.7	3.9	1100	38.1	28.9	1.1	42.0	33.1	1.0	1100	22.1	2.1	14.9	88.6	3.1	2.6
	5.6	2.9	6.7	880	37.5	26.5	1.0	40.9	37.2	0.9	880	22.6	2.2	15.3	93.8	3.0	2.6
	5.6	2.9	6.7	1100	38.3	28.9	1.1	41.9	36.3	1.0	1100	23.1	2.1	15.8	89.5	3.2	2.7
	7.5	4.5	10.3	880	37.5	26.4	1.0	40.7	38.5	1.0	880	23.2	2.2	15.8	94.4	3.1	2.6
	7.5	4.5	10.3	1100	38.3	28.8	1.0	41.8	37.6	1.0	1100	23.7	2.1	16.4	89.9	3.2	2.7
40	3.8	1.4	3.2	880	36.6	26.1	1.2	40.8	29.4	1.2	880	25.1	2.2	17.6	96.4	3.3	2.7
	3.8	1.4	3.2	1100	37.4	28.5	1.3	41.8	28.6	1.2	1100	25.6	2.2	18.3	91.6	3.5	2.8
	5.6	2.4	5.6	880	37.2	26.4	1.1	41.0	32.8	1.0	880	26.3	2.2	18.8	97.6	3.4	2.8
	5.6	2.4	5.6	1100	38.0	28.8	1.2	42.0	32.0	1.0	1100	26.8	2.2	19.4	92.6	3.6	2.9
	7.5	3.8	8.8	880	37.3	26.5	1.1	41.0	34.5	0.9	880	26.9	2.3	19.4	98.3	3.5	2.8
	7.5	3.8	8.8	1100	38.1	28.9	1.1	42.0	33.7	1.0	1100	27.5	2.2	20.1	93.2	3.7	2.9
50	3.8	1.0	2.4	880	35.5	25.6	1.4	40.3	24.9	1.6	880	28.5	2.3	20.9	100.0	3.7	2.9
	3.8	1.0	2.4	1100	36.3	27.9	1.5	41.4	24.3	1.6	1100	29.1	2.2	21.6	94.5	3.9	3.0
	5.6	2.0	4.5	880	36.4	26.0	1.3	40.7	28.2	1.3	880	29.9	2.3	22.2	101.4	3.8	3.0
	5.6	2.0	4.5	1100	37.1	28.4	1.4	41.7	27.5	1.3	1100	30.5	2.2	23.0	95.7	4.1	3.1
	7.5	3.1	7.2	880	36.7	26.2	1.2	40.8	29.9	1.1	880	30.6	2.3	22.9	102.2	3.9	3.1
	7.5	3.1	7.2	1100	37.5	28.6	1.3	41.9	29.2	1.2	1100	31.3	2.2	23.8	96.3	4.2	3.1
60	3.8	1.0	2.3	880	34.1	24.8	1.6	39.6	20.9	2.2	880	31.9	2.3	24.1	103.5	4.1	3.2
	3.8	1.0	2.3	1100	34.8	27.1	1.7	40.7	20.4	2.2	1100	32.5	2.2	25.0	97.4	4.3	3.2
	5.6	1.8	4.2	880	35.2	25.4	1.5	40.2	23.8	1.7	880	33.4	2.3	25.6	105.2	4.2	3.3
	5.6	1.8	4.2	1100	35.9	27.7	1.5	41.2	23.2	1.8	1100	34.1	2.2	26.5	98.7	4.5	3.4
	7.5	3.0	6.9	880	35.6	25.6	1.4	40.4	25.4	1.5	880	34.3	2.3	26.4	106.0	4.3	3.3
	7.5	3.0	6.9	1100	36.4	28.0	1.5	41.4	24.7	1.6	1100	35.0	2.2	27.3	99.5	4.6	3.4
70	3.8	0.9	2.1	880	32.4	24.0	1.9	38.8	17.4	3.0	880	35.1	2.3	27.2	107.0	4.4	3.4
	3.8	0.9	2.1	1100	33.1	26.2	2.0	39.8	16.9	3.0	1100	35.9	2.2	28.2	100.2	4.7	3.5
	5.6	1.7	4.0	880	33.6	24.6	1.7	39.4	19.8	2.4	880	36.8	2.3	28.9	108.8	4.6	3.6
	5.6	1.7	4.0	1100	34.4	26.8	1.8	40.4	19.3	2.4	1100	37.6	2.3	29.9	101.7	4.9	3.6
	7.5	2.8	6.5	880	34.2	24.9	1.6	39.7	21.2	2.1	880	37.7	2.3	29.7	109.7	4.7	3.6
	7.5	2.8	6.5	1100	35.0	27.2	1.7	40.7	20.7	2.2	1100	38.6	2.3	30.8	102.5	5.0	3.7
80	3.8	0.9	2.1	880	30.5	23.2	2.1	37.8	14.4	3.9	880	38.3	2.3	30.3	110.3	4.8	3.7
	3.8	0.9	2.1	1100	31.1	25.3	2.2	38.7	14.0	4.0	1100	39.1	2.3	31.4	102.9	5.1	3.8
	5.6	1.7	3.9	880	31.9	23.8	1.9	38.5	16.4	3.2	880	40.1	2.4	32.0	112.2	5.0	3.9
	5.6	1.7	3.9	1100	32.5	25.9	2.0	39.5	16.0	3.3	1100	41.0	2.3	33.2	104.5	5.3	4.0
	7.5	2.7	6.3	880	32.5	24.1	1.9	38.8	17.6	2.9	880	41.1	2.4	32.9	113.2	5.1	4.0
	7.5	2.7	6.3	1100	33.2	26.2	1.9	39.8	17.1	3.0	1100	41.9	2.3	34.1	105.3	5.4	4.1
85	3.8	0.9	2.1	880	29.5	22.8	2.3	37.2	13.1	4.5	880	39.8	2.4	31.7	111.9	4.9	3.8
	3.8	0.9	2.1	1100	30.1	24.8	2.4	38.2	12.8	4.6	1100	40.7	2.3	32.9	104.2	5.2	3.9
	5.6	1.7	3.8	880	30.8	23.3	2.1	38.0	15.0	3.7	880	41.6	2.4	33.5	113.8	5.1	4.1
	5.6	1.7	3.8	1100	31.5	25.4	2.2	38.9	14.6	3.8	1100	42.5	2.3	34.7	105.8	5.4	4.2
	7.5	2.7	6.2	880	31.5	23.6	2.0	38.3	16.0	3.4	880	42.6	2.4	34.4	114.8	5.2	4.2
	7.5	2.7	6.2	1100	32.2	25.8	2.1	39.3	15.6	3.5	1100	43.5	2.3	35.7	106.6	5.5	4.3
90	3.8	0.9	2.0	880	28.4	22.3	2.4	36.7	11.8	5.0	880	41.3	2.4	33.2	113.5	5.1	4.0
	3.8	0.9	2.0	1100	29.0	24.4	2.5	37.6	11.5	5.2	1100	42.2	2.3	34.4	105.5	5.4	4.1
	5.6	1.6	3.8	880	29.8	22.9	2.2	37.4	13.5	4.3	880	43.2	2.4	35.0	115.4	5.3	4.2
	5.6	1.6	3.8	1100	30.5	25.0	2.3	38.4	13.2	4.4	1100	44.1	2.3	36.2	107.1	5.6	4.3
	7.5	2.6	6.1	880	30.6	23.2	2.1	37.8	14.5	3.9	880	44.2	2.4	35.9	116.5	5.4	4.4
	7.5	2.6	6.1	1100	31.2	25.3	2.2	38.8	14.1	4.0	1100	45.1	2.3	37.2	108.0	5.7	4.5
100	3.8	0.9	2.0	880	26.2	21.6	2.7	35.5	9.7	6.4							
	3.8	0.9	2.0	1100	26.8	23.5	2.8	36.4	9.5	6.5							
	5.6	1.6	3.6	880	27.7	22.1	2.5	36.3	11.1	5.5							
	5.6	1.6	3.6	1100	28.3	24.1	2.6	37.2	10.8	5.6							
	7.5	2.6	5.9	880	28.4	22.4	2.4	36.7	11.8	5.0							
	7.5	2.6	5.9	1100	29.0	24.4	2.5	37.6	11.5	5.2							
110	3.8	0.8	1.9	880	24.0	20.8	3.0	34.4	7.9	7.8							
	3.8	0.8	1.9	1100	24.5	22.7	3.2	35.3	7.7	8.1							
	5.6	1.5	3.5	880	25.4	21.3	2.8	35.1	9.0	6.9							
	5.6	1.5	3.5	1100	26.0	23.2	2.9	36.0	8.8	7.1							
	7.5	2.5	5.7	880	26.2	21.5	2.7	35.5	9.7	6.4							
	7.5	2.5	5.7	1100	26.7	23.5	2.8	36.4	9.4	6.6							
120	3.8	0.8	1.8														
	3.8	0.8	1.8														
	5.6	1.5	3.4	880	23.1	20.5	3.1	33.9	7.3	8.5							
	5.6	1.5	3.4	1100	23.6	22.4	3.3	34.8	7.2	8.7							
7.5	2.4	5.5	880	23.8	20.8	3.0	34.3	7.8	7.9								
7.5	2.4	5.5	1100	24.3	22.7	3.2	35.2	7.6	8.2								

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 042 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	KW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	10.5	8.4	19.4								1040	29.1	2.9	19.3	95.9	2.9	3.2
	10.5	8.4	19.4								1300	29.6	2.8	19.9	91.1	3.1	3.3
30	5.3	2.7	6.2	1040	49.2	33.7	1.8	55.3	27.0	1.3	1040	31.8	3.0	21.7	98.3	3.1	3.3
	5.3	2.7	6.2	1300	50.4	36.7	1.9	57.0	25.9	1.3	1300	32.4	2.9	22.5	93.0	3.3	3.4
	7.9	4.8	11.1	1040	49.8	34.1	1.7	55.5	29.1	1.1	1040	33.1	3.0	22.9	99.5	3.2	3.4
	7.9	4.8	11.1	1300	51.1	37.2	1.8	57.3	28.0	1.1	1300	33.7	2.9	23.7	94.0	3.4	3.5
	10.5	7.4	17.0	1040	50.1	34.3	1.7	55.6	30.1	1.0	1040	33.9	3.1	23.6	100.1	3.2	3.5
	10.5	7.4	17.0	1300	51.3	37.3	1.8	57.4	29.0	1.0	1300	34.4	2.9	24.4	94.5	3.4	3.6
40	5.3	1.8	4.1	1040	48.0	33.0	2.0	54.7	24.1	1.7	1040	36.2	3.1	25.7	102.3	3.4	3.6
	5.3	1.8	4.1	1300	49.2	35.9	2.1	56.4	23.2	1.8	1300	36.9	3.0	26.6	96.2	3.6	3.7
	7.9	4.1	9.5	1040	48.9	33.6	1.9	55.1	26.2	1.4	1040	37.8	3.2	27.2	103.7	3.5	3.7
	7.9	4.1	9.5	1300	50.1	36.5	2.0	56.9	25.2	1.4	1300	38.5	3.0	28.1	97.4	3.7	3.8
	10.5	6.4	14.7	1040	49.3	33.8	1.8	55.3	27.2	1.3	1040	38.6	3.2	27.9	104.4	3.6	3.8
	10.5	6.4	14.7	1300	50.5	36.8	1.9	57.1	26.2	1.3	1300	39.3	3.1	28.9	98.0	3.8	3.9
50	5.3	1.8	4.1	1040	46.6	32.2	2.2	54.0	21.4	2.2	1040	40.6	3.2	29.7	106.2	3.7	3.9
	5.3	1.8	4.1	1300	47.8	35.0	2.3	55.7	20.6	2.3	1300	41.3	3.1	30.7	99.4	3.9	4.1
	7.9	3.4	7.9	1040	47.7	32.8	2.0	54.5	23.3	1.8	1040	42.4	3.3	31.3	107.8	3.8	4.1
	7.9	3.4	7.9	1300	48.8	35.7	2.2	56.2	22.5	1.9	1300	43.2	3.2	32.4	100.7	4.0	4.2
	10.5	5.4	12.5	1040	48.1	33.1	2.0	54.7	24.3	1.7	1040	43.4	3.3	32.2	108.6	3.8	4.2
	10.5	5.4	12.5	1300	49.3	36.0	2.1	56.5	23.4	1.7	1300	44.1	3.2	33.3	101.4	4.1	4.3
60	5.3	1.7	3.9	1040	45.0	31.3	2.4	53.1	18.8	2.9	1040	45.0	3.3	33.6	110.1	3.9	4.4
	5.3	1.7	3.9	1300	46.1	34.1	2.5	54.7	18.1	3.0	1300	45.8	3.2	34.8	102.6	4.2	4.5
	7.9	3.2	7.5	1040	46.1	31.9	2.2	53.7	20.6	2.4	1040	47.0	3.4	35.4	111.8	4.0	4.6
	7.9	3.2	7.5	1300	47.3	34.8	2.4	55.4	19.8	2.5	1300	47.8	3.3	36.6	104.0	4.3	4.7
	10.5	5.2	11.9	1040	46.7	32.3	2.2	54.0	21.6	2.2	1040	48.1	3.4	36.4	112.8	4.1	4.7
	10.5	5.2	11.9	1300	47.9	35.1	2.3	55.7	20.7	2.3	1300	48.9	3.3	37.6	104.8	4.3	4.9
70	5.3	1.6	3.6	1040	43.1	30.4	2.6	52.0	16.3	3.7	1040	49.3	3.5	37.5	113.9	4.2	4.9
	5.3	1.6	3.6	1300	44.1	33.1	2.8	53.7	15.7	3.8	1300	50.1	3.3	38.8	105.7	4.4	5.0
	7.9	3.1	7.1	1040	44.4	31.0	2.5	52.8	18.0	3.1	1040	51.5	3.5	39.4	115.8	4.3	5.2
	7.9	3.1	7.1	1300	45.5	33.8	2.6	54.4	17.3	3.2	1300	52.4	3.4	40.8	107.3	4.5	5.3
	10.5	4.9	11.3	1040	45.0	31.4	2.4	53.1	18.9	2.9	1040	52.6	3.6	40.5	116.9	4.3	5.3
	10.5	4.9	11.3	1300	46.1	34.1	2.5	54.8	18.2	3.0	1300	53.5	3.4	41.9	108.1	4.6	5.5
80	5.3	1.5	3.5	1040	41.0	29.5	2.9	50.9	14.1	4.6	1040	53.5	3.6	41.2	117.6	4.4	5.5
	5.3	1.5	3.5	1300	42.0	32.2	3.1	52.6	13.5	4.7	1300	54.4	3.4	42.6	108.7	4.6	5.6
	7.9	3.0	6.9	1040	42.4	30.1	2.7	51.7	15.6	4.0	1040	55.8	3.7	43.3	119.7	4.5	5.8
	7.9	3.0	6.9	1300	43.5	32.8	2.9	53.3	15.0	4.1	1300	56.8	3.5	44.8	110.4	4.7	6.0
	10.5	4.8	11.0	1040	43.1	30.4	2.6	52.1	16.4	3.7	1040	57.1	3.7	44.4	120.8	4.5	6.0
	10.5	4.8	11.0	1300	44.2	33.1	2.8	53.7	15.8	3.8	1300	58.0	3.6	45.9	111.3	4.8	6.2
85	5.3	1.5	3.5	1040	39.8	29.1	3.1	50.4	13.0	5.1	1040	55.5	3.6	43.0	119.4	4.5	5.8
	5.3	1.5	3.5	1300	40.8	31.7	3.3	52.0	12.5	5.2	1300	56.5	3.5	44.5	110.2	4.7	6.0
	7.9	2.9	6.8	1040	41.3	29.7	2.9	51.1	14.5	4.4	1040	57.9	3.7	45.1	121.6	4.6	6.2
	7.9	2.9	6.8	1300	42.3	32.3	3.1	52.8	13.9	4.6	1300	58.9	3.6	46.7	112.0	4.8	6.4
	10.5	4.7	10.9	1040	42.0	30.0	2.8	51.5	15.2	4.1	1040	59.2	3.8	46.3	122.7	4.6	6.4
	10.5	4.7	10.9	1300	43.1	32.6	3.0	53.2	14.7	4.2	1300	60.2	3.6	47.8	112.9	4.9	6.7
90	5.3	1.5	3.4	1040	38.7	28.7	3.2	49.8	12.0	5.6	1040	57.6	3.7	44.8	121.2	4.5	6.1
	5.3	1.5	3.4	1300	39.6	31.3	3.4	51.4	11.5	5.8	1300	58.5	3.6	46.4	111.7	4.8	6.3
	7.9	2.9	6.6	1040	40.2	29.3	3.0	50.6	13.3	4.9	1040	60.0	3.8	47.0	123.4	4.6	6.6
	7.9	2.9	6.6	1300	41.2	31.8	3.2	52.2	12.8	5.1	1300	61.0	3.6	48.6	113.5	4.9	6.8
	10.5	4.7	10.7	1040	41.0	29.5	2.9	50.9	14.1	4.6	1040	61.3	3.8	48.1	124.6	4.7	6.9
	10.5	4.7	10.7	1300	42.0	32.2	3.1	52.6	13.5	4.7	1300	62.3	3.7	49.7	114.4	5.0	7.1
100	5.3	1.4	3.3	1040	36.2	27.9	3.6	48.6	10.1	6.7							
	5.3	1.4	3.3	1300	37.1	30.4	3.8	50.2	9.7	6.9							
	7.9	2.8	6.4	1040	37.8	28.4	3.4	49.4	11.3	6.0							
	7.9	2.8	6.4	1300	38.8	31.0	3.6	51.0	10.9	6.2							
	10.5	4.5	10.4	1040	38.6	28.7	3.2	49.8	11.9	5.6							
	10.5	4.5	10.4	1300	39.6	31.2	3.4	51.4	11.5	5.8							
110	5.3	1.4	3.2	1040	33.6	27.2	4.0	47.5	8.4	8.0							
	5.3	1.4	3.2	1300	34.5	29.6	4.3	49.0	8.1	8.2							
	7.9	2.7	6.2	1040	35.3	27.7	3.7	48.2	9.4	7.2							
	7.9	2.7	6.2	1300	36.2	30.1	4.0	49.7	9.1	7.4							
	10.5	4.4	10.1	1040	36.1	27.9	3.6	48.6	10.0	6.8							
	10.5	4.4	10.1	1300	37.0	30.4	3.8	50.1	9.6	7.0							
120	5.3	1.3	3.1														
	5.3	1.3	3.1														
	7.9	2.6	6.0	1040	32.6	26.9	4.2	47.0	7.8	8.5							
	7.9	2.6	6.0	1300	33.4	29.3	4.4	48.5	7.5	8.8							
	10.5	4.2	9.8	1040	33.4	27.2	4.0	47.4	8.3	8.1							
10.5	4.2	9.8	1300	34.3	29.6	4.3	48.9	8.0	8.3								

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 048 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	9.0	5.2	12.1								1000	22.6	2.3	15.1	90.9	2.9	2.9
	9.0	5.2	12.1								1250	23.0	2.2	15.6	87.1	3.1	3.0
30	4.5	1.4	3.2	1000	41.1	26.0	1.3	45.4	31.6	1.1	1000	24.8	2.3	17.2	92.9	3.2	3.0
	4.5	1.4	3.2	1250	41.9	28.4	1.4	46.6	30.8	1.2	1250	25.3	2.2	17.8	88.7	3.4	3.0
	6.8	2.5	5.7	1000	41.4	25.9	1.2	45.5	33.3	1.0	1000	25.7	2.3	18.1	93.8	3.3	3.0
	6.8	2.5	5.7	1250	42.2	28.2	1.3	46.7	32.5	1.0	1250	26.3	2.2	18.8	89.5	3.5	3.1
	9.0	4.0	9.2	1000	41.4	25.7	1.2	45.5	33.9	1.0	1000	26.2	2.3	18.6	94.3	3.4	3.0
	9.0	4.0	9.2	1250	42.3	28.0	1.3	46.7	33.0	1.0	1250	26.8	2.2	19.3	89.8	3.6	3.1
40	4.5	1.2	2.8	1000	40.3	25.9	1.4	45.1	27.9	1.5	1000	28.2	2.3	20.5	96.1	3.6	3.1
	4.5	1.2	2.8	1250	41.1	28.3	1.5	46.3	27.3	1.5	1250	28.8	2.2	21.3	91.4	3.8	3.1
	6.8	2.4	5.5	1000	40.9	26.0	1.3	45.4	30.5	1.2	1000	29.4	2.3	21.6	97.2	3.7	3.1
	6.8	2.4	5.5	1250	41.7	28.4	1.4	46.5	29.8	1.3	1250	30.0	2.2	22.4	92.2	4.0	3.2
	9.0	3.8	8.7	1000	41.1	26.0	1.3	45.4	31.7	1.1	1000	30.0	2.3	22.3	97.8	3.8	3.1
	9.0	3.8	8.7	1250	42.0	28.4	1.4	46.6	30.9	1.2	1250	30.7	2.2	23.1	92.7	4.0	3.2
50	4.5	1.1	2.5	1000	39.1	25.5	1.6	44.6	23.8	2.1	1000	31.7	2.3	23.9	99.4	4.0	3.2
	4.5	1.1	2.5	1250	39.9	27.8	1.7	45.7	23.3	2.1	1250	32.4	2.2	24.8	94.0	4.3	3.3
	6.8	2.1	4.9	1000	39.9	25.8	1.5	45.0	26.7	1.7	1000	33.1	2.3	25.3	100.7	4.2	3.3
	6.8	2.1	4.9	1250	40.8	28.2	1.6	46.1	26.0	1.7	1250	33.8	2.2	26.2	95.1	4.4	3.4
	9.0	3.4	7.9	1000	40.3	26.0	1.4	45.1	28.1	1.5	1000	33.9	2.3	26.0	101.4	4.3	3.3
	9.0	3.4	7.9	1250	41.2	28.3	1.5	46.3	27.4	1.5	1250	34.6	2.2	26.9	95.6	4.5	3.4
60	4.5	1.0	2.3	1000	37.5	24.9	1.9	43.9	19.9	2.8	1000	35.3	2.3	27.4	102.7	4.4	3.4
	4.5	1.0	2.3	1250	38.3	27.2	2.0	45.1	19.4	2.9	1250	36.1	2.3	28.4	96.7	4.7	3.5
	6.8	2.0	4.6	1000	38.6	25.4	1.7	44.4	22.5	2.3	1000	36.9	2.3	28.9	104.1	4.6	3.5
	6.8	2.0	4.6	1250	39.4	27.6	1.8	45.5	22.0	2.4	1250	37.7	2.3	29.9	97.9	4.9	3.6
	9.0	3.2	7.5	1000	39.1	25.5	1.6	44.6	23.9	2.1	1000	37.7	2.3	29.7	104.9	4.7	3.6
	9.0	3.2	7.5	1250	39.9	27.9	1.7	45.8	23.3	2.1	1250	38.5	2.3	30.8	98.5	5.0	3.7
70	4.5	0.9	2.0	1000	35.7	24.1	2.2	43.1	16.4	3.8	1000	38.8	2.3	30.8	106.0	4.8	3.7
	4.5	0.9	2.0	1250	36.5	26.3	2.3	44.2	16.0	3.9	1250	39.7	2.3	31.9	99.4	5.1	3.7
	6.8	1.8	4.2	1000	36.9	24.7	2.0	43.7	18.7	3.1	1000	40.6	2.4	32.5	107.6	5.0	3.8
	6.8	1.8	4.2	1250	37.7	26.9	2.1	44.8	18.2	3.2	1250	41.4	2.3	33.7	100.7	5.3	3.9
	9.0	3.0	6.9	1000	37.5	24.9	1.9	43.9	19.9	2.8	1000	41.5	2.4	33.4	108.4	5.2	3.9
	9.0	3.0	6.9	1250	38.3	27.2	2.0	45.1	19.4	2.9	1250	42.4	2.3	34.6	101.4	5.4	4.0
80	4.5	0.9	2.0	1000	33.7	23.3	2.5	42.3	13.4	4.9	1000	42.3	2.4	34.2	109.2	5.2	3.9
	4.5	0.9	2.0	1250	34.4	25.4	2.6	43.3	13.1	5.1	1250	43.2	2.3	35.4	102.0	5.5	4.0
	6.8	1.8	4.0	1000	35.0	23.8	2.3	42.8	15.3	4.2	1000	44.2	2.4	36.0	110.9	5.5	4.1
	6.8	1.8	4.0	1250	35.8	26.0	2.4	43.9	14.9	4.3	1250	45.1	2.3	37.3	103.4	5.8	4.2
	9.0	2.9	6.7	1000	35.7	24.1	2.2	43.1	16.3	3.8	1000	45.1	2.4	37.0	111.8	5.6	4.2
	9.0	2.9	6.7	1250	36.4	26.3	2.3	44.2	15.9	3.9	1250	46.1	2.3	38.3	104.2	5.9	4.3
85	4.5	0.8	1.9	1000	32.5	22.9	2.7	41.8	12.2	5.6	1000	44.0	2.4	35.8	110.7	5.4	4.1
	4.5	0.8	1.9	1250	33.2	24.9	2.8	42.9	11.9	5.8	1250	44.9	2.3	37.1	103.3	5.8	4.2
	6.8	1.7	4.0	1000	33.9	23.4	2.5	42.4	13.9	4.8	1000	45.9	2.4	37.7	112.5	5.7	4.3
	6.8	1.7	4.0	1250	34.7	25.5	2.6	43.5	13.5	4.9	1250	46.9	2.3	39.0	104.7	6.0	4.4
	9.0	2.9	6.6	1000	34.6	23.7	2.4	42.7	14.8	4.4	1000	46.9	2.4	38.6	113.4	5.8	4.4
	9.0	2.9	6.6	1250	35.4	25.8	2.5	43.8	14.5	4.5	1250	47.9	2.3	40.0	105.5	6.1	4.5
90	4.5	0.8	1.8	1000	31.4	22.4	2.9	41.3	10.9	6.3	1000	45.6	2.4	37.4	112.3	5.6	4.3
	4.5	0.8	1.8	1250	32.1	24.5	3.0	42.4	10.7	6.4	1250	46.6	2.3	38.8	104.5	6.0	4.4
	6.8	1.7	3.9	1000	32.9	23.0	2.6	41.9	12.5	5.4	1000	47.6	2.4	39.3	114.1	5.9	4.5
	6.8	1.7	3.9	1250	33.6	25.1	2.8	43.0	12.2	5.5	1250	48.6	2.3	40.8	106.0	6.2	4.6
	9.0	2.8	6.5	1000	33.6	23.3	2.5	42.2	13.3	5.0	1000	48.6	2.4	40.3	115.0	6.0	4.6
	9.0	2.8	6.5	1250	34.3	25.4	2.6	43.3	13.0	5.1	1250	49.6	2.3	41.8	106.8	6.3	4.7
100	4.5	0.8	1.8	1000	29.1	21.6	3.3	40.4	8.9	7.8							
	4.5	0.8	1.8	1250	29.7	23.5	3.4	41.4	8.7	8.0							
	6.8	1.6	3.7	1000	30.6	22.1	3.0	41.0	10.1	6.8							
	6.8	1.6	3.7	1250	31.2	24.1	3.2	42.0	9.9	7.0							
	9.0	2.7	6.1	1000	31.3	22.4	2.9	41.3	10.8	6.4							
	9.0	2.7	6.1	1250	32.0	24.4	3.0	42.3	10.5	6.5							
110	4.5	0.7	1.7	1000	26.7	20.7	3.7	39.4	7.3	9.6							
	4.5	0.7	1.7	1250	27.3	22.6	3.9	40.4	7.1	9.8							
	6.8	1.5	3.5	1000	28.2	21.2	3.4	40.0	8.2	8.5							
	6.8	1.5	3.5	1250	28.8	23.2	3.6	41.0	8.0	8.7							
	9.0	2.6	5.9	1000	28.9	21.5	3.3	40.3	8.8	8.0							
	9.0	2.6	5.9	1250	29.5	23.4	3.5	41.3	8.5	8.2							
120	4.5	0.7	1.7	1000	24.3	20.0	4.1	38.6	5.9	11.5							
	4.5	0.7	1.7	1250	24.8	21.8	4.3	39.5	5.8	11.8							
	6.8	1.5	3.5	1000	25.7	20.4	3.9	39.1	6.7	10.3							
	6.8	1.5	3.5	1250	26.3	22.3	4.0	40.1	6.5	10.6							
	9.0	2.5	5.9	1000	26.5	20.7	3.7	39.3	7.1	9.8							
	9.0	2.5	5.9	1250	27.0	22.5	3.9	40.4	6.9	10.0							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 048 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F						Heating - 70°F							
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	12.0	7.7	17.8								1200	31.9	3.0	21.9	94.6	3.1	3.4
	12.0	7.7	17.8								1500	32.4	2.9	22.6	90.0	3.3	3.5
30	6.0	2.0	4.6	1200	53.1	33.3	2.1	60.1	25.3	2.0	1200	34.6	3.0	24.3	96.7	3.3	3.5
	6.0	2.0	4.6	1500	54.4	36.2	2.2	62.0	24.3	2.1	1500	35.2	2.9	25.1	91.7	3.5	3.6
	9.0	4.0	9.2	1200	52.7	33.2	2.1	59.6	25.7	1.8	1200	35.8	3.1	25.5	97.7	3.4	3.6
	9.0	4.0	9.2	1500	54.0	36.1	2.2	61.5	24.7	1.9	1500	36.5	3.0	26.4	92.5	3.6	3.7
	12.0	6.5	15.1	1200	52.3	33.0	2.0	59.1	25.7	1.8	1200	36.6	3.1	26.1	98.2	3.5	3.6
	12.0	6.5	15.1	1500	53.6	35.9	2.2	61.0	24.7	1.9	1500	37.2	3.0	27.0	93.0	3.7	3.8
40	6.0	1.9	4.4	1200	52.8	33.1	2.2	60.3	23.7	2.5	1200	39.1	3.1	28.5	100.1	3.6	3.8
	6.0	1.9	4.4	1500	54.1	36.1	2.4	62.2	22.8	2.5	1500	39.7	3.0	29.4	94.5	3.9	3.9
	9.0	3.8	8.7	1200	53.1	33.3	2.1	60.2	24.9	2.1	1200	40.7	3.2	29.9	101.4	3.8	3.9
	9.0	3.8	8.7	1500	54.4	36.2	2.3	62.1	24.0	2.2	1500	41.4	3.1	30.9	95.5	4.0	4.0
	12.0	6.0	13.9	1200	53.1	33.3	2.1	60.1	25.3	2.0	1200	41.5	3.2	30.7	102.1	3.8	3.9
	12.0	6.0	13.9	1500	54.4	36.2	2.2	62.0	24.4	2.1	1500	42.3	3.1	31.8	96.1	4.0	4.1
50	6.0	1.7	4.0	1200	51.7	32.7	2.4	59.9	21.4	3.1	1200	43.8	3.2	32.8	103.8	4.0	4.1
	6.0	1.7	4.0	1500	53.0	35.6	2.6	61.8	20.5	3.2	1500	44.6	3.1	33.9	97.5	4.2	4.2
	9.0	3.4	7.9	1200	52.5	33.0	2.3	60.2	23.0	2.6	1200	45.7	3.3	34.6	105.3	4.1	4.2
	9.0	3.4	7.9	1500	53.8	36.0	2.4	62.1	22.2	2.7	1500	46.5	3.2	35.7	98.7	4.3	4.4
	12.0	5.5	12.7	1200	52.8	33.2	2.2	60.3	23.8	2.4	1200	46.8	3.3	35.5	106.1	4.1	4.3
	12.0	5.5	12.7	1500	54.1	36.1	2.4	62.2	22.9	2.5	1500	47.6	3.2	36.7	99.4	4.4	4.5
60	6.0	1.6	3.7	1200	50.0	32.1	2.7	59.1	18.6	3.9	1200	48.7	3.3	37.3	107.6	4.3	4.5
	6.0	1.6	3.7	1500	51.3	34.9	2.9	61.0	17.9	4.0	1500	49.5	3.2	38.5	100.6	4.5	4.6
	9.0	3.2	7.5	1200	51.2	32.6	2.5	59.7	20.5	3.3	1200	50.9	3.4	39.3	109.3	4.4	4.6
	9.0	3.2	7.5	1500	52.5	35.4	2.7	61.6	19.7	3.4	1500	51.8	3.3	40.7	102.0	4.7	4.8
	12.0	5.3	12.2	1200	51.8	32.7	2.4	59.9	21.4	3.0	1200	52.1	3.4	40.4	110.2	4.5	4.7
	12.0	5.3	12.2	1500	53.0	35.6	2.6	61.8	20.6	3.1	1500	53.0	3.3	41.8	102.7	4.7	4.9
70	6.0	1.4	3.3	1200	47.9	31.3	3.0	58.1	15.9	4.8	1200	53.7	3.5	41.8	111.4	4.6	4.9
	6.0	1.4	3.3	1500	49.1	34.0	3.2	60.0	15.3	5.0	1500	54.6	3.3	43.2	103.7	4.8	5.0
	9.0	3.0	6.9	1200	49.4	31.8	2.8	58.8	17.7	4.2	1200	56.2	3.5	44.1	113.4	4.7	5.1
	9.0	3.0	6.9	1500	50.6	34.7	3.0	60.7	17.1	4.3	1500	57.2	3.4	45.6	105.3	5.0	5.3
	12.0	4.9	11.3	1200	50.1	32.1	2.7	59.1	18.7	3.8	1200	57.6	3.5	45.4	114.4	4.8	5.2
	12.0	4.9	11.3	1500	51.3	34.9	2.9	61.0	18.0	4.0	1500	58.6	3.4	46.9	106.1	5.0	5.4
80	6.0	1.4	3.3	1200	45.4	30.3	3.4	57.1	13.3	6.0	1200	58.6	3.6	46.4	115.2	4.8	5.3
	6.0	1.4	3.3	1500	46.5	33.0	3.6	58.9	12.8	6.2	1500	59.7	3.4	47.9	106.8	5.1	5.5
	9.0	2.9	6.7	1200	47.1	31.0	3.1	57.8	15.0	5.2	1200	61.4	3.6	48.9	117.4	4.9	5.6
	9.0	2.9	6.7	1500	48.2	33.7	3.3	59.6	14.4	5.4	1500	62.5	3.5	50.5	108.6	5.2	5.8
	12.0	4.8	11.1	1200	47.9	31.3	3.0	58.1	15.9	4.8	1200	62.9	3.7	50.2	118.6	5.0	5.8
	12.0	4.8	11.1	1500	49.1	34.0	3.2	60.0	15.3	5.0	1500	64.0	3.5	51.9	109.5	5.3	6.0
85	6.0	1.4	3.2	1200	44.1	29.8	3.6	56.6	12.2	6.7	1200	61.1	3.6	48.6	117.2	4.9	5.6
	6.0	1.4	3.2	1500	45.2	32.4	3.9	58.4	11.7	6.9	1500	62.2	3.5	50.2	108.4	5.2	5.8
	9.0	2.9	6.6	1200	45.8	30.5	3.3	57.2	13.8	5.8	1200	64.0	3.7	51.2	119.4	5.1	5.9
	9.0	2.9	6.6	1500	46.9	33.2	3.6	59.1	13.2	6.0	1500	65.1	3.6	52.9	110.2	5.3	6.1
	12.0	4.8	11.0	1200	46.6	30.8	3.2	57.6	14.6	5.4	1200	65.5	3.8	52.6	120.6	5.1	6.1
	12.0	4.8	11.0	1500	47.8	33.5	3.4	59.4	14.0	5.6	1500	66.7	3.6	54.4	111.2	5.4	6.3
90	6.0	1.3	3.1	1200	42.8	29.3	3.9	56.0	11.1	7.3	1200	63.6	3.7	50.8	119.1	5.0	5.8
	6.0	1.3	3.1	1500	43.8	31.9	4.1	57.8	10.7	7.6	1500	64.7	3.6	52.5	109.9	5.3	6.0
	9.0	2.8	6.5	1200	44.5	30.0	3.6	56.7	12.5	6.4	1200	66.6	3.8	53.5	121.4	5.2	6.2
	9.0	2.8	6.5	1500	45.6	32.6	3.8	58.5	12.0	6.6	1500	67.7	3.6	55.3	111.8	5.5	6.4
	12.0	4.7	10.9	1200	45.4	30.3	3.4	57.0	13.3	6.0	1200	68.2	3.8	54.9	122.6	5.2	6.4
	12.0	4.7	10.9	1500	46.5	33.0	3.6	58.9	12.8	6.2	1500	69.3	3.7	56.8	112.8	5.5	6.6
100	6.0	1.3	3.0	1200	40.0	28.2	4.4	55.2	9.1	8.9							
	6.0	1.3	3.0	1500	41.0	30.7	4.7	57.0	8.8	9.2							
	9.0	2.7	6.1	1200	41.8	28.9	4.0	55.7	10.3	7.9							
	9.0	2.7	6.1	1500	42.8	31.5	4.3	57.5	9.9	8.1							
	12.0	4.5	10.4	1200	42.7	29.3	3.9	56.0	11.0	7.4							
	12.0	4.5	10.4	1500	43.7	31.8	4.1	57.8	10.6	7.6							
110	6.0	1.2	2.8	1200	37.4	27.2	5.0	54.7	7.5	10.6							
	6.0	1.2	2.8	1500	38.3	29.5	5.3	56.5	7.2	11.0							
	9.0	2.6	5.9	1200	39.0	27.8	4.6	55.0	8.5	9.5							
	9.0	2.6	5.9	1500	40.0	30.3	4.9	56.7	8.2	9.8							
	12.0	4.4	10.1	1200	39.9	28.2	4.4	55.2	9.0	9.0							
	12.0	4.4	10.1	1500	40.9	30.6	4.7	56.9	8.7	9.2							
120	6.0	1.2	2.8														
	6.0	1.2	2.8														
	9.0	2.6	5.9														
	9.0	2.6	5.9														
	12.0	4.3	10.0	1200	37.2	27.1	5.0	54.7	7.4	10.7							
	12.0	4.3	10.0	1500	38.2	29.5	5.4	56.4	7.1	11.1							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.

# Performance Data — HE Model 060 - Part Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	12.0	11.5	26.5								1280	28.3	3.0	18.4	90.5	2.8	3.6
	12.0	11.5	26.5								1600	28.9	2.9	19.0	86.7	2.9	3.7
30	6.0	4.1	9.6	1280	51.2	35.2	1.5	56.1	35.0	1.1	1280	31.4	3.0	21.4	92.7	3.1	3.7
	6.0	4.1	9.6	1600	52.3	38.4	1.5	57.6	34.1	1.1	1600	32.0	2.9	22.1	88.5	3.2	3.8
	9.0	6.9	15.9	1280	50.9	35.0	1.4	55.6	36.6	1.0	1280	32.5	3.0	22.5	93.5	3.2	3.7
	9.0	6.9	15.9	1600	52.0	38.2	1.5	57.0	35.7	1.0	1600	33.2	2.9	23.3	89.2	3.3	3.8
	12.0	10.4	23.9	1280	50.6	34.9	1.4	55.1	37.0	1.0	1280	33.2	3.0	23.1	94.0	3.2	3.7
	12.0	10.4	23.9	1600	51.7	38.0	1.4	56.6	36.1	1.0	1600	33.9	2.9	23.9	89.6	3.4	3.8
40	6.0	3.3	7.6	1280	50.9	35.2	1.6	56.3	31.2	1.4	1280	35.9	3.0	25.6	95.9	3.4	3.8
	6.0	3.3	7.6	1600	51.9	38.4	1.7	57.8	30.4	1.4	1600	36.6	2.9	26.0	91.2	3.6	3.9
	9.0	5.7	13.2	1280	51.2	35.2	1.5	56.3	33.8	1.2	1280	37.2	3.1	27.0	96.9	3.6	3.9
	9.0	5.7	13.2	1600	52.3	38.4	1.6	57.7	32.9	1.2	1600	38.0	3.0	27.9	92.0	3.8	4.0
	12.0	8.7	20.2	1280	51.2	35.2	1.5	56.2	34.9	1.1	1280	38.0	3.1	27.7	97.5	3.6	3.9
	12.0	8.7	20.2	1600	52.3	38.4	1.5	57.6	34.0	1.1	1600	38.8	3.0	28.7	92.4	3.8	4.0
50	6.0	2.5	5.7	1280	49.6	34.9	1.8	55.9	26.9	1.9	1280	40.3	3.1	29.8	99.1	3.8	4.0
	6.0	2.5	5.7	1600	50.7	38.1	1.9	57.3	26.2	2.0	1600	41.1	3.0	30.9	93.8	4.0	4.1
	9.0	4.5	10.5	1280	50.5	35.1	1.7	56.2	29.7	1.6	1280	41.8	3.1	31.3	100.3	3.9	4.1
	9.0	4.5	10.5	1600	51.6	38.3	1.8	57.7	28.9	1.6	1600	42.7	3.0	32.5	94.7	4.2	4.2
	12.0	7.1	16.4	1280	50.8	35.2	1.6	56.3	31.1	1.4	1280	42.7	3.1	32.1	100.9	4.0	4.1
	12.0	7.1	16.4	1600	51.9	38.4	1.7	57.8	30.3	1.5	1600	43.6	3.0	33.3	95.2	4.2	4.2
60	6.0	2.3	5.4	1280	47.8	34.4	2.1	54.9	22.6	2.7	1280	44.6	3.1	34.0	102.3	4.2	4.2
	6.0	2.3	5.4	1600	48.8	37.5	2.2	56.3	22.1	2.7	1600	45.6	3.0	35.2	96.4	4.4	4.4
	9.0	4.3	10.0	1280	49.0	34.8	1.9	55.6	25.3	2.2	1280	46.4	3.2	35.6	103.5	4.3	4.4
	9.0	4.3	10.0	1600	50.1	37.9	2.0	57.0	24.7	2.2	1600	47.4	3.1	36.9	97.4	4.5	4.5
	12.0	6.8	15.7	1280	49.5	34.9	1.9	55.8	26.7	2.0	1280	47.3	3.2	36.5	104.2	4.4	4.4
	12.0	6.8	15.7	1600	50.6	38.1	1.9	57.2	26.0	2.0	1600	48.3	3.1	37.9	98.0	4.6	4.5
70	6.0	2.2	5.1	1280	45.5	33.6	2.4	53.7	18.8	3.6	1280	48.9	3.2	38.0	105.4	4.5	4.6
	6.0	2.2	5.1	1600	46.5	36.7	2.5	55.1	18.3	3.6	1600	49.9	3.1	39.4	98.9	4.8	4.7
	9.0	4.1	9.5	1280	46.9	34.1	2.2	54.5	21.1	3.0	1280	50.8	3.2	39.9	106.8	4.6	4.7
	9.0	4.1	9.5	1600	48.0	37.2	2.3	55.9	20.6	3.0	1600	51.9	3.1	41.3	100.0	4.9	4.8
	12.0	6.5	15.0	1280	47.6	34.4	2.1	54.9	22.4	2.7	1280	51.8	3.2	40.9	107.5	4.7	4.8
	12.0	6.5	15.0	1600	48.7	37.5	2.2	56.3	21.8	2.8	1600	53.0	3.1	42.4	100.6	5.0	4.9
80	6.0	2.1	4.9	1280	42.9	32.6	2.8	52.4	15.5	4.6	1280	53.1	3.2	42.0	108.4	4.8	4.9
	6.0	2.1	4.9	1600	43.9	35.6	2.9	53.7	15.2	4.8	1600	54.2	3.1	43.6	101.4	5.1	5.0
	9.0	3.9	9.1	1280	44.5	33.3	2.6	53.2	17.4	4.0	1280	55.2	3.2	44.1	109.9	5.0	5.1
	9.0	3.9	9.1	1600	45.5	36.3	2.7	54.6	17.0	4.1	1600	56.4	3.1	45.7	102.6	5.3	5.3
	12.0	6.3	14.4	1280	45.3	33.6	2.4	53.6	18.5	3.6	1280	56.3	3.3	45.1	110.7	5.1	5.2
	12.0	6.3	14.4	1600	46.3	36.6	2.6	55.0	18.1	3.7	1600	57.5	3.1	46.8	103.3	5.4	5.4
85	6.0	2.1	4.8	1280	41.6	32.0	3.0	51.8	14.2	5.3	1280	55.1	3.2	44.0	109.9	5.0	5.1
	6.0	2.1	4.8	1600	42.5	34.9	3.1	53.1	13.8	5.4	1600	56.3	3.1	45.6	102.6	5.3	5.3
	9.0	3.9	8.9	1280	43.2	32.7	2.7	52.5	15.9	4.6	1280	57.3	3.3	46.1	111.5	5.2	5.4
	9.0	3.9	8.9	1600	44.1	35.7	2.9	53.9	15.5	4.7	1600	58.5	3.1	47.8	103.9	5.5	5.5
	12.0	6.1	14.2	1280	44.0	33.0	2.6	52.9	16.9	4.2	1280	58.5	3.3	47.3	112.3	5.3	5.5
	12.0	6.1	14.2	1600	44.9	36.0	2.7	54.3	16.5	4.3	1600	59.7	3.2	49.0	104.6	5.6	5.6
90	6.0	2.0	4.7	1280	40.3	31.4	3.1	51.1	12.8	5.9	1280	57.2	3.3	46.0	111.4	5.1	5.3
	6.0	2.0	4.7	1600	41.2	34.3	3.3	52.4	12.5	6.1	1600	58.4	3.1	47.7	103.8	5.4	5.5
	9.0	3.8	8.7	1280	41.9	32.2	2.9	51.9	14.4	5.1	1280	59.5	3.3	48.2	113.0	5.3	5.6
	9.0	3.8	8.7	1600	42.8	35.1	3.1	53.2	14.0	5.3	1600	60.7	3.2	50.0	105.1	5.6	5.8
	12.0	6.0	13.9	1280	42.7	32.5	2.8	52.3	15.2	4.8	1280	60.7	3.3	49.4	113.9	5.4	5.8
	12.0	6.0	13.9	1600	43.6	35.4	2.9	53.6	14.8	4.9	1600	62.0	3.2	51.2	105.9	5.7	5.9
100	6.0	2.0	4.6	1280	37.7	30.1	3.6	50.0	10.6	7.4							
	6.0	2.0	4.6	1600	38.5	32.8	3.7	51.3	10.3	7.6							
	9.0	3.7	8.5	1280	39.2	30.9	3.3	50.6	11.8	6.5							
	9.0	3.7	8.5	1600	40.0	33.7	3.5	51.9	11.5	6.7							
	12.0	5.9	13.5	1280	40.0	31.3	3.2	50.9	12.5	6.1							
	12.0	5.9	13.5	1600	40.8	34.1	3.3	52.3	12.2	6.3							
110	6.0	1.9	4.4	1280	35.4	28.8	4.0	49.2	8.8	9.1							
	6.0	1.9	4.4	1600	36.1	31.4	4.2	50.5	8.6	9.3							
	9.0	3.6	8.2	1280	36.7	29.5	3.8	49.6	9.8	8.1							
	9.0	3.6	8.2	1600	37.5	32.2	3.9	50.9	9.5	8.3							
	12.0	5.7	13.2	1280	37.4	29.9	3.6	49.8	10.3	7.6							
	12.0	5.7	13.2	1600	38.2	32.6	3.8	51.1	10.1	7.8							
120	6.0	1.9	4.3	1280	33.5	27.5	4.5	48.9	7.5	11.0							
	6.0	1.9	4.3	1600	34.2	30.0	4.7	50.2	7.3	11.3							
	9.0	3.5	8.0	1280	34.5	28.2	4.2	49.0	8.2	9.9							
	9.0	3.5	8.0	1600	35.2	30.7	4.4	50.3	8.0	10.2							
	12.0	5.5	12.8	1280	35.0	28.5	4.1	49.1	8.6	9.4							
	12.0	5.5	12.8	1600	35.8	31.1	4.3	50.4	8.4	9.6							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.



# Performance Data — HE Model 060 - Full Load, Non VWF

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - 70°F						
		PSI	FT	CFM	TC	SC	kW	HR	EER	HWC	CFM	HC	kW	HE	LAT	COP	HWC
20	14.0	14.5	33.5								1520	40.5	4.1	27.0	94.7	2.9	4.4
	14.0	14.5	33.5								1900	41.2	3.9	28.0	90.1	3.1	4.5
30	7.0	5.0	11.5	1520	68.9	45.8	2.7	78.0	25.2	2.1	1520	44.2	4.1	30.3	96.9	3.1	4.5
	7.0	5.0	11.5	1900	70.6	49.8	2.9	80.5	24.3	2.2	1900	45.0	4.0	31.4	91.9	3.3	4.7
	10.5	8.5	19.7	1520	69.6	47.0	2.7	78.7	25.7	1.9	1520	46.1	4.2	32.0	98.1	3.2	4.6
	10.5	8.5	19.7	1900	71.3	51.1	2.9	81.2	24.8	1.9	1900	46.9	4.0	33.1	92.9	3.4	4.8
	14.0	13.2	30.4	1520	69.8	47.6	2.7	78.9	25.7	1.8	1520	47.1	4.2	33.0	98.7	3.3	4.7
	14.0	13.2	30.4	1900	71.5	51.8	2.9	81.4	24.7	1.9	1900	48.0	4.1	34.1	93.4	3.5	4.8
40	7.0	4.0	9.3	1520	67.3	44.5	2.8	76.8	23.7	2.6	1520	50.2	4.3	35.8	100.6	3.4	4.9
	7.0	4.0	9.3	1900	68.9	48.5	3.0	79.2	22.8	2.6	1900	51.1	4.1	37.0	94.9	3.6	5.0
	10.5	7.1	16.5	1520	68.5	45.5	2.7	77.7	25.0	2.2	1520	52.4	4.4	37.8	101.9	3.5	5.0
	10.5	7.1	16.5	1900	70.2	49.5	2.9	80.2	24.0	2.3	1900	53.4	4.2	39.0	96.0	3.7	5.2
	14.0	11.1	25.6	1520	69.1	46.0	2.7	78.1	25.4	2.1	1520	53.7	4.4	38.8	102.7	3.6	5.1
	14.0	11.1	25.6	1900	70.8	50.1	2.9	80.6	24.4	2.1	1900	54.6	4.2	40.2	96.6	3.8	5.2
50	7.0	3.1	7.2	1520	65.1	43.4	3.0	75.3	21.5	3.2	1520	56.2	4.5	41.1	104.2	3.7	5.2
	7.0	3.1	7.2	1900	66.7	47.3	3.2	77.7	20.6	3.3	1900	57.2	4.3	42.5	97.9	3.9	5.4
	10.5	5.8	13.3	1520	66.8	44.3	2.9	76.4	23.2	2.7	1520	58.7	4.5	43.4	105.8	3.8	5.4
	10.5	5.8	13.3	1900	68.4	48.2	3.1	78.9	22.3	2.8	1900	59.7	4.4	44.9	99.1	4.0	5.6
	14.0	9.0	20.9	1520	67.5	44.7	2.8	77.0	23.9	2.5	1520	60.1	4.6	44.6	106.6	3.9	5.5
	14.0	9.0	20.9	1900	69.2	48.6	3.0	79.4	23.0	2.6	1900	61.1	4.4	46.1	99.8	4.1	5.7
60	7.0	2.9	6.8	1520	62.5	42.4	3.3	73.7	18.9	4.0	1520	62.1	4.6	46.4	107.8	3.9	5.7
	7.0	2.9	6.8	1900	64.0	46.1	3.5	76.0	18.2	4.1	1900	63.1	4.4	48.0	100.8	4.2	5.9
	10.5	5.5	12.7	1520	64.4	43.2	3.1	74.9	20.8	3.4	1520	64.9	4.7	48.9	109.5	4.0	5.9
	10.5	5.5	12.7	1900	66.0	47.0	3.3	77.3	20.0	3.5	1900	66.0	4.5	50.6	102.2	4.3	6.1
	14.0	8.7	20.1	1520	65.4	43.6	3.0	75.5	21.7	3.1	1520	66.4	4.7	50.3	110.4	4.1	6.1
	14.0	8.7	20.1	1900	67.0	47.4	3.2	77.9	20.9	3.2	1900	67.5	4.6	52.0	102.9	4.3	6.3
70	7.0	2.8	6.5	1520	59.6	41.4	3.6	72.0	16.4	5.0	1520	67.8	4.8	51.6	111.3	4.2	6.2
	7.0	2.8	6.5	1900	61.1	45.0	3.9	74.3	15.8	5.2	1900	69.0	4.6	53.3	103.6	4.4	6.4
	10.5	5.2	12.1	1520	61.7	42.1	3.4	73.2	18.2	4.3	1520	70.9	4.9	54.3	113.2	4.3	6.5
	10.5	5.2	12.1	1900	63.2	45.8	3.6	75.6	17.5	4.4	1900	72.1	4.7	56.2	105.2	4.5	6.7
	14.0	8.3	19.3	1520	62.7	42.5	3.3	73.8	19.1	3.9	1520	72.5	4.9	55.8	114.2	4.3	6.7
	14.0	8.3	19.3	1900	64.3	46.2	3.5	76.2	18.4	4.1	1900	73.8	4.7	57.7	106.0	4.6	6.9
80	7.0	2.7	6.2	1520	56.6	40.2	4.0	70.4	14.0	6.2	1520	73.5	4.9	56.7	114.8	4.4	6.8
	7.0	2.7	6.2	1900	58.0	43.7	4.3	72.7	13.5	6.4	1900	74.8	4.8	58.6	106.5	4.6	7.0
	10.5	5.0	11.6	1520	58.7	41.0	3.8	71.5	15.6	5.3	1520	76.8	5.0	59.6	116.8	4.5	7.2
	10.5	5.0	11.6	1900	60.2	44.6	4.0	73.8	15.0	5.5	1900	78.2	4.8	61.6	108.1	4.7	7.4
	14.0	8.1	18.6	1520	59.8	41.4	3.6	72.1	16.5	4.9	1520	78.6	5.1	61.2	117.9	4.5	7.4
	14.0	8.1	18.6	1900	61.3	45.1	3.9	74.4	15.9	5.1	1900	80.0	4.9	63.2	109.0	4.8	7.7
85	7.0	2.6	6.1	1520	55.1	39.6	4.3	69.7	12.9	6.8	1520	76.3	5.0	59.1	116.5	4.4	7.2
	7.0	2.6	6.1	1900	56.4	43.0	4.6	71.9	12.4	7.1	1900	77.7	4.8	61.2	107.8	4.7	7.4
	10.5	4.9	11.4	1520	57.2	40.4	4.0	70.7	14.5	5.9	1520	79.7	5.1	62.2	118.6	4.6	7.6
	10.5	4.9	11.4	1900	58.6	44.0	4.2	73.0	13.9	6.1	1900	81.1	4.9	64.3	109.5	4.8	7.8
	14.0	7.9	18.3	1520	58.3	40.8	3.8	71.3	15.3	5.5	1520	81.6	5.2	63.8	119.7	4.6	7.8
	14.0	7.9	18.3	1900	59.7	44.4	4.1	73.6	14.7	5.7	1900	83.0	5.0	65.9	110.4	4.9	8.1
90	7.0	2.6	5.9	1520	53.5	38.9	4.5	69.0	11.9	7.5	1520	79.1	5.1	61.6	118.2	4.5	7.5
	7.0	2.6	5.9	1900	54.8	42.3	4.8	71.2	11.4	7.8	1900	80.5	4.9	63.7	109.2	4.8	7.7
	10.5	4.8	11.2	1520	55.6	39.8	4.2	70.0	13.3	6.6	1520	82.6	5.2	64.7	120.3	4.6	7.9
	10.5	4.8	11.2	1900	57.0	43.3	4.5	72.2	12.8	6.8	1900	84.1	5.0	66.9	111.0	4.9	8.2
	14.0	7.8	18.0	1520	56.7	40.2	4.0	70.5	14.1	6.1	1520	84.5	5.3	66.4	121.5	4.7	8.2
	14.0	7.8	18.0	1900	58.1	43.8	4.3	72.7	13.5	6.3	1900	86.0	5.1	68.6	111.9	5.0	8.5
100	7.0	2.5	5.7	1520	50.5	37.5	5.0	67.9	10.1	9.1							
	7.0	2.5	5.7	1900	51.8	40.8	5.3	70.0	9.7	9.4							
	10.5	4.7	10.9	1520	52.5	38.5	4.7	68.6	11.3	8.0							
	10.5	4.7	10.9	1900	53.8	41.9	5.0	70.8	10.8	8.3							
	14.0	7.6	17.5	1520	53.6	38.9	4.5	69.0	11.9	7.5							
	14.0	7.6	17.5	1900	54.9	42.4	4.8	71.2	11.5	7.7							
110	7.0	2.4	5.6	1520	47.8	36.0	5.6	67.1	8.6	10.8							
	7.0	2.4	5.6	1900	49.0	39.1	5.9	69.3	8.2	11.2							
	10.5	4.6	10.6	1520	49.6	37.0	5.2	67.6	9.5	9.6							
	10.5	4.6	10.6	1900	50.8	40.2	5.5	69.7	9.2	10.0							
	14.0	7.4	17.1	1520	50.6	37.5	5.0	67.9	10.1	9.1							
	14.0	7.4	17.1	1900	51.8	40.8	5.3	70.0	9.7	9.4							
120	7.0	2.3	5.4	1520	45.5	34.4	6.2	66.9	7.3	12.8							
	7.0	2.3	5.4	1900	46.6	37.4	6.6	69.1	7.1	13.2							
	10.5	4.4	10.2	1520	47.0	35.4	5.8	67.0	8.1	11.5							
	10.5	4.4	10.2	1900	48.1	38.5	6.2	69.1	7.8	11.9							
	14.0	7.2	16.7	1520	47.8	35.9	5.6	67.1	8.6	10.9							
	14.0	7.2	16.7	1900	49.0	39.1	6.0	69.3	8.2	11.2							

Interpolation is permissible, extrapolation is not. All performance data is based on the lower voltage of dual voltage units.  
 Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated.  
 Table is with entering air of 80°F DB and 67°F WB in cooling, and 70°F DB in heating.  
 AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.

Table does not reflect fan or pump power corrections for AHRI/ISO conditions.  
 See performance correction tables for operating conditions other than those listed above. See performance data selection notes for operation in the shaded areas.  
 Operation below 40°F EWT is based on a 15% methanol antifreeze solution.  
 Operation below 60°F EWT requires optional extended range insulated water and refrigerant circuits to avoid condensation within the unit cabinet.



# Physical Data

Model	024	030	036	042	048	060
Compressor (1 Each)	Copeland UltraTech Two-Stage Scroll					
Factory Charge HFC-410a, oz	51	48	54	70	80	84
<b>ECM Fan Motor &amp; Blower</b>						
Fan Motor, hp [W]	1/2 [373]	1/2 [373]	1/2 [373]	3/4 [559]	3/4 [559]	1 [746]
Blower Wheel Size (Dia x W), in [mm]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 8 [229 x 203]	9 x 8 [229 x 203]	10 x 10 [254 x 254]	11 x 10 [279 x 254]
<b>Water Connection Size</b>						
Swivel - Residential Class	1"	1"	1"	1"	1"	1"
Coax Volume (Gallons)	0.323	0.323	0.738	0.89	0.738	0.939
<b>HWG Water Connection Size</b>						
Swivel - Residential Class	1"	1"	1"	1"	1"	1"
<b>Vertical Upflow</b>						
Air Coil Dimensions (H x W), in [mm]	20 x 17.25 [508 x 438]	20 x 17.25 [508 x 438]	24 x 21.75 [610 x 552]	24 x 21.75 [610 x 552]	28.75 x 24 [730 x 610]	28.75 x 24 [730 x 610]
Standard Filter - 1" [25.4mm] Throw-away, qty (in) [mm]	20 x 20 [508 x 508]	20 x 20 [508 x 508]	24 x 24 [610 x 610]	24 x 24 [610 x 610]	28 x 28 [711 x 711]	28 x 28 [711 x 711]
Weight - Operating, lbs [kg]	216 [98.0]	224 [101.6]	245 [111.1]	260 [117.9]	315 [142.9]	330 [149.7]
Weight - Packaged, lbs [kg]	221 [100.2]	229 [103.9]	251 [113.8]	266 [120.6]	322 [146.0]	337 [152.9]
<b>Horizontal</b>						
Air Coil Dimensions (H x W), in [mm]	16 x 22 [406 x 559]	16 x 22 [406 x 559]	20 x 25 [508 x 635]	20 x 25 [508 x 635]	20 x 35 [508 x 889]	20 x 35 [508 x 889]
Standard Filter - 1" [25.4 mm] Pleated MERV 8 Throwaway, in [mm]	18 x 24 [457 x 610]	18 x 24 [457 x 610]	2 - 14 x 20 [356 x 508]	2 - 14 x 20 [356 x 508]	1 - 20 x 24 [508 x 610] 1 - 14 x 20 [356 x 508]	1 - 20 x 24 [508 x 610] 1 - 14 x 20 [356 x 508]
Weight - Operating, lbs [kg]	208 [94.3]	208 [94.3]	233 [105.6]	244 [110.7]	299 [135.6]	314 [142.4]
Weight - Packaged, lbs [kg]	213 [96.6]	213 [96.6]	239 [108.4]	250 [113.4]	306 [138.8]	321 [145.6]

All units have grommet compressor mountings, TXV expansion devices, and 1/2" [12.7mm] & 3/4" [19.1mm] electrical knockouts.

Unit Maximum Working Water Pressure	
Options	Max Pressure PSIG (kPa)
Base Unit	500 (3,447)
Unit with Internal Flow Controller	145 (999)
Unit with Internal Modulating Water Valve	300 (2,068)

## Dimensions — Vertical Upflow

Vertical Upflow Model		Overall Cabinet		
		A Width	B Depth	C Height
024-030	in	22.4	22.4	40.5
	cm	56.9	56.9	102.9
036-042	in	22.4	26.0	46.5
	cm	56.9	66.0	118.1
048-060	in	25.4	29.3	50.5
	cm	64.5	74.4	128.3

Vertical Upflow Model		Water Connections - Standard Units						
		1	2	3	4	5		
		D Loop In	E Loop Out	HWG In	HWG Out	Cond.	Loop Water FPT	HWG FPT
				F	G	H		
024 - 030	in	3.8	8.8	13.4	15.7	19.5	1	1
	cm	9.6	22.3	34.0	39.9	49.5	2.5	2.5
036 - 042	in	3.8	8.8	15.2	18.5	22.1	1	1
	cm	9.6	22.3	38.6	47.0	56.1	2.5	2.5
048 - 060	in	4.0	9.5	15.2	18.5	22.1	1	1
	cm	10.2	24.1	38.6	47.0	56.1	2.5	2.5

Vertical Model		Electrical Knockouts		
		J 1/2"	K 1/2"	L 3/4"
		Low Voltage	Ext Pump	Power Supply
024 - 060	in	4.6	6.1	7.6
	cm	11.7	15.5	19.3

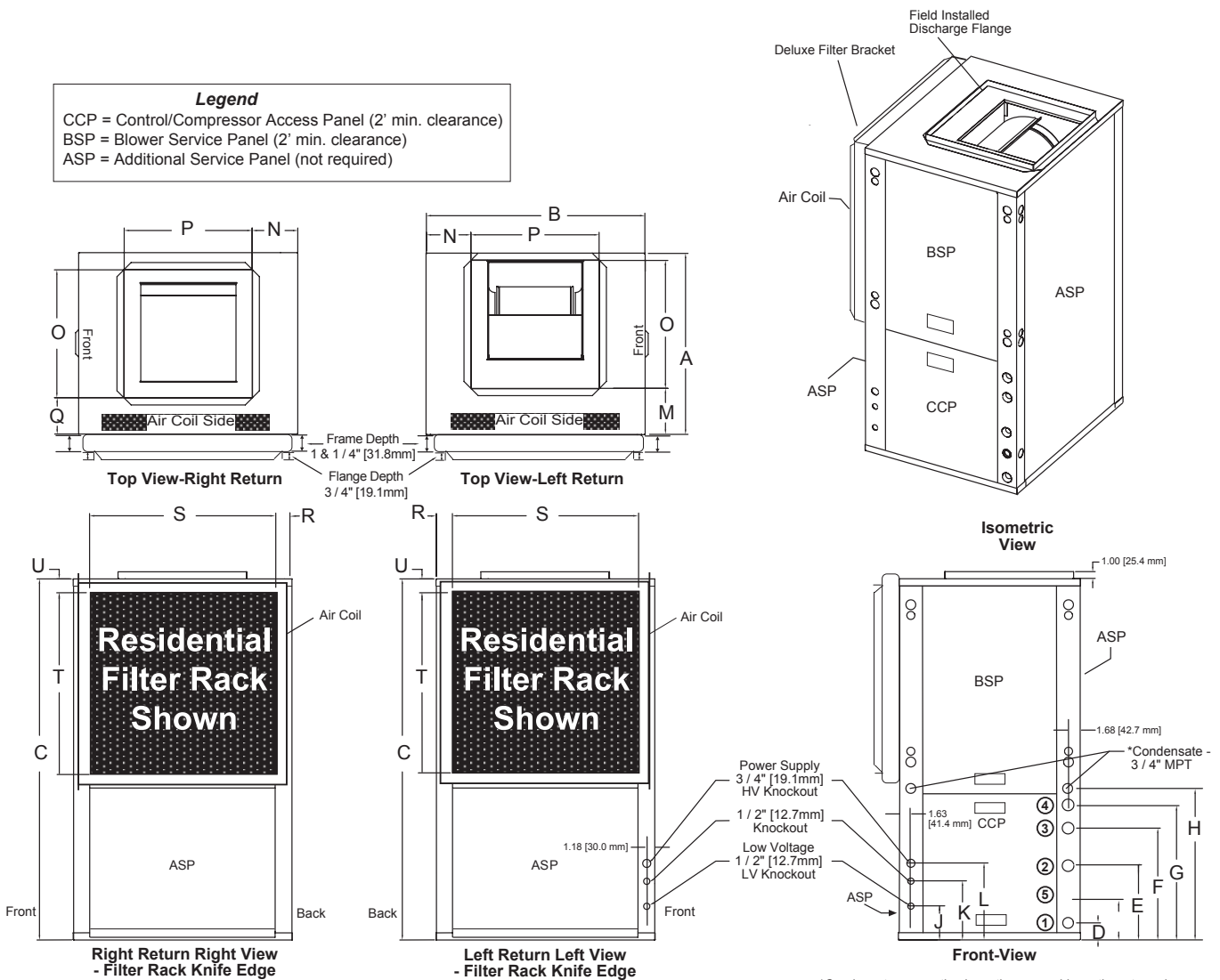
Condensate is 3/4" (1.9 cm) MPT.

Unit shipped with deluxe duct collar/filter frame extending from unit 2" [7.6cm] and is suitable for duct connection. Discharge flange is field installed.

# Dimensions — Vertical Upflow

Vertical Upflow Model		Discharge Connection Duct Flange Installed (+/- 0.20 in, +/- 5.1mm)					Return Connection Standard Deluxe Filter Frame (+/- 0.20 in, +/- 5.1mm)			
		M Left Return	N	O Supply Width	P Supply Depth	Q Right Return	R	S Return Depth	T Return Height	U
024 - 030	in cm	7.4 18.8	4.2 10.7	13.9 35.3	14.0 35.6	6.7 17.0	2.2 5.6	18.0 45.7	18.0 45.7	1.0 2.5
036 - 042	in cm	7.4 18.8	6.0 15.2	13.9 35.3	14.0 35.6	7.4 18.8	1.4 3.5	22.5 57.1	22.0 55.9	1.0 2.5
048 - 060	in cm	7.4 18.8	6.0 15.2	13.9 35.3	14.0 35.6	8.4 21.3	2.8 7.1	25.8 65.5	26.2 66.4	1.0 2.5

Auxiliary Electric Heaters are mounted externally and may change the discharge connection. Refer to the heater IOM for details.



Note: Provide 2' minimum clear access to the Control/Compressor Access Panel and the Blower Service Panel.

## Dimensions — Horizontal

Horizontal Model		Overall Cabinet		
		A Width	B Depth	C Height
024-030	in	22.5	48.3	18.2
	cm	57.1	122.9	46.2
036-042	in	22.5	53.3	21.2
	cm	57.1	135.4	53.8
048-060	in	25.4	68.0	21.2
	cm	64.5	172.7	53.8

Horizontal Model		Water Connections						
		1	2	3	4	5	Loop Water FPT	HWG FPT
		D In	E Out	F HWG IN	G HWG Out	H Condensate		
024 - 030	in	3.8	8.8	13.4	15.7	0.7	1"	1"
	cm	9.6	22.3	34.0	39.9	1.8		
036 - 042	in	3.8	8.8	15.2	18.5	0.7	1"	1"
	cm	9.6	22.3	38.6	47.0	1.8		
048 - 060	in	4.0	9.5	15.2	18.5	0.7	1"	1"
	cm	10.2	24.1	38.6	47.0	1.8		

Horizontal Model		Electrical Knockouts		
		J 1/2"	K 1/2"	L 3/4"
		Low Voltage	Low Voltage	Power Supply
024 - 060	in	4.6	6.1	7.6
	cm	11.7	15.5	19.3

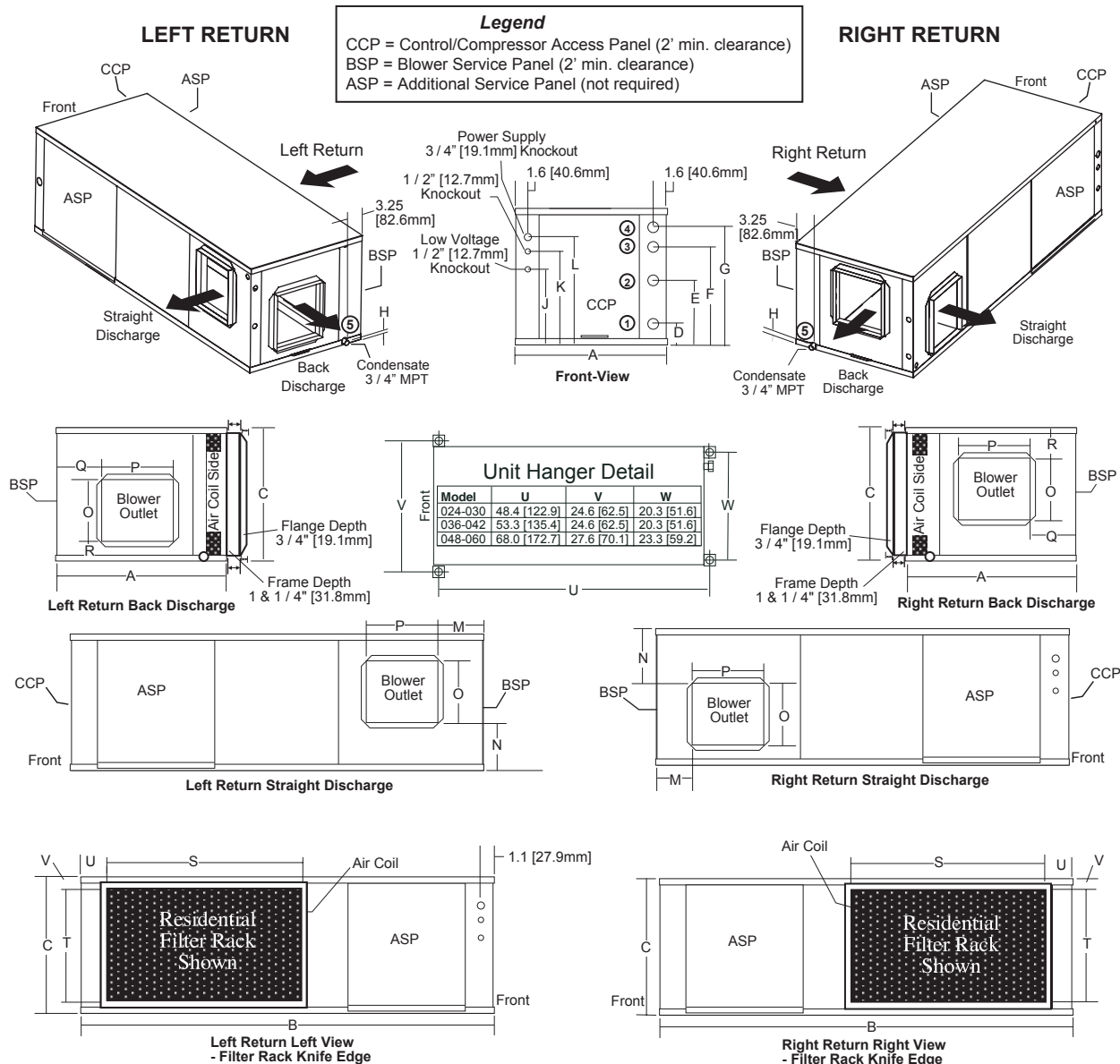
Condensate is 3/4" (1.9 cm) MPT.

Unit shipped with deluxe duct collar/filter frame extending from unit 2" [7.6cm] and is suitable for duct connection. Discharge flange and hanger brackets are factory installed.

# Dimensions — Horizontal

Horizontal Model		1 Discharge Connection Duct Flange Installed (+/- 0.20 in, +/- 5.1mm)						Return Connection Standard Deluxe Filter Frame (+/- 0.20 in, +/- 5.1mm)			
		M	N	O Supply Height	P Supply Width	Q	R	S Return Width	T Return Height	U	V
024 - 030	in	2.6	4.8	11.9	11.9	2.6	4.8	22.6	15.8	0.8	1.0
	cm	6.6	12.2	30.2	30.2	6.6	12.2	57.4	40.1	2.0	2.5
036 - 042	in	2.1	3.4	15.4	12.4	2.1	3.4	25.7	18	0.8	1.0
	cm	5.3	8.6	39.1	31.5	5.3	8.6	65.3	45.7	2.0	2.5
048 - 060	in	2.5	1.5	18.2	15.9	2.5	1.5	36	18	0.8	1.0
	cm	6.3	3.8	46.2	40.4	6.3	3.8	91.4	45.7	2.0	2.5

1 Discharge connection will change when using the accessory auxiliary electric heat package. Refer to the heater IOM for details.



Note: Provide 2' minimum clear access to the Control/Compressor Access Panel and the Blower Service Panel.

# Electrical Data

## With Internal Flow Controller

Model	Compressor			HWG Pump FLA	Int Loop Pump FLA	Fan Motor FLA	Total Unit FLA	Min Circuit Amps	Max Fuse/HACR
	RLA	LRA	Qty						
024	11.7	58.3	1	0.5	1.7	3.9	17.8	20.7	30
030	13.1	73.0	1	0.5	1.7	3.9	19.2	22.4	35
036	15.3	83.0	1	0.5	1.7	3.9	21.4	25.2	40
042	17.9	96.0	1	0.5	1.7	5.2	25.3	29.7	45
048	21.2	104.0	1	0.5	1.7	5.2	28.6	33.9	50
060	27.1	152.9	1	0.5	1.7	6.9	36.2	42.9	70

Rated Voltage of 208/230/60/1

Min/Max Voltage of 197/254

All fuses Class RK-5

## Without Internal Flow Controller

Model	Compressor			HWG Pump FLA	Fan Motor FLA	Total Unit FLA	Min Circuit Amps	Max Fuse/HACR
	RLA	LRA	Qty					
024	11.7	58.3	1	0.5	3.9	16.1	19.0	30
030	13.1	73.0	1	0.5	3.9	17.5	20.7	30
036	15.3	83.0	1	0.5	3.9	19.7	23.5	35
042	17.9	96.0	1	0.5	5.2	23.6	28.0	45
048	21.2	104.0	1	0.5	5.2	26.9	32.2	50
060	27.1	152.9	1	0.5	6.9	34.5	41.2	60

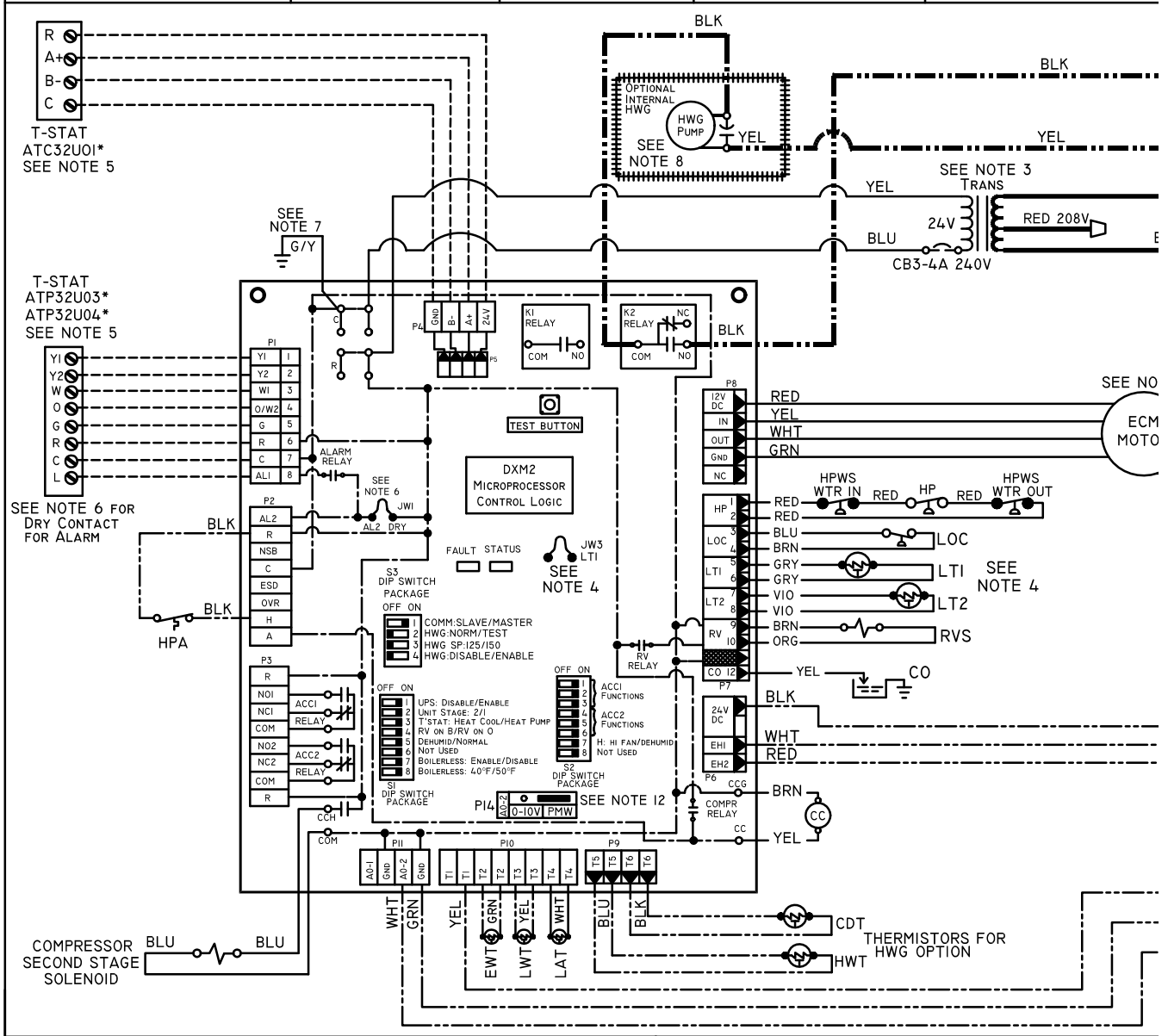
Rated Voltage of 208/230/60/1

Min/Max Voltage of 197/254

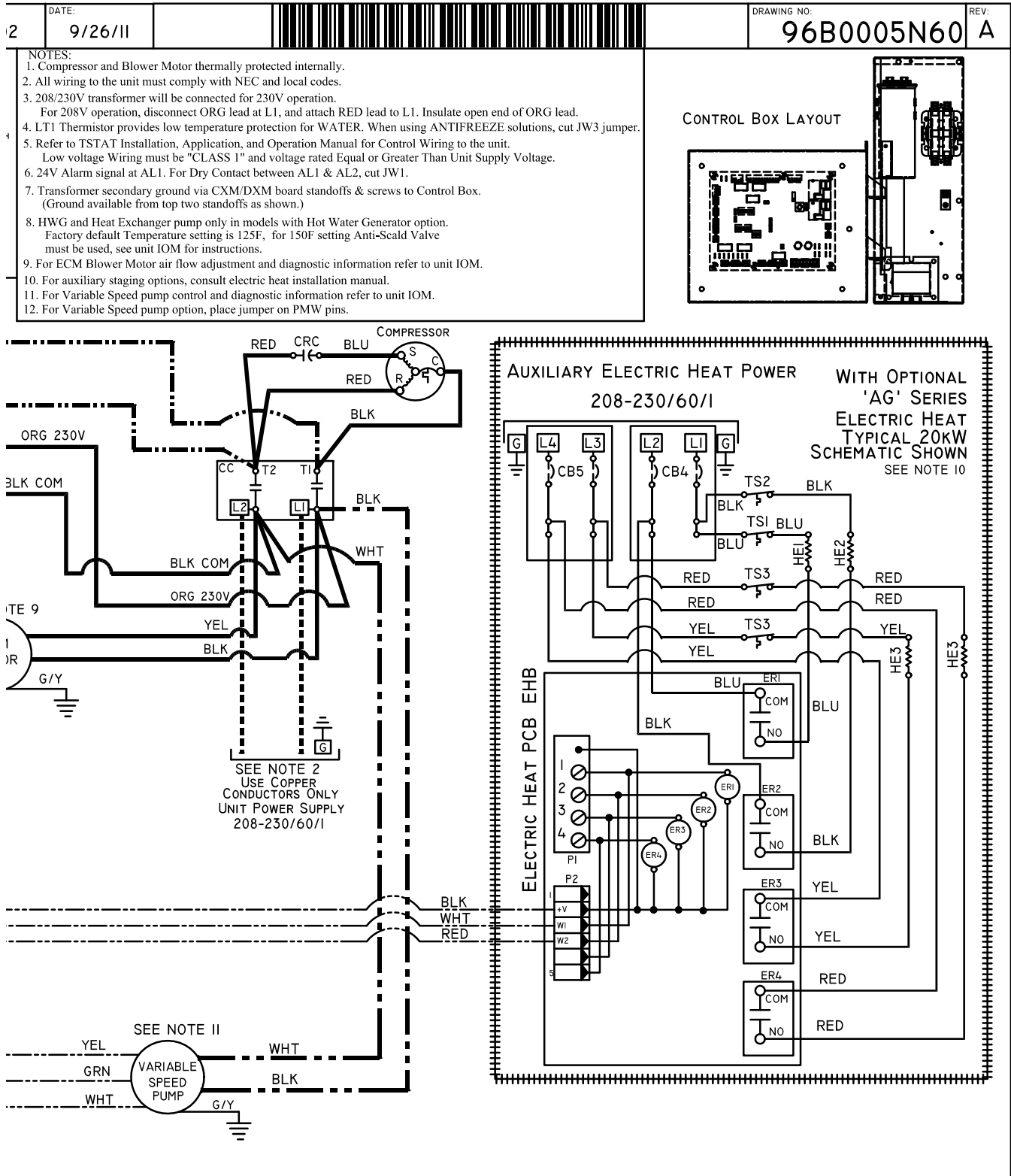


# Internal Flow Controller Electrical Wiring Diagram - 96B0005N60

TITLE: H/V 018-060 208-230/60/1 DXM2, ECM, HWG, IFC, RESIDENTIAL			PCN: II-050	
<b>LEGEND</b> ———— FACTORY LOW VOLTAGE WIRING ———— FACTORY LINE VOLTAGE WIRING - - - - - FIELD LOW VOLTAGE WIRING - - - - - FIELD LINE VOLTAGE WIRING ———— PRINTED CIRCUIT TRACE - - - - - OPTIONAL LOW VOLTAGE WIRING - - - - - OPTIONAL LINE VOLTAGE WIRING + + + + + OPTIONAL BOX	○ RELAY / CONTACTOR COIL ⊕ THERMISTOR ☐ CONDENSATE PAN ⊕ GROUND * OPTIONAL ⊕ WIRE NUT ⊕ SPLICE CAP □ LED	○ CIRCUIT BREAKER ⊕ SOLENOID COIL ⊕ RELAY CONTACTS - N.C. ⊕ RELAY CONTACTS - N.O. ⊕ CAPACITOR ⊕ TEMPERATURE SWITCH ⊕ LOW PRESSURE SWITCH ⊕ HIGH PRESSURE SWITCH	AL ALARM RELAY CONTACTS BM BLOWER MOTOR BMC BLOWER MOTOR CAPACITOR BR BLOWER RELAY />                 CRC COMPRESSOR RUN CAPACITOR CB CIRCUIT BREAKER CC COMPRESSOR CONTACTOR CDT COMPRESSOR DISCHARGE TEMPERATURE SENSOR CO CONDENSATE OVERFLOW SENSOR ER ELECTRIC HEAT RELAY HE HEATING ELEMENT HP HIGH PRESSURE SWITCH HPA HIGH PUMP AMBIENT TEMP SWITCH HPWS HIGH PRESSURE WATER SWITCH HWG HOT WATER GENERATOR	HWT HOT WATER GENERATOR ENTERING WATER TEMP SENSOR JW JUMPER WIRE JW JUMPER WIRE LAT LEAVING AIR TEMP SWITCH LOC LOSS OF CHARGE PRESSURE SWITCH LTI WATER COIL LOW TEMPERATURE PROTECTION SENSOR LT2 AIR COIL LOW TEMPERATURE PROTECTION SENSOR PB FIELD WIRING POWER BLOCK RV REVERSING VALVE TRANS TRANSFORMER



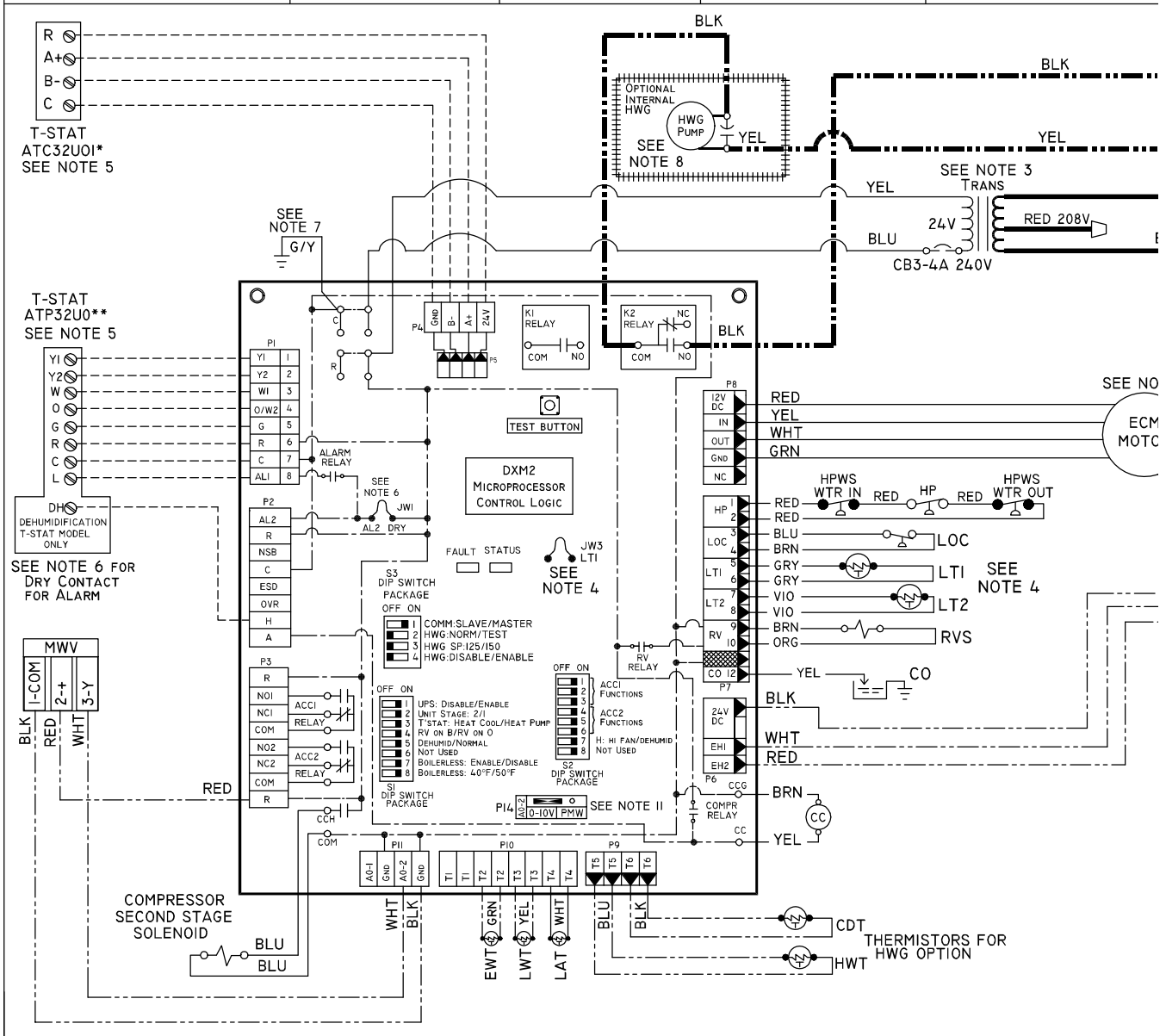
# Internal Flow Controller Electrical Wiring Diagram - 96B0005N60



# Modulating Water Valve Electrical Wiring Diagram - 96B0005N62

TITLE: H/V 018-060 208-230/60/1 DXM2, ECM, HWG, MWV, RESIDENTIAL FCN: 12-018

LEGEND		RELAY / CONTACTOR COIL		CIRCUIT BREAKER		AL		JW	
—	FACTORY LOW VOLTAGE WIRING		RELAY / CONTACTOR COIL		CIRCUIT BREAKER	AL	ALARM RELAY CONTACTS	JW	JUMPER WIRE
—	FACTORY LINE VOLTAGE WIRING		THERMISTOR		SOLENOID COIL	BM	BLOWER MOTOR	LAT	LEAVING AIR TEMP SENSOR
- - -	FIELD LOW VOLTAGE WIRING		CONDENSATE PAN		RELAY CONTACTS - N.C.	CRC	COMPRESSOR RUN CAPACITOR	LOC	LOSS OF CHARGE PRESSURE SWITCH
—	FIELD LINE VOLTAGE WIRING		GROUND		RELAY CONTACTS - N.O.	CB	CIRCUIT BREAKER	LT1	WATER COIL LOW TEMPERATURE PROTECTION SENSOR
—	PRINTED CIRCUIT TRACE		OPTIONAL		CAPACITOR	CC	COMPRESSOR CONTACTOR	LT2	AIR COIL LOW TEMPERATURE PROTECTION SENSOR
—	OPTIONAL LOW VOLTAGE WIRING		WIRE NUT		TEMPERATURE SWITCH	CDT	COMPRESSOR DISCHARGE TEMPERATURE SENSOR	MWV	MODULATING WATER VALVE
—	OPTIONAL LINE VOLTAGE WIRING		SPLICE CAP		LOW PRESSURE SWITCH	CO	CONDENSATE OVERFLOW SENSOR	RV	REVERSING VALVE
—	OPTIONAL BOX		LED		HIGH PRESSURE SWITCH	ER	ELECTRIC HEAT RELAY	TRANS	TRANSFORMER
						HE	HEATING ELEMENT		
						HP	HIGH PRESSURE SWITCH		
						HPWS	HIGH PRESSURE WATER SWITCH		
						HWG	HOT WATER GENERATOR		
						HWT	HOT WATER GENERATOR ENTERING WATER TEMP SENSOR		



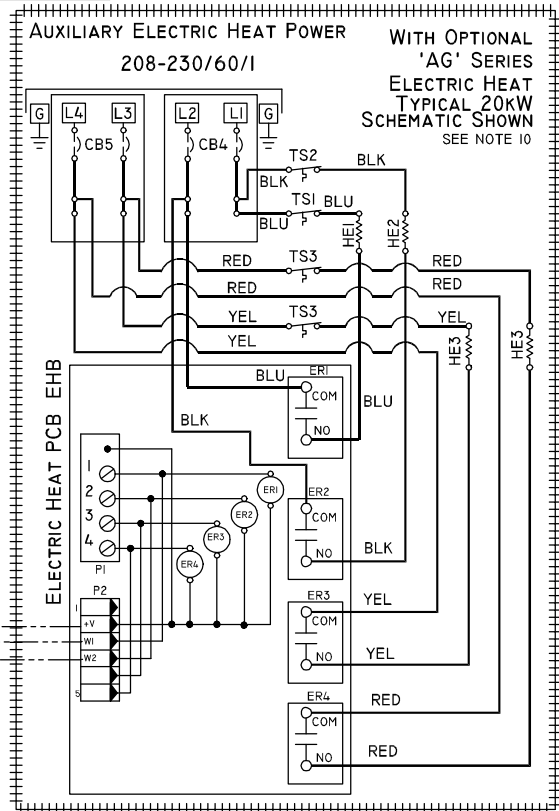
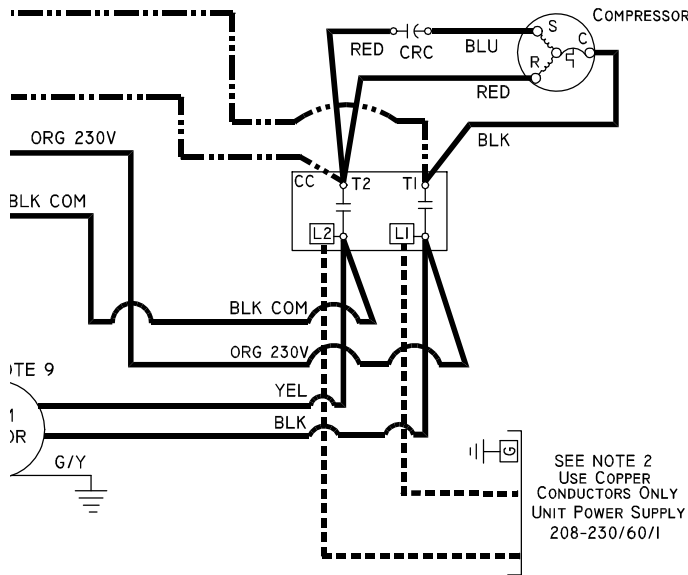
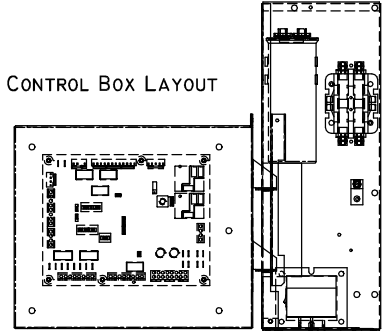
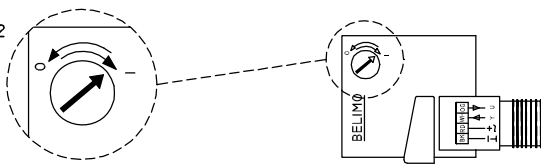
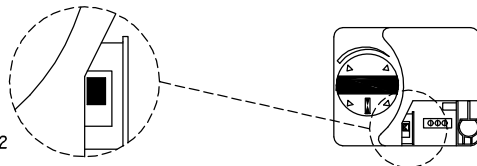
# Modulating Water Valve Electrical Wiring Diagram - 96B0005N62

8	DATE: 4/19/12		DRAWING NO: <b>96B0005N62</b>	REV: <b>C</b>
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**NOTES:**

1. Compressor and Blower Motor thermally protected internally.
2. All wiring to the unit must comply with NEC and local codes.
3. 208/230V transformer will be connected for 230V operation.  
For 208V operation, disconnect ORG lead at L1, and attach RED lead to L1. Insulate open end of ORG lead.
4. LT1 Thermistor provides low temperature protection for WATER. When using ANTIFREEZE solutions, cut JW3 jumper.
5. Refer to TSTAT Installation, Application, and Operation Manual for Control Wiring to the unit.  
Low voltage Wiring must be "CLASS 1" and voltage rated Equal or Greater Than Unit Supply Voltage.
6. 24V Alarm signal at AL1. For Dry Contact between AL1 & AL2, cut JW1.
7. Transformer secondary ground via CXM/DXM board standoffs & screws to Control Box.  
(Ground available from top two standoffs as shown.)
8. HWG and Heat Exchanger pump only in models with Hot Water Generator option.  
Factory default Temperature setting is 125F, for 150F setting Anti-Scald Valve must be used, see unit IOM for instructions.
9. For ECM Blower Motor air flow adjustment and diagnostic information refer to unit IOM.
10. For auxiliary staging options, consult electric heat installation manual.
11. For MWV option, place jumper on 0-10V pins.
12. For MWV option, ensure actuator direction switch is set as shown.

CONTROL BOX LAYOUT


 SEE  
NOTE 12

 SEE  
NOTE 12


## ECM Blower Control

The ECM fan is controlled directly by the DXM2 control board that converts thermostat inputs and CFM settings to signals used by the ECM motor controller. To take full advantage of the ECM motor features, a communicating multi-stage thermostat should be used (ATC32U\*\*).

The DXM2 control maintains a selectable operating airflow [CFM] for each heat pump operating mode. For each operating mode there are maximum and minimum airflow limits. See the ECM Blower Performance tables for the maximum, minimum, and default operating airflows.

Airflow levels are selected using the configuration menus of a communicating thermostat (ATC32U\*\*) or diagnostic tool (ACDU\*\*). The configuration menus allow the installer to independently select and adjust the operating airflow for each of the operating modes. Air flow can be selected in 25 CFM increments within the minimum and maximum limits shown in the ECM Blower Performance Table. The blower operating modes include:

- First Stage Cooling (Y1 & O)
- Second Stage Cooling (Y1, Y2, & O)
- First Stage Cooling in Dehumidification Mode (Y1, O, & Dehumid)
- Second Stage Cooling in Dehumidification Mode (Y1, Y2, O, & Dehumid)
- First Stage Heating (Y1)
- Second Stage Heating (Y1 & Y2)
- Third Stage (Auxiliary) Heating (Y1, Y2, & W)
- Emergency Heating (W with no Y1 or Y2)
- Fan (G with no Y1, Y2, or W)

It is highly recommended that ATC32U\*\* or ACDU\*\* be used to set dehumidification mode electronically. Dehumidification can **NOT** be selected when using a non-communicating thermostat with a VWF unit with Internal Flow Controller (pump). For dehumidification settings on other units using the non-communicating stat, refer to DXM2 AOM.

The ECM motor includes “soft start” and “ramp down” features. The soft start feature is a gentle increase of motor rpm at blower start up. This creates a much quieter blower start cycle.

The ramp down feature allows the blower to slowly decrease rpm to a full stop at the end of each blower cycle. This creates a much quieter end to each blower cycle and adds overall unit efficiency.

The ramp down feature is eliminated during an ESD (Emergency Shut Down) situation. When the DXM2 ESD input is activated, the blower and all other control outputs are immediately de-activated.

The ramp down feature (also known as the heating or cooling “Off Delay”) is field selectable by the installer. The allowable range is 0 to 255 seconds.

### Airflow Configuration Screen on Communicating Thermostat

AIRFLOW SELECTION	
HEAT STAGE 1	600
HEAT STAGE 2	750
AUXILIARY HEAT	850
EMERGENCY HEAT	850
COOL STAGE 1	525
COOL STAGE 2	700
COOL DEHUMID 1	425
COOL DEHUMID 2	550
CONTINUOUS FAN	350
HEAT OFF DELAY	60
COOL OFF DELAY	30
◀ PREVIOUS	NEXT ▶



# Blower Performance Data

Airflow in CFM with wet coil and clean air filter

Model	Max ESP (in. wg)	Fan Motor (hp)	Range	Cooling Mode		Dehumid Mode		Heating Mode		Fan Only Mode	Aux/ Emerg Mode
				Stg 2	Stg 1	Stg 2	Stg 1	Stg 2	Stg 1		
024	0.75	1/2	Default	750	575	650	500	750	575	350	750
			Maximum	850	650	800	600	850	850	850	850
			Minimum	600	450	600	450	600	450	300	650
030	0.5	1/2	Default	950	650	800	575	950	650	450	950
			Maximum	1100	750	1000	700	1100	1100	1100	1100
			Minimum	750	525	750	525	750	525	375	750
036	0.6	1/2	Default	1125	750	975	650	1125	750	525	1125
			Maximum	1250	950	1200	800	1250	1250	1250	1250
			Minimum	900	600	900	600	900	600	450	900
042	0.6	3/4	Default	1300	925	1125	825	1300	925	600	1300
			Maximum	1475	1100	1400	1000	1475	1475	1475	1475
			Minimum	1050	750	1050	750	1050	750	525	1050
048	0.75	3/4	Default	1500	1125	1300	975	1500	1125	700	1500
			Maximum	1700	1300	1600	1200	1700	1700	1700	1700
			Minimum	1200	900	1200	900	1200	900	600	1350
060	0.75	1	Default	1875	1500	1625	1300	1875	1500	875	1875
			Maximum	2100	1700	2000	1600	2100	2100	2100	2100
			Minimum	1500	1200	1500	1200	1500	1200	750	1500

Airflow is controlled within 5% up to the Max ESP shown with wet coil  
 Factory shipped on default CFM

## Auxiliary Electric Heat

### Auxiliary Heat Ratings

Auxiliary Electric Heat Model	HE Models			kW Rating		Btuh Rating		Minimum CFM Required
	024	030-042	048-060	240V	208V	240V	208V	
HGM4A/C				3.8	2.9	13000	9900	500
HGM5A/C				4.8	3.6	16300	12300	500
HGM8A/C				7.6	5.7	25900	19400	650
HGM10A/C				9.6	7.2	32700	24600	650
HGM12A/C				11.4	8.6	38900	29200	750
HGL10A/C				9.6	7.2	32700	24600	1300
HGL15A/C				14.4	10.8	49100	36900	1350
HGL20A/C				19.2	14.4	65500	49200	1350

Black area denotes compatibility  
 Note: Horizontal units rated for zero clearance unit and 1" clearance for the first three feet of duct, Vertical units rated for zero clearance for both unit and duct.

### Auxiliary Heat Electrical Data - Rev 'A' Heaters

Auxiliary Electric Heat Model	Supply Circuit	Heater Amps		Minimum Circuit Amps		Maximum Fuse	
		240V	208V	240V	208V	240V	208V
HGM4A	Single	15.8	14.0	19.8	17.1	20	20
HGM5A	Single	20.0	17.3	25.0	21.6	25	25
HGM8A	Single	31.7	27.5	39.6	34.4	40	35
HGM10A	Single	40.0	34.7	50.0	43.4	50	45
HGL10A	Single	40.0	34.7	50.0	43.4	50	45
HGM12A	Single	47.5	41.2	59.4	51.5	60	60
	Dual - L1/L2	31.7	27.5	39.6	34.4	40	35
	Dual - L3/L4	15.8	13.7	19.8	17.1	20	20
HGL15A	Single	60.0	52.0	75.0	65.0	80	70
	Dual - L1/L3	40.0	34.7	50.0	43.4	50	45
	Dual - L2/L4	20.0	17.3	25.0	21.6	25	25
HGL20A	Single	80.0	69.3	100.0	86.6	100	90
	Dual - L1/L3	40.0	34.7	50.0	43.4	50	45
	Dual - L2/L4	40.0	34.7	50.0	43.4	50	45

All heaters rated single phase 208/240V 60Hz  
 All Fuses UL Class K general purpose  
 All models 12kW or larger feature internal circuit breakers

# Accessories, Options, & Warranty

## Accessories & Options

### Hot Water Generator

An optional insulated heat reclaiming desuperheater coil of vented double-wall copper construction suitable for potable water shall be provided. The coil, hot water circulating pump, and associated controls shall be factory mounted inside the unit cabinet. Sensors mounted on the compressor discharge line and the potable water inlet shall transmit temperatures to the unit microprocessor where internal logic will determine when hot water generation is feasible. The microprocessor shall cycle the pump periodically during unit operation to sample the DHW tank temperature. The microprocessor shall include multiple temperature set points to select from for hot water generation control.

### Cupro-Nickel Heat Exchanger

An optional corrosion resistant CuNi coaxial heat exchanger shall be factory installed in lieu of standard copper construction.

### Thermostat (field installed)

An electronic communicating LCD thermostat shall be provided. The thermostat shall offer three stages of heating and two stages of cooling with precise temperature control and have a four-wire connection to the unit. The thermostat shall be capable of manual or automatic change-over operation and shall operate in standard or programmable mode. An integrated humidity control feature shall be included to control a humidifier and/or a dehumidifier. The thermostat shall include a utility demand reduction feature to be initiated by an independent time program or an external input.

The thermostat shall have a comprehensive installation setup menu to include configuration of the unit CFM for each mode of operation and configuration of the water flow rate through the unit, including variation of the water flow rate based on the stage of unit operation.

The thermostat shall display system faults with probable cause and troubleshooting guidance. Comprehensive service diagnostics menus shall display, system inputs, system outputs, configuration settings, Geo source inlet and outlet temperatures, compressor discharge line temperature, liquid line temperature, leaving air temperature, and entering potable water temperature (on units equipped with a Hot Water Generator). The thermostat shall allow for immediate manual control of all DXM2 outputs at the thermostat for rapid troubleshooting.

### Auxiliary Heater (field installed)

An external, field-installed electric heater shall provide supplemental and/or emergency heating capability when used with the three stage heating thermostat.

## Warranty Information

The 2010 standard warranty applies to units ordered on or after May 1, 2010. See Comfort-Aire/Century's 2010 Limited Express Residential Warranty Certificate RP851 for specific coverage and limitation.

MARS Comfort-Aire/Century residential class heat pumps are backed by a 12-year limited warranty on all unit parts, including the following accessories when installed with Comfort-Aire/Century units: Flow Controllers, Thermostats & Electric Heaters.

MARS Comfort-Aire/Century goes even further to back up its commitment to quality by including a service labor allowance for the first five years on unit parts and thermostats, auxiliary electric heaters and geothermal pumping modules with completed Start Up Form.

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## Notes

# Revision History

Date	Page #	Description
1 April, 16	8 and 9	Run test description
25 Aug., 15	10	Decoder Updated
22 May, 15	All	Miscellaneous Edits
24 Mar., 15	10	Decoder Updated
12 Jan., 15	45	Drawing Updated
17 Dec., 14	41	Table Updated
16 Oct., 14	All	Add No VWF Option
9 April, 14	29-32	Miscellaneous Updates to Physical Dimensional Data
17 Oct. 13	11	ISO Ratings Updated
12 Sept. 12	Various	Data Updated
29 Feb. 12	41	Added Submittal Data Page
24 Oct., 11	All	First Published



Due to ongoing product improvements, specifications and dimensions are subject to change and correction without notice or incurring obligations. Determining application and suitability for use of any product is the responsibility of the installer. Additionally, the installer is responsible for verifying dimensional data on the actual product prior to beginning any installation preparations.

Incentive and rebate programs have precise requirements as to product performance and certification. All products meet applicable regulations in effect on date of manufacture; however, certifications are not necessarily granted for the life of a product. Therefore, it is the responsibility of the applicant to determine whether a specific model qualifies for these incentive/rebate programs.

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