DAIKIN

Catalog 1105-23

Vertical Stack Water Source Heat Pumps

Model WVHF - Cabinet
Model WVHC - Chassis (Standard Range)
Model WVHW - Chassis (Geothermal Range)

Unit Sizes 009 – 036 • R-410A Refrigerant

Model VHF

Model VHC/VHW

AHRI CERTIFIED™ www.ahridirectory.org Water Source HP ANSI/AHRI/ASHRAE/ISO13256-1

C ETL LISTED US Intertek

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Note: *Text displayed in* ***Bold-Italics*** *designate standard offering.*

Category	Code Item	Code Option	Code Designation & Description *(Bold-Italic = Standard)*
Product Category	**1**	**1**	***W*** = ***Water Source Heat Pump***
Model Type	**2**	**2, 3, 4**	***VHC*** = ***Vertical Stacked Heat Pump Chassis***
			VHF = ***Vertical Stacked Heat Pump Cabinet***
			VHW = Vertical Stacked Geothermal Chassis only
Design Series	**3**	**5**	3 = 3rd Design
			4 = 4th Design (Size 015 only)
Unit Size	**4**	**6, 7, 8**	009 = 9,000 Btuh Nominal Cooling
			012 = 12,000 Btuh Nominal Cooling
			015 = 15,000 Btuh Nominal Cooling
			018 = 18,000 Btuh Nominal Cooling
			021 = 21,000 Btuh Nominal Cooling
			024 = 24,000 Btuh Nominal Cooling
			030 = 30,000 Btuh Nominal Cooling
			036 = 36,000 Btuh Nominal Cooling
Controls	**5**	**9**	***B*** = ***MicroTech III Unitary Controller - Standalone***
			C = Microtech III Unitary Controller w/LonWorks Comm Module
			D = Microtech III Unitary Controller w/BACnet Comm Module
			F = Microtech III Unitary Controller w/BACnet Comm Module - WSHP System
Voltage	**6**	**10**	A = 115/60/1
			E = ***208-230/60/1***
			J = 265-277/60/1
Secondary Drain Pan	**7**	**11, 12**	***GL*** = ***Standard Galvanized***
			SS = Stainless Steel - IAQ Option
			YY = None
Refrigerant	**8**	**13**	***A*** = ***R410A***
Motorized 2-way Isolation Valve	**9**	**14**	C = 2-Way Motorized 1/2" Iso-Valve, General Close-Off Pressure N.C. (Normally Closed)
			V = 2-Way Motorized 1/2" Iso-Valve, General Close-Off Pressure N.O. (Normally Open)
			H = 2-Way Motorized 1/2" Iso-Valve, High Close-Off Pressure N.C. (Normally Closed)
			D = 2-Way Motorized 3/4" Iso-Valve, General Close-Off Pressure N.C. (Normally Closed)
			K = 2-Way Motorized 3/4" Iso-Valve, General Close-Off Pressure N.O. (Normally Open)
			J = 2-Way Motorized 3/4" Iso-Valve, High Close-Off Pressure N.C. (Normally Closed)
			E = 3-Way Motorized 1/2" Iso-Valve, General Close-Off Pressure N.C. (Normally Closed)
			G = 3-Way Motorized 1/2" Iso-Valve, High Close-Off Pressure N.C. (Normally Closed)
			M = 3-Way Motorized 3/4" Iso-Valve, General Close-Off Pressure N.C. (Normally Closed)
			P = 3-Way Motorized 3/4" Iso-Valve, High Close-Off Pressure N.C. (Normally Closed)
			B = Auto-Reg-PT
			Y = None
Chassis Construction Type	**10**	**15**	A = 1/2" Fiberglass Skin Faced
			E = 3/8" Closed Cell Foam
Note:			Y = None
A compressor sound blanket is not recommended for units with a rotary compressor (Unit sizes 009-021)		**16**	M = Mass Plate & Compressor Blanket (Unit Sizes 024-036 Only)
			Y = None
			S = Mass Plate Only
		17	D = Corrosion Protection
			Y = None
Coaxial Heat Exchanger Construction	**11**	**18**	C = Copper Inner Tube - Steel Outer Shell
			S = Cupronickel Inner Tube - Steel Outer Shell
Discharge Air	**13**	**20**	B = Primary Supply - Back
			F = Primary Supply - Front
			L = Primary Supply - Left
			R = Primary Supply - Right
			T = Primary Supply - Top
			Y = None
		21	B = Secondary Supply - Back
			F = Secondary Supply - Front
			L = Secondary Supply - Left
			R = Secondary Supply - Right
			T = Secondary Supply - Top
			Y = None
		22	T = Tertiary - Top
Power Connection	**14**	**23**	F = Fused Disconnect with Wire Harness
			N = Non-Fused Disconnect with Wire Harness
			H = HACR Breaker

Note: *Text displayed in* ***Bold-Italics*** *designate standard offering.*

Category	Code Item	Code Option	Code Designation & Description *(Bold-Italic = Standard)*		
Blower Motor	**15**	**24, 25**	12	=	PSC Motor, 2-Speed Fan, T'stat Controlled
			13	=	PSC Motor, 2-Speed Fan Switch (Unit Mounted)
			22	=	High Static PSC Motor, 2-Speed Fan, T'stat Controlled (Sizes 015-018)
			23	=	High Static PSC Motor, 2-Speed Fan Switch (Unit Mounted - Sizes 015-018)
			34	=	EC Motor, 4-Position Fan Speed Selection Switch
Power & Control Access	**16**	**26**	***S***	***=***	***Side***
			T	=	Top
Flow Control	**17**	**27**	B	=	Auto Flow Regulator 1.5 GPM
			C	=	Auto Flow Regulator 2.0 GPM
			D	=	Auto Flow Regulator 2.5 GPM
			E	=	Auto Flow Regulator 3.0 GPM
			F	=	Auto Flow Regulator 3.5 GPM
			G	=	Auto Flow Regulator 4.0 GPM
			H	=	Auto Flow Regulator 4.5 GPM
			I	=	Auto Flow Regulator 5.0 GPM
			J	=	Auto Flow Regulator 5.5 GPM
			K	=	Auto Flow Regulator 6.0 GPM
			L	=	Auto Flow Regulator 7.0 GPM
			M	=	Auto Flow Regulator 8.0 GPM
			N	=	Auto Flow Regulator 9.0 GPM
			O	=	Auto Flow Regulator 10.5 GPM
			YY	=	None
		28	S	=	Strainer
Filter Type	**18**	**29**	***S***	***=***	***Standard 1" Fiberglass***
			Y	=	None
			M	=	1" Merv 8
			H	=	2" Merv 13
Cabinet Height	**19**	**30, 31, 32**	080	=	80" Cabinet Height
			088	=	88" Cabinet Height
			092	=	92" Cabinet Height
			096	=	96" Cabinet Height
			KDN	=	63.5" Cabinet (for ducted discharge applications only)
Cabinet Insulation	**20**	**33, 34**	AY	=	Standard 1/2" Fiberglass
			EY	=	3/8" Closed Cell Foam (IAQ)
			FY	=	1/2" Foil Faced
			YY	=	None
Riser Mounting	**21**	**35**	F	=	Factory Supplied Shipped with Cabinet - for Field Installation
			J	=	Factory Supplied Shipped Separate from Cabinet - for Field Installation
Riser Location	**22**	**36**	L	=	Left Cabinet Piping
			R	=	Right Cabinet Piping
			B	=	Back Cabinet Piping
Heating Options	**23**	**37**	H	=	Hot Water Coil
			Y	=	None
Heating Control Option		**38**	Y	=	None
		39	A	=	3-Way 1/2" Motorized Valve
			B	=	3-Way 3/4" Motorized Valve
			Y	=	None
Wireless T'Stat Option	**24**	**40**	N	=	Factory Installed Wireless RF Receiver with Non-Programmable Thermostat
			P	=	Factory Installed Wireless RF Receiver with 7-Day Programmable Thermostat
			Y	=	None
Factory Installed Subbase	**28**	**47**	2	=	2 Inch Subbase
			3	=	3 Inch Subbase
			4	=	4 Inch Subbase
			5	=	5 Inch Subbase
Packaging	**30**	**50**	1	=	Multipack Chassis or Single Crated Cabinet
			2	=	Multipack Cabinets - Multiple Cabinets on one pallet group

Water Loop - PSC & EC Motor

Rated in Accordance with ISO Standard 13256-1

In English (IP) Units				PSC Fan Motor				EC Fan Motor			
Vertical Stack				Cooling		Heating		Cooling		Heating	
				EWT 86°F		EWT 68°F		EWT 86°F		EWT 68°F	
Unit Size	Airflow CFM	Fluid Flow Rate GPM	Voltages	Capacity Btuh/hr	EER	Capacity Btuh/hr	COP	Capacity Btuh/hr	EER	Capacity Btuh/hr	COP
009	300	2.5	115-60-1	9,300	13.8	11,200	4.6	9,700	14.7	11,400	4.9
			208/230-60-1								
			265/277-60-1	9,200	12.8	11,900		9,300	12.2	11,900	4.6
012	400	3.0	115-60-1	11,700	12.8	14,500	4.3	12,000	13.4	14,400	4.3
			208/230-60-1				4.5		14.0		4.7
			265/277-60-1		12.2	15,000	4.4		13.1	14,900	4.5
015	500	3.5	208/230-60-1	14,400	13.5	18,300	4.8	14,300	15.0	18,200	5.1
			265/277-60-1	14,000	13.0	18,700			13.7	18,600	4.8
018	600	4.2	208/230-60-1	16,600	13.0	22,500	4.9	16,900	13.6	22,400	5.0
			265/277-60-1	17,500	13.2	23,200	4.8	17,700	13.8	22,900	4.9
021	700	5.4	208/230-60-1	20,300	13.9	24,400	4.8	20,500	14.5	24,100	4.8
			265/277-60-1	20,400		24,800	4.9	20,800	14.7	24,500	5.0
024	800	6.0	208/230-60-1	23,000	14.3	28,000	4.9	23,400	14.8	27,800	5.0
			265/277-60-1		13.4	28,500	4.7	23,300	13.8	28,200	4.9
030	1000	7.3	208/230-60-1	29,400	14.7	34,700	5.0	29,400	15.2	34,300	5.1
			265/277-60-1	29,100	14.4	33,900	4.7	29,100	14.9		5.0
036	1200	9.0	208/230-60-1	35,600	14.1	41,600	4.7	35,300	14.4	42,000	4.7
			265/277-60-1	35,400	13.8	41,900	4.6	35,100	13.9	42,300	4.6

1. *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) EAT and 86°F (30°C) EWT.*
2. *Heating capacity is based on 68°F db, 59.0°F wb (20/15°C) EAT and 68°F (20°C) EWT.*

Ground Loop - PSC & EC Motor

In English (IP) Units				PSC Fan Motor				EC Fan Motor			
Vertical Stack				Cooling		Heating		Cooling		Heating	
				EWT 77°F		EWT 32°F		EWT 77°F		EWT 32°F	
Unit Size	Airflow CFM	Fluid Flow Rate GPM	Voltages	Capacity Btuh/hr	EER	Capacity Btuh/hr	COP	Capacity Btuh/hr	EER	Capacity Btuh/hr	COP
009	300	2.5	115-60-1	9,700	15.8	7,000	3.2	9,800	16.8	6,900	3.2
			208/230-60-1								
			265/277-60-1	9,800	14.8	7,300	3.2	9,900	15.6	7,300	
012	400	3.0	115-60-1	12,400	14.7	9,100	3.2	12,500	15.7	9,100	3.3
			208/230-60-1								
			265/277-60-1		14.2	9,500			14.6	9,300	3.2
015	500	3.5	208/230-60-1	15,000	15.4	11,000	3.2	15,300	17.1	10,900	3.4
			265/277-60-1	14,600	14.7	11,400	3.3	14,800	16.1	11,200	
018	600	4.2	208/230-60-1	17,400	14.6	13,900	3.3	17,700	15.4	13,600	3.4
			265/277-60-1	18,600	15.3	14,300	3.3	18,800	16.1	14,100	
021	700	5.4	208/230-60-1	21,500	16.2	15,400	3.3	21,500	17.1	15,200	3.4
			265/277-60-1	21,800	16.4	15,600	3.4	21,800		15,400	3.5
024	800	6.0	208/230-60-1	24,000	16.0	16,600	3.3	24,800	17.2	16,400	3.4
			265/277-60-1	23,800	15.7	17,800	3.3	24,500	15.9	17,700	
030	1000	7.3	208/230-60-1	30,800	16.8	21,700	3.4	30,900	17.6	21,400	3.5
			265/277-60-1	30,400	16.3		3.3	30,500	16.7		3.4
036	1200	9.0	208/230-60-1	37,100	16.0	26,200	3.2	37,200	16.4	26,100	3.3
			265/277-60-1	36,600	15.5	27,500	3.3	36,700	15.6	27,500	3.4

1. *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) EAT and 77°F (25°C) EWT.*
2. *Heating capacity is based on 68°F db, 59.0°F wb (20/15°C) EAT and 32°F (0°C) EWT.*

Daikin Vertical Stack WSHP Models WVHC, WVHF and WVHW

Daikin Vertical Stack units are designed for use in multiple floor apartments, office buildings, hotels, nursing homes and other similar applications. They require a minimum amount of floor space and are designed for multiple discharge arrangements.

- Available in multiple unit sizes – 009 (3/4 ton, 2.6kW) through 036 (3 ton, 10.6kW)
- Units exceed ASHRAE 90.1 efficiency levels
- R-410A Refrigerant, environmentally friendly with zero ozone depletion potential

1 Compact cabinets

- Constructed of unpainted galvanized steel, with the smallest possible footprint. 18" × 18" cabinet for unit sizes 009 through 012, 18" × 20" for unit sizes 015 and 018 and 24" × 24" for unit sizes 021 through 036

2 Chassis

- Removable, allows staged installation and ease of service and routine maintenance

3 Motor/blower assembly

- The standard blower motor is a multi-speed, Permanent Split Capacitor (PSC) with thermal overload protection. The fan, motor and housing are easy to remove and slide out from the cabinet front. The fan and motor are attached to an orifice ring, and this assembly is mounted to the fan housing, easily removed should service be necessary.
- All units are available with a variable speed Electronically Commutated Motor (ECM), featuring 4-selectable CFM settings for quiet operation and reduced energy consumption. Perfect for sound sensitive spaces and controlling the amount of air delivery. Unit sizes 009-018 utilize a constant torque EC Motor and unit sizes 015 - 036 utilize a constant CFM EC Motor

EC motor

4 Supply air plenum

- Allows for multiple discharge air configurations. Supply air diffuser 1/2" foam seal field-furnished and installed

5 Compressors

- High efficiency rotary and scroll, available with optional mass plate and/or compressor blanket for quiet operation (unit sizes 024-036)

6 Chassis vibration isolators

- Isolators are integral to the chassis support rails to help minimize noise and vibration transmission resulting in a quiet occupied space

7 Microtech III control system

- Open Choices™ feature allows standalone or easy, low cost network integration using LonWorks® or BACnet® communications

8 Primary condensate drain pan

- Sloped and constructed of a corrosion resistant ABS plastic. The primary drain pan sits below the air coil to capture all condensate in cooling mode. A factory installed condensate overflow sensor disables unit operation when the condensate level reaches the sensor

9 LED annunciators

- LED status lights display fault conditions to provide easy troubleshooting and diagnosis. Viewable by opening the return air grille/panel

10 Secondary IAQ condensate drain pan

- Available as an option in corrosion resistant stainless steel or standard galvanized steel and sits below the chassis to prevent condensate or other liquids from dripping into the cabinet and possibly reaching the living space. This drain pan also includes a factory installed condensate overflow sensor

11 Condensate drain hose IAQ J-trap

- Formed, flexible condensate trap

12 Front-mounted disconnect switch

- Easy access disconnect switch allows the user to turn off power to the unit for service / maintenance

13 Two-speed fan switch (option)

- Convenient location of the fan speed switch allows for easy fan speed change (units with PSC motor)

14 Molex receptacle for thermostat or room sensor

- Provides easy plug-in connection of wall-mounted thermostat or room temperature sensor

15 4-Position fan speed selector switch

- Allows for manually setting an optimal fan speed specific to the application requirements (units with EC Motor)

Cabinet

The cabinet can be separated into two sections for ease of handling, this makes it easier to move the unit to the upper floors in a multi-story building.

Cabinet Insulation

The standard cabinet is lined with 1/2" thick dual-density fiberglass insulation. Foil-skin faced, dual density fiber-glass insulation is available as an option.

With the optional Indoor Air Quality (IAQ) insulation package, the cabinet is available with 3/8" thick closed-cell foam insulation.

Chassis Insulation

The standard chassis compressor compartment is lined with 1/2" thick dual-density fiberglass insulation.

In combination with the fiberglass options, a compressor compartment Sound Reduction Package option adds a compressor mass plate and for 024-036 units, an optional compressor sound blanket.

With the optional Indoor Air Quality (IAQ) insulation package, the chassis compressor compartment is available with 3/8" thick closed-cell foam insulation.

In combination with the Indoor Air Quality (IAQ) option, a compressor compartment Sound Reduction Package option adds a compressor mass plate and for 024-036 units, an optional compressor sound blanket.

Configurations

Figure 1: Single side discharge

Figure 2: Double side discharge

Figure 3: Side & top discharge

Figure 4: Double side & top discharge

Figure 5: Single discharge – top only

Figure 6: Closed plenum – field modification required

= Return Riser = Supply Riser = Drain

= Return Air = Discharge Air = Top Discharge

Note: *80" high cabinet not available with side discharge, top discharge only.*

Hinged Perimeter Return Air Panel Door

(See page 76 for details)

Constructed of heavy gauge steel, lined with insulation to help attenuate sound from the compressor and fan assembly. Magnetic latching clips ensure the panel door stays closed during operation. An optional dual locking feature is available. Available with electrostatic powder coat finish in colors of cupola white or antique ivory.

Louvered Return Air Panel Door with Optional Motorized Damper

(See page 76 for details)

The louvered return air panel door has (2) 1-5/8" x 7" cutouts available to connect ductwork for delivering outdoor air into the space using the optional motorized outdoor air damper. The optional motorized outdoor air damper mounts only on the hinge side of the door which is selectable as right or left hand. Available with electrostatic powder coat finish in colors of cupola white or antique ivory.

Supply Air Diffusers

(See page 74 for details)

Diffusers are constructed of aluminum with a mill finish or an optional painted finish, available in three variations: double deflection, double deflection with optional extension and double deflection with adjustable damper. Damper blades are positioned vertically and adjust easily for directing the unit discharge air.

Aluminum Diffuser with mill finish

Painted Diffuser (option)

Subbase Kit (Option)

An optional subbase is available in heights of 2", 3", 4" and 5" to accommodate interiors with higher baseboard mouldings.

TXV Refrigerant Metering Device

Vertical stack water source heat pump units include a thermal expansion valve for refrigerant metering. The Thermal Expansion Valve (TXV) allows the unit to operate at optimum efficiency with fluid temperatures ranging from 30ºF to 110ºF, and entering air temperatures ranging from 40ºF to 90ºF. The TXV precisely meters the exact amount of refrigerant flow through the system to meet the load and deliver rated heating and cooling capacity.

Fluid-to-Refrigerant Coil

The copper or cupronickel (optional) tube-in-tube coaxial heat exchanger used in vertical stack water source heat pumps are designed for maximum heat transfer at normal and low water flow rates with minimum pressure drop. The inside tube is deeply fluted to enhance heat transfer and minimize fouling. All coaxial coils are tested to 500 psig on the water side and 600 psig on the refrigerant side. The geothermal range (VHW) chassis has coil and piping insulation to protect against condensation in low-temperature geothermal applications.

Figure 7: Coaxial Heat Exchanger

2 & 3-Way Motorized Valves

2-way valves are used for variable pumping applications when more than one unit is installed on a common loop. These valves are also used to conserve water when used for ground water applications.

3-way valves are used for constant flow applications or installed at the end of a variable flow branch piping run to maintain minimum flow conditions.

On a call for cooling or heating the valve opens providing full water flow prior to compressor operation. A 24 volt control wire harness is included with the factory provided control valve option. One end of the wire harness plugs into terminal H8 on the MicroTech III unit controller and the other to the control valve actuator.

Hydronic Heat

The hydronic heat option helps to reduce energy consumption by using hot loop water temperatures to condition a space without energizing mechanical heating. Hydronic heat can help maximize heat transfer from rooms that require cooling to ones that require heating without the added cost of operating the compressor.

Variable flow pumping systems are recommended for these systems to further reduce energy consumption, while maintaining sufficient water flow during heating operation.

The unit includes a hydronic heating coil located downstream of the unit's evaporator coil and after the filter. When entering water temperatures are between 70° to 120°F, a 2-stage thermostat or room temperature sensor in conjunction with a factory-installed entering water temperature sensor and a 2-position 3-way diverting valve, determine when loop water can be diverted to the hydronic coil and the unit coax coil for hydronic heating. Smart fan controls further reduce energy consumption and sound levels by delivering optimum air flow during hydronic heat operation.

Corrosion Protection (Option)

Coils can be coated with an optional inorganic, silicon-based nano-ceramic coating. This coating has a 3,000 hour salt spray rating per ASTM B-117.

Filters

1" standard (factory provided) or an optional 1" Merv 8 or 2" Merv 13 for improved indoor air quality.

Stainless Steel Braided Hoses

Daikin sells a variety of flexible supply, return and condensate hoses and hose assemblies to connect the chassis water lines to the risers to complete a building's hard piping system.

See catalog 1196 for the complete hose and hose kit offering.

Figure 8: Flexible, steel braided supply and return hoses

Field Adjustable EC Fan Motor

EC motors are optional on units sizes 009 through 036. EC motors provide the ultimate in efficiency, performance flexibility with 4 field-selectable CFM settings and 28 programmed CFM values, helping to reduce sound levels and savings on operating energy. The factory installed fan speed selection switch allows for easy commissioning through a simple click of the switch to set the CFM delivered to the space. This allows for field adjustment of air delivery to the space for sound sensitive applications or for increased air distribution.

Unit Control

MicroTech® III Unit Controller

The MicroTech III controller is a microprocessor-based controller and is provided on every Vertical Stacked VHC/VHW unit. The controller monitors the safety devices to protect the unit from unsafe operating conditions, controls the reversing valve, compressor and fan operation for efficient unit operation. This controller also protects against freezing of the water to refrigerant and air to refrigerant heat exchanger as well as condensate overflow.

Safety Controls included as standard:

- High pressure switch located in the refrigerant discharge line.
- Low pressure switch located in the refrigerant suction line for loss of refrigerant charge protection.
- Low suction temperature sensor located in the compressor suction line to protect against coil freeze-up.
- Condensate overflow protection sensor is factory mounted in the drain pan of the unit.

The controller is accessible within the electrical control box through the bottom-front access panel.

For additional information on the MicroTech III controller, see OM 1149-x.

Each option features direct quick-connect wiring to all unit-controlled components for “clean” wiring inside the control box. Each control circuit board receives power from a 50 VA or optional 75 VA transformer. The main board can be wired for 24-volt AC output to the wall thermostat by using terminals R & C.

Controls Integration

For protocol information including, integration points list for LonWorks and BACnet networks, Refer to ED 15103

Three control choices are offered with the MicroTech III SmartSource unit control system:

- MicroTech III SmartSource unit controller (Standalone)
- MicroTech III SmartSource unit controller with LonWorks® communication module
- MicroTech III SmartSource unit controller with BACnet® communication module

MicroTech® III SmartSource Controller with LonWorks® Communication Module

Each Daikin water source heat pump can be equipped with a LonWorks communication module that is LonMark 3.4 certified. The controller is microprocessor-based and is designed to communicate over a LonWorks communications network. It can be factory or field-installed.

For installation details of the field-installed kit, "MicroTech III Water Source Heat Pump LonWorks Communication Module", refer to IM 927-x.

The unit controller is programmed and tested with all the logic required to monitor and control the unit. An optional wall sensor may be used with the communication module to provide limited local control of the Water Source Heat Pump. The unit controller monitors water and air temperatures and passes information to the communication module. The module communicates with the BAS, to provide network control of the Water Source Heat Pump.

The MicroTech III SmartSource unit controller with communication module includes a factory installed leaving water temperature sensor, field installed discharge air and return air temperature sensor. A Daikin wall-mounted temperature sensor may be used in place of the factory provided return air temperature sensor.

MicroTech III SmartSource Controller with BACnet® Communication Module

Daikin water source heat pumps are available with a BACnet MS/TP communication module that is designed to communicate over a BACnet MS/TP communications network to a building automation system (BAS). It can be factory or field-installed.

For installation details of the field-installed kit, "MicroTech III Water Source Heat Pump LonWorks Communication Module", refer to IM 956-x.

The unit controller is programmed and tested with all the logic required to monitor and control the unit. An optional wall sensor may be used with the communication module to provide limited local control of the water source heat pump. The unit controller monitors water and air temperatures and passes information to the communication module. The module communicates with the BAS, to provide network control of the water source heat pump.

The module makes operational data and commands available on a communications network using BACnet objects and properties:

- The network cable is a shielded twisted-pair cable
- Network communications run up to 76.8 Kbps
- DIP switches on the controller enable the MS/TP MAC address to be set in the range 0-127
- Four green status LEDs on the communication module indicate communication activity on the MS/TP communication network and with the unit controller

The MicroTech III SmartSource unit controller with communication module includes a factory installed leaving water temperature sensor, field installed discharge air and return air temperature sensor. A Daikin wall-mounted temperature sensor may be used in place of the factory provided return air temperature sensor.

Table 1: Thermostats & remote room sensors for standalone operation

Thermostats & Remote Sensors Used with MicroTech III –Standalone Operation		**Thermostats**						**Remote Room Sensor**		
		Programmable / Non-Programmable		**Non-Programmable**	**Programmable**	**Non-Programmable**	**Programmable**			
Standard		**Part #:** 910193126	**Part #:** 910193093	**Part #:** 668811201	**Part #:** 668811301	**Part #:** 910121746	**Part #:** 910121748	**Part #:** 667720401	**Part #:** 107096001	**Part #:** 107096010
Wi-Fi		**Part #:** 910193131	**Part #:** 910193130							
Feature								**Used With Thermostats**		
Display	Room Temp. & Setpoint	•	•	•	•	•	•	668811301, 910193093, 910193126, 910193130, 910193131		668811201, 910121746 & 910121748
Changeover	Manual	•	•	•	•	•	•			
	Automatic	•	•	•	•	•	•			
Stages	Heating	2	2	1	1	2	2			
	Cooling	2	2	1	1	2	2			
Fan Speed		Unit mounted	Remote Thermostat	Remote Ther-mostat	Remote Ther-mostat	Unit mounted	Unit mounted			
Operating Modes	System	Cool-Off-Heat-Auto"	Cool-Off-Heat-Auto"	Cool-Off-Heat-Auto"	Cool-Off-Heat-Auto"	Cool-Off-Heat-Auto"	Cool-Off-Heat-Auto"			
	Fan	On-Auto-Hourly	On-Auto-Hourly	On-Auto-Hourly	On-Auto-Hourly	On-Auto	On-Auto			
Annunciation	Status LED 5VDC			•	•	•	•			
	Alarm Fault LED 24 VAC	•	•	•	•	•	•			
Reset	Alarm	•	•	•	•	•	•			
	Override	•	•	•	•	•	•			
Remote Sensors	Indoor	•	•	•	•	•	•			
	Outdoor									
Application										
Electric Heat	Boilerless	•	•	•	•	•	•			
	Primary	•	•	•	•	•	•			
	Emergency	•	•	•	•	•	•			

Table 2: Room temperature sensors for BAS operation

Sensors Used With Vertical Stack Units – Building Automated System (BAS) Operation		Room Temperature Sensors			
		Digitally Adjustable	**Digitally Adjustable Display Sensor**	**Basic Room Sensor With Cool to Warm Adjust**	**Basic Room Sensor**
		With Temperature & Humidity Display for Smart Dehumidification or Waterside Economizer Operation	With Temperature Display, Indicates, ALARM, Over-ride and Occupancy.	Senses Temperature, With Temperature Adjust Cool to Warm, LED Status Indication, Override Reset Button	Senses Temperature, LED Status Indication, Override Reset Button
		Part No. 910121754	**Part No.** 910152147	**Part No.** 910171464	**Part No.** 910152149
Feature					
Setpoint Adjustment		Digitally Adjustable	Digitally Adjustable	Cool to Warm	None
Display	Room Temperature & Setpoint	●	●		
	Room Humidity & Setpoint	●			
Stages	Heating	4	4	4	4
	Cooling	3	3	3	3
Operating Modes	System	Heat-Cool-Auto-Off-Dehum			
	Fan	Auto-On			
	Occupancy	LCD Display of Occupied-Unoccupied Icon	LCD Display of Occupied-Unoccupied Icon		
Annunciation	Status LED	LCD Display of Unit Status	LCD Display of Unit Status	●	●
	LCD Alarm Display	●	●		
Reset	Alarm	●	●	●	●
	Setback Override	●	●	●	●
Application					
Hydronic Heat	–	●	●	●	●

Table 3: Room temperature sensors for BAS operation

Sensors Used With Vertical Stack Units – Building Automated System (BAS) Operation		Room Temperature Sensors			
		Adjustable Cool/Warm with Occupancy Switch	Adjustable 55°F to 95°F	Adjustable +/- 3ºF (+/- 1.5°C)	Basic Sensor
		Part No. 910121753	**Part No.** 669529101	**Part No.** 669529201	**Part No.** 669529001
Feature					
Setpoint Adjustment		Cool to Warm	55ºF to 95ºF (13º to 35ºC)	-3º to +3ºF (-1.5º to +1.5ºC	None
Display	Room Temperature & Setpoint				
	Room Humidity & Setpoint				
Stages	Heating	4	4	4	4
	Cooling	3	3	3	3
Operating Modes	System	Cool-Auto-Heat	Cool-Auto-Heat	Cool-Auto-Heat	
	Fan	Auto-On	Auto-On	Auto-On	
	Occupancy	Occ-Unoc-Off			
Annunciation	Status LED	●	●	●	●
	LCD Alarm Display				
Reset	Alarm	●	●	●	●
	Setback Override	●	●	●	●
Application					
Hydronic Heat	–	●	●	●	●

Wireless Temperature Control (T9000)

The T9000 Wireless Temperature Control is designed to provide precision temperature control without the installation labor and expense of wiring.

- Powered by AA batteries
- Mounts in any suitable location that will provide good temperature control.
- Large LCD display provides the user with current room temperature, set point temperature, time, program interval, and other system status information.

For detailed installation, operation refer to Operation & Maintenance Bulletin OM 897-x.

Programmable

Non-programmable

The second part of the T9000 system is called a Remote Control Node or “RCN”. An RCN interfaces with specific desired HVAC equipment, and communicates with its thermostat using unlicensed 900 MHz, radio frequency energy. At the time of installation, the T9000 thermostat is linked to one or more RCN controls. The thermostat and RCN that have been linked will not interfere with, or be affected by, any other thermostat or RCN in adjacent rooms, apartments, or neighboring homes.

Remote Control Node (RCN)

Used with the Wireless Temperature Control, the RCN interfaces with specific HVAC equipment, and communicates with its thermostat using unlicensed 900 MHz, radio frequency energy. Contact your local Daikin Representative for details.

Thermostats For Use With MicroTech III Standalone – Wiring

Programmable Electronic Thermostat 2 Heat/2 Cool, 7-Day Programmable, Auto Changeover, Hardwired – P/N 910193126 & Wi-Fi P/N 910193131

Notes: *Includes thermostat and wall plate Refer to IO manual 910193126.*

Programmable Electronic Thermostat 2 Heat/2 Cool, 7-Day Programmable, Auto Changeover, Hardwired – P/N 910193093 & Wi-Fi P/N 910193130

Notes: *Includes thermostat and wall plate Refer to IO manual 910193093.*

Non-Programmable Electronic Thermostat Hardwired – 1 Heat/1 Cool, Auto Changeover Fan Speed Control – P/N 668811201

Notes: *Includes thermostat and wall plate. Refer to IO manual 668811201.*
**When remote reset of a lockout condition is required at the wall thermostat, it will be necessary to utilize a conductor between terminal "O" on the wall thermostat to "TB1 terminal 4" on the MicroTech III unit controller (non-programmable stat only).*

Programmable Electronic Thermostat Hardwired – 1 Heat/1 Cool, Auto Changeover Fan Speed Control – P/N 668811301

Notes: *Includes thermostat and wall plate. Refer to IO manual 668811301.*

Non-Programmable Electronic Thermostat 2 Heat/2 Cool, Auto Changeover, Hardwired – P/N 910121746 & P/N 910121748

Notes: *Includes thermostat and wall plate. Refer to IO manuals 910121746 or 910121748.*
**When remote reset of a lockout condition is required at the wall thermostat, it will be necessary to utilize a conductor between terminal "O" on the wall thermostat to "TB1 terminal 4" on the MicroTech III unit controller (non-programmable stat only).*

Sensors Used With Vertical Stack Units – Building Automated System (BAS) Operation – Wiring

6-Button Digitally Adjustable Display Sensor – P/N 910121754

4-Button Digitally Adjustable Display Sensor – P/N 910152147

Cool/Warm Adjustable Sensor Wiring – P/N 910171464

Basic Sensor Wiring – P/N 910152149

Room Temperature Sensor – Adjustable Cool/ Warm With Occupancy Switch – P/N 910121753

Room Temperature Sensors Adjustable 55° to 95°F or +/- 3°F – P/N 669529101 Sensor +/- 3°F – P/N 669529201

Basic Sensor – P/N 669529001

Installation Considerations

Installation and maintenance must follow accepted industry practices as described in the ASHRAE Handbook, the National Electric Code, and other applicable standards. Install this equipment in accordance with regulations of authorities having jurisdiction and with all applicable codes.

Component Descriptions (Assembled Cabinet)

1. Cabinet assembly complete
   - **1a.** Pipe riser sets (supply, return and condensate)
   - **1b.** Inner front panel and filter bracket/filter
2. Cooling and heating chassis
3. Return air grille/panel
4. Double-deflection diffuser

NOTICE

Top air discharge units will require turning vanes and/or a volume damper for proper air flow and balancing, to minimize turbulence. These components must be field-installed and furnished in accordance with SMACNA guidelines.

Framing Locations and Dimensions

Location of framing around unit is critical for proper fit-up and will help reduce sound levels due to the transfer of vibration when properly installed.

Figure 9: Framing locations and dimensions

Table 4: Letter dimensions for Figure 9 (18" x 18" unit)

Dimension	Framing Locations			
	18" × 18" Unit - Sizes 009-012			
	Unit Height "A"			
	80"	88"	92"	96"
B	14"			
C	2.07"			
D	5.75"			
E[1]	22.25"			
F	58.75"			
G[2]	60.75"	68.75"	72.75"	76.75"
H[2]	78.75"	86.75"	90.75"	94.75"
J	3.125"			
K[3, 4]	3.125" Min./Max. (See Note 4 exception)			

Table 5: Letter dimensions for Figure 9 (18" x 20" unit)

Dimension	Framing Locations			
	18" × 20" Unit - Sizes 015 & 018			
	Unit Height "A"			
	80"	88"	92"	96"
B	14"			
C	2.07"			
D	5.75"			
E[1]	22.25"			
F	58.75"			
G[2]	60.75"	68.75"	72.75"	76.75"
H[2]	78.75"	86.75"	90.75"	94.75"
J	3.125"			
K[3, 4]	3.125" Min./Max. (See Note 4 exception)			

Table 6: Letter dimensions for Figure 9 (24" x 24" unit)

Dimension	Framing Locations			
	24" × 24" Unit - Sizes 021-036			
	Unit Height "A"			
	80"	88"	92"	96"
B	18"			
C	2.125"			
D	5.75"			
E[1]	28.25"			
F	58.75"			
G[2]	62.75"	70.75"	74.75"	78.75"
H[2]	78.75"	86.75"	90.75"	94.75"
J	4.54"			
K[3, 4]	3.125" Min./Max. (See Note 4 exception)			

Notes: *1 Dimension "E" ± 0.125*

2 Dimension "G" and "H" will vary based on cabinet height selected and choice of upper or lower discharge knockout. Refer to page 66 through page 70.

3 Dimension "K" is critical, and that it be no more or no less than 3.125" from the finished wall surface to the front of the unit when using the hinged perimeter return air panel door or the louvered return air panel door. Refer to page 76.

4 Add 1" to dimension "K" when a 2", Merv 13 filter is used.

Vertical Riser Stub-Outs Locations to Unit Knockouts

Figure 10: Riser stub-outs knockouts locations

Table 7: Letter dimensions for Figure 10 (18" x 18" unit)

Dimension	Riser Stub-Outs Locations				
	18" × 18" Unit (Sizes 009-012)				
	Unit Height				
	63.5"	80"	88"	92"	96"
L	3.3"				
M	7.9"				
N	12.4"				

Table 8: Letter dimensions for Figure 10 (18" x 20" unit)

Dimension	Riser Stub-Outs Locations				
	18" × 20" Unit (Sizes 015-018)				
	Unit Height				
	63.5"	80"	88"	92"	96"
L	3.3"				
M	7.9"				
N	12.4"				

Table 9: Letter dimensions for Figure 10 (24" x 24" unit)

Dimension	Riser Stub-Outs Locations				
	24" × 24" Unit (Sizes 021-036)				
	Unit Height				
	63.5"	80"	88"	92"	96"
L	3.13"				
M	7.63"				
N	12.13"				

Receiving and Storage

Upon receipt of the equipment, check the carton and pallets for visible damage. Make a notation on the shipper's delivery ticket before signing. If there is any evidence of rough handling, immediately open the cartons to check for concealed damage. If any damage is found, notify the carrier within 48 hours to establish your claim and request their inspection and a report. The Warranty Claims Department should then be contacted.

Cabinet Stacking (1 unit per crate)

Do not stack over three crates high at any time during transportation or storage.

Chassis (4 per skid)

Do not stack over two skid high at any time during transportation or storage. For storing, each carton is marked with "up" arrows.

Table 10: Short stack 63.5" cabinet without factory attached risers - overall shipping dimensions (4-pack dimensions shown)

Unit Size	Overall Dimensions
009-012	42-5/8" x 45-1/2" x 67-5/8"
015-018	46-5/8" x 46-3/8" x 67-5/8"
021-036	54-5/8" x 57-1/2" x 67-5/8"

Note: *63.5" high cabinets ship from 1 to 4 per skid, vertically, similar to the chassis's as shown above.*

Storage and Operating Environment

Temporary storage at the job site must be indoor, completely sheltered from rain, snow, etc. Units should not be installed in environments that fall below freezing or exceed 140°F ambient.

Table 11: Standard height cabinets - overall packaging dimensions

Unit Size		Cabinet Size		
		18 x 18	**18 x 20**	**24 x 24**
009-012	**With Risers**[1]	21"W x 29"H x 91.50" to 124.50"L	–	–
	Without Risers	21"W x 27"H x 91.50" to 107.50"L	–	–
015-018	**With Risers**[1]	_	21"W x 31"H x 91.50" to 124.50"L	–
	Without Risers	_	21"W x 29"H x 91.50" to 107.50"L	–
021-036	**With Risers**[1]	_	–	27"W x 35"H x 91.50" to 124.50"L
	Without Risers	_	–	27"W x 23"H x 91.50" to 107.50"L

Note: *See "Physical Data" on page 66 for shipping weights.*
[1] Risers are factory supplied with cabinet for field installation

Unit Selection

Achieving optimal performance with water source heat pump systems requires both accurate system design and proper equipment selection. Use a building load program to determine the heating and cooling loads of each zone prior to making equipment selections. With this information, the Daikin SelectTools™ software selection program for Water Source Heat Pumps can be used to provide fast, accurate and complete selections of all Daikin water source heat pump products. SelectTools software is available by contacting your local Daikin Representative.

While we recommend that you use Daikin SelectTools software for all unit selections, manual selections can be accomplished using the same zone load information and the capacity tables available in this catalog.

Boiler / Tower Application Manual Selections:

The following example illustrates a typical selection for a zone in a boiler/tower system for a commercial building.

A building load program determines that this zone needs 20,900 Btuh of total cooling, 16,800 Btuh of sensible cooling and 26,600 Btuh of total heating. The water temperatures for the boiler/tower system are 90°F for cooling and 70ºF for heating. The return air temperature is 80°F dry bulb with 67°F wet bulb for cooling and 70°F for heating.

Zone requirements:

Total Cooling Load	=	20,900 Btuh
Sensible Cooling Load	=	16,800 Btuh
Total Heating Load	=	26,60 Btuh
Air Flow Required	=	700 CFM
Return Air Cooling	=	80°F DB/ 67°F WB
Return Air - Heating	=	70°F DB

Since a Daikin Model VHC 024 produces approximately 24,000 Btuh of cooling, it is not sufficient for this zone and a model VHC 021 should be considered. Remember, it is always better to undersize slightly for best performance. A Daikin Model VHC is chosen because it is specifically designed for a boiler/tower application. Typical water flow rate for boiler/tower applications is 2.5 GPM per ton and in this example no antifreeze is used.

Selection:

Model VHC 021 (Boiler / Tower model)

Total Cooling Capacity @ 90° EWT	=	20,923 Btuh
Sensible cooling capacity @ 90° EWT	=	16,688 Btuh
Total Heating Capacity @ 70° EWT	=	26,693 Btuh
CFM	=	700 @ .1 ESP (Wet Coil)
Water Flow required to meet capacity	=	5 GPM
Water Pressure drop	=	4.6 (FT. H2O)
Final Selection	=	VHC 021

Size 009 (300 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	1.5	1.5	2.1	65/55						5600	0.579	3600	82	2.83
				70/59						5500	0.607	3400	87	2.65
				75/63						5400	0.635	3200	92	2.49
				80/67						5400	0.662	3100	97	2.39
				85/71										
	2.5	2.3	4.5	65/55						5600	0.581	3600	82	2.82
				70/59						5600	0.608	3500	87	2.70
				75/63						5500	0.636	3300	92	2.53
				80/67						5400	0.664	3100	97	2.38
				85/71										
	3.0	3.0	7.7	65/55						5700	0.582	3700	82	2.87
				70/59						5600	0.610	3500	87	2.69
				75/63						5600	0.638	3400	92	2.57
				80/67						5500	0.666	3200	97	2.42
				85/71										
30	2.0	1.5	2.1	65/55						6800	0.599	4800	86	3.32
				70/59	10700	7400	0.356	11900	30.1	6700	0.627	4600	91	3.13
				75/63	11300	7600	0.362	12500	31.2	6600	0.655	4400	95	2.95
				80/67	11900	7800	0.368	13200	32.3	6600	0.682	4300	100	2.83
				85/71	12500	8000	0.375	13800	33.3					
	2.5	2.3	4.4	65/55	10200	7200	0.349	11400	29.2	6800	0.601	4700	86	3.31
				70/59	10800	7400	0.355	12000	30.4	6800	0.628	4700	91	3.17
				75/63	11300	7600	0.361	12500	31.3	6700	0.656	4500	96	2.99
				80/67	11900	7800	0.367	13200	32.4	6700	0.684	4400	101	2.87
				85/71	12500	8000	0.373	13800	33.5					
	3.0	3.0	7.5	65/55	10200	7200	0.348	11400	29.3	6900	0.602	4800	86	3.36
				70/59	10800	7400	0.354	12000	30.5	6900	0.630	4700	91	3.21
				75/63	11300	7600	0.360	12500	31.4	6800	0.658	4600	96	3.03
				80/67	11900	7800	0.366	13100	32.5	6700	0.685	4400	101	2.86
				85/71	12500	8000	0.372	13800	33.6					
40	2.0	1.5	2.0	65/55	9900	7000	0.373	11200	26.5	8000	0.618	5900	90	3.79
				70/59	10500	7100	0.379	11800	27.7	7900	0.645	5700	94	3.59
				75/63	11100	7300	0.385	12400	28.8	7800	0.673	5500	99	3.39
				80/67	11700	7500	0.391	13000	29.9	7800	0.701	5400	104	3.26
				85/71	12300	7700	0.397	13700	31.0					
	2.5	2.3	4.3	65/55	10000	7000	0.372	11300	26.9	8000	0.619	5900	90	3.78
				70/59	10500	7200	0.378	11800	27.8	8000	0.647	5800	95	3.62
				75/63	11100	7300	0.384	12400	28.9	7900	0.675	5600	99	3.43
				80/67	11700	7500	0.390	13000	30.0	7900	0.703	5500	104	3.29
				85/71	12300	7700	0.396	13700	31.1					
	3.0	3.0	7.3	65/55	10000	7000	0.370	11300	27.0	8100	0.621	6000	90	3.82
				70/59	10500	7200	0.377	11800	27.9	8100	0.649	5900	95	3.65
				75/63	11100	7300	0.383	12400	29.0	8000	0.676	5700	100	3.47
				80/67	11700	7500	0.389	13000	30.1	7900	0.704	5500	104	3.29
				85/71	12300	7700	0.395	13600	31.1					
50	2.0	1.5	2.0	65/55	9600	6700	0.406	11000	23.6	9100	0.635	6900	93	4.20
				70/59	10200	6900	0.412	11600	24.8	9100	0.663	6800	98	4.02
				75/63	10800	7100	0.418	12200	25.8	9000	0.691	6600	103	3.81
				80/67	11400	7200	0.424	12800	26.9	8900	0.718	6400	107	3.63
				85/71	12000	7400	0.430	13500	27.9					
	2.5	2.3	4.2	65/55	9700	6700	0.405	11100	24.0	9200	0.637	7000	93	4.23
				70/59	10200	6900	0.411	11600	24.8	9100	0.664	6800	98	4.01
				75/63	10800	7100	0.417	12200	25.9	9100	0.692	6700	103	3.85
				80/67	11400	7200	0.423	12800	27.0	9000	0.720	6500	108	3.66
				85/71	12000	7400	0.429	13500	28.0					
	3.0	3.0	7.1	65/55	9700	6700	0.404	11100	24.0	9300	0.638	7100	94	4.27
				70/59	10200	6900	0.410	11600	24.9	9200	0.666	6900	98	4.04
				75/63	10800	7100	0.416	12200	26.0	9200	0.694	6800	103	3.88
				80/67	11400	7200	0.422	12800	27.0	9100	0.722	6600	108	3.69
				85/71	12000	7400	0.428	13500	28.0					
60	2.0	1.5	1.9	65/55	9200	6400	0.450	10700	20.4	10300	0.651	8100	97	4.63
				70/59	9800	6600	0.456	11400	21.5	10200	0.679	7900	101	4.40
				75/63	10400	6800	0.462	12000	22.5	10200	0.707	7800	106	4.22
				80/67	11000	7000	0.468	12600	23.5	10100	0.735	7600	111	4.02
				85/71	11500	7100	0.474	13100	24.3					
	2.5	2.3	4.1	65/55	9200	6400	0.449	10700	20.5	10400	0.653	8200	97	4.66
				70/59	9800	6600	0.455	11400	21.5	10300	0.681	8000	102	4.43
				75/63	10400	6800	0.461	12000	22.6	10200	0.708	7800	106	4.22
				80/67	11000	7000	0.467	12600	23.6	10200	0.736	7700	111	4.06
				85/71	11600	7200	0.473	13200	24.5					
	3.0	3.0	6.9	65/55	9200	6400	0.448	10700	20.5	10400	0.654	8200	97	4.66
				70/59	9800	6600	0.454	11300	21.6	10400	0.682	8100	102	4.47
				75/63	10400	6800	0.460	12000	22.6	10300	0.710	7900	107	4.25
				80/67	11000	7000	0.466	12600	23.6	10300	0.738	7800	112	4.09
				85/71	11600	7200	0.472	13200	24.6					

Gray tint = Operation Not Recommended

Note: *All capacity data at full load*

Size 009 (300 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	1.5	1.9	4.3	65/55	8700	6100	0.505	10400	17.2	11400	0.666	9100	100	5.01
				70/59	9300	6300	0.511	11000	18.2	11300	0.694	8900	105	4.77
				75/63	9800	6500	0.517	11600	19.0	11300	0.722	8800	110	4.58
				80/67	10400	6700	0.523	12200	19.9	11200	0.750	8600	114	4.37
				85/71	11000	6900	0.529	12800	20.8					
	2.3	4.0	9.1	65/55	8700	6100	0.504	10400	17.3	11500	0.668	9200	100	5.04
				70/59	9300	6300	0.510	11000	18.2	11400	0.696	9000	105	4.80
				75/63	9800	6500	0.516	11600	19.0	11400	0.723	8900	110	4.62
				80/67	10400	6700	0.522	12200	19.9	11300	0.751	8700	115	4.41
				85/71	11000	6900	0.528	12800	20.8					
	3.0	6.8	15.4	65/55	8700	6100	0.503	10400	17.3	11600	0.669	9300	101	5.08
				70/59	9300	6300	0.509	11000	18.3	11500	0.697	9100	105	4.83
				75/63	9900	6500	0.515	11700	19.2	11400	0.725	8900	110	4.60
				80/67	10400	6700	0.521	12200	20.0	11400	0.753	8800	115	4.43
				85/71	11000	6900	0.527	12800	20.9					
80	1.5	1.8	4.2	65/55	8000	5900	0.571	9900	14.0	12500	0.680	10200	103	5.38
				70/59	8600	6100	0.577	10600	14.9	12400	0.708	10000	108	5.13
				75/63	9200	6300	0.583	11200	15.8	12400	0.736	9900	113	4.93
				80/67	9800	6500	0.590	11800	16.6	12300	0.763	9700	118	4.72
				85/71	10400	6700	0.596	12400	17.4					
	2.3	3.9	8.9	65/55	8100	5900	0.570	10000	14.2	12600	0.682	10300	104	5.41
				70/59	8600	6100	0.576	10600	14.9	12500	0.709	10100	108	5.16
				75/63	9200	6300	0.582	11200	15.8	12400	0.737	9900	113	4.93
				80/67	9800	6500	0.588	11800	16.7	12400	0.765	9800	118	4.75
				85/71	10400	6700	0.594	12400	17.5					
	3.0	6.6	15.1	65/55	8100	5900	0.569	10000	14.2	12700	0.683	10400	104	5.44
				70/59	8600	6100	0.575	10600	15.0	12600	0.711	10200	109	5.19
				75/63	9200	6300	0.581	11200	15.8	12500	0.739	10000	113	4.95
				80/67	9800	6500	0.587	11800	16.7	12500	0.766	9900	118	4.78
				85/71	10400	6700	0.593	12400	17.5					
90	1.5	1.8	4.1	65/55	7400	5600	0.649	9600	11.4	13600	0.692	11200	107	5.75
				70/59	8000	5800	0.655	10200	12.2	13500	0.720	11000	111	5.49
				75/63	8600	6000	0.661	10900	13.0	13400	0.748	10800	116	5.25
				80/67	9100	6200	0.667	11400	13.6	13400	0.776	10800	121	5.06
				85/71	9700	6400	0.673	12000	14.4					
	2.3	3.8	8.7	65/55	7400	5700	0.647	9600	11.4	13600	0.694	11200	107	5.74
				70/59	8000	5800	0.653	10200	12.3	13600	0.722	11100	112	5.52
				75/63	8600	6000	0.659	10800	13.1	13500	0.750	10900	116	5.27
				80/67	9200	6200	0.666	11500	13.8	13500	0.777	10800	121	5.09
				85/71	9700	6400	0.672	12000	14.4					
	3.0	6.5	14.9	65/55	7400	5700	0.646	9600	11.5	13700	0.696	11300	107	5.76
				70/59	8000	5800	0.652	10200	12.3	13700	0.723	11200	112	5.55
				75/63	8600	6000	0.658	10800	13.1	13600	0.751	11000	117	5.30
				80/67	9200	6200	0.664	11500	13.9	13500	0.779	10800	121	5.07
				85/71	9700	6400	0.670	12000	14.5					
100	1.5	1.8	4.1	65/55	6800	5400	0.737	9300	9.2					
				70/59	7400	5600	0.743	9900	10.0					
				75/63	8000	5800	0.749	10600	10.7					
				80/67	8500	5900	0.755	11100	11.3					
				85/71	9100	6100	0.761	11700	12.0					
	2.3	3.8	8.6	65/55	6800	5400	0.735	9300	9.3					
				70/59	7400	5600	0.742	9900	10.0					
				75/63	8000	5800	0.748	10600	10.7					
				80/67	8600	6000	0.754	11200	11.4					
				85/71	9100	6100	0.760	11700	12.0					
	3.0	6.4	14.7	65/55	6800	5400	0.734	9300	9.3					
				70/59	7400	5600	0.740	9900	10.0					
				75/63	8000	5800	0.746	10500	10.7					
				80/67	8600	6000	0.752	11200	11.4					
				85/71	9100	6100	0.759	11700	12.0					
110	1.5	1.8	4.0	65/55	6300	5100	0.836	9200	7.5					
				70/59	6800	5300	0.842	9700	8.1					
				75/63	7400	5500	0.848	10300	8.7					
				80/67	8000	5600	0.854	10900	9.4					
				85/71	8600	5800	0.860	11500	10.0					
	2.3	3.7	8.5	65/55	6300	5100	0.834	9100	7.6					
				70/59	6800	5300	0.841	9700	8.1					
				75/63	7400	5500	0.847	10300	8.7					
				80/67	8000	5700	0.853	10900	9.4					
				85/71	8600	5800	0.859	11500	10.0					
	3.0	6.4	14.5	65/55	6300	5100	0.833	9100	7.6					
				70/59	6900	5300	0.839	9800	8.2					
				75/63	7400	5500	0.845	10300	8.8					
				80/67	8000	5700	0.851	10900	9.4					
				85/71	8600	5800	0.858	11500	10.0					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 012 (400 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	2.0	3.7	8.3	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					7100	0.715	4700	81	2.91
				70/59						7000	0.752	4400	86	2.73
				75/63						6900	0.789	4200	91	2.56
				80/67						6800	0.826	4000	96	2.41
				85/71										
	3.0	7.7	17.7	65/55						7200	0.718	4700	82	2.94
				70/59						7100	0.755	4500	86	2.75
				75/63						7100	0.792	4400	91	2.62
				80/67						7000	0.829	4200	96	2.47
				85/71										
	4.0	13.2	30.1	65/55						7400	0.720	4900	82	3.01
				70/59						7300	0.757	4700	87	2.82
				75/63						7200	0.794	4500	92	2.66
				80/67						7100	0.831	4300	96	2.50
				85/71										
30	2.0	3.5	8.1	65/55						8800	0.757	6200	85	3.40
				70/59	13800	9800	0.463	15400	29.8	8700	0.794	6000	90	3.21
				75/63	14600	10100	0.471	16200	31.0	8600	0.831	5800	95	3.03
				80/67	15400	10400	0.479	17000	32.2	8500	0.868	5500	100	2.87
				85/71	16100	10600	0.487	17800	33.1					
	3.0	7.5	17.1	65/55	13100	9600	0.453	14600	28.9	8900	0.760	6300	85	3.43
				70/59	13800	9900	0.461	15400	29.9	8800	0.797	6100	90	3.23
				75/63	14600	10100	0.469	16200	31.1	8800	0.834	6000	95	3.09
				80/67	15400	10400	0.477	17000	32.3	8700	0.871	5700	100	2.92
				85/71	16200	10600	0.485	17900	33.4					
	4.0	12.8	29.1	65/55	13100	9600	0.451	14600	29.0	9100	0.762	6500	86	3.50
				70/59	13900	9900	0.459	15500	30.3	9000	0.799	6300	91	3.30
				75/63	14600	10100	0.467	16200	31.3	8900	0.836	6000	95	3.12
				80/67	15400	10400	0.475	17000	32.4	8800	0.873	5800	100	2.95
				85/71	16200	10600	0.483	17800	33.5					
40	2.0	3.4	7.8	65/55	12800	9100	0.482	14400	26.6	10400	0.794	7700	89	3.84
				70/59	13500	9300	0.490	15200	27.6	10300	0.831	7500	94	3.63
				75/63	14300	9600	0.498	16000	28.7	10200	0.868	7200	98	3.44
				80/67	15100	9800	0.506	16800	29.8	10100	0.905	7000	103	3.27
				85/71	15800	10100	0.514	17600	30.7					
	3.0	7.3	16.6	65/55	12800	9100	0.480	14400	26.7	10500	0.797	7800	89	3.86
				70/59	13500	9300	0.488	15200	27.7	10500	0.834	7700	94	3.69
				75/63	14300	9600	0.496	16000	28.8	10400	0.871	7400	99	3.50
				80/67	15100	9900	0.504	16800	30.0	10300	0.908	7200	104	3.32
				85/71	15900	10100	0.512	17600	31.1					
	4.0	12.4	28.3	65/55	12800	9100	0.478	14400	26.8	10700	0.800	8000	90	3.92
				70/59	13600	9400	0.486	15300	28.0	10600	0.837	7700	94	3.71
				75/63	14300	9600	0.494	16000	28.9	10500	0.874	7500	99	3.52
				80/67	15100	9900	0.502	16800	30.1	10400	0.911	7300	104	3.34
				85/71	15900	10100	0.510	17600	31.2					
50	2.0	3.3	7.6	65/55	12300	8500	0.531	14100	23.2	11900	0.827	9100	92	4.21
				70/59	13100	8800	0.539	14900	24.3	11800	0.864	8900	97	4.00
				75/63	13800	9000	0.548	15700	25.2	11800	0.901	8700	102	3.83
				80/67	14600	9300	0.556	16500	26.3	11700	0.938	8500	107	3.65
				85/71	15400	9500	0.564	17300	27.3					
	3.0	7.1	16.2	65/55	12300	8500	0.529	14100	23.3	12100	0.830	9300	93	4.27
				70/59	13100	8800	0.538	14900	24.3	12000	0.867	9000	98	4.05
				75/63	13900	9000	0.546	15800	25.5	11900	0.904	8800	102	3.85
				80/67	14600	9300	0.554	16500	26.4	11800	0.941	8600	107	3.67
				85/71	15400	9600	0.562	17300	27.4					
	4.0	12.1	27.5	65/55	12300	8500	0.528	14100	23.3	12200	0.832	9400	93	4.29
				70/59	13100	8800	0.536	14900	24.4	12100	0.869	9100	98	4.08
				75/63	13900	9100	0.544	15800	25.6	12000	0.906	8900	103	3.88
				80/67	14600	9300	0.552	16500	26.4	12000	0.943	8800	108	3.73
				85/71	15400	9600	0.560	17300	27.5					
60	2.0	3.3	7.4	65/55	11600	8100	0.600	13600	19.3	13400	0.855	10500	96	4.59
				70/59	12400	8300	0.608	14500	20.4	13300	0.892	10300	101	4.37
				75/63	13200	8600	0.616	15300	21.4	13200	0.929	10000	105	4.16
				80/67	13900	8800	0.624	16000	22.3	13100	0.966	9800	110	3.97
				85/71	14700	9100	0.632	16900	23.3					
	3.0	6.9	15.8	65/55	11600	8100	0.598	13600	19.4	13500	0.857	10600	96	4.61
				70/59	12400	8300	0.606	14500	20.5	13400	0.894	10300	101	4.39
				75/63	13200	8600	0.614	15300	21.5	13300	0.931	10100	106	4.18
				80/67	14000	8800	0.622	16100	22.5	13300	0.968	10000	111	4.02
				85/71	14700	9100	0.630	16900	23.3					
	4.0	11.8	26.9	65/55	11700	8100	0.596	13700	19.6	13600	0.860	10700	96	4.63
				70/59	12400	8300	0.604	14500	20.5	13600	0.897	10500	101	4.44
				75/63	13200	8600	0.612	15300	21.6	13500	0.934	10300	106	4.23
				80/67	14000	8800	0.620	16100	22.6	13400	0.971	10100	111	4.04
				85/71	14800	9100	0.628	16900	23.6					

Size 012 (400 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	2.0	3.2	7.3	65/55	10800	7700	0.683	13100	15.8	14700	0.878	11700	99	4.90
				70/59	11600	8000	0.691	14000	16.8	14600	0.915	11500	104	4.67
				75/63	12400	8200	0.699	14800	17.7	14600	0.952	11400	109	4.49
				80/67	13200	8500	0.707	15600	18.7	14500	0.989	11100	113	4.29
				85/71	13900	8700	0.716	16300	19.4					
	3.0	6.8	15.4	65/55	10800	7700	0.681	13100	15.9	14900	0.881	11900	99	4.95
				70/59	11600	8000	0.689	14000	16.8	14800	0.918	11700	104	4.72
				75/63	12400	8200	0.697	14800	17.8	14700	0.955	11400	109	4.51
				80/67	13200	8500	0.706	15600	18.7	14600	0.992	11200	114	4.31
				85/71	13900	8700	0.714	16300	19.5					
	4.0	11.5	26.3	65/55	10900	7700	0.679	13200	16.1	15000	0.883	12000	100	4.97
				70/59	11600	8000	0.688	13900	16.9	14900	0.920	11800	104	4.74
				75/63	12400	8200	0.696	14800	17.8	14800	0.957	11500	109	4.53
				80/67	13200	8500	0.704	15600	18.8	14800	0.994	11400	114	4.36
				85/71	14000	8700	0.712	16400	19.7					
80	2.0	3.1	7.2	65/55	10000	7400	0.779	12700	12.8	16000	0.896	12900	102	5.23
				70/59	10800	7700	0.787	13500	13.7	15900	0.933	12700	107	4.99
				75/63	11500	7900	0.796	14200	14.4	15800	0.970	12500	111	4.77
				80/67	12300	8200	0.804	15000	15.3	15700	1.007	12300	116	4.57
				85/71	13100	8400	0.812	15900	16.1					
	3.0	6.6	15.1	65/55	10000	7400	0.777	12700	12.9	16100	0.899	13000	102	5.24
				70/59	10800	7700	0.786	13500	13.7	16100	0.936	12900	107	5.04
				75/63	11600	7900	0.794	14300	14.6	16000	0.973	12700	112	4.81
				80/67	12300	8200	0.802	15000	15.3	15900	1.010	12500	117	4.61
				85/71	13100	8400	0.810	15900	16.2					
	4.0	11.3	25.8	65/55	10000	7400	0.776	12600	12.9	16300	0.902	13200	103	5.29
				70/59	10800	7700	0.784	13500	13.8	16200	0.939	13000	107	5.05
				75/63	11600	7900	0.792	14300	14.6	16100	0.976	12800	112	4.83
				80/67	12400	8200	0.800	15100	15.5	16000	1.013	12500	117	4.62
				85/71	13100	8400	0.808	15900	16.2					
90	2.0	3.1	7.0	65/55	9200	7200	0.885	12200	10.4	17200	0.910	14100	105	5.53
				70/59	10000	7400	0.893	13000	11.2	17100	0.947	13900	109	5.29
				75/63	10800	7700	0.901	13900	12.0	17000	0.984	13600	114	5.06
				80/67	11600	7900	0.909	14700	12.8	16900	1.021	13400	119	4.85
				85/71	12300	8200	0.917	15400	13.4					
	3.0	6.5	14.9	65/55	9300	7200	0.883	12300	10.5	17300	0.913	14200	105	5.55
				70/59	10000	7400	0.891	13000	11.2	17200	0.950	14000	110	5.30
				75/63	10800	7700	0.899	13900	12.0	17200	0.987	13800	115	5.10
				80/67	11600	8000	0.907	14700	12.8	17100	1.024	13600	119	4.89
				85/71	12400	8200	0.915	15500	13.6					
	4.0	11.1	25.4	65/55	9300	7200	0.881	12300	10.6	17500	0.915	14400	105	5.60
				70/59	10000	7500	0.889	13000	11.2	17400	0.952	14200	110	5.35
				75/63	10800	7700	0.897	13900	12.0	17300	0.989	13900	115	5.12
				80/67	11600	8000	0.905	14700	12.8	17200	1.026	13700	120	4.91
				85/71	12400	8200	0.913	15500	13.6					
100	2.0	3.0	6.9	65/55	8600	7000	0.996	12000	8.6					
				70/59	9400	7200	1.004	12800	9.4					
				75/63	10100	7500	1.012	13600	10.0					
				80/67	10900	7700	1.020	14400	10.7					
				85/71	11700	8000	1.028	15200	11.4					
	3.0	6.4	14.7	65/55	8600	7000	0.994	12000	8.7					
				70/59	9400	7200	1.002	12800	9.4					
				75/63	10100	7500	1.010	13500	10.0					
				80/67	10900	7700	1.018	14400	10.7					
				85/71	11700	8000	1.026	15200	11.4					
	4.0	11.0	25.0	65/55	8600	7000	0.992	12000	8.7					
				70/59	9400	7200	1.000	12800	9.4					
				75/63	10200	7500	1.008	13600	10.1					
				80/67	10900	7700	1.016	14400	10.7					
				85/71	11700	8000	1.024	15200	11.4					
110	2.0	3.0	6.9	65/55	8000	6900	1.110	11800	7.2					
				70/59	8700	7100	1.118	12500	7.8					
				75/63	9500	7400	1.126	13300	8.4					
				80/67	10300	7600	1.134	14200	9.1					
				85/71	11100	7900	1.142	15000	9.7					
	3.0	6.4	14.5	65/55	8000	6900	1.108	11800	7.2					
				70/59	8800	7100	1.116	12600	7.9					
				75/63	9500	7400	1.124	13300	8.5					
				80/67	10300	7600	1.132	14200	9.1					
				85/71	11100	7900	1.140	15000	9.7					
	4.0	10.8	24.8	65/55	8000	6900	1.106	11800	7.2					
				70/59	8800	7100	1.114	12600	7.9					
				75/63	9500	7400	1.122	13300	8.5					
				80/67	10300	7600	1.130	14200	9.1					
				85/71	11100	7900	1.138	15000	9.8					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 015 (500 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	2.5	1.0	2.4	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					8700	0.924	5500	81	2.76
				70/59						8600	0.970	5300	86	2.60
				75/63						8500	1.016	5000	91	2.45
				80/67						8400	1.063	4800	95	2.31
				85/71										
	3.8	2.2	5.1	65/55						8900	0.928	5700	81	2.81
				70/59						8800	0.974	5500	86	2.65
				75/63						8700	1.021	5200	91	2.50
				80/67						8600	1.067	5000	96	2.36
				85/71										
	5.0	3.9	8.9	65/55						9100	0.933	5900	82	2.86
				70/59						9000	0.979	5700	87	2.69
				75/63						8900	1.025	5400	91	2.54
				80/67						8800	1.071	5100	96	2.41
				85/71										
30	2.5	1.0	2.3	65/55						10700	0.950	7500	85	3.30
				70/59	16100	11600	0.610	18200	26.4	10600	0.996	7200	90	3.12
				75/63	17100	11900	0.620	19200	27.6	10500	1.042	6900	94	2.95
				80/67	18100	12200	0.630	20300	28.7	10400	1.089	6700	99	2.80
				85/71	19000	12600	0.640	21200	29.7					
	3.8	2.2	5.0	65/55	15200	11300	0.597	17200	25.5	10900	0.954	7600	85	3.35
				70/59	16200	11600	0.607	18300	26.7	10800	1.000	7400	90	3.16
				75/63	17100	11900	0.617	19200	27.7	10700	1.047	7100	95	2.99
				80/67	18100	12300	0.627	20200	28.9	10600	1.093	6900	100	2.84
				85/71	19100	12600	0.637	21300	30.0					
	5.0	3.8	8.6	65/55	15200	11300	0.594	17200	25.6	11100	0.959	7800	85	3.39
				70/59	16200	11600	0.604	18300	26.8	11000	1.005	7600	90	3.20
				75/63	17200	11900	0.614	19300	28.0	10900	1.051	7300	95	3.04
				80/67	18100	12300	0.624	20200	29.0	10800	1.097	7100	100	2.88
				85/71	19100	12600	0.634	21300	30.1					
40	2.5	1.0	2.2	65/55	15200	11300	0.632	17400	24.1	12700	0.978	9400	88	3.80
				70/59	16200	11600	0.642	18400	25.2	12600	1.024	9100	93	3.60
				75/63	17200	11900	0.652	19400	26.4	12500	1.070	8800	98	3.42
				80/67	18100	12200	0.662	20400	27.3	12400	1.117	8600	103	3.25
				85/71	19100	12500	0.672	21400	28.4					
	3.8	2.1	4.8	65/55	15200	11300	0.629	17300	24.2	12900	0.982	9500	89	3.85
				70/59	16200	11600	0.639	18400	25.4	12800	1.028	9300	94	3.65
				75/63	17200	11900	0.649	19400	26.5	12700	1.075	9000	98	3.46
				80/67	18100	12200	0.659	20300	27.5	12600	1.121	8800	103	3.29
				85/71	19100	12600	0.669	21400	28.6					
	5.0	3.6	8.3	65/55	15300	11300	0.626	17400	24.4	13100	0.987	9700	89	3.89
				70/59	16200	11600	0.636	18400	25.5	13000	1.033	9500	94	3.68
				75/63	17200	11900	0.646	19400	26.6	12900	1.079	9200	99	3.50
				80/67	18200	12200	0.656	20400	27.7	12800	1.125	9000	104	3.33
				85/71	19100	12600	0.666	21400	28.7					
50	2.5	0.9	2.2	65/55	14900	10900	0.689	17300	21.6	14700	1.008	11300	92	4.27
				70/59	15800	11200	0.699	18200	22.6	14600	1.054	11000	97	4.06
				75/63	16800	11500	0.709	19200	23.7	14500	1.100	10700	102	3.86
				80/67	17800	11900	0.720	20300	24.7	14400	1.146	10500	107	3.68
				85/71	18700	12200	0.730	21200	25.6					
	3.8	2.1	4.7	65/55	14900	10900	0.686	17200	21.7	14900	1.012	11400	92	4.31
				70/59	15800	11200	0.696	18200	22.7	14800	1.058	11200	97	4.10
				75/63	16800	11600	0.706	19200	23.8	14700	1.105	10900	102	3.90
				80/67	17800	11900	0.716	20200	24.9	14600	1.151	10700	107	3.71
				85/71	18700	12200	0.727	21200	25.7					
	5.0	3.6	8.1	65/55	14900	10900	0.683	17200	21.8	15100	1.016	11600	93	4.35
				70/59	15900	11300	0.693	18300	22.9	15000	1.063	11400	98	4.13
				75/63	16800	11600	0.703	19200	23.9	14900	1.109	11100	102	3.93
				80/67	17800	11900	0.713	20200	25.0	14800	1.155	10900	107	3.75
				85/71	18800	12200	0.724	21300	26.0					
60	2.5	0.9	2.1	65/55	14100	10300	0.768	16700	18.4	16800	1.040	13300	96	4.73
				70/59	15000	10600	0.778	17700	19.3	16700	1.086	13000	101	4.50
				75/63	16000	10900	0.788	18700	20.3	16600	1.132	12700	106	4.29
				80/67	17000	11300	0.798	19700	21.3	16400	1.178	12400	110	4.08
				85/71	17900	11600	0.808	20700	22.2					
	3.8	2.0	4.6	65/55	14100	10300	0.765	16700	18.4	17000	1.044	13400	96	4.77
				70/59	15100	10600	0.775	17700	19.5	16900	1.090	13200	101	4.54
				75/63	16000	11000	0.785	18700	20.4	16800	1.136	12900	106	4.33
				80/67	17000	11300	0.795	19700	21.4	16700	1.183	12700	111	4.13
				85/71	18000	11600	0.805	20700	22.4					
	5.0	3.5	7.9	65/55	14100	10300	0.762	16700	18.5	17200	1.048	13600	97	4.81
				70/59	15100	10600	0.772	17700	19.6	17100	1.095	13400	101	4.57
				75/63	16100	11000	0.782	18800	20.6	17000	1.141	13100	106	4.36
				80/67	17000	11300	0.792	19700	21.5	16900	1.187	12800	111	4.17
				85/71	18000	11600	0.802	20700	22.4					

Size 015 (500 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	2.5	0.9	2.1	65/55	13000	9600	0.864	15900	15.0	18800	1.073	15100	100	5.13
				70/59	14000	9900	0.874	17000	16.0	18700	1.120	14900	104	4.89
				75/63	15000	10300	0.884	18000	17.0	18600	1.166	14600	109	4.67
				80/67	15900	10600	0.894	19000	17.8	18500	1.212	14400	114	4.47
				85/71	16900	10900	0.904	20000	18.7					
	3.8	2.0	4.5	65/55	13000	9600	0.861	15900	15.1	19100	1.078	15400	100	5.19
				70/59	14000	10000	0.871	17000	16.1	19000	1.124	15200	105	4.95
				75/63	15000	10300	0.881	18000	17.0	18900	1.170	14900	110	4.73
				80/67	15900	10600	0.891	18900	17.8	18700	1.217	14500	114	4.50
				85/71	16900	10900	0.901	20000	18.8					
	5.0	3.4	7.7	65/55	13100	9700	0.858	16000	15.3	19300	1.082	15600	101	5.22
				70/59	14000	10000	0.868	17000	16.1	19200	1.128	15400	105	4.98
				75/63	15000	10300	0.878	18000	17.1	19100	1.175	15100	110	4.76
				80/67	16000	10600	0.888	19000	18.0	19000	1.221	14800	115	4.56
				85/71	16900	10900	0.898	20000	18.8					
80	2.5	0.9	2.0	65/55	11900	9100	0.973	15200	12.2	20900	1.109	17100	103	5.52
				70/59	12900	9400	0.983	16300	13.1	20800	1.155	16900	108	5.27
				75/63	13900	9700	0.993	17300	14.0	20700	1.202	16600	113	5.04
				80/67	14800	10000	1.003	18200	14.8	20600	1.248	16300	118	4.83
				85/71	15800	10300	1.013	19300	15.6					
	3.8	1.9	4.4	65/55	12000	9100	0.970	15300	12.4	21200	1.114	17400	104	5.57
				70/59	12900	9400	0.980	16200	13.2	21100	1.160	17100	109	5.33
				75/63	13900	9700	0.990	17300	14.0	21000	1.206	16900	114	5.10
				80/67	14900	10000	1.000	18300	14.9	20900	1.252	16600	118	4.89
				85/71	15800	10300	1.010	19200	15.6					
	5.0	3.3	7.6	65/55	12000	9100	0.967	15300	12.4	21400	1.118	17600	104	5.60
				70/59	12900	9400	0.977	16200	13.2	21300	1.164	17300	109	5.36
				75/63	13900	9700	0.987	17300	14.1	21200	1.210	17100	114	5.13
				80/67	14900	10000	0.997	18300	14.9	21100	1.257	16800	119	4.92
				85/71	15800	10300	1.007	19200	15.7					
90	2.5	0.9	2.0	65/55	11000	8700	1.092	14700	10.1	23100	1.147	19200	108	5.90
				70/59	12000	9000	1.102	15800	10.9	23000	1.193	18900	112	5.65
				75/63	12900	9300	1.112	16700	11.6	22900	1.239	18700	117	5.41
				80/67	13900	9600	1.122	17700	12.4	22800	1.286	18400	122	5.19
				85/71	14900	10000	1.132	18800	13.2					
	3.8	1.9	4.3	65/55	11000	8700	1.088	14700	10.1	23300	1.151	19400	108	5.93
				70/59	12000	9000	1.099	15800	10.9	23200	1.198	19100	113	5.67
				75/63	13000	9300	1.109	16800	11.7	23100	1.244	18900	118	5.44
				80/67	13900	9600	1.119	17700	12.4	23000	1.290	18600	122	5.22
				85/71	14900	10000	1.129	18800	13.2					
	5.0	3.3	7.5	65/55	11100	8700	1.085	14800	10.2	23500	1.156	19600	108	5.95
				70/59	12000	9000	1.096	15700	10.9	23400	1.202	19300	113	5.70
				75/63	13000	9300	1.106	16800	11.8	23300	1.248	19000	118	5.47
				80/67	13900	9700	1.116	17700	12.5	23200	1.294	18800	123	5.25
				85/71	14900	10000	1.126	18700	13.2					
100	2.5	0.9	2.0	65/55	10300	8500	1.215	14400	8.5					
				70/59	11300	8800	1.225	15500	9.2					
				75/63	12200	9100	1.236	16400	9.9					
				80/67	13200	9500	1.246	17500	10.6					
				85/71	14200	9800	1.256	18500	11.3					
	3.8	1.9	4.3	65/55	10300	8500	1.212	14400	8.5					
				70/59	11300	8800	1.222	15500	9.2					
				75/63	12200	9100	1.232	16400	9.9					
				80/67	13200	9500	1.243	17400	10.6					
				85/71	14200	9800	1.253	18500	11.3					
	5.0	3.2	7.4	65/55	10300	8500	1.209	14400	8.5					
				70/59	11300	8800	1.219	15500	9.3					
				75/63	12300	9200	1.229	16500	10.0					
				80/67	13200	9500	1.240	17400	10.6					
				85/71	14200	9800	1.250	18500	11.4					
110	2.5	0.9	1.9	65/55	9600	8300	1.341	14200	7.2					
				70/59	10600	8600	1.351	15200	7.8					
				75/63	11600	8900	1.361	16200	8.5					
				80/67	12500	9200	1.371	17200	9.1					
				85/71	13500	9500	1.381	18200	9.8					
	3.8	1.8	4.2	65/55	9700	8300	1.338	14300	7.2					
				70/59	10600	8600	1.348	15200	7.9					
				75/63	11600	8900	1.358	16200	8.5					
				80/67	12600	9200	1.368	17300	9.2					
				85/71	13500	9500	1.378	18200	9.8					
	5.0	3.2	7.3	65/55	9700	8300	1.335	14300	7.3					
				70/59	10700	8600	1.345	15300	8.0					
				75/63	11600	8900	1.355	16200	8.6					
				80/67	12600	9200	1.365	17300	9.2					
				85/71	13600	9500	1.375	18300	9.9					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 018 (600 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	3.0	1.5	3.3	65/55						10800	1.150	6900	82	2.75
				70/59						10700	1.206	6600	86	2.60
				75/63						10600	1.261	6300	91	2.46
				80/67						10500	1.317	6000	96	2.33
				85/71										
	4.5	3.2	7.2	65/55						11100	1.157	7200	82	2.81
				70/59						11000	1.212	6900	87	2.66
				75/63						10900	1.268	6600	92	2.52
				80/67						10800	1.323	6300	97	2.39
				85/71										
	6.0	5.5	12.5	65/55						11500	1.163	7500	83	2.90
				70/59						11300	1.218	7100	87	2.72
				75/63						11200	1.274	6900	92	2.57
				80/67						11100	1.329	6600	97	2.45
				85/71										
30	3.0	1.4	3.2	65/55						13200	1.184	9200	85	3.26
				70/59	18600	13500	0.738	21100	25.2	13100	1.239	8900	90	3.10
				75/63	19800	13900	0.750	22400	26.4	13000	1.295	8600	95	2.94
				80/67	21000	14300	0.762	23600	27.6	12900	1.350	8300	100	2.80
				85/71	22100	14600	0.774	24700	28.6					
	4.5	3.1	7.0	65/55	17500	13100	0.721	20000	24.3	13500	1.190	9400	86	3.32
				70/59	18700	13500	0.733	21200	25.5	13400	1.246	9100	91	3.15
				75/63	19800	13900	0.745	22300	26.6	13300	1.301	8900	95	2.99
				80/67	21000	14300	0.757	23600	27.7	13200	1.357	8600	100	2.85
				85/71	22200	14700	0.769	24800	28.9					
	6.0	5.3	12.1	65/55	17600	13200	0.717	20000	24.5	13900	1.197	9800	86	3.40
				70/59	18700	13500	0.729	21200	25.7	13700	1.252	9400	91	3.20
				75/63	19900	13900	0.741	22400	26.9	13600	1.308	9100	96	3.04
				80/67	21000	14300	0.753	23600	27.9	13500	1.363	8800	101	2.90
				85/71	22200	14700	0.765	24800	29.0					
40	3.0	1.4	3.1	65/55	17400	13000	0.785	20100	22.2	15600	1.218	11400	89	3.75
				70/59	18500	13400	0.797	21200	23.2	15500	1.273	11200	94	3.57
				75/63	19700	13800	0.809	22500	24.4	15400	1.329	10900	99	3.39
				80/67	20900	14200	0.822	23700	25.4	15300	1.384	10600	103	3.24
				85/71	22000	14500	0.834	24800	26.4					
	4.5	3.0	6.8	65/55	17400	13000	0.781	20100	22.3	16000	1.224	11800	90	3.83
				70/59	18600	13400	0.793	21300	23.5	15800	1.279	11400	94	3.62
				75/63	19700	13800	0.805	22400	24.5	15700	1.335	11100	99	3.44
				80/67	20900	14200	0.817	23700	25.6	15600	1.390	10900	104	3.29
				85/71	22000	14600	0.829	24800	26.5					
	6.0	5.2	11.8	65/55	17400	13100	0.777	20100	22.4	16300	1.230	12100	90	3.88
				70/59	18600	13400	0.789	21300	23.6	16200	1.286	11800	95	3.69
				75/63	19800	13800	0.801	22500	24.7	16000	1.341	11400	100	3.49
				80/67	20900	14200	0.813	23700	25.7	15900	1.397	11100	104	3.33
				85/71	22100	14600	0.825	24900	26.8					
50	3.0	1.3	3.1	65/55	16800	12600	0.860	19700	19.5	18100	1.251	13800	93	4.24
				70/59	18000	12900	0.872	21000	20.6	18000	1.307	13500	98	4.03
				75/63	19200	13300	0.884	22200	21.7	17800	1.362	13200	102	3.83
				80/67	20300	13700	0.896	23400	22.7	17700	1.418	12900	107	3.65
				85/71	21500	14100	0.908	24600	23.7					
	4.5	2.9	6.6	65/55	16900	12600	0.856	19800	19.7	18400	1.258	14100	93	4.28
				70/59	18000	12900	0.868	21000	20.7	18300	1.313	13800	98	4.08
				75/63	19200	13300	0.880	22200	21.8	18100	1.369	13400	103	3.87
				80/67	20300	13700	0.892	23300	22.8	18000	1.424	13100	108	3.70
				85/71	21500	14100	0.904	24600	23.8					
	6.0	5.0	11.5	65/55	16900	12600	0.851	19800	19.9	18700	1.264	14400	94	4.33
				70/59	18100	13000	0.863	21000	21.0	18600	1.319	14100	99	4.13
				75/63	19200	13300	0.875	22200	21.9	18500	1.375	13800	103	3.94
				80/67	20400	13700	0.887	23400	23.0	18300	1.430	13400	108	3.75
				85/71	21500	14100	0.900	24600	23.9					
60	3.0	1.3	3.0	65/55	16000	11900	0.951	19200	16.8	20500	1.285	16100	96	4.67
				70/59	17100	12300	0.963	20400	17.8	20400	1.340	15800	101	4.46
				75/63	18300	12600	0.975	21600	18.8	20300	1.396	15500	106	4.26
				80/67	19400	13000	0.987	22800	19.7	20100	1.451	15100	111	4.06
				85/71	20600	13400	0.999	24000	20.6					
	4.5	2.8	6.5	65/55	16000	11900	0.947	19200	16.9	20800	1.291	16400	97	4.72
				70/59	17200	12300	0.959	20500	17.9	20700	1.347	16100	102	4.50
				75/63	18300	12700	0.971	21600	18.8	20600	1.402	15800	107	4.30
				80/67	19500	13000	0.983	22900	19.8	20500	1.458	15500	111	4.12
				85/71	20600	13400	0.995	24000	20.7					
	6.0	4.9	11.2	65/55	16000	11900	0.942	19200	17.0	21100	1.297	16700	97	4.76
				70/59	17200	12300	0.954	20500	18.0	21000	1.353	16400	102	4.54
				75/63	18300	12700	0.967	21600	18.9	20900	1.408	16100	107	4.35
				80/67	19500	13100	0.979	22800	19.9	20800	1.464	15800	112	4.16
				85/71	20700	13400	0.991	24100	20.9					

Gray tint = Operation Not Recommended

Note: *All capacity data at full load*

Size 018 (600 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	3.0	1.3	2.9	65/55	14900	11200	1.061	18500	14.0	23000	1.318	18500	100	5.11
				70/59	16100	11600	1.073	19800	15.0	22800	1.374	18100	105	4.86
				75/63	17200	12000	1.085	20900	15.9	22700	1.429	17800	110	4.65
				80/67	18400	12300	1.097	22100	16.8	22600	1.485	17500	115	4.46
				85/71	19500	12700	1.109	23300	17.6					
	4.5	2.8	6.3	65/55	14900	11200	1.056	18500	14.1	23300	1.325	18800	101	5.15
				70/59	16100	11600	1.068	19700	15.1	23200	1.380	18500	106	4.92
				75/63	17200	12000	1.080	20900	15.9	23000	1.436	18100	110	4.69
				80/67	18400	12400	1.092	22100	16.8	22900	1.491	17800	115	4.50
				85/71	19600	12700	1.104	23400	17.8					
	6.0	4.8	11.0	65/55	15000	11200	1.052	18600	14.3	23600	1.331	19100	101	5.19
				70/59	16100	11600	1.064	19700	15.1	23500	1.386	18800	106	4.96
				75/63	17300	12000	1.076	21000	16.1	23400	1.442	18500	111	4.75
				80/67	18400	12400	1.088	22100	16.9	23200	1.497	18100	116	4.54
				85/71	19600	12800	1.100	23400	17.8					
80	3.0	1.3	2.9	65/55	13800	10600	1.190	17900	11.6	25400	1.352	20800	104	5.50
				70/59	15000	11000	1.202	19100	12.5	25300	1.407	20500	109	5.27
				75/63	16100	11400	1.214	20200	13.3	25200	1.463	20200	114	5.04
				80/67	17300	11800	1.226	21500	14.1	25100	1.518	19900	119	4.84
				85/71	18400	12200	1.238	22600	14.9					
	4.5	2.7	6.2	65/55	13800	10700	1.186	17800	11.6	25800	1.358	21200	105	5.56
				70/59	15000	11000	1.198	19100	12.5	25600	1.414	20800	109	5.30
				75/63	16200	11400	1.210	20300	13.4	25500	1.469	20500	114	5.08
				80/67	17300	11800	1.222	21500	14.2	25400	1.525	20200	119	4.88
				85/71	18500	12200	1.234	22700	15.0					
	6.0	4.7	10.8	65/55	13900	10700	1.181	17900	11.8	26100	1.364	21400	105	5.60
				70/59	15000	11100	1.193	19100	12.6	26000	1.420	21200	110	5.36
				75/63	16200	11400	1.205	20300	13.4	25800	1.475	20800	115	5.12
				80/67	17300	11800	1.217	21500	14.2	25700	1.531	20500	119	4.92
				85/71	18500	12200	1.229	22700	15.1					
90	3.0	1.2	2.8	65/55	12800	10300	1.341	17400	9.5	27900	1.385	23200	108	5.90
				70/59	13900	10600	1.353	18500	10.3	27800	1.441	22900	113	5.65
				75/63	15100	11000	1.365	19800	11.1	27700	1.496	22600	118	5.42
				80/67	16300	11400	1.377	21000	11.8	27600	1.552	22300	122	5.21
				85/71	17400	11800	1.389	22100	12.5					
	4.5	2.7	6.1	65/55	12800	10300	1.337	17400	9.6	28200	1.392	23400	108	5.93
				70/59	14000	10700	1.349	18600	10.4	28100	1.447	23200	113	5.69
				75/63	15100	11000	1.361	19700	11.1	28000	1.503	22900	118	5.45
				80/67	16300	11400	1.373	21000	11.9	27900	1.558	22600	123	5.24
				85/71	17500	11800	1.385	22200	12.6					
	6.0	4.6	10.6	65/55	12900	10300	1.332	17400	9.7	28600	1.398	23800	109	5.99
				70/59	14000	10700	1.344	18600	10.4	28400	1.453	23400	114	5.72
				75/63	15200	11000	1.356	19800	11.2	28300	1.509	23100	118	5.49
				80/67	16300	11400	1.369	21000	11.9	28200	1.564	22900	123	5.28
				85/71	17500	11800	1.381	22200	12.7					
100	3.0	1.2	2.8	65/55	11900	10000	1.516	17100	7.8					
				70/59	13000	10300	1.528	18200	8.5					
				75/63	14200	10700	1.540	19500	9.2					
				80/67	15400	11100	1.552	20700	9.9					
				85/71	16500	11500	1.564	21800	10.5					
	4.5	2.6	6.0	65/55	11900	10000	1.511	17100	7.9					
				70/59	13100	10400	1.523	18300	8.6					
				75/63	14200	10700	1.535	19400	9.3					
				80/67	15400	11100	1.548	20700	9.9					
				85/71	16600	11500	1.560	21900	10.6					
	6.0	4.6	10.4	65/55	12000	10000	1.507	17100	8.0					
				70/59	13100	10400	1.519	18300	8.6					
				75/63	14300	10800	1.531	19500	9.3					
				80/67	15400	11100	1.543	20700	10.0					
				85/71	16600	11500	1.555	21900	10.7					
110	3.0	1.2	2.8	65/55	11000	9500	1.716	16900	6.4					
				70/59	12100	9900	1.728	18000	7.0					
				75/63	13300	10300	1.740	19200	7.6					
				80/67	14400	10700	1.752	20400	8.2					
				85/71	15600	11100	1.764	21600	8.8					
	4.5	2.6	6.0	65/55	11000	9600	1.711	16800	6.4					
				70/59	12200	9900	1.723	18100	7.1					
				75/63	13300	10300	1.735	19200	7.7					
				80/67	14500	10700	1.747	20500	8.3					
				85/71	15600	11100	1.759	21600	8.9					
	6.0	4.5	10.3	65/55	11000	9600	1.707	16800	6.4					
				70/59	12200	9900	1.719	18100	7.1					
				75/63	13300	10300	1.731	19200	7.7					
				80/67	14500	10700	1.743	20400	8.3					
				85/71	15700	11100	1.755	21700	8.9					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 021 (670 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	3.5	2.0	4.6	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					11900	1.192	7800	81	2.92
				70/59						11700	1.256	7400	86	2.73
				75/63						11600	1.321	7100	91	2.57
				80/67						11400	1.386	6700	96	2.41
				85/71										
	5.3	4.0	9.2	65/55						12300	1.200	8200	82	3.00
				70/59						12100	1.265	7800	87	2.80
				75/63						12000	1.330	7500	91	2.64
				80/67						11900	1.394	7100	96	2.50
				85/71										
	7.0	6.6	15.1	65/55						12700	1.209	8600	82	3.08
				70/59						12600	1.273	8300	87	2.90
				75/63						12400	1.338	7800	92	2.71
				80/67						12300	1.403	7500	97	2.57
				85/71										
30	3.5	1.9	4.4	65/55						14400	1.240	10200	85	3.40
				70/59	19700	14400	0.759	22300	26.0	14200	1.305	9700	90	3.19
				75/63	21100	14900	0.773	23700	27.3	14100	1.370	9400	94	3.01
				80/67	22400	15300	0.788	25100	28.4	14000	1.434	9100	99	2.86
				85/71	23800	15800	0.802	26500	29.7					
	5.3	3.9	8.9	65/55	18400	14000	0.739	20900	24.9	14800	1.249	10500	85	3.47
				70/59	19800	14500	0.753	22400	26.3	14700	1.313	10200	90	3.28
				75/63	21100	14900	0.768	23700	27.5	14500	1.378	9800	95	3.08
				80/67	22500	15300	0.782	25200	28.8	14400	1.443	9500	100	2.92
				85/71	23900	15800	0.796	26600	30.0					
	7.0	6.4	14.6	65/55	18500	14000	0.733	21000	25.2	15300	1.257	11000	86	3.56
				70/59	19800	14500	0.747	22300	26.5	15100	1.322	10600	91	3.34
				75/63	21200	14900	0.762	23800	27.8	15000	1.387	10300	96	3.17
				80/67	22500	15400	0.776	25100	29.0	14800	1.452	9800	100	2.98
				85/71	23900	15800	0.790	26600	30.3					
40	3.5	1.9	4.3	65/55	19500	14500	0.793	22200	24.6	16900	1.288	12500	88	3.84
				70/59	20900	15000	0.807	23700	25.9	16800	1.353	12200	93	3.64
				75/63	22200	15400	0.821	25000	27.0	16600	1.417	11800	98	3.43
				80/67	23600	15800	0.835	26400	28.3	16500	1.482	11400	103	3.26
				85/71	24900	16300	0.849	27800	29.3					
	5.3	3.8	8.6	65/55	19600	14500	0.787	22300	24.9	17400	1.296	13000	89	3.93
				70/59	20900	15000	0.801	23600	26.1	17200	1.361	12600	94	3.70
				75/63	22300	15400	0.815	25100	27.4	17100	1.426	12200	99	3.51
				80/67	23600	15900	0.829	26400	28.5	16900	1.491	11800	103	3.32
				85/71	25000	16300	0.843	27900	29.7					
	7.0	6.2	14.2	65/55	19600	14600	0.781	22300	25.1	17800	1.305	13300	89	3.99
				70/59	21000	15000	0.795	23700	26.4	17600	1.370	12900	94	3.76
				75/63	22300	15400	0.809	25100	27.6	17500	1.435	12600	99	3.57
				80/67	23700	15900	0.823	26500	28.8	17400	1.499	12300	104	3.40
				85/71	25000	16300	0.838	27900	29.8					
50	3.5	1.8	4.2	65/55	20100	14600	0.875	23100	23.0	19500	1.335	14900	92	4.28
				70/59	21400	15100	0.889	24400	24.1	19300	1.400	14500	97	4.04
				75/63	22800	15500	0.903	25900	25.2	19200	1.464	14200	101	3.84
				80/67	24100	16000	0.917	27200	26.3	19000	1.529	13800	106	3.64
				85/71	25500	16400	0.932	28700	27.4					
	5.3	3.7	8.4	65/55	20100	14600	0.869	23100	23.1	19900	1.343	15300	92	4.34
				70/59	21500	15100	0.883	24500	24.3	19700	1.408	14900	97	4.10
				75/63	22800	15500	0.897	25900	25.4	19600	1.473	14600	102	3.90
				80/67	24200	16000	0.911	27300	26.6	19500	1.538	14300	107	3.71
				85/71	25500	16400	0.926	28700	27.5					
	7.0	6.0	13.8	65/55	20200	14700	0.863	23100	23.4	20300	1.352	15700	93	4.40
				70/59	21500	15100	0.877	24500	24.5	20200	1.417	15400	98	4.17
				75/63	22900	15500	0.891	25900	25.7	20000	1.481	14900	102	3.95
				80/67	24200	16000	0.906	27300	26.7	19900	1.546	14600	107	3.77
				85/71	25600	16400	0.920	28700	27.8					
60	3.5	1.8	4.1	65/55	19800	14300	0.986	23200	20.1	22000	1.381	17300	95	4.66
				70/59	21100	14800	1.000	24500	21.1	21800	1.446	16900	100	4.41
				75/63	22500	15200	1.014	26000	22.2	21700	1.510	16500	105	4.21
				80/67	23800	15700	1.028	27300	23.2	21600	1.575	16200	110	4.02
				85/71	25200	16100	1.042	28800	24.2					
	5.3	3.6	8.2	65/55	19800	14400	0.980	23100	20.2	22400	1.389	17700	96	4.72
				70/59	21200	14800	0.994	24600	21.3	22300	1.454	17300	101	4.49
				75/63	22500	15200	1.008	25900	22.3	22100	1.519	16900	105	4.26
				80/67	23900	15700	1.022	27400	23.4	22000	1.584	16600	110	4.07
				85/71	25200	16100	1.036	28700	24.3					
	7.0	5.9	13.5	65/55	19900	14400	0.974	23200	20.4	22900	1.398	18100	96	4.80
				70/59	21200	14800	0.988	24600	21.5	22700	1.463	17700	101	4.54
				75/63	22600	15300	1.002	26000	22.6	22600	1.527	17400	106	4.33
				80/67	23900	15700	1.016	27400	23.5	22400	1.592	17000	111	4.12
				85/71	25300	16200	1.030	28800	24.6					

Size 021 (670 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	3.5	1.7	4.0	65/55	18700	13800	1.120	22500	16.7	24500	1.426	19600	99	5.03
				70/59	20100	14300	1.134	24000	17.7	24400	1.491	19300	104	4.79
				75/63	21400	14700	1.148	25300	18.6	24200	1.556	18900	108	4.55
				80/67	22800	15200	1.162	26800	19.6	24100	1.620	18600	113	4.36
				85/71	24200	15600	1.176	28200	20.6					
	5.3	3.5	8.0	65/55	18800	13800	1.114	22600	16.9	25000	1.435	20100	99	5.10
				70/59	20100	14300	1.128	23900	17.8	24800	1.499	19700	104	4.84
				75/63	21500	14700	1.142	25400	18.8	24700	1.564	19400	109	4.62
				80/67	22800	15200	1.156	26700	19.7	24500	1.629	18900	114	4.40
				85/71	24200	15600	1.170	28200	20.7					
	7.0	5.8	13.2	65/55	18800	13900	1.108	22600	17.0	25400	1.443	20500	100	5.15
				70/59	20200	14300	1.122	24000	18.0	25200	1.508	20100	105	4.89
				75/63	21500	14700	1.136	25400	18.9	25100	1.573	19700	109	4.67
				80/67	22900	15200	1.150	26800	19.9	25000	1.637	19400	114	4.47
				85/71	24300	15600	1.164	28300	20.9					
80	3.5	1.7	3.9	65/55	17300	13300	1.270	21600	13.6	27100	1.470	22100	102	5.40
				70/59	18700	13700	1.284	23100	14.6	26900	1.535	21700	107	5.13
				75/63	20000	14100	1.299	24400	15.4	26800	1.600	21300	112	4.90
				80/67	21400	14600	1.313	25900	16.3	26600	1.665	20900	117	4.68
				85/71	22700	15000	1.327	27200	17.1					
	5.3	3.5	7.9	65/55	17400	13300	1.264	21700	13.8	27500	1.479	22500	103	5.44
				70/59	18700	13700	1.279	23100	14.6	27300	1.544	22000	108	5.18
				75/63	20100	14200	1.293	24500	15.5	27200	1.608	21700	112	4.95
				80/67	21400	14600	1.307	25900	16.4	27100	1.673	21400	117	4.74
				85/71	22800	15000	1.321	27300	17.3					
	7.0	5.7	12.9	65/55	17400	13300	1.258	21700	13.8	27900	1.488	22800	103	5.49
				70/59	18800	13700	1.273	23100	14.8	27800	1.552	22500	108	5.24
				75/63	20100	14200	1.287	24500	15.6	27600	1.617	22100	113	5.00
				80/67	21500	14600	1.301	25900	16.5	27500	1.682	21800	118	4.79
				85/71	22800	15100	1.315	27300	17.3					
90	3.5	1.7	3.9	65/55	15900	12800	1.433	20800	11.1	29600	1.514	24400	106	5.72
				70/59	17300	13200	1.447	22200	12.0	29400	1.579	24000	110	5.45
				75/63	18600	13700	1.461	23600	12.7	29300	1.643	23700	115	5.22
				80/67	20000	14100	1.475	25000	13.6	29200	1.708	23400	120	5.01
				85/71	21300	14500	1.489	26400	14.3					
	5.3	3.4	7.7	65/55	16000	12800	1.427	20900	11.2	30000	1.523	24800	106	5.77
				70/59	17300	13200	1.441	22200	12.0	29900	1.587	24500	111	5.52
				75/63	18700	13700	1.455	23700	12.9	29700	1.652	24100	116	5.26
				80/67	20000	14100	1.469	25000	13.6	29600	1.717	23700	121	5.05
				85/71	21400	14600	1.483	26500	14.4					
	7.0	5.6	12.7	65/55	16000	12800	1.421	20800	11.3	30500	1.531	25300	107	5.83
				70/59	17400	13300	1.435	22300	12.1	30300	1.596	24900	112	5.56
				75/63	18700	13700	1.449	23600	12.9	30200	1.661	24500	117	5.32
				80/67	20100	14100	1.463	25100	13.7	30000	1.725	24100	121	5.09
				85/71	21400	14600	1.477	26400	14.5					
100	3.5	1.7	3.8	65/55	14800	12400	1.601	20300	9.2					
				70/59	16100	12800	1.615	21600	10.0					
				75/63	17500	13300	1.629	23100	10.7					
				80/67	18800	13700	1.643	24400	11.4					
				85/71	20200	14200	1.657	25900	12.2					
	5.3	3.3	7.6	65/55	14800	12400	1.595	20200	9.3					
				70/59	16200	12900	1.609	21700	10.1					
				75/63	17500	13300	1.623	23000	10.8					
				80/67	18900	13800	1.637	24500	11.5					
				85/71	20200	14200	1.651	25800	12.2					
	7.0	5.5	12.5	65/55	14900	12400	1.589	20300	9.4					
				70/59	16200	12900	1.603	21700	10.1					
				75/63	17600	13300	1.617	23100	10.9					
				80/67	18900	13800	1.631	24500	11.6					
				85/71	20300	14200	1.645	25900	12.3					
110	3.5	1.6	3.8	65/55	13700	12000	1.769	19700	7.7					
				70/59	15100	12400	1.783	21200	8.5					
				75/63	16400	12900	1.797	22500	9.1					
				80/67	17800	13300	1.812	24000	9.8					
				85/71	19100	13800	1.826	25300	10.5					
	5.3	3.3	7.6	65/55	13800	12000	1.763	19800	7.8					
				70/59	15100	12500	1.777	21200	8.5					
				75/63	16500	12900	1.792	22600	9.2					
				80/67	17800	13300	1.806	24000	9.9					
				85/71	19200	13800	1.820	25400	10.5					
	7.0	5.4	12.4	65/55	13800	12000	1.757	19800	7.9					
				70/59	15200	12500	1.771	21200	8.6					
				75/63	16500	12900	1.786	22600	9.2					
				80/67	17900	13400	1.800	24000	9.9					
				85/71	19200	13800	1.814	25400	10.6					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 024 (800 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	4.0	2.5	5.7	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					12200	1.312	7700	79	2.72
				70/59						12100	1.386	7400	84	2.56
				75/63						11900	1.460	6900	89	2.39
				80/67						11700	1.534	6500	93	2.23
				85/71										
	6.0	5.1	11.6	65/55						12800	1.323	8300	80	2.83
				70/59						12600	1.397	7800	85	2.64
				75/63						12500	1.471	7500	89	2.49
				80/67						12300	1.545	7000	94	2.33
				85/71										
	8.0	8.3	19.0	65/55						13300	1.335	8700	80	2.92
				70/59						13200	1.409	8400	85	2.74
				75/63						13000	1.483	7900	90	2.57
				80/67						12900	1.557	7600	95	2.43
				85/71										
30	4.0	2.4	5.6	65/55						15400	1.367	10700	83	3.30
				70/59	21100	15600	0.899	24200	23.5	15200	1.441	10300	87	3.09
				75/63	22700	16100	0.915	25800	24.8	15100	1.515	9900	92	2.92
				80/67	24200	16600	0.931	27400	26.0	14900	1.589	9500	97	2.75
				85/71	25800	17200	0.947	29000	27.2					
	6.0	4.9	11.2	65/55	19700	15200	0.875	22700	22.5	16000	1.378	11300	83	3.40
				70/59	21200	15700	0.891	24200	23.8	15800	1.452	10800	88	3.19
				75/63	22700	16200	0.907	25800	25.0	15600	1.526	10400	93	2.99
				80/67	24300	16700	0.923	27500	26.3	15500	1.600	10000	98	2.84
				85/71	25800	17200	0.939	29000	27.5					
	8.0	8.1	18.4	65/55	19700	15200	0.867	22700	22.7	16500	1.389	11800	84	3.48
				70/59	21300	15700	0.883	24300	24.1	16400	1.463	11400	89	3.28
				75/63	22800	16200	0.899	25900	25.4	16200	1.537	11000	94	3.09
				80/67	24400	16700	0.915	27500	26.7	16000	1.611	10500	98	2.91
				85/71	25900	17200	0.932	29100	27.8					
40	4.0	2.4	5.4	65/55	21100	16100	0.954	24400	22.1	18600	1.421	13800	86	3.83
				70/59	22600	16600	0.970	25900	23.3	18400	1.495	13300	91	3.60
				75/63	24200	17200	0.986	27600	24.5	18300	1.569	12900	96	3.42
				80/67	25700	17700	1.002	29100	25.6	18100	1.643	12500	101	3.23
				85/71	27200	18200	1.018	30700	26.7					
	6.0	4.8	10.9	65/55	21100	16200	0.946	24300	22.3	19200	1.432	14300	87	3.93
				70/59	22700	16700	0.962	26000	23.6	19000	1.506	13900	92	3.69
				75/63	24200	17200	0.979	27500	24.7	18800	1.580	13400	97	3.48
				80/67	25800	17700	0.995	29200	25.9	18700	1.654	13100	102	3.31
				85/71	27300	18200	1.011	30800	27.0					
	8.0	7.8	17.8	65/55	21200	16200	0.939	24400	22.6	19700	1.443	14800	88	4.00
				70/59	22700	16700	0.955	26000	23.8	19600	1.517	14400	93	3.78
				75/63	24300	17200	0.971	27600	25.0	19400	1.591	14000	97	3.57
				80/67	25800	17700	0.987	29200	26.1	19200	1.665	13500	102	3.38
				85/71	27400	18200	1.003	30800	27.3					
50	4.0	2.3	5.3	65/55	22100	16800	1.046	25700	21.1	21800	1.475	16800	90	4.33
				70/59	23600	17300	1.062	27200	22.2	21600	1.549	16300	95	4.08
				75/63	25200	17800	1.078	28900	23.4	21500	1.623	16000	100	3.88
				80/67	26700	18300	1.094	30400	24.4	21300	1.697	15500	105	3.68
				85/71	28300	18800	1.110	32100	25.5					
	6.0	4.6	10.6	65/55	22200	16800	1.038	25700	21.4	22400	1.486	17300	91	4.41
				70/59	23700	17300	1.054	27300	22.5	22200	1.560	16900	96	4.17
				75/63	25200	17800	1.070	28900	23.6	22000	1.634	16400	100	3.94
				80/67	26800	18300	1.086	30500	24.7	21900	1.708	16100	105	3.75
				85/71	28300	18800	1.102	32100	25.7					
	8.0	7.6	17.4	65/55	22200	16800	1.030	25700	21.6	22900	1.498	17800	91	4.48
				70/59	23800	17300	1.046	27400	22.8	22800	1.572	17400	96	4.25
				75/63	25300	17800	1.062	28900	23.8	22600	1.646	17000	101	4.02
				80/67	26900	18300	1.079	30600	24.9	22400	1.720	16500	106	3.81
				85/71	28400	18800	1.095	32100	25.9					
60	4.0	2.2	5.1	65/55	22100	16700	1.158	26100	19.1	25000	1.530	19800	94	4.78
				70/59	23600	17200	1.174	27600	20.1	24800	1.604	19300	99	4.53
				75/63	25200	17700	1.190	29300	21.2	24700	1.678	19000	103	4.31
				80/67	26700	18200	1.206	30800	22.1	24500	1.752	18500	108	4.09
				85/71	28300	18700	1.222	32500	23.2					
	6.0	4.5	10.3	65/55	22100	16700	1.150	26000	19.2	25500	1.541	20200	94	4.85
				70/59	23700	17200	1.166	27700	20.3	25400	1.615	19900	99	4.61
				75/63	25200	17800	1.182	29200	21.3	25200	1.689	19400	104	4.37
				80/67	26800	18300	1.198	30900	22.4	25100	1.763	19100	109	4.17
				85/71	28300	18800	1.214	32400	23.3					
	8.0	7.4	16.9	65/55	22200	16800	1.142	26100	19.4	26100	1.552	20800	95	4.92
				70/59	23700	17300	1.158	27700	20.5	25900	1.626	20400	100	4.66
				75/63	25300	17800	1.174	29300	21.6	25800	1.700	20000	105	4.44
				80/67	26800	18300	1.190	30900	22.5	25600	1.774	19500	109	4.23
				85/71	28400	18800	1.207	32500	23.5					

Size 024 (800 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	4.0	2.2	5.0	65/55	21100	16200	1.290	25500	16.4	28200	1.584	22800	97	5.21
				70/59	22600	16700	1.306	27100	17.3	28000	1.658	22300	102	4.94
				75/63	24200	17200	1.322	28700	18.3	27800	1.732	21900	107	4.70
				80/67	25700	17700	1.338	30300	19.2	27700	1.806	21500	112	4.49
				85/71	27300	18200	1.354	31900	20.2					
	6.0	4.4	10.1	65/55	21200	16200	1.282	25600	16.5	28700	1.595	23300	98	5.27
				70/59	22700	16700	1.298	27100	17.5	28600	1.669	22900	103	5.02
				75/63	24200	17200	1.314	28700	18.4	28400	1.743	22500	108	4.77
				80/67	25800	17700	1.331	30300	19.4	28200	1.817	22000	112	4.54
				85/71	27300	18200	1.347	31900	20.3					
	8.0	7.3	16.6	65/55	21200	16200	1.274	25500	16.6	29300	1.606	23800	99	5.34
				70/59	22800	16700	1.291	27200	17.7	29100	1.680	23400	103	5.07
				75/63	24300	17200	1.307	28800	18.6	29000	1.754	23000	108	4.84
				80/67	25900	17700	1.323	30400	19.6	28800	1.828	22600	113	4.61
				85/71	27400	18200	1.339	32000	20.5					
80	4.0	2.2	4.9	65/55	19600	15400	1.443	24500	13.6	31400	1.638	25800	101	5.61
				70/59	21200	16000	1.459	26200	14.5	31200	1.712	25400	106	5.34
				75/63	22700	16500	1.475	27700	15.4	31000	1.786	24900	111	5.08
				80/67	24200	17000	1.491	29300	16.2	30900	1.860	24600	116	4.86
				85/71	25800	17500	1.507	30900	17.1					
	6.0	4.3	9.9	65/55	19700	15500	1.435	24600	13.7	31900	1.649	26300	102	5.66
				70/59	21200	16000	1.451	26200	14.6	31800	1.723	25900	107	5.40
				75/63	22800	16500	1.467	27800	15.5	31600	1.797	25500	111	5.15
				80/67	24300	17000	1.483	29400	16.4	31400	1.871	25000	116	4.91
				85/71	25900	17500	1.499	31000	17.3					
	8.0	7.1	16.3	65/55	19700	15500	1.427	24600	13.8	32500	1.661	26800	102	5.73
				70/59	21300	16000	1.443	26200	14.8	32300	1.735	26400	107	5.45
				75/63	22800	16500	1.459	27800	15.6	32200	1.809	26000	112	5.21
				80/67	24400	17000	1.475	29400	16.5	32000	1.883	25600	117	4.98
				85/71	25900	17500	1.491	31000	17.4					
90	4.0	2.1	4.8	65/55	18200	14900	1.615	23700	11.3	34600	1.693	28800	105	5.98
				70/59	19700	15400	1.632	25300	12.1	34400	1.767	28400	110	5.70
				75/63	21200	15900	1.648	26800	12.9	34200	1.841	27900	114	5.44
				80/67	22800	16400	1.664	28500	13.7	34100	1.915	27600	119	5.21
				85/71	24300	16900	1.680	30000	14.5					
	6.0	4.3	9.8	65/55	18200	14900	1.608	23700	11.3	35100	1.704	29300	105	6.03
				70/59	19800	15400	1.624	25300	12.2	35000	1.778	28900	110	5.76
				75/63	21300	15900	1.640	26900	13.0	34800	1.852	28500	115	5.50
				80/67	22900	16400	1.656	28600	13.8	34600	1.926	28000	120	5.26
				85/71	24400	16900	1.672	30100	14.6					
	8.0	7.0	16.0	65/55	18300	14900	1.600	23800	11.4	35700	1.715	29800	106	6.10
				70/59	19800	15400	1.616	25300	12.3	35500	1.789	29400	111	5.81
				75/63	21400	16000	1.632	27000	13.1	35400	1.863	29000	116	5.56
				80/67	22900	16500	1.648	28500	13.9	35200	1.937	28600	121	5.32
				85/71	24500	17000	1.664	30200	14.7					
100	4.0	2.1	4.8	65/55	17000	14500	1.809	23200	9.4					
				70/59	18500	15000	1.825	24700	10.1					
				75/63	20100	15600	1.841	26400	10.9					
				80/67	21600	16100	1.857	27900	11.6					
				85/71	23200	16600	1.873	29600	12.4					
	6.0	4.2	9.6	65/55	17000	14600	1.801	23100	9.4					
				70/59	18600	15100	1.817	24800	10.2					
				75/63	20100	15600	1.833	26400	11.0					
				80/67	21700	16100	1.849	28000	11.7					
				85/71	23200	16600	1.865	29600	12.4					
	8.0	6.9	15.8	65/55	17100	14600	1.793	23200	9.5					
				70/59	18700	15100	1.809	24900	10.3					
				75/63	20200	15600	1.825	26400	11.1					
				80/67	21800	16100	1.841	28100	11.8					
				85/71	23300	16600	1.858	29600	12.5					
110	4.0	2.1	4.7	65/55	15800	13900	2.022	22700	7.8					
				70/59	17300	14400	2.038	24300	8.5					
				75/63	18800	14900	2.054	25800	9.2					
				80/67	20400	15400	2.070	27500	9.9					
				85/71	21900	16000	2.086	29000	10.5					
	6.0	4.2	9.5	65/55	15800	14000	2.014	22700	7.8					
				70/59	17400	14500	2.030	24300	8.6					
				75/63	18900	15000	2.047	25900	9.2					
				80/67	20500	15500	2.063	27500	9.9					
				85/71	22000	16000	2.079	29100	10.6					
	8.0	6.8	15.6	65/55	15900	14000	2.007	22700	7.9					
				70/59	17400	14500	2.023	24300	8.6					
				75/63	19000	15000	2.039	26000	9.3					
				80/67	20500	15500	2.055	27500	10.0					
				85/71	22100	16000	2.071	29200	10.7					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 030 (1000 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	5.0	2.0	4.7	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					16500	1.561	11200	80	3.10
				70/59						16300	1.654	10700	85	2.89
				75/63						16100	1.746	10100	90	2.70
				80/67						15900	1.839	9600	95	2.53
				85/71										
	7.5	4.1	9.3	65/55						17400	1.579	12000	81	3.23
				70/59						17200	1.671	11500	86	3.01
				75/63						17000	1.764	11000	91	2.82
				80/67						16800	1.856	10500	95	2.65
				85/71										
	10.0	6.7	15.2	65/55						18300	1.596	12900	82	3.36
				70/59						18100	1.689	12300	87	3.14
				75/63						17900	1.781	11800	91	2.94
				80/67						17700	1.874	11300	96	2.77
				85/71										
30	5.0	2.0	4.5	65/55						20100	1.618	14600	84	3.64
				70/59	26300	19900	1.200	30400	21.9	19900	1.711	14100	88	3.41
				75/63	28200	20500	1.220	32400	23.1	19700	1.803	13500	93	3.20
				80/67	30200	21100	1.240	34400	24.4	19500	1.896	13000	98	3.01
				85/71	32100	21800	1.261	36400	25.5					
	7.5	4.0	9.0	65/55	24500	19300	1.168	28500	21.0	21000	1.636	15400	84	3.76
				70/59	26400	19900	1.188	30500	22.2	20800	1.728	14900	89	3.52
				75/63	28300	20500	1.208	32400	23.4	20600	1.821	14400	94	3.31
				80/67	30300	21200	1.228	34500	24.7	20400	1.913	13900	99	3.12
				85/71	32200	21800	1.248	36500	25.8					
	10.0	6.5	14.8	65/55	24600	19300	1.156	28500	21.3	21900	1.653	16300	85	3.88
				70/59	26500	19900	1.176	30500	22.5	21700	1.746	15700	90	3.64
				75/63	28400	20600	1.196	32500	23.7	21500	1.838	15200	95	3.43
				80/67	30400	21200	1.216	34600	25.0	21300	1.931	14700	100	3.23
				85/71	32300	21800	1.236	36500	26.1					
40	5.0	1.9	4.4	65/55	25500	20100	1.257	29800	20.3	23700	1.676	18000	87	4.14
				70/59	27500	20700	1.278	31900	21.5	23500	1.768	17500	92	3.89
				75/63	29400	21300	1.298	33800	22.7	23300	1.861	16900	96	3.67
				80/67	31300	22000	1.318	35800	23.7	23100	1.953	16400	101	3.46
				85/71	33300	22600	1.338	37900	24.9					
	7.5	3.8	8.8	65/55	25600	20100	1.245	29800	20.6	24600	1.693	18800	88	4.25
				70/59	27600	20700	1.265	31900	21.8	24400	1.786	18300	92	4.00
				75/63	29500	21400	1.286	33900	22.9	24200	1.878	17800	97	3.77
				80/67	31400	22000	1.306	35900	24.0	24000	1.971	17300	102	3.57
				85/71	33400	22600	1.326	37900	25.2					
	10.0	6.3	14.3	65/55	25700	20100	1.233	29900	20.8	25500	1.711	19700	88	4.36
				70/59	27700	20800	1.253	32000	22.1	25300	1.803	19100	93	4.11
				75/63	29600	21400	1.273	33900	23.3	25000	1.896	18500	98	3.86
				80/67	31500	22000	1.294	35900	24.3	24800	1.988	18000	103	3.65
				85/71	33500	22700	1.314	38000	25.5					
50	5.0	1.9	4.3	65/55	26500	20700	1.364	31200	19.4	27300	1.733	21400	90	4.61
				70/59	28400	21300	1.384	33100	20.5	27100	1.826	20900	95	4.35
				75/63	30400	21900	1.404	35200	21.7	26900	1.918	20400	100	4.11
				80/67	32300	22600	1.424	37200	22.7	26700	2.011	19800	105	3.89
				85/71	34200	23200	1.444	39100	23.7					
	7.5	3.7	8.5	65/55	26600	20700	1.352	31200	19.7	28200	1.751	22200	91	4.72
				70/59	28600	21300	1.372	33300	20.8	28000	1.843	21700	96	4.45
				75/63	30500	22000	1.392	35300	21.9	27800	1.936	21200	101	4.20
				80/67	32400	22600	1.412	37200	22.9	27600	2.028	20700	105	3.98
				85/71	34300	23200	1.432	39200	24.0					
	10.0	6.1	14.0	65/55	26700	20700	1.340	31300	19.9	29000	1.768	23000	92	4.80
				70/59	28700	21400	1.360	33300	21.1	28800	1.861	22400	97	4.53
				75/63	30600	22000	1.380	35300	22.2	28600	1.953	21900	101	4.29
				80/67	32500	22600	1.400	37300	23.2	28400	2.046	21400	106	4.06
				85/71	34400	23300	1.420	39200	24.2					
60	5.0	1.8	4.2	65/55	26700	20800	1.500	31800	17.8	30900	1.791	24800	93	5.05
				70/59	28700	21500	1.520	33900	18.9	30700	1.884	24300	98	4.77
				75/63	30600	22100	1.540	35900	19.9	30500	1.976	23800	103	4.52
				80/67	32500	22700	1.560	37800	20.8	30300	2.069	23200	108	4.29
				85/71	34500	23400	1.580	39900	21.8					
	7.5	3.6	8.3	65/55	26800	20900	1.488	31900	18.0	31800	1.809	25600	94	5.15
				70/59	28800	21500	1.508	33900	19.1	31600	1.901	25100	99	4.87
				75/63	30700	22100	1.528	35900	20.1	31300	1.994	24500	104	4.60
				80/67	32600	22800	1.548	37900	21.1	31100	2.086	24000	109	4.37
				85/71	34600	23400	1.568	40000	22.1					
	10.0	6.0	13.6	65/55	26900	20900	1.475	31900	18.2	32600	1.826	26400	95	5.23
				70/59	28900	21500	1.496	34000	19.3	32400	1.919	25900	100	4.94
				75/63	30800	22200	1.516	36000	20.3	32200	2.011	25300	105	4.69
				80/67	32700	22800	1.536	37900	21.3	32000	2.104	24800	109	4.45
				85/71	34700	23400	1.556	40000	22.3					

Size 030 (1000 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	5.0	1.8	4.1	65/55	26100	20500	1.665	31800	15.7	34500	1.850	28200	97	5.46
				70/59	28000	21200	1.685	33800	16.6	34300	1.942	27700	102	5.17
				75/63	30000	21800	1.705	35800	17.6	34100	2.035	27200	106	4.91
				80/67	31900	22400	1.725	37800	18.5	33900	2.127	26600	111	4.67
				85/71	33800	23100	1.745	39800	19.4					
	7.5	3.6	8.1	65/55	26200	20600	1.653	31800	15.8	35300	1.867	28900	98	5.54
				70/59	28100	21200	1.673	33800	16.8	35100	1.960	28400	102	5.24
				75/63	30100	21800	1.693	35900	17.8	34900	2.052	27900	107	4.98
				80/67	32000	22500	1.713	37800	18.7	34700	2.145	27400	112	4.74
				85/71	33900	23100	1.733	39800	19.6					
	10.0	5.8	13.3	65/55	26300	20600	1.640	31900	16.0	36200	1.885	29800	98	5.62
				70/59	28200	21300	1.661	33900	17.0	36000	1.977	29300	103	5.33
				75/63	30200	21900	1.681	35900	18.0	35800	2.070	28700	108	5.06
				80/67	32100	22500	1.701	37900	18.9	35600	2.162	28200	113	4.82
				85/71	34000	23200	1.721	39900	19.8					
80	5.0	1.7	4.0	65/55	24800	19900	1.859	31100	13.3	38100	1.908	31600	100	5.85
				70/59	26700	20500	1.879	33100	14.2	37900	2.001	31100	105	5.55
				75/63	28600	21200	1.899	35100	15.1	37600	2.093	30500	110	5.26
				80/67	30600	21800	1.919	37100	15.9	37400	2.186	29900	114	5.01
				85/71	32500	22400	1.939	39100	16.8					
	7.5	3.5	8.0	65/55	24900	19900	1.847	31200	13.5	38900	1.926	32300	101	5.91
				70/59	26800	20600	1.867	33200	14.4	38700	2.018	31800	106	5.62
				75/63	28700	21200	1.887	35100	15.2	38500	2.111	31300	110	5.34
				80/67	30700	21800	1.907	37200	16.1	38300	2.203	30800	115	5.09
				85/71	32600	22500	1.927	39200	16.9					
	10.0	5.7	13.1	65/55	25000	20000	1.835	31300	13.6	39800	1.943	33200	102	6.00
				70/59	26900	20600	1.855	33200	14.5	39600	2.036	32700	106	5.70
				75/63	28800	21200	1.875	35200	15.4	39400	2.128	32100	111	5.42
				80/67	30800	21900	1.895	37300	16.3	39200	2.221	31600	116	5.17
				85/71	32700	22500	1.915	39200	17.1					
90	5.0	1.7	3.9	65/55	23100	19100	2.082	30200	11.1	41600	1.967	34900	103	6.19
				70/59	25000	19800	2.102	32200	11.9	41400	2.060	34400	108	5.88
				75/63	27000	20400	2.122	34200	12.7	41200	2.152	33900	113	5.61
				80/67	28900	21000	2.143	36200	13.5	41000	2.245	33300	118	5.35
				85/71	30800	21700	2.163	38200	14.2					
	7.5	3.4	7.9	65/55	23200	19200	2.070	30300	11.2	42500	1.985	35700	104	6.27
				70/59	25100	19800	2.090	32200	12.0	42300	2.077	35200	109	5.96
				75/63	27100	20400	2.110	34300	12.8	42100	2.170	34700	114	5.68
				80/67	29000	21100	2.130	36300	13.6	41900	2.262	34200	119	5.42
				85/71	30900	21700	2.151	38200	14.4					
	10.0	5.6	12.9	65/55	23300	19200	2.058	30300	11.3	43400	2.002	36600	105	6.35
				70/59	25200	19800	2.078	32300	12.1	43200	2.095	36000	110	6.04
				75/63	27200	20500	2.098	34400	13.0	43000	2.187	35500	115	5.76
				80/67	29100	21100	2.118	36300	13.7	42800	2.280	35000	119	5.50
				85/71	31000	21700	2.138	38300	14.5					
100	5.0	1.7	3.9	65/55	21300	18400	2.335	29300	9.1					
				70/59	23300	19000	2.355	31300	9.9					
				75/63	25200	19700	2.375	33300	10.6					
				80/67	27100	20300	2.395	35300	11.3					
				85/71	29100	20900	2.415	37300	12.0					
	7.5	3.4	7.8	65/55	21400	18400	2.323	29300	9.2					
				70/59	23400	19100	2.343	31400	10.0					
				75/63	25300	19700	2.363	33400	10.7					
				80/67	27200	20300	2.383	35300	11.4					
				85/71	29200	21000	2.403	37400	12.2					
	10.0	5.6	12.7	65/55	21500	18500	2.310	29400	9.3					
				70/59	23500	19100	2.331	31500	10.1					
				75/63	25400	19700	2.351	33400	10.8					
				80/67	27300	20400	2.371	35400	11.5					
				85/71	29300	21000	2.391	37500	12.3					
110	5.0	1.7	3.8	65/55	19600	17900	2.616	28500	7.5					
				70/59	21500	18500	2.637	30500	8.2					
				75/63	23500	19100	2.657	32600	8.8					
				80/67	25400	19800	2.677	34500	9.5					
				85/71	27300	20400	2.697	36500	10.1					
	7.5	3.4	7.7	65/55	19700	17900	2.604	28600	7.6					
				70/59	21700	18600	2.624	30700	8.3					
				75/63	23600	19200	2.645	32600	8.9					
				80/67	25500	19800	2.665	34600	9.6					
				85/71	27400	20500	2.685	36600	10.2					
	10.0	5.5	12.6	65/55	19800	18000	2.592	28600	7.6					
				70/59	21800	18600	2.612	30700	8.3					
				75/63	23700	19200	2.632	32700	9.0					
				80/67	25600	19900	2.653	34700	9.6					
				85/71	27500	20500	2.673	36600	10.3					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 036 (1200 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	6.0	2.8	6.4	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					24500	2.237	16900	84	3.21
				70/59						24300	2.348	16300	89	3.03
				75/63						24000	2.459	15600	93	2.86
				80/67						23800	2.570	15000	98	2.71
				85/71										
	9.0	5.6	12.7	65/55						25800	2.262	18100	85	3.34
				70/59						25500	2.373	17400	90	3.15
				75/63						25300	2.484	16800	94	2.98
				80/67						25000	2.595	16100	99	2.82
				85/71										
	12.0	9.1	20.8	65/55						27000	2.287	19200	86	3.46
				70/59						26800	2.398	18600	91	3.27
				75/63						26500	2.509	17900	95	3.09
				80/67						26300	2.620	17400	100	2.94
				85/71										
30	6.0	2.7	6.2	65/55						28900	2.334	20900	87	3.63
				70/59	31600	23600	1.457	36600	21.7	28700	2.445	20400	92	3.44
				75/63	33900	24400	1.482	39000	22.9	28400	2.556	19700	97	3.25
				80/67	36300	25100	1.506	41400	24.1	28200	2.667	19100	102	3.10
				85/71	38600	25900	1.530	43800	25.2					
	9.0	5.4	12.3	65/55	29400	22900	1.416	34200	20.8	30200	2.360	22100	88	3.75
				70/59	31800	23700	1.440	36700	22.1	29900	2.471	21500	93	3.54
				75/63	34100	24400	1.464	39100	23.3	29700	2.582	20900	98	3.37
				80/67	36400	25200	1.488	41500	24.5	29400	2.693	20200	103	3.20
				85/71	38700	25900	1.512	43900	25.6					
	12.0	8.8	20.2	65/55	29600	23000	1.398	34400	21.2	31400	2.385	23300	89	3.86
				70/59	31900	23700	1.423	36800	22.4	31200	2.496	22700	94	3.66
				75/63	34200	24500	1.447	39100	23.6	30900	2.607	22000	99	3.47
				80/67	36500	25200	1.471	41500	24.8	30700	2.718	21400	104	3.31
				85/71	38900	26000	1.495	44000	26.0					
40	6.0	2.6	6.0	65/55	30600	23900	1.544	35900	19.8	33300	2.423	25000	91	4.02
				70/59	32900	24600	1.568	38300	21.0	33100	2.534	24500	95	3.82
				75/63	35300	25400	1.592	40700	22.2	32800	2.645	23800	100	3.63
				80/67	37600	26200	1.616	43100	23.3	32600	2.756	23200	105	3.46
				85/71	39900	26900	1.640	45500	24.3					
	9.0	5.2	12.0	65/55	30800	23900	1.526	36000	20.2	34600	2.448	26200	92	4.14
				70/59	33100	24700	1.550	38400	21.4	34400	2.559	25700	96	3.94
				75/63	35400	25500	1.575	40800	22.5	34100	2.670	25000	101	3.74
				80/67	37700	26200	1.599	43200	23.6	33900	2.781	24400	106	3.57
				85/71	40000	27000	1.623	45500	24.6					
	12.0	8.6	19.6	65/55	30900	24000	1.509	36100	20.5	35900	2.474	27500	93	4.25
				70/59	33200	24800	1.533	38400	21.7	35600	2.585	26800	97	4.03
				75/63	35500	25500	1.557	40800	22.8	35400	2.696	26200	102	3.84
				80/67	37900	26300	1.581	43300	24.0	35100	2.807	25500	107	3.66
				85/71	40200	27000	1.605	45700	25.0					
50	6.0	2.6	5.8	65/55	31700	24700	1.687	37500	18.8	37600	2.503	29100	94	4.40
				70/59	34000	25400	1.711	39800	19.9	37400	2.614	28500	99	4.19
				75/63	36400	26200	1.735	42300	21.0	37200	2.725	27900	104	4.00
				80/67	38700	26900	1.760	44700	22.0	36900	2.836	27200	108	3.81
				85/71	41000	27700	1.784	47100	23.0					
	9.0	5.1	11.7	65/55	31900	24700	1.670	37600	19.1	38900	2.528	30300	95	4.51
				70/59	34200	25500	1.694	40000	20.2	38700	2.639	29700	100	4.29
				75/63	36500	26200	1.718	42400	21.2	38400	2.750	29000	104	4.09
				80/67	38800	27000	1.742	44700	22.3	38200	2.861	28400	109	3.91
				85/71	41100	27800	1.766	47100	23.3					
	12.0	8.4	19.1	65/55	32000	24800	1.652	37600	19.4	40200	2.553	31500	96	4.61
				70/59	34300	25500	1.676	40000	20.5	39900	2.664	30800	101	4.39
				75/63	36700	26300	1.701	42500	21.6	39700	2.775	30200	105	4.19
				80/67	39000	27100	1.725	44900	22.6	39400	2.886	29600	110	4.00
				85/71	41300	27800	1.749	47300	23.6					
60	6.0	2.5	5.7	65/55	32000	24800	1.864	38400	17.2	30900	1.791	24800	93	5.05
				70/59	34300	25600	1.888	40700	18.2	30700	1.884	24300	98	4.77
				75/63	36600	26300	1.912	43100	19.1	30500	1.976	23800	103	4.52
				80/67	39000	27100	1.936	45600	20.1	30300	2.069	23200	108	4.29
				85/71	41300	27900	1.960	48000	21.1					
	9.0	5.0	11.4	65/55	32100	24900	1.846	38400	17.4	31800	1.809	25600	94	5.15
				70/59	34500	25600	1.870	40900	18.4	31600	1.901	25100	99	4.87
				75/63	36800	26400	1.894	43300	19.4	31300	1.994	24500	104	4.60
				80/67	39100	27200	1.919	45600	20.4	31100	2.086	24000	109	4.37
				85/71	41400	27900	1.943	48000	21.3					
	12.0	8.2	18.6	65/55	32300	24900	1.829	38500	17.7	32600	1.826	26400	95	5.23
				70/59	34600	25700	1.853	40900	18.7	32400	1.919	25900	100	4.94
				75/63	36900	26500	1.877	43300	19.7	32200	2.011	25300	105	4.69
				80/67	39200	27200	1.901	45700	20.6	32000	2.104	24800	109	4.45
				85/71	41600	28000	1.925	48200	21.6					

Size 036 (1200 CFM) – PSC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	6.0	2.4	5.6	65/55	31300	24400	2.073	38400	15.1	41700	2.573	32900	97	4.75
				70/59	33600	25100	2.097	40800	16.0	41400	2.684	32200	102	4.52
				75/63	35900	25900	2.121	43100	16.9	41200	2.795	31700	107	4.32
				80/67	38200	26700	2.145	45500	17.8	40900	2.906	31000	111	4.12
				85/71	40500	27400	2.169	47900	18.7					
	9.0	4.9	11.1	65/55	31400	24400	2.055	38400	15.3	42900	2.598	34000	98	4.84
				70/59	33700	25200	2.079	40800	16.2	42700	2.709	33500	103	4.62
				75/63	36000	26000	2.104	43200	17.1	42400	2.820	32800	108	4.40
				80/67	38400	26700	2.128	45700	18.0	42200	2.931	32200	112	4.22
				85/71	40700	27500	2.152	48000	18.9					
	12.0	8.0	18.2	65/55	31600	24500	2.038	38600	15.5	44200	2.624	35200	99	4.93
				70/59	33900	25300	2.062	40900	16.4	44000	2.735	34700	104	4.71
				75/63	36200	26000	2.086	43300	17.4	43700	2.846	34000	109	4.50
				80/67	38500	26800	2.110	45700	18.2	43500	2.957	33400	113	4.31
				85/71	40800	27500	2.134	48100	19.1					
80	6.0	2.4	5.5	65/55	29700	23600	2.315	37600	12.8	45300	2.635	36300	100	5.03
				70/59	32000	24400	2.339	40000	13.7	45000	2.746	35600	105	4.80
				75/63	34300	25100	2.363	42400	14.5	44800	2.857	35000	109	4.59
				80/67	36600	25900	2.387	44700	15.3	44500	2.968	34400	114	4.39
				85/71	38900	26600	2.412	47100	16.1					
	9.0	4.8	10.9	65/55	29800	23600	2.298	37600	13.0	46500	2.660	37400	101	5.12
				70/59	32100	24400	2.322	40000	13.8	46300	2.771	36800	106	4.89
				75/63	34400	25200	2.346	42400	14.7	46000	2.882	36200	110	4.67
				80/67	36800	25900	2.370	44900	15.5	45800	2.993	35600	115	4.48
				85/71	39100	26700	2.394	47300	16.3					
	12.0	7.8	17.9	65/55	29900	23700	2.280	37700	13.1	47800	2.685	38600	102	5.21
				70/59	32300	24500	2.304	40200	14.0	47500	2.796	38000	106	4.97
				75/63	34600	25200	2.328	42500	14.9	47300	2.907	37400	111	4.76
				80/67	36900	26000	2.353	44900	15.7	47000	3.018	36700	116	4.56
				85/71	39200	26700	2.377	47300	16.5					
90	6.0	2.4	5.4	65/55	27500	22700	2.590	36300	10.6	48200	2.687	39000	102	5.25
				70/59	29900	23500	2.614	38800	11.4	48000	2.798	38500	107	5.02
				75/63	32200	24200	2.638	41200	12.2	47800	2.909	37900	112	4.81
				80/67	34500	25000	2.663	43600	13.0	47500	3.020	37200	116	4.61
				85/71	36800	25800	2.687	46000	13.7					
	9.0	4.7	10.7	65/55	27700	22800	2.573	36500	10.8	49500	2.712	40200	103	5.34
				70/59	30000	23500	2.597	38900	11.6	49300	2.823	39700	108	5.11
				75/63	32300	24300	2.621	41200	12.3	49000	2.934	39000	113	4.89
				80/67	34600	25100	2.645	43600	13.1	48800	3.045	38400	117	4.69
				85/71	37000	25800	2.669	46100	13.9					
	12.0	7.7	17.6	65/55	27800	22800	2.555	36500	10.9	50800	2.737	41500	104	5.43
				70/59	30100	23600	2.579	38900	11.7	50500	2.848	40800	109	5.19
				75/63	32500	24400	2.604	41400	12.5	50300	2.959	40200	114	4.98
				80/67	34800	25100	2.628	43800	13.2	50000	3.070	39500	118	4.77
				85/71	37100	25900	2.652	46200	14.0					
100	6.0	2.3	5.3	65/55	25400	22000	2.898	35300	8.8					
				70/59	27700	22700	2.922	37700	9.5					
				75/63	30000	23500	2.947	40100	10.2					
				80/67	32300	24300	2.971	42400	10.9					
				85/71	34700	25000	2.995	44900	11.6					
	9.0	4.6	10.6	65/55	25500	22000	2.881	35300	8.9					
				70/59	27800	22800	2.905	37700	9.6					
				75/63	30200	23600	2.929	40200	10.3					
				80/67	32500	24300	2.953	42600	11.0					
				85/71	34800	25100	2.977	45000	11.7					
	12.0	7.6	17.3	65/55	25700	22100	2.863	35500	9.0					
				70/59	28000	22900	2.888	37900	9.7					
				75/63	30300	23600	2.912	40200	10.4					
				80/67	32600	24400	2.936	42600	11.1					
				85/71	34900	25100	2.960	45000	11.8					
110	6.0	2.3	5.2	65/55	23700	21300	3.239	34800	7.3					
				70/59	26000	22000	3.263	37100	8.0					
				75/63	28300	22800	3.288	39500	8.6					
				80/67	30600	23600	3.312	41900	9.2					
				85/71	32900	24300	3.336	44300	9.9					
	9.0	4.6	10.5	65/55	23800	21300	3.222	34800	7.4					
				70/59	26100	22100	3.246	37200	8.0					
				75/63	28500	22900	3.270	39700	8.7					
				80/67	30800	23600	3.294	42000	9.4					
				85/71	33100	24400	3.318	44400	10.0					
	12.0	7.5	17.1	65/55	24000	21400	3.204	34900	7.5					
				70/59	26300	22200	3.229	37300	8.1					
				75/63	28600	22900	3.253	39700	8.8					
				80/67	30900	23700	3.277	42100	9.4					
				85/71	33200	24400	3.301	44500	10.1					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 009 (300 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	1.5	2.1	4.9	65/55						5500	0.595	3500	82	2.71
				70/59						5400	0.623	3300	87	2.54
				75/63						5300	0.651	3100	91	2.38
				80/67						5300	0.679	3000	96	2.29
				85/71										
	2.3	4.5	10.4	65/55						5500	0.597	3500	82	2.70
				70/59						5500	0.625	3400	87	2.58
				75/63						5400	0.652	3200	92	2.43
				80/67						5400	0.680	3100	97	2.33
				85/71										
	3.0	7.7	17.7	65/55						5600	0.599	3600	82	2.74
				70/59						5600	0.626	3500	87	2.62
				75/63						5500	0.654	3300	92	2.46
				80/67						5400	0.682	3100	97	2.32
				85/71										
30	1.5	2.1	4.7	65/55						6800	0.603	4700	86	3.30
				70/59	10800	7500	0.350	12000	30.9	6800	0.631	4600	91	3.16
				75/63	11400	7600	0.356	12600	32.0	6700	0.659	4500	96	2.98
				80/67	12000	7800	0.362	13200	33.1	6700	0.686	4400	101	2.86
				85/71	12600	8000	0.368	13900	34.2					
	2.3	4.4	10.0	65/55	10300	7300	0.343	11500	30.0	6900	0.605	4800	86	3.34
				70/59	10800	7500	0.349	12000	30.9	6900	0.632	4700	91	3.20
				75/63	11400	7600	0.355	12600	32.1	6800	0.660	4500	96	3.02
				80/67	12000	7800	0.361	13200	33.2	6700	0.688	4400	101	2.85
				85/71	12600	8000	0.367	13900	34.3					
	3.0	7.5	17.1	65/55	10300	7300	0.342	11500	30.1	7000	0.606	4900	86	3.38
				70/59	10800	7500	0.348	12000	31.0	6900	0.634	4700	91	3.19
				75/63	11400	7600	0.354	12600	32.2	6900	0.662	4600	96	3.05
				80/67	12000	7800	0.360	13200	33.3	6800	0.689	4400	101	2.89
				85/71	12600	8000	0.366	13800	34.4					
40	1.5	2.0	4.6	65/55	10000	7000	0.374	11300	26.7	8200	0.611	6100	90	3.93
				70/59	10600	7200	0.380	11900	27.9	8100	0.639	5900	95	3.71
				75/63	11200	7400	0.386	12500	29.0	8000	0.667	5700	100	3.51
				80/67	11800	7600	0.392	13100	30.1	8000	0.695	5600	105	3.37
				85/71	12300	7800	0.398	13700	30.9					
	2.3	4.3	9.7	65/55	10000	7000	0.372	11300	26.9	8300	0.613	6200	90	3.96
				70/59	10600	7200	0.378	11900	28.0	8200	0.641	6000	95	3.75
				75/63	11200	7400	0.384	12500	29.2	8100	0.668	5800	100	3.55
				80/67	11800	7600	0.391	13100	30.2	8100	0.696	5700	105	3.41
				85/71	12400	7800	0.397	13800	31.2					
	3.0	7.3	16.6	65/55	10000	7000	0.371	11300	27.0	8300	0.614	6200	90	3.96
				70/59	10600	7200	0.377	11900	28.1	8300	0.642	6100	95	3.79
				75/63	11200	7400	0.383	12500	29.2	8200	0.670	5900	100	3.58
				80/67	11800	7600	0.389	13100	30.3	8100	0.698	5700	105	3.40
				85/71	12400	7800	0.395	13700	31.4					
50	1.5	2.0	4.5	65/55	9700	6700	0.414	11100	23.4	9500	0.620	7400	94	4.49
				70/59	10300	6900	0.420	11700	24.5	9400	0.648	7200	99	4.25
				75/63	10900	7100	0.426	12400	25.6	9300	0.675	7000	104	4.03
				80/67	11500	7300	0.432	13000	26.6	9300	0.703	6900	109	3.87
				85/71	12000	7500	0.438	13500	27.4					
	2.3	4.2	9.5	65/55	9700	6700	0.413	11100	23.5	9500	0.621	7400	94	4.48
				70/59	10300	6900	0.419	11700	24.6	9500	0.649	7300	99	4.29
				75/63	10900	7100	0.425	12400	25.6	9400	0.677	7100	104	4.07
				80/67	11500	7300	0.431	13000	26.7	9300	0.705	6900	109	3.86
				85/71	12100	7500	0.437	13600	27.7					
	3.0	7.1	16.2	65/55	9700	6700	0.412	11100	23.5	9600	0.623	7500	94	4.51
				70/59	10300	6900	0.418	11700	24.6	9500	0.651	7300	99	4.27
				75/63	10900	7100	0.424	12300	25.7	9500	0.679	7200	104	4.10
				80/67	11500	7300	0.430	13000	26.7	9400	0.706	7000	109	3.90
				85/71	12100	7500	0.436	13600	27.8					
60	1.5	1.9	4.4	65/55	9300	6500	0.465	10900	20.0	10700	0.629	8600	98	4.98
				70/59	9900	6600	0.471	11500	21.0	10600	0.657	8400	103	4.72
				75/63	10500	6800	0.477	12100	22.0	10600	0.685	8300	108	4.53
				80/67	11000	7000	0.483	12600	22.8	10500	0.712	8100	112	4.32
				85/71	11600	7200	0.489	13300	23.7					
	2.3	4.1	9.3	65/55	9300	6500	0.464	10900	20.0	10800	0.631	8600	98	5.01
				70/59	9900	6600	0.470	11500	21.1	10700	0.658	8500	103	4.76
				75/63	10500	6800	0.476	12100	22.1	10600	0.686	8300	108	4.52
				80/67	11100	7000	0.482	12700	23.0	10600	0.714	8200	113	4.35
				85/71	11600	7200	0.488	13300	23.8					
	3.0	6.9	15.8	65/55	9300	6500	0.463	10900	20.1	10800	0.632	8600	98	5.00
				70/59	9900	6600	0.469	11500	21.1	10800	0.660	8500	103	4.79
				75/63	10500	6800	0.475	12100	22.1	10700	0.688	8400	108	4.55
				80/67	11100	7000	0.481	12700	23.1	10700	0.715	8300	113	4.38
				85/71	11600	7200	0.487	13300	23.8					

Gray tint = Operation Not Recommended

Note: *All capacity data at full load*

Size 009 (300 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	1.5	1.9	4.3	65/55	8800	6200	0.524	10600	16.8	11900	0.639	9700	102	5.45
				70/59	9300	6400	0.530	11100	17.5	11800	0.666	9500	106	5.19
				75/63	9900	6600	0.536	11700	18.5	11700	0.694	9300	111	4.94
				80/67	10500	6800	0.542	12300	19.4	11700	0.722	9200	116	4.74
				85/71	11100	7000	0.549	13000	20.2					
	2.3	4.0	9.1	65/55	8800	6200	0.523	10600	16.8	11900	0.640	9700	102	5.44
				70/59	9300	6400	0.529	11100	17.6	11900	0.668	9600	107	5.22
				75/63	9900	6600	0.535	11700	18.5	11800	0.696	9400	111	4.96
				80/67	10500	6800	0.541	12300	19.4	11800	0.724	9300	116	4.77
				85/71	11100	7000	0.547	13000	20.3					
	3.0	6.8	15.4	65/55	8800	6200	0.522	10600	16.9	12000	0.642	9800	102	5.47
				70/59	9400	6400	0.528	11200	17.8	12000	0.670	9700	107	5.24
				75/63	9900	6600	0.534	11700	18.5	11900	0.697	9500	112	5.00
				80/67	10500	6800	0.540	12300	19.4	11800	0.725	9300	116	4.77
				85/71	11100	7000	0.546	13000	20.3					
80	1.5	1.8	4.2	65/55	8100	6000	0.592	10100	13.7	13000	0.649	10800	105	5.87
				70/59	8700	6100	0.598	10700	14.5	12900	0.677	10600	110	5.58
				75/63	9300	6300	0.604	11400	15.4	12900	0.704	10500	115	5.37
				80/67	9900	6500	0.610	12000	16.2	12800	0.732	10300	119	5.12
				85/71	10400	6700	0.616	12500	16.9					
	2.3	3.9	8.9	65/55	8100	6000	0.591	10100	13.7	13100	0.650	10900	105	5.90
				70/59	8700	6100	0.597	10700	14.6	13000	0.678	10700	110	5.61
				75/63	9300	6300	0.603	11400	15.4	12900	0.706	10500	115	5.35
				80/67	9900	6500	0.609	12000	16.3	12900	0.734	10400	120	5.15
				85/71	10500	6700	0.615	12600	17.1					
	3.0	6.6	15.1	65/55	8100	6000	0.589	10100	13.8	13100	0.652	10900	105	5.88
				70/59	8700	6200	0.595	10700	14.6	13100	0.680	10800	110	5.64
				75/63	9300	6300	0.602	11400	15.4	13000	0.707	10600	115	5.38
				80/67	9900	6500	0.608	12000	16.3	13000	0.735	10500	120	5.18
				85/71	10500	6700	0.614	12600	17.1					
90	1.5	1.8	4.1	65/55	7500	5700	0.666	9800	11.3	14100	0.659	11900	108	6.26
				70/59	8100	5900	0.672	10400	12.1	14000	0.687	11700	113	5.97
				75/63	8600	6100	0.678	10900	12.7	13900	0.715	11500	118	5.69
				80/67	9200	6300	0.684	11500	13.5	13900	0.743	11400	123	5.48
				85/71	9800	6500	0.690	12200	14.2					
	2.3	3.8	8.7	65/55	7500	5700	0.665	9800	11.3	14100	0.661	11800	108	6.25
				70/59	8100	5900	0.671	10400	12.1	14100	0.689	11700	113	5.99
				75/63	8700	6100	0.677	11000	12.9	14000	0.716	11600	118	5.73
				80/67	9200	6300	0.683	11500	13.5	14000	0.744	11500	123	5.51
				85/71	9800	6500	0.689	12200	14.2					
	3.0	6.5	14.9	65/55	7500	5700	0.663	9800	11.3	14200	0.663	11900	109	6.27
				70/59	8100	5900	0.669	10400	12.1	14200	0.690	11800	114	6.03
				75/63	8700	6100	0.676	11000	12.9	14100	0.718	11600	118	5.75
				80/67	9200	6300	0.682	11500	13.5	14000	0.746	11500	123	5.50
				85/71	9800	6500	0.688	12100	14.2					
100	1.5	1.8	4.1	65/55	6900	5400	0.745	9400	9.3					
				70/59	7500	5600	0.751	10100	10.0					
				75/63	8000	5800	0.757	10600	10.6					
				80/67	8600	6000	0.763	11200	11.3					
				85/71	9200	6200	0.769	11800	12.0					
	2.3	3.8	8.6	65/55	6900	5400	0.744	9400	9.3					
				70/59	7500	5600	0.750	10100	10.0					
				75/63	8100	5800	0.756	10700	10.7					
				80/67	8600	6000	0.762	11200	11.3					
				85/71	9200	6200	0.768	11800	12.0					
	3.0	6.4	14.7	65/55	6900	5400	0.743	9400	9.3					
				70/59	7500	5600	0.749	10100	10.0					
				75/63	8100	5800	0.755	10700	10.7					
				80/67	8600	6000	0.761	11200	11.3					
				85/71	9200	6200	0.767	11800	12.0					
110	1.5	1.8	4.0	65/55	6300	5100	0.830	9100	7.6					
				70/59	6900	5300	0.836	9800	8.3					
				75/63	7500	5500	0.842	10400	8.9					
				80/67	8100	5700	0.848	11000	9.6					
				85/71	8700	5900	0.854	11600	10.2					
	2.3	3.7	8.5	65/55	6300	5100	0.829	9100	7.6					
				70/59	6900	5300	0.835	9700	8.3					
				75/63	7500	5500	0.841	10400	8.9					
				80/67	8100	5700	0.847	11000	9.6					
				85/71	8700	5900	0.853	11600	10.2					
	3.0	6.4	14.5	65/55	6400	5100	0.827	9200	7.7					
				70/59	6900	5300	0.834	9700	8.3					
				75/63	7500	5500	0.840	10400	8.9					
				80/67	8100	5700	0.846	11000	9.6					
				85/71	8700	5900	0.852	11600	10.2					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 012 (400 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	2.0	3.7	8.3	65/55						7100	0.694	4700	81	3.00
				70/59						7000	0.731	4500	86	2.80
				75/63						6900	0.768	4300	91	2.63
				80/67						6900	0.805	4200	96	2.51
				85/71										
	3.0	7.7	17.7	65/55						7200	0.696	4800	82	3.03
				70/59						7200	0.733	4700	87	2.88
				75/63						7100	0.770	4500	91	2.70
				80/67						7000	0.807	4200	96	2.54
				85/71										
	4.0	13.2	30.1	65/55						7400	0.699	5000	82	3.10
				70/59						7300	0.736	4800	87	2.90
				75/63						7200	0.773	4600	92	2.73
				80/67						7100	0.810	4300	96	2.57
				85/71										
30	2.0	3.5	8.1	65/55						8800	0.730	6300	85	3.53
				70/59	13900	10000	0.427	15400	32.6	8700	0.767	6100	90	3.32
				75/63	14700	10200	0.435	16200	33.8	8600	0.804	5900	95	3.13
				80/67	15500	10500	0.443	17000	35.0	8600	0.841	5700	100	2.99
				85/71	16300	10700	0.451	17800	36.1					
	3.0	7.5	17.1	65/55	13200	9700	0.417	14600	31.7	8900	0.733	6400	85	3.56
				70/59	14000	10000	0.425	15500	32.9	8900	0.770	6300	90	3.38
				75/63	14700	10200	0.433	16200	33.9	8800	0.807	6000	95	3.19
				80/67	15500	10500	0.441	17000	35.1	8700	0.844	5800	100	3.02
				85/71	16300	10700	0.449	17800	36.3					
	4.0	12.8	29.1	65/55	13200	9700	0.415	14600	31.8	9100	0.735	6600	86	3.63
				70/59	14000	10000	0.423	15400	33.1	9000	0.772	6400	91	3.41
				75/63	14800	10200	0.431	16300	34.3	8900	0.809	6100	95	3.22
				80/67	15500	10500	0.439	17000	35.3	8800	0.846	5900	100	3.05
				85/71	16300	10700	0.448	17800	36.4					
40	2.0	3.4	7.8	65/55	12900	9200	0.447	14400	28.9	10400	0.763	7800	89	3.99
				70/59	13700	9500	0.455	15300	30.1	10300	0.800	7600	94	3.77
				75/63	14400	9700	0.463	16000	31.1	10300	0.837	7400	99	3.60
				80/67	15200	10000	0.471	16800	32.3	10200	0.874	7200	103	3.42
				85/71	16000	10200	0.479	17600	33.4					
	3.0	7.3	16.6	65/55	12900	9200	0.445	14400	29.0	10600	0.766	8000	89	4.05
				70/59	13700	9500	0.453	15200	30.2	10500	0.803	7800	94	3.83
				75/63	14400	9700	0.461	16000	31.2	10400	0.840	7500	99	3.63
				80/67	15200	10000	0.469	16800	32.4	10300	0.877	7300	104	3.44
				85/71	16000	10200	0.477	17600	33.5					
	4.0	12.4	28.3	65/55	12900	9200	0.443	14400	29.1	10700	0.769	8100	90	4.07
				70/59	13700	9500	0.451	15200	30.4	10600	0.806	7800	94	3.85
				75/63	14500	9700	0.459	16100	31.6	10500	0.843	7600	99	3.65
				80/67	15200	10000	0.467	16800	32.5	10500	0.880	7500	104	3.49
				85/71	16000	10200	0.475	17600	33.7					
50	2.0	3.3	7.6	65/55	12400	8700	0.496	14100	25.0	11900	0.794	9200	92	4.39
				70/59	13200	8900	0.504	14900	26.2	11900	0.831	9100	97	4.19
				75/63	14000	9200	0.512	15700	27.3	11800	0.868	8800	102	3.98
				80/67	14700	9400	0.520	16500	28.3	11700	0.905	8600	107	3.79
				85/71	15500	9700	0.528	17300	29.4					
	3.0	7.1	16.2	65/55	12400	8700	0.494	14100	25.1	12100	0.796	9400	93	4.45
				70/59	13200	8900	0.502	14900	26.3	12000	0.833	9200	98	4.22
				75/63	14000	9200	0.510	15700	27.5	11900	0.870	8900	102	4.01
				80/67	14700	9400	0.518	16500	28.4	11800	0.907	8700	107	3.81
				85/71	15500	9700	0.526	17300	29.5					
	4.0	12.1	27.5	65/55	12400	8700	0.492	14100	25.2	12200	0.799	9500	93	4.47
				70/59	13200	8900	0.500	14900	26.4	12100	0.836	9200	98	4.24
				75/63	14000	9200	0.508	15700	27.6	12100	0.873	9100	103	4.06
				80/67	14800	9400	0.516	16600	28.7	12000	0.910	8900	108	3.86
				85/71	15500	9700	0.524	17300	29.6					
60	2.0	3.3	7.4	65/55	11800	8200	0.564	13700	20.9	13400	0.821	10600	96	4.78
				70/59	12500	8400	0.572	14500	21.9	13300	0.858	10400	101	4.54
				75/63	13300	8700	0.580	15300	22.9	13200	0.895	10100	105	4.32
				80/67	14100	9000	0.588	16100	24.0	13100	0.932	9900	110	4.12
				85/71	14800	9200	0.596	16800	24.8					
	3.0	6.9	15.8	65/55	11800	8200	0.562	13700	21.0	13500	0.824	10700	96	4.80
				70/59	12500	8500	0.570	14400	21.9	13400	0.861	10500	101	4.56
				75/63	13300	8700	0.578	15300	23.0	13400	0.898	10300	106	4.37
				80/67	14100	9000	0.586	16100	24.1	13300	0.935	10100	111	4.17
				85/71	14900	9200	0.594	16900	25.1					
	4.0	11.8	26.9	65/55	11800	8200	0.560	13700	21.1	13700	0.827	10900	97	4.85
				70/59	12600	8500	0.568	14500	22.2	13600	0.864	10700	101	4.61
				75/63	13300	8700	0.576	15300	23.1	13500	0.901	10400	106	4.39
				80/67	14100	9000	0.584	16100	24.1	13400	0.938	10200	111	4.18
				85/71	14900	9200	0.593	16900	25.1					

Gray tint = Operation Not Recommended

Note: *All capacity data at full load*

Size 012 (400 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	2.0	3.2	7.3	65/55	11000	7800	0.648	13200	17.0	14700	0.846	11800	99	5.09
				70/59	11700	8100	0.656	13900	17.8	14700	0.883	11700	104	4.87
				75/63	12500	8300	0.664	14800	18.8	14600	0.920	11500	109	4.65
				80/67	13300	8600	0.672	15600	19.8	14500	0.957	11200	113	4.44
				85/71	14000	8800	0.680	16300	20.6					
	3.0	6.8	15.4	65/55	11000	7800	0.646	13200	17.0	14900	0.848	12000	99	5.14
				70/59	11700	8100	0.654	13900	17.9	14800	0.885	11800	104	4.90
				75/63	12500	8300	0.662	14800	18.9	14700	0.922	11600	109	4.67
				80/67	13300	8600	0.670	15600	19.9	14600	0.959	11300	114	4.46
				85/71	14100	8800	0.678	16400	20.8					
	4.0	11.5	26.3	65/55	11000	7800	0.644	13200	17.1	15000	0.851	12100	100	5.16
				70/59	11800	8100	0.652	14000	18.1	14900	0.888	11900	104	4.91
				75/63	12500	8300	0.660	14800	18.9	14900	0.925	11700	109	4.72
				80/67	13300	8600	0.668	15600	19.9	14800	0.962	11500	114	4.50
				85/71	14100	8900	0.676	16400	20.9					
80	2.0	3.1	7.2	65/55	10100	7500	0.744	12600	13.6	16000	0.867	13000	102	5.40
				70/59	10900	7800	0.752	13500	14.5	15900	0.904	12800	107	5.15
				75/63	11700	8100	0.760	14300	15.4	15900	0.941	12700	112	4.95
				80/67	12400	8300	0.768	15000	16.1	15800	0.978	12500	116	4.73
				85/71	13200	8600	0.776	15800	17.0					
	3.0	6.6	15.1	65/55	10100	7600	0.742	12600	13.6	16200	0.870	13200	102	5.45
				70/59	10900	7800	0.750	13500	14.5	16100	0.907	13000	107	5.20
				75/63	11700	8100	0.758	14300	15.4	16000	0.944	12800	112	4.96
				80/67	12500	8300	0.766	15100	16.3	15900	0.981	12600	117	4.75
				85/71	13200	8600	0.774	15800	17.1					
	4.0	11.3	25.8	65/55	10200	7600	0.740	12700	13.8	16300	0.873	13300	103	5.47
				70/59	10900	7800	0.748	13500	14.6	16200	0.910	13100	107	5.21
				75/63	11700	8100	0.756	14300	15.5	16100	0.947	12900	112	4.98
				80/67	12500	8300	0.764	15100	16.4	16000	0.984	12600	117	4.76
				85/71	13300	8600	0.772	15900	17.2					
90	2.0	3.1	7.0	65/55	9400	7300	0.849	12300	11.1	17200	0.886	14200	105	5.68
				70/59	10100	7600	0.857	13000	11.8	17100	0.923	13900	109	5.42
				75/63	10900	7800	0.865	13900	12.6	17000	0.960	13700	114	5.19
				80/67	11700	8100	0.873	14700	13.4	17000	0.997	13600	119	4.99
				85/71	12500	8300	0.882	15500	14.2					
	3.0	6.5	14.9	65/55	9400	7300	0.847	12300	11.1	17300	0.888	14300	105	5.70
				70/59	10200	7600	0.855	13100	11.9	17300	0.925	14100	110	5.48
				75/63	10900	7800	0.863	13800	12.6	17200	0.962	13900	115	5.24
				80/67	11700	8100	0.872	14700	13.4	17100	0.999	13700	119	5.01
				85/71	12500	8300	0.880	15500	14.2					
	4.0	11.1	25.4	65/55	9400	7300	0.845	12300	11.1	17500	0.891	14500	105	5.75
				70/59	10200	7600	0.853	13100	12.0	17400	0.928	14200	110	5.49
				75/63	10900	7800	0.862	13800	12.6	17300	0.965	14000	115	5.25
				80/67	11700	8100	0.870	14700	13.4	17200	1.002	13800	120	5.03
				85/71	12500	8300	0.878	15500	14.2					
100	2.0	3.0	6.9	65/55	8700	7100	0.960	12000	9.1					
				70/59	9500	7400	0.969	12800	9.8					
				75/63	10300	7600	0.977	13600	10.5					
				80/67	11000	7900	0.985	14400	11.2					
				85/71	11800	8100	0.993	15200	11.9					
	3.0	6.4	14.7	65/55	8700	7100	0.959	12000	9.1					
				70/59	9500	7400	0.967	12800	9.8					
				75/63	10300	7600	0.975	13600	10.6					
				80/67	11000	7900	0.983	14400	11.2					
				85/71	11800	8100	0.991	15200	11.9					
	4.0	11.0	25.0	65/55	8700	7100	0.957	12000	9.1					
				70/59	9500	7400	0.965	12800	9.8					
				75/63	10300	7600	0.973	13600	10.6					
				80/67	11100	7900	0.981	14400	11.3					
				85/71	11800	8100	0.989	15200	11.9					
110	2.0	3.0	6.9	65/55	8100	7000	1.074	11800	7.5					
				70/59	8900	7200	1.082	12600	8.2					
				75/63	9600	7500	1.090	13300	8.8					
				80/67	10400	7700	1.099	14200	9.5					
				85/71	11200	8000	1.107	15000	10.1					
	3.0	6.4	14.5	65/55	8100	7000	1.072	11800	7.6					
				70/59	8900	7200	1.080	12600	8.2					
				75/63	9600	7500	1.089	13300	8.8					
				80/67	10400	7800	1.097	14100	9.5					
				85/71	11200	8000	1.105	15000	10.1					
	4.0	10.8	24.8	65/55	8100	7000	1.070	11800	7.6					
				70/59	8900	7300	1.079	12600	8.2					
				75/63	9700	7500	1.087	13400	8.9					
				80/67	10400	7800	1.095	14100	9.5					
				85/71	11200	8000	1.103	15000	10.2					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 015 (500 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	2.5	1.0	2.4	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					8400	0.843	5500	80	2.92
				70/59						8300	0.889	5300	85	2.73
				75/63						8200	0.936	5000	90	2.57
				80/67						8100	0.982	4700	95	2.42
				85/71										
	3.8	2.2	5.1	65/55						8600	0.848	5700	81	2.97
				70/59						8500	0.894	5400	86	2.78
				75/63						8400	0.940	5200	90	2.62
				80/67						8300	0.986	4900	95	2.46
				85/71										
	5.0	3.9	8.9	65/55						8800	0.852	5900	81	3.02
				70/59						8700	0.898	5600	86	2.84
				75/63						8600	0.944	5400	91	2.67
				80/67						8500	0.991	5100	96	2.51
				85/71										
30	2.5	1.0	2.3	65/55						10400	0.869	7400	84	3.50
				70/59	16400	11900	0.490	18100	33.5	10300	0.915	7200	89	3.30
				75/63	17300	12200	0.500	19000	34.6	10200	0.962	6900	94	3.10
				80/67	18300	12500	0.510	20000	35.9	10100	1.008	6700	99	2.93
				85/71	19300	12800	0.520	21100	37.1					
	3.8	2.2	5.0	65/55	15400	11600	0.477	17000	32.3	10600	0.874	7600	85	3.55
				70/59	16400	11900	0.487	18100	33.7	10500	0.920	7400	89	3.34
				75/63	17400	12200	0.497	19100	35.0	10400	0.966	7100	94	3.15
				80/67	18300	12500	0.507	20000	36.1	10300	1.012	6800	99	2.98
				85/71	19300	12900	0.517	21100	37.3					
	5.0	3.8	8.6	65/55	15500	11600	0.474	17100	32.7	10800	0.878	7800	85	3.60
				70/59	16400	11900	0.484	18100	33.9	10700	0.924	7500	90	3.39
				75/63	17400	12200	0.494	19100	35.2	10600	0.970	7300	95	3.20
				80/67	18300	12500	0.504	20000	36.3	10500	1.017	7000	99	3.02
				85/71	19300	12900	0.514	21100	37.5					
40	2.5	1.0	2.2	65/55	15400	11600	0.512	17100	30.1	12400	0.897	9300	88	4.05
				70/59	16400	11900	0.522	18200	31.4	12300	0.943	9100	93	3.82
				75/63	17400	12200	0.532	19200	32.7	12200	0.990	8800	97	3.61
				80/67	18300	12500	0.542	20100	33.8	12100	1.036	8600	102	3.42
				85/71	19300	12800	0.552	21200	35.0					
	3.8	2.1	4.8	65/55	15500	11600	0.509	17200	30.5	12600	0.901	9500	88	4.09
				70/59	16400	11900	0.519	18200	31.6	12500	0.948	9300	93	3.86
				75/63	17400	12200	0.529	19200	32.9	12400	0.994	9000	98	3.65
				80/67	18400	12500	0.539	20200	34.1	12300	1.040	8800	103	3.46
				85/71	19300	12800	0.549	21200	35.2					
	5.0	3.6	8.3	65/55	15500	11600	0.506	17200	30.6	12800	0.906	9700	89	4.14
				70/59	16500	11900	0.516	18300	32.0	12700	0.952	9500	93	3.91
				75/63	17400	12200	0.526	19200	33.1	12600	0.998	9200	98	3.70
				80/67	18400	12500	0.536	20200	34.3	12500	1.045	8900	103	3.50
				85/71	19400	12800	0.546	21300	35.5					
50	2.5	0.9	2.2	65/55	15100	11200	0.569	17000	26.5	14400	0.927	11200	92	4.55
				70/59	16000	11500	0.579	18000	27.6	14300	0.973	11000	96	4.30
				75/63	17000	11800	0.589	19000	28.9	14200	1.019	10700	101	4.08
				80/67	18000	12100	0.600	20000	30.0	14100	1.066	10500	106	3.87
				85/71	18900	12500	0.610	21000	31.0					
	3.8	2.1	4.7	65/55	15100	11200	0.566	17000	26.7	14600	0.931	11400	92	4.59
				70/59	16100	11500	0.576	18100	28.0	14500	0.978	11200	97	4.34
				75/63	17000	11800	0.586	19000	29.0	14400	1.024	10900	102	4.12
				80/67	18000	12200	0.596	20000	30.2	14300	1.070	10600	106	3.91
				85/71	19000	12500	0.607	21100	31.3					
	5.0	3.6	8.1	65/55	15100	11200	0.563	17000	26.8	14800	0.936	11600	92	4.63
				70/59	16100	11500	0.573	18100	28.1	14700	0.982	11300	97	4.38
				75/63	17100	11900	0.583	19100	29.3	14600	1.028	11100	102	4.16
				80/67	18000	12200	0.593	20000	30.4	14500	1.074	10800	107	3.95
				85/71	19000	12500	0.604	21100	31.5					
60	2.5	0.9	2.1	65/55	14300	10600	0.648	16500	22.1	16500	0.959	13200	95	5.04
				70/59	15300	10900	0.658	17500	23.3	16400	1.005	13000	100	4.78
				75/63	16200	11200	0.668	18500	24.3	16300	1.051	12700	105	4.54
				80/67	17200	11500	0.678	19500	25.4	16200	1.098	12500	110	4.32
				85/71	18100	11900	0.688	20400	26.3					
	3.8	2.0	4.6	65/55	14300	10600	0.645	16500	22.2	16700	0.963	13400	96	5.08
				70/59	15300	10900	0.655	17500	23.4	16600	1.009	13200	101	4.82
				75/63	16200	11200	0.665	18500	24.4	16500	1.056	12900	105	4.58
				80/67	17200	11600	0.675	19500	25.5	16400	1.102	12600	110	4.36
				85/71	18200	11900	0.685	20500	26.6					
	5.0	3.5	7.9	65/55	14300	10600	0.642	16500	22.3	16900	0.968	13600	96	5.11
				70/59	15300	10900	0.652	17500	23.5	16800	1.014	13300	101	4.85
				75/63	16300	11200	0.662	18600	24.6	16700	1.060	13100	106	4.61
				80/67	17200	11600	0.672	19500	25.6	16600	1.106	12800	111	4.39
				85/71	18200	11900	0.682	20500	26.7					

Size 015 (500 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	2.5	0.9	2.1	65/55	13200	9900	0.744	15700	17.7	18500	0.993	15100	99	5.46
				70/59	14200	10200	0.754	16800	18.8	18400	1.039	14900	104	5.19
				75/63	15200	10500	0.764	17800	19.9	18300	1.085	14600	109	4.94
				80/67	16100	10900	0.774	18700	20.8	18200	1.131	14300	114	4.71
				85/71	17100	11200	0.784	19800	21.8					
	3.8	2.0	4.5	65/55	13300	9900	0.741	15800	17.9	18800	0.997	15400	100	5.52
				70/59	14200	10200	0.751	16800	18.9	18700	1.043	15100	104	5.25
				75/63	15200	10600	0.761	17800	20.0	18600	1.090	14900	109	5.00
				80/67	16200	10900	0.771	18800	21.0	18500	1.136	14600	114	4.77
				85/71	17100	11200	0.781	19800	21.9					
	5.0	3.4	7.7	65/55	13300	9900	0.738	15800	18.0	19000	1.001	15600	100	5.56
				70/59	14300	10300	0.748	16900	19.1	18900	1.048	15300	105	5.28
				75/63	15200	10600	0.758	17800	20.1	18800	1.094	15100	110	5.03
				80/67	16200	10900	0.768	18800	21.1	18700	1.140	14800	114	4.80
				85/71	17200	11200	0.778	19900	22.1					
80	2.5	0.9	2.0	65/55	12200	9300	0.853	15100	14.3	20600	1.028	17100	103	5.87
				70/59	13100	9700	0.863	16000	15.2	20500	1.075	16800	108	5.58
				75/63	14100	10000	0.873	17100	16.2	20400	1.121	16600	113	5.33
				80/67	15000	10300	0.883	18000	17.0	20300	1.167	16300	117	5.09
				85/71	16000	10600	0.893	19000	17.9					
	3.8	1.9	4.4	65/55	12200	9300	0.850	15100	14.4	20900	1.033	17400	103	5.92
				70/59	13100	9700	0.860	16000	15.2	20800	1.079	17100	108	5.64
				75/63	14100	10000	0.870	17100	16.2	20700	1.125	16900	113	5.39
				80/67	15100	10300	0.880	18100	17.2	20600	1.172	16600	118	5.15
				85/71	16000	10600	0.890	19000	18.0					
	5.0	3.3	7.6	65/55	12200	9400	0.847	15100	14.4	21100	1.037	17600	104	5.96
				70/59	13200	9700	0.857	16100	15.4	21000	1.083	17300	109	5.68
				75/63	14100	10000	0.867	17100	16.3	20900	1.130	17000	113	5.42
				80/67	15100	10300	0.877	18100	17.2	20800	1.176	16800	118	5.18
				85/71	16100	10600	0.887	19100	18.2					
90	2.5	0.9	2.0	65/55	11200	9000	0.972	14500	11.5	22800	1.066	19200	107	6.26
				70/59	12200	9300	0.982	15600	12.4	22700	1.112	18900	112	5.98
				75/63	13200	9600	0.992	16600	13.3	22600	1.159	18600	117	5.71
				80/67	14100	9900	1.002	17500	14.1	22500	1.205	18400	121	5.47
				85/71	15100	10200	1.012	18600	14.9					
	3.8	1.9	4.3	65/55	11200	9000	0.968	14500	11.6	23000	1.071	19300	107	6.29
				70/59	12200	9300	0.979	15500	12.5	22900	1.117	19100	112	6.00
				75/63	13200	9600	0.989	16600	13.3	22800	1.163	18800	117	5.74
				80/67	14100	9900	0.999	17500	14.1	22700	1.209	18600	122	5.50
				85/71	15100	10200	1.009	18500	15.0					
	5.0	3.3	7.5	65/55	11300	9000	0.965	14600	11.7	23200	1.075	19500	108	6.32
				70/59	12200	9300	0.976	15500	12.5	23100	1.121	19300	113	6.03
				75/63	13200	9600	0.986	16600	13.4	23000	1.167	19000	117	5.77
				80/67	14200	9900	0.996	17600	14.3	22900	1.214	18800	122	5.52
				85/71	15100	10300	1.006	18500	15.0					
100	2.5	0.9	2.0	65/55	10500	8800	1.095	14200	9.6					
				70/59	11500	9100	1.105	15300	10.4					
				75/63	12400	9400	1.116	16200	11.1					
				80/67	13400	9700	1.126	17200	11.9					
				85/71	14400	10000	1.136	18300	12.7					
	3.8	1.9	4.3	65/55	10500	8800	1.092	14200	9.6					
				70/59	11500	9100	1.102	15300	10.4					
				75/63	12500	9400	1.112	16300	11.2					
				80/67	13400	9700	1.123	17200	11.9					
				85/71	14400	10100	1.133	18300	12.7					
	5.0	3.2	7.4	65/55	10600	8800	1.089	14300	9.7					
				70/59	11500	9100	1.099	15300	10.5					
				75/63	12500	9400	1.109	16300	11.3					
				80/67	13500	9800	1.120	17300	12.1					
				85/71	14400	10100	1.130	18300	12.7					
110	2.5	0.9	1.9	65/55	9900	8500	1.221	14100	8.1					
				70/59	10800	8900	1.231	15000	8.8					
				75/63	11800	9200	1.241	16000	9.5					
				80/67	12800	9500	1.251	17100	10.2					
				85/71	13700	9800	1.261	18000	10.9					
	3.8	1.8	4.2	65/55	9900	8500	1.218	14100	8.1					
				70/59	10800	8900	1.228	15000	8.8					
				75/63	11800	9200	1.238	16000	9.5					
				80/67	12800	9500	1.248	17100	10.3					
				85/71	13700	9800	1.258	18000	10.9					
	5.0	3.2	7.3	65/55	9900	8600	1.215	14000	8.1					
				70/59	10900	8900	1.225	15100	8.9					
				75/63	11800	9200	1.235	16000	9.6					
				80/67	12800	9500	1.245	17000	10.3					
				85/71	13800	9800	1.255	18100	11.0					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 018 (600 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	3.0	1.5	3.3	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					10700	1.073	7000	81	2.92
				70/59						10500	1.128	6700	86	2.73
				75/63						10400	1.184	6400	91	2.57
				80/67						10300	1.239	6100	96	2.43
				85/71										
	4.5	3.2	7.2	65/55						11000	1.079	7300	82	2.99
				70/59						10900	1.134	7000	87	2.81
				75/63						10700	1.190	6600	91	2.63
				80/67						10600	1.245	6400	96	2.49
				85/71										
	6.0	5.5	12.5	65/55						11300	1.085	7600	82	3.05
				70/59						11200	1.141	7300	87	2.87
				75/63						11000	1.196	6900	92	2.69
				80/67						10900	1.252	6600	97	2.55
				85/71										
30	3.0	1.4	3.2	65/55						13100	1.110	9300	85	3.46
				70/59	18900	13700	0.674	21200	28.0	12900	1.165	8900	90	3.24
				75/63	20100	14000	0.686	22400	29.3	12800	1.221	8600	95	3.07
				80/67	21200	14400	0.698	23600	30.4	12700	1.276	8300	99	2.91
				85/71	22400	14800	0.710	24800	31.5					
	4.5	3.1	7.0	65/55	17800	13300	0.658	20000	27.1	13400	1.116	9600	86	3.52
				70/59	18900	13700	0.670	21200	28.2	13300	1.172	9300	90	3.32
				75/63	20100	14000	0.682	22400	29.5	13100	1.227	8900	95	3.13
				80/67	21300	14400	0.694	23700	30.7	13000	1.283	8600	100	2.97
				85/71	22400	14800	0.706	24800	31.7					
	6.0	5.3	12.1	65/55	17800	13300	0.653	20000	27.3	13700	1.122	9900	86	3.58
				70/59	19000	13700	0.665	21300	28.6	13600	1.178	9600	91	3.38
				75/63	20100	14100	0.677	22400	29.7	13400	1.233	9200	96	3.18
				80/67	21300	14400	0.690	23700	30.9	13300	1.289	8900	100	3.02
				85/71	22400	14800	0.702	24800	31.9					
40	3.0	1.4	3.1	65/55	17600	13200	0.715	20000	24.6	15500	1.147	11600	89	3.96
				70/59	18800	13600	0.727	21300	25.9	15400	1.203	11300	94	3.75
				75/63	20000	13900	0.739	22500	27.1	15200	1.258	10900	98	3.54
				80/67	21100	14300	0.751	23700	28.1	15100	1.314	10600	103	3.36
				85/71	22300	14700	0.763	24900	29.2					
	4.5	3.0	6.8	65/55	17700	13200	0.710	20100	24.9	15800	1.154	11900	89	4.01
				70/59	18800	13600	0.723	21300	26.0	15700	1.209	11600	94	3.80
				75/63	20000	13900	0.735	22500	27.2	15500	1.265	11200	99	3.59
				80/67	21100	14300	0.747	23600	28.2	15400	1.320	10900	104	3.42
				85/71	22300	14700	0.759	24900	29.4					
	6.0	5.2	11.8	65/55	17700	13200	0.706	20100	25.1	16100	1.160	12100	90	4.06
				70/59	18900	13600	0.718	21400	26.3	16000	1.215	11900	95	3.86
				75/63	20000	14000	0.730	22500	27.4	15900	1.271	11600	99	3.66
				80/67	21200	14300	0.742	23700	28.6	15700	1.326	11200	104	3.47
				85/71	22300	14700	0.754	24900	29.6					
50	3.0	1.3	3.1	65/55	17100	12700	0.786	19800	21.8	17900	1.185	13900	92	4.42
				70/59	18300	13100	0.798	21000	22.9	17800	1.241	13600	97	4.20
				75/63	19400	13500	0.810	22200	24.0	17700	1.296	13300	102	4.00
				80/67	20600	13800	0.822	23400	25.1	17500	1.352	12900	107	3.79
				85/71	21700	14200	0.834	24500	26.0					
	4.5	2.9	6.6	65/55	17100	12700	0.782	19800	21.9	18200	1.191	14100	93	4.47
				70/59	18300	13100	0.794	21000	23.0	18100	1.247	13800	98	4.25
				75/63	19400	13500	0.806	22200	24.1	18000	1.302	13600	103	4.05
				80/67	20600	13900	0.818	23400	25.2	17800	1.358	13200	107	3.84
				85/71	21800	14200	0.830	24600	26.3					
	6.0	5.0	11.5	65/55	17200	12700	0.777	19900	22.1	18500	1.198	14400	93	4.52
				70/59	18300	13100	0.789	21000	23.2	18400	1.253	14100	98	4.30
				75/63	19500	13500	0.801	22200	24.3	18300	1.309	13800	103	4.09
				80/67	20600	13900	0.814	23400	25.3	18200	1.364	13500	108	3.91
				85/71	21800	14200	0.826	24600	26.4					
60	3.0	1.3	3.0	65/55	16200	12000	0.875	19200	18.5	20300	1.223	16100	96	4.86
				70/59	17400	12400	0.887	20400	19.6	20200	1.279	15800	101	4.62
				75/63	18500	12800	0.900	21600	20.6	20100	1.334	15500	106	4.41
				80/67	19700	13200	0.912	22800	21.6	20000	1.390	15300	111	4.21
				85/71	20900	13600	0.924	24100	22.6					
	4.5	2.8	6.5	65/55	16300	12000	0.871	19300	18.7	20700	1.229	16500	97	4.93
				70/59	17400	12400	0.883	20400	19.7	20500	1.285	16100	101	4.67
				75/63	18600	12800	0.895	21700	20.8	20400	1.340	15800	106	4.46
				80/67	19700	13200	0.907	22800	21.7	20300	1.396	15500	111	4.26
				85/71	20900	13600	0.919	24000	22.7					
	6.0	4.9	11.2	65/55	16300	12100	0.867	19300	18.8	21000	1.236	16800	97	4.97
				70/59	17400	12400	0.879	20400	19.8	20900	1.291	16500	102	4.74
				75/63	18600	12800	0.891	21600	20.9	20700	1.347	16100	107	4.50
				80/67	19800	13200	0.903	22900	21.9	20600	1.402	15800	112	4.30
				85/71	20900	13600	0.915	24000	22.8					

Size 018 (600 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	3.0	1.3	2.9	65/55	15200	11400	0.983	18600	15.5	22800	1.261	18500	100	5.29
				70/59	16300	11700	0.995	19700	16.4	22700	1.317	18200	105	5.05
				75/63	17500	12100	1.007	20900	17.4	22600	1.372	17900	110	4.82
				80/67	18600	12500	1.019	22100	18.3	22400	1.428	17500	114	4.59
				85/71	19800	12900	1.031	23300	19.2					
	4.5	2.8	6.3	65/55	15200	11400	0.979	18500	15.5	23100	1.268	18800	100	5.33
				70/59	16300	11700	0.991	19700	16.4	23000	1.323	18500	105	5.09
				75/63	17500	12100	1.003	20900	17.4	22900	1.379	18200	110	4.86
				80/67	18700	12500	1.015	22200	18.4	22700	1.434	17800	115	4.64
				85/71	19800	12900	1.027	23300	19.3					
	6.0	4.8	11.0	65/55	15200	11400	0.974	18500	15.6	23400	1.274	19100	101	5.38
				70/59	16400	11800	0.986	19800	16.6	23300	1.330	18800	106	5.13
				75/63	17500	12100	0.998	20900	17.5	23200	1.385	18500	111	4.90
				80/67	18700	12500	1.010	22100	18.5	23100	1.441	18200	115	4.69
				85/71	19900	12900	1.023	23400	19.5					
80	3.0	1.3	2.9	65/55	14100	10800	1.108	17900	12.7	25300	1.300	20900	104	5.70
				70/59	15200	11200	1.121	19000	13.6	25100	1.356	20500	109	5.42
				75/63	16400	11600	1.133	20300	14.5	25000	1.411	20200	113	5.19
				80/67	17500	11900	1.145	21400	15.3	24900	1.467	19900	118	4.97
				85/71	18700	12300	1.157	22600	16.2					
	4.5	2.7	6.2	65/55	14100	10800	1.104	17900	12.8	25600	1.306	21100	104	5.74
				70/59	15300	11200	1.116	19100	13.7	25500	1.362	20900	109	5.48
				75/63	16400	11600	1.128	20200	14.5	25300	1.417	20500	114	5.23
				80/67	17600	11900	1.140	21500	15.4	25200	1.473	20200	119	5.01
				85/71	18700	12300	1.152	22600	16.2					
	6.0	4.7	10.8	65/55	14100	10800	1.100	17900	12.8	25900	1.313	21400	105	5.78
				70/59	15300	11200	1.112	19100	13.8	25800	1.368	21100	110	5.52
				75/63	16400	11600	1.124	20200	14.6	25700	1.424	20800	114	5.28
				80/67	17600	12000	1.136	21500	15.5	25500	1.479	20500	119	5.05
				85/71	18800	12300	1.148	22700	16.4					
90	3.0	1.2	2.8	65/55	13000	10400	1.252	17300	10.4	27800	1.339	23200	108	6.08
				70/59	14200	10800	1.264	18500	11.2	27600	1.394	22800	112	5.80
				75/63	15400	11200	1.276	19800	12.1	27500	1.450	22600	117	5.55
				80/67	16500	11500	1.288	20900	12.8	27400	1.505	22300	122	5.33
				85/71	17700	11900	1.300	22100	13.6					
	4.5	2.7	6.1	65/55	13100	10400	1.248	17400	10.5	28100	1.345	23500	108	6.12
				70/59	14200	10800	1.260	18500	11.3	27900	1.401	23100	113	5.83
				75/63	15400	11200	1.272	19700	12.1	27800	1.456	22800	118	5.59
				80/67	16600	11600	1.284	21000	12.9	27700	1.512	22500	123	5.36
				85/71	17700	11900	1.296	22100	13.7					
	6.0	4.6	10.6	65/55	13100	10400	1.243	17300	10.5	28400	1.351	23800	109	6.16
				70/59	14300	10800	1.255	18600	11.4	28300	1.407	23500	113	5.89
				75/63	15400	11200	1.267	19700	12.2	28100	1.462	23100	118	5.63
				80/67	16600	11600	1.279	21000	13.0	28000	1.518	22800	123	5.40
				85/71	17800	12000	1.291	22200	13.8					
100	3.0	1.2	2.8	65/55	12100	10100	1.413	16900	8.6					
				70/59	13300	10500	1.425	18200	9.3					
				75/63	14500	10900	1.437	19400	10.1					
				80/67	15600	11300	1.449	20500	10.8					
				85/71	16800	11600	1.461	21800	11.5					
	4.5	2.6	6.0	65/55	12200	10100	1.409	17000	8.7					
				70/59	13300	10500	1.421	18100	9.4					
				75/63	14500	10900	1.433	19400	10.1					
				80/67	15600	11300	1.445	20500	10.8					
				85/71	16800	11600	1.457	21800	11.5					
	6.0	4.6	10.4	65/55	12200	10100	1.404	17000	8.7					
				70/59	13400	10500	1.416	18200	9.5					
				75/63	14500	10900	1.429	19400	10.1					
				80/67	15700	11300	1.441	20600	10.9					
				85/71	16800	11700	1.453	21800	11.6					
110	3.0	1.2	2.8	65/55	11200	9700	1.592	16600	7.0					
				70/59	12400	10100	1.604	17900	7.7					
				75/63	13500	10400	1.616	19000	8.4					
				80/67	14700	10800	1.628	20300	9.0					
				85/71	15900	11200	1.640	21500	9.7					
	4.5	2.6	6.0	65/55	11300	9700	1.588	16700	7.1					
				70/59	12400	10100	1.600	17900	7.8					
				75/63	13600	10500	1.612	19100	8.4					
				80/67	14700	10800	1.624	20200	9.1					
				85/71	15900	11200	1.636	21500	9.7					
	6.0	4.5	10.3	65/55	11300	9700	1.583	16700	7.1					
				70/59	12400	10100	1.595	17800	7.8					
				75/63	13600	10500	1.607	19100	8.5					
				80/67	14800	10900	1.619	20300	9.1					
				85/71	15900	11200	1.632	21500	9.7					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 021 (670 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	3.5	2.0	4.6	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					11600	1.124	7800	81	3.02
				70/59						11500	1.189	7400	86	2.83
				75/63						11300	1.253	7000	91	2.64
				80/67						11200	1.318	6700	95	2.49
				85/71										
	5.3	4.0	9.2	65/55						12100	1.133	8200	82	3.13
				70/59						11900	1.197	7800	86	2.91
				75/63						11800	1.262	7500	91	2.74
				80/67						11600	1.327	7100	96	2.56
				85/71										
	7.0	6.6	15.1	65/55						12500	1.141	8600	82	3.21
				70/59						12300	1.206	8200	87	2.99
				75/63						12200	1.271	7900	92	2.81
				80/67						12100	1.335	7500	97	2.65
				85/71										
30	3.5	1.9	4.4	65/55						14200	1.173	10200	85	3.54
				70/59	19500	14300	0.686	21800	28.4	14000	1.237	9800	89	3.31
				75/63	21000	14800	0.702	23400	29.9	13900	1.302	9500	94	3.13
				80/67	22600	15300	0.719	25100	31.4	13700	1.367	9000	99	2.93
				85/71	24100	15800	0.735	26600	32.8					
	5.3	3.9	8.9	65/55	18000	13800	0.663	20300	27.1	14600	1.181	10600	85	3.62
				70/59	19500	14300	0.680	21800	28.7	14500	1.246	10200	90	3.41
				75/63	21100	14900	0.696	23500	30.3	14300	1.311	9800	95	3.19
				80/67	22600	15400	0.712	25000	31.7	14200	1.375	9500	100	3.02
				85/71	24200	15900	0.728	26700	33.2					
	7.0	6.4	14.6	65/55	18100	13900	0.657	20300	27.5	15000	1.190	10900	86	3.69
				70/59	19600	14400	0.673	21900	29.1	14900	1.254	10600	90	3.48
				75/63	21100	14900	0.689	23500	30.6	14700	1.319	10200	95	3.26
				80/67	22700	15400	0.705	25100	32.2	14600	1.384	9900	100	3.09
				85/71	24200	15900	0.721	26700	33.6					
40	3.5	1.9	4.3	65/55	19100	14300	0.718	21600	26.6	16700	1.220	12500	88	4.01
				70/59	20600	14900	0.734	23100	28.1	16600	1.285	12200	93	3.78
				75/63	22200	15400	0.750	24800	29.6	16400	1.350	11800	98	3.56
				80/67	23700	15900	0.766	26300	30.9	16300	1.415	11500	102	3.37
				85/71	25200	16400	0.782	27900	32.2					
	5.3	3.8	8.6	65/55	19100	14400	0.711	21500	26.9	17100	1.229	12900	89	4.07
				70/59	20700	14900	0.727	23200	28.5	17000	1.294	12600	93	3.85
				75/63	22200	15400	0.743	24700	29.9	16800	1.358	12200	98	3.62
				80/67	23800	15900	0.760	26400	31.3	16700	1.423	11800	103	3.44
				85/71	25300	16400	0.776	27900	32.6					
	7.0	6.2	14.2	65/55	19200	14400	0.704	21600	27.3	17600	1.237	13400	89	4.17
				70/59	20700	14900	0.721	23200	28.7	17400	1.302	13000	94	3.91
				75/63	22300	15400	0.737	24800	30.3	17300	1.367	12600	99	3.71
				80/67	23800	15900	0.753	26400	31.6	17100	1.432	12200	104	3.50
				85/71	25400	16400	0.769	28000	33.0					
50	3.5	1.8	4.2	65/55	19600	14400	0.800	22300	24.5	19200	1.267	14900	91	4.44
				70/59	21200	15000	0.816	24000	26.0	19100	1.332	14600	96	4.20
				75/63	22700	15500	0.832	25500	27.3	18900	1.397	14100	101	3.96
				80/67	24300	16000	0.848	27200	28.7	18800	1.461	13800	106	3.77
				85/71	25800	16500	0.865	28800	29.8					
	5.3	3.7	8.4	65/55	19700	14500	0.793	22400	24.8	19700	1.276	15300	92	4.52
				70/59	21200	15000	0.809	24000	26.2	19500	1.340	14900	97	4.26
				75/63	22800	15500	0.826	25600	27.6	19400	1.405	14600	102	4.04
				80/67	24300	16000	0.842	27200	28.9	19200	1.470	14200	106	3.82
				85/71	25900	16500	0.858	28800	30.2					
	7.0	6.0	13.8	65/55	19800	14500	0.787	22500	25.2	20100	1.284	15700	93	4.58
				70/59	21300	15000	0.803	24000	26.5	19900	1.349	15300	97	4.32
				75/63	22800	15500	0.819	25600	27.8	19800	1.414	15000	102	4.10
				80/67	24400	16000	0.835	27200	29.2	19700	1.479	14700	107	3.90
				85/71	25900	16500	0.851	28800	30.4					
60	3.5	1.8	4.1	65/55	19300	14200	0.911	22400	21.2	21800	1.313	17300	95	4.86
				70/59	20900	14700	0.927	24100	22.5	21600	1.378	16900	100	4.59
				75/63	22400	15200	0.943	25600	23.8	21500	1.443	16600	105	4.36
				80/67	24000	15700	0.959	27300	25.0	21300	1.507	16200	109	4.14
				85/71	25500	16200	0.975	28800	26.2					
	5.3	3.6	8.2	65/55	19400	14200	0.904	22500	21.5	22200	1.322	17700	96	4.92
				70/59	20900	14700	0.920	24000	22.7	22100	1.387	17400	100	4.67
				75/63	22500	15200	0.936	25700	24.0	21900	1.451	16900	105	4.42
				80/67	24000	15700	0.952	27200	25.2	21800	1.516	16600	110	4.21
				85/71	25600	16200	0.968	28900	26.4					
	7.0	5.9	13.5	65/55	19500	14200	0.897	22600	21.7	22600	1.330	18100	96	4.98
				70/59	21000	14700	0.913	24100	23.0	22500	1.395	17700	101	4.72
				75/63	22500	15200	0.929	25700	24.2	22300	1.460	17300	106	4.47
				80/67	24100	15700	0.946	27300	25.5	22200	1.525	17000	111	4.26
				85/71	25600	16200	0.962	28900	26.6					

Size 021 (670 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	3.5	1.7	4.0	65/55	18300	13600	1.045	21900	17.5	24300	1.358	19700	98	5.24
				70/59	19800	14200	1.061	23400	18.7	24200	1.423	19300	103	4.98
				75/63	21400	14700	1.077	25100	19.9	24000	1.488	18900	108	4.72
				80/67	22900	15200	1.093	26600	21.0	23900	1.553	18600	113	4.51
				85/71	24500	15700	1.109	28300	22.1					
	5.3	3.5	8.0	65/55	18400	13700	1.038	21900	17.7	24700	1.367	20000	99	5.29
				70/59	19900	14200	1.054	23500	18.9	24600	1.432	19700	104	5.03
				75/63	21400	14700	1.070	25100	20.0	24400	1.497	19300	109	4.77
				80/67	23000	15200	1.086	26700	21.2	24300	1.561	19000	113	4.56
				85/71	24500	15700	1.102	28300	22.2					
	7.0	5.8	13.2	65/55	18400	13700	1.031	21900	17.8	25200	1.376	20500	100	5.36
				70/59	20000	14200	1.047	23600	19.1	25000	1.440	20100	104	5.08
				75/63	21500	14700	1.063	25100	20.2	24900	1.505	19800	109	4.84
				80/67	23000	15200	1.079	26700	21.3	24700	1.570	19300	114	4.61
				85/71	24600	15700	1.095	28300	22.5					
80	3.5	1.7	3.9	65/55	16900	13100	1.195	21000	14.1	26800	1.403	22000	102	5.59
				70/59	18400	13600	1.211	22500	15.2	26700	1.468	21700	107	5.33
				75/63	20000	14100	1.228	24200	16.3	26500	1.532	21300	111	5.06
				80/67	21500	14600	1.244	25700	17.3	26400	1.597	20900	116	4.84
				85/71	23000	15100	1.260	27300	18.3					
	5.3	3.5	7.9	65/55	16900	13100	1.189	21000	14.2	27300	1.411	22500	103	5.67
				70/59	18500	13600	1.205	22600	15.4	27100	1.476	22100	107	5.38
				75/63	20000	14100	1.221	24200	16.4	27000	1.541	21700	112	5.13
				80/67	21600	14600	1.237	25800	17.5	26800	1.606	21300	117	4.89
				85/71	23100	15100	1.253	27400	18.4					
	7.0	5.7	12.9	65/55	17000	13100	1.182	21000	14.4	27700	1.420	22900	103	5.71
				70/59	18500	13600	1.198	22600	15.4	27500	1.485	22400	108	5.42
				75/63	20100	14100	1.214	24200	16.6	27400	1.549	22100	113	5.18
				80/67	21600	14600	1.230	25800	17.6	27300	1.614	21800	118	4.95
				85/71	23200	15100	1.246	27500	18.6					
90	3.5	1.7	3.9	65/55	15500	12600	1.358	20100	11.4	29400	1.446	24500	105	5.95
				70/59	17000	13100	1.374	21700	12.4	29200	1.511	24000	110	5.66
				75/63	18600	13600	1.390	23300	13.4	29100	1.576	23700	115	5.41
				80/67	20100	14100	1.406	24900	14.3	28900	1.641	23300	120	5.16
				85/71	21600	14600	1.422	26500	15.2					
	5.3	3.4	7.7	65/55	15500	12600	1.351	20100	11.5	29800	1.455	24800	106	6.00
				70/59	17100	13100	1.367	21800	12.5	29700	1.520	24500	111	5.72
				75/63	18600	13600	1.383	23300	13.4	29500	1.584	24100	116	5.45
				80/67	20200	14100	1.399	25000	14.4	29400	1.649	23800	120	5.22
				85/71	21700	14600	1.415	26500	15.3					
	7.0	5.6	12.7	65/55	15600	12600	1.344	20200	11.6	30200	1.464	25200	107	6.04
				70/59	17100	13100	1.360	21700	12.6	30100	1.528	24900	111	5.77
				75/63	18700	13700	1.376	23400	13.6	29900	1.593	24500	116	5.50
				80/67	20200	14200	1.392	25000	14.5	29800	1.658	24100	121	5.26
				85/71	21800	14700	1.409	26600	15.5					
100	3.5	1.7	3.8	65/55	14300	12200	1.526	19500	9.4					
				70/59	15900	12700	1.542	21200	10.3					
				75/63	17400	13200	1.558	22700	11.2					
				80/67	19000	13700	1.574	24400	12.1					
				85/71	20500	14300	1.590	25900	12.9					
	5.3	3.3	7.6	65/55	14400	12300	1.519	19600	9.5					
				70/59	15900	12800	1.535	21100	10.4					
				75/63	17500	13300	1.551	22800	11.3					
				80/67	19000	13800	1.567	24300	12.1					
				85/71	20600	14300	1.584	26000	13.0					
	7.0	5.5	12.5	65/55	14400	12300	1.512	19600	9.5					
				70/59	16000	12800	1.528	21200	10.5					
				75/63	17500	13300	1.545	22800	11.3					
				80/67	19100	13800	1.561	24400	12.2					
				85/71	20600	14300	1.577	26000	13.1					
110	3.5	1.6	3.8	65/55	13300	11800	1.694	19100	7.9					
				70/59	14800	12300	1.710	20600	8.7					
				75/63	16400	12800	1.726	22300	9.5					
				80/67	17900	13300	1.743	23800	10.3					
				85/71	19500	13900	1.759	25500	11.1					
	5.3	3.3	7.6	65/55	13300	11800	1.687	19100	7.9					
				70/59	14900	12400	1.704	20700	8.7					
				75/63	16400	12900	1.720	22300	9.5					
				80/67	18000	13400	1.736	23900	10.4					
				85/71	19500	13900	1.752	25500	11.1					
	7.0	5.4	12.4	65/55	13400	11900	1.681	19100	8.0					
				70/59	15000	12400	1.697	20800	8.8					
				75/63	16500	12900	1.713	22300	9.6					
				80/67	18000	13400	1.729	23900	10.4					
				85/71	19600	13900	1.745	25600	11.2					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 024 (800 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	4.0	2.5	5.7	65/55						12100	1.251	7800	79	2.83
				70/59						11900	1.325	7400	84	2.63
				75/63						11800	1.399	7000	89	2.47
				80/67						11600	1.473	6600	93	2.31
				85/71										
	6.0	5.1	11.6	65/55						12700	1.262	8400	80	2.95
				70/59						12500	1.336	7900	84	2.74
				75/63						12300	1.410	7500	89	2.55
				80/67						12200	1.484	7100	94	2.41
				85/71										
	8.0	8.3	19.0	65/55						13200	1.274	8900	80	3.03
				70/59						13000	1.348	8400	85	2.82
				75/63						12900	1.422	8000	90	2.66
				80/67						12700	1.496	7600	95	2.49
				85/71										
30	4.0	2.4	5.6	65/55						15300	1.306	10800	83	3.43
				70/59	21500	16200	0.846	24400	25.4	15100	1.380	10400	87	3.20
				75/63	23000	16700	0.862	25900	26.7	15000	1.454	10000	92	3.02
				80/67	24500	17200	0.878	27500	27.9	14800	1.528	9600	97	2.84
				85/71	26100	17800	0.894	29200	29.2					
	6.0	4.9	11.2	65/55	20000	15800	0.822	22800	24.3	15800	1.317	11300	83	3.51
				70/59	21500	16300	0.838	24400	25.7	15700	1.391	11000	88	3.30
				75/63	23100	16800	0.854	26000	27.0	15500	1.465	10500	93	3.10
				80/67	24600	17300	0.870	27600	28.3	15300	1.539	10000	98	2.91
				85/71	26200	17800	0.886	29200	29.6					
	8.0	8.1	18.4	65/55	20000	15800	0.814	22800	24.6	16400	1.328	11900	84	3.62
				70/59	21600	16300	0.830	24400	26.0	16200	1.402	11400	89	3.38
				75/63	23100	16800	0.846	26000	27.3	16100	1.476	11100	94	3.19
				80/67	24700	17300	0.862	27600	28.7	15900	1.550	10600	98	3.00
				85/71	26200	17800	0.879	29200	29.8					
40	4.0	2.4	5.4	65/55	21400	16700	0.901	24500	23.8	18500	1.360	13900	86	3.98
				70/59	22900	17200	0.917	26000	25.0	18300	1.434	13400	91	3.74
				75/63	24500	17800	0.933	27700	26.3	18100	1.508	13000	96	3.51
				80/67	26000	18300	0.949	29200	27.4	18000	1.582	12600	101	3.33
				85/71	27600	18800	0.965	30900	28.6					
	6.0	4.8	10.9	65/55	21400	16800	0.893	24400	24.0	19000	1.371	14300	87	4.06
				70/59	23000	17300	0.909	26100	25.3	18900	1.445	14000	92	3.83
				75/63	24500	17800	0.926	27700	26.5	18700	1.519	13500	97	3.60
				80/67	26100	18300	0.942	29300	27.7	18500	1.593	13100	101	3.40
				85/71	27600	18800	0.958	30900	28.8					
	8.0	7.8	17.8	65/55	21500	16800	0.886	24500	24.3	19600	1.382	14900	88	4.15
				70/59	23100	17300	0.902	26200	25.6	19400	1.456	14400	92	3.90
				75/63	24600	17800	0.918	27700	26.8	19300	1.530	14100	97	3.69
				80/67	26100	18300	0.934	29300	27.9	19100	1.604	13600	102	3.49
				85/71	27700	18800	0.950	30900	29.2					
50	4.0	2.3	5.3	65/55	22400	17400	0.993	25800	22.6	21700	1.414	16900	90	4.49
				70/59	24000	17900	1.009	27400	23.8	21500	1.488	16400	95	4.23
				75/63	25500	18400	1.025	29000	24.9	21300	1.562	16000	100	3.99
				80/67	27100	18900	1.041	30700	26.0	21200	1.636	15600	104	3.79
				85/71	28600	19400	1.057	32200	27.1					
	6.0	4.6	10.6	65/55	22500	17400	0.985	25900	22.8	22200	1.425	17300	91	4.56
				70/59	24000	17900	1.001	27400	24.0	22100	1.499	17000	95	4.32
				75/63	25600	18400	1.017	29100	25.2	21900	1.573	16500	100	4.08
				80/67	27100	18900	1.033	30600	26.2	21700	1.647	16100	105	3.86
				85/71	28700	19400	1.049	32300	27.4					
	8.0	7.6	17.4	65/55	22500	17400	0.977	25800	23.0	22800	1.437	17900	91	4.65
				70/59	24100	17900	0.993	27500	24.3	22600	1.511	17400	96	4.38
				75/63	25600	18400	1.009	29000	25.4	22500	1.585	17100	101	4.16
				80/67	27200	18900	1.026	30700	26.5	22300	1.659	16600	106	3.94
				85/71	28700	19400	1.042	32300	27.5					
60	4.0	2.2	5.1	65/55	22400	17300	1.105	26200	20.3	24900	1.469	19900	94	4.96
				70/59	23900	17800	1.121	27700	21.3	24700	1.543	19400	98	4.69
				75/63	25500	18300	1.137	29400	22.4	24500	1.617	19000	103	4.44
				80/67	27000	18800	1.153	30900	23.4	24400	1.691	18600	108	4.23
				85/71	28600	19300	1.169	32600	24.5					
	6.0	4.5	10.3	65/55	22500	17300	1.097	26200	20.5	25400	1.480	20300	94	5.03
				70/59	24000	17800	1.113	27800	21.6	25300	1.554	20000	99	4.77
				75/63	25600	18400	1.129	29500	22.7	25100	1.628	19500	104	4.51
				80/67	27100	18900	1.145	31000	23.7	24900	1.702	19100	109	4.28
				85/71	28600	19400	1.161	32600	24.6					
	8.0	7.4	16.9	65/55	22500	17400	1.089	26200	20.7	26000	1.491	20900	95	5.11
				70/59	24100	17900	1.105	27900	21.8	25800	1.565	20500	100	4.83
				75/63	25600	18400	1.121	29400	22.8	25600	1.639	20000	104	4.57
				80/67	27200	18900	1.137	31100	23.9	25500	1.713	19700	109	4.36
				85/71	28700	19400	1.154	32600	24.9					

Gray tint = Operation Not Recommended

Note: *All capacity data at full load*

Size 024 (800 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	4.0	2.2	5.0	65/55	21400	16800	1.237	25600	17.3	28000	1.523	22800	97	5.38
				70/59	23000	17300	1.253	27300	18.4	27900	1.597	22400	102	5.12
				75/63	24500	17800	1.269	28800	19.3	27700	1.671	22000	107	4.85
				80/67	26000	18300	1.285	30400	20.2	27600	1.745	21600	112	4.63
				85/71	27600	18800	1.301	32000	21.2					
	6.0	4.4	10.1	65/55	21500	16800	1.229	25700	17.5	28600	1.534	23400	98	5.46
				70/59	23000	17300	1.245	27200	18.5	28400	1.608	22900	103	5.17
				75/63	24600	17800	1.261	28900	19.5	28300	1.682	22600	108	4.93
				80/67	26100	18300	1.278	30500	20.4	28100	1.756	22100	112	4.69
				85/71	27700	18800	1.294	32100	21.4					
	8.0	7.3	16.6	65/55	21500	16800	1.221	25700	17.6	29200	1.545	23900	99	5.53
				70/59	23100	17300	1.238	27300	18.7	29000	1.619	23500	103	5.24
				75/63	24600	17800	1.254	28900	19.6	28800	1.693	23000	108	4.98
				80/67	26200	18300	1.270	30500	20.6	28700	1.767	22700	113	4.76
				85/71	27700	18800	1.286	32100	21.5					
80	4.0	2.2	4.9	65/55	19900	16000	1.390	24600	14.3	31200	1.577	25800	101	5.79
				70/59	21500	16500	1.406	26300	15.3	31100	1.651	25500	106	5.52
				75/63	23000	17100	1.422	27900	16.2	30900	1.725	25000	111	5.25
				80/67	24600	17600	1.438	29500	17.1	30700	1.799	24600	115	5.00
				85/71	26100	18100	1.454	31100	18.0					
	6.0	4.3	9.9	65/55	20000	16100	1.382	24700	14.5	31800	1.588	26400	102	5.86
				70/59	21500	16600	1.398	26300	15.4	31600	1.662	25900	106	5.57
				75/63	23100	17100	1.414	27900	16.3	31500	1.736	25600	111	5.31
				80/67	24600	17600	1.430	29500	17.2	31300	1.810	25100	116	5.06
				85/71	26200	18100	1.446	31100	18.1					
	8.0	7.1	16.3	65/55	20100	16100	1.374	24800	14.6	32400	1.600	26900	102	5.93
				70/59	21600	16600	1.390	26300	15.5	32200	1.674	26500	107	5.63
				75/63	23200	17100	1.406	28000	16.5	32000	1.748	26000	112	5.36
				80/67	24700	17600	1.422	29600	17.4	31900	1.822	25700	117	5.13
				85/71	26200	18100	1.438	31100	18.2					
90	4.0	2.1	4.8	65/55	18500	15500	1.562	23800	11.8	34400	1.632	28800	105	6.17
				70/59	20000	16000	1.579	25400	12.7	34300	1.706	28500	109	5.89
				75/63	21600	16500	1.595	27000	13.5	34100	1.780	28000	114	5.61
				80/67	23100	17000	1.611	28600	14.3	33900	1.854	27600	119	5.35
				85/71	24700	17500	1.627	30300	15.2					
	6.0	4.3	9.8	65/55	18500	15500	1.555	23800	11.9	35000	1.643	29400	105	6.24
				70/59	20100	16000	1.571	25500	12.8	34800	1.717	28900	110	5.93
				75/63	21600	16500	1.587	27000	13.6	34700	1.791	28600	115	5.67
				80/67	23200	17000	1.603	28700	14.5	34500	1.865	28100	120	5.42
				85/71	24700	17500	1.619	30200	15.3					
	8.0	7.0	16.0	65/55	18600	15500	1.547	23900	12.0	35600	1.654	30000	106	6.30
				70/59	20200	16000	1.563	25500	12.9	35400	1.728	29500	111	6.00
				75/63	21700	16600	1.579	27100	13.7	35200	1.802	29000	116	5.72
				80/67	23200	17100	1.595	28600	14.5	35100	1.876	28700	120	5.48
				85/71	24800	17600	1.611	30300	15.4					
100	4.0	2.1	4.8	65/55	17300	15100	1.756	23300	9.9					
				70/59	18900	15600	1.772	24900	10.7					
				75/63	20400	16100	1.788	26500	11.4					
				80/67	21900	16700	1.804	28100	12.1					
				85/71	23500	17200	1.820	29700	12.9					
	6.0	4.2	9.6	65/55	17400	15200	1.748	23400	10.0					
				70/59	18900	15700	1.764	24900	10.7					
				75/63	20500	16200	1.780	26600	11.5					
				80/67	22000	16700	1.796	28100	12.2					
				85/71	23600	17200	1.812	29800	13.0					
	8.0	6.9	15.8	65/55	17400	15200	1.740	23300	10.0					
				70/59	19000	15700	1.756	25000	10.8					
				75/63	20500	16200	1.772	26500	11.6					
				80/67	22100	16700	1.788	28200	12.4					
				85/71	23600	17200	1.805	29800	13.1					
110	4.0	2.1	4.7	65/55	16100	14500	1.969	22800	8.2					
				70/59	17600	15000	1.985	24400	8.9					
				75/63	19200	15500	2.001	26000	9.6					
				80/67	20700	16000	2.017	27600	10.3					
				85/71	22300	16600	2.033	29200	11.0					
	6.0	4.2	9.5	65/55	16100	14600	1.961	22800	8.2					
				70/59	17700	15100	1.977	24400	9.0					
				75/63	19200	15600	1.994	26000	9.6					
				80/67	20800	16100	2.010	27700	10.3					
				85/71	22300	16600	2.026	29200	11.0					
	8.0	6.8	15.6	65/55	16200	14600	1.954	22900	8.3					
				70/59	17800	15100	1.970	24500	9.0					
				75/63	19300	15600	1.986	26100	9.7					
				80/67	20800	16100	2.002	27600	10.4					
				85/71	22400	16600	2.018	29300	11.1					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 030 (1000 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	5.0	2.0	4.7	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					16700	1.601	11200	80	3.05
				70/59						16400	1.694	10600	85	2.83
				75/63						16200	1.786	10100	90	2.66
				80/67						16000	1.879	9600	95	2.49
				85/71										
	7.5	4.1	9.3	65/55						17500	1.619	12000	81	3.17
				70/59						17300	1.711	11500	86	2.96
				75/63						17100	1.804	10900	91	2.78
				80/67						16900	1.896	10400	96	2.61
				85/71										
	10.0	6.7	15.2	65/55						18400	1.636	12800	82	3.29
				70/59						18200	1.729	12300	87	3.08
				75/63						18000	1.821	11800	92	2.89
				80/67						17800	1.914	11300	96	2.72
				85/71										
30	5.0	2.0	4.5	65/55						20200	1.658	14500	84	3.57
				70/59	26500	20900	1.029	30000	25.8	20000	1.751	14000	88	3.34
				75/63	28400	21500	1.050	32000	27.0	19800	1.843	13500	93	3.15
				80/67	30400	22100	1.070	34100	28.4	19600	1.936	13000	98	2.96
				85/71	32300	22800	1.090	36000	29.6					
	7.5	4.0	9.0	65/55	24700	20300	0.997	28100	24.8	21100	1.676	15400	84	3.69
				70/59	26600	20900	1.017	30100	26.2	20900	1.768	14900	89	3.46
				75/63	28500	21500	1.037	32000	27.5	20700	1.861	14300	94	3.26
				80/67	30500	22200	1.058	34100	28.8	20500	1.953	13800	99	3.07
				85/71	32400	22800	1.078	36100	30.1					
	10.0	6.5	14.8	65/55	24800	20300	0.985	28200	25.2	22000	1.693	16200	85	3.80
				70/59	26700	20900	1.005	30100	26.6	21800	1.786	15700	90	3.57
				75/63	28600	21600	1.025	32100	27.9	21600	1.878	15200	95	3.37
				80/67	30600	22200	1.045	34200	29.3	21400	1.971	14700	100	3.18
				85/71	32500	22800	1.066	36100	30.5					
40	5.0	1.9	4.4	65/55	25800	21000	1.087	29500	23.7	23800	1.716	17900	87	4.06
				70/59	27700	21700	1.107	31500	25.0	23600	1.808	17400	92	3.82
				75/63	29600	22300	1.127	33400	26.3	23400	1.901	16900	97	3.60
				80/67	31500	22900	1.147	35400	27.5	23200	1.993	16400	101	3.41
				85/71	33500	23600	1.167	37500	28.7					
	7.5	3.8	8.8	65/55	25900	21100	1.075	29600	24.1	24700	1.733	18800	88	4.17
				70/59	27800	21700	1.095	31500	25.4	24500	1.826	18300	93	3.93
				75/63	29700	22400	1.115	33500	26.6	24300	1.918	17800	97	3.71
				80/67	31700	23000	1.135	35600	27.9	24100	2.011	17200	102	3.51
				85/71	33600	23600	1.155	37500	29.1					
	10.0	6.3	14.3	65/55	26000	21100	1.062	29600	24.5	25600	1.751	19600	89	4.28
				70/59	27900	21800	1.083	31600	25.8	25400	1.843	19100	93	4.04
				75/63	29800	22400	1.103	33600	27.0	25200	1.936	18600	98	3.81
				80/67	31800	23000	1.123	35600	28.3	25000	2.028	18100	103	3.61
				85/71	33700	23700	1.143	37600	29.5					
50	5.0	1.9	4.3	65/55	26700	21700	1.193	30800	22.4	27400	1.773	21300	90	4.53
				70/59	28700	22300	1.213	32800	23.7	27200	1.866	20800	95	4.27
				75/63	30600	22900	1.233	34800	24.8	27000	1.958	20300	100	4.04
				80/67	32500	23600	1.254	36800	25.9	26800	2.051	19800	105	3.83
				85/71	34500	24200	1.274	38800	27.1					
	7.5	3.7	8.5	65/55	26800	21700	1.181	30800	22.7	28300	1.791	22200	91	4.63
				70/59	28800	22300	1.201	32900	24.0	28100	1.883	21700	96	4.37
				75/63	30700	23000	1.221	34900	25.1	27900	1.976	21200	101	4.13
				80/67	32600	23600	1.241	36800	26.3	27700	2.068	20600	106	3.92
				85/71	34600	24200	1.262	38900	27.4					
	10.0	6.1	14.0	65/55	26900	21700	1.169	30900	23.0	29200	1.808	23000	92	4.73
				70/59	28900	22400	1.189	33000	24.3	29000	1.901	22500	97	4.47
				75/63	30800	23000	1.209	34900	25.5	28800	1.993	22000	102	4.23
				80/67	32700	23600	1.229	36900	26.6	28600	2.086	21500	106	4.01
				85/71	34700	24300	1.249	39000	27.8					
60	5.0	1.8	4.2	65/55	27000	21800	1.329	31500	20.3	31000	1.831	24800	94	4.96
				70/59	28900	22500	1.349	33500	21.4	30800	1.924	24200	98	4.69
				75/63	30800	23100	1.369	35500	22.5	30600	2.016	23700	103	4.44
				80/67	32700	23700	1.389	37400	23.5	30400	2.109	23200	108	4.22
				85/71	34700	24400	1.409	39500	24.6					
	7.5	3.6	8.3	65/55	27100	21900	1.317	31600	20.6	31900	1.849	25600	94	5.05
				70/59	29000	22500	1.337	33600	21.7	31700	1.941	25100	99	4.78
				75/63	30900	23100	1.357	35500	22.8	31500	2.034	24600	104	4.53
				80/67	32900	23800	1.377	37600	23.9	31300	2.126	24000	109	4.31
				85/71	34800	24400	1.397	39600	24.9					
	10.0	6.0	13.6	65/55	27200	21900	1.305	31700	20.8	32800	1.866	26400	95	5.15
				70/59	29100	22500	1.325	33600	22.0	32600	1.959	25900	100	4.87
				75/63	31000	23200	1.345	35600	23.0	32400	2.051	25400	105	4.63
				80/67	33000	23800	1.365	37700	24.2	32100	2.144	24800	110	4.38
				85/71	34900	24400	1.385	39600	25.2					

Size 030 (1000 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	5.0	1.8	4.1	65/55	26300	21500	1.494	31400	17.6	34600	1.890	28100	97	5.36
				70/59	28200	22200	1.514	33400	18.6	34400	1.982	27600	102	5.08
				75/63	30200	22800	1.534	35400	19.7	34200	2.075	27100	106	4.83
				80/67	32100	23400	1.554	37400	20.7	34000	2.167	26600	111	4.59
				85/71	34000	24100	1.574	39400	21.6					
	7.5	3.6	8.1	65/55	26400	21600	1.482	31500	17.8	35500	1.907	29000	98	5.45
				70/59	28300	22200	1.502	33400	18.8	35300	2.000	28500	103	5.17
				75/63	30300	22800	1.522	35500	19.9	35100	2.092	28000	107	4.91
				80/67	32200	23500	1.542	37500	20.9	34900	2.185	27400	112	4.68
				85/71	34100	24100	1.562	39400	21.8					
	10.0	5.8	13.3	65/55	26500	21600	1.470	31500	18.0	36400	1.925	29800	99	5.54
				70/59	28400	22200	1.490	33500	19.1	36100	2.017	29200	103	5.24
				75/63	30400	22900	1.510	35600	20.1	35900	2.110	28700	108	4.98
				80/67	32300	23500	1.530	37500	21.1	35700	2.202	28200	113	4.75
				85/71	34200	24100	1.550	39500	22.1					
80	5.0	1.7	4.0	65/55	25000	20900	1.688	30800	14.8	38200	1.949	31500	100	5.74
				70/59	26900	21500	1.708	32700	15.7	38000	2.041	31000	105	5.45
				75/63	28900	22200	1.728	34800	16.7	37800	2.134	30500	110	5.19
				80/67	30800	22800	1.748	36800	17.6	37600	2.226	30000	115	4.95
				85/71	32700	23400	1.769	38700	18.5					
	7.5	3.5	8.0	65/55	25100	20900	1.676	30800	15.0	39100	1.966	32400	101	5.82
				70/59	27000	21600	1.696	32800	15.9	38900	2.059	31900	106	5.53
				75/63	29000	22200	1.716	34900	16.9	38700	2.151	31400	111	5.27
				80/67	30900	22800	1.736	36800	17.8	38400	2.244	30700	115	5.01
				85/71	32800	23500	1.756	38800	18.7					
	10.0	5.7	13.1	65/55	25200	21000	1.664	30900	15.1	39900	1.984	33100	102	5.89
				70/59	27100	21600	1.684	32800	16.1	39700	2.076	32600	107	5.60
				75/63	29100	22200	1.704	34900	17.1	39500	2.169	32100	111	5.33
				80/67	31000	22900	1.724	36900	18.0	39300	2.261	31600	116	5.09
				85/71	32900	23500	1.744	38900	18.9					
90	5.0	1.7	3.9	65/55	23300	20100	1.911	29800	12.2	41800	2.008	34900	103	6.10
				70/59	25200	20700	1.932	31800	13.0	41600	2.100	34400	108	5.80
				75/63	27200	21400	1.952	33900	13.9	41400	2.193	33900	113	5.53
				80/67	29100	22000	1.972	35800	14.8	41200	2.285	33400	118	5.28
				85/71	31000	22600	1.992	37800	15.6					
	7.5	3.4	7.9	65/55	23400	20200	1.899	29900	12.3	42700	2.025	35800	104	6.17
				70/59	25300	20800	1.919	31800	13.2	42400	2.118	35200	109	5.86
				75/63	27300	21400	1.940	33900	14.1	42200	2.210	34700	114	5.59
				80/67	29200	22100	1.960	35900	14.9	42000	2.303	34100	119	5.34
				85/71	31100	22700	1.980	37900	15.7					
	10.0	5.6	12.9	65/55	23500	20200	1.887	29900	12.5	43500	2.043	36500	105	6.23
				70/59	25400	20800	1.907	31900	13.3	43300	2.135	36000	110	5.94
				75/63	27400	21500	1.927	34000	14.2	43100	2.228	35500	115	5.66
				80/67	29300	22100	1.948	35900	15.0	42900	2.320	35000	120	5.41
				85/71	31200	22700	1.968	37900	15.9					
100	5.0	1.7	3.9	65/55	21500	19400	2.164	28900	9.9					
				70/59	23500	20000	2.184	31000	10.8					
				75/63	25400	20700	2.204	32900	11.5					
				80/67	27300	21300	2.224	34900	12.3					
				85/71	29300	21900	2.244	37000	13.1					
	7.5	3.4	7.8	65/55	21600	19400	2.152	28900	10.0					
				70/59	23600	20100	2.172	31000	10.9					
				75/63	25500	20700	2.192	33000	11.6					
				80/67	27400	21300	2.212	34900	12.4					
				85/71	29400	22000	2.232	37000	13.2					
	10.0	5.6	12.7	65/55	21700	19500	2.140	29000	10.1					
				70/59	23700	20100	2.160	31100	11.0					
				75/63	25600	20700	2.180	33000	11.7					
				80/67	27500	21400	2.200	35000	12.5					
				85/71	29500	22000	2.220	37100	13.3					
110	5.0	1.7	3.8	65/55	19800	18900	2.446	28100	8.1					
				70/59	21800	19500	2.466	30200	8.8					
				75/63	23700	20100	2.486	32200	9.5					
				80/67	25600	20800	2.506	34200	10.2					
				85/71	27600	21400	2.526	36200	10.9					
	7.5	3.4	7.7	65/55	19900	18900	2.434	28200	8.2					
				70/59	21900	19500	2.454	30300	8.9					
				75/63	23800	20200	2.474	32200	9.6					
				80/67	25700	20800	2.494	34200	10.3					
				85/71	27700	21400	2.514	36300	11.0					
	10.0	5.5	12.6	65/55	20000	19000	2.421	28300	8.3					
				70/59	22000	19600	2.442	30300	9.0					
				75/63	23900	20200	2.462	32300	9.7					
				80/67	25800	20900	2.482	34300	10.4					
				85/71	27800	21500	2.502	36300	11.1					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

Size 036 (1200 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
20	6.0	2.8	6.4	65/55	Gray tint = Operation Not Recommended Note: *All capacity data at full load*					20500	2.021	13600	81	2.97
				70/59						20200	2.132	12900	86	2.77
				75/63						20000	2.243	12300	90	2.61
				80/67						19700	2.354	11700	95	2.45
				85/71										
	9.0	5.6	12.7	65/55						21700	2.046	14700	82	3.11
				70/59						21500	2.157	14100	86	2.92
				75/63						21200	2.268	13500	91	2.74
				80/67						21000	2.379	12900	96	2.58
				85/71										
	12.0	9.1	20.8	65/55						23000	2.071	15900	83	3.25
				70/59						22700	2.182	15300	87	3.05
				75/63						22500	2.293	14700	92	2.87
				80/67						22200	2.404	14000	97	2.70
				85/71										
30	6.0	2.7	6.2	65/55						24700	2.128	17400	84	3.40
				70/59	32000	23900	1.332	36500	24.0	24400	2.239	16800	89	3.19
				75/63	34300	24700	1.356	38900	25.3	24200	2.350	16200	94	3.02
				80/67	36700	25500	1.381	41400	26.6	23900	2.461	15500	98	2.84
				85/71	39000	26200	1.405	43800	27.8					
	9.0	5.4	12.3	65/55	29800	23200	1.291	34200	23.1	25900	2.153	18600	85	3.52
				70/59	32200	24000	1.315	36700	24.5	25700	2.264	18000	90	3.32
				75/63	34500	24800	1.339	39100	25.8	25400	2.375	17300	94	3.13
				80/67	36800	25500	1.363	41500	27.0	25200	2.486	16700	99	2.97
				85/71	39100	26300	1.387	43800	28.2					
	12.0	8.8	20.2	65/55	30000	23300	1.273	34300	23.6	27200	2.178	19800	86	3.66
				70/59	32300	24000	1.297	36700	24.9	27000	2.289	19200	91	3.45
				75/63	34600	24800	1.321	39100	26.2	26700	2.400	18500	95	3.26
				80/67	36900	25600	1.346	41500	27.4	26500	2.511	17900	100	3.09
				85/71	39300	26300	1.370	44000	28.7					
40	6.0	2.6	6.0	65/55	31000	24200	1.419	35800	21.8	29100	2.226	21500	87	3.83
				70/59	33300	25000	1.443	38200	23.1	28800	2.337	20800	92	3.61
				75/63	35700	25700	1.467	40700	24.3	28600	2.448	20200	97	3.42
				80/67	38000	26500	1.491	43100	25.5	28300	2.559	19600	102	3.24
				85/71	40300	27300	1.515	45500	26.6					
	9.0	5.2	12.0	65/55	31200	24300	1.401	36000	22.3	30300	2.251	22600	88	3.94
				70/59	33500	25000	1.425	38400	23.5	30100	2.362	22000	93	3.73
				75/63	35800	25800	1.449	40700	24.7	29900	2.473	21500	98	3.54
				80/67	38100	26600	1.474	43100	25.8	29600	2.584	20800	103	3.35
				85/71	40400	27300	1.498	45500	27.0					
	12.0	8.6	19.6	65/55	31300	24300	1.384	36000	22.6	31600	2.276	23800	89	4.07
				70/59	33600	25100	1.408	38400	23.9	31400	2.387	23300	94	3.85
				75/63	35900	25900	1.432	40800	25.1	31100	2.498	22600	99	3.65
				80/67	38300	26600	1.456	43300	26.3	30900	2.609	22000	104	3.47
				85/71	40600	27400	1.480	45700	27.4					
50	6.0	2.6	5.8	65/55	32100	25000	1.562	37400	20.6	33500	2.314	25600	91	4.24
				70/59	34400	25800	1.586	39800	21.7	33300	2.425	25000	96	4.02
				75/63	36800	26500	1.610	42300	22.9	33000	2.536	24300	100	3.81
				80/67	39100	27300	1.634	44700	23.9	32800	2.647	23800	105	3.63
				85/71	41400	28000	1.659	47100	25.0					
	9.0	5.1	11.7	65/55	32300	25100	1.545	37600	20.9	34800	2.340	26800	92	4.35
				70/59	34600	25800	1.569	40000	22.1	34500	2.451	26100	96	4.12
				75/63	36900	26600	1.593	42300	23.2	34300	2.562	25600	101	3.92
				80/67	39200	27300	1.617	44700	24.2	34000	2.673	24900	106	3.72
				85/71	41500	28100	1.641	47100	25.3					
	12.0	8.4	19.1	65/55	32400	25100	1.527	37600	21.2	36000	2.365	27900	93	4.46
				70/59	34700	25900	1.551	40000	22.4	35800	2.476	27300	97	4.23
				75/63	37100	26600	1.575	42500	23.6	35500	2.587	26700	102	4.02
				80/67	39400	27400	1.599	44900	24.6	35300	2.698	26100	107	3.83
				85/71	41700	28200	1.624	47200	25.7					
60	6.0	2.5	5.7	65/55	32400	25200	1.738	38300	18.6	37800	2.394	29600	94	4.62
				70/59	34700	25900	1.762	40700	19.7	37600	2.505	29100	99	4.40
				75/63	37000	26700	1.787	43100	20.7	37300	2.616	28400	104	4.18
				80/67	39400	27400	1.811	45600	21.8	37100	2.727	27800	108	3.98
				85/71	41700	28200	1.835	48000	22.7					
	9.0	5.0	11.4	65/55	32500	25200	1.721	38400	18.9	39100	2.419	30800	95	4.73
				70/59	34900	26000	1.745	40900	20.0	38800	2.530	30200	100	4.49
				75/63	37200	26700	1.769	43200	21.0	38600	2.641	29600	105	4.28
				80/67	39500	27500	1.793	45600	22.0	38300	2.752	28900	109	4.08
				85/71	41800	28300	1.817	48000	23.0					
	12.0	8.2	18.6	65/55	32700	25300	1.703	38500	19.2	40300	2.444	32000	96	4.83
				70/59	35000	26000	1.728	40900	20.3	40100	2.555	31400	101	4.60
				75/63	37300	26800	1.752	43300	21.3	39900	2.666	30800	106	4.38
				80/67	39600	27600	1.776	45700	22.3	39600	2.777	30100	110	4.18
				85/71	42000	28300	1.800	48100	23.3					

Size 036 (1200 CFM) – EC Motor

EWT (°F)	GPM	WPD		EAT (°F)	Cooling					Heating				
		PSI	FT of W.C.		Total (Btu/hr)	Sensible (Btu/hr)	Power Input (kW)	THR (Btu/hr)	EER	Total (Btu/hr)	Power Input (kW)	THA (Btu/hr)	LAT (°F)	COP
70	6.0	2.4	5.6	65/55	31700	24700	1.948	38300	16.3	41800	2.464	33400	97	4.97
				70/59	34000	25500	1.972	40700	17.2	41600	2.575	32800	102	4.73
				75/63	36300	26200	1.996	43100	18.2	41300	2.686	32100	107	4.50
				80/67	38600	27000	2.020	45500	19.1	41100	2.797	31600	112	4.30
				85/71	40900	27800	2.044	47900	20.0					
	9.0	4.9	11.1	65/55	31800	24800	1.930	38400	16.5	43100	2.490	34600	98	5.07
				70/59	34100	25500	1.954	40800	17.5	42900	2.601	34000	103	4.83
				75/63	36400	26300	1.978	43200	18.4	42600	2.712	33300	108	4.60
				80/67	38800	27100	2.003	45600	19.4	42400	2.823	32800	113	4.40
				85/71	41100	27800	2.027	48000	20.3					
	12.0	8.0	18.2	65/55	32000	24800	1.913	38500	16.7	44400	2.515	35800	99	5.17
				70/59	34300	25600	1.937	40900	17.7	44100	2.626	35100	104	4.92
				75/63	36600	26400	1.961	43300	18.7	43900	2.737	34600	109	4.70
				80/67	38900	27100	1.985	45700	19.6	43600	2.848	33900	113	4.48
				85/71	41200	27900	2.009	48100	20.5					
80	6.0	2.4	5.5	65/55	30100	23900	2.190	37600	13.7	45400	2.526	36800	100	5.26
				70/59	32400	24700	2.214	40000	14.6	45200	2.637	36200	105	5.02
				75/63	34700	25400	2.238	42300	15.5	44900	2.748	35500	109	4.78
				80/67	37000	26200	2.262	44700	16.4	44700	2.859	34900	114	4.58
				85/71	39300	27000	2.286	47100	17.2					
	9.0	4.8	10.9	65/55	30200	24000	2.172	37600	13.9	46700	2.551	38000	101	5.36
				70/59	32500	24700	2.197	40000	14.8	46400	2.662	37300	106	5.10
				75/63	34800	25500	2.221	42400	15.7	46200	2.773	36700	110	4.88
				80/67	37200	26300	2.245	44900	16.6	45900	2.884	36100	115	4.66
				85/71	39500	27000	2.269	47200	17.4					
	12.0	7.8	17.9	65/55	30300	24000	2.155	37700	14.1	48000	2.576	39200	102	5.46
				70/59	32700	24800	2.179	40100	15.0	47700	2.687	38500	107	5.20
				75/63	35000	25600	2.203	42500	15.9	47500	2.798	38000	111	4.97
				80/67	37300	26300	2.227	44900	16.7	47200	2.909	37300	116	4.75
				85/71	39600	27100	2.251	47300	17.6					
90	6.0	2.4	5.4	65/55	27900	23100	2.465	36300	11.3	48400	2.578	39600	102	5.50
				70/59	30300	23800	2.489	38800	12.2	48200	2.689	39000	107	5.25
				75/63	32600	24600	2.513	41200	13.0	47900	2.800	38300	112	5.01
				80/67	34900	25300	2.537	43600	13.8	47700	2.911	37800	117	4.80
				85/71	37200	26100	2.562	45900	14.5					
	9.0	4.7	10.7	65/55	28100	23100	2.448	36500	11.5	49700	2.603	40800	103	5.59
				70/59	30400	23900	2.472	38800	12.3	49400	2.714	40100	108	5.33
				75/63	32700	24600	2.496	41200	13.1	49200	2.825	39600	113	5.10
				80/67	35000	25400	2.520	43600	13.9	48900	2.936	38900	118	4.88
				85/71	37400	26200	2.544	46100	14.7					
	12.0	7.7	17.6	65/55	28200	23200	2.430	36500	11.6	50900	2.629	41900	104	5.67
				70/59	30500	23900	2.454	38900	12.4	50700	2.740	41300	109	5.42
				75/63	32900	24700	2.478	41400	13.3	50500	2.851	40800	114	5.19
				80/67	35200	25500	2.503	43700	14.1	50200	2.962	40100	119	4.96
				85/71	37500	26200	2.527	46100	14.8					
100	6.0	2.3	5.3	65/55	25800	22300	2.773	35300	9.3					
				70/59	28100	23100	2.797	37600	10.0					
				75/63	30400	23800	2.821	40000	10.8					
				80/67	32700	24600	2.846	42400	11.5					
				85/71	35100	25400	2.870	44900	12.2					
	9.0	4.6	10.6	65/55	25900	22400	2.756	35300	9.4					
				70/59	28200	23100	2.780	37700	10.1					
				75/63	30600	23900	2.804	40200	10.9					
				80/67	32900	24700	2.828	42600	11.6					
				85/71	35200	25400	2.852	44900	12.3					
	12.0	7.6	17.3	65/55	26100	22400	2.738	35400	9.5					
				70/59	28400	23200	2.762	37800	10.3					
				75/63	30700	23900	2.786	40200	11.0					
				80/67	33000	24700	2.811	42600	11.7					
				85/71	35300	25500	2.835	45000	12.5					
110	6.0	2.3	5.2	65/55	24100	21600	3.114	34700	7.7					
				70/59	26400	22400	3.138	37100	8.4					
				75/63	28700	23100	3.162	39500	9.1					
				80/67	31000	23900	3.187	41900	9.7					
				85/71	33300	24700	3.211	44300	10.4					
	9.0	4.6	10.5	65/55	24200	21700	3.097	34800	7.8					
				70/59	26500	22400	3.121	37200	8.5					
				75/63	28900	23200	3.145	39600	9.2					
				80/67	31200	24000	3.169	42000	9.8					
				85/71	33500	24700	3.193	44400	10.5					
	12.0	7.5	17.1	65/55	24400	21700	3.079	34900	7.9					
				70/59	26700	22500	3.103	37300	8.6					
				75/63	29000	23300	3.127	39700	9.3					
				80/67	31300	24000	3.152	42100	9.9					
				85/71	33600	24800	3.176	44400	10.6					

Gray tint = Operation Not Recommended

Notes: *Cooling capacity is based on 80.6°F db, 66.2°F wb (27/19°C) entering air temperature and 86°F (30°C) entering water temperature.*
Heating capacity is based on 68°F (20°C) entering air temperature and 68°F (20°C) entering water temperature.

Capacity Table Legend:
Btu/hr = British Thermal Units per Hour
CFM = Airflow Rate, Cubic Feet per Minute
COP = Coefficient of Performance
EAT = Entering Air Temperature
EER = Energy Efficiency Ratio
EWT = Entering Water Temperature
Ft of W.C. = Feet of Water Column
GPM = Gallons per Minute
kW = Kilowatts
LAT = Leaving Air Temperature
PSI = Pounds per Square Inch
THA = Total Heat of Absorption
THR = Total Heat of Rejection
WPD = Waterside Pressure Drop

1-Row Hydronic Heat Performance - Sizes 009 - 036

Table 12: Hydronic heat EC fan motor performance

Unit Size	GPM	WPD Ft.	CFM	90°F EWT			100°F EWT			110°F EWT			120°F EWT		
				Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F
009	1.1	2.2	250	2,864	84.8	80.6	4,332	92.1	86.0	5,817	99.4	91.4	7,319	106.7	97.0
	1.5	3.9		3,081	85.9	81.4	4,655	93.8	87.2	6,246	101.7	93.0	7,852	109.5	98.9
	2.0	6.7		3,270	86.7	82.1	4,934	95.1	88.2	6,615	103.4	94.4	8,308	111.7	100.6
	3.0	14.5		3,487	87.7	82.9	5,255	96.5	89.4	7,036	105.3	95.9	8,828	114.1	102.5
012	1.5	3.9	290	3,306	85.6	80.5	4,997	93.3	85.9	6,709	101.1	91.3	8,437	108.8	96.8
	2.0	6.7		3,527	86.5	81.2	5,325	94.7	86.9	7,142	102.9	92.7	8,975	111.0	98.5
	3.0	14.5		3,784	87.5	82.0	5,706	96.2	88.1	7,644	104.9	94.3	9,594	113.6	100.5
	4.0	25.0		3,931	88.0	82.5	5,923	97.0	88.8	7,928	106.0	95.2	9,944	115.0	101.6
015	1.9	2.5	440	4,226	85.6	78.9	6,437	93.2	83.5	8,670	100.9	88.2	10,936	108.5	92.9
	2.5	4.4		4,608	86.3	79.7	6,981	94.4	84.6	9,392	102.5	89.7	11,834	110.5	94.8
	4.0	11.0		5,119	87.4	80.7	7,738	96.1	86.2	10,389	104.8	91.8	13,067	113.5	97.4
	5.0	17.0		5,321	87.9	81.1	8,037	96.8	86.8	10,781	105.7	92.6	13,549	114.6	98.4
018	2.3	3.6	530	4,819	85.7	78.4	7,309	93.5	82.7	9,844	101.2	87.1	12,417	109.0	91.6
	3.0	6.2		5,219	86.5	79.1	7,907	94.7	83.8	10,636	102.9	88.5	13,401	111.1	93.3
	5.0	17.0		5,821	87.7	80.1	8,797	96.5	85.3	11,809	105.3	90.5	14,850	114.1	95.8
	6.0	24.3		6,000	88.0	80.4	9,061	97.0	85.8	12,154	105.9	91.1	15,274	114.9	96.6
021	2.6	3.2	610	6,658	84.9	80.1	10,042	92.4	85.2	13,457	99.8	90.3	16,895	107.2	95.5
	3.5	5.6		7,073	86.0	80.7	10,662	93.9	86.1	14,277	101.8	91.6	17,914	109.8	97.1
	5.0	11.1		7,503	87.0	81.3	11,299	95.5	87.1	15,118	104.0	92.8	18,957	112.4	98.6
	7.0	21.3		7,825	87.8	81.8	11,775	96.6	87.8	15,744	105.5	93.8	19,730	114.4	99.8
024	3.0	4.2	700	7,298	85.1	79.6	11,008	92.7	84.5	14,751	100.2	89.4	18,520	107.7	94.4
	4.0	7.2		7,743	86.1	80.2	11,671	94.2	85.4	15,629	102.2	90.6	19,611	110.2	95.8
	6.0	15.8		8,254	87.2	80.9	12,428	95.9	86.4	16,627	104.5	91.9	20,847	113.1	97.4
	8.0	27.6		8,540	87.9	81.2	12,852	96.8	86.9	17,185	105.7	92.6	21,535	114.6	98.4
030	3.8	4.0	880	9,393	85.0	79.8	14,156	92.5	84.8	18,953	99.9	89.9	23,778	107.3	94.9
	5.0	7.0		9,937	86.0	80.4	14,966	94.0	85.7	20,026	102.0	91.0	25,112	110.0	96.3
	8.0	17.6		10,637	87.3	81.1	16,005	96.0	86.8	21,398	104.7	92.4	26,811	113.3	98.1
	10.0	27.4		10,897	87.8	81.4	16,389	96.7	87.2	21,903	105.6	92.9	27,436	114.5	98.7
036	4.5	5.7	1050	10,549	85.3	79.3	15,897	92.9	84.0	21,283	100.5	88.7	26,701	108.1	93.4
	6.0	10.0		11,127	86.3	79.8	16,757	94.4	84.7	22,422	102.5	89.7	28,115	110.6	94.7
	9.0	22.2		11,780	87.4	80.3	17,725	96.1	85.6	23,700	104.7	90.8	29,698	113.4	96.1
	12.0	39.2		12,142	88.0	80.7	18,261	97.0	86.0	24,404	105.9	91.4	30,567	114.9	96.8

Notes: *1. Data based on 70°F EDB*
2. All unit sizes include ECM

Table Legend:

BTU/hr *= British Thermal Units per Hour*
CFM *= Airflow Rate, Cubic Feet per Minute*
EDB *= Entering Dry Bulb*
LDB *= Leaving Dry Bulb*
EWT *= Entering Water Temperature*
LWT *= Leaving Water Temperature*
GPM *= Gallons per Minute*
WPD *= Waterside Pressure Drop*

2-Row Hydronic Heat Performance - Sizes 009 - 036

Table 13: Hydronic heat EC fan motor performance

Unit Size	GPM	WPD Ft.	CFM	90°F EWT			100°F EWT			110°F EWT			120°F EWT		
				Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F	Capacity BTU/hr	LWT °F	LDB °F
009	1.1	3.1	250	3,351	83.9	82.4	5,051	90.8	88.6	6,763	97.7	94.9	8,484	104.6	101.3
	1.5	5.0		3,587	85.2	83.2	5,400	92.8	89.9	7,221	100.4	96.6	9,049	107.9	103.4
	2.0	8.0		3,762	86.2	83.9	5,659	94.3	90.9	7,563	102.4	97.9	9,473	110.5	104.9
	3.0	15.7		3,953	87.4	84.6	5,941	96.0	91.9	7,936	104.7	99.3	9,935	113.4	106.6
012	1.5	5.0	290	3,872	84.8	82.3	5,831	92.2	88.5	7,801	99.6	94.8	9,779	107.0	101.1
	2.0	8.0		4,081	85.9	83.0	6,140	93.9	89.5	8,209	101.8	96.1	10,285	109.7	102.7
	3.0	15.7		4,310	87.1	83.7	6,480	95.7	90.6	8,657	104.2	97.5	10,840	112.8	104.5
	4.0	25.2		4,434	87.8	84.1	6,663	96.7	91.2	8,899	105.6	98.3	11,139	114.4	105.4
015	1.9	3.4	440	6,238	83.4	83.1	9,409	90.1	89.7	12,605	96.7	96.4	15,818	103.3	103.1
	2.5	5.5		6,676	84.7	84.0	10,056	92.0	91.1	13,455	99.2	98.2	16,870	106.5	105.3
	4.0	12.3		7,257	86.4	85.2	10,917	94.5	92.9	14,593	102.7	100.6	18,281	110.9	108.3
	5.0	18.0		7,471	87.0	85.6	11,234	95.5	93.5	15,010	104.0	101.4	18,797	112.5	109.4
018	2.3	4.6	530	7,269	83.5	82.6	10,961	90.3	89.1	14,680	97.0	95.5	18,420	103.6	102.0
	3.0	7.5		7,744	84.8	83.5	11,665	92.2	90.3	15,610	99.6	97.1	19,575	107.0	104.0
	5.0	18.0		8,454	86.6	84.7	12,719	94.9	92.1	17,003	103.2	99.6	21,300	111.5	107.0
	6.0	24.5		8,651	87.1	85.0	13,011	95.7	92.6	17,387	104.2	100.2	21,775	112.7	107.9
021	2.6	4.1	610	8,327	83.7	82.6	12,573	90.4	89.0	16,856	97.2	95.5	21,166	103.9	102.0
	3.5	6.7		8,973	84.9	83.6	13,523	92.3	90.4	18,102	99.7	97.4	22,705	107.0	104.3
	5.0	12.4		9,591	86.2	84.5	14,438	94.2	91.8	19,310	102.3	99.2	24,202	110.3	106.6
	7.0	22.1		10,047	87.1	85.2	15,113	95.7	92.8	20,199	104.2	100.5	25,301	112.8	108.2
024	3.0	5.1	700	9,314	83.8	82.3	14,058	90.6	88.5	18,839	97.4	94.8	23,650	104.2	101.1
	4.0	8.4		9,988	85.0	83.2	15,051	92.5	89.8	20,149	99.9	96.5	25,276	107.4	103.3
	6.0	17.0		10,745	86.4	84.1	16,175	94.6	91.3	21,633	102.8	98.5	27,113	111.0	105.7
	8.0	27.9		11,167	87.2	84.7	16,798	95.8	92.1	22,453	104.4	99.6	28,126	113.0	107.0
030	3.8	4.8	880	10,206	84.6	80.7	15,446	91.8	86.2	20,749	98.9	91.7	26,098	106.1	97.3
	5.0	8.1		10,932	85.6	81.4	16,503	93.4	87.3	22,122	101.2	93.2	27,776	108.9	99.1
	8.0	18.9		11,871	87.0	82.4	17,881	95.5	88.7	23,927	104.0	95.1	30,003	112.5	101.4
	10.0	28.3		12,217	87.6	82.8	18,390	96.3	89.3	24,595	105.1	95.8	30,826	113.8	102.3
036	4.5	6.7	1050	11,506	84.9	80.1	17,397	92.3	85.3	23,351	99.6	90.5	29,351	107.0	95.8
	6.0	11.3		12,297	85.9	80.8	18,551	93.8	86.3	24,855	101.7	91.8	31,202	109.6	97.4
	9.0	23.4		13,167	87.1	81.6	19,834	95.6	87.4	26,543	104.1	93.3	33,286	112.6	99.2
	12.0	39.2		13,651	87.7	82.0	20,548	96.6	88.0	27,479	105.4	94.1	34,438	114.3	100.2

Notes: *1. Data based on 70°F EDB*

2. All unit sizes include ECM

Table Legend:

BTU/hr *= British Thermal Units per Hour*
CFM *= Airflow Rate, Cubic Feet per Minute*
EDB *= Entering Dry Bulb*
LDB *= Leaving Dry Bulb*
EWT *= Entering Water Temperature*
LWT *= Leaving Water Temperature*
GPM *= Gallons per Minute*
WPD *= Waterside Pressure Drop*

Fan Performance for PSC Motor (Sizes 009 - 036)

Table 14: PSC motor CFM values

Unit Size	Rated Airflow	Speed	External Static Pressure (in-H_2O) [Dry Coil and STD Filter) (inches of water column)										
			0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
009	300	High	430	390	350	320	280	–	–	–	–	–	–
		Low	400	360	330	290	250	–	–	–	–	–	–
012	400	High	430	390	350	320	–	–	–	–	–	–	–
		Low	400	360	330	–	–	–	–	–	–	–	–
015	500	High	500	470	450	430	400	370	330	300	–	–	–
		Low	430	400	380	360	340	310	–	–	–	–	–
018	600	High	500	470	450	430	400	370	330	300	–	–	–
		Low	430	400	380	360	340	310	–	–	–	–	–
021	700	High	880	820	780	750	720	690	650	600	520	–	–
		Low	740	710	690	680	650	610	580	540	490	–	–
024	800	High	880	820	780	750	720	690	650	600	520	–	–
		Low	740	710	690	680	650	610	580	540	490	–	–
030	1000	High	1,380	1,360	1,340	1,310	1,280	1,250	1,210	1,170	1,130	1,080	1,020
		Low	1,150	1,140	1,130	1,110	1,090	1,070	1,040	1,000	960	920	870
036	1200	High	1,380	1,360	1,340	1,310	1,280	1,250	1,210	1,170	1,130	1,080	1,020
		Low	1,150	1,140	1,130	1,110	1,090	1,070	1,040	1,000	960	920	870

Note: *Add 0.01" ESP for the optional discharge diffuser, and 0.02" ESP for the optional return air grille.*

High Static PSC Motor (Sizes 015 - 018)

Unit Size	Rated Airflow	Speed	External Static Pressure (in-H_2O) [Dry Coil and STD Filter) (inches of water column)										
			0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
015	500	High	700	700	690	670	660	640	620	590	570	540	500
		Low	600	600	590	580	570	550	530	510	480	460	430
018	600	High	700	700	690	670	660	640	620	590	570	540	500
		Low	600	600	590	580	570	550	530	510	480	460	430

Fan Speed Selector Switch

A 4-position fan speed selector switch located in the control box allows CFM settings to be field adjustable. Fan speed control optimizes unit fan speed based on thermostat/room sensor inputs. The fan speed switch allows for manually setting an optimal fan speed specific to the application requirements.

Figure 11: 4-position fan speed selector switch

Fan Performance for Constant Torque EC Motor (Sizes 009-012)

Table 15: Constant torque EC motor CFM values

Unit Size	Setting	Function	External Static Pressure (in-H_2O) [Dry Coil and STD Filter) (inches of water column)								
			0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40
009	4 (High)	Stage 2	450	430	410	400	380	360	340	320	300
	3 (Standard)		420	400	380	360	340	320	300	270	250
	2 (Medium)		350	330	310	290	270	250	230	210	190
	1 (Low)		350	330	310	290	270	250	230	210	190
	4 (High)	Stage 1	420	400	380	360	340	320	300	270	250
	3 (Standard)		380	360	340	320	300	280	260	230	210
	2 (Medium)		350	330	310	290	270	250	230	210	190
	1 (Low)		350	330	310	290	270	250	230	210	190
	A	*Fan Only, Hydronic Heat	420	400	380	360	340	320	300	270	250
	B		380	360	340	320	300	280	260	230	210
	C		350	330	310	290	270	250	230	210	190
	D		300	280	260	240	220	200	180	160	140
012	4 (High)	Stage 2	470	450	430	410	390	370	350	330	310
	3 (Standard)		450	430	410	390	370	340	320	300	280
	2 (Medium)		420	400	380	360	340	310	290	270	250
	1 (Low)		400	370	350	330	310	290	260	240	220
	4 (High)	Stage 1	450	430	410	390	370	340	320	300	280
	3 (Standard)		420	400	380	360	340	310	290	270	250
	2 (Medium)		400	370	350	330	310	290	260	240	220
	1 (Low)		400	370	350	330	310	290	260	240	220
	A	*Fan Only, Hydronic Heat	450	430	410	390	370	340	320	300	280
	B		420	400	380	360	340	310	290	270	250
	C		400	370	350	330	310	290	260	240	220
	D		360	330	300	270	240	210	180	150	120

Notes: *1. EC motor is programmed to make soft starts and stops to reduce stress transmitted to the fan housing. They adjust their speed and torque to deliver constant airflow over a wide range of external static pressure.*
2. Units are shipped at setting 3 (standard). Speed adjustment is done by 4-position switch in the control box.
3. The unit is capable of high-low fan performance through the use of a 2-stage thermostat wired to specific terminals for High-Low CFM fan performance. Standard operation with a 1-stage thermostat is indicated as stage 2 fan performance.
** See Figure 12 on page 62 for jumper configuration.*

Fan Performance for Constant CFM EC Motor (Sizes 015 - 036)

Table 16: Constant CFM EC motor

Unit Size	MicroTech III Unit Controller					
	[2]Setting	Maximum ESP (in. WC.)	[1]Low CFM Heat	[1]High CFM Heat	[1]Low CFM Cool	[1]High CFM Cool
015 (1-Row Hydronic Coil)	4 (High)	0.40	500	540	500	540
	3 (Standard)		440	500	440	500
	2 (Medium)		390	440	390	440
	1 (Low)		390	390	390	390
018 (1-Row Hydronic Coil)	4 (High)	0.40	600	680	600	680
	3 (Standard)		530	600	530	600
	2 (Medium)		470	530	470	530
	1 (Low)		470	470	470	470
021 (1 or 2-Row Hydronic Coil)	4 (High)	0.40	700	770	700	770
	3 (Standard)		610	700	610	700
	2 (Medium)		530	610	530	610
	1 (Low)		530	530	530	530
024 (1 or 2-Row Hydronic Coil)	4 (High)	0.40	800	900	800	900
	3 (Standard)		700	800	700	800
	2 (Medium)		600	700	600	700
	1 (Low)		600	600	600	600
030 (1 or 2-Row Hydronic Coil)	4 (High)	0.40	1000	1120	1000	1120
	3 (Standard)		880	1000	880	1000
	2 (Medium)		760	880	760	880
	1 (Low)		760	760	760	760
036 (1 or 2-Row Hydronic Coil)	4 (High)	0.40	1200	1310	1200	1310
	3 (Standard)		1050	1200	1050	1200
	2 (Medium)		910	1050	910	1050
	1 (Low)		910	910	910	910

Notes: *[1] The unit is capable of high-low fan performance through the use of a 2-stage thermostat wired to specific terminals for High-Low CFM.*
[2] Units are shipped at setting 3 (standard). Fan speed settings may be changed via the 4-position fan speed selector switch located inside the control box.

Fan Performance for Constant Torque EC Motor (Sizes 015 - 018) With 2-Row Hydronic Coil

Table 17: Constant torque EC motor CFM values

Unit Size	Setting	Function	External Static Pressure (in-H_2O) [Dry Coil and STD Filter) (inches of water column)								
			0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40
015	4 (High)	Stage 2	710	690	670	645	625	610	600	585	570
	3 (Standard)		660	635	615	590	575	555	545	530	510
	2 (Medium)		605	585	560	540	525	505	495	470	455
	1 (Low)		555	530	505	485	475	450	440	415	395
	4 (High)	Stage 1	660	635	615	590	575	555	545	530	510
	3 (Standard)		605	585	560	540	525	505	495	470	455
	2 (Medium)		555	530	505	485	475	450	440	415	395
	1 (Low)		555	530	505	485	475	450	440	415	395
	A	*Fan Only, Hydronic Heat	660	635	615	590	575	555	545	530	510
	B		605	585	560	540	525	505	495	470	455
	C		555	530	505	485	475	450	440	415	395
	D		475	450	425	405	395	370	355	330	300
018	4 (High)	Stage 2	785	760	740	715	695	680	670	660	650
	3 (Standard)		725	705	680	660	640	625	615	600	585
	2 (Medium)		670	645	625	600	585	565	555	540	525
	1 (Low)		605	585	560	540	525	505	495	470	455
	4 (High)	Stage 1	725	705	680	660	640	625	615	600	585
	3 (Standard)		670	645	625	600	585	565	555	540	525
	2 (Medium)		605	585	560	540	525	505	495	470	455
	1 (Low)		605	585	560	540	525	505	495	470	455
	A	*Fan Only, Hydronic Heat	725	705	680	660	640	625	615	600	585
	B		670	645	625	600	585	565	555	540	525
	C		605	585	560	540	525	505	495	470	455
	D		520	500	470	455	445	420	405	380	355

Notes: *1. EC motor is programmed to make soft starts and stops to reduce stress transmitted to the fan housing. They adjust their speed and torque to deliver constant airflow over a wide range of external static pressure.*
2. Units are shipped at setting 3 (standard). Speed adjustment is done by 4-position switch in the control box.
3. The unit is capable of high-low fan performance through the use of a 2-stage thermostat wired to specific terminals for High-Low CFM fan performance. Standard operation with a 1-stage thermostat is indicated as stage 2 fan performance.
** See Figure 12 on page 62 for jumper configuration.*

Table 18: I/O expansion module jumper configuration

Setting	I/O Expansion Module Configuration	
	JP1	JP2
A	Open	Open
B	Shorted	Open
C	Open	Shorted
D	Shorted	Shorted

Note: *Refer to Figure 12 for location of jumpers JP1 and JP2 on the I/O expansion module.*

Figure 12: JP1 & JP2 location on the I/O expansion module

Constant CFM EC Motor with Hydronic Heat - I/O Expansion Module Settings (Sizes 015 - 036)

Table 19: Constant CFM EC motor with hydronic heat - I/O expansion module settings

Unit Size	MicroTech III Unit Controller	[3]I/O Expansion Module		
	[2]Setting	Setting	Fan Only	Hydronic Heat
015 (1-Row Hydronic Coil)	4 (High)	A	500	500
	3 (Standard)	B	440	440
	2 (Medium)	C	390	390
	1 (Low)	D	290	290
018 (1-Row Hydronic Coil)	4 (High)	A	600	600
	3 (Standard)	B	530	530
	2 (Medium)	C	470	470
	1 (Low)	D	360	360
021 (1 or 2-Row Hydronic Coil)	4 (High)	A	700	700
	3 (Standard)	B	610	610
	2 (Medium)	C	530	530
	1 (Low)	D	400	400
024 (1 or 2-Row Hydronic Coil)	4 (High)	A	800	800
	3 (Standard)	B	700	700
	2 (Medium)	C	600	600
	1 (Low)	D	450	450
030 (1 or 2-Row Hydronic Coil)	4 (High)	A	1000	1000
	3 (Standard)	B	880	880
	2 (Medium)	C	760	760
	1 (Low)	D	580	580
036 (1 or 2-Row Hydronic Coil)	4 (High)	A	1200	1200
	3 (Standard)	B	1050	1050
	2 (Medium)	C	910	910
	1 (Low)	D	710	710

Notes: [1] *The unit is capable of high-low fan performance through the use of a 2-stage thermostat wired to specific terminals for High-Low CFM.*
[2] *Units are shipped at setting 3 (standard). Fan speed settings may be changed via the 4-position fan speed selector switch located inside the control box.*
[3] *See Table 18 and Figure 12 for jumper configuration.*

= Hydronic heat data for sizes 015 and 018 in gray tint reflects units with 1-row hydronic coil.

Standard PSC Motor

Unit Size	Voltage/Hz/ Phase	Compressor		Fan Motor FLA	Total Unit FLA	Fan HP	Minimum Voltage	Maximum Voltage	Minimum Circuit Amps	Maximum Fuse Size
		RLA	LRA							
009	115-60-1	7.0	41.5	0.8	7.8	1/20	104	127	9.6	15
	208-230/60/1	3.6	21.0	0.5	4.1	1/16	197	253	5.0	15
	265-277/60/1	3.1	16.5	0.5	3.6	1/16	239	292	4.4	15
012	115-60-1	9.1	50.5	0.8	9.9	1/20	104	127	12.2	20
	208-230/60/1	4.4	29.5	0.5	4.9	1/16	197	253	6.0	15
	265-277/60/1	3.9	23.5	0.5	4.4	1/16	239	292	5.4	15
015	208-230/60/1	5.5	26.0	0.9	6.4	1/3	197	253	7.8	15
	265-277/60/1	4.7	25.0	0.8	5.5	1/3	239	292	6.7	15
018	208-230/60/1	7.0	38.0	0.9	7.9	1/3	197	253	9.7	15
	265-277/60/1	6.0	30.0	0.8	6.8	1/3	239	292	8.3	15
021	208-230/60/1	8.3	44.0	0.9	9.2	1/8	197	253	11.3	15
	265-277/60/1	6.8	30.0	0.8	7.6	1/8	239	292	9.3	15
024	208-230/60/1	13.5	58.3	0.9	14.4	1/8	197	253	17.8	30
	265-277/60/1	9.0	54.0	0.8	9.8	1/8	239	292	12.1	20
030	208-230/60/1	14.1	73.0	1.9	16.0	1/3	197	253	19.5	30
	265-277/60/1	11.2	60.0	1.5	12.7	1/3	239	292	15.5	25
036	208-230/60/1	16.7	79.0	1.9	18.6	1/3	197	253	22.7	35
	265-277/60/1	13.5	72.0	1.5	15.0	1/3	239	292	18.4	30

High Static PSC Motor

Unit Size	Voltage/Hz/ Phase	Compressor		Fan Motor FLA	Total Unit FLA	Fan HP	Minimum Voltage	Maximum Voltage	Minimum Circuit Amps	Maximum Fuse Size
		RLA	LRA							
015	208-230/60/1	5.5	26.0	0.9	6.4	1/3	197	253	7.8	15
	265-277/60/1	4.6	20.0	0.8	5.4	1/3	239	292	6.6	15
018	208-230/60/1	7.0	38.0	0.9	7.9	1/3	197	253	9.7	15
	265-277/60/1	6.0	30.0	0.8	6.8	1/3	239	292	8.3	15

EC Motor

Unit Size	Voltage/Hz/ Phase	Compressor		Fan Motor FLA	Total Unit FLA	Fan HP	Minimum Voltage	Maximum Voltage	Minimum Circuit Amps	Maximum Fuse Size
		RLA	LRA							
009	115-60-1	7.0	41.5	0.5	7.5	1/10	104	127	9.2	15
	208-230/60/1	3.6	21.0	0.5	4.1	1/10	197	253	5.0	15
	265-277/60/1	3.1	16.5	0.3	3.4	1/10	239	292	4.1	15
012	115-60-1	9.1	50.5	0.8	9.9	1/10	104	127	12.1	20
	208-230/60/1	4.4	29.5	0.6	5.0	1/10	197	253	6.1	15
	265-277/60/1	3.9	23.5	0.4	4.3	1/10	239	292	5.3	15
015	208-230/60/1	5.5	26.0	1.0	6.5	1/3	197	253	7.9	15
	265-277/60/1	4.7	25.0	0.8	5.5	1/3	239	292	6.6	15
018	208-230/60/1	7.0	38.0	1.3	8.3	1/3	197	253	10.1	15
	265-277/60/1	6.0	30.0	1.2	7.2	1/3	239	292	8.7	15
021	208-230/60/1	8.3	44.0	1.2	9.5	1/3	197	253	11.6	15
	265-277/60/1	6.8	30.0	1.0	7.8	1/3	239	292	9.5	15
024	208-230/60/1	13.5	58.3	1.7	15.2	1/3	197	253	18.6	30
	265-277/60/1	9.0	54.0	1.3	10.3	1/3	239	292	12.6	20
030	208-230/60/1	14.1	73.0	2.5	16.6	1/2	197	253	20.1	30
	265-277/60/1	11.2	60.0	1.8	13.0	1/2	239	292	15.8	25
036	208-230/60/1	16.7	79.0	3.1	19.8	1/2	197	253	23.9	40
	265-277/60/1	13.5	72.0	2.6	16.1	1/2	239	292	19.5	30

Legend: ***RLA*** *= Rated Load Amps* ***LRA*** *= Locked Rotor Amps*

Standard Range Units:

Units are designed to start in an ambient of 50°F (10°C) with entering air at 50°F (10°C), with entering water at 50°F (10°C), with nominal air flow and water flow (3.0 GPM/Ton), for initial start-up in heating.

Note: *This is not a normal or continuous operating condition. It is assumed that such start-up is for the purpose of bringing the building space up to occupancy temperature.*

Geothermal Range Units:

****Note:*** *Contact factory for ordering information for geothermal range units.*

Units are designed to start in an ambient of 40°F (5°C) with entering air at 40°F (5°C), with entering water at 20°F (-7°C), with nominal air flow and water flow (3.0 GPM/Ton), for initial start-up in heating.

Note: *This is not a normal or continuous operating condition. It is assumed that such start-up is for the purpose of bringing the building space up to occupancy temperature.*

Environment

This equipment is designed for indoor installation only. Sheltered locations such as attics, garages, etc., generally will not provide sufficient protection against extremes in temperature and/or humidity, and equipment performance, reliability, and service life may be adversely affected.

Power supply

A voltage variation of +/-10% of nameplate voltage is acceptable. Three-phase system imbalance shall not exceed 2%.

Airflow Correction Factors

Table 20: Air limits in °F (°C)

Air Limits	Standard Range Units		Geothermal Range Units	
	Cooling (DB/WB)	Heating	Cooling (DB/WB)	Heating
Minimum Ambient Air[1]	50°F/40°F (10°C/4°C)	50°F (10°C)	40°F/30°F (4°C/-1°C)	40°F (4°C)
Maximum Ambient Air[2]	100°F/85°F (38°C/29°C)	85°F (29°C)	100°F/85°F (38°C/29°C)	85°F (29°C)
Minimum Entering Air[1]	65°F/55°F (18°C/13°C)	50°F (10°C)	65°F/55°F (18°C/13°C)	50°F (10°C)
Common Design Entering Air	75°F/63°F (24°C/17°C)	70°F (21°C)	75°F/63°F (24°C/17°C)	70°F (21°C)
Maximum Entering Air[2]	85°F/71°F (29°C/22°C)	80°F (27°C)	85°F/71°F (29°C/22°C)	80°F (27°C)
Minimum CFM/Ton	300			
Maximum CFM/Ton	450			

Table 21: Fluid limits

Fluid Limits	Standard Range Units		Geothermal Range Units	
	Cooling	Heating	Cooling	Heating
Minimum Entering Fluid	55°F (13°C)	55°F (13°C)	30°F (-1°C)	20°F (-6°C)
Common Design Entering Fluid	85-90°F (29-32°C)	70°F (21°C)	90°F (32°C)	35-60°F (1.5-16°C)
Maximum Entering Fluid	120°F (49°C)	90°F (32°C)	120°F (49°C)	90°F (32°C)
Minimum GPM/Ton	1.5			
Nominal GPM/Ton	3.0			
Maximum GPM/Ton	4.0			

Notes: [1] *Maximum and minimum values may not be combined. If one value is at maximum or minimum, the other two conditions may not exceed the normal condition for standard units. Geothermal range units may combine any two maximum conditions, but not more than two, with all other conditions being normal conditions.*

[2] *This is not a normal or continuous operating condition. It is assumed that such a start-up is for the purpose of bringing the building space up to occupancy temperature.*

Antifreeze Correction Factors

	Antifreeze % by weight			
	15%	**25%**	**35%**	**45%**
Ethanol				
Cooling Capacity	0.985	–	–	–
Heating Capacity	0.9825	–	–	–
Pressure Drop	1.04			
Ethylene Glycol				
Cooling Capacity	0.9935	0.9895	0.985	0.981
Heating Capacity	0.9865	0.9795	0.973	0.965
Pressure Drop	1.10	1.16	1.22	1.27
Methanol				
Cooling Capacity	0.985	–	–	–
Heating Capacity	0.9825	–	–	–
Pressure Drop	1.04	–	–	–
Propylene Glycol				
Cooling Capacity	0.985	0.975	0.965	0.955
Heating Capacity	0.981	0.9685	0.952	0.936
Pressure Drop	1.11	1.20	1.31	1.40

Sizes 009 - 012 (18" × 18" Cabinet)

Unit Size		009		012
Fan Wheel - D x W (In.)		6.2 dia. x 8.0W		
Fan Motor Horsepower (PSC)		1/16		
Fan Motor Horsepower (ECM)		1/10		
Coil Face Area (Sq. Ft.)		1.85		
Coil Rows		3		
Refrigerant Charge (Oz.)		25.0		
Filter Size (In.)		16W x 30H x 1D		
Water Connections, Male JIC (In.)		1/2		
Condensate Connections (In.)		7/8		
Weight, Operating (Lbs.)	**009 – 012**	**Weight, Shipping, with Carton (Lbs.)**		**009 – 012**
Chassis	95	[1]Chassis		105
Chassis w/1-Row Hydronic Coil	98	[1]Chassis w/1-Row Hydronic Coil		108
Chassis w/2-Row Hydronic Coil	100	[1]Chassis w/2-Row Hydronic Coil		110
Cabinet	63.5"	83	Cabinet	63.5"	83[3]
	80"	100		80"	100[3]
	88"	108		88"	108[3]
	92"	111		92"	111[4]
	96"	115		96"	115[4]

Notes: *Chassis' ship 4 per skid.*
Standard height cabinets ship from 1 to 6 per skid. Short stack (63.5") cabinets ship 1 to 4 per skid.
1 Add 41 lbs. for skid weight to the overall chassis w/carton shipping weight, ie., (Chassis w/carton x 4 + 41 lbs.).
3 Add 98 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 4 + 98 lbs.).
4 Add 106 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 4 + 106 lbs.).

Sizes 015 - 018 (18" × 20" Cabinet)

Unit Size		015		018
Fan Wheel - D x W (In.)		9.5 dia x 6.0W		
Fan Motor Horsepower (PSC)		1/3		
Fan Motor Horsepower (ECM)		1/3		
Coil Face Area (Sq. Ft.)		2.39		
Coil Rows		3		
Refrigerant Charge (Oz.)		36.0		38.0
Filter Size (In.)		16W x 30H x 1D		
Water Connections, Male JIC (In.)		1/2		
Condensate Connections (In.)		7/8		
Weight, Operating (Lbs.)	**015 – 018**	**Weight, Shipping, with Carton (Lbs.)**		**015 – 018**
Chassis	105	[1]Chassis		115
Chassis w/1-Row Hydronic Coil	110	[1]Chassis w/1-Row Hydronic Coil		118
Chassis w/2-Row Hydronic Coil	113	[1]Chassis w/2-Row Hydronic Coil		120
Cabinet	63.5"	83	Cabinet	63.5"	83[3]
	80"	100		80"	100[3]
	88"	108		88"	108[3]
	92"	111		92"	111[4]
	96"	115		96"	115[4]

Notes: *Chassis' ship 4 per skid.*
Cabinets ship from 1 to 6 per skid.
1 Add 41 lbs.for skid weight to the overall chassis w/carton shipping weight, ie., (Chassis w/carton x 4 + 41 lbs.).
3 Add 98 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 4 + 98 lbs.).
4 Add 106 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 4 + 106 lbs.).

Sizes 021 - 036 (24" × 24" Cabinet)

Unit Size	021	024	030	036
Fan Wheel - D x W (In.)	9.9 dia x 7.1W		9.9 dia. x 9.5W	
Fan Motor Horsepower (PSC)	1/8		1/3	
Fan Motor Horsepower (ECM)	1/3		1/2	
Coil Face Area (Sq. Ft.)	2.90		3.69	
Coil Rows	3			
Refrigerant Charge (Oz.)	39.0	43.0	56.5	56.0
Filter Size (In.)	20W x 30H x 1D			
Water Connections, Male JIC (In.)	3/4			
Condensate Connections (In.)	7/8			

Weight, Operating (Lbs.)	021	024	030	036	Weight, Shipping, with Carton (Lbs.)	021	024	030	036
Chassis	150	150	165	165	[2]Chassis	160	160	180	180
Chassis w/1-Row Hydronic Coil	156	156	172	172	[2]Chassis w/1-Row Hydronic Coil	166	166	185	185
Chassis w/2-Row Hydronic Coil	158	158	175	175	[2]Chassis w/2-Row Hydronic Coil	170	170	190	190

Cabinet	63.5"	133	Cabinet	63.5"	133[5]
	80"	157		80"	157[5]
	88"	168		88"	168[5]
	92"	173		92"	173[6]
	96"	178		96"	178[6]

Notes: *Chassis' ship 4 per skid.*
Standard height cabinets ship from 1 to 2 per skid. Short stack (63.5") cabinets ship 1 to 4 per skid.
[2] *Add 50 lbs. for skid weight to overall chassis w/carton shipping weight, ie., (Chassis w/carton x 4 + 50 lbs.).*
[5] *Add 117 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 2 + 117 lbs.).*
[6] *Add 127 lbs. for skid weight to overall cabinet shipping weight, ie., (Cabinet x 2 + 127 lbs.).*

Model VHF & VHW – 18" × 18" Cabinet – Size 009-012

Dimensions

Unit Size 009–012 (18" × 18") Cabinet (Dimensions in inches)																		
Unit Height "A"	**B**	**C**	**D**	**E**	**F**	**G**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**
80, 88, 92, 96	18.07	18.11	37.50	0.88	58.09	2.38	3.125	2.0	2.0	6.72	12.4	7.9	3.3	3.0	3.0	3.3	4.5	4.5

Discharge Openings (Dimensions in inches)								
Unit Size	**Single**		**Double**		**Triple**		**Single- Top Opening**	
009–012	**W**	**H**	**W**	**H**	**W**	**H**	**W**	**H**
	14	16	14	8	NR	NR	12	12

Notes: *[1] Alternative riser locations dimensions mirror those shown as "T", "U", and "V"*
NR *= Not Recommended*
80" high cabinet not available with side discharge, top discharge only.

Model VHF & VHW – 18" × 20" Cabinet – Size 015-018

Dimensions

Unit Size 015–018 (18" × 20") Cabinet (Dimensions in inches)																		
Unit Height "A"	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V
80, 88, 92, 96	18.07	20.00	37.50	0.88	58.09	2.38	3.125	2.0	3.0	6.72	12.4	7.9	3.3	4.0	3.0	3.12	4.5	4.5

Discharge Openings (Dimensions in inches)								
Unit Size	Single		Double		Triple		Single- Top Opening	
015–018	W	H	W	H	W	H	W	H
	14	16	14	8	14	8	12	12

Notes: *[1] Alternative riser locations dimensions mirror those shown as "T", "U", and "V"*
80" high cabinet not available with side discharge, top discharge only.

Model VHF & VHW – 24" × 24" Cabinet – Size 021-036

Dimensions

Unit Size 021–036 (24" × 24") Cabinet (Dimensions in inches)																		
Unit Height "A"	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V
80, 88, 92, 96	24.00	24.04	37.50	0.88	58.08	2.38	4.54	2.0	3.0	6.72	12.4	7.9	3.3	3.09	3.10	3.12	4.5	4.5

Discharge Openings (Dimensions in inches)								
Unit Size	Single		Double		Triple		Single- Top Opening	
021–024	W	H	W	H	W	H	W	H
	NR	NR	18	10	18	10	18	18
030–036	NR	NR	18	14	18	10	18	18

Notes: *NR = Not Recommended*
80" high cabinet not available with side discharge, top discharge only.

Model VHF 63.5" High Cabinet - Sizes 009-018

Note:
Installing contractor must cut-out knockouts at the desired locations, remove insulation and install foam seal

Dimensions

Cabinet											
Cabinet	A[4]	B	C	D	E	Filter Size F	Return Air Opening	G	H	J	K
18 x 18 (Size 009-012)	62.75	18.00	18.00	2.38	58.08	16"w x 30"h x 1"d	12.62w x 25.25h	37.50	6.72	3.125	24.87
18 x 20 (Size 015-018)			20.00								

Top View										
Cabinet	Discharge Air Opening[5]		N	P	Q	R	S	T	U	V
	L	M								
18 x 18 (Size 009-012)	15.00	6.80	12.4	7.9	3.3	1.64	1.64	3.12	4.50	4.50
18 x 20 (Size 015-018)		8.80								

Notes: 1 *Alternative riser locations dimensions mirror those shown as "**T**", "**U**", and "**V**"*
2 *Alternative riser locations for unit sizes 009-018 are field-specified (code 22 = A)*
3 *Alternative drain location for unit sizes 009-018 is field-specified (code 22 = A)*
4 *Dimension "**A**" overall cabinet height is 63.5" with discharge duct collar folded out.*
5 *Dimensions "**L**" and "**M**" are the discharge air opening with the duct collar folded out.*

Model VHF 63.5" High Cabinet - Sizes 021-036

Note:
Installing contractor must cut-out knockouts at the desired locations, remove insulation and install foam seal

Dimensions

Cabinet											
Cabinet	A[4]	B	C	D	E	Filter Size F	Return Air Opening	G	H	J	K
24 x 24 (Size 021-036)	62.75	24.00	24.00	2.38	58.08	20"w x 30"h x 1"d	19.00w x 26.50h	37.50	6.72	4.54	25.04

Top View										
Cabinet	Discharge Air Opening[5]		N	P	Q	R	S	T	U	V
	L	M								
24 x 24 (Size 021-036)	21.00	11.25	12.4	7.9	3.3	1.64	1.64	3.12	4.50	4.50

Notes: 1 *Alternative riser locations dimensions mirror those shown as "**T**", "**U**", and "**V**". Knockouts are factory provided on unit sizes 021-036.*
2 *Alternative riser locations for unit sizes 009-018 are field-specified (code 22 = A).*
3 *Alternative drain location for unit sizes 009-018 is field-specified (code 22 = A).*
4 *Dimension "**A**" overall cabinet height is 63.5" with discharge duct collar folded out.*
5 *Dimensions "**L**" and "**M**" are the discharge air opening with the duct collar folded out.*

Supply, Return and Condensate Risers

Supply and return risers are available as Type L copper. Condensate risers are available as Schedule 40 PVC or insulated Type M and Type L copper. Maximum riser length (ext. above + cabinet ht. + ext. below) available 120"

Each supply and return riser includes a factory supplied, field mounted and brazed shutoff valve, constructed of brass and rated at 400 psig (2758 kPa) maximum working pressure. They have male JIC connections for connecting flexible supply and return hoses. Shutoff valves may be ordered when piping up secondary units.

Table 22: Risers and pipe reducers specifications

Diameter	Supply/Return Riser Material		Condensate Riser Material				
	Type L Copper	Insulated Type L Copper	Type M	Type L	Schedule 40 PVC	Insulated Type M Copper	Insulated Type L Copper
3/4"	•	•	•	•	•	•	•
1"	•	•	•	•	•	•	•
1-1/4"	•	•	•	•	•	•	•
1-1/2"	•	•	•	•	•	•	•
2"	•	•	•	•	•	•	•
2-1/2"	•	•	•	•	•	•	•
3"	•	•	•	•	•	•	•
4"	•						
Diameter	**Copper Riser Options**					**PVC Riser Options**	
	Riser Extensions 24", 36", 48"	3" Expanded End[2]	Riser Cap	Coupling Down One Riser Size	Coupling Up One Riser Size	Slip Coupling[2]	Cap
3/4"	•	•	•		•	•	•
1	•	•	•	•	•	•	•
1-1/4"	•	•	•	•	•	•	•
1-1/2"	•	•	•	•	•	•	•
2"	•	•	•	•	•	•	•
2-1/2"	•	•	•	•	•	•	•
3"	•	•	•	•	•	•	•
4"	•	• [1]	•	•			

Notes: *[1] Expanded end will be provided as slip coupling.*
[2] Connecting risers will be the same diameter.

Sizing the Piping

Size the riser headers and system piping using the chart below. The chart is based upon a maximum pressure drop of 8 feet per 100, and a maximum velocity of 10 feet per second.

Table 23: Allowable flow rates for closed system piping type L copper

Pipe Size	Max. Flow GPM	Max. Velocity FPS	Max. Total Connected Load[1] In Tons				
			2.0 GPM/Ton	2.2 GPM/Ton	2.4 GPM/Ton	2.6 GPM/Ton	2.8 GPM/Ton
3/4"	5.9	3.6	3.0	2.7	2.5	2.3	2.1
1"	12.0	4.4	8.0	5.5	5.0	4.8	4.3
1-1/4"	21.0	5.1	10.5	9.5	8.8	8.1	7.5
1-1/2"	31.0	5.7	15.5	14.1	12.9	11.9	11.1
2"	65.0	5.4	32.5	29.9	27.1	25.0	23.2
2-1/2"	120.0	6.9	60.0	54 .5	60.0	46.2	42.9
3"	200.0	9.2	100.0	90.9	83.3	76.9	71.4

Note: *[1] Unit cooling capacity at ISO Standard 13256-1 rating conditions, divided by 12,000.*

Supply Air Diffusers

Note: *1. Supply air diffuser 1/2" foam seal field-furnished and installed. Available in 1.75" or 3.25" depth.*
2. 3.25" supply comes in two pieces (field assembly required).

Aluminum Diffuser with mill finish

Painted Diffuser (option)

Table 24: Supply diffuser selection chart

Unit Size	Speed	CFM	Single Discharge 14" Wide by:				Double Discharge 14" Wide by:				Triple Discharge 14" Wide by:				Top Discharge Opening (Sized for maximum CFM)
			8" H	10" H	14" H	16" H	8" H	10" H	14" H	16" H	8" H	10" H	14" H	16" H	
009	High	450				•	•				Not Recommended				12" x 12"
	Low	380				•	•								
012	High	450				•	•								
	Low	380				•	•								
015	High	500				•	•				•				
	Low	420				•	•				•				
018	High	500				•	•				•				
	Low	420				•	•				•				
Unit Size	**Speed**	**CFM**	**Single Discharge 18" Wide by:**				**Double Discharge 18" Wide by:**				**Triple Discharge 18" Wide by:**				**Top Discharge Opening (Sized for maximum CFM)**
			8" H	**10" H**	**14" H**	**16" H**	**8" H**	**10" H**	**14" H**	**16" H**	**8" H**	**10" H**	**14" H**	**16" H**	
021	High	760	Not Recommended					•				•			18" x 18"
	Low	670						•				•			
024	High	760						•				•			
	Low	670						•				•			
030	High	1100							•			•			
	Low	1050							•			•			
036	High	1100							•			•			
	Low	1050							•			•			

Notes: *1. Supply diffuser size is based on equal airflow when units are configured with multiple outlets.*
2. Diffuser sizes shown are recommended for optimum throw and reduced air noise.
3. It is recommended that side discharge diffusers have opposed blade dampers for air flow balancing.
4. Top discharge with multiple runouts should utilize balancing dampers.
5. Double-deflecttion dampers are recommended for most applications to assist in directing air flow.
6. If an EC motor is selected in unit size 021 or larger, diffuser size will remain the same as shown above.

Diffuser Dimensions

Figure 13: Diffuser details and dimensions

Table 25: Diffuser dimensions (in inches)

Type	Depth	Dimension	
		X	Y
Double Deflection	1.75	14.00	8.00
			16.00
		18.00	10.00
			14.00
Double Deflection with Extention	3.25	14.00	8.00
			16.00
		18.00	10.00
			14.00
Double Deflection - OBDA with Adjustable Damper	3.25	14.00	8.00
			16.00
		18.00	10.00
			14.00

Hinged Perimeter Return Air Panel Door

Figure 14: Hinged perimeter panel door

Louvered Return Air Panel Door

Table 26: Louvered panel door

Table 27: Return air panel dimensions

Unit Size	E		F	G	H	J	K	Outdoor Air Opening		
	1" Filter Compatible Door	2" Filter Compatible Door						L	M	N
009-018	2.92"	3.92"	17.69"	21.69"	52.53"	54.60"	23.75"	1.88"	7.00"	11.08"
021-036			23.69"	27.69"			29.75"			

MicroTech III Unit Controller, EC Fan, Sensor Control with Communication Module 208-230/60/1 Unit Sizes 009-012

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp. Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle
TR1	Transformer - 24V

Table B	
208V	RED
230V	ORG

MicroTech III Unit Controller, EC Motor, Sensor Control with Communication Module 265-277/60/1 Unit Sizes 009-012

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle
TR1	Transformer - 24V
TR2	Transformer - Fan Motor

MicroTech III Unit Controller, PSC Motor, Sensor Control with Communication Module 208-230/60/1 Unit Size 021

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle
TR1	Transformer - 24V

Table B	
208V	RED
230V	ORG

MicroTech III Unit Controller, EC Motor, Thermostat Control 208-230/60/1 Unit Size 021

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
CUR	Current Sensor - Comp. (Opt)
DAT	Discharge Air Temp Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle
TR1	Transformer - 24V

MicroTech III Unit Controller, PSC Motor, Thermostat Control 265-277/60/1 Unit Sizes 024-036

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TR1	Transformer - 24V
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle

MicroTech III Unit Controller, EC Motor, Thermostat Control 208-230/60/1 Unit Size 021

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Communication Card - Optional
CM	Compressor - Motor
COS	Condensate Overflow Sensor
CUR	Current Sensor - Comp. (Opt)
DAT	Discharge Air Temp Sensor
DSC	Disconnect Switch
EB2	Fan Speed Selector
EWT	Entering Water Temp Sensor
FCP	Fan Connector Plug
FCR	Fan Connector Receptacle
FM	Fan Motor
FS1, 2	Fuse
HACR	HACR Breaker
HP	High Pressure Switch
HYH	Hydronic Heat Valve - Optional
IOEXP	MicroTech III I/O Expansion Board
ISO-**	Isolation Valve - Optional
LED1, 2	LED Annunciator / Harness
LP	Low Pressure Switch
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
MPP	Main Power Connector Plug
MPR	Main Power Connector Receptacle
OVL	Compressor Overload
P1	Tstat Plug
PDPG	Primary Drain Pan Ground
RV	Reversing Valve Solenoid
SOS	Secondary Overflow Sensor
SLTS	Suction Line Temp Sensor
TS1	Terminal Strip 1
TS2	Terminal Strip 2
TSP	Terminal Strip Connector Plug
TSR	Terminal Strip Connector Receptacle
TR1	Transformer - 24V

General

Units shall be supplied completely factory assembled, piped, internally wired, fully charged with R-410A, vertical stacked high rise unit and capable of operating over an entering water temperature range from 45°F to 120°F on standard range models, and 30° to 120°F on geothermal range models. All equipment must be rated and certified in accordance with AHRI/ISO 13256-1 and must be tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL-1995 for the US and CAN/CSA-C22.2 NO. 236 for Canada. Each unit shall be ETL and ETLC Listed. Each unit shall be run tested at the factory. The installing contractor shall be responsible for furnishing and installing Water Source Heat Pumps as indicated on the plans and per installation instructions.

Option

All geothermal range units shall have an insulated water-to-refrigerant heat exchanger. An additional refrigerant temperature sensor shall disable compressor operation at 6.5°F, or at a temperature common to low temp operation and not one common to boiler/tower operation, 28°F. Geothermal range unit shall have insulated refrigerant-to-water heat exchanger and insulated water and refrigerant tubing; all designed to help prevent sweating.

Cabinet

The cabinet shall be fabricated from heavy gauge galvanized sheet metal. The cabinet interior surfaces and the chassis compressor compartment shall be lined with 1/2-inch thick, dual density fiberglass insulation. The insulation shall have a flame spread of less than 25 and a smoke developed classification of less than 50 per ASTM E-84 and UL 723. All fiberglass insulation shall be coated and have exposed edges tucked under flanges to prevent the introduction of glass fibers into the air stream. All insulation must meet NFPA 90A and UL-181.

Cabinet shall be constructed as a two-piece (top discharge plenum/lower chassis cabinet) design to help facilitate installation when moving into tight spaces. The cabinet must be able to be broken down into two pieces. The supply air plenum shall be fully insulated and designed with a supply air baffle to attenuate air noise and provide privacy if the unit is configured with both front and back supply air openings. A 1"-thick throwaway filter factory-installed as standard. The filter shall be easily removed from the front of the cabinet through the return air panel.

Cabinet Insulation Options

Foil-skin faced, dual density fiberglass insulation is available as an option.

With the optional Indoor Air Quality (IAQ) insulation package, the cabinets interior surface shall be lined with 3/8" thick closed-cell foam insulation.

Filters

Units shall have a 1" (25mm) thick [throwaway] filter factory-installed as standard. The filter shall be easily removed from the front of the cabinet through the hinged return air panel.

Option

Unit shall have an optional 1"-thick MERV 8 pleated throwaway filter. The filter shall be easily removed from the front of the cabinet through the hinged return air panel. An optional 2"-thick Merv 13 pleated throwaway filter shall also be available.

Refrigerant Circuit

The coaxial coil shall be made have a working pressure of 500 psig on the waterside of the unit and 600 psig on the refrigerant side for all R-410A units. The compressor shall have thermal overload protection.

Option

The coaxial coil shall be made of cupro-nickel inner tube and a painted steel outer tube and shall be deeply fluted to enhance heat transfer and minimize fouling for applications involving city or well water.

Drain Pan

The primary condensate pan shall be constructed of high impact (ABS) plastic to prevent corrosion and sweating. The bottom of the drain pan shall be sloped on two planes to provide complete drainage of water from the pan. Flat bottom drain pans are unacceptable. The unit as standard shall be supplied with electronic condensate overflow protection. A secondary drain pan on the bottom of the cabinet shall be constructed of galvanized steel to prevent corrosion. The secondary drain pan must include a condensate overflow alarm sensor and a drain trap to prevent gases from backing up into the cabinet. The drain must be connected to the condensate riser. Mechanical float switches will not be accepted.

Fan and Motor Assembly

The cabinet shall contain a removable direct drive fan assembly. The fan housing shall be slide-out type and have a removable orifice ring to facilitate fan motor and fan wheel removal. The fan motor shall be multi-speed, permanently lubricated, PSC type isolated from the fan housing with vibration grommets and internal thermal overload protection.

The fan and motor assembly must be capable of overcoming the external static pressures as shown on the schedule.

Option

The fan motor shall be permanently lubricated, ECM type isolated from the fan housing with vibration grommets, internal thermal overload protection and field adjustable CFM settings from a switch in the control box. CFM adjustment shall not require jumper pins or dip switch settings, or a hand held plug in device. Unit sizes 1-ton and smaller shall have a constant torque type EC motor. Unit sizes larger than 1-ton shall have a constant CFM type EC motor which is variable speed and produces constant CFM independent of external static pressure. The constant CFM EC motor shall have the ability to reduce the CFM as the space temperature approaches the thermostat setpoint for improved dehumidification.

Chassis

The chassis section incorporates the air coil, water coil, primary drain pan and refrigeration circuit (compressor compartment), and shall be easy to install and service. The slide-in chassis shall be lined with 1/2-inch thick, dual density fiberglass insulation to separate it from the fan compartment. The chassis base shall incorporate formed galvanized slide rails with vibration isolators to prevent vibration transmission to the cabinet. The chassis shall be removable from the cabinet without having to remove the return air grille frame from the wall.

In combination with the fiberglass options, a compressor compartment Sound Reduction Package option adds a compressor mass plate and for 024-036 units, an optional compressor sound blanket.

With the optional Indoor Air Quality (IAQ) insulation package, the chassis compressor compartment is available with 3/8" thick closed-cell foam insulation. The closed cell foam material shall be designed to absorb medium frequency sound and shall meet NFPA 90A requirements.

In combination with the Indoor Air Quality (IAQ) option, a compressor compartment Sound Reduction Package option adds a compressor mass plate and for 024-036 units, an optional compressor sound blanket.

All insulation shall have a flame spread of less than 25 and a smoked developed classification of less than 50 per ASTM E-84 & UL 723.

Coated Air Coil Option

All air coils shall be coated with an optional inorganic, silicon-based nano-ceramic coating that must pass a ASTM B-117 3,000 hour salt spray test to provide protection against corrosion due to acids, solvents, and salt found in the environment.

Options:

Unit shall have a factory-mounted internal on-off water valve tied into the compressor operation to allow for no flow or for variable pumping applications; if the compressor is off, the valve is closed for no flow through the unit. On a call for compressor operation, the valve shall open immediately. After 45 seconds, the compressor shall be allowed to start.

Unit shall have factory-mounted strainer on the supply water line to help prevent debris from collecting in the piping system.

Unit shall have factory-mounted flow control valve sized for the flow stated on the plans to eliminate field water balancing to assure proper water flow. The valve shall maintain the proper GPM within 5% independent of water pressure or temperature.

Hydronic Heat Option

Unit shall have factory-mounted hydronic coil, 3-way valve and water temp sensor to allow the loop water to be elevated in temperature for the purpose of satisfying the heating load by diverting the water from the condenser to the hydronic coil.

The unit shall operate in one of 2 control schemes.

1. On a call for the heating, if the entering water temp is below 90°F, the unit will operate in the compressor heating mode. If the EWT is above 90°F, the unit will operate in the hydronic heat mode.
2. On a call for heating, the unit will operate in the hydronic heat mode.

Risers

The risers shall be designed to mount directly to the unit cabinet on any of three sides (Right, Left or Back). Riser mounting shall be field convertible if they are required on a different side of the cabinet. Standard riser material shall be Type L copper. Fiberglass or closed cell (Rubatex style) insulation on risers is optional. Ball valves shall be provided as standard on both the supply and return riser and be used to shut-off the condenser water loop for service/installation purposes. Copper couplings, riser extensions and reducers shall be provided as field installed accessories.

Electrical

All electrical connections between the cabinet and chassis shall be made with locking quick-connect connectors. The chassis shall contain controls for compressor, reversing valve and fan motor operation and shall have a standard 50VA transformer or optional 75VA transformer, circuit breaker in the low voltage circuit, and a terminal block for low voltage field wiring connections and a multi-pin plug for thermostat connection. Unit shall have a non-fused disconnect switch. Unit shall be name-plated to accept time delay fuses or HACR circuit breaker for

branch over-current protection of the power source. Unit control system shall provide heating or cooling as required by the set points of the wall thermostat. The unit control scheme shall provide for fan operation simultaneous with compressor operation (fan interlock) regardless of the thermostat type. The unit shall be capable of providing an output signal to an LED on the thermostat or to a central monitoring panel to indicate a "fault" condition from the activation of any one of the safety devices. Unit shall have LED status lights visible by opening the return air door to display unit status and fault status.

Options:

- Unit shall have a fused disconnect switch.
- Unit shall have a HACR circuit breaker on units with 208-230 volt power.

Solid-State Control System

MicroTech III SmartSource Control System - Unit shall have a microprocessor- based control system. The unit control logic shall provide cooling, heating, smart dehumidification, and/or economizer operation as required by the thermostat and/ or sensor. The control system shall provide the following for stand-alone operation:

1. The use of standard non-programmable or programmable wall thermostats.
2. Fan operation simultaneous with the compressor (fan interlock) regardless of thermostat logic.
3. Time delay compressor operation.
4. Compressor short cycle protection of a minimum of three minutes before restart is possible.
5. Random unit start-up after coming off on unoccupied mode.
6. Single grounded wire connection for activation of the unoccupied or unit shutdown modes.
7. Night setback temperature setpoint input signal from the wall thermostat.
8. Override signal from wall thermostat to override unoccupied mode for 2 hours.
9. Brownout protection to suspend unit operation if the supply voltage drops below 80% of normal.
10. Condensate overflow protection to suspend cooling operation in an event of a full drain pan.
11. Suspended compressor operation upon activation of the refrigerant pressure switch(es).
12. Cooling operation activated for 60 seconds upon activation of the low suction temperature sensor - defrost cycle.
13. Method of defeating compressor, reversing valve and fan time delays for fast service diagnostics.
14. Remote reset - Provides means to remotely reset automatic lock-outs generated by high/low pressure faults and/or low temperature faults.
15. Fault Retry clears faults the first two times they occur within a 24-hour period and triggers automatic lock-out on third fault.
16. Delayed de-energizing of the reversing valve for quiet reversing valve operation.

Smart Fan Controls

All units shall have the capability of lowering the CFM as the space temperature approaches the thermostat setpoint, through smart fan controls. Smart fan controls shall allow variable airflow control, based on the call for 1st and 2nd stage heating or cooling.

Cooling Mode – On an initial call for cooling, the fan shall be energized at its "fan only" setting. After a 0 to 30 second random delay, the compressor and fan will start at the stage 1 cooling settings. If room setpoint conditions are not satisfied, the compressor and fan will operate at the stage 2 cooling settings. When the room setpoint conditions are satisfied, the compressor will shut off and the fan will operate according to its "fan only" setting, when enabled for continuous fan operation. If fan cycling is enabled, the fan will turn off once room setpoint conditions are satisfied.

Heating Mode – On an initial call for heating, the fan shall energize at its "fan only" setting. After a 0 to 30 second random delay, the reversing valve is energized after 60 seconds, the compressor and fan will start at stage 1 heating settings. If room setpoint conditions are not satisfied, the compressor and fan will operate at stage 2 heating settings. When the room setpoint conditions are satisfied, the compressor will shut off and the fan will operate according to its "fan only" setting, when enabled for continuous fan operation. If fan cycling is enabled, the fan will turn off once room setpoint conditions are satisfied. The reversing valve will be de-energized 60 seconds later.

MicroTech™ III Control with LonWorks Communication module – Unit shall have a microprocessor-based control system. The unit control logic shall communicate over a LonMark communications network. The unit controller is factory programmed [LonMark® 3.4 certified Application Code the current standard for new applications] and tested with all the logic required to monitor and control heating and cooling operation. The controller sets the unit mode of operation, monitors water and air temperatures, and can communicate fault conditions via a LonMark communications network. Units with the MicroTech III and LonWorks communication module include return air, discharge air and leaving water temperature sensors. Space temperature sensor options include a set-point adjustment, tenant override button, and the capability of substituting the return air sensor with a wall-mounted room sensor.

MicroTech III Control with BACnet Communication module – Unit shall have a microprocessor-based control system. The unit control logic shall communicate over a BACnet communications network. The BACnet communication module shall incorporate an Atmel ARM7 Thumb series MCU and be capable of supporting a full MSTP BACnet implementation. The microprocessor shall also support SPI compatible communications with the MCU of the MicroTech III controller. The physical interface to a BACnet BAS network shall be through an industry standard RS-485 transceiver capable of existing on an RS- 485 network of up to 64 nodes. The unit controller is factory programmed and tested with all the logic required to monitor and control heating and cooling operation. The controller sets the unit mode of operation, monitors water and air temperatures, and can communicate fault conditions via a BACnet communications network. Units outfitted with Microtech III and BACnet communication modules include return air, discharge air and leaving water temperature sensors. Space temperature sensor options include a set-point adjustment, tenant override button, and the capability of substituting the return air sensor with a wall-mounted room temperature sensor.

Each communicating unit controller performs the following unit operations:

- Enable heating and cooling to maintain space temperature set point at the room sensor
- Enable fan and compressor operation
- Monitor all safety controls
- Monitor discharge and return air temperature
- Monitor leaving water temperature
- Relay status of all vital unit functions
- Support optional control outputs

Unit mounted LED annunciators aid in diagnosing unit operation by indicating the water source heat pump operating mode and alarm conditions. If there are no current alarm conditions, a green LED on the annunciator board will indicate occupied unit operating mode. If an alarm condition exists, the MicroTech III unit controller will send the fault condition to the LED annunciator, which will assist in troubleshooting the unit. Heat pumps with the MicroTech III unit controller with a LonWorks Communication Module is designed to be linked with a centralized Building Automation System (BAS) through a LonMark communications network for centralized scheduling and management of multiple heat pumps.

Wall-mounted room sensors are available to control the operation of each MicroTech III Water Source Heat Pump.

Field Installed Accessories

The control system type shall have an option of, the following field installed thermostat (choose one):

- Wall-mounted non-programmable with LCD display. No fan speed control (speed switch on front of unit).
- Wall-mounted 7-day programmable with LCD display. No fan speed control (speed switch on front of unit).
- Wall-mounted space temperature sensor/setpoint adjustment (55°F to 95°F), auto- On fan speed control.
- Wall-mounted space temperature sensor/setpoint adjustment (-3°F to +3°F), auto- On fan speed control.
- Wireless thermostat and receiver, non-programmable, Hi-Lo-auto fan speed control.
- Wireless thermostat and receiver, 7-day programmable, Hi-Lo-auto fan speed control.
- Programmable Touch Screen Thermostat
  1. Optional Remote Room Sensor
  2. Optional Outdoor Temperature Sensor

Option

Unit to have field installed 24 volt wall thermostat complete with molex plug and 24" wire length to plug directly into mating molex receiver on the cabinet to eliminate manual wiring of the thermostat to a terminal strip.

Option

The unit controller shall accept a plug-in LonWorks® or BACnet® communication module to provide network communications and added functionality to easily integrate with an existing building automation system (BAS). The communication module shall be factory installed onto the main unit controller and shall be tested with all logic required to monitor and control the unit.

Wall Mounted Room Temperature Sensors

- Digitally Adjustable Wall Sensor with Temperature and Humidity Display
- Digitally Adjustable Wall Sensor with Temperature Display
- Adjustable Cool/Warm with Occupancy Switch, Override/Reset Button, Status LED, Fan and System Switch
- Adjustable 55°F to 95°F and 12°C to 33°C, Override/Reset Button, Status LED, Fan and System Switch
- Adjustable -5°F to +5°F and -21°C to -15°C, Override/Reset Button, Status LED, Fan and System Switch
- Basic Sensor, Override/Reset Button, Status LED

Flexible Hoses

Fire-rated flexible hoses with ASTM ratings of Flame Spread 25, Fuel Contribution 25 and Smoke Density 50 for connection between chassis and cabinet mounted risers. Hose shall be covered with stainless-steel braid. Hose kits shall have brass fittings with stainless-steel ferrules. Hose end shall be solid external JIC, which connects to matting fitting on riser shut-off ball valve and the chassis water lines. The hose kit length shall be adequate enough to allow slight chassis removal from the cabinet for ball valve shut-off and hose removal or replacement. The hose kit shall be rated for 350 psig working pressure.

Return Air Grilles

The field installed return air grilles shall incorporate hinged panel for easy access to filter, power switch and to ease in chassis removal. The return air grille panel shall be insulated with either sound dampening fiberglass or closed-cell foam (cellular) insulation. The return air grille shall be designed to allow chassis removal without having to remove the return grille door frame from the drywall. The return air grille shall be painted in either Cupola White or Antique Ivory.

Motorized Outdoor air Damper

Unit shall have the capability of introducing outdoor air on the entering side of the air coil. The damper shall be motorized and tied into the fan operation. The damper shall be field mounted on one of two openings in the door frame (either left or right side). The contractor shall connect the opening with ductwork to the outdoor intake grille.

Subbase Kit

An optional subbase is available in heights of 2", 3", 4" and 5" to accommodate interiors with higher baseboard mouldings.

Diffusers

Supply air diffusers shall be painted (Antique Ivory) steel or anodized aluminum finish. Daikin can custom-paint to match your requirements. Contact your Daikin sales representative for color choices and options. The following diffuser options are available as a field installed accessory.

Double Deflection – Damper shall have both vertical and horizontal adjustable blades to control the horizontal and vertical direction of airflow into the conditioned space.

Double Deflection with Adjustable Opposed-Blade Balancing Damper – The balancing damper allows the installing contractor or owner the ability to adjust the amount of airflow (CFM) into the conditioned space. This is an ideal option for applications where one vertical stack unit is serving two zones and each zone requires a different amount of airflow.

Filters

Filter kits shall be provided as 1" throwaway type or 1" Merv 8 or a 2" Merv 13. Filter kits shall be offered in 12 pack cartons for field installation after the construction period.

Warranty

- An optional 1-year extended compressor warranty covers the compressor for 2 years from the date at which the unit ships from the factory.
- An optional 1-year extended refrigeration circuit warranty covers the entire refrigeration circuit and related components for 2 years
- An optional 1-year extended complete parts warranty covers all parts components for 2 years.
- An optional 4-year extended compressor warranty covers the compressor for 5 years from the date at which the unit ships from the factory.
- An optional 4-year extended refrigeration circuit warranty covers the entire refrigeration circuit and related components for 5 years
- An optional 4-year extended complete parts warranty covers all parts components for 5 years.

In addition to the above warranties an optional 1st year labor allowance is available.

When an extended 4 year complete parts warranty is selected, an optional 5 year labor allowance is available.

Daikin Applied Training and Development

Now that you have made an investment in modern, efficient Daikin equipment, its care should be a high priority. For training information on all Daikin HVAC products, please visit us at www.DaikinApplied.com and click on Training, or call 540-248-9646 and ask for the Training Department.

Warranty

All Daikin equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Applied representative for warranty details. Refer to Form 933-430285Y. To find your local Daikin Applied representative, go to www.DaikinApplied.com.

Aftermarket Services

To find your local parts office, visit www.DaikinApplied.com or call 800-37PARTS (800-377-2787). To find your local service office, visit www.DaikinApplied.com or call 800-432-1342.

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