McQuay International
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Enfinity™ Horizontal Ceiling Water Source Heat Pumps

Catalog 1108-2

Model CCH Standard Range
Model CCW Geothermal Range

Unit Sizes 007 – 070 (1/2 to 6 Tons) • R-410A Refrigerant

Engineered for flexibility and performance™

Table of Contents

The information in this manual supersedes and replaces previous catalogues with regards to McQuay Water Source Heat Pump products. Illustrations cover the general appearance of McQuay International products at the time of publication and McQuay International reserves the right to make changes in design and construction at anytime without notice.

Enfinity Horizontal Ceiling Water Source Heat Pumps Sizes 007-070 (1/2 to 6 Tons)

- Model WCCH (Standard Range: 55°F to 110°F)
- Model WCCW (Geothermal Range: 30°F to 110°F)

McQuay Enfinity Horizontal Ceiling units are designed for use in multiple floor apartments, office buildings, hotels, nursing homes and other similar applications.
McQuay Enfinity™ water source heat pumps incorporate the best of our past and the best of what's new. Using feedback from building owners, consulting engineers, contractors and service engineers, we designed Enfinity products to give you maximum flexibility to design, install, operate and maintain the ideal water source heat pump system for your building project. And we incorporated non-ozone depleting R-410A refrigerant, which–along with high Energy Efficiency Ratios (EER's)–helps preserve our environment and precious energy resources.

With McQuay Enfinity Water Source Heat Pumps, you benefit from:

- High efficiency, low operating costs.
- Easy, low cost design and installation.
- Standard or extended range/geothermal application flexibility.
- Superior indoor air quality.
- Quiet, reliable operation.
- Easy, low-cost maintenance and service.
- Available in multiple unit sizes – 007 (1/2 ton, 2.6kW) through 070 (6 ton, 10.6kW)
- Units exceed ASHRAE 90.1 efficiency levels
- R-410A Refrigerant, environmentally friendly with zero ozone depletion potential
- Cupro-nickel Coaxial Coil
- Optional extended 4-year parts warranty

Nomenclature

Enfinity™ Horizontal Ceiling Unit (Size 007 - 070)

W CCH 1 019 B E Y L S

Product Category
W = WSHP

Product Identifier
WCCH = Ceiling Mounted/Standard Range
WCCW = Ceiling Mounted/Geothermal

Design Series
1 = A Design
2 = B Design
3 = C Design
4 = D Design

Nominal Capacity
007 = 7,000 BTU/h
009 = 9,000 BTU/h
012 = 12,000 BTU/h
015 = 15,000 BTU/h
019 = 19,000 BTU/h
024 = 24,000 BTU/h
030 = 30,000 BTU/h
036 = 36,000 BTU/h
042 = 42,000 BTU/h
048 = 48,000 BTU/h
060 = 60,000 BTU/h
070 = 70,000 BTU/h

Controls
B - MicroTech III
C - MicroTech III With LonWorks
D - MicroTech III With BACnet

Voltage
A = 115/60/1
E = 208-230/60/1
F = 208-230/60/3
J = 265/60/1
K = 460/60/3
L = 575/60/3
50 Hz
M = 230/50/1
N = 380/50/3

Future
(None)

Return Air
L = Left
R = Right

Discharge Air
S = Straight
E = End

Note: For illustration purposes only. Not all options available with all models. Please consult McQuay Sales Representative for specific availability.

Horizontal Ceiling Mounted Features & Options

Right Hand Return,
End Discharge Shown

MicroTech III Unit Controller

BACnet Communication Module

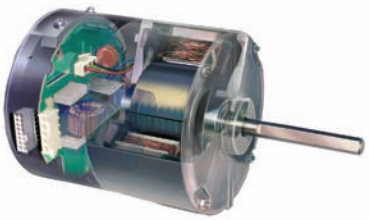
LonWorks Communication Module

Enfinity Horizontal Ceiling Water Source Heat Pumps
Sizes 007-070 (1/2 to 6 Tons)

- Model WCCH (Standard Range: 55°F to 110°F)
- Model WCCW (Geothermal Range: 30°F to 110°F)

1. Fan Section – Fan section is separated from the compressor section with an insulated divider panel for maximum sound attenuation. A large removable panel provides easy service access to the blower and motor.
2. Cabinet – Durable, heavy gauge galvanized steel cabinet construction.
3. Removable Access Panels – Both end and side panels provide easy access to compressor compartment, blower and motor. End panel provides easy access to the unit controls.
4. Blower Motor – Multi-speed, PSC type with thermal overload protection. The motor is isolated from the fan housing for minimum vibration transmission. Removable orifice ring allows easy removal of blower and motor.

   *ECM Motor (Optional) – available in unit sizes 015 to 070. 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
5. Compressor – Mounted close to the access panel for maximum serviceability and isolated from the bottom panel with rubber isolators. Standard with massplate for quiet operation



* ECM motors on average are 40 to 50% more efficient than PSC motors, which helps to improve unit efficiency.

6. Piping Connections – Water connections are FPT water fittings, flush with the outside of the cabinet, allowing easy one-wrench connection of units. The large condensate connection provides for proper condensate removal.
7. MicroTech® III Unit Controller – Designed for flexibility, the main control board is used in standalone applications. A separate LonWorks® or BACnet® communication module can be easily snapped onto the board to accommodate the building automation system of your choice.

Control Options

- MicroTech III - Standalone
- MicroTech III - LonWorks Communication Module
- MicroTech III - BACnet Communication Module

Enfinity Horizontal Units Available in Five Cabinet Sizes: 007 & 009, 012, 015, 019 & 024, 030 & 036, 042 thru 070

Cabinet

McQuay Enfinity horizontal water source heat pumps are available in five cabinet sizes, each with the lowest possible profile to conserve space.

Consistencies in shape, connection locations, parts and assemblies throughout the five cabinets make layout, installation and service simple.

- All water and electrical connections are made from the front of the unit.
- A large, lift-up-and-out panel provides easy access to the control box, refrigeration circuit and compressor.
- A second large panel provides easy service access to the compressor.
- A third large panel allows complete service of the blower section while the unit is hanging and without disconnecting the unit from the ductwork.
- Cabinet surfaces are constructed of unpainted, G-60 galvanized steel.
- Panel interiors and the bottom of the unit are covered with 1/2" (12.7 mm) thick, 1½lb. (681g) density, coated, acoustic type glass fiber insulation. Non-fiberous (IAQ) insulation available as selectable option.

Flexible Cabinet Configurations

McQuay Enfinity horizontal heat pumps offer four configurations to meet your space requirements (see figures 1-4). Whether working around obstacles or laying out units down a corridor, the mirror image design of the units lets you configure the system using minimum ductwork and piping. This helps reduce design, material and installation costs.

For maximum flexibility, the fan discharge can exit from the end or side of the unit. This can be configured at the factory or field-converted using interchangeable side and end panels.

Cabinet Configurations – Left Hand

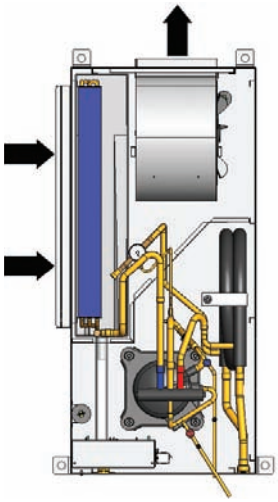


Figure 1 - Left Hand Return with End Discharge

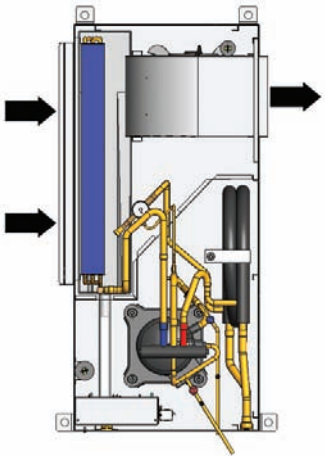


Figure 2 - Left Hand Return with Straight Discharge

Cabinet Configurations – Right Hand

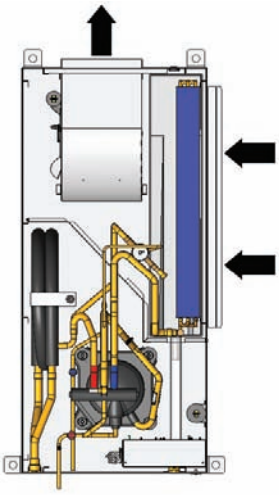


Figure 3 - Right Hand Return with End Discharge

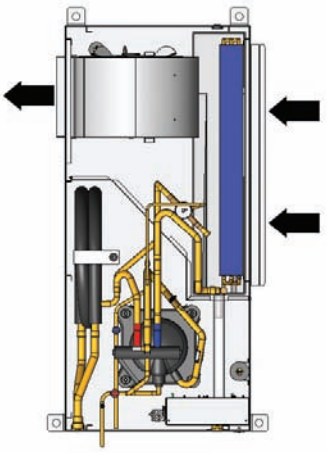


Figure 4 - Right Hand Return with Straight Discharge

Low Design And Installation Costs

- Four configurations for each unit size (left or right return and straight or end discharge) allow you to specify units to fit space requirements and to design the system using minimum ductwork and piping.
- Five cabinet sizes, each with McQuay's low-profile design, make it easy to meet the space requirements of your new construction or replacement application.
- Flush FPT water fittings allow easy, one-wrench connection of units and help reduce delays caused by shipping damage.
- Flexible control options that include standalone or network operation with the building automation system of your choice using LonMark® or Alerton BACnet® communications.

High Energy Efficiency

- High unit EERs result in low operating costs.
- Each unit includes a thermal expansion valve for precise refrigerant flow metering to meet load requirements and increase efficiency at any fluid temperature, including low temperature geothermal applications.
- The coaxial heat exchanger is designed for maximum heat transfer at normal and low water flow rates with minimum pressure drop.
- High efficiency fan motor and low-speed fan operation reduce energy consumption.

Superior Indoor Air Quality

- A standard, corrosion-free plastic drain pan is double-sloped to eliminate standing water and inhibit microbial growth.
- Optional non-fibrous insulation is available for sensitive air quality applications.

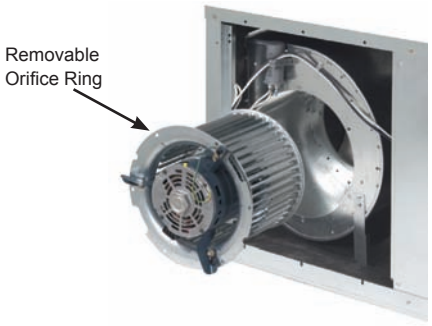
Quiet Operation

- Large fan wheel allows the fan motor to operate at lower speed for quieter operation.
- Heavy gauge cabinet construction and vibration isolated hanger brackets minimize noise and vibration.
- Three quiet compressor selections (depending on voltage and size variations) including rotary (sizes 007 to 015), reciprocating (sizes 019 to 024) and scroll compressors (sizes 030 to 070).
- Standard heavy-gauge steel mass-plate with visco elastic dampening material below the compressor helps reduce noise emission in horizontal ceiling unit sizes 019-070.

Easy, Low-Cost Maintenance

- Easy access to the unit compressor (2-sides), fan and motor (1-side) and controls (end access).
- A removable orifice ring allows the blower and motor to be removed without removing the blower housing or disconnecting the unit from the ductwork.

Removable orifice ring for easy blower and motor removal



R410A Refrigerant

- R-410A refrigerant has zero ozone depletion potential, no scheduled phase-out and is classified in ASHRAE standard 31 as lower toxicity, no flame propagation.

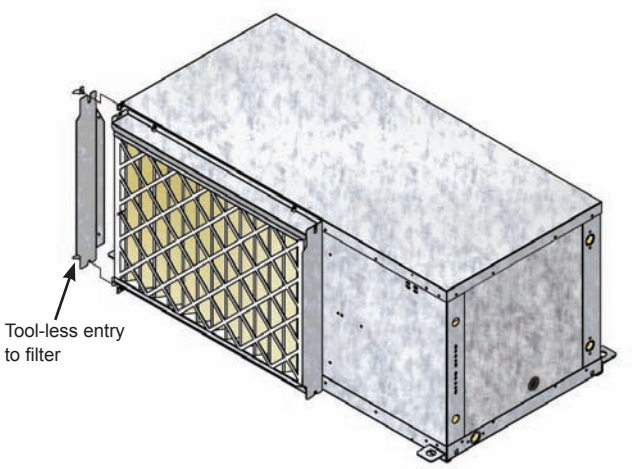
Removable panels provide easy access

Filter Rack

The filter is supported by factory mounted brackets that allow for face removal. Units come standard with a 1" (25.4 mm) thick throwaway filter mounted in a combination filter rack and return air duct collar, thus eliminating field mounted brackets. The filter can be removed from any of the four sides or from the front.

- Optional factory provided 2" filter rack for higher filtration efficiency applications.

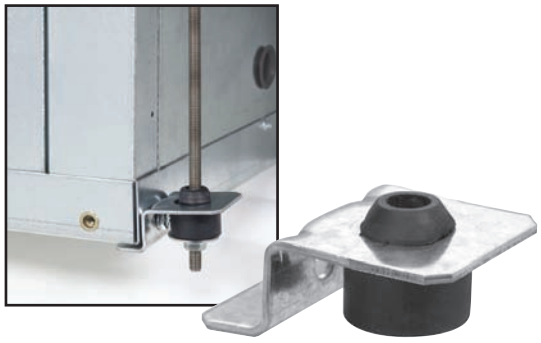
Tool-less 2" Filter Rack for Easy Filter Removal



Hanger Bracket

Each unit is furnished with a mounting kit that includes four heavy metal hanger brackets for hanging the unit from field-supplied hanger rods. Rubber isolators are included for sound and vibration attenuation, as are mounting washers, bolts and lock washers. The hangers are attached to fasteners at each corner of the unit, which are an integral part of the cabinet.

Unit Hangers



Blower Housing

The blower housing protrudes from the side of the cabinet, allowing adequate material for connection to a flexible duct. For maximum flexibility, the fan discharge can exit from the end or the side of the unit. This can be configured at the factory or can be field-converted before installation, using interchangeable side and end panels.

Fan Housing Protrudes Through the Cabinet for Connection of Flexible Duct

Water Connections

The water and condensate connections are FPT fittings, securely mounted flush to the corner post to allow for connection to a flexible hose without the use of a back-up wrench. This helps reduce the time required to connect the unit and helps prevent delays due to shipping damage.

Flush FPT Water Fittings

Electrical

The electrical components are located in the compressor section of the unit. Separate holes are provided on the cabinet to facilitate main power and low voltage control wiring. All wiring connections are made internal to the cabinet to reduce the risk of accidental contact. Each unit is rated to accept time-delay fuses for branch circuit overcurrent protection. Single phase units are also rated for use with HACR circuit breakers.

Drain Pan

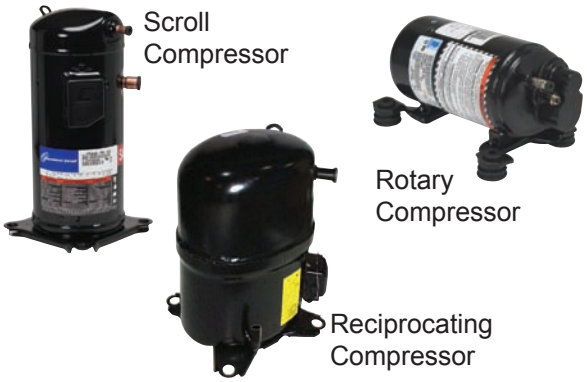
McQuay horizontal heat pumps come standard with a ABS plastic, corrosion-resistant plastic drain pan to promote good indoor air quality. The pan is double sloped for positive draining to reduce the occurrence of standing water and microbial growth.

Corrosion-Resistant, Double-Sloped Plastic Drain Pan

Compressor

McQuay Enfinity water source heat pumps are designed around the most advanced compressors in the industry. A wide variety of compressor types are used to offer the best system design for the dedicated refrigerants and tonnage. This allows McQuay Enfinity water source heat pumps to deliver rated capacity with low noise levels.

Rotary compressor are used in unit sizes 007 to 015. Unit sizes 019 to 024 use a Reciprocating type compressor. Unit sizes 030 to 070 use a scroll compressor.



Reversing Valve

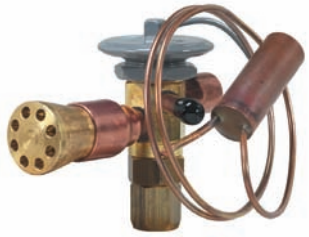
A 4-way reversing valve is included with all McQuay Enfinity water source heat pumps. The valve is energized in the heating mode and will “fail-safe” to the cooling mode which is the predominant mode of operation for commercial applications.

4-Way Reversing Valve

Thermal Expansion Valve

All McQuay Enfinity 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.

Thermal Expansion Valve (TXV)



Fluid-to-Refrigerant Coil

The copper or cupronickel (optional) tube-in-tube coaxial heat exchanger used in McQuay Enfinity 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 400 psig on the water side and 500 psig on the refrigerant side. Geothermal range (CCW) units include coil and piping insulation to protect against condensation in low-temperature geothermal applications.

Coaxial Heat Exchanger

Schrader Connections

Two Schrader valves are located inside the end access panel – one on the low side and one on the high side of the refrigeration circuit – for charging and servicing. All valves are 7/16" SAE fittings.

Schrader Valve

Air-to-Refrigerant Coil

The air-to-refrigerant heat exchanger is a large face area coil with copper tubes and aluminum fins. The fins are lanced and mechanically bonded to the tubes using finned edges on the inside which expand during assembly to enhance heat transfer capabilities. The maximum working pressure of the heat exchanger is 500 psig (3447 kPa). The coil is designed for optimal performance in both heating and cooling while maintaining the benefit of a compact size.

Refrigeration System

Units have a coaxial heat exchanger with a copper inner tube and a steel outer tube. The air coil is a large face area coil with copper tubes and aluminum fins. Safety controls include high-pressure and low-temperature switch to lock out compressor operation at extreme conditions. For additional protection, units 015 and larger have a 7 psi (48 kPa) low-pressure switch to protect the compressor from low refrigerant charge. The low setting prevents nuisance trips while providing additional protection.

Blower Section

The blower section includes the blower housing, wheel, motor and drain pan. It is separated from the compressor section by an insulated divider panel for maximum sound attenuation. The large size of the blower wheel allows it to rotate more slowly, reducing motor work to improve efficiency and provide for quiet operation. A large panel provides service access to the blower and motor. All blower/motor assemblies have a removable orifice ring on the housing to accommodate motor and blower removal without disconnecting the unit from the ductwork.

For maximum flexibility, the fan discharge on the horizontal unit can exit from the end or side of the unit. This can be configured at the factory or field-converted using interchangeable side and end panels. Refer to IM 1049.

Blower Motor

The standard blower motor is a multi-speed, Permanent Split Capacitor (PSC) type with thermal overload protection. It is permanently lubricated. The motor is factory wired to maximize performance and efficiency. Unit sizes 019 and larger have a terminal strip on the motor for simple motor speed change without going back to the control box. The motor is isolated from the fan housing using rubber isolators to minimize vibration transmission. All blower/motor assemblies have a removable orifice ring on the housing to accommodate motor and blower removal without disconnecting the unit from the ductwork. Optional Electronically Commutated Motor (ECM) in unit sizes 015 to 070 provides soft start, maintains consistent CFM over its static operating range.

High Efficiency Blower Motor

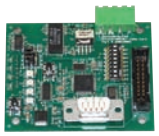
Control Options – Control Choices And Added Functionality

The control box is accessible through the left or right end corner panel. It houses the major operating electrical controls including the MicroTech® III unit controller, transformer, compressor relay and fan relay. Each component is easily accessed for service or replacement.

Three unique control choices are offered with the MicroTech III unit controller:

- Standalone operation using a MicroTech III unit controller
- MicroTech III unit controller with a LonWorks® communication module
- MicroTech III unit controller with a BACnet® communication module

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 transformer.

Control	Description	Application	Protocol
MicroTech III  (Standalone) Unit Controller	The MicroTech III unit controller is a standalone microprocessor-based control board conveniently located in the unit control box for accessibility. The board is designed to provide standalone control of a Water Source Heat Pump using a wall thermostat or a wall mounted temperature sensor. Each unit controller is factory programmed, wired, and tested. For added functionality.	Each unit controller is factory programmed, wired, and tested for complete control of single zone, standalone operation of your McQuay Water Source Heat Pump.	Unit-mounted or wall-mounted thermostat
LonWorks  Communication Module	The MicroTech III unit controller can accept a plug-in LonWorks communication module to provide network communications and added functionality to easily integrate with an existing BAS. The communication module can be factory- or field-installed and is tested with all logic required to monitor and control the unit.	Designed to be linked with a centralized building automation system (BAS) through a LonWorks communications network for centralized scheduling and management of multiple heat pumps.	LonMark 3.4
BACnet  Communication Module	The MicroTech III unit controller can accept a plug-in BACnet communication module to provide network communications and added functionality to easily integrate with an existing BAS. The communication module can be factory- or field-installed and is tested with all logic required to monitor and control the unit.	Designed to be linked with a centralized building automation system (BAS) through a BACnet communications network for centralized scheduling and management of multiple heat pumps.	BACnet

The MicroTech III Unit Controller is a microprocessor-based control board conveniently located in the unit control box for easy access through a removable access panel. The standalone unit controller is a hard wired interface and provides all the necessary field connections. The board can be wired for 24-volt AC output to the wall thermostat by using terminals R & C. An LED annunciator is located on the front corner of the unit chassis to quickly check the operating status of the unit.

MicroTech III Operating Features

Assumes cycle fan operation-not continuous fan operation:

- **Start-up –** The unit will not operate until all the inputs and safety controls are checked for normal conditions.
- **Cooling mode –** On a call for cooling, the compressor and fan will start 0 to 30 seconds later. When the load is satisfied, the compressor and fan shut off.
- **Heating Mode –** On a call for heating, the reversing valve is energized after 60 seconds and the compressor and fan start. When the load is satisfied, the compressor and fan shut off. The reversing valve is de-energized 60 seconds later.
- **Short Cycle Protection & Random Start –** Each time the compressor stops, a new random compressor start-delay time between 180 and 240 seconds is generated. This prevents compressor short cycling and prevents units from starting simultaneously after coming back from an unoccupied cycle.
- **Unoccupied Mode –** A simple "grounded" signal between terminals U and C (no power source required), puts the unit into the unoccupied mode for night setback operation.
- **Override Mode –** A switch on the deluxe automatic changeover thermostat can be activated during the unoccupied mode to put the unit back into the occupied mode for two hours for after-hours heating or cooling.
- **Motorized Valve/Pump Restart –** The IV/PR (H8) terminals on the The MicroTech III unit controller are used to energize (open) a motorized valve or start a water pump to get water circulating prior to starting the compressor on call for heating or cooling. The IV/PR (H8) terminal may be "daisy chained" between 200 units.
- **Brownout Protection –** The MicroTech III unit controller measures the input voltage and will suspend compressor and fan operation if the voltage falls below 80% of the unit nameplate rated value. A unique LED status is generated and an output is available to a "fault" LED at the thermostat.
- **Unit Shutdown –** A simple grounded signal puts the unit into the shutdown mode. Compressor and fan operations are suspended. A unique LED status is generated and an output signal is made available for connection to a "fault" LED at the thermostat.
- **Condensate Overflow Protection –** The MicroTech III unit controller incorporates a liquid sensor at the top of the drain pan. Upon sensing water flow, cooling operation is suspended. A unique LED status is generated and output is available to a "fault" LED at the thermostat. Heating operation is not suspended.
- **Remote Reset of Automatic Lockouts –** The Remote Reset feature provides the means to remotely reset automatic lockouts generated by high-pressure and/or low-temperature faults. When the MicroTech III unit controller is in automatic lockout due to one of these faults, and the cause of the fault condition has been alleviated, energizing the O-terminal for 10 seconds or more will force the control board to clear the lockout. A unit power cycle can also be used to clear an automatic lockout if the conditions causing the fault have been alleviated.
- **Intelligent Reset –** The Fault Retry feature helps to minimize nuisance trips of automatic lockouts caused by high-pressure and/or low-temperature faults. This feature clears faults the first two times they occur within a 24-hour period and triggers an automatic lockout on the 3rd fault. The retry count is reset to zero every 24 hours.
- **Equipment Protection Control –** The MicroTech III unit controller receives separate input signals from the refrigerant high-pressure switch and the low suction line temperature sensor. In a high-pressure situation, compressor operation is suspended. In a low temperature situation, the unit goes into a defrost cycle where the unit is put into cooling operation for 60 seconds until the coaxial heat exchanger is free of ice. Each switch generates its own unique LED status and output is available to a "fault" LED at the thermostat if either situation exists.

Note: Most unit fault conditions are the result of operating the equipment outside the unit specifications.

MicroTech III unit controller LED & fault outputs

Mode / Fault	Status LED's			Thermostat Alarm Light Output-Terminal "A"
	Yellow	Green	Red	
Occupied, Bypass, Standby, or Tenant Override	Off	On	Off	Energized
Unoccupied	On	On	Off	Energized
Condensate Overflow	On	Off	Off	De-energized
High Pressure 1 Fault	Off	Off	Flash	De-energized
Low Pressure 1 Fault	Off	Off	On	De-energized
Low Temperature 1 Fault	Flash	Off	Off	De-energized
Brownout	Off	Flash	Off	De-energized
Emergency Shutdown	Off	Flash	Off	De-energized
Room/Return Air or Low Temp Sensor 1 Failure	Flash	Flash	On	De-energized
Service Test Mode Enabled [1]	On	On	Off	De-energized
Serial EEPROM Corrupted	On	On	On	De-energized
Network "Offline" Received	Off	Off	Off	De-energized

[1] Compressor relay/compressor terminal is labeled COMP, switched line of the same electric input as any of the L1 terminals.

MicroTech® III Unit Controller with LonWorks® or BACnet Communication Module

Each Enfinity Horizontal Water Source Heat Pump can be equipped with a LonWorks or BACnet communication module. The LonWorks module is LonMark 3.4 certified and designed to communicate over a LonWorks communications network to a Building Automation System (BAS). The BACnet module is designed to communicate over a BACnet MS/TP communications network to a building automation system. Both controllers are microprocessor-based and can be factory or field-installed.

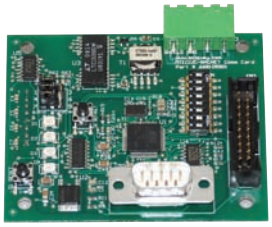
The control modules are programmed and tested with all the logic required to monitor and control the unit. Optional wall sensors may be used with the communication modules to provide limited local control of the Horizontal Water Source Heat Pump. The MicroTech III unit controller monitors water and air temperatures and passes information to the communication module. The module communicates with the BAS, to provide network control of the Water Source Heat Pump.

MicroTech III LonWorks Communication Module

The LonWorks communication module is designed for units that are integrated into a LonWorks communication network for centralized scheduling and management of multiple heat pumps.

MicroTech III BACnet Communication Module

Designed to be linked with a centralized building automation system (BAS) through a BACnet communications network for centralized scheduling and management of multiple heat pumps.



MicroTech III Unit Controller with Communication Modules Features

The MicroTech III Unit Controller with LonWorks or BACnet Communication Module orchestrates the following unit operations:

- Enable heating and cooling to maintain space temperature setpoint based on a room sensor setting
- Enable fan and compressor operation
- Monitors all equipment protection controls
- Monitors room and discharge air temperatures
- Monitors leaving water temperature
- Relays status of all vital unit functions

An amber, on-board status LED indicates the status of the MicroTech III LonWorks or BACnet module.

The MicroTech III unit controller includes:

- A unit-mounted return air sensor
- A unit-mounted discharge air sensor
- A leaving water temperature sensor

The communication modules provide network access to setpoints for operational control

Available wall sensors include:

- Room sensor
- Room sensor with LED status and tenant override button
- Temperature sensor with LED status, timed-override button, and ±3°F setpoint adjustment
- Room sensor with LED status, timed-override button, 55° to 90°F setpoint adjustment

Typical Horizontal Unit Installation

Unit Location

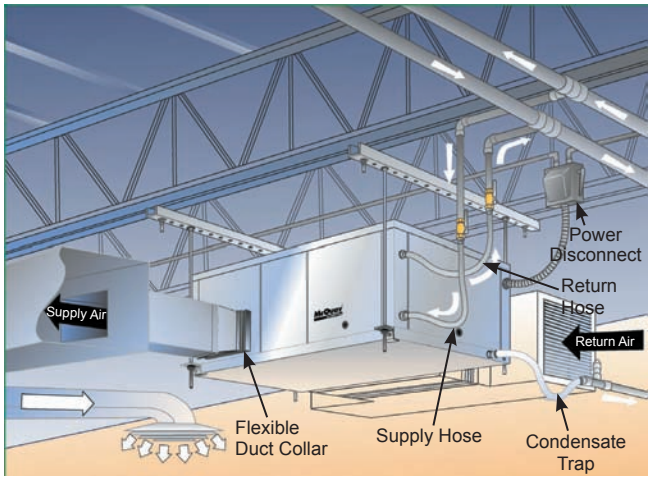
It is important to leave enough space for service personnel to perform maintenance or repair. Locate the horizontal unit to allow for easy removal of the filter and access panels. Allow a minimum of 18" (46 cm) clearance on each side of the unit for service and maintenance access and do not install the unit above any piping. Always be sure to leave at least one side of the filter rack unobstructed so that the service personnel will be able to slide the filter out. Each unit is suspended from the ceiling by four 3/8" threaded rods fastened to the unit by a hanger bracket and rubber isolator. The design should place the unit directly below the structural members so that it is securely anchored.

Avoid installing units directly above spaces where building occupants will reside (e.g. above office desks or classrooms) to reduce the requirement for noise attenuation. Do not place units above high traffic areas because service access may be limited during occupied hours. For example, units are typically installed above the hallway drop ceiling in Schools and the supply and return air is routed directly into classrooms. Local code may require fire dampers to be used with this application.

Piping

The WSHP unit is typically connected to the supply/return piping using a “reverse return” piping system which includes a flow control device so that flow requirements are met for each zone. A short, high pressure “flexible hose” is used to connect the unit to the building’s hard piping and acts as a sound attenuator for both the unit operating noise and hydraulic pumping noise. One end of the hose has a swivel fitting to facilitate removal of the unit for replacement or service. Include supply and return shutoff valves in the design to allow removal of a unit without the need to shut down the entire heat pump system. The return valve may be used for balancing and will typically have a “memory stop” so that it can be reopened to the proper position for the flow required. Fixed flow devices are commercially available and can be installed to eliminate the need for memory stop shut off valves. Include Pressure / Temperature ports to allow the service technician to measure water flow and unit operation.

Typical Ceiling Installation

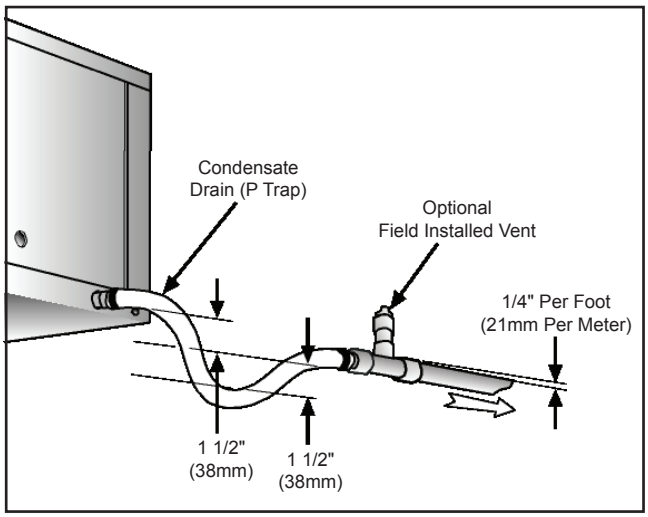


Condensate Drain Piping

Condensate piping can be made of steel, copper or PVC pipe. In most cases, PVC pipe eliminates the need to wrap insulation around the pipe to prevent sweating. A threaded, factory supplied condensate fitting allows the connection of PVC, flexible vinyl hose or steel braided hose.

The condensate piping must be trapped at the unit and pitched away from the unit not less than 1/4" per foot. A vent is required after the trap so that the condensate will drain away from the unit. The vent can also act as a clean out if the trap becomes clogged. To avoid having waste gases entering the building, the condensate drain should not be directly piped to a drain/waste/vent stack. See local codes for the correct application of condensate piping to drains.

Typical Condensate Piping



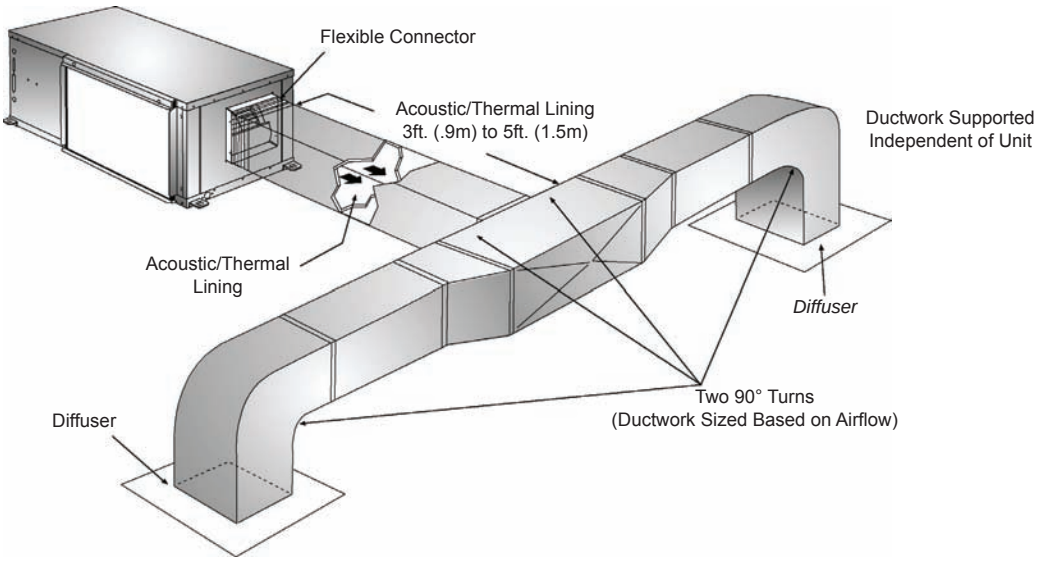
Ductwork and Sound Attenuation Considerations

Ductwork is normally applied to ceiling-mounted heat pumps on the discharge side of the unit. A discharge collar is provided on all horizontal unit models for fastening the ductwork. Use a flexible connector between the discharge collar and the duct transformation to help reduce vibration transmission from the cabinet and to simplify disconnection of the unit from the ceiling ductwork. If return ductwork is to be used, attach a flexible connector to the filter rack collar to help reduce vibration transmission and removal of the unit. Return plenum ducting should be at least 12 inches away from the coil so that the coil is evenly loaded with return air.

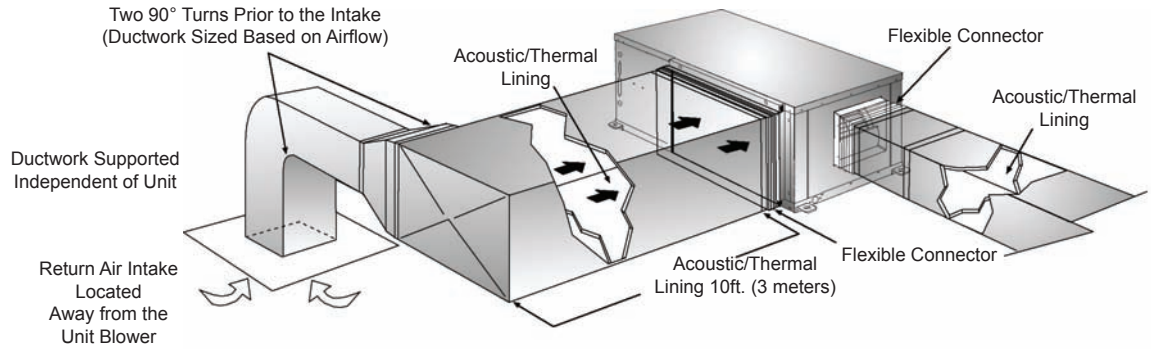
As a general recommendation, duct interiors should have an acoustic / thermal lining at least 1/2 inch thick over the entire duct run. For better sound attenuation, line the last five diameters of duct before each register with a one-inch thick sound blanket. Elbows, tees and dampers can create turbulence or distortion in the airflow. Place a straight length of duct, 5 to 10 times the duct width, before the next fitting to smooth out airflow. Diffusers that are located in the bottom of a trunk duct can also produce noise. For this same reason, volume control dampers should be located several duct widths upstream from an air outlet.

For Hotel, Motel, Dormitory or Nursing Home applications that use a single duct discharge, a velocity of 500 to 600 fpm is suggested. These applications typically have static pressures as low as 0.05 inches of water and duct lengths approximately six feet in length. The discharge duct must be fully lined and have a square elbow without turning vanes. Return air for these applications should enter through a “low” sidewall filter grille and route up the stud space to a ceiling plenum. For horizontal heat pumps mounted from the ceiling, an insulated return plenum is sometimes placed at the return air opening to further attenuate line-of-sight sound transmission through return openings.

Suggested Supply Ducting per ASHRAE and SMACNA Publications



Suggested Return Ducting per ASHRAE and SMACNA Publications

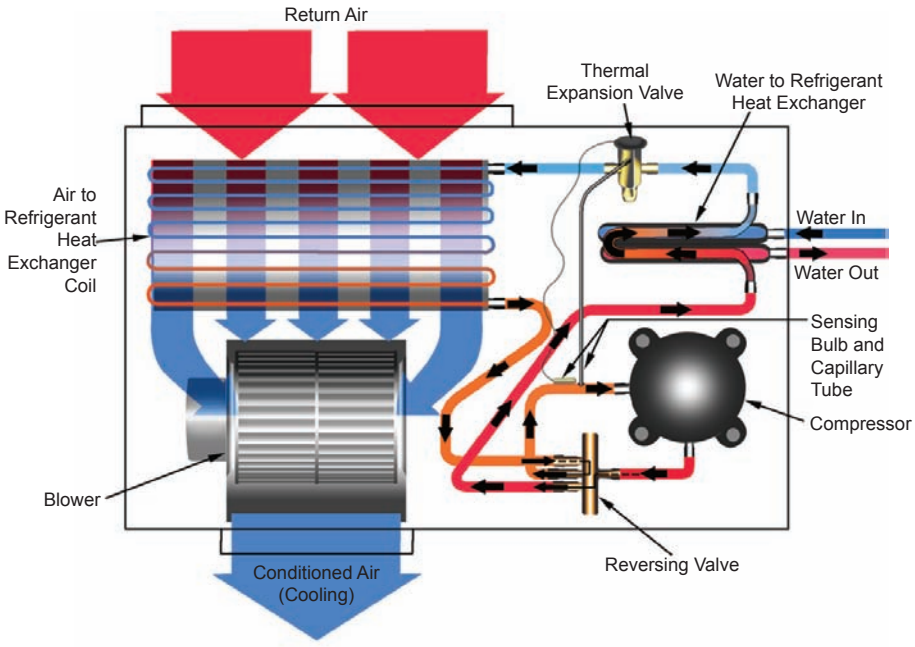


Typical Cooling and Heating Refrigeration Cycles

Note: For standard heat pump operation only

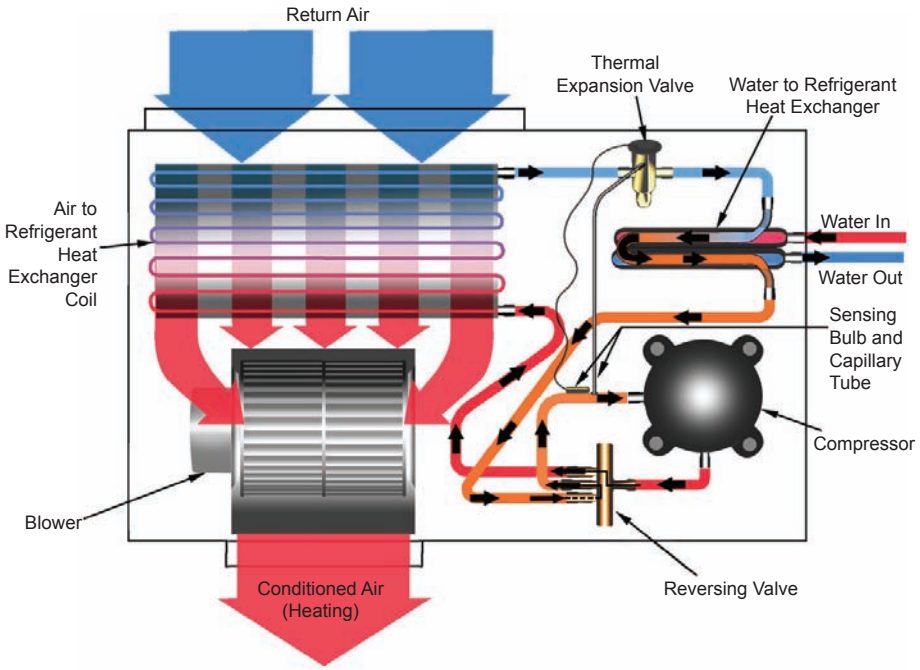
Cooling Refrigeration Cycle

When the wall thermostat calls for COOLING, the reversing valve directs the flow of the refrigerant, a hot gas, from the compressor to the water-to-refrigerant heat exchanger. There, the heat is removed by the water, and the hot gas condenses to become a liquid. The liquid then flows through a thermal expansion valve to the air-to-refrigerant heat exchanger coil. The liquid then evaporates and becomes a gas, at the same time absorbing heat and cooling the air passing over the surfaces of the coil. The refrigerant then flows as a low pressure gas through the reversing valve and back to the suction side of the compressor to complete the cycle.



Heating Refrigeration Cycle

When the wall thermostat calls for HEATING, the reversing valve directs the flow of the refrigerant, a hot gas, from the compressor to the air-to-refrigerant heat exchanger coil. There, the heat is removed by the air passing over the surfaces of the coil and the hot gas condenses and becomes a liquid. The liquid then flows through a thermal expansion valve to the water-to-refrigerant heat exchanger. The liquid then evaporates and becomes a gas, at the same time absorbing heat and cooling the water. The refrigerant then flows as a low pressure gas through the reversing valve and back to the suction side of the compressor to complete the cycle.

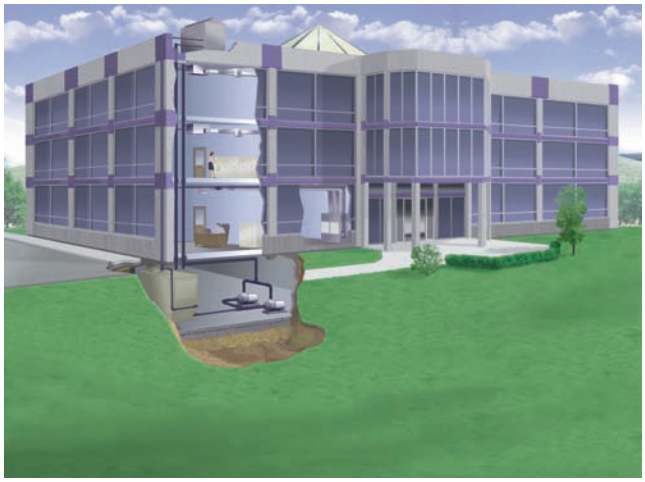


Water source heat pump systems are one of the most efficient, environmentally friendly systems available for heating and cooling buildings. High-efficiency, self contained units (sizes 7,000 btuh to 290,000 btuh) can be placed in virtually any location within a building. Each unit responds only to the heating or cooling load of the individual zone it serves. This permits an excellent comfort level for occupants, better control of energy use for building owners and lower seasonal operating costs. The Air-Conditioning Refrigeration Institute (ARI) and the International Standards Organization (ISO) publish standards so that water source heat pumps are rated for specific applications. The ARI/ISO loop options shown in this catalog are typical water source heat pump loop choices available in today's market. These systems offer benefits ranging from low cost installation to the highest energy efficiency available in the market today.

Boiler / Tower Applications: ARI 320 / ISO 13256-1

A "Boiler/Tower" application uses a simple two-pipe water circulating system that adds heat, removes heat or transfers rejected heat to other units throughout the building. The water temperature for heating is generally maintained between 65ºF – 70ºF and is usually provided by a natural gas or electric boiler located in a mechanical room. The condensing water temperature, during cooling months, is maintained between 85ºF and 95ºF and requires the use of a cooling tower to dissipate waste heat. Cooling towers can be located on the roof, or inside or adjacent to the building. This application can be the lowest cost of the loop options available.
Note: ASHRAE 90.1 standards require that circulating pumps over 10 HP will require use of "variable frequency drive" equipment and pipe insulation to be used whenever water temperatures are below 60 degrees and above 105 degrees. See ASHRAE 90.1 Standards for details.

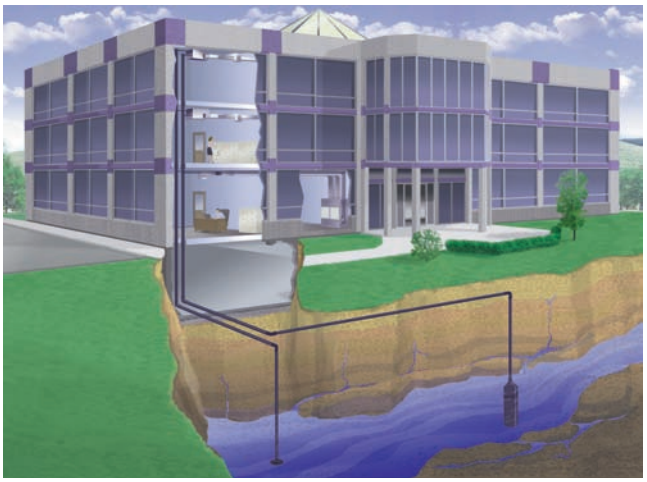
Boiler/Tower Application



Open Loop Well Water Applications: ARI 325 / ISO 13256-1

"Open Loop" well water systems use ground water to remove or add heat to the interior water loop. The key benefit of an open loop system is the constant water temperature, usually 50ºF to 60ºF, which provides efficient operation at a low first cost. Most commercial designers incorporate a heat exchanger to isolate the building loop from the well water. Using heat exchangers can reduce maintenance issues while still allowing the transfer of heat from unit to unit as with the "Boiler/Tower System". A successful design provides an ample amount of groundwater (approximately 2 GPM per ton) and adequate provisions for discharging water back to the aquifer or surface. Open Loop applications are commonly used in coastal areas where soil characteristics allow reinjection wells to return the water back to the aquifer. Note that some states have requirements on the depths of return water reinjection wells, and such wells must be approved by the United States Environmental Protection Agency. Also, bad water quality can increase problems with heat exchanger scaling. Suspended solids can erode the heat exchanger. Strainers can be used to contain suspended solids.

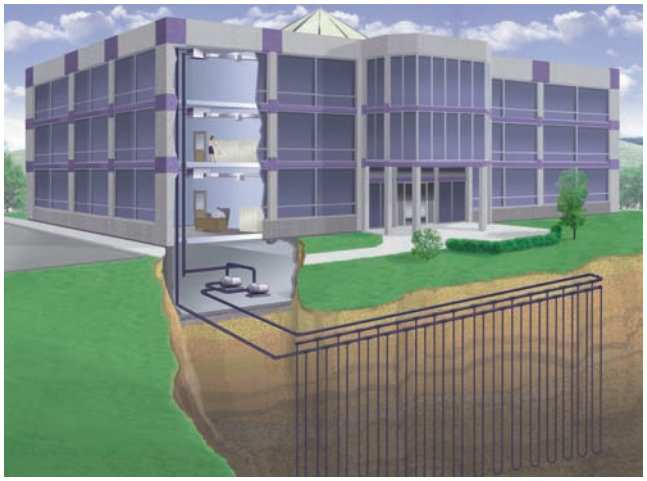
Open Loop Well Application



Closed Loop Geothermal Applications ARI 330/ISO 13256-1

"Vertical Closed Loop" applications are installed by drilling vertical bore holes into the earth and inserting a plastic polyethylene supply/return pipe into the holes. The vertical wells are connected in parallel reverse return fashion to allow the water from the building to circulate evenly throughout the borefield. The circulating fluid dissipates heat to the ground in a similar manner as a "tower" and adds heat back to the loop like a boiler. If properly designed, the loop field can maintain the loop temperatures necessary to condition the building without the use of a boiler or a tower. Loop temperatures usually range from 37ºF to 95ºF in Northern climates. Southern applications can see temperatures ranging from 40ºF to 100ºF. The number of bore holes and their depth should be determined by using commercial software that is specifically designed for vertical geothermal applications. Typical bore depths of a vertical loop range from 150 to 400 feet and generally require about 250 feet of surface area per ton of cooling.

Vertical Loop Application

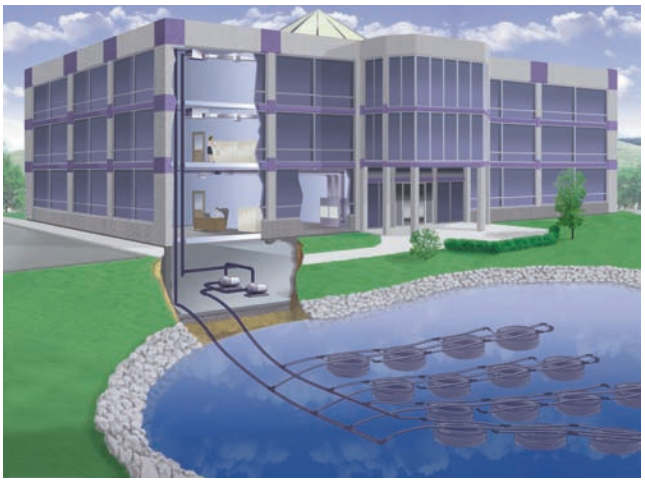


A closed loop "Horizontal" geothermal application is similar to a vertical loop application with the exception that the loops are installed in trenches approximately 5 feet below the ground surface. The piping may be installed using a "four-pipe" or "six-pipe" design and could require 1,500 to 2,000 square feet of surface area per ton of cooling. Loop temperatures for a commercial application can range from 35ºF to 95ºF in Northern climates. Southern climates can see temperatures ranging from 40ºF to 100ºF. Horizontal loops are generally not applied in urban areas because land use and costs can be prohibitive. New advances in installation procedures have improved the assembly time of horizontal loops while keeping the first cost lower than a vertical loop.

Horizontal Loop Application

A "Surface Water" or "Lake" closed loop system is a geothermal loop that is directly installed in a lake or body of water that is near the building. In many cases, the body of water is constructed on the building site to meet drainage or aesthetic requirements. Surface loops use bundled polyethylene coils that are connected in the same manner as a vertical or horizontal loop using a parallel reverse return design. The size and the depth of the lake is critical. Commercial design services should be used to certify that a given body of water is sufficient to withstand the building loads. Loop temperatures usually range from 35ºF to 90ºF and prove to be the best cooling performer and lowest cost loop option of the three geothermal loops. Some applications may not be good candidates due to public access or debris problems from flooding.

Surface Water Loop Application



Selection Procedure:

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 McQuay SelectTools™ software selection program for Water Source Heat Pumps can be used to provide fast, accurate and complete selections of all McQuay water source heat pump products. SelectTools software is available by contacting your local McQuay Representative.

While we recommend that you use McQuay 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 38,255 BTUH of total cooling, 31,832 BTUH of sensible cooling and 36,988 BTUH of total heating. The water temperatures for the boiler/tower system are 90ºF for cooling and 70ºF for heating. The return air temperature is 80ºF dry bulb with 67ºF wet bulb for cooling and 70ºF for heating.

Zone requirements:

Total Cooling Load	=	38,255 BTUH
Sensible Cooling Load	=	31,832 BTUH
Total Heating Load	=	36,988 BTUH
Air Flow Required	=	1510 CFM
Return Air Cooling	=	80ºFDB/ 67ºFWB
Return Air - Heating	=	70ºFDB

Since a McQuay Model CCH 036 produces approximately 36,000 BTUH of cooling, it is not sufficient for this zone and a model CCH 042 should be considered. Model CCH is chosen because it is specifically designed for a boiler/tower application. Typical water flow rates for boiler/tower applications are 2.0 to 2.5 GPM per ton and in this example no antifreeze is used.

Selection:

Model .....CCH 042 (Boiler / Tower model)

Total Cooling Capacity @ 90 EWT = 40,816 BTUH
Sensible cooling capacity @ 90 EWT = 32,704 BTUH
Total Heating Capacity @ 70 EWT = 52,019 BTUH
CFM = 1510 @ .5 ESP (Wet Coil)
Water Flow required to meet capacity = 8 GPM
Water Pressure drop = 6.9 (FT. H2O)

Final Selection .....CCH 042

Geothermal Applications:

The following example illustrates the same zone in a geothermal application.

The load requirements for the zone are the same as the above example – 38,255 BTUH of total cooling and 31,832 BTUH of sensible cooling and 36,988 BTUH of heating. Geothermal loop software programs are available to help determine the size of the loop field based on:

- Desired entering water temperatures for the system.
- Specific acreage available for the loop which produces specific min/max loop temps for the unit selection.

Entering water temperatures for geothermal systems can be as high as 90º to 100ºF and as low as 30ºF based on the geographical location of the building. Water flow rates are typically 2.5 to 3 GPM per ton and the use of antifreeze is required in most northern applications.

Zone requirements:

Total Cooling Load	=	38,255 BTUH
Sensible Cooling Load	=	31,832 BTUH
Total Heating Load	=	36,988 BTUH
Air Flow Required	=	1510 CFM
Return Air Cooling	=	80 DB / 67 WB
Return Air - Heating	=	70 DB

A McQuay Model CCW is chosen for this geothermal application. Model CCW offers insulated water piping for condensation considerations and a different freezestat setting to allow entering water temperatures lower than 40ºF (with antifreeze). Output capacities should be recalculated using the antifreeze reduction tables that are shown on page 47. The Model CCW 042 is first considered but may not meet the heating load because of the reduced entering water temperatures (35ºF) and an antifreeze solution of 21 % propylene (see page 47).

Selection:

Model .....CCW 042 (Geothermal model)

Total cooling capacity @ 100 EWT = 40,434 BTUH x .980 = 39,625
Sensible cooling capacity @ 100 EWT = 32,164 BTUH x .980 = 31,520
Total heating capacity @ 35 EWT = 38,335 BTUH x .975 = 37,377 CFM = 1510 @ .6 ESP (Dry Coil)
Water Flow required to meet capacity = 10.8 GPM
Water Pressure drop = 12.7 x 1.5 = 14.61 (FT. H2O)

Final Selection .....CCW 042

Note:
In applications where the zone may be a corner office or have excessive glass area, the heating load could be greater than the heating output capacity of the CCW 042 model (say 41,985 BTUH). The choices are to upsize the unit to the next model available (048), or add an electric duct heater to supplement the output of the 042 unit.

Water Loop Performance Data – Rated in Accordance with ISO Standard 13256-1

PSC & ECM Motor

Unit Size	Airflow		Waterflow		Voltage	PSC Fan Motor							ECM Fan Motor						
						Cooling				Heating			Cooling				Heating		
	CFM	L/S	GPM	L/S		Btuh	Watts	EER	COP	Btuh	Watts	COP	Btuh	Watts	EER	COP	Btuh	Watts	COP
007	300	142	2.2	0.14	115-60-1 208/230-60-1	8000	2346	11.8	3.5	10700	3137	4.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
009	300	142	2.3	0.14	115-60-1 208/230-60/1	8800	2581	12.9	3.8	11800	3460	4.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a
012	400	189	3.0	0.19	208/230-60-1 265/277-60-1	12900	3783	12.7	3.7	15800	4633	4.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
015	630 500*	297	3.8	0.24	208/230-60-1 265/277-60-1	15700	4598	16.0	4.7	18100	5301	5.2	16000	4686	17.6	5.1	18100	5301	5.6
019	630	297	5.3	0.33	208/230-60-1 265/277-60-1	21000	6158	14.9	4.7	23600	6920	4.8	20900	6129	15.7	4.6	23700	6950	5.1
024	800	378	6.2	0.39	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	24700	7243	14.4	4.4	28400	8328	4.7	24700	7243	14.7	4.3	28500	8358	4.9
030	1000	472	7.6	0.48	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	30400	8915	15.3	4.2	36200	10616	5.0	30500	8944	15.9	4.7	36100	10587	5.3
036	1200	566	9.0	0.57	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	35800	10499	15.2	4.5	42500	12463	4.9	36000	10559	16.0	4.7	42400	12434	5.2
042	1400	661	10.7	0.68	208/230-60-1 208/230-60-3 460-60-3 575-60-3	43000	12610	15.0	4.5	50700	14868	5.0	43000	12610	15.5	4.6	51600	15132	5.2
048	1600	755	12.3	0.78	208/230-60-1 208/230-60-3 460-60-3 575-60-3	48400	14194	14.1	4.4	57100	16745	4.7	48700	14282	15.6	4.6	57700	16921	5.2
060	2000	944	15.2	0.96	208/230-60-1 208/230-60-3 460-60-3 575-60-3	59500	17449	14.6	4.1	69400	20352	4.9	59700	17507	15.5	4.6	69300	20323	5.2
070*	2330	944	18.0	1.14	208/230-60-3 460-60-3 575-60-3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	71300	20880	12.7	3.7	88100	25800	4.2

* Data using ECM motor

ISO Performance Data – Ground Loop

Ground Loop Performance Data – Rated in Accordance with ISO Standard 13256-1

PSC & ECM Motor

Unit Size	Airflow		Waterflow		Voltage	PSC Fan Motor							ECM Fan Motor						
						Cooling				Heating			Cooling				Heating		
	CFM	L/S	GPM	L/S		Btuh	Watts	EER	COP	Btuh	Watts	COP	Btuh	Watts	EER	COP	Btuh	Watts	COP
007	300	142	2.2	0.14	115-60-1 208/230-60-1	8900	2610	14.4	4.2	7100	2082	3.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
009	300	142	2.3	0.14	115-60-1 208/230-60/1	9200	2698	14.8	4.3	7400	2170	3.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
012	400	189	3.0	0.19	208/230-60-1 265/277-60-1	13900	4076	15.0	4.4	10400	3050	3.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
015	630 500*	297	3.8	0.24	208/230-60-1 265/277-60-1	16900	4950	18.7	5.5	11500	3368	3.7	17200	5037	20.8	6.1	11500	3368	4.0
019	630	297	5.3	0.33	208/230-60-1 265/277-60-1	22600	6628	17.3	5.1	14700	4311	3.6	22600	6628	18.4	5.4	14800	4340	3.8
024	800	378	6.2	0.39	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	26300	7713	16.6	4.9	18000	5279	3.6	26300	7713	17.0	5.0	18100	5308	3.7
030	1000	472	7.6	0.48	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	31500	9238	17.7	5.1	23100	6774	3.6	31600	9267	18.4	5.4	23000	6745	3.8
036	1200	566	9.0	0.57	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	37800	11085	17.7	4.7	28400	8328	3.6	38000	11144	18.8	5.6	28700	8416	3.8
042	1400	661	10.7	0.68	208/230-60-1 208/230-60-3 460-60-3 575-60-3	44500	13050	17.1	5.0	33900	9941	3.7	44100	12933	17.9	5.3	34600	10147	3.8
048	1600	755	12.3	0.78	208/230-60-1 208/230-60-3 460-60-3 575-60-3	50200	14721	16.1	4.7	38400	11261	3.5	50600	14839	18.2	5.4	39300	11525	3.9
060	2000	944	15.2	0.96	208/230-60-1 208/230-60-3 460-60-3 575-60-3	61500	18035	16.8	4.7	47500	13930	3.7	61700	18094	17.9	5.3	48000	14076	3.9
070*	2330	944	18.0	1.14	208/230-60-3 460-60-3 575-60-3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	73800	21610	14.3	4.2	59300	17370	3.3

* Data using ECM motor

Ground Source Performance Data – Rated in Accordance with ISO Standard 13256-1

PSC & ECM Motor

Unit Size	Airflow		Waterflow		Voltage	PSC Fan Motor							ECM Fan Motor						
						Cooling				Heating			Cooling				Heating		
	CFM	L/S	GPM	L/S		Btuh	Watts	EER	COP	Btuh	Watts	COP	Btuh	Watts	EER	COP	Btuh	Watts	COP
007	300	142	2.2	0.14	115-60-1 208/230-60-1	10200	2991	20.1	5.9	9100	2669	3.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a
009	300	142	2.3	0.14	115-60-1 208/230-60/1	10800	3167	21.8	6.4	9800	2874	4.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
012	400	189	3.0	0.19	208/230-60-1 265/277-60-1	14700	4311	19.2	5.6	13300	3900	3.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
015	630 500*	297	3.8	0.24	208/230-60-1 265/277-60-1	18000	5272	25.8	7.6	14700	4305	4.4	18200	5330	29.3	8.6	14700	4305	4.7
019	630	297	5.3	0.33	208/230-60-1 265/277-60-1	25400	7449	23.6	6.8	19800	5807	4.4	25300	7419	25.0	7.4	19900	5836	4.6
024	800	378	6.2	0.39	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	29600	8680	22.8	6.6	23500	6892	4.3	29600	8680	23.5	6.9	23600	6921	4.4
030	1000	472	7.6	0.48	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	33500	9824	22.8	6.8	29500	8651	4.2	33600	9853	23.9	7.1	29500	8651	4.6
036	1200	566	9.0	0.57	208/230-60-1 265/277-60-1 208/230-60-3 460-60-3	40700	11935	23.2	6.2	36000	10557	4.4	40900	11994	25.0	7.4	35900	10528	4.5
042	1400	661	10.7	0.68	208/230-60-1 208/230-60-3 460-60-3 575-60-3	47500	13930	22.1	6.7	42200	12375	4.3	47000	13783	22.7	6.7	42800	12551	4.5
048	1600	755	12.3	0.78	208/230-60-1 208/230-60-3 460-60-3 575-60-3	54200	15894	20.7	6.2	48100	14106	4.4	54600	16012	24.1	7.1	48700	14282	4.6
060	2000	944	15.2	0.96	208/230-60-1 208/230-60-3 460-60-3 575-60-3	61200	17947	20.5	6.0	59300	17390	4.1	61300	17977	22.1	6.5	59200	17361	4.7
070*	2330	944	18.0	1.14	208/230-60-3 460-60-3 575-60-3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	77600	22730	17.7	5.2	73400	21500	3.8

* Data using ECM motor

Cooling Capacity Data – Unit Size 007

EWT	GPM	WPD	System							ISO				
			EA		LWT	TOT	SEN	kW	EER	TOT	SEN	kW	EER	THR
30	1.3	2.6	75	63	47.6	10072	6988	0.506	19.92	10285	7201	0.446	23.1	11266
			80	67	48.6	10805	7256	0.498	21.69	11017	7468	0.438	25.2	11955
			85	71	49.7	11533	7495	0.484	23.81	11745	7708	0.424	27.7	12621
	1.8	4.9	75	63	43.0	10495	7188	0.416	25.25	10708	7401	0.359	29.8	11535
			80	67	43.8	11277	7458	0.401	28.15	11490	7671	0.344	33.4	12258
			85	71	44.6	12057	7709	0.380	31.75	12270	7921	0.323	38.0	12962
	2.4	8.6	75	63	39.9	10700	7286	0.356	30.02	10913	7498	0.307	35.5	11637
			80	67	40.5	11509	7561	0.337	34.17	11722	7774	0.288	40.8	12378
			85	71	41.1	12367	7836	0.314	39.37	12580	8048	0.265	47.5	13157
40	1.3	2.6	75	63	57.3	9877	6896	0.542	18.22	10090	7109	0.482	20.9	11133
			80	67	58.3	10604	7169	0.535	19.82	10817	7381	0.475	22.8	11818
			85	71	59.3	11333	7414	0.522	21.69	11546	7627	0.462	25.0	12488
	1.8	4.9	75	63	52.7	10199	7048	0.471	21.65	10412	7261	0.414	25.1	11333
			80	67	53.5	10970	7328	0.457	23.98	11182	7541	0.401	27.9	12048
			85	71	54.3	11745	7581	0.439	26.78	11958	7794	0.382	31.3	12753
	2.4	8.6	75	63	49.7	10397	7142	0.425	24.45	10610	7354	0.376	28.2	11452
			80	67	50.2	11154	7408	0.404	27.62	11366	7620	0.355	32.1	12138
			85	71	50.9	11999	7685	0.384	31.27	12212	7898	0.334	36.5	12910
50	1.3	2.6	75	63	66.8	9589	6762	0.593	16.16	9802	6974	0.533	18.4	10931
			80	67	67.8	10306	7040	0.587	17.55	10519	7253	0.527	20.0	11610
			85	71	68.8	11020	7290	0.575	19.15	11232	7502	0.515	21.8	12268
	1.8	4.9	75	63	62.3	9854	6886	0.534	18.45	10067	7099	0.477	21.1	11095
			80	67	63.1	10606	7171	0.522	20.30	10819	7383	0.466	23.2	11797
			85	71	63.9	11366	7428	0.505	22.50	11578	7641	0.448	25.8	12490
	2.4	8.6	75	63	59.3	9985	6948	0.492	20.29	10197	7160	0.443	23.0	11151
			80	67	59.9	10754	7236	0.476	22.58	10967	7449	0.427	25.7	11863
			85	71	60.6	11586	7518	0.459	25.26	11798	7731	0.409	28.8	12628
60	1.3	2.6	75	63	76.2	9214	6581	0.651	14.14	9427	6794	0.591	15.9	10655
			80	67	77.1	9907	6863	0.647	15.30	10120	7075	0.587	17.2	11315
			85	71	78.1	10622	7122	0.639	16.61	10834	7335	0.579	18.7	11982
	1.8	4.9	75	63	71.9	9434	6686	0.600	15.72	9646	6898	0.543	17.8	10786
			80	67	72.6	10164	6974	0.591	17.18	10376	7186	0.535	19.4	11473
			85	71	73.4	10906	7235	0.578	18.87	11119	7448	0.521	21.3	12158
	2.4	8.6	75	63	69.0	9584	6755	0.567	16.92	9797	6967	0.517	18.9	10878
			80	67	69.5	10304	7031	0.552	18.67	10517	7243	0.503	20.9	11544
			85	71	70.1	11099	7313	0.537	20.68	11311	7525	0.487	23.2	12277
70	1.3	2.6	75	63	85.1	8612	6210	0.701	12.29	8824	6423	0.641	13.8	10135
			80	67	86.1	9288	6497	0.701	13.25	9500	6710	0.641	14.8	10787
			85	71	86.9	9908	6741	0.693	14.29	10120	6953	0.633	16.0	11362
	1.8	4.9	75	63	81.1	8774	6286	0.656	13.38	8986	6499	0.599	15.0	10218
			80	67	81.8	9475	6579	0.651	14.54	9688	6792	0.595	16.3	10887
			85	71	82.5	10216	6866	0.645	15.85	10428	7079	0.588	17.7	11585
	2.4	8.6	75	63	78.4	8883	6337	0.630	14.11	9095	6550	0.580	15.7	10281
			80	67	78.9	9601	6632	0.622	15.43	9814	6844	0.573	17.1	10962
			85	71	79.5	10357	6925	0.612	16.91	10570	7137	0.563	18.8	11669
80	1.3	2.6	75	63	93.9	7878	5622	0.748	10.53	8091	5835	0.688	11.8	9478
			80	67	94.7	8478	5885	0.749	11.32	8690	6097	0.689	12.6	10055
			85	71	95.6	9102	6143	0.747	12.18	9314	6355	0.687	13.6	10649
	1.8	4.9	75	63	90.2	8051	5712	0.716	11.25	8263	5924	0.659	12.5	9596
			80	67	90.8	8625	5958	0.710	12.14	8837	6171	0.653	13.5	10134
			85	71	91.5	9319	6247	0.707	13.17	9532	6460	0.651	14.6	10796
	2.4	8.6	75	63	87.7	8103	5744	0.691	11.72	8316	5956	0.642	13.0	9604
			80	67	88.2	8740	6014	0.686	12.74	8953	6227	0.637	14.1	10208
			85	71	88.7	9449	6304	0.681	13.88	9662	6516	0.631	15.3	10879
85	1.3	2.6	75	63	98.2	7456	5302	0.778	9.58	7668	5515	0.718	10.7	9106
			80	67	98.9	7989	5540	0.778	10.28	8202	5752	0.717	11.4	9616
			85	71	99.8	8644	5814	0.781	11.07	8856	6027	0.721	12.3	10251
	1.8	4.9	75	63	94.6	7513	5331	0.743	10.11	7725	5544	0.687	11.3	9101
			80	67	95.3	8168	5620	0.746	10.95	8380	5833	0.689	12.2	9739
			85	71	95.8	8739	5861	0.740	11.81	8951	6074	0.683	13.1	10272
	2.4	8.6	75	63	92.2	7590	5371	0.722	10.51	7802	5583	0.673	11.6	9141
			80	67	92.8	8270	5664	0.723	11.44	8483	5877	0.674	12.6	9802
			85	71	93.2	8831	5899	0.714	12.36	9044	6111	0.665	13.6	10320
90	1.3	2.6	75	63	102.8	7194	5158	0.810	8.88	7406	5371	0.750	9.9	8899
			80	67	103.5	7763	5413	0.815	9.53	7976	5625	0.754	10.6	9454
			85	71	104.3	8303	5650	0.814	10.20	8516	5862	0.754	11.3	9967
	1.8	4.9	75	63	99.3	7303	5212	0.781	9.36	7516	5424	0.724	10.4	8956
			80	67	99.9	7846	5456	0.779	10.07	8059	5668	0.722	11.2	9474
			85	71	100.4	8437	5711	0.777	10.86	8650	5924	0.720	12.0	10035
	2.4	8.6	75	63	97.0	7357	5238	0.759	9.69	7570	5451	0.710	10.7	8973
			80	67	97.5	7941	5498	0.757	10.48	8154	5711	0.708	11.5	9531
			85	71	97.9	8513	5741	0.753	11.31	8725	5954	0.703	12.4	10069
100	1.3	2.6	75	63	112.0	6770	4954	0.880	7.70	6982	5167	0.819	8.5	8592
			80	67	112.7	7264	5192	0.884	8.22	7477	5404	0.824	9.1	9074
			85	71	113.5	7864	5463	0.891	8.83	8077	5675	0.831	9.7	9664
	1.8	4.9	75	63	108.7	6839	4989	0.850	8.04	7051	5201	0.794	8.9	8609
			80	67	109.3	7370	5243	0.854	8.63	7582	5456	0.797	9.5	9126
			85	71	109.8	7936	5497	0.855	9.28	8149	5710	0.798	10.2	9671
	2.4	8.6	75	63	106.6	6866	5006	0.830	8.27	7079	5219	0.781	9.1	8600
			80	67	107.0	7501	5297	0.836	8.98	7713	5509	0.786	9.8	9226
			85	71	107.5	8074	5557	0.834	9.68	8286	5770	0.785	10.6	9773
110	1.3	2.6	75	63	121.2	6304	4737	0.949	6.64	6516	4949	0.889	7.3	8244
			80	67	121.9	6832	5003	0.960	7.12	7045	5215	0.900	7.8	8776
			85	71	122.5	7324	5244	0.965	7.59	7536	5457	0.905	8.3	9255
	1.8	4.9	75	63	118.6	6802	5457	0.917	7.41	7014	5669	0.861	8.2	8689
			80	67	119.1	7329	5740	0.922	7.95	7542	5953	0.865	8.7	9208
			85	71	119.7	7943	6040	0.927	8.57	8156	6252	0.870	9.4	9811
	2.4	8.6	75	63	116.5	6840	5476	0.899	7.61	7053	5688	0.850	8.3	8695
			80	67	116.9	7414	5777	0.903	8.21	7627	5990	0.854	8.9	9260
			85	71	117.3	8023	6078	0.905	8.86	8235	6291	0.856	9.6	9852

Heating Capacity Data – Unit Size 007

EWT	GPM	WPD	System					ISO			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	1.3	2.6	60	13.0	5961	0.633	2.76	5748	0.572	2.94	5483
			70	13.4	5764	0.678	2.49	5552	0.617	2.64	5287
			80	13.8	5585	0.725	2.26	5373	0.665	2.37	5108
	1.8	4.9	60	14.5	6376	0.646	2.89	6164	0.589	3.07	5898
			70	14.8	6149	0.692	2.60	5937	0.635	2.74	5672
			80	15.2	5929	0.740	2.35	5716	0.683	2.45	5451
	2.4	8.6	60	15.7	6585	0.652	2.96	6372	0.603	3.10	6107
			70	16.0	6333	0.699	2.66	6120	0.649	2.76	5855
			80	16.2	6098	0.747	2.39	5885	0.698	2.47	5620
30	1.3	2.6	60	21.4	7033	0.664	3.10	6820	0.604	3.31	6555
			70	21.8	6810	0.714	2.79	6597	0.654	2.96	6332
			80	22.3	6575	0.765	2.52	6362	0.705	2.65	6097
	1.8	4.9	60	23.4	7383	0.674	3.21	7171	0.617	3.40	6906
			70	23.8	7132	0.725	2.88	6920	0.669	3.03	6654
			80	24.1	6883	0.777	2.60	6670	0.720	2.71	6405
	2.4	8.6	60	24.9	7596	0.679	3.28	7383	0.630	3.43	7118
			70	25.2	7313	0.732	2.93	7101	0.682	3.05	6835
			80	25.5	7039	0.783	2.63	6826	0.734	2.73	6561
40	1.3	2.6	60	29.8	8053	0.677	3.49	7840	0.617	3.72	7575
			70	30.4	7776	0.733	3.11	7563	0.673	3.29	7298
			80	31.0	7489	0.789	2.78	7276	0.729	2.92	7011
	1.8	4.9	60	32.3	8375	0.683	3.59	8162	0.626	3.82	7897
			70	32.7	8083	0.741	3.19	7871	0.685	3.37	7605
			80	33.2	7772	0.799	2.85	7559	0.742	2.99	7294
	2.4	8.6	60	34.1	8556	0.685	3.66	8343	0.636	3.85	8078
			70	34.4	8231	0.744	3.24	8018	0.695	3.38	7753
			80	34.8	7900	0.802	2.89	7687	0.753	2.99	7422
50	1.3	2.6	60	38.1	9203	0.690	3.91	8991	0.630	4.19	8726
			70	38.7	8886	0.752	3.46	8673	0.692	3.67	8408
			80	39.4	8557	0.814	3.08	8344	0.754	3.24	8079
	1.8	4.9	60	40.9	9638	0.699	4.04	9425	0.642	4.30	9160
			70	41.4	9288	0.763	3.57	9076	0.706	3.77	8811
			80	42.0	8926	0.826	3.17	8713	0.770	3.32	8448
	2.4	8.6	60	43.5	9237	0.675	4.01	9024	0.626	4.23	8759
			70	43.9	8886	0.742	3.51	8674	0.693	3.67	8408
			80	44.3	8513	0.808	3.09	8300	0.759	3.21	8035
60	1.3	2.6	60	47.4	9704	0.684	4.15	9491	0.624	4.46	9226
			70	48.1	9363	0.754	3.64	9150	0.694	3.87	8885
			80	48.8	8998	0.823	3.21	8786	0.762	3.38	8521
	1.8	4.9	60	50.5	10013	0.684	4.29	9801	0.627	4.58	9536
			70	51.1	9629	0.755	3.74	9416	0.699	3.95	9151
			80	51.7	9234	0.826	3.28	9022	0.769	3.44	8757
	2.4	8.6	60	52.8	10170	0.681	4.38	9957	0.632	4.62	9692
			70	53.2	9770	0.754	3.80	9558	0.705	3.97	9293
			80	53.7	9356	0.827	3.32	9143	0.777	3.45	8878
70	1.3	2.6	60	56.2	10574	0.701	4.42	10362	0.641	4.74	10096
			70	56.9	10215	0.774	3.87	10003	0.713	4.11	9738
			80	57.7	9830	0.846	3.41	9618	0.786	3.59	9353
	1.8	4.9	60	59.2	11430	0.735	4.56	11217	0.678	4.85	10952
			70	59.7	11063	0.809	4.01	10850	0.752	4.23	10585
			80	60.3	10672	0.881	3.55	10459	0.825	3.72	10194
	2.4	8.6	60	61.6	11822	0.739	4.69	11610	0.690	4.93	11345
			70	62.0	11416	0.815	4.11	11204	0.765	4.29	10938
			80	62.5	10997	0.889	3.63	10785	0.840	3.76	10520
80	1.3	2.6	60	64.3	12005	0.736	4.78	11792	0.675	5.12	11527
			70	65.1	11631	0.812	4.20	11419	0.752	4.45	11153
			80	65.9	11224	0.887	3.71	11011	0.827	3.90	10746
	1.8	4.9	60	68.0	12603	0.739	5.00	12391	0.682	5.33	12126
			70	68.7	12170	0.817	4.36	11957	0.761	4.61	11692
			80	69.3	11715	0.895	3.83	11502	0.839	4.02	11237
	2.4	8.6	60	70.8	12940	0.738	5.14	12727	0.688	5.42	12462
			70	71.3	12480	0.819	4.47	12268	0.769	4.67	12003
			80	71.8	12007	0.899	3.91	11794	0.850	4.07	11529
85	1.3	2.6	60	68.6	12566	0.735	5.01	12354	0.675	5.36	12088
			70	69.4	12164	0.814	4.38	11951	0.754	4.65	11686
			80	70.2	11730	0.892	3.85	11518	0.832	4.06	11253
	1.8	4.9	60	72.7	12960	0.730	5.20	12748	0.673	5.55	12482
			70	73.3	12615	0.816	4.53	12403	0.759	4.79	12138
			80	73.9	12158	0.898	3.97	11945	0.841	4.16	11680
	2.4	8.6	60	75.7	13115	0.725	5.30	12902	0.676	5.60	12637
			70	76.2	12612	0.808	4.57	12399	0.759	4.79	12134
			80	76.7	12155	0.894	3.99	11943	0.845	4.14	11678
90	1.3	2.6	60	73.3	12802	0.725	5.18	12590	0.664	5.55	12325
			70	74.2	12345	0.806	4.49	12132	0.746	4.77	11867
			80	75.1	11897	0.888	3.93	11684	0.828	4.14	11419
	1.8	4.9	60	77.5	13266	0.721	5.39	13053	0.664	5.76	12788
			70	78.2	12756	0.805	4.64	12544	0.748	4.91	12279
			80	78.8	12315	0.892	4.04	12102	0.836	4.24	11837
	2.4	8.6	60	80.4	13513	0.716	5.53	13300	0.666	5.85	13035
			70	81.0	12976	0.802	4.74	12763	0.752	4.97	12498
			80	81.5	12520	0.892	4.12	12307	0.842	4.28	12042

Cooling Capacity Data – Unit Size 009

EWT	GPM	WPD	System							ISO				
			EA		LWT	TOT	SEN	kW	EER	TOT	SEN	kW	EER	THR
30	1.3	2.6	75	63	48.9	10754	7595	0.486	22.1	10942	7783	0.434	25.2	12145
			80	67	50.1	11533	7864	0.475	24.3	11721	8052	0.423	27.7	12866
			85	71	51.2	12352	8127	0.463	26.7	12540	8315	0.410	30.6	13617
	1.8	4.9	75	63	43.9	11189	7795	0.393	28.5	11378	7983	0.345	32.9	12361
			80	67	44.8	12014	8070	0.375	32.0	12202	8258	0.327	37.3	13108
			85	71	45.6	12837	8319	0.351	36.6	13025	8508	0.303	43.0	13831
	2.4	8.6	75	63	40.5	11400	7895	0.333	34.2	11588	8084	0.295	39.3	12429
			80	67	41.2	12245	8169	0.310	39.5	12434	8358	0.271	45.9	13183
			85	71	41.8	13138	8443	0.284	46.2	13327	8631	0.245	54.3	13973
40	1.3	2.6	75	63	58.7	10571	7516	0.530	20.0	10760	7704	0.477	22.5	12066
			80	67	59.7	11292	7762	0.516	21.9	11480	7951	0.463	24.8	12720
			85	71	60.9	12116	8033	0.504	24.0	12304	8222	0.452	27.2	13480
	1.8	4.9	75	63	53.7	10864	7644	0.452	24.0	11052	7833	0.404	27.3	12173
			80	67	54.5	11681	7926	0.436	26.8	11869	8115	0.388	30.6	12919
			85	71	55.4	12544	8203	0.417	30.1	12733	8391	0.369	34.5	13699
	2.4	8.6	75	63	50.3	11067	7738	0.404	27.4	11256	7927	0.366	30.8	12264
			80	67	51.0	11912	8026	0.384	31.0	12101	8214	0.345	35.1	13027
			85	71	51.6	12762	8289	0.358	35.7	12951	8478	0.319	40.6	13773
50	1.3	2.6	75	63	68.2	10250	7370	0.584	17.5	10439	7559	0.532	19.6	11873
			80	67	69.3	11015	7645	0.577	19.1	11203	7834	0.524	21.4	12589
			85	71	70.3	11775	7900	0.563	20.9	11963	8088	0.511	23.4	13280
	1.8	4.9	75	63	63.3	10490	7476	0.519	20.2	10679	7664	0.471	22.7	11956
			80	67	64.1	11289	7760	0.505	22.4	11478	7949	0.457	25.1	12691
			85	71	65.0	12138	8042	0.489	24.8	12326	8231	0.441	28.0	13464
	2.4	8.6	75	63	60.1	10665	7555	0.477	22.3	10854	7743	0.439	24.7	12033
			80	67	60.7	11491	7846	0.460	25.0	11680	8034	0.421	27.8	12785
			85	71	61.3	12320	8114	0.436	28.2	12509	8302	0.397	31.5	13518
60	1.3	2.6	75	63	77.6	9827	7171	0.645	15.2	10016	7360	0.593	16.9	11593
			80	67	78.6	10578	7450	0.640	16.5	10767	7638	0.588	18.3	12305
			85	71	79.6	11317	7709	0.629	18.0	11506	7897	0.577	19.9	12983
	1.8	4.9	75	63	72.9	10065	7270	0.591	17.0	10254	7459	0.543	18.9	11702
			80	67	73.7	10849	7562	0.580	18.7	11037	7750	0.532	20.7	12431
			85	71	74.4	11635	7831	0.564	20.6	11823	8020	0.516	22.9	13143
	2.4	8.6	75	63	69.7	10218	7338	0.555	18.4	10406	7527	0.516	20.2	11768
			80	67	70.3	10981	7618	0.537	20.4	11170	7806	0.498	22.4	12459
			85	71	70.9	11836	7910	0.520	22.7	12024	8098	0.481	25.0	13237
70	1.3	2.6	75	63	86.3	9019	6680	0.698	12.9	9208	6869	0.646	14.3	10909
			80	67	87.2	9709	6958	0.696	14.0	9898	7147	0.643	15.4	11567
			85	71	88.2	10403	7225	0.687	15.1	10591	7413	0.635	16.7	12209
	1.8	4.9	75	63	81.9	9215	6762	0.651	14.1	9403	6951	0.603	15.6	10991
			80	67	82.6	9933	7048	0.644	15.4	10121	7237	0.596	17.0	11665
			85	71	83.3	10619	7306	0.628	16.9	10807	7495	0.580	18.6	12281
	2.4	8.6	75	63	79.0	9300	6798	0.620	15.0	9488	6987	0.582	16.3	11001
			80	67	79.5	10029	7087	0.610	16.5	10218	7276	0.571	17.9	11679
			85	71	80.1	10816	7383	0.596	18.2	11004	7571	0.557	19.8	12400
80	1.3	2.6	75	63	95.2	8360	6313	0.755	11.1	8548	6501	0.702	12.2	10381
			80	67	95.9	8914	6557	0.748	11.9	9102	6745	0.696	13.1	10895
			85	71	96.9	9603	6845	0.746	12.9	9792	7034	0.694	14.1	11554
	1.8	4.9	75	63	91.0	8437	6344	0.711	11.9	8626	6533	0.663	13.0	10352
			80	67	91.7	9100	6630	0.706	12.9	9288	6819	0.658	14.1	10980
			85	71	92.4	9809	6922	0.700	14.0	9997	7111	0.652	15.3	11646
	2.4	8.6	75	63	88.3	8546	6390	0.686	12.4	8734	6578	0.648	13.5	10402
			80	67	88.8	9205	6673	0.679	13.6	9394	6862	0.640	14.7	11018
			85	71	89.3	9931	6970	0.669	14.8	10120	7158	0.630	16.1	11693
85	1.3	2.6	75	63	99.7	8103	6200	0.776	10.4	8292	6389	0.724	11.5	10173
			80	67	100.6	8736	6483	0.778	11.2	8925	6671	0.725	12.3	10788
			85	71	101.5	9375	6755	0.775	12.1	9564	6944	0.723	13.2	11394
	1.8	4.9	75	63	95.8	8254	6261	0.742	11.1	8442	6450	0.694	12.2	10241
			80	67	96.4	8893	6545	0.739	12.0	9082	6734	0.691	13.1	10851
			85	71	97.0	9505	6806	0.730	13.0	9693	6994	0.682	14.2	11413
	2.4	8.6	75	63	93.1	8346	6299	0.718	11.6	8535	6488	0.679	12.6	10277
			80	67	93.6	9002	6588	0.713	12.6	9191	6777	0.674	13.6	10897
			85	71	94.1	9633	6855	0.701	13.7	9821	7043	0.662	14.8	11471
90	1.3	2.6	75	63	104.3	7873	6107	0.811	9.7	8062	6296	0.758	10.6	10024
			80	67	105.2	8486	6384	0.813	10.4	8675	6573	0.761	11.4	10623
			85	71	106.0	9112	6658	0.812	11.2	9301	6846	0.760	12.2	11221
	1.8	4.9	75	63	100.5	8010	6160	0.778	10.3	8199	6348	0.730	11.2	10081
			80	67	101.1	8647	6446	0.777	11.1	8835	6635	0.729	12.1	10695
			85	71	101.7	9234	6705	0.770	12.0	9422	6893	0.722	13.1	11238
	2.4	8.6	75	63	97.9	8105	6199	0.755	10.7	8293	6387	0.716	11.6	10122
			80	67	98.4	8750	6487	0.752	11.6	8938	6675	0.713	12.5	10738
			85	71	98.8	9357	6751	0.742	12.6	9545	6940	0.703	13.6	11294
100	1.3	2.6	75	63	113.5	7386	5917	0.884	8.4	7574	6105	0.832	9.1	9710
			80	67	114.3	7963	6192	0.889	9.0	8151	6380	0.837	9.7	10282
			85	71	115.2	8588	6479	0.894	9.6	8776	6668	0.841	10.4	10896
	1.8	4.9	75	63	109.9	7507	5961	0.855	8.8	7696	6150	0.807	9.5	9761
			80	67	110.5	8102	6244	0.857	9.5	8290	6433	0.809	10.3	10341
			85	71	111.0	8677	6509	0.853	10.2	8866	6698	0.805	11.0	10886
	2.4	8.6	75	63	107.5	7593	5994	0.834	9.1	7782	6182	0.795	9.8	9797
			80	67	107.9	8214	6286	0.834	9.8	8402	6475	0.795	10.6	10398
			85	71	108.3	8783	6545	0.828	10.6	8971	6734	0.789	11.4	10928
110	1.3	2.6	75	63	122.7	6903	5736	0.961	7.2	7092	5925	0.909	7.8	9412
			80	67	123.5	7450	6008	0.970	7.7	7638	6197	0.917	8.3	9963
			85	71	124.1	7941	6265	0.971	8.2	8130	6453	0.919	8.8	10440
	1.8	4.9	75	63	119.3	6979	5756	0.933	7.5	7167	5944	0.885	8.1	9419
			80	67	119.8	7539	6040	0.938	8.0	7727	6228	0.890	8.7	9975
			85	71	120.4	8154	6331	0.942	8.7	8343	6519	0.894	9.3	10580
	2.4	8.6	75	63	117.0	7089	5801	0.915	7.7	7278	5989	0.876	8.3	9486
			80	67	117.4	7597	6060	0.915	8.3	7786	6249	0.876	8.9	9978
			85	71	117.8	8223	6354	0.917	9.0	8412	6543	0.878	9.6	10587

Heating Capacity Data – Unit Size 009

EWT	GPM	WPD	System					ISO			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	1.3	2.6	60	13.5	5912	0.623	2.78	5700	0.563	2.97	4160
			70	13.9	5765	0.669	2.53	5552	0.609	2.67	3917
			80	14.2	5631	0.716	2.30	5419	0.656	2.42	3683
	1.8	4.9	60	14.7	6458	0.639	2.96	6245	0.583	3.14	4670
			70	15.0	6261	0.686	2.68	6048	0.629	2.82	4374
			80	15.4	6078	0.734	2.43	5865	0.677	2.54	4088
	2.4	8.6	60	15.8	6714	0.646	3.05	6502	0.597	3.19	4911
			70	16.1	6491	0.693	2.75	6278	0.644	2.86	4588
			80	16.4	6283	0.741	2.48	6070	0.692	2.57	4276
30	1.3	2.6	60	21.7	7094	0.655	3.17	6881	0.595	3.39	5272
			70	22.2	6896	0.705	2.87	6684	0.645	3.04	4966
			80	22.7	6704	0.756	2.60	6492	0.696	2.73	4663
	1.8	4.9	60	23.5	7573	0.666	3.33	7360	0.609	3.54	5727
			70	23.9	7334	0.718	2.99	7121	0.661	3.16	5375
			80	24.3	7099	0.770	2.70	6887	0.713	2.83	5027
	2.4	8.6	60	24.9	7838	0.672	3.42	7625	0.622	3.59	5981
			70	25.2	7575	0.724	3.06	7362	0.675	3.20	5602
			80	25.6	7315	0.777	2.76	7102	0.728	2.86	5226
40	1.3	2.6	60	29.6	8521	0.678	3.68	8308	0.618	3.94	6651
			70	30.2	8258	0.734	3.30	8045	0.673	3.50	6266
			80	30.8	7998	0.789	2.97	7785	0.729	3.13	5882
	1.8	4.9	60	32.0	8940	0.686	3.82	8727	0.630	4.06	7055
			70	32.5	8644	0.743	3.41	8431	0.687	3.60	6631
			80	33.0	8343	0.800	3.05	8130	0.744	3.20	6203
	2.4	8.6	60	33.8	9198	0.690	3.91	8985	0.641	4.11	7306
			70	34.2	8872	0.748	3.48	8659	0.699	3.63	6850
			80	34.6	8544	0.806	3.11	8331	0.756	3.23	6393
50	1.3	2.6	60	37.5	9922	0.696	4.18	9710	0.636	4.48	8021
			70	38.2	9597	0.755	3.73	9384	0.695	3.96	7563
			80	38.9	9263	0.814	3.34	9050	0.754	3.52	7096
	1.8	4.9	60	40.5	10352	0.702	4.32	10139	0.645	4.61	8440
			70	41.1	9989	0.763	3.84	9776	0.706	4.06	7939
			80	41.6	9616	0.823	3.42	9404	0.766	3.60	7430
	2.4	8.6	60	42.7	10620	0.704	4.42	10407	0.654	4.66	8707
			70	43.1	10229	0.766	3.91	10017	0.717	4.10	8175
			80	43.6	9832	0.828	3.48	9620	0.778	3.62	7638
60	1.3	2.6	60	46.0	10943	0.719	4.46	10731	0.659	4.77	8998
			70	46.8	10593	0.784	3.96	10380	0.724	4.20	8499
			80	47.6	10228	0.849	3.53	10015	0.789	3.72	7987
	1.8	4.9	60	49.4	11451	0.726	4.62	11238	0.669	4.92	9493
			70	50.0	11060	0.793	4.09	10847	0.737	4.32	8949
			80	50.6	10644	0.859	3.63	10431	0.802	3.81	8383
	2.4	8.6	60	51.8	11772	0.728	4.74	11559	0.679	4.99	9814
			70	52.3	11343	0.796	4.18	11130	0.747	4.37	9228
			80	52.8	10899	0.863	3.70	10686	0.814	3.85	8630
70	1.3	2.6	60	54.7	11897	0.731	4.77	11684	0.670	5.11	9935
			70	55.6	11511	0.801	4.21	11299	0.741	4.47	9389
			80	56.4	11118	0.872	3.74	10906	0.811	3.94	8833
	1.8	4.9	60	58.4	12489	0.743	4.93	12276	0.686	5.24	10504
			70	59.0	12069	0.816	4.34	11856	0.759	4.58	9916
			80	59.7	11629	0.888	3.84	11416	0.831	4.03	9309
	2.4	8.6	60	61.0	12833	0.742	5.07	12621	0.693	5.34	10853
			70	61.5	12380	0.817	4.44	12168	0.768	4.65	10228
			80	62.1	11896	0.889	3.92	11683	0.840	4.08	9575
80	1.3	2.6	60	63.1	13114	0.745	5.16	12902	0.685	5.52	11132
			70	64.0	12696	0.820	4.54	12484	0.760	4.81	10539
			80	65.0	12250	0.895	4.01	12037	0.835	4.22	9919
	1.8	4.9	60	67.2	13692	0.745	5.38	13480	0.688	5.74	11715
			70	68.0	13187	0.821	4.71	12975	0.765	4.97	11033
			80	68.8	12628	0.897	4.13	12415	0.840	4.33	10298
	2.4	8.6	60	70.4	13750	0.731	5.51	13537	0.682	5.82	11812
			70	71.2	12861	0.801	4.71	12648	0.751	4.93	10760
			80	71.8	12291	0.880	4.09	12079	0.831	4.26	10005
85	1.3	2.6	60	67.3	13694	0.743	5.41	13481	0.682	5.79	11723
			70	68.3	13241	0.823	4.72	13029	0.762	5.01	11085
			80	69.4	12726	0.899	4.15	12513	0.839	4.37	10392
	1.8	4.9	60	71.9	14028	0.734	5.60	13816	0.678	5.98	12084
			70	73.1	13097	0.803	4.78	12884	0.746	5.06	10994
			80	73.9	12537	0.884	4.16	12325	0.827	4.37	10245
	2.4	8.6	60	75.4	13808	0.714	5.67	13595	0.665	5.99	11918
			70	76.0	13237	0.796	4.87	13025	0.747	5.11	11154
			80	76.6	12702	0.881	4.22	12490	0.832	4.40	10420
90	1.3	2.6	60	72.5	13651	0.722	5.54	13438	0.662	5.95	11737
			70	73.6	13117	0.802	4.80	12905	0.741	5.10	11018
			80	74.6	12631	0.885	4.18	12418	0.825	4.41	10336
	1.8	4.9	60	77.0	14041	0.715	5.75	13828	0.658	6.16	12151
			70	77.8	13461	0.797	4.95	13249	0.741	5.24	11379
			80	78.6	12895	0.882	4.29	12683	0.825	4.51	10615
	2.4	8.6	60	80.1	14174	0.703	5.91	13961	0.654	6.26	12319
			70	80.8	13527	0.785	5.05	13315	0.736	5.30	11478
			80	81.4	12985	0.874	4.35	12772	0.825	4.54	10726

Cooling Capacity Data – Unit Size 012

EWT	GPM	WPD	System							ISO				
			EA		LWT	TOT	SEN	kW	EER	TOT	SEN	kW	EER	THR
30	1.7	4.0	75	63	49.7	15027	10251	0.614	24.5	15150	10374	0.582	26.0	16484
			80	67	50.8	16047	10570	0.581	27.6	16170	10693	0.549	29.4	17399
			85	71	52.1	17180	10914	0.568	30.2	17303	11037	0.536	32.3	18457
	2.4	7.1	75	63	44.1	15327	10393	0.531	28.9	15450	10516	0.506	30.5	16630
			80	67	45.0	16460	10761	0.514	32.1	16583	10884	0.488	34.0	17687
			85	71	45.9	17604	11106	0.491	35.8	17727	11229	0.466	38.1	18738
	3.3	12.2	75	63	40.4	15595	10540	0.490	31.8	15718	10663	0.479	32.8	16823
			80	67	41.0	16718	10887	0.465	36.0	16841	11010	0.454	37.1	17856
			85	71	41.7	17874	11230	0.437	40.9	17997	11353	0.426	42.2	18908
40	1.7	4.0	75	63	59.3	14560	10013	0.730	19.9	14683	10136	0.699	21.0	16234
			80	67	60.3	15542	10321	0.683	22.8	15665	10444	0.651	24.1	17083
			85	71	61.5	16648	10682	0.659	25.3	16771	10805	0.627	26.7	18095
	2.4	7.1	75	63	53.8	14879	10180	0.636	23.4	15002	10303	0.611	24.6	16377
			80	67	54.6	15923	10511	0.600	26.5	16046	10634	0.575	27.9	17310
			85	71	55.5	17094	10875	0.584	29.3	17217	10998	0.558	30.8	18401
	3.3	12.2	75	63	50.1	15094	10294	0.578	26.1	15217	10417	0.568	26.8	16484
			80	67	50.8	16211	10640	0.556	29.2	16334	10763	0.545	30.0	17517
			85	71	51.4	17390	11009	0.531	32.7	17513	11132	0.521	33.6	18599
50	1.7	4.0	75	63	68.8	14030	9745	0.867	16.2	14153	9868	0.835	16.9	15958
			80	67	69.8	15031	10077	0.810	18.5	15154	10200	0.779	19.5	16813
			85	71	70.8	16054	10414	0.753	21.3	16177	10537	0.721	22.4	17678
	2.4	7.1	75	63	63.5	14377	9910	0.765	18.8	14500	10033	0.740	19.6	16114
			80	67	64.2	15400	10252	0.712	21.6	15523	10375	0.687	22.6	16996
			85	71	65.0	16512	10622	0.677	24.4	16635	10745	0.652	25.5	17993
	3.3	12.2	75	63	59.9	14607	10040	0.699	20.9	14730	10163	0.688	21.4	16222
			80	67	60.4	15647	10372	0.650	24.1	15770	10495	0.639	24.7	17126
			85	71	61.1	16818	10751	0.626	26.9	16941	10874	0.615	27.5	18204
60	1.7	4.0	75	63	78.2	13432	9495	1.010	13.3	13555	9618	0.978	13.9	15627
			80	67	79.2	14457	9851	0.944	15.3	14580	9974	0.912	16.0	16489
			85	71	80.2	15514	10233	0.877	17.7	15637	10356	0.845	18.5	17374
	2.4	7.1	75	63	73.1	13814	9687	0.900	15.3	13937	9810	0.875	15.9	15803
			80	67	73.8	14858	10045	0.838	17.7	14981	10168	0.812	18.4	16690
			85	71	74.6	15933	10420	0.778	20.5	16056	10543	0.753	21.3	17605
	3.3	12.2	75	63	69.6	14063	9816	0.828	17.0	14186	9939	0.817	17.4	15916
			80	67	70.1	15121	10172	0.770	19.6	15244	10295	0.759	20.1	16826
			85	71	70.7	16228	10556	0.722	22.5	16351	10679	0.711	23.0	17794
70	1.7	4.0	75	63	87.6	13034	9614	1.094	11.9	13157	9737	1.063	12.4	15384
			80	67	88.6	14026	9991	1.029	13.6	14149	10114	0.997	14.2	16217
			85	71	89.6	15069	10392	0.960	15.7	15192	10515	0.928	16.4	17087
	2.4	7.1	75	63	82.7	13423	9794	0.988	13.6	13546	9917	0.962	14.1	15572
			80	67	83.4	14460	10186	0.922	15.7	14583	10309	0.897	16.3	16449
			85	71	84.1	15512	10573	0.863	18.0	15635	10696	0.838	18.7	17345
	3.3	12.2	75	63	79.3	13686	9921	0.915	15.0	13809	10044	0.904	15.3	15699
			80	67	79.9	14736	10311	0.856	17.2	14859	10434	0.845	17.6	16599
			85	71	80.4	15822	10702	0.810	19.5	15945	10825	0.799	20.0	17553
80	1.7	4.0	75	63	96.7	12332	9480	1.191	10.4	12455	9603	1.160	10.7	14863
			80	67	97.6	13338	9910	1.115	12.0	13461	10033	1.083	12.4	15693
			85	71	98.6	14338	10305	1.045	13.7	14461	10428	1.014	14.3	16523
	2.4	7.1	75	63	92.0	12722	9653	1.087	11.7	12845	9776	1.062	12.1	15056
			80	67	92.7	13757	10082	1.014	13.6	13880	10205	0.989	14.0	15920
			85	71	93.4	14773	10472	0.954	15.5	14896	10595	0.929	16.0	16782
	3.3	12.2	75	63	88.9	12981	9767	1.016	12.8	13104	9890	1.005	13.0	15180
			80	67	89.4	14030	10195	0.950	14.8	14153	10318	0.939	15.1	16071
			85	71	89.9	15074	10590	0.902	16.7	15197	10713	0.891	17.1	16982
85	1.7	4.0	75	63	101.1	11813	9305	1.240	9.5	11936	9428	1.208	9.9	14436
			80	67	102.0	12796	9746	1.163	11.0	12919	9869	1.131	11.4	15244
			85	71	102.8	13766	10148	1.092	12.6	13889	10271	1.061	13.1	16045
	2.4	7.1	75	63	96.6	12177	9464	1.141	10.7	12300	9587	1.116	11.0	14613
			80	67	97.2	13194	9906	1.065	12.4	13317	10029	1.040	12.8	15455
			85	71	97.9	14180	10302	1.005	14.1	14303	10425	0.980	14.6	16290
	3.3	12.2	75	63	93.5	12426	9571	1.071	11.6	12549	9694	1.060	11.8	14729
			80	67	94.0	13453	10011	1.003	13.4	13576	10134	0.992	13.7	15596
			85	71	94.5	14464	10409	0.957	15.1	14587	10532	0.946	15.4	16481
90	1.7	4.0	75	63	105.6	11346	9110	1.342	8.5	11469	9233	1.310	8.8	14161
			80	67	106.4	12341	9573	1.241	9.9	12464	9696	1.209	10.3	14940
			85	71	107.3	13329	9996	1.163	11.5	13452	10119	1.131	11.9	15745
	2.4	7.1	75	63	101.2	11713	9270	1.227	9.5	11836	9393	1.201	9.9	14311
			80	67	101.9	12747	9736	1.140	11.2	12870	9859	1.114	11.5	15152
			85	71	102.5	13751	10153	1.073	12.8	13874	10276	1.047	13.2	15992
	3.3	12.2	75	63	98.2	11965	9382	1.153	10.4	12088	9505	1.142	10.6	14423
			80	67	98.7	13015	9844	1.074	12.1	13138	9967	1.063	12.4	15293
			85	71	99.2	14029	10256	1.016	13.8	14152	10379	1.005	14.1	16161
100	1.7	4.0	75	63	114.8	10623	8793	1.532	6.9	10746	8916	1.500	7.2	13794
			80	67	115.5	11315	9155	1.517	7.5	11438	9278	1.485	7.7	14436
			85	71	116.2	12281	9601	1.403	8.8	12404	9724	1.371	9.0	15162
	2.4	7.1	75	63	110.6	10825	8884	1.465	7.4	10948	9007	1.439	7.6	13872
			80	67	111.1	11732	9326	1.371	8.6	11855	9449	1.345	8.8	14577
			85	71	111.8	12890	9834	1.229	10.5	13013	9957	1.204	10.8	15435
	3.3	12.2	75	63	107.7	10997	8959	1.393	7.9	11120	9082	1.382	8.0	13908
			80	67	108.2	12114	9482	1.246	9.7	12237	9605	1.235	9.9	14722
			85	71	108.7	13194	9947	1.164	11.3	13317	10070	1.153	11.5	15612
110	1.7	4.0	75	63	123.9	10009	8521	1.636	6.1	10132	8644	1.604	6.3	13369
			80	67	124.5	10547	8832	1.660	6.4	10670	8955	1.628	6.6	13937
			85	71	125.1	11086	9138	1.677	6.6	11209	9261	1.645	6.8	14488
	2.4	7.1	75	63	120.0	10202	8603	1.602	6.4	10325	8726	1.576	6.6	13500
			80	67	120.4	10790	8936	1.613	6.7	10913	9059	1.587	6.9	14093
			85	71	120.9	11500	9297	1.583	7.3	11623	9420	1.558	7.5	14726
	3.3	12.2	75	63	117.3	10331	8663	1.569	6.6	10454	8786	1.558	6.7	13571
			80	67	117.7	10980	9015	1.562	7.0	11103	9138	1.551	7.2	14188
			85	71	118.0	11879	9445	1.459	8.1	12002	9568	1.448	8.3	14868

Heating Capacity Data – Unit Size 012

EWT	GPM	WPD	System					ISO			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	1.7	4.0	60	12.7	7932	0.875	2.66	7807	0.843	2.72	6105
			70	13.1	7675	0.932	2.41	7550	0.900	2.46	5770
			80	13.5	7417	0.990	2.20	7291	0.958	2.23	5432
	2.4	7.1	60	14.2	8689	0.895	2.84	8563	0.869	2.89	6832
			70	14.5	8364	0.955	2.57	8239	0.929	2.60	6425
			80	14.9	8037	1.015	2.32	7912	0.989	2.35	6014
	3.3	12.2	60	15.5	9140	0.906	2.96	9014	0.895	2.95	7267
			70	15.8	8772	0.967	2.66	8646	0.956	2.65	6813
			80	16.1	8401	1.028	2.39	8276	1.017	2.38	6357
30	1.7	4.0	60	20.9	9454	0.914	3.03	9328	0.881	3.10	7571
			70	21.4	9139	0.979	2.74	9014	0.946	2.79	7163
			80	21.9	8805	1.043	2.47	8680	1.011	2.52	6738
	2.4	7.1	60	22.9	10215	0.931	3.22	10089	0.905	3.27	8308
			70	23.4	9825	0.998	2.88	9700	0.973	2.92	7821
			80	23.8	9430	1.066	2.59	9305	1.040	2.62	7329
	3.3	12.2	60	24.6	10692	0.941	3.33	10566	0.930	3.33	8772
			70	24.9	10261	1.011	2.98	10136	0.999	2.97	8240
			80	25.2	9819	1.080	2.67	9694	1.068	2.66	7698
40	1.7	4.0	60	29.1	11030	0.948	3.41	10905	0.916	3.49	9100
			70	29.7	10653	1.021	3.06	10527	0.989	3.12	8616
			80	30.3	10249	1.094	2.74	10123	1.062	2.79	8106
	2.4	7.1	60	31.6	11804	0.964	3.59	11678	0.938	3.65	9855
			70	32.1	11354	1.040	3.20	11229	1.014	3.25	9293
			80	32.6	10886	1.115	2.86	10761	1.089	2.90	8714
	3.3	12.2	60	33.6	12319	0.973	3.71	12194	0.962	3.72	10359
			70	34.0	11818	1.051	3.30	11693	1.040	3.30	9742
			80	34.4	11298	1.128	2.93	11173	1.117	2.93	9107
50	1.7	4.0	60	37.0	12861	0.988	3.82	12736	0.955	3.91	10878
			70	37.7	12430	1.068	3.41	12305	1.036	3.48	10327
			80	38.4	11975	1.149	3.05	11849	1.117	3.11	9751
	2.4	7.1	60	40.1	13716	1.002	4.01	13591	0.976	4.08	11717
			70	40.7	13194	1.085	3.56	13068	1.059	3.62	11069
			80	41.2	12654	1.169	3.17	12528	1.143	3.21	10404
	3.3	12.2	60	42.5	14283	1.010	4.14	14158	0.999	4.15	12276
			70	42.9	13711	1.096	3.67	13586	1.085	3.67	11573
			80	43.3	13113	1.182	3.25	12987	1.170	3.25	10846
60	1.7	4.0	60	45.1	14554	1.015	4.20	14428	0.983	4.30	12540
			70	45.9	14044	1.104	3.73	13919	1.071	3.81	11897
			80	46.7	13502	1.192	3.32	13376	1.160	3.38	11221
	2.4	7.1	60	48.7	15445	1.027	4.41	15320	1.001	4.49	13421
			70	49.4	14846	1.119	3.89	14721	1.093	3.95	12682
			80	50.0	14217	1.210	3.44	14092	1.184	3.49	11914
	3.3	12.2	60	51.5	16033	1.034	4.55	15907	1.022	4.56	14003
			70	52.0	15361	1.127	3.99	15236	1.116	4.00	13188
			80	52.5	14619	1.219	3.51	14494	1.208	3.52	12304
70	1.7	4.0	60	53.3	16273	1.038	4.59	16148	1.006	4.71	14237
			70	54.1	15681	1.134	4.05	15556	1.102	4.14	13499
			80	55.1	14990	1.228	3.58	14865	1.196	3.64	12664
	2.4	7.1	60	57.5	17099	1.044	4.80	16973	1.018	4.89	15063
			70	58.3	16308	1.139	4.20	16183	1.113	4.26	14125
			80	59.1	15510	1.235	3.68	15385	1.209	3.73	13178
	3.3	12.2	60	60.7	17457	1.039	4.93	17332	1.027	4.94	15435
			70	61.3	16622	1.136	4.29	16497	1.125	4.30	14448
			80	61.9	15740	1.234	3.74	15614	1.222	3.74	13415
80	1.7	4.0	60	61.7	17749	1.046	4.97	17624	1.013	5.10	15717
			70	62.8	16965	1.144	4.35	16840	1.111	4.44	14782
			80	64.0	16112	1.241	3.81	15987	1.208	3.88	13778
	2.4	7.1	60	66.6	18317	1.033	5.20	18192	1.007	5.30	16316
			70	67.5	17468	1.135	4.51	17342	1.109	4.58	15306
			80	68.3	16628	1.240	3.93	16503	1.214	3.98	14303
	3.3	12.2	60	70.1	18707	1.022	5.36	18582	1.011	5.39	16729
			70	70.7	17767	1.126	4.63	17642	1.114	4.64	15627
			80	71.3	16909	1.235	4.01	16783	1.223	4.02	14597
85	1.7	4.0	60	66.1	18380	1.040	5.18	18254	1.007	5.31	16366
			70	67.3	17531	1.140	4.51	17406	1.107	4.61	15362
			80	68.4	16722	1.244	3.94	16596	1.211	4.02	14391
	2.4	7.1	60	71.2	18950	1.023	5.43	18825	0.997	5.54	16973
			70	72.1	18013	1.126	4.69	17888	1.100	4.77	15874
			80	72.9	17184	1.237	4.07	17059	1.211	4.13	14872
	3.3	12.2	60	74.8	19233	1.003	5.62	19108	0.992	5.65	17295
			70	75.5	18272	1.111	4.82	18147	1.100	4.84	16164
			80	76.1	17396	1.225	4.16	17271	1.213	4.17	15109
90	1.7	4.0	60	70.6	18985	1.029	5.41	18860	0.997	5.54	16997
			70	71.8	18094	1.132	4.69	17969	1.099	4.79	15945
			80	72.9	17298	1.242	4.08	17173	1.209	4.16	14978
	2.4	7.1	60	75.9	19457	1.003	5.69	19331	0.977	5.80	17521
			70	76.8	18523	1.111	4.89	18398	1.085	4.97	16417
			80	77.7	17647	1.225	4.22	17522	1.199	4.28	15362
	3.3	12.2	60	79.7	19584	0.971	5.91	19458	0.960	5.94	17707
			70	80.3	18689	1.088	5.04	18564	1.076	5.05	16628
			80	81.0	17765	1.204	4.32	17640	1.193	4.33	15519

Cooling Capacity Data – Unit Size 015

EWT	GPM	WPD	System							ISO				
			EA		LWT	TOT	SEN	kW	EER	TOT	SEN	kW	EER	THR
30	2.1	1.5	75	63	48.6	18096	10958	0.594	30.45	18363	11225	0.514	35.7	18615
			80	67	48.5	18067	13424	0.594	30.43	18334	13691	0.515	35.6	18586
			85	71	48.5	18034	15855	0.593	30.40	18301	16122	0.515	35.5	18552
	3.1	3.1	75	63	42.0	17656	10782	0.508	34.77	17923	11049	0.423	42.3	17825
			80	67	42.0	17634	13246	0.507	34.76	17901	13513	0.429	41.7	17802
			85	71	42.0	17618	15674	0.507	34.77	17885	15941	0.428	41.7	17787
	4.3	5.4	75	63	38.3	17235	10613	0.452	38.17	17502	10880	0.359	48.8	17065
			80	67	38.3	17222	13081	0.451	38.18	17489	13348	0.373	46.9	17053
			85	71	38.3	17221	15510	0.451	38.22	17488	15777	0.372	47.0	17052
40	2.1	1.5	75	63	58.6	18048	10758	0.644	28.02	18315	11025	0.564	32.5	19595
			80	67	58.5	18019	13224	0.644	27.99	18286	13491	0.565	32.3	19564
			85	71	58.5	17986	15655	0.643	27.97	18253	15922	0.565	32.3	19528
	3.1	3.1	75	63	52.0	17608	10582	0.558	31.57	17875	10849	0.473	37.8	18763
			80	67	52.0	17586	13046	0.557	31.56	17853	13313	0.479	37.3	18739
			85	71	52.0	17570	15474	0.557	31.56	17837	15741	0.478	37.3	18723
	4.3	5.4	75	63	48.3	17187	10413	0.502	34.27	17454	10680	0.409	42.7	17963
			80	67	48.3	17174	12881	0.501	34.27	17441	13148	0.423	41.3	17950
			85	71	48.3	17173	15310	0.501	34.31	17440	15577	0.422	41.3	17949
50	2.1	1.5	75	63	69.0	18000	10741	0.714	25.20	18267	11008	0.634	28.8	19955
			80	67	68.9	17975	13206	0.714	25.19	18242	13473	0.635	28.7	19928
			85	71	68.9	17948	15640	0.713	25.17	18215	15907	0.635	28.7	19899
	3.1	3.1	75	63	62.7	18081	10772	0.628	28.80	18348	11039	0.543	33.8	19712
			80	67	62.7	18053	13237	0.627	28.78	18320	13504	0.549	33.4	19683
			85	71	62.6	18021	15669	0.627	28.75	18288	15936	0.548	33.3	19648
	4.3	5.4	75	63	59.0	17943	10717	0.572	31.40	18210	10984	0.479	38.0	19360
			80	67	59.0	17916	13181	0.571	31.37	18183	13448	0.493	36.9	19332
			85	71	58.9	17891	15612	0.571	31.36	18158	15879	0.492	36.9	19305
60	2.1	1.5	75	63	78.9	17542	10556	0.814	21.55	17809	10823	0.734	24.3	19859
			80	67	78.9	17524	13025	0.814	21.54	17791	13292	0.735	24.2	19840
			85	71	78.9	17504	15461	0.813	21.53	17771	15728	0.735	24.2	19818
	3.1	3.1	75	63	72.9	17928	10711	0.728	24.63	18195	10978	0.643	28.3	19965
			80	67	72.9	17905	13178	0.727	24.62	18172	13445	0.649	28.0	19940
			85	71	72.8	17879	15612	0.727	24.60	18146	15879	0.648	28.0	19913
	4.3	5.4	75	63	69.3	18059	10762	0.672	26.89	18326	11029	0.579	31.7	19913
			80	67	69.2	18034	13230	0.671	26.87	18301	13497	0.593	30.9	19887
			85	71	69.2	18005	15663	0.671	26.85	18272	15930	0.592	30.9	19856
70	2.1	1.5	75	63	88.5	16727	10230	0.911	18.36	16994	10497	0.831	20.5	19358
			80	67	88.5	16718	12703	0.911	18.36	16985	12970	0.832	20.4	19348
			85	71	88.4	16704	15142	0.910	18.35	16971	15409	0.832	20.4	19332
	3.1	3.1	75	63	82.7	17276	10449	0.833	20.74	17543	10716	0.749	23.4	19654
			80	67	82.7	17260	12920	0.833	20.73	17527	13187	0.754	23.2	19637
			85	71	82.7	17242	15356	0.832	20.72	17509	15623	0.754	23.2	19618
	4.3	5.4	75	63	79.2	17560	10563	0.783	22.42	17827	10830	0.690	25.8	19777
			80	67	79.2	17541	13031	0.783	22.40	17808	13298	0.705	25.3	19757
			85	71	79.2	17519	15467	0.783	22.39	17786	15734	0.704	25.3	19734
80	2.1	1.5	75	63	98.0	15871	9893	1.016	15.61	16138	10160	0.936	17.2	18844
			80	67	98.0	15869	12368	1.016	15.61	16136	12635	0.938	17.2	18842
			85	71	98.0	15862	14810	1.016	15.61	16129	15077	0.938	17.2	18834
	3.1	3.1	75	63	92.4	16483	10134	0.942	17.50	16750	10401	0.858	19.5	19215
			80	67	92.4	16476	12607	0.942	17.50	16743	12874	0.863	19.4	19207
			85	71	92.4	16464	15047	0.941	17.49	16731	15314	0.863	19.4	19194
	4.3	5.4	75	63	89.1	16842	10276	0.896	18.80	17109	10543	0.803	21.3	19423
			80	67	89.1	16831	12748	0.895	18.80	17098	13015	0.817	20.9	19412
			85	71	89.1	16816	15186	0.895	18.79	17083	15453	0.817	20.9	19395
85	2.1	1.5	75	63	102.3	14996	9361	1.050	14.28	15263	9628	0.970	15.7	18079
			80	67	102.3	15001	11790	1.051	14.28	15268	12057	0.972	15.7	18085
			85	71	102.3	15011	14182	1.051	14.28	15278	14449	0.973	15.7	18096
	3.1	3.1	75	63	97.0	15603	9592	0.978	15.96	15870	9859	0.894	17.8	18451
			80	67	97.0	15603	12019	0.978	15.96	15870	12286	0.900	17.6	18451
			85	71	97.0	15601	14421	0.978	15.95	15868	14688	0.900	17.6	18449
	4.3	5.4	75	63	93.7	15978	9736	0.933	17.12	16245	10003	0.840	19.3	18682
			80	67	93.7	15975	12162	0.933	17.12	16242	12429	0.855	19.0	18678
			85	71	93.7	15966	14554	0.933	17.11	16233	14821	0.855	19.0	18668
90	2.1	1.5	75	63	107.1	14568	9200	1.104	13.19	14835	9467	1.024	14.5	17826
			80	67	107.1	14576	11632	1.105	13.20	14843	11899	1.026	14.5	17836
			85	71	107.1	14614	14016	1.106	13.21	14881	14283	1.028	14.5	17878
	3.1	3.1	75	63	101.8	15151	9420	1.032	14.69	15418	9687	0.947	16.3	18173
			80	67	101.8	15155	11849	1.032	14.69	15422	12116	0.953	16.2	18177
			85	71	101.8	15159	14243	1.032	14.69	15426	14510	0.953	16.2	18182
	4.3	5.4	75	63	98.6	15522	9561	0.987	15.72	15789	9828	0.895	17.7	18401
			80	67	98.6	15523	11988	0.987	15.72	15790	12255	0.909	17.4	18402
			85	71	98.6	15525	14395	0.987	15.72	15792	14662	0.909	17.4	18404
100	2.1	1.5	75	63	116.7	13723	8886	1.221	11.24	13990	9153	1.141	12.3	17360
			80	67	116.7	13739	11320	1.222	11.25	14006	11587	1.144	12.2	17379
			85	71	116.9	13906	13626	1.230	11.31	14173	13893	1.151	12.3	17572
	3.1	3.1	75	63	111.5	14253	9082	1.145	12.44	14520	9349	1.061	13.7	17645
			80	67	111.5	14264	11515	1.146	12.45	14531	11782	1.068	13.6	17657
			85	71	111.5	14332	13886	1.148	12.48	14599	14153	1.070	13.6	17733
	4.3	5.4	75	63	108.4	14598	9211	1.101	13.27	14865	9478	1.008	14.8	17844
			80	67	108.4	14607	11642	1.101	13.27	14874	11909	1.023	14.5	17854
			85	71	108.4	14645	14030	1.102	13.29	14912	14297	1.024	14.6	17896
110	2.1	1.5	75	63	126.4	13001	8621	1.353	9.61	13268	8888	1.272	10.4	17065
			80	67	126.4	13023	11057	1.354	9.62	13290	11324	1.275	10.4	17091
			85	71	126.9	13448	13179	1.377	9.77	13715	13446	1.299	10.6	17592
	3.1	3.1	75	63	121.2	13422	8775	1.270	10.57	13689	9042	1.186	11.5	17219
			80	67	121.2	13441	11210	1.271	10.58	13708	11477	1.193	11.5	17240
			85	71	121.4	13718	13443	1.283	10.69	13985	13710	1.205	11.6	17556
	4.3	5.4	75	63	118.2	13711	8881	1.223	11.21	13978	9148	1.130	12.4	17354
			80	67	118.2	13729	11316	1.223	11.22	13996	11583	1.145	12.2	17373
			85	71	118.3	13905	13625	1.230	11.31	14172	13892	1.152	12.3	17571

Heating Capacity Data – Unit Size 015

EWT	GPM	WPD	System					ISO			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	2.1	1.5	60	17.2	9948	1.116	2.61	9709	1.054	2.70	7759
			70	17.4	10149	1.220	2.44	9906	1.151	2.52	7916
			80	17.5	10048	1.359	2.16	9807	1.281	2.24	7838
	3.1	3.1	60	18.1	10399	1.034	2.94	10158	0.950	3.13	8111
			70	18.2	11414	1.161	2.88	11173	1.083	3.02	8903
			80	18.3	11415	1.258	2.66	11174	1.180	2.77	8904
	4.3	5.4	60	18.7	10399	1.034	2.94	10158	0.941	3.16	8111
			70	18.7	11414	1.161	2.88	11173	1.083	3.02	8903
			80	18.8	11415	1.258	2.66	11174	1.180	2.77	8904
30	2.1	1.5	60	26.7	10472	1.016	3.02	10220	0.954	3.14	8168
			70	26.8	10683	1.120	2.79	10427	1.051	2.90	8333
			80	27.0	10577	1.259	2.46	10324	1.181	2.56	8250
	3.1	3.1	60	27.7	10946	0.934	3.43	10692	0.850	3.68	8538
			70	27.8	12015	1.061	3.31	11761	0.983	3.50	9371
			80	27.9	12016	1.158	3.04	11762	1.080	3.19	9372
	4.3	5.4	60	28.4	10946	0.934	3.43	10692	0.841	3.72	8538
			70	28.4	12015	1.061	3.31	11761	0.983	3.50	9371
			80	28.5	12016	1.158	3.04	11762	1.080	3.19	9372
40	2.1	1.5	60	37.3	11023	0.916	3.52	10758	0.854	3.69	8598
			70	37.3	11245	1.020	3.23	10976	0.951	3.38	8771
			80	32.7	11134	1.159	2.13	10867	1.081	2.94	8685
	3.1	3.1	60	34.1	11522	0.834	3.65	11255	0.750	4.39	9140
			70	33.7	12647	0.961	3.35	12380	0.883	4.11	9853
			80	33.9	12648	1.058	2.92	12381	0.980	3.70	9539
	4.3	5.4	60	35.8	11522	0.834	3.65	11255	0.741	4.45	9140
			70	35.4	12647	0.961	3.35	12380	0.883	4.11	9853
			80	35.6	12648	1.058	2.92	12381	0.980	3.70	9539
50	2.1	1.5	60	39.0	14105	0.868	4.43	13838	0.788	5.14	11613
			70	39.1	14406	0.986	3.81	14139	0.907	4.56	11532
			80	39.6	14154	1.085	3.26	13887	1.006	4.04	10960
	3.1	3.1	60	42.1	14748	0.863	4.71	14481	0.778	5.45	12274
			70	42.3	14813	0.978	3.99	14546	0.900	4.73	11965
			80	42.8	14427	1.078	3.37	14160	1.000	4.15	11255
	4.3	5.4	60	44.2	14947	0.861	4.80	14680	0.769	5.59	12477
			70	44.4	14904	0.977	4.03	14637	0.898	4.77	12060
			80	44.8	14438	1.078	3.37	14171	0.999	4.15	11266
60	2.1	1.5	60	49.0	13813	0.777	5.03	13546	0.696	5.69	11617
			70	49.2	13931	0.886	4.24	13664	0.808	4.95	11380
			80	49.8	13637	0.981	3.58	13370	0.903	4.34	10779
	3.1	3.1	60	51.9	14826	0.783	5.41	14559	0.698	6.10	12612
			70	52.2	14721	0.890	4.50	14454	0.812	5.21	12157
			80	52.6	14337	0.989	3.77	14070	0.910	4.52	11453
	4.3	5.4	60	53.8	15725	0.797	5.66	15458	0.704	6.43	13464
			70	54.0	15478	0.904	4.69	15211	0.826	5.39	12870
			80	54.4	15023	1.005	3.91	14756	0.926	4.66	12088
70	2.1	1.5	60	56.5	16528	0.814	5.83	16261	0.733	6.49	14213
			70	57.0	16330	0.925	4.85	16063	0.846	5.56	13655
			80	57.6	15999	1.033	4.07	15732	0.955	4.82	12972
	3.1	3.1	60	59.6	18606	0.868	6.14	18339	0.784	6.85	16113
			70	60.1	18259	0.982	5.11	17992	0.904	5.83	15396
			80	60.6	17849	1.096	4.30	17582	1.018	5.06	14616
	4.3	5.4	60	61.8	20344	0.923	6.29	20077	0.830	7.08	17675
			70	62.2	19892	1.039	5.25	19625	0.961	5.98	16845
			80	62.6	19416	1.156	4.43	19149	1.078	5.20	15988
80	1.7	4.0	60	63.0	20501	0.928	6.30	20234	0.848	6.99	17815
			70	63.6	20240	1.052	5.28	19973	0.974	6.01	17151
			80	64.3	19969	1.179	4.47	19702	1.100	5.24	16470
	3.1	3.1	60	66.7	23588	1.045	6.36	23321	0.960	7.11	20524
			70	67.3	23176	1.176	5.36	22909	1.098	6.11	19684
			80	67.8	22741	1.312	4.55	22474	1.234	5.33	18810
	4.3	5.4	60	70.0	24947	1.167	5.89	24680	1.074	6.73	21484
			70	70.4	24487	1.307	4.99	24220	1.229	5.77	20570
			80	70.8	24001	1.451	4.25	23734	1.373	5.06	19618
85	2.1	1.5	60	66.0	22788	1.008	6.40	22521	0.928	7.10	19840
			70	66.7	22538	1.141	5.39	22271	1.063	6.14	19161
			80	67.3	22311	1.277	4.60	22044	1.199	5.38	18492
	3.1	3.1	60	71.0	25175	1.191	5.81	24908	1.106	6.59	21636
			70	71.6	24776	1.340	4.90	24509	1.262	5.69	20753
			80	72.2	24352	1.495	4.16	24085	1.417	4.98	19826
	4.3	5.4	60	74.4	26795	1.383	5.17	26528	1.290	6.02	22633
			70	74.9	26347	1.541	4.40	26080	1.463	5.22	21671
			80	75.3	25873	1.707	3.77	25606	1.628	4.60	20661
90	2.1	1.5	60	69.7	24481	1.122	6.50	24214	1.042	7.20	21165
			70	70.5	24167	1.273	5.49	23900	1.194	6.24	20363
			80	71.3	23835	1.431	4.70	23568	1.353	5.48	19517
	3.1	3.1	60	75.2	26984	1.407	5.91	26717	1.323	6.69	22743
			70	75.8	26609	1.578	5.00	26342	1.499	5.79	21815
			80	76.5	26213	1.758	4.26	25946	1.680	5.08	20833
	4.3	5.4	60	78.9	28935	1.687	5.27	28668	1.594	6.12	23787
			70	79.4	28496	1.869	4.50	28229	1.791	5.32	22756
			80	79.9	28044	2.061	3.87	27777	1.982	4.70	21684

Cooling Capacity Data – Unit Size 019

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			EA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	2.7	2.1	75/63	52.7	26162	17552	1.086	24.1	26751	0.917	29.2	30375
			80/67	54.2	28191	18081	1.063	26.5	28781	0.894	32.2	32394
			85/71	55.8	30359	18569	1.034	29.4	30948	0.865	35.8	34476
	3.9	4.5	75/63	46.3	27402	18124	1.023	26.8	27992	0.861	32.5	31428
			80/67	47.4	29601	18681	0.989	29.9	30191	0.827	36.5	33561
			85/71	48.5	31922	19179	0.947	33.7	32511	0.785	41.4	35797
	5.5	8.9	75/63	41.8	28303	18544	0.982	28.8	28892	0.840	34.4	32211
			80/67	42.6	30614	19118	0.941	32.5	31203	0.799	39.0	34428
			85/71	43.5	33078	19638	0.890	37.2	33668	0.748	45.0	36750
40	2.7	2.1	75/63	61.8	24646	16867	1.171	21.0	25236	1.002	25.2	29114
			80/67	63.3	26615	17423	1.157	23.0	27205	0.988	27.5	31074
			85/71	64.9	28682	17926	1.136	25.2	29272	0.967	30.3	33115
	3.9	4.5	75/63	55.6	25789	17382	1.106	23.3	26379	0.944	27.9	30069
			80/67	56.7	27890	17954	1.080	25.8	28480	0.918	31.0	32143
			85/71	57.8	30134	18481	1.047	28.8	30724	0.885	34.7	34285
	5.5	8.9	75/63	51.3	26606	17756	1.063	25.0	27196	0.921	29.5	30763
			80/67	52.1	28834	18353	1.029	28.0	29424	0.887	33.2	32910
			85/71	52.9	31178	18886	0.987	31.6	31768	0.845	37.6	35166
50	2.7	2.1	75/63	71.0	23127	16193	1.265	18.3	23717	1.096	21.6	27894
			80/67	72.4	25006	16764	1.258	19.9	25596	1.089	23.5	29767
			85/71	73.9	26995	17292	1.247	21.6	27584	1.078	25.6	31760
	3.9	4.5	75/63	64.9	24180	16659	1.199	20.2	24769	1.037	23.9	28733
			80/67	66.0	26194	17250	1.182	22.2	26783	1.020	26.2	30756
			85/71	67.1	28337	17796	1.158	24.5	28927	0.996	29.0	32848
	5.5	8.9	75/63	60.8	24925	16991	1.155	21.6	25514	1.013	25.2	29341
			80/67	61.6	27038	17598	1.130	23.9	27627	0.988	28.0	31434
			85/71	62.4	29299	18161	1.098	26.7	29888	0.956	31.3	33629
60	2.7	2.1	75/63	80.1	21610	15531	1.364	15.8	22200	1.195	18.6	26674
			80/67	81.5	23402	16120	1.367	17.1	23991	1.198	20.0	28510
			85/71	82.9	25298	16667	1.364	18.5	25888	1.195	21.7	30427
	3.9	4.5	75/63	74.3	22591	15957	1.300	17.4	23181	1.138	20.4	27461
			80/67	75.3	24507	16563	1.291	19.0	25097	1.129	22.2	29361
			85/71	76.4	26554	17128	1.277	20.8	27143	1.115	24.3	31433
	5.5	8.9	75/63	70.3	23268	16254	1.256	18.5	23857	1.114	21.4	27995
			80/67	71.1	25282	16876	1.240	20.4	25871	1.098	23.6	29988
			85/71	71.9	27434	17455	1.217	22.5	28023	1.075	26.1	32118
70	2.7	2.1	75/63	89.2	20088	14879	1.467	13.7	20677	1.298	15.9	25456
			80/67	90.6	21797	15487	1.479	14.7	22386	1.310	17.1	27254
			85/71	92.0	23579	16045	1.485	15.9	24169	1.316	18.4	29084
	3.9	4.5	75/63	83.7	20999	15268	1.406	14.9	21588	1.244	17.3	26181
			80/67	84.7	22826	15892	1.407	16.2	23415	1.245	18.8	28072
			85/71	85.7	24770	16474	1.401	17.7	25359	1.239	20.5	30006
	5.5	8.9	75/63	79.9	21633	15541	1.364	15.9	22222	1.222	18.2	26681
			80/67	80.6	23540	16175	1.358	17.3	24130	1.216	19.8	28641
			85/71	81.3	25583	16771	1.344	19.0	26173	1.202	21.8	30646
80	2.7	2.1	75/63	98.4	18579	14244	1.571	11.8	19169	1.402	13.7	24285
			80/67	99.6	20178	14858	1.591	12.7	20767	1.422	14.6	25967
			85/71	101.0	21864	15435	1.606	13.6	22454	1.437	15.6	27739
	3.9	4.5	75/63	93.0	19417	14596	1.513	12.8	20007	1.351	14.8	24938
			80/67	94.0	21153	15236	1.524	13.9	21742	1.362	16.0	26729
			85/71	95.0	22968	15826	1.528	15.0	23557	1.366	17.2	28603
	5.5	8.9	75/63	89.4	19997	14841	1.474	13.6	20587	1.332	15.5	25390
			80/67	90.1	21806	15490	1.478	14.8	22396	1.336	16.8	27248
			85/71	90.8	23721	16096	1.475	16.1	24311	1.333	18.2	29194
85	2.7	2.1	75/63	102.9	17822	13928	1.622	11.0	18411	1.453	12.7	23665
			80/67	104.2	19366	14547	1.647	11.8	19956	1.478	13.5	25327
			85/71	105.5	20994	15130	1.667	12.6	21584	1.498	14.4	27062
	3.9	4.5	75/63	97.7	18633	14266	1.567	11.9	19223	1.405	13.7	24312
			80/67	98.7	20292	14903	1.582	12.8	20882	1.420	14.7	26068
			85/71	99.6	22072	15509	1.592	13.9	22662	1.430	15.8	27897
	5.5	8.9	75/63	94.2	19204	14506	1.529	12.6	19793	1.387	14.3	24753
			80/67	94.9	20950	15157	1.538	13.6	21539	1.396	15.4	26568
			85/71	95.6	22800	15767	1.540	14.8	23390	1.398	16.7	28471
90	2.7	2.1	75/63	107.5	17064	13614	1.672	10.2	17654	1.503	11.7	23056
			80/67	108.7	18556	14239	1.701	10.9	19145	1.532	12.5	24682
			85/71	110.0	20138	14831	1.726	11.7	20727	1.557	13.3	26384
	3.9	4.5	75/63	102.4	17847	13939	1.620	11.0	18437	1.458	12.6	23685
			80/67	103.3	19458	14583	1.640	11.9	20048	1.478	13.6	25399
			85/71	104.3	21178	15194	1.655	12.8	21768	1.493	14.6	27193
	5.5	8.9	75/63	99.0	18383	14162	1.584	11.6	18973	1.442	13.2	24113
			80/67	99.6	20076	14819	1.598	12.6	20665	1.456	14.2	25886
			85/71	100.3	21880	15441	1.605	13.6	22469	1.463	15.4	27749
100	2.7	2.1	75/63	116.6	15530	12983	1.768	8.8	16119	1.599	10.1	21818
			80/67	117.7	16924	13624	1.807	9.4	17514	1.638	10.7	23368
			85/71	119.0	18393	14229	1.842	10.0	18983	1.673	11.3	24977
	3.9	4.5	75/63	111.8	16274	13289	1.723	9.4	16864	1.561	10.8	22415
			80/67	112.6	17768	13941	1.753	10.1	18357	1.591	11.5	24049
			85/71	113.5	19362	14563	1.779	10.9	19952	1.617	12.3	25755
	5.5	8.9	75/63	108.5	16773	13494	1.691	9.9	17363	1.549	11.2	22820
			80/67	109.1	18347	14160	1.715	10.7	18937	1.573	12.0	24513
			85/71	109.8	20030	14794	1.734	11.6	20619	1.592	13.0	26286
110	2.7	2.1	75/63	125.6	13992	12350	1.858	7.5	14581	1.689	8.6	20544
			80/67	126.7	15277	13005	1.906	8.0	15866	1.737	9.1	22030
			85/71	127.9	16630	13625	1.951	8.5	17220	1.782	9.7	23562
	3.9	4.5	75/63	121.1	14676	12632	1.819	8.1	15265	1.657	9.2	21114
			80/67	121.9	16068	13301	1.860	8.6	16657	1.698	9.8	22666
			85/71	122.8	17541	13937	1.896	9.3	18131	1.734	10.5	24308
	5.5	8.9	75/63	118.0	15141	12823	1.792	8.4	15731	1.650	9.5	21499
			80/67	118.6	16608	13504	1.827	9.1	17197	1.685	10.2	23108
			85/71	119.3	18165	14151	1.857	9.8	18754	1.715	10.9	24813

Heating Capacity Data – Unit Size 019

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	2.7	2.1	60	14.0	11953	1.138	3.08	11363	0.969	3.43	8278
			70	14.6	11253	1.167	2.82	10663	0.998	3.13	7464
			80	15.2	10553	1.196	2.58	9964	1.027	2.84	6650
	3.9	4.5	60	15.7	12417	1.157	3.14	11828	0.995	3.48	8685
			70	16.1	11656	1.186	2.88	11066	1.024	3.16	7811
			80	16.5	10894	1.215	2.63	10305	1.053	2.86	6937
	5.5	8.9	60	16.8	12766	1.171	3.19	12177	1.029	3.46	8983
			70	17.1	11969	1.200	2.92	11380	1.058	3.15	8064
			80	17.4	11173	1.229	2.66	10583	1.087	2.85	7145
30	2.7	2.1	60	22.6	14205	1.228	3.39	13615	1.059	3.76	10265
			70	23.2	13450	1.268	3.11	12861	1.099	3.43	9358
			80	23.9	12701	1.305	2.85	12112	1.136	3.12	8468
	3.9	4.5	60	24.6	14797	1.250	3.47	14207	1.088	3.82	10797
			70	25.1	13980	1.291	3.17	13391	1.129	3.47	9820
			80	25.6	13164	1.328	2.90	12574	1.166	3.16	8843
	5.5	8.9	60	26.0	15236	1.265	3.53	14646	1.123	3.82	11189
			70	26.4	14370	1.307	3.22	13781	1.165	3.46	10164
			80	26.7	13511	1.345	2.94	12921	1.203	3.14	9155
40	2.7	2.1	60	30.9	16625	1.312	3.71	16036	1.143	4.11	12440
			70	31.7	15826	1.366	3.39	15236	1.197	3.73	11437
			80	32.4	15010	1.416	3.10	14421	1.247	3.39	10439
	3.9	4.5	60	33.4	17374	1.337	3.80	16784	1.175	4.18	13121
			70	33.9	16486	1.392	3.47	15897	1.230	3.78	12030
			80	34.5	15605	1.443	3.17	15016	1.281	3.43	10956
	5.5	8.9	60	35.1	17923	1.354	3.88	17333	1.212	4.19	13625
			70	35.5	16977	1.410	3.53	16388	1.268	3.78	12469
			80	35.9	16043	1.462	3.21	15454	1.320	3.43	11333
50	2.7	2.1	60	39.2	19204	1.391	4.04	18614	1.222	4.46	14805
			70	40.0	18333	1.459	3.68	17744	1.290	4.03	13688
			80	40.8	17484	1.524	3.36	16894	1.355	3.65	12585
	3.9	4.5	60	42.1	20127	1.417	4.16	19537	1.255	4.56	15663
			70	42.7	19181	1.487	3.78	18592	1.325	4.11	14450
			80	43.3	18223	1.554	3.43	17633	1.392	3.71	13243
	5.5	8.9	60	44.2	20807	1.435	4.25	20217	1.293	4.58	16304
			70	44.6	19794	1.508	3.84	19204	1.366	4.12	14998
			80	45.1	18766	1.576	3.49	18176	1.434	3.71	13725
60	2.7	2.1	60	47.3	21933	1.463	4.39	21343	1.294	4.83	17329
			70	48.2	21001	1.546	3.98	20411	1.377	4.34	16118
			80	49.1	20094	1.626	3.62	19505	1.457	3.92	14905
	3.9	4.5	60	50.7	23069	1.490	4.53	22479	1.328	4.95	18389
			70	51.4	22039	1.577	4.09	21449	1.415	4.44	17055
			80	52.0	21012	1.660	3.71	20422	1.498	3.99	15722
	5.5	8.9	60	53.1	23877	1.508	4.64	23288	1.366	4.99	19186
			70	53.6	22786	1.598	4.18	22197	1.456	4.46	17753
			80	54.1	21684	1.684	3.77	21095	1.542	4.01	16317
70	2.7	2.1	60	55.3	24823	1.528	4.76	24233	1.359	5.22	20056
			70	56.3	23834	1.626	4.29	23245	1.457	4.67	18703
			80	57.3	22839	1.723	3.88	22250	1.554	4.19	17367
	3.9	4.5	60	59.2	26150	1.554	4.93	25560	1.392	5.38	21340
			70	59.9	25058	1.658	4.43	24469	1.496	4.79	19861
			80	60.7	23957	1.759	3.99	23367	1.597	4.28	18375
	5.5	8.9	60	62.0	27133	1.572	5.05	26543	1.430	5.43	22310
			70	62.5	25954	1.680	4.52	25364	1.538	4.83	20709
			80	63.1	24748	1.784	4.06	24159	1.642	4.31	19117
80	2.7	2.1	60	63.2	27819	1.584	5.14	27229	1.415	5.63	22936
			70	64.2	26772	1.699	4.61	26183	1.530	5.01	21469
			80	65.3	25712	1.812	4.15	25122	1.643	4.48	19969
	3.9	4.5	60	67.6	29389	1.610	5.34	28799	1.448	5.82	24445
			70	68.4	28214	1.731	4.77	27624	1.569	5.15	22829
			80	69.2	26988	1.849	4.27	26398	1.687	4.58	21194
	5.5	8.9	60	70.8	30433	1.624	5.49	29844	1.482	5.90	25636
			70	71.4	29273	1.753	4.89	28684	1.611	5.21	23846
			80	72.0	27958	1.874	4.37	27368	1.732	4.63	22071
85	2.7	2.1	60	67.1	29368	1.610	5.34	28779	1.441	5.85	24419
			70	68.2	28277	1.732	4.78	27688	1.563	5.19	22889
			80	69.3	27168	1.853	4.29	26579	1.684	4.62	21339
	3.9	4.5	60	71.7	31065	1.634	5.57	30475	1.472	6.06	26083
			70	72.6	29831	1.764	4.95	29241	1.602	5.34	24362
			80	73.5	28576	1.890	4.43	27987	1.728	4.74	22659
	5.5	8.9	60	75.1	32339	1.650	5.74	31749	1.508	6.16	27311
			70	75.8	30999	1.785	5.09	30409	1.643	5.42	25475
			80	76.5	29600	1.916	4.52	29011	1.774	4.79	23614
90	2.7	2.1	60	70.9	30927	1.632	5.55	30338	1.463	6.07	25948
			70	72.1	29813	1.763	4.95	29224	1.594	5.37	24347
			80	73.3	28659	1.892	4.44	28069	1.723	4.77	22727
	3.9	4.5	60	75.9	32755	1.655	5.80	32166	1.493	6.31	27737
			70	76.8	31477	1.794	5.14	30888	1.632	5.54	25956
			80	77.7	30166	1.929	4.58	29576	1.767	4.90	24145
	5.5	8.9	60	79.5	34125	1.671	5.98	33536	1.529	6.42	29074
			70	80.2	32705	1.814	5.28	32116	1.672	5.62	27142
			80	80.9	31266	1.954	4.69	30677	1.812	4.96	25185

Cooling Capacity Data – Unit Size 024

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			FA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	3.4	3.4	75/63	50.3	29775	20373	1.140	26.1	30459	0.947	32.2	34251
			80/67	51.6	32080	21035	1.112	28.8	32764	0.919	35.7	36523
			85/71	53.0	34499	21637	1.079	32.0	35183	0.886	39.7	38877
	4.9	7.1	75/63	44.3	30711	20784	1.014	30.3	31395	0.835	37.6	34795
			80/67	45.2	33117	21455	0.968	34.2	33801	0.789	42.8	37114
			85/71	46.2	35676	22074	0.915	39.0	36360	0.736	49.4	39512
	6.9	14.0	75/63	40.2	31340	21062	0.924	33.9	32024	0.784	40.8	35135
			80/67	40.9	33836	21747	0.865	39.1	34521	0.725	47.6	37475
			85/71	41.6	36459	22366	0.797	45.7	37143	0.657	56.5	39917
40	3.4	3.4	75/63	59.9	28429	19788	1.307	21.8	29114	1.114	26.1	33432
			80/67	61.2	30655	20465	1.291	23.7	31339	1.098	28.5	35656
			85/71	62.6	32987	21084	1.270	26.0	33672	1.077	31.3	37972
	4.9	7.1	75/63	54.0	29344	20186	1.194	24.6	30028	1.015	29.6	33995
			80/67	55.0	31699	20882	1.162	27.3	32383	0.983	32.9	36297
			85/71	55.9	34167	21515	1.123	30.4	34852	0.944	36.9	38691
	6.9	14.0	75/63	50.1	29971	20458	1.114	26.9	30655	0.974	31.5	34370
			80/67	50.7	32398	21163	1.069	30.3	33082	0.929	35.6	36683
			85/71	51.5	34961	21808	1.017	34.4	35646	0.877	40.6	39149
50	3.4	3.4	75/63	69.4	26959	19158	1.467	18.4	27644	1.274	21.7	32509
			80/67	70.6	29112	19856	1.462	19.9	29796	1.269	23.5	34663
			85/71	72.0	31374	20500	1.454	21.6	32059	1.261	25.4	36948
	4.9	7.1	75/63	63.7	27902	19562	1.366	20.4	28587	1.187	24.1	33083
			80/67	64.6	30159	20268	1.346	22.4	30844	1.167	26.4	35338
			85/71	65.6	32558	20927	1.322	24.6	33243	1.143	29.1	37714
	6.9	14.0	75/63	59.8	28527	19831	1.295	22.0	29212	1.155	25.3	33471
			80/67	60.5	30867	20549	1.265	24.4	31551	1.125	28.0	35789
			85/71	61.2	33339	21212	1.228	27.1	34024	1.088	31.3	38210
60	3.4	3.4	75/63	78.8	25441	18517	1.620	15.7	26126	1.427	18.3	31481
			80/67	80.1	27505	19231	1.626	16.9	28190	1.433	19.7	33591
			85/71	81.4	29671	19892	1.629	18.2	30356	1.436	21.1	35807
	4.9	7.1	75/63	73.3	26348	18898	1.530	17.2	27032	1.351	20.0	32102
			80/67	74.2	28538	19631	1.522	18.8	29223	1.343	21.8	34268
			85/71	75.2	30844	20310	1.511	20.4	31529	1.332	23.7	36619
	6.9	14.0	75/63	69.5	26970	19163	1.467	18.4	27655	1.327	20.8	32498
			80/67	70.2	29230	19902	1.450	20.2	29915	1.310	22.8	34738
			85/71	70.9	31631	20593	1.426	22.2	32316	1.286	25.1	37150
70	3.4	3.4	75/63	88.1	23852	17851	1.765	13.5	24536	1.572	15.6	30315
			80/67	89.4	25825	18583	1.783	14.5	26509	1.590	16.7	32409
			85/71	90.7	27892	19266	1.797	15.5	28577	1.604	17.8	34561
	4.9	7.1	75/63	82.8	24745	18224	1.685	14.7	25429	1.506	16.9	30965
			80/67	83.7	26838	18973	1.690	15.9	27522	1.511	18.2	33142
			85/71	84.7	29044	19671	1.690	17.2	29728	1.511	19.7	35363
	6.9	14.0	75/63	79.2	25355	18480	1.629	15.6	26040	1.489	17.5	31393
			80/67	79.9	27522	19236	1.625	16.9	28206	1.485	19.0	33626
			85/71	80.6	29820	19945	1.615	18.5	30505	1.475	20.7	35905
80	3.4	3.4	75/63	97.4	22209	17172	1.902	11.7	22894	1.709	13.4	29128
			80/67	98.6	24080	17921	1.930	12.5	24765	1.737	14.3	31105
			85/71	99.9	26007	18611	1.956	13.3	26691	1.763	15.1	33167
	4.9	7.1	75/63	92.3	23092	17536	1.830	12.6	23777	1.651	14.4	29770
			80/67	93.2	25071	18296	1.848	13.6	25755	1.669	15.4	31840
			85/71	94.1	27143	19004	1.861	14.6	27827	1.682	16.5	34007
	6.9	14.0	75/63	88.9	23660	17771	1.781	13.3	24344	1.641	14.8	30173
			80/67	89.5	25734	18549	1.790	14.4	26419	1.650	16.0	32329
			85/71	90.2	27925	19277	1.794	15.6	28609	1.654	17.3	34562
85	3.4	3.4	75/63	102.1	21369	16827	1.968	10.9	22053	1.775	12.4	28473
			80/67	103.2	23186	17584	2.001	11.6	23871	1.808	13.2	30425
			85/71	104.5	25053	18281	2.032	12.3	25738	1.839	14.0	32448
	4.9	7.1	75/63	97.1	22219	17176	1.901	11.7	22904	1.722	13.3	29119
			80/67	98.0	24157	17950	1.924	12.6	24841	1.745	14.2	31163
			85/71	98.8	26186	18673	1.943	13.5	26871	1.764	15.2	33295
	6.9	14.0	75/63	93.7	22803	17417	1.855	12.3	23488	1.715	13.7	29549
			80/67	94.3	24803	18195	1.870	13.3	25488	1.730	14.7	31663
			85/71	95.0	26922	18928	1.880	14.3	27607	1.740	15.9	33844
90	3.4	3.4	75/63	106.7	20517	16479	2.032	10.1	21201	1.839	11.5	27814
			80/67	107.8	22255	17235	2.070	10.8	22940	1.877	12.2	29724
			85/71	109.0	24078	17947	2.106	11.4	24763	1.913	12.9	31701
	4.9	7.1	75/63	101.8	21346	16817	1.970	10.8	22030	1.791	12.3	28455
			80/67	102.7	23227	17599	1.998	11.6	23911	1.819	13.1	30456
			85/71	103.5	25169	18322	2.023	12.4	25853	1.844	14.0	32534
	6.9	14.0	75/63	98.5	21915	17052	1.925	11.4	22600	1.785	12.7	28890
			80/67	99.1	23878	17845	1.947	12.3	24563	1.807	13.6	30954
			85/71	99.8	25920	18581	1.963	13.2	26604	1.823	14.6	33100
100	3.4	3.4	75/63	115.9	18776	15767	2.153	8.7	19460	1.960	9.9	26439
			80/67	117.0	20390	16536	2.202	9.3	21074	2.009	10.5	28258
			85/71	118.1	22081	17265	2.249	9.8	22765	2.056	11.1	30135
	4.9	7.1	75/63	111.3	19580	16096	2.099	9.3	20264	1.920	10.6	27076
			80/67	112.1	21311	16881	2.139	10.0	21995	1.960	11.2	28986
			85/71	112.9	23137	17625	2.175	10.6	23821	1.996	11.9	30965
	6.9	14.0	75/63	108.1	20119	16316	2.060	9.8	20803	1.920	10.8	27496
			80/67	108.7	21937	17116	2.094	10.5	22621	1.954	11.6	29474
			85/71	109.3	23859	17872	2.123	11.2	24543	1.983	12.4	31527
110	3.4	3.4	75/63	125.1	16980	15023	2.268	7.5	17665	2.075	8.5	24999
			80/67	126.1	18467	15814	2.327	7.9	19151	2.134	9.0	26709
			85/71	127.2	20021	16562	2.384	8.4	20705	2.191	9.5	28505
	4.9	7.1	75/63	120.7	17743	15341	2.220	8.0	18427	2.041	9.0	25618
			80/67	121.5	19362	16151	2.271	8.5	20046	2.092	9.6	27424
			85/71	122.3	21037	16909	2.319	9.1	21722	2.140	10.1	29325
	6.9	14.0	75/63	117.7	18258	15554	2.187	8.3	18942	2.047	9.3	26033
			80/67	118.3	19948	16371	2.232	8.9	20632	2.092	9.9	27898
			85/71	118.9	21725	17144	2.273	9.6	22410	2.133	10.5	29849

Heating Capacity Data – Unit Size 024

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	3.4	3.4	60	14.5	14395	1.397	3.02	13710	1.204	3.33	9807
			70	15.0	13603	1.437	2.77	12918	1.244	3.04	8855
			80	15.5	13490	1.447	2.73	12806	1.254	2.99	8800
	4.9	7.1	60	16.0	14923	1.416	3.09	14238	1.237	3.37	10278
			70	16.4	14078	1.458	2.83	13394	1.279	3.07	9266
			80	16.8	13686	1.467	2.73	13002	1.288	2.95	9200
	6.9	14.0	60	17.0	15305	1.430	3.13	14621	1.290	3.32	10625
			70	17.4	14398	1.471	2.87	13714	1.331	3.02	9542
			80	17.8	14078	1.477	2.79	13394	1.337	2.93	9500
30	3.4	3.4	60	23.0	17159	1.492	3.37	16475	1.299	3.71	12280
			70	23.6	16330	1.549	3.09	15646	1.356	3.38	11251
			80	24.2	15516	1.599	2.84	14831	1.406	3.09	10243
	4.9	7.1	60	24.9	17831	1.513	3.45	17147	1.334	3.76	12907
			70	25.4	16951	1.572	3.16	16267	1.393	3.42	11803
			80	25.8	16075	1.624	2.90	15391	1.445	3.12	10732
	6.9	14.0	60	26.3	18338	1.529	3.51	17654	1.389	3.72	13369
			70	26.6	17412	1.589	3.21	16728	1.449	3.38	12215
			80	26.9	16482	1.642	2.94	15798	1.502	3.08	11080
40	3.4	3.4	60	31.5	20112	1.582	3.72	19427	1.389	4.10	15000
			70	32.1	19281	1.656	3.41	18596	1.463	3.72	13878
			80	32.7	18405	1.724	3.13	17720	1.531	3.39	12763
	4.9	7.1	60	33.8	20995	1.606	3.83	20310	1.427	4.17	15814
			70	34.2	20064	1.683	3.49	19379	1.504	3.77	14590
			80	34.7	19117	1.753	3.19	18433	1.574	3.43	13381
	6.9	14.0	60	35.4	21637	1.624	3.90	20952	1.484	4.13	16402
			70	35.8	20646	1.703	3.55	19962	1.563	3.74	15118
			80	36.1	19641	1.774	3.24	18957	1.634	3.40	13841
50	3.4	3.4	60	39.8	23302	1.667	4.09	22617	1.474	4.49	17945
			70	40.5	22413	1.760	3.73	21729	1.567	4.06	16708
			80	41.2	21464	1.846	3.40	20780	1.653	3.68	15461
	4.9	7.1	60	42.5	24387	1.695	4.21	23702	1.516	4.58	18964
			70	43.0	23401	1.791	3.83	22716	1.612	4.13	17616
			80	43.6	22386	1.880	3.49	21702	1.701	3.73	16251
	6.9	14.0	60	44.5	25186	1.714	4.30	24502	1.574	4.56	19719
			70	44.9	24129	1.813	3.90	23444	1.673	4.10	18276
			80	45.3	23020	1.904	3.54	22335	1.764	3.71	16836
60	3.4	3.4	60	48.0	26685	1.750	4.46	26000	1.557	4.89	21095
			70	48.7	25725	1.861	4.05	25041	1.668	4.40	19738
			80	49.5	24714	1.965	3.68	24030	1.772	3.97	18355
	4.9	7.1	60	51.1	27858	1.777	4.59	27173	1.598	4.98	22386
			70	51.7	26933	1.896	4.16	26248	1.717	4.48	20857
			80	52.3	25811	2.004	3.77	25126	1.825	4.03	19328
	6.9	14.0	60	53.4	28963	1.801	4.71	28279	1.661	4.98	23273
			70	53.9	27818	1.921	4.24	27133	1.781	4.46	21674
			80	54.4	26609	2.032	3.83	25925	1.892	4.01	20055
70	3.4	3.4	60	56.0	30085	1.826	4.82	29401	1.633	5.27	24503
			70	56.9	29201	1.959	4.36	28517	1.766	4.73	22943
			80	57.8	28106	2.082	3.95	27421	1.889	4.25	21383
	4.9	7.1	60	59.7	31814	1.862	5.00	31130	1.683	5.41	25945
			70	60.4	30649	1.998	4.49	29964	1.819	4.82	24277
			80	61.0	29402	2.126	4.05	28718	1.947	4.32	22582
	6.9	14.0	60	62.4	32988	1.887	5.12	32304	1.747	5.41	27066
			70	62.9	31680	2.025	4.58	30995	1.885	4.81	25268
			80	63.4	30352	2.156	4.12	29667	2.016	4.31	23433
80	3.4	3.4	60	64.0	33960	1.906	5.22	33276	1.713	5.69	27984
			70	64.9	32819	2.055	4.68	32134	1.862	5.05	26302
			80	65.9	31623	2.197	4.21	30939	2.004	4.52	24567
	4.9	7.1	60	68.2	35802	1.943	5.40	35117	1.764	5.83	29731
			70	68.9	34490	2.097	4.82	33806	1.918	5.16	27857
			80	69.7	33127	2.244	4.32	32443	2.065	4.60	25965
	6.9	14.0	60	71.2	37161	1.969	5.53	36477	1.829	5.84	31026
			70	71.8	35749	2.128	4.92	35064	1.988	5.16	29025
			80	72.4	34232	2.278	4.40	33547	2.138	4.59	26975
85	3.4	3.4	60	67.9	35680	1.939	5.39	34996	1.746	5.87	29841
			70	68.9	34661	2.101	4.83	33977	1.908	5.21	28017
			80	70.0	33392	2.252	4.34	32707	2.059	4.65	26196
	4.9	7.1	60	72.4	37832	1.981	5.59	37148	1.802	6.03	31660
			70	73.2	36460	2.145	4.98	35776	1.966	5.33	29715
			80	74.0	35021	2.302	4.45	34336	2.123	4.73	27692
	6.9	14.0	60	75.6	39267	2.007	5.73	38583	1.867	6.05	33108
			70	76.2	37780	2.177	5.08	37096	2.037	5.33	30954
			80	76.9	36177	2.336	4.53	35493	2.196	4.73	28785
90	3.4	3.4	60	71.8	37762	1.980	5.58	37077	1.787	6.08	31611
			70	72.9	36534	2.147	4.98	35849	1.954	5.37	29767
			80	74.0	35199	2.307	4.47	34515	2.114	4.78	27850
	4.9	7.1	60	76.6	39874	2.019	5.78	39189	1.840	6.23	33650
			70	77.4	38451	2.192	5.14	37766	2.013	5.49	31589
			80	78.3	36937	2.358	4.59	36253	2.179	4.87	29442
	6.9	14.0	60	80.0	41467	2.047	5.93	40783	1.907	6.26	35164
			70	80.7	39870	2.225	5.25	39185	2.085	5.50	32909
			80	81.3	38194	2.395	4.67	37509	2.255	4.87	30615

Cooling Capacity Data – Unit Size 030

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			EA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	4.3	1.9	75/63	47.3	33254	23317	1.193	27.9	33923	1.002	33.8	38091
			80/67	48.4	35714	24125	1.204	29.7	36382	1.013	35.9	40638
			85/71	49.6	38328	24889	1.217	31.5	38996	1.026	38.0	43314
	6.1	3.8	75/63	42.2	33761	23525	1.075	31.4	34429	0.894	38.5	38188
			80/67	43.0	36297	24345	1.077	33.7	36965	0.896	41.3	40771
			85/71	43.9	38962	25108	1.080	36.1	39630	0.899	44.1	43511
	8.6	7.6	75/63	38.6	34107	23667	0.988	34.5	34775	0.833	41.7	38230
			80/67	39.3	36720	24505	0.983	37.4	37389	0.828	45.1	40891
			85/71	39.9	39440	25273	0.979	40.3	40108	0.824	48.7	43640
40	4.3	1.9	75/63	57.2	32269	22914	1.397	23.1	32938	1.206	27.3	37799
			80/67	58.3	34636	23720	1.409	24.6	35304	1.218	29.0	40258
			85/71	59.5	37131	24479	1.424	26.1	37799	1.233	30.6	42854
	6.1	3.8	75/63	52.2	32788	23126	1.293	25.4	33456	1.112	30.1	37968
			80/67	53.0	35257	23953	1.297	27.2	35926	1.116	32.2	40482
			85/71	53.8	37820	24715	1.303	29.0	38488	1.122	34.3	43139
	8.6	7.6	75/63	48.6	33142	23271	1.217	27.2	33811	1.062	31.8	38064
			80/67	49.2	35655	24102	1.216	29.3	36324	1.061	34.2	40632
			85/71	49.8	38343	24894	1.213	31.6	39012	1.058	36.9	43315
50	4.3	1.9	75/63	67.0	31224	22490	1.590	19.6	31892	1.399	22.8	37427
			80/67	68.1	33509	23300	1.603	20.9	34177	1.412	24.2	39774
			85/71	69.3	35923	24066	1.620	22.2	36591	1.429	25.6	42291
	6.1	3.8	75/63	62.1	31777	22715	1.494	21.3	32446	1.313	24.7	37586
			80/67	62.9	34118	23526	1.501	22.7	34786	1.320	26.4	40057
			85/71	63.7	36615	24302	1.509	24.3	37283	1.328	28.1	42628
	8.6	7.6	75/63	58.6	32116	22853	1.426	22.5	32785	1.271	25.8	37747
			80/67	59.2	34536	23683	1.427	24.2	35204	1.272	27.7	40217
			85/71	59.8	37096	24466	1.430	25.9	37764	1.275	29.6	42854
60	4.3	1.9	75/63	76.9	30115	22042	1.781	16.9	30784	1.590	19.4	36954
			80/67	77.9	32321	22860	1.797	18.0	32990	1.606	20.5	39252
			85/71	79.0	34657	23637	1.814	19.1	35325	1.623	21.8	41678
	6.1	3.8	75/63	72.0	30665	22264	1.689	18.2	31333	1.508	20.8	37197
			80/67	72.7	32941	23089	1.697	19.4	33609	1.516	22.2	39505
			85/71	73.5	35359	23875	1.708	20.7	36028	1.527	23.6	42047
	8.6	7.6	75/63	68.5	31032	22412	1.624	19.1	31700	1.469	21.6	37333
			80/67	69.1	33365	23247	1.627	20.5	34033	1.472	23.1	39707
			85/71	69.6	35843	24039	1.633	21.9	36512	1.478	24.7	42302
70	4.3	1.9	75/63	86.7	28935	21568	1.979	14.6	29604	1.788	16.6	36427
			80/67	87.7	31070	22398	1.995	15.6	31738	1.804	17.6	38670
			85/71	88.8	33291	23177	2.016	16.5	33960	1.825	18.6	41022
	6.1	3.8	75/63	81.8	29508	21797	1.885	15.7	30176	1.704	17.7	36673
			80/67	82.6	31700	22631	1.896	16.7	32368	1.715	18.9	38978
			85/71	83.3	34034	23428	1.908	17.8	34703	1.727	20.1	41363
	8.6	7.6	75/63	78.4	29881	21948	1.821	16.4	30549	1.666	18.3	36842
			80/67	79.0	32134	22791	1.827	17.6	32802	1.672	19.6	39189
			85/71	79.5	34527	23593	1.834	18.8	35196	1.679	21.0	41611
80	4.3	1.9	75/63	96.4	27707	21076	2.188	12.7	28376	1.997	14.2	35885
			80/67	97.4	29741	21911	2.208	13.5	30409	2.017	15.1	38054
			85/71	98.5	31889	22708	2.232	14.3	32557	2.041	15.9	40313
	6.1	3.8	75/63	91.7	28267	21301	2.092	13.5	28935	1.911	15.1	36133
			80/67	92.4	30394	22150	2.104	14.4	31062	1.923	16.2	38346
			85/71	93.1	32609	22949	2.118	15.4	33278	1.937	17.2	40664
	8.6	7.6	75/63	88.3	28657	21457	2.026	14.1	29325	1.871	15.7	36313
			80/67	88.8	30836	22312	2.033	15.2	31504	1.878	16.8	38551
			85/71	89.4	33113	23117	2.042	16.2	33781	1.887	17.9	40914
85	4.3	1.9	75/63	101.3	27044	20811	2.305	11.7	27712	2.114	13.1	35612
			80/67	102.3	29061	21663	2.325	12.5	29729	2.134	13.9	37744
			85/71	103.3	31135	22456	2.347	13.3	31804	2.156	14.7	39953
	6.1	3.8	75/63	96.6	27623	21043	2.203	12.5	28291	2.022	14.0	35877
			80/67	97.3	29695	21894	2.215	13.4	30363	2.034	14.9	38016
			85/71	98.0	31877	22703	2.229	14.3	32546	2.048	15.9	40320
	8.6	7.6	75/63	93.2	28026	21204	2.133	13.1	28694	1.978	14.5	36026
			80/67	93.8	30160	22064	2.142	14.1	30829	1.987	15.5	38238
			85/71	94.3	32389	22874	2.152	15.1	33057	1.997	16.6	40556
90	4.3	1.9	75/63	106.2	26377	20545	2.428	10.9	27045	2.237	12.1	35397
			80/67	107.2	28343	21399	2.448	11.6	29012	2.257	12.9	37439
			85/71	108.2	30373	22202	2.470	12.3	31041	2.279	13.6	39603
	6.1	3.8	75/63	101.5	26966	20780	2.319	11.6	27634	2.138	12.9	35581
			80/67	102.2	29016	21646	2.333	12.4	29684	2.152	13.8	37724
			85/71	102.9	31131	22454	2.348	13.3	31799	2.167	14.7	39951
	8.6	7.6	75/63	98.2	27365	20939	2.248	12.2	28034	2.093	13.4	35748
			80/67	98.7	29466	21810	2.257	13.1	30134	2.102	14.3	37923
			85/71	99.2	31646	22626	2.267	14.0	32314	2.112	15.3	40207
100	4.3	1.9	75/63	116.0	24971	19983	2.698	9.3	25640	2.507	10.2	34877
			80/67	116.9	26819	20842	2.719	9.9	27487	2.528	10.9	36844
			85/71	117.9	28767	21666	2.743	10.5	29435	2.552	11.5	38908
	6.1	3.8	75/63	111.4	25586	20229	2.577	9.9	26254	2.396	11.0	35088
			80/67	112.0	27517	21097	2.591	10.6	28186	2.410	11.7	37111
			85/71	112.7	29557	21930	2.607	11.3	30225	2.426	12.5	39241
	8.6	7.6	75/63	108.1	25997	20394	2.498	10.4	26666	2.343	11.4	35236
			80/67	108.6	27986	21269	2.507	11.2	28654	2.352	12.2	37298
			85/71	109.1	30087	22107	2.518	11.9	30755	2.363	13.0	39474
110	4.3	1.9	75/63	125.9	23436	19367	3.013	7.8	24104	2.822	8.5	34415
			80/67	126.7	25194	20247	3.033	8.3	25862	2.842	9.1	36275
			85/71	127.6	27031	21088	3.057	8.8	27700	2.866	9.7	38224
	6.1	3.8	75/63	121.2	24089	19631	2.875	8.4	24758	2.694	9.2	34604
			80/67	121.9	25933	20519	2.888	9.0	26601	2.707	9.8	36524
			85/71	122.5	27866	21366	2.904	9.6	28534	2.723	10.5	38543
	8.6	7.6	75/63	118.0	24540	19811	2.786	8.8	25208	2.631	9.6	34737
			80/67	118.4	26423	20697	2.794	9.5	27091	2.639	10.3	36697
			85/71	118.9	28420	21551	2.804	10.1	29088	2.649	11.0	38765

Heating Capacity Data – Unit Size 030

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	4.3	1.9	60	13.5	19823	1.805	3.22	19154	1.614	3.47	14096
			70	13.8	19754	1.998	2.89	19086	1.807	3.09	13383
			80	14.2	19722	2.220	2.60	19053	2.029	2.75	12598
	6.1	3.8	60	15.2	20358	1.813	3.29	19689	1.632	3.53	14616
			70	15.5	20264	2.007	2.96	19595	1.826	3.14	13854
			80	15.8	20171	2.229	2.65	19503	2.048	2.79	13024
	8.6	7.6	60	16.5	20767	1.820	3.34	20099	1.665	3.53	15019
			70	16.7	20625	2.013	3.00	19957	1.858	3.14	14218
			80	16.9	20510	2.235	2.69	19841	2.080	2.79	13347
30	4.3	1.9	60	22.2	22484	1.845	3.57	21816	1.654	3.86	16700
			70	22.6	22345	2.042	3.20	21677	1.851	3.43	15869
			80	23.0	22236	2.268	2.87	21568	2.077	3.04	14983
	6.1	3.8	60	24.3	23159	1.854	3.66	22490	1.673	3.94	17349
			70	24.6	22970	2.052	3.28	22302	1.871	3.49	16473
			80	24.9	22809	2.279	2.93	22140	2.098	3.09	15530
	8.6	7.6	60	25.9	23679	1.862	3.72	23011	1.707	3.95	17855
			70	26.1	23447	2.060	3.33	22778	1.905	3.50	16934
			80	26.3	23234	2.287	2.97	22566	2.132	3.10	15954
40	4.3	1.9	60	30.9	25138	1.880	3.92	24470	1.689	4.24	19585
			70	31.3	25196	2.089	3.53	24528	1.898	3.78	18631
			80	31.8	24992	2.319	3.16	24324	2.128	3.35	17646
	6.1	3.8	60	33.3	26289	1.899	4.05	25620	1.718	4.37	20382
			70	33.6	25981	2.102	3.62	25313	1.921	3.86	19387
			80	34.0	25715	2.333	3.23	25047	2.152	3.41	18324
	8.6	7.6	60	35.1	26923	1.908	4.13	26254	1.753	4.38	21037
			70	35.3	26582	2.112	3.69	25913	1.957	3.88	19969
			80	35.6	26265	2.344	3.28	25597	2.189	3.42	18850
50	4.3	1.9	60	39.4	28650	1.934	4.34	27982	1.743	4.70	22684
			70	39.9	28328	2.142	3.87	27660	1.951	4.15	21650
			80	40.4	28026	2.378	3.45	27358	2.187	3.66	20542
	6.1	3.8	60	42.2	29713	1.951	4.46	29044	1.770	4.81	23724
			70	42.6	29307	2.159	3.97	28639	1.978	4.24	22607
			80	43.0	28928	2.396	3.54	28259	2.215	3.74	21399
	8.6	7.6	60	44.3	30513	1.964	4.55	29845	1.809	4.83	24504
			70	44.6	30054	2.173	4.05	29385	2.018	4.26	23316
			80	44.8	29615	2.410	3.60	28946	2.255	3.76	22055
60	4.3	1.9	60	47.8	32173	1.991	4.73	31504	1.800	5.12	26078
			70	48.3	31738	2.204	4.22	31070	2.013	4.52	24923
			80	48.9	31338	2.447	3.75	30669	2.256	3.98	23670
	6.1	3.8	60	51.0	33451	2.013	4.87	32783	1.832	5.24	27335
			70	51.4	32950	2.228	4.33	32281	2.047	4.62	26081
			80	51.8	32445	2.471	3.84	31777	2.290	4.06	24753
	8.6	7.6	60	53.4	34465	2.030	4.97	33796	1.875	5.28	28327
			70	53.7	33867	2.247	4.41	33199	2.092	4.65	26984
			80	54.0	33291	2.491	3.91	32622	2.336	4.09	25543
70	4.3	1.9	60	56.0	35965	2.058	5.12	35297	1.867	5.53	29731
			70	56.7	35416	2.279	4.55	34748	2.088	4.87	28425
			80	57.3	34920	2.529	4.04	34252	2.338	4.29	27051
	6.1	3.8	60	59.7	37540	2.089	5.26	36872	1.908	5.66	31236
			70	60.1	36884	2.311	4.67	36216	2.130	4.98	29822
			80	60.6	36233	2.561	4.14	35564	2.380	4.38	28327
	8.6	7.6	60	62.4	38757	2.114	5.37	38089	1.959	5.69	32405
			70	62.7	38014	2.337	4.76	37346	2.182	5.01	30898
			80	63.1	37285	2.588	4.22	36617	2.433	4.41	29309
80	4.3	1.9	60	64.2	40044	2.141	5.48	39376	1.950	5.91	33582
			70	64.9	39364	2.368	4.87	38695	2.177	5.20	32149
			80	65.6	38702	2.625	4.32	38034	2.434	4.57	30622
	6.1	3.8	60	68.3	41893	2.182	5.62	41225	2.001	6.03	35374
			70	68.8	41140	2.412	4.99	40471	2.231	5.31	33804
			80	69.4	40332	2.670	4.42	39664	2.489	4.67	32127
	8.6	7.6	60	71.4	43361	2.216	5.73	42693	2.061	6.06	36757
			70	71.8	42453	2.446	5.08	41784	2.291	5.34	35070
			80	72.2	41570	2.706	4.50	40901	2.551	4.69	33273
85	4.3	1.9	60	68.3	42155	2.188	5.64	41487	1.997	6.08	35595
			70	69.0	41419	2.419	5.01	40751	2.228	5.35	34072
			80	69.7	40716	2.681	4.45	40048	2.490	4.71	32469
	6.1	3.8	60	72.5	44185	2.236	5.79	43517	2.055	6.20	37528
			70	73.1	43338	2.469	5.14	42669	2.288	5.46	35871
			80	73.7	42460	2.732	4.55	41791	2.551	4.80	34129
	8.6	7.6	60	75.8	45781	2.276	5.89	45113	2.121	6.23	39031
			70	76.2	44797	2.509	5.23	44129	2.354	5.49	37236
			80	76.7	43797	2.771	4.63	43129	2.616	4.83	35335
90	4.3	1.9	60	72.3	44344	2.240	5.80	43676	2.049	6.24	37656
			70	73.0	43566	2.475	5.15	42898	2.284	5.50	36068
			80	73.8	42760	2.741	4.57	42091	2.550	4.83	34348
	6.1	3.8	60	76.8	46389	2.291	5.93	45721	2.110	6.35	39759
			70	77.4	45616	2.533	5.27	44948	2.352	5.60	38009
			80	78.0	44695	2.800	4.67	44027	2.619	4.92	36075
	8.6	7.6	60	80.3	48113	2.337	6.03	47445	2.182	6.37	41372
			70	80.7	47202	2.579	5.36	46534	2.424	5.62	39448
			80	81.2	46093	2.845	4.74	45425	2.690	4.94	37427

Cooling Capacity Data – Unit Size 036

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			FA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	5.2	2.8	75/63	47.2	40030	28291	1.522	26.3	40816	1.301	31.4	46188
			80/67	48.4	42997	29265	1.552	27.7	43783	1.331	32.9	49332
			85/71	49.6	46097	30168	1.585	29.1	46883	1.364	34.4	52577
	7.3	5.5	75/63	42.3	40600	28529	1.423	28.5	41386	1.218	34.0	46419
			80/67	43.2	43665	29522	1.450	30.1	44451	1.245	35.7	49629
			85/71	44.1	46885	30444	1.483	31.6	47671	1.278	37.3	53001
	10.3	11.0	75/63	38.7	41003	28697	1.347	30.4	41789	1.188	35.2	46558
			80/67	39.4	44162	29713	1.374	32.1	44948	1.215	37.0	49859
			85/71	40.0	47425	30633	1.403	33.8	48211	1.244	38.8	53300
40	5.2	2.8	75/63	57.1	38867	27808	1.706	22.8	39653	1.485	26.7	45647
			80/67	58.2	41733	28782	1.730	24.1	42519	1.509	28.2	48601
			85/71	59.4	44713	29684	1.759	25.4	45499	1.538	29.6	51779
	7.3	5.5	75/63	52.2	39469	28058	1.614	24.5	40255	1.409	28.6	45938
			80/67	53.0	42433	29049	1.634	26.0	43219	1.429	30.2	48990
			85/71	53.9	45515	29963	1.660	27.4	46301	1.455	31.8	52226
	10.3	11.0	75/63	48.7	39891	28233	1.546	25.8	40677	1.387	29.3	46141
			80/67	49.3	42923	29237	1.564	27.4	43709	1.405	31.1	49298
			85/71	49.9	46083	30163	1.587	29.0	46869	1.428	32.8	52561
50	5.2	2.8	75/63	66.9	37585	27277	1.892	19.9	38371	1.671	23.0	45016
			80/67	67.9	40373	28265	1.912	21.1	41159	1.691	24.3	47865
			85/71	69.1	43240	29172	1.935	22.3	44026	1.714	25.7	50882
	7.3	5.5	75/63	62.1	38220	27539	1.802	21.2	39006	1.597	24.4	45332
			80/67	62.9	41076	28532	1.818	22.6	41862	1.613	26.0	48299
			85/71	63.7	44058	29456	1.838	24.0	44844	1.633	27.5	51396
	10.3	11.0	75/63	58.6	38667	27724	1.736	22.3	39453	1.577	25.0	45519
			80/67	59.2	41571	28720	1.750	23.8	42357	1.591	26.6	48568
			85/71	59.8	44642	29659	1.768	25.2	45428	1.609	28.2	51755
60	5.2	2.8	75/63	76.6	36231	26720	2.085	17.4	37017	1.864	19.9	44250
			80/67	77.6	38860	27694	2.104	18.5	39646	1.883	21.1	47006
			85/71	78.7	41650	28622	2.125	19.6	42436	1.904	22.3	49942
	7.3	5.5	75/63	71.9	36883	26988	1.994	18.5	37669	1.789	21.1	44611
			80/67	72.7	39604	27975	2.007	19.7	40390	1.802	22.4	47484
			85/71	73.5	42490	28912	2.024	21.0	43276	1.819	23.8	50474
	10.3	11.0	75/63	68.5	37351	27181	1.929	19.4	38137	1.770	21.5	44820
			80/67	69.0	40134	28175	1.939	20.7	40920	1.780	23.0	47744
			85/71	69.6	43093	29121	1.952	22.1	43879	1.793	24.5	50786
70	5.2	2.8	75/63	86.4	34764	26118	2.295	15.1	35550	2.074	17.1	43538
			80/67	87.4	37297	27107	2.313	16.1	38083	2.092	18.2	46176
			85/71	88.4	39977	28048	2.332	17.1	40763	2.111	19.3	48950
	7.3	5.5	75/63	81.7	35423	26388	2.198	16.1	36209	1.993	18.2	43835
			80/67	82.5	38056	27391	2.211	17.2	38842	2.006	19.4	46619
			85/71	83.3	40849	28347	2.224	18.4	41635	2.019	20.6	49502
	10.3	11.0	75/63	78.4	35900	26583	2.131	16.8	36686	1.972	18.6	44101
			80/67	78.9	38596	27595	2.139	18.0	39382	1.980	19.9	46882
			85/71	79.5	41452	28554	2.149	19.3	42238	1.990	21.2	49816
80	5.2	2.8	75/63	96.1	33206	25482	2.527	13.1	33992	2.306	14.7	42772
			80/67	97.1	35656	26492	2.547	14.0	36442	2.326	15.7	45336
			85/71	98.1	38203	27442	2.567	14.9	38989	2.346	16.6	47978
	7.3	5.5	75/63	91.6	33901	25765	2.423	14.0	34687	2.218	15.6	43081
			80/67	92.3	36429	26781	2.435	15.0	37215	2.230	16.7	45739
			85/71	93.0	39107	27750	2.448	16.0	39892	2.243	17.8	48454
	10.3	11.0	75/63	88.2	34394	25967	2.351	14.6	35180	2.192	16.0	43320
			80/67	88.7	36969	26984	2.358	15.7	37755	2.199	17.2	45989
			85/71	89.3	39732	27965	2.366	16.8	40518	2.207	18.4	48806
85	5.2	2.8	75/63	101.0	32424	25163	2.656	12.2	33210	2.435	13.6	42381
			80/67	101.9	34818	26179	2.675	13.0	35604	2.454	14.5	44928
			85/71	102.8	37336	27147	2.690	13.9	38122	2.469	15.4	47519
	7.3	5.5	75/63	96.4	33117	25445	2.545	13.0	33903	2.340	14.5	42704
			80/67	97.2	35583	26465	2.558	13.9	36369	2.353	15.5	45267
			85/71	97.9	38169	27431	2.571	14.8	38955	2.366	16.5	47950
	10.3	11.0	75/63	93.2	33588	25637	2.471	13.6	34374	2.312	14.9	42930
			80/67	93.7	36129	26669	2.478	14.6	36915	2.319	15.9	45546
			85/71	94.2	38822	27653	2.486	15.6	39608	2.327	17.0	48252
90	5.2	2.8	75/63	105.9	31596	24826	2.795	11.3	32382	2.574	12.6	42013
			80/67	106.8	33938	25851	2.814	12.1	34724	2.593	13.4	44476
			85/71	107.7	36356	26813	2.836	12.8	37142	2.615	14.2	47032
	7.3	5.5	75/63	101.4	32291	25109	2.678	12.1	33077	2.473	13.4	42321
			80/67	102.1	34719	26143	2.690	12.9	35505	2.485	14.3	44841
			85/71	102.8	37268	27124	2.703	13.8	38054	2.498	15.2	47482
	10.3	11.0	75/63	98.1	32788	25312	2.598	12.6	33574	2.439	13.8	42542
			80/67	98.6	35279	26351	2.605	13.5	36065	2.446	14.7	45106
			85/71	99.1	37867	27328	2.614	14.5	38653	2.455	15.7	47819
100	5.2	2.8	75/63	115.7	29887	24130	3.107	9.6	30673	2.886	10.6	41411
			80/67	116.5	32092	25162	3.125	10.3	32878	2.904	11.3	43697
			85/71	117.4	34412	26151	3.147	10.9	35198	2.926	12.0	46135
	7.3	5.5	75/63	111.2	30596	24419	2.973	10.3	31382	2.768	11.3	41637
			80/67	111.9	32897	25463	2.985	11.0	33683	2.780	12.1	44027
			85/71	112.5	35321	26461	2.998	11.8	36107	2.793	12.9	46541
	10.3	11.0	75/63	108.0	31092	24621	2.884	10.8	31878	2.725	11.7	41802
			80/67	108.4	33482	25681	2.890	11.6	34268	2.731	12.5	44269
			85/71	108.9	35954	26676	2.898	12.4	36740	2.739	13.4	46837
110	5.2	2.8	75/63	125.4	28070	23383	3.469	8.1	28856	3.248	8.9	40772
			80/67	126.3	30144	24433	3.489	8.6	30930	3.268	9.5	42977
			85/71	127.2	32338	25444	3.512	9.2	33124	3.291	10.1	45287
	7.3	5.5	75/63	121.1	28804	23686	3.318	8.7	29590	3.113	9.5	41001
			80/67	121.7	30981	24747	3.329	9.3	31767	3.124	10.2	43273
			85/71	122.3	33281	25766	3.343	10.0	34067	3.138	10.9	45659
	10.3	11.0	75/63	117.9	29314	23895	3.216	9.1	30100	3.057	9.8	41172
			80/67	118.3	31560	24963	3.222	9.8	32346	3.063	10.6	43489
			85/71	118.8	33933	25989	3.229	10.5	34719	3.070	11.3	45928

Heating Capacity Data – Unit Size 036

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	5.2	2.8	60	13.6	23950	2.198	3.19	23164	1.977	3.43	16934
			70	13.9	23928	2.439	2.87	23142	2.218	3.06	16082
			80	14.2	23870	2.707	2.58	23084	2.486	2.72	15128
	7.3	5.5	60	15.2	24581	2.208	3.26	23795	2.003	3.48	17550
			70	15.5	24504	2.448	2.93	23718	2.243	3.10	16638
			80	15.8	24395	2.717	2.63	23609	2.512	2.75	15627
	10.3	11.0	60	16.5	25084	2.215	3.32	24298	2.056	3.46	18051
			70	16.7	24952	2.456	2.97	24166	2.297	3.08	17081
			80	16.9	24818	2.725	2.67	24032	2.566	2.74	16025
30	5.2	2.8	60	22.3	27179	2.245	3.54	26393	2.024	3.82	20089
			70	22.7	27027	2.489	3.18	26241	2.268	3.39	19085
			80	23.1	26888	2.763	2.85	26102	2.542	3.01	17997
	7.3	5.5	60	24.3	27972	2.256	3.63	27186	2.051	3.88	20854
			70	24.6	27754	2.500	3.25	26968	2.295	3.44	19790
			80	24.9	27551	2.776	2.91	26765	2.571	3.05	18633
	10.3	11.0	60	25.9	28603	2.265	3.70	27817	2.106	3.87	21470
			70	26.1	28330	2.509	3.31	27544	2.350	3.43	20349
			80	26.3	28071	2.785	2.95	27285	2.626	3.04	19136
40	5.2	2.8	60	31.0	30543	2.292	3.90	29757	2.071	4.21	23534
			70	31.4	30445	2.543	3.51	29659	2.322	3.74	22397
			80	31.9	30187	2.824	3.13	29401	2.603	3.31	21181
	7.3	5.5	60	33.3	31716	2.311	4.02	30930	2.106	4.30	24508
			70	33.6	31353	2.558	3.59	30567	2.353	3.80	23275
			80	34.0	31021	2.839	3.20	30235	2.634	3.36	21970
	10.3	11.0	60	35.1	32330	2.318	4.08	31544	2.159	4.28	25288
			70	35.4	32074	2.570	3.65	31288	2.411	3.80	23974
			80	35.6	31680	2.851	3.25	30894	2.692	3.36	22602
50	5.2	2.8	60	39.5	34588	2.352	4.31	33802	2.131	4.64	27293
			70	40.0	34153	2.604	3.84	33367	2.383	4.10	26000
			80	40.5	33801	2.892	3.42	33015	2.671	3.62	24634
	7.3	5.5	60	42.2	35832	2.371	4.43	35046	2.166	4.74	28490
			70	42.6	35315	2.625	3.94	34529	2.420	4.18	27102
			80	43.0	34846	2.913	3.50	34060	2.708	3.68	25642
	10.3	11.0	60	44.3	36799	2.386	4.52	36013	2.227	4.74	29455
			70	44.6	36206	2.641	4.01	35421	2.482	4.18	27958
			80	44.9	35665	2.929	3.57	34879	2.770	3.69	26414
60	5.2	2.8	60	47.9	38780	2.419	4.69	37994	2.198	5.06	31338
			70	48.5	38270	2.676	4.19	37484	2.455	4.47	29913
			80	49.1	37741	2.972	3.72	36955	2.751	3.93	28387
	7.3	5.5	60	51.0	40293	2.445	4.83	39507	2.240	5.16	32795
			70	51.4	39617	2.701	4.29	38831	2.496	4.56	31248
			80	51.9	39022	3.000	3.81	38236	2.795	4.01	29614
	10.3	11.0	60	53.4	41492	2.466	4.93	40706	2.307	5.17	33956
			70	53.7	40737	2.723	4.38	39951	2.564	4.56	32316
			80	54.1	40028	3.022	3.88	39243	2.863	4.01	30579
70	5.2	2.8	60	56.2	43285	2.498	5.07	42499	2.277	5.47	35662
			70	56.9	42625	2.761	4.52	41839	2.540	4.82	34089
			80	57.5	42011	3.067	4.01	41225	2.846	4.24	32400
	7.3	5.5	60	59.7	45160	2.533	5.22	44374	2.328	5.58	37410
			70	60.2	44306	2.796	4.64	43520	2.591	4.92	35716
			80	60.7	43529	3.100	4.11	42743	2.895	4.32	33877
	10.3	11.0	60	62.4	46554	2.560	5.32	45768	2.401	5.58	38803
			70	62.8	45643	2.824	4.73	44857	2.665	4.93	36966
			80	63.2	44764	3.130	4.19	43978	2.971	4.33	35033
80	5.2	2.8	60	64.4	48136	2.592	5.44	47350	2.371	5.85	40279
			70	65.1	47287	2.861	4.84	46501	2.640	5.16	38506
			80	65.8	46530	3.175	4.29	45744	2.954	4.53	36668
	7.3	5.5	60	68.3	50268	2.636	5.58	49482	2.431	5.96	42331
			70	68.9	49323	2.908	4.97	48537	2.703	5.26	40421
			80	69.4	48367	3.223	4.39	47581	3.018	4.62	38420
	10.3	11.0	60	71.4	52008	2.673	5.70	51222	2.514	5.97	43986
			70	71.8	50885	2.945	5.06	50099	2.786	5.27	41911
			80	72.2	49791	3.261	4.47	49005	3.102	4.63	39743
85	5.2	2.8	60	68.5	50662	2.644	5.61	49876	2.423	6.03	42671
			70	69.2	49765	2.919	4.99	48979	2.698	5.32	40833
			80	70.0	48894	3.237	4.42	48108	3.016	4.67	38868
	7.3	5.5	60	72.6	52970	2.694	5.76	52184	2.489	6.14	44884
			70	73.2	51920	2.971	5.12	51134	2.766	5.41	42872
			80	73.8	50928	3.293	4.53	50142	3.088	4.75	40715
	10.3	11.0	60	75.9	54662	2.732	5.86	53876	2.573	6.13	46663
			70	76.3	53639	3.015	5.21	52853	2.856	5.42	44515
			80	76.8	52443	3.336	4.60	51657	3.177	4.76	42182
90	5.2	2.8	60	72.5	53228	2.700	5.77	52442	2.479	6.19	45107
			70	73.3	52282	2.980	5.14	51496	2.759	5.47	43189
			80	74.1	51305	3.303	4.55	50519	3.082	4.80	41137
	7.3	5.5	60	76.9	55784	2.759	5.92	54998	2.554	6.31	47518
			70	77.5	54583	3.039	5.26	53797	2.834	5.56	45375
			80	78.1	53477	3.366	4.65	52691	3.161	4.88	43122
	10.3	11.0	60	80.3	57767	2.807	6.03	56981	2.648	6.30	49391
			70	80.8	56454	3.090	5.35	55668	2.931	5.56	47140
			80	81.3	55143	3.416	4.73	54357	3.257	4.89	44666

Cooling Capacity Data – Unit Size 042

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			EA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	6.0	3.9	75/63	48.0	47214	33829	1.725	27.4	47907	1.537	31.2	53813
			80/67	49.2	50673	34943	1.761	28.8	51365	1.573	32.7	57430
			85/71	50.5	54226	35946	1.800	30.1	54918	1.612	34.1	61159
	8.5	7.8	75/63	42.7	47715	34044	1.605	29.7	48407	1.444	33.5	53904
			80/67	43.6	51262	35175	1.637	31.3	51954	1.476	35.2	57620
			85/71	44.5	54934	36202	1.671	32.9	55626	1.510	36.8	61448
	12.1	15.9	75/63	38.9	48022	34177	1.519	31.6	48714	1.437	33.9	53922
			80/67	39.6	51628	35320	1.549	33.3	52321	1.467	35.7	57704
			85/71	40.2	55378	36364	1.581	35.0	56070	1.499	37.4	61597
40	6.0	3.9	75/63	57.9	46071	33340	1.960	23.5	46763	1.772	26.4	53437
			80/67	59.1	49359	34425	1.991	24.8	50051	1.803	27.8	56871
			85/71	60.3	52810	35437	2.025	26.1	53503	1.837	29.1	60496
	8.5	7.8	75/63	52.7	46651	33588	1.845	25.3	47343	1.684	28.1	53651
			80/67	53.5	50053	34698	1.872	26.7	50746	1.711	29.7	57197
			85/71	54.4	53614	35727	1.901	28.2	54306	1.740	31.2	60903
	12.1	15.9	75/63	48.9	47037	33754	1.765	26.6	47729	1.683	28.4	53769
			80/67	49.5	50536	34889	1.788	28.3	51228	1.706	30.0	57379
			85/71	50.2	54140	35916	1.815	29.8	54832	1.733	31.6	61132
50	6.0	3.9	75/63	67.8	44677	32746	2.199	20.3	45369	2.011	22.6	52882
			80/67	68.9	47866	33841	2.226	21.5	48559	2.038	23.8	56153
			85/71	70.1	51199	34861	2.257	22.7	51891	2.069	25.1	59640
	8.5	7.8	75/63	62.6	45360	33036	2.084	21.8	46052	1.923	23.9	53188
			80/67	63.4	48645	34145	2.106	23.1	49337	1.945	25.4	56545
			85/71	64.3	52087	35178	2.131	24.4	52780	1.970	26.8	60128
	12.1	15.9	75/63	58.9	45822	33234	2.005	22.9	46514	1.923	24.2	53354
			80/67	59.5	49161	34348	2.024	24.3	49853	1.942	25.7	56790
			85/71	60.1	52668	35386	2.047	25.7	53361	1.965	27.2	60438
60	6.0	3.9	75/63	77.6	43133	32092	2.448	17.6	43825	2.260	19.4	52113
			80/67	78.7	46205	33196	2.473	18.7	46897	2.285	20.5	55327
			85/71	79.8	49413	34226	2.503	19.7	50105	2.315	21.6	58662
	8.5	7.8	75/63	72.5	43881	32409	2.329	18.8	44574	2.168	20.6	52484
			80/67	73.2	47044	33521	2.349	20.0	47736	2.188	21.8	55716
			85/71	74.1	50363	34564	2.373	21.2	51056	2.212	23.1	59199
	12.1	15.9	75/63	68.8	44364	32613	2.248	19.7	45056	2.166	20.8	52695
			80/67	69.4	47606	33740	2.265	21.0	48299	2.183	22.1	56018
			85/71	69.9	50997	34789	2.285	22.3	51689	2.203	23.5	59557
70	6.0	3.9	75/63	87.3	41467	31392	2.716	15.3	42159	2.528	16.7	51301
			80/67	88.4	44389	32495	2.742	16.2	45082	2.554	17.7	54398
			85/71	89.5	47476	33544	2.771	17.1	48169	2.583	18.6	57611
	8.5	7.8	75/63	82.3	42249	31720	2.589	16.3	42941	2.428	17.7	51685
			80/67	83.1	45285	32840	2.609	17.4	45977	2.448	18.8	54866
			85/71	83.9	48483	33899	2.631	18.4	49175	2.470	19.9	58179
	12.1	15.9	75/63	78.7	42770	31940	2.505	17.1	43462	2.423	17.9	51944
			80/67	79.2	45881	33070	2.520	18.2	46573	2.438	19.1	55112
			85/71	79.8	49153	34135	2.539	19.4	49845	2.457	20.3	58560
80	6.0	3.9	75/63	97.1	39620	30621	3.012	13.2	40312	2.824	14.3	50446
			80/67	98.1	42458	31756	3.040	14.0	43150	2.852	15.1	53452
			85/71	99.1	45380	32810	3.070	14.8	46073	2.882	16.0	56546
	8.5	7.8	75/63	92.1	40449	30966	2.875	14.1	41142	2.714	15.2	50825
			80/67	92.9	43388	32111	2.895	15.0	44080	2.734	16.1	53919
			85/71	93.6	46465	33189	2.917	15.9	47157	2.756	17.1	57114
	12.1	15.9	75/63	88.6	41006	31200	2.785	14.7	41698	2.703	15.4	51096
			80/67	89.1	44011	32350	2.800	15.7	44704	2.718	16.4	54239
			85/71	89.6	47159	33432	2.816	16.7	47852	2.734	17.5	57435
85	6.0	3.9	75/63	99.1	39320	30495	3.063	12.8	40012	2.875	13.9	50398
			80/67	102.9	41426	31361	3.204	12.9	42118	3.016	14.0	52987
			85/71	104.0	44307	32436	3.233	13.7	44999	3.045	14.8	56022
	8.5	7.8	75/63	97.1	39518	30578	3.031	13.0	40210	2.870	14.0	50457
			80/67	97.8	42393	31730	3.050	13.9	43085	2.889	14.9	53443
			85/71	98.5	45406	32819	3.072	14.8	46098	2.911	15.8	56507
	12.1	15.9	75/63	93.5	40083	30814	2.935	13.7	40775	2.853	14.3	50663
			80/67	94.0	43027	31973	2.950	14.6	43720	2.868	15.2	53708
			85/71	94.5	46114	33067	2.967	15.5	46807	2.885	16.2	56876
90	6.0	3.9	75/63	106.8	37690	29819	3.349	11.3	38383	3.161	12.1	49632
			80/67	107.8	40406	30973	3.378	12.0	41098	3.190	12.9	52478
			85/71	108.8	43192	32049	3.409	12.7	43884	3.221	13.6	55430
	8.5	7.8	75/63	101.9	38552	30176	3.195	12.1	39245	3.034	12.9	49971
			80/67	102.7	41370	31340	3.215	12.9	42063	3.054	13.8	52915
			85/71	103.4	44279	32426	3.238	13.7	44971	3.077	14.6	55992
	12.1	15.9	75/63	98.4	39132	30417	3.096	12.6	39825	3.014	13.2	50288
			80/67	98.9	42026	31590	3.110	13.5	42719	3.028	14.1	53220
			85/71	99.5	45002	32679	3.127	14.4	45694	3.045	15.0	56317
100	6.0	3.9	75/63	116.6	35662	28979	3.735	9.5	36355	3.547	10.2	48879
			80/67	117.5	38214	30143	3.764	10.2	38907	3.576	10.9	51580
			85/71	118.5	40880	31248	3.796	10.8	41572	3.608	11.5	54390
	8.5	7.8	75/63	111.8	36551	29347	3.562	10.3	37243	3.401	11.0	49201
			80/67	112.5	39244	30533	3.582	11.0	39936	3.421	11.7	51981
			85/71	113.1	42002	31636	3.604	11.7	42694	3.443	12.4	54879
	12.1	15.9	75/63	108.3	37147	29593	3.449	10.8	37839	3.367	11.2	49430
			80/67	108.8	39910	30785	3.463	11.5	40602	3.381	12.0	52263
			85/71	109.3	42748	31895	3.480	12.3	43441	3.398	12.8	55220
110	6.0	3.9	75/63	126.4	33509	28090	4.182	8.0	34201	3.994	8.6	48194
			80/67	127.3	35915	29272	4.210	8.5	36608	4.022	9.1	50748
			85/71	128.2	38419	30400	4.245	9.1	39112	4.057	9.6	53401
	8.5	7.8	75/63	121.6	34436	28473	3.984	8.6	35128	3.823	9.2	48461
			80/67	122.3	36961	29668	4.003	9.2	37654	3.842	9.8	51110
			85/71	122.9	39592	30804	4.027	9.8	40285	3.866	10.4	53856
	12.1	15.9	75/63	118.2	35062	28732	3.856	9.1	35755	3.774	9.5	48675
			80/67	118.7	37656	29932	3.869	9.7	38348	3.787	10.1	51365
			85/71	119.1	40369	31072	3.887	10.4	41061	3.805	10.8	54172

Heating Capacity Data – Unit Size 042

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	6.0	3.9	60	13.1	27410	2.442	3.29	26717	2.254	3.47	19933
			70	13.5	27343	2.719	2.94	26651	2.531	3.08	18945
			80	13.8	27252	3.027	2.64	26560	2.839	2.74	17875
	8.5	7.8	60	15.0	28212	2.455	3.36	27520	2.294	3.51	20711
			70	15.2	28070	2.732	3.01	27378	2.571	3.12	19663
			80	15.5	27937	3.042	2.69	27245	2.881	2.77	18509
	12.1	15.9	60	16.4	28859	2.466	3.43	28167	2.384	3.46	21321
			70	16.5	28618	2.742	3.06	27926	2.660	3.07	20217
			80	16.7	28428	3.052	2.73	27736	2.970	2.73	18998
30	6.0	3.9	60	21.8	31353	2.506	3.66	30661	2.318	3.87	23774
			70	22.2	31131	2.789	3.27	30438	2.601	3.43	22602
			80	22.6	30942	3.106	2.92	30249	2.918	3.04	21363
	8.5	7.8	60	23.9	32192	2.519	3.74	31500	2.358	3.91	24773
			70	24.3	32067	2.806	3.35	31374	2.645	3.47	23504
			80	24.6	31793	3.123	2.98	31101	2.962	3.07	22178
	12.1	15.9	60	25.6	33179	2.536	3.83	32487	2.454	3.88	25543
			70	25.8	32801	2.819	3.41	32108	2.737	3.43	24220
			80	26.1	32431	3.137	3.03	31739	3.055	3.04	22813
40	6.0	3.9	60	30.3	35662	2.577	4.05	34970	2.389	4.29	27943
			70	30.8	35284	2.865	3.61	34592	2.677	3.78	26620
			80	31.2	34947	3.190	3.21	34255	3.002	3.34	25192
	8.5	7.8	60	32.8	36939	2.598	4.16	36247	2.437	4.36	29184
			70	33.2	36461	2.887	3.70	35769	2.726	3.84	27742
			80	33.6	36029	3.213	3.28	35336	3.052	3.39	26223
	12.1	15.9	60	34.8	37947	2.613	4.25	37254	2.531	4.31	30168
			70	35.1	37383	2.904	3.77	36691	2.822	3.81	28628
			80	35.3	36867	3.231	3.34	36174	3.149	3.36	27022
50	6.0	3.9	60	38.7	40313	2.653	4.45	39621	2.465	4.71	32449
			70	39.2	39792	2.950	3.95	39100	2.762	4.15	30933
			80	39.8	39299	3.284	3.50	38607	3.096	3.65	29343
	8.5	7.8	60	41.6	41905	2.681	4.58	41213	2.520	4.79	33984
			70	42.0	41244	2.979	4.05	40552	2.818	4.21	32355
			80	42.5	40634	3.314	3.59	39942	3.153	3.71	30609
	12.1	15.9	60	43.9	43137	2.702	4.67	42444	2.620	4.74	35185
			70	44.2	42381	2.999	4.14	41689	2.917	4.18	33435
			80	44.5	41669	3.337	3.66	40976	3.255	3.69	31594
60	6.0	3.9	60	47.0	45291	2.741	4.84	44598	2.553	5.12	37262
			70	47.6	44610	3.044	4.29	43917	2.856	4.50	35556
			80	48.2	43959	3.390	3.80	43267	3.202	3.96	33763
	8.5	7.8	60	50.4	47233	2.777	4.98	46541	2.616	5.21	39107
			70	50.8	46388	3.080	4.41	45695	2.919	4.58	37261
			80	51.3	45580	3.428	3.89	44888	3.267	4.02	35309
	12.1	15.9	60	53.0	48721	2.804	5.09	48028	2.722	5.17	40574
			70	53.3	47756	3.109	4.50	47063	3.027	4.55	38598
			80	53.7	46836	3.455	3.97	46144	3.373	4.01	36497
70	6.0	3.9	60	55.2	50591	2.840	5.22	49898	2.652	5.51	42320
			70	55.9	49778	3.152	4.62	49086	2.964	4.85	40419
			80	56.6	48887	3.504	4.09	48194	3.316	4.26	38437
	8.5	7.8	60	59.0	52871	2.885	5.37	52179	2.724	5.61	44510
			70	59.5	51810	3.196	4.75	51117	3.035	4.93	42436
			80	60.1	50834	3.553	4.19	50141	3.392	4.33	40258
	12.1	15.9	60	62.0	54656	2.920	5.48	53963	2.838	5.57	46235
			70	62.4	53469	3.234	4.84	52777	3.152	4.90	44009
			80	62.8	52320	3.590	4.27	51628	3.508	4.31	41678
80	6.0	3.9	60	63.3	56121	2.950	5.57	55428	2.762	5.88	47607
			70	64.0	55061	3.270	4.93	54369	3.082	5.17	45506
			80	64.8	54075	3.636	4.35	53382	3.448	4.53	43291
	8.5	7.8	60	67.6	58808	3.007	5.73	58116	2.846	5.98	50184
			70	68.2	57553	3.329	5.06	56860	3.168	5.26	47843
			80	68.8	56320	3.696	4.46	55627	3.535	4.61	45397
	12.1	15.9	60	70.9	60857	3.051	5.84	60165	2.969	5.93	52152
			70	71.4	59465	3.375	5.16	58772	3.293	5.23	49655
			80	71.8	58059	3.743	4.54	57367	3.661	4.59	47034
85	6.0	3.9	60	67.3	58960	3.010	5.74	58268	2.822	6.05	50315
			70	68.1	57842	3.336	5.08	57149	3.148	5.32	48109
			80	68.9	56709	3.706	4.48	56016	3.518	4.66	45767
	8.5	7.8	60	71.8	61856	3.074	5.89	61163	2.913	6.15	53102
			70	72.5	60500	3.401	5.21	59808	3.240	5.41	50647
			80	73.1	59143	3.773	4.59	58451	3.612	4.74	48026
	12.1	15.9	60	75.4	64077	3.124	6.01	63384	3.042	6.10	55189
			70	75.9	62511	3.452	5.30	61819	3.370	5.37	52545
			80	76.3	61003	3.826	4.67	60311	3.744	4.72	49764
90	6.0	3.9	60	71.4	61903	3.075	5.89	61210	2.887	6.21	53060
			70	72.2	60637	3.404	5.22	59944	3.216	5.46	50742
			80	73.0	59422	3.781	4.60	58729	3.593	4.79	48276
	8.5	7.8	60	76.1	64963	3.144	6.05	64271	2.983	6.31	56007
			70	76.8	63529	3.478	5.35	62836	3.317	5.55	53389
			80	77.4	62002	3.854	4.71	61309	3.693	4.86	50680
	12.1	15.9	60	79.8	67162	3.195	6.16	66469	3.113	6.25	58276
			70	80.3	65670	3.534	5.44	64978	3.452	5.51	55469
			80	80.8	63950	3.911	4.79	63258	3.829	4.84	52523

Cooling Capacity Data – Unit Size 048

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			FA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	6.9	5.2	75/63	48.2	53587	38432	2.199	24.4	54550	1.940	28.1	62152
			80/67	49.4	57475	39667	2.242	25.6	58437	1.983	29.5	66262
			85/71	50.6	61474	40782	2.287	26.9	62437	2.028	30.8	70458
	9.8	10.4	75/63	42.8	54266	38727	2.069	26.2	55229	1.851	29.8	62386
			80/67	43.7	58303	39997	2.109	27.6	59265	1.891	31.3	66630
			85/71	44.6	62434	41132	2.150	29.0	63396	1.932	32.8	70985
	13.8	20.6	75/63	39.1	54690	38911	1.980	27.6	55652	1.877	29.7	62519
			80/67	39.8	58765	40183	2.019	29.1	59728	1.916	31.2	66875
			85/71	40.4	63041	41355	2.058	30.6	64004	1.955	32.7	71301
40	6.9	5.2	75/63	58.0	52092	37786	2.452	21.2	53054	2.193	24.2	61484
			80/67	59.2	55820	39011	2.491	22.4	56782	2.232	25.4	65406
			85/71	60.4	59644	40119	2.531	23.6	60606	2.272	26.7	69430
	9.8	10.4	75/63	52.8	52816	38098	2.330	22.7	53778	2.112	25.5	61846
			80/67	53.6	56661	39344	2.365	24.0	57624	2.147	26.8	65868
			85/71	54.5	60645	40481	2.400	25.3	61608	2.182	28.2	70089
	13.8	20.6	75/63	49.1	53314	38314	2.248	23.7	54276	2.145	25.3	62052
			80/67	49.7	57229	39569	2.280	25.1	58191	2.177	26.7	66146
			85/71	50.3	61287	40714	2.313	26.5	62249	2.210	28.2	70382
50	6.9	5.2	75/63	67.9	50524	37113	2.707	18.7	51486	2.448	21.0	60688
			80/67	68.9	54031	38306	2.743	19.7	54994	2.484	22.1	64401
			85/71	70.1	57675	39409	2.780	20.7	58637	2.521	23.3	68234
	9.8	10.4	75/63	62.6	51293	37443	2.586	19.8	52255	2.368	22.1	61078
			80/67	63.4	54942	38664	2.617	21.0	55904	2.399	23.3	64912
			85/71	64.3	58709	39781	2.649	22.2	59671	2.431	24.5	68868
	13.8	20.6	75/63	59.0	51734	37632	2.507	20.6	52696	2.404	21.9	61323
			80/67	59.6	55512	38889	2.535	21.9	56474	2.432	23.2	65239
			85/71	60.2	59385	40025	2.564	23.2	60347	2.461	24.5	69288
60	6.9	5.2	75/63	77.6	48692	36332	2.977	16.4	49654	2.718	18.3	59795
			80/67	78.7	52061	37535	3.010	17.3	53024	2.751	19.3	63307
			85/71	79.8	55592	38664	3.045	18.3	56555	2.786	20.3	67034
	9.8	10.4	75/63	72.5	49509	36680	2.850	17.4	50472	2.632	19.2	60206
			80/67	73.2	53031	37914	2.878	18.4	53993	2.660	20.3	63790
			85/71	74.0	56659	39046	2.909	19.5	57622	2.691	21.4	67674
	13.8	20.6	75/63	68.9	50117	36939	2.769	18.1	51079	2.666	19.2	60448
			80/67	69.5	53584	38130	2.794	19.2	54547	2.691	20.3	64196
			85/71	70.0	57350	39293	2.821	20.3	58313	2.718	21.5	68089
70	6.9	5.2	75/63	87.4	46793	35528	3.269	14.3	47755	3.010	15.9	58845
			80/67	88.4	50043	36751	3.303	15.2	51006	3.044	16.8	62243
			85/71	89.4	53385	37881	3.339	16.0	54348	3.080	17.6	65779
	9.8	10.4	75/63	82.3	47653	35892	3.134	15.2	48616	2.916	16.7	59305
			80/67	83.0	51015	37127	3.160	16.1	51977	2.942	17.7	62716
			85/71	83.8	54491	38273	3.190	17.1	55453	2.972	18.7	66414
	13.8	20.6	75/63	78.8	48213	36128	3.047	15.8	49175	2.944	16.7	59518
			80/67	79.3	51637	37370	3.071	16.8	52599	2.968	17.7	63066
			85/71	79.9	55198	38524	3.097	17.8	56161	2.994	18.8	66828
80	6.9	5.2	75/63	97.1	44741	34663	3.603	12.4	45703	3.344	13.7	57862
			80/67	98.0	47909	35926	3.635	13.2	48871	3.376	14.5	61196
			85/71	99.0	51060	37061	3.670	13.9	52022	3.411	15.3	64526
	9.8	10.4	75/63	92.1	45695	35065	3.451	13.2	46658	3.233	14.4	58281
			80/67	92.8	48873	36297	3.477	14.1	49836	3.259	15.3	61655
			85/71	93.6	52141	37441	3.505	14.9	53103	3.287	16.2	65167
	13.8	20.6	75/63	88.7	46266	35305	3.356	13.8	47228	3.253	14.5	58560
			80/67	89.2	49554	36561	3.377	14.7	50517	3.274	15.4	61920
			85/71	89.7	52936	37722	3.402	15.6	53899	3.299	16.3	65565
85	6.9	5.2	75/63	102.0	43703	34228	3.789	11.5	44665	3.530	12.7	57403
			80/67	103.0	46728	35471	3.823	12.2	47691	3.564	13.4	60645
			85/71	103.9	49891	36650	3.858	12.9	50853	3.599	14.1	63958
	9.8	10.4	75/63	97.0	44655	34627	3.626	12.3	45618	3.408	13.4	57813
			80/67	97.7	47798	35883	3.652	13.1	48761	3.434	14.2	61098
			85/71	98.4	51008	37043	3.677	13.9	51970	3.459	15.0	64471
	13.8	20.6	75/63	93.6	45247	34876	3.525	12.8	46210	3.422	13.5	58076
			80/67	94.1	48430	36126	3.546	13.7	49393	3.443	14.3	61403
			85/71	94.6	51706	37288	3.571	14.5	52668	3.468	15.2	64947
90	6.9	5.2	75/63	106.9	42616	33773	3.989	10.7	43578	3.730	11.7	56962
			80/67	107.8	45567	35027	4.024	11.3	46529	3.765	12.4	60159
			85/71	108.8	48661	36220	4.060	12.0	49623	3.801	13.1	63417
	9.8	10.4	75/63	102.0	43557	34167	3.815	11.4	44519	3.597	12.4	57342
			80/67	102.6	46623	35431	3.841	12.1	47586	3.623	13.1	60618
			85/71	103.3	49830	36628	3.868	12.9	50792	3.650	13.9	63978
	13.8	20.6	75/63	98.5	44160	34420	3.707	11.9	45122	3.604	12.5	57601
			80/67	99.0	47298	35691	3.729	12.7	48261	3.626	13.3	60935
			85/71	98.0	51020	37047	3.676	13.9	51982	3.573	14.5	64713
100	6.9	5.2	75/63	116.7	40355	32829	4.444	9.1	41318	4.185	9.9	56156
			80/67	117.6	43154	34104	4.478	9.6	44117	4.219	10.5	59207
			85/71	118.5	46104	35327	4.513	10.2	47066	4.254	11.1	62303
	9.8	10.4	75/63	111.8	41331	33237	4.242	9.7	42294	4.024	10.5	56486
			80/67	112.5	44246	34521	4.266	10.4	45208	4.048	11.2	59601
			85/71	113.1	47287	35739	4.292	11.0	48249	4.074	11.8	62788
	13.8	20.6	75/63	108.4	41956	33497	4.117	10.2	42918	4.014	10.7	56715
			80/67	108.9	44941	34787	4.137	10.9	45903	4.034	11.4	59870
			85/71	109.4	48091	36020	4.158	11.6	49054	4.055	12.1	63113
110	6.9	5.2	75/63	126.5	37949	31826	4.984	7.6	38912	4.725	8.2	55551
			80/67	127.4	40617	33135	5.016	8.1	41579	4.757	8.7	58392
			85/71	128.2	43386	34381	5.050	8.6	44349	4.791	9.3	61324
	9.8	10.4	75/63	121.7	38976	32255	4.747	8.2	39939	4.529	8.8	55808
			80/67	122.3	41738	33563	4.769	8.8	42700	4.551	9.4	58742
			85/71	122.9	44655	34823	4.794	9.3	45618	4.576	10.0	61764
	13.8	20.6	75/63	118.3	39630	32526	4.602	8.6	40592	4.499	9.0	55989
			80/67	118.8	42467	33841	4.618	9.2	43430	4.515	9.6	58971
			85/71	119.2	45452	35100	4.638	9.8	46415	4.535	10.2	62052

Heating Capacity Data – Unit Size 048

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	6.9	5.2	60	13.0	31949	2.966	3.15	30987	2.707	3.35	22955
			70	13.4	31904	3.307	2.82	30942	3.048	2.97	21793
			80	13.8	31802	3.702	2.52	30840	3.443	2.62	20436
	9.8	10.4	60	14.9	32875	2.980	3.23	31913	2.762	3.38	23856
			70	15.2	32748	3.321	2.89	31785	3.103	3.00	22612
			80	15.5	32590	3.716	2.57	31628	3.498	2.65	21173
	13.8	20.6	60	16.3	33582	2.992	3.29	32619	2.889	3.31	24541
			70	16.5	33347	3.331	2.93	32384	3.228	2.94	23230
			80	16.7	33129	3.725	2.60	32167	3.622	2.60	21742
30	6.9	5.2	60	21.7	36363	3.039	3.50	35401	2.780	3.73	27250
			70	22.1	36142	3.381	3.13	35179	3.122	3.30	25896
			80	22.6	35935	3.779	2.78	34972	3.520	2.91	24391
	9.8	10.4	60	23.9	37526	3.056	3.60	36564	2.838	3.77	28374
			70	24.2	37212	3.401	3.20	36249	3.183	3.33	26927
			80	24.6	36911	3.799	2.84	35949	3.581	2.94	25326
	13.8	20.6	60	25.5	38414	3.072	3.66	37452	2.969	3.69	29225
			70	25.8	38017	3.416	3.26	37055	3.313	3.28	27700
			80	26.0	37638	3.815	2.89	36676	3.712	2.89	26037
40	6.9	5.2	60	30.3	41172	3.123	3.86	40210	2.864	4.11	31863
			70	30.7	40774	3.470	3.44	39812	3.211	3.63	30354
			80	31.2	40417	3.874	3.05	39455	3.615	3.20	28696
	9.8	10.4	60	32.8	42401	3.144	3.95	41438	2.926	4.15	33309
			70	33.2	42107	3.494	3.53	41144	3.276	3.68	31634
			80	33.6	41637	3.900	3.13	40675	3.682	3.23	29838
	13.8	20.6	60	34.7	43738	3.171	4.04	42775	3.068	4.08	34332
			70	35.0	43105	3.514	3.59	42142	3.411	3.62	32592
			80	35.3	42550	3.921	3.18	41587	3.818	3.19	30706
50	6.9	5.2	60	38.7	46348	3.221	4.21	45386	2.962	4.49	36847
			70	39.2	45753	3.570	3.75	44791	3.311	3.96	35133
			80	39.8	45263	3.983	3.33	44301	3.724	3.48	33286
	9.8	10.4	60	41.7	48109	3.255	4.33	47147	3.037	4.55	38566
			70	42.1	47406	3.605	3.85	46443	3.387	4.01	36709
			80	42.5	46763	4.015	3.41	45800	3.797	3.53	34737
	13.8	20.6	60	43.9	49434	3.281	4.41	48472	3.178	4.47	39865
			70	44.2	48623	3.631	3.92	47660	3.528	3.96	37893
			80	40.2	49434	4.006	3.61	48472	3.903	3.64	39865
60	6.9	5.2	60	47.1	51909	3.330	4.56	50946	3.071	4.86	42127
			70	47.6	51124	3.686	4.06	50161	3.427	4.29	40232
			80	48.3	50434	4.103	3.60	49472	3.844	3.77	38185
	9.8	10.4	60	50.4	54006	3.372	4.69	53044	3.154	4.92	44177
			70	50.9	53086	3.729	4.17	52123	3.511	4.35	42094
			80	51.4	52250	4.148	3.69	51287	3.930	3.82	39900
	13.8	20.6	60	53.0	55592	3.404	4.78	54629	3.301	4.85	45724
			70	53.3	54547	3.762	4.25	53585	3.659	4.29	43509
			80	53.7	53592	4.182	3.75	52629	4.079	3.78	41185
70	6.9	5.2	60	55.3	57688	3.447	4.90	56725	3.188	5.21	47705
			70	56.0	56779	3.813	4.36	55817	3.554	4.60	45572
			80	56.7	55898	4.240	3.86	54936	3.981	4.04	43337
	9.8	10.4	60	59.1	60227	3.499	5.04	59265	3.281	5.29	50116
			70	59.6	59082	3.866	4.47	58120	3.648	4.66	47787
			80	60.2	58017	4.295	3.96	57055	4.077	4.10	45344
	13.8	20.6	60	62.0	62111	3.538	5.14	61148	3.435	5.21	51930
			70	62.4	60836	3.907	4.56	59873	3.804	4.61	49452
			80	62.8	59644	4.337	4.03	58682	4.234	4.06	46857
80	6.9	5.2	60	63.5	63797	3.574	5.23	62835	3.315	5.55	53525
			70	64.2	62642	3.948	4.65	61679	3.689	4.90	51173
			80	65.0	61625	4.389	4.11	60662	4.130	4.30	48695
	9.8	10.4	60	67.7	66498	3.629	5.37	65536	3.411	5.63	56381
			70	68.3	65390	4.014	4.77	64427	3.796	4.97	53739
			80	68.9	64110	4.455	4.21	63147	4.237	4.36	51022
	13.8	20.6	60	71.0	68918	3.682	5.48	67955	3.579	5.56	58463
			70	71.4	67385	4.061	4.86	66423	3.958	4.91	55662
			80	71.9	65964	4.505	4.29	65002	4.402	4.32	52761
85	6.9	5.2	60	67.5	66710	3.633	5.38	65747	3.374	5.71	56546
			70	68.3	65715	4.021	4.79	64753	3.762	5.04	54044
			80	69.1	64537	4.466	4.23	63575	4.207	4.43	51440
	9.8	10.4	60	72.1	70072	3.707	5.53	69110	3.489	5.80	59531
			70	72.6	68578	4.090	4.91	67615	3.872	5.11	56809
			80	73.3	67216	4.538	4.34	66254	4.320	4.49	53927
	13.8	20.6	60	75.4	72211	3.750	5.64	71248	3.647	5.72	61846
			70	75.9	70779	4.143	5.00	69816	4.040	5.06	58849
			80	76.4	69160	4.591	4.41	68197	4.488	4.45	55778
90	6.9	5.2	60	71.6	70165	3.709	5.54	69203	3.450	5.87	59538
			70	72.4	68792	4.095	4.92	67830	3.836	5.18	56953
			80	73.2	67538	4.547	4.35	66575	4.288	4.55	54218
	9.8	10.4	60	76.3	73492	3.780	5.69	72530	3.562	5.96	62771
			70	77.0	71925	4.171	5.05	70963	3.953	5.26	59867
			80	77.6	70335	4.623	4.45	69372	4.405	4.61	56878
	13.8	20.6	60	79.9	75978	3.834	5.80	75015	3.731	5.89	65199
			70	80.4	74215	4.227	5.14	73252	4.124	5.20	62078
			80	80.9	72440	4.680	4.53	71477	4.577	4.57	58826

Cooling Capacity Data – Unit Size 060

EWT	GPM	WPD	System Cooling						ISO System Cooling			
			FA	LWT	TOT	SEN	kW	EER	TOT	kW	EER	THR
30	10.3	8.5	75/63	48.7	75482	57481	4.013	18.8	76926	3.645	21.1	89991
			80/67	49.9	81044	59357	4.085	19.8	82487	3.717	22.2	95891
			85/71	51.2	86898	61099	4.157	20.9	88342	3.789	23.3	102057
	14.6	17.1	75/63	43.2	76183	57801	3.926	19.4	77627	3.660	21.2	90421
			80/67	44.1	81898	59717	3.999	20.5	83342	3.733	22.3	96473
			85/71	45.1	87889	61482	4.073	21.6	89333	3.807	23.5	102821
	20.7	34.3	75/63	39.4	76650	58016	3.871	19.8	78094	3.894	20.1	90735
			80/67	40.0	82479	59962	3.946	20.9	83923	3.969	21.1	96880
			85/71	40.7	88564	61742	4.022	22.0	90008	4.045	22.3	103359
40	10.3	8.5	75/63	58.5	73959	56785	4.217	17.5	75403	3.849	19.6	89074
			80/67	59.7	79336	58640	4.276	18.6	80779	3.908	20.7	94799
			85/71	61.0	84998	60370	4.338	19.6	86442	3.970	21.8	100736
	14.6	17.1	75/63	53.1	74748	57144	4.109	18.2	76192	3.843	19.8	89568
			80/67	54.0	80258	59026	4.169	19.3	81701	3.903	20.9	95382
			85/71	54.9	86124	60802	4.230	20.4	87568	3.964	22.1	101481
	20.7	34.3	75/63	49.3	75267	57382	4.041	18.6	76710	4.064	18.9	89897
			80/67	49.9	80887	59290	4.101	19.7	82331	4.124	20.0	95854
			85/71	50.6	86848	61080	4.162	20.9	88292	4.185	21.1	102012
50	10.3	8.5	75/63	68.4	72283	56023	4.466	16.2	73727	4.098	18.0	88134
			80/67	69.6	77442	57849	4.519	17.1	78886	4.151	19.0	93694
			85/71	70.8	82965	59595	4.573	18.1	84409	4.205	20.1	99398
	14.6	17.1	75/63	63.0	73112	56399	4.341	16.8	74555	4.075	18.3	88647
			80/67	63.9	78448	58269	4.389	17.9	79891	4.123	19.4	94243
			85/71	64.7	84087	60021	4.440	18.9	85530	4.174	20.5	100146
	20.7	34.3	75/63	59.2	73671	56654	4.259	17.3	75115	4.282	17.5	88974
			80/67	59.8	79112	58546	4.305	18.4	80556	4.328	18.6	94582
			85/71	60.4	84847	60312	4.354	19.5	86291	4.377	19.7	100630
60	10.3	8.5	75/63	78.2	70406	55174	4.773	14.8	71849	4.405	16.3	87251
			80/67	79.4	75451	57023	4.820	15.7	76894	4.452	17.3	92542
			85/71	80.5	80758	58756	4.870	16.6	82201	4.502	18.3	98165
	14.6	17.1	75/63	72.9	71281	55569	4.625	15.4	72725	4.359	16.7	87633
			80/67	73.7	76453	57439	4.666	16.4	77897	4.400	17.7	93129
			85/71	74.6	81922	59197	4.708	17.4	83365	4.442	18.8	98764
	20.7	34.3	75/63	69.1	71878	55839	4.529	15.9	73321	4.552	16.1	87936
			80/67	69.7	77152	57729	4.566	16.9	78596	4.589	17.1	93516
			85/71	70.3	82717	59500	4.605	18.0	84160	4.628	18.2	99255
70	10.3	8.5	75/63	88.1	68398	54270	5.141	13.3	69841	4.773	14.6	86309
			80/67	89.2	73246	56113	5.185	14.1	74689	4.817	15.5	91454
			85/71	90.3	78336	57842	5.234	15.0	79780	4.866	16.4	96885
	14.6	17.1	75/63	82.8	69278	54666	4.970	13.9	70721	4.704	15.0	86707
			80/67	83.6	74303	56548	5.005	14.8	75747	4.739	16.0	91959
			85/71	84.4	79591	58315	5.043	15.8	81035	4.777	17.0	97525
	20.7	34.3	75/63	79.1	69905	54948	4.859	14.4	71349	4.882	14.6	86989
			80/67	79.6	75019	56844	4.888	15.3	76462	4.911	15.6	92321
			85/71	80.2	80412	58625	4.920	16.3	81855	4.943	16.6	97984
80	10.3	8.5	75/63	97.9	66168	53273	5.576	11.9	67612	5.208	13.0	85454
			80/67	99.0	70940	55166	5.621	12.6	72384	5.253	13.8	90419
			85/71	100.1	75887	56923	5.669	13.4	77331	5.301	14.6	95685
	14.6	17.1	75/63	92.7	67141	53708	5.380	12.5	68585	5.114	13.4	85813
			80/67	93.5	72016	55607	5.413	13.3	73460	5.147	14.3	90879
			85/71	94.3	77097	57377	5.449	14.1	78541	5.183	15.2	96266
	20.7	34.3	75/63	89.0	67801	54003	5.253	12.9	69245	5.276	13.1	86071
			80/67	89.5	72745	55906	5.278	13.8	74189	5.301	14.0	91211
			85/71	90.1	77920	57686	5.305	14.7	79364	5.328	14.9	96687
85	10.3	8.5	75/63	102.9	65019	52761	5.820	11.2	66462	5.452	12.2	85050
			80/67	103.9	69660	54642	5.867	11.9	71104	5.499	12.9	89941
			85/71	105.0	74611	56447	5.917	12.6	76055	5.549	13.7	95123
	14.6	17.1	75/63	97.7	65990	53194	5.612	11.8	67434	5.346	12.6	85391
			80/67	98.4	70819	55116	5.645	12.5	72263	5.379	13.4	90372
			85/71	99.2	75838	56905	5.680	13.4	77282	5.414	14.3	95672
	20.7	34.3	75/63	93.9	66658	53492	5.476	12.2	68102	5.499	12.4	85634
			80/67	94.5	71556	55418	5.500	13.0	73000	5.523	13.2	90685
			85/71	95.0	76667	57215	5.527	13.9	78111	5.550	14.1	96074
90	10.3	8.5	75/63	107.8	63800	52219	6.085	10.5	65243	5.717	11.4	84686
			80/67	108.8	68396	54127	6.133	11.2	69839	5.765	12.1	89490
			85/71	109.9	73219	55928	6.185	11.8	74663	5.817	12.8	94599
	14.6	17.1	75/63	102.6	64809	52668	5.863	11.1	66253	5.597	11.8	84992
			80/67	103.3	69518	54584	5.896	11.8	70962	5.630	12.6	89891
			85/71	104.1	74486	56400	5.932	12.6	75929	5.666	13.4	95111
	20.7	34.3	75/63	98.9	65484	52968	5.718	11.5	66928	5.741	11.7	85218
			80/67	99.4	70277	54895	5.741	12.2	71721	5.764	12.4	90184
			85/71	100.0	75381	56734	5.768	13.1	76825	5.791	13.3	95490
100	10.3	8.5	75/63	117.7	61341	51131	6.675	9.2	62784	6.307	10.0	84028
			80/67	118.7	65770	53060	6.730	9.8	67214	6.362	10.6	88693
			85/71	119.7	70431	54894	6.789	10.4	71875	6.421	11.2	93659
	14.6	17.1	75/63	112.5	62360	51581	6.424	9.7	63804	6.158	10.4	84279
			80/67	113.2	66921	53527	6.461	10.4	68365	6.195	11.0	89025
			85/71	114.0	71725	55373	6.501	11.0	73169	6.235	11.7	94095
	20.7	34.3	75/63	108.8	63054	51889	6.260	10.1	64497	6.283	10.3	84462
			80/67	109.4	67698	53843	6.286	10.8	69142	6.309	11.0	89274
			85/71	109.9	72600	55698	6.314	11.5	74044	6.337	11.7	94424
110	10.3	8.5	75/63	127.6	58766	49996	7.356	8.0	60210	6.988	8.6	83526
			80/67	128.6	63018	51947	7.420	8.5	64461	7.052	9.1	88058
			85/71	129.6	67515	53817	7.489	9.0	68958	7.121	9.7	92890
	14.6	17.1	75/63	122.5	59806	50454	7.073	8.5	61250	6.807	9.0	83707
			80/67	123.1	64197	52423	7.116	9.0	65640	6.850	9.6	88316
			85/71	123.9	68838	54305	7.163	9.6	70281	6.897	10.2	93246
	20.7	34.3	75/63	118.8	60508	50763	6.888	8.8	61951	6.911	9.0	83847
			80/67	119.3	64991	52745	6.919	9.4	66435	6.942	9.6	88514
			85/71	119.8	69734	54636	6.951	10.0	71177	6.974	10.2	93405

Heating Capacity Data – Unit Size 060

EWT	GPM	WPD	System Heating					ISO System Heating			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	10.3	8.5	60	13.0	43818	4.288	2.99	42374	3.920	3.17	31720
			70	13.2	43730	4.668	2.74	42286	4.300	2.88	30480
			80	13.5	43543	5.081	2.51	42099	4.713	2.62	29105
	14.6	17.1	60	14.8	45056	4.310	3.06	43612	4.044	3.16	32906
			70	15.0	44900	4.691	2.80	43456	4.425	2.88	31605
			80	15.3	44641	5.106	2.56	43198	4.840	2.61	30154
	20.7	34.3	60	16.3	46008	4.327	3.11	44565	4.350	3.00	33831
			70	16.4	45795	4.709	2.85	44351	4.732	2.74	32470
			80	16.6	45487	5.126	2.60	44043	5.149	2.50	30957
30	10.3	8.5	60	21.6	49876	4.397	3.32	48433	4.029	3.52	37585
			70	21.9	49659	4.785	3.04	48215	4.417	3.20	36216
			80	22.3	49431	5.217	2.77	47987	4.849	2.90	34709
	14.6	17.1	60	23.8	51428	4.425	3.40	49984	4.159	3.52	39107
			70	24.1	51126	4.815	3.11	49682	4.549	3.20	37648
			80	24.3	50811	5.248	2.84	49368	4.982	2.90	36009
	20.7	34.3	60	25.5	52616	4.446	3.47	51172	4.469	3.35	40246
			70	25.7	52248	4.837	3.16	50804	4.860	3.06	38704
			80	25.9	51868	5.273	2.88	50424	5.296	2.79	37016
40	10.3	8.5	60	30.2	56416	4.515	3.66	54972	4.147	3.88	43954
			70	30.5	56071	4.914	3.34	54627	4.546	3.52	42402
			80	30.9	55715	5.364	3.04	54272	4.996	3.18	40724
	14.6	17.1	60	32.8	58377	4.551	3.76	56933	4.285	3.89	45816
			70	33.0	57911	4.953	3.42	56467	4.687	3.53	44160
			80	33.3	57463	5.406	3.11	56019	5.140	3.19	42368
	20.7	34.3	60	34.7	59851	4.578	3.83	58407	4.601	3.72	47267
			70	34.9	59300	4.982	3.49	57857	5.005	3.38	45516
			80	35.1	58774	5.438	3.16	57330	5.461	3.07	43626
50	10.3	8.5	60	38.6	63536	4.646	4.00	62092	4.278	4.25	50804
			70	39.0	63086	5.062	3.65	61642	4.694	3.85	49069
			80	39.4	62576	5.532	3.31	61133	5.164	3.47	47203
	14.6	17.1	60	41.6	65917	4.691	4.11	64473	4.425	4.27	53134
			70	41.9	65263	5.109	3.74	63820	4.843	3.86	51215
			80	42.2	64688	5.586	3.39	63245	5.320	3.48	49221
	20.7	34.3	60	43.9	67707	4.724	4.20	66263	4.747	4.09	54880
			70	44.1	67010	5.147	3.81	65566	5.170	3.71	52885
			80	44.3	66320	5.627	3.45	64876	5.650	3.36	50771
60	10.3	8.5	60	46.9	71163	4.791	4.35	69719	4.423	4.62	58164
			70	47.3	70518	5.224	3.95	69075	4.856	4.16	56225
			80	47.8	69921	5.720	3.58	68478	5.352	3.75	54198
	14.6	17.1	60	50.3	74084	4.848	4.47	72641	4.582	4.64	60951
			70	50.7	73246	5.285	4.06	71802	5.019	4.19	58838
			80	51.0	72450	5.787	3.67	71006	5.521	3.77	56632
	20.7	34.3	60	52.9	76316	4.892	4.57	74872	4.915	4.46	63132
			70	53.2	75359	5.333	4.14	73916	5.356	4.04	60872
			80	53.4	74472	5.841	3.73	73028	5.864	3.65	58491
70	10.3	8.5	60	55.1	79391	4.954	4.69	77947	4.586	4.98	66009
			70	55.6	78517	5.406	4.25	77073	5.038	4.48	63858
			80	56.1	77805	5.932	3.84	76362	5.564	4.02	61579
	14.6	17.1	60	59.0	82802	5.024	4.83	81358	4.758	5.01	69390
			70	59.3	81827	5.485	4.37	80384	5.219	4.51	67016
			80	59.7	80939	6.020	3.94	79495	5.754	4.05	64511
	20.7	34.3	60	61.9	85546	5.082	4.93	84102	5.105	4.82	72031
			70	62.2	84425	5.549	4.45	82982	5.572	4.36	69475
			80	62.5	83360	6.089	4.01	81916	6.112	3.92	66852
80	10.3	8.5	60	63.2	88135	5.138	5.02	86691	4.770	5.32	74413
			70	63.7	87133	5.616	4.54	85689	5.248	4.78	72005
			80	64.3	86187	6.171	4.09	84744	5.803	4.28	69491
	14.6	17.1	60	67.5	92249	5.229	5.17	90805	4.963	5.36	78373
			70	67.9	90981	5.715	4.66	89537	5.449	4.81	75728
			80	68.4	89909	6.283	4.19	88466	6.017	4.31	72954
	20.7	34.3	60	70.8	95533	5.282	5.30	94089	5.305	5.19	81611
			70	71.2	94137	5.799	4.75	92694	5.822	4.66	78586
			80	71.5	92939	6.378	4.27	91495	6.401	4.19	75648
85	10.3	8.5	60	67.2	92710	5.240	5.18	91267	4.872	5.48	78762
			70	67.8	91618	5.732	4.68	90174	5.364	4.92	76199
			80	68.4	90659	6.307	4.21	89216	5.939	4.40	73578
	14.6	17.1	60	71.7	97225	5.321	5.35	95782	5.055	5.55	83162
			70	72.2	95823	5.844	4.80	94379	5.578	4.95	80257
			80	72.7	94668	6.432	4.31	93225	6.166	4.43	77341
	20.7	34.3	60	75.3	100707	5.404	5.46	99263	5.427	5.36	86558
			70	75.6	99201	5.937	4.89	97757	5.960	4.80	83462
			80	76.0	97859	6.535	4.38	96416	6.558	4.30	80245
90	10.3	8.5	60	71.1	97400	5.325	5.36	95956	4.957	5.67	83331
			70	71.8	96233	5.856	4.81	94790	5.488	5.06	80569
			80	72.4	95190	6.449	4.32	93746	6.081	4.51	77773
	14.6	17.1	60	76.0	102288	5.442	5.50	100844	5.176	5.70	87944
			70	76.4	100750	5.981	4.93	99307	5.715	5.09	84896
			80	76.9	99514	6.590	4.42	98071	6.324	4.54	81831
	20.7	34.3	60	79.7	106029	5.535	5.61	104585	5.558	5.51	91634
			70	80.0	104411	6.087	5.02	102967	6.110	4.93	88325
			80	80.4	102964	6.706	4.50	101520	6.729	4.42	85078

Cooling Capacity Data – Unit Size 070

EWT	GPM	WPD	System							ISO				
			EA		LWT	TOT	SEN	kW	EER	TOT	SEN	kW	EER	THR
30	11.7	11.5	75	63	50.8	79351	38215	3.422	21.79	80633	39497	3.016	25.3	123664
			80	67	52.1	79647	49177	3.177	23.67	80929	50458	3.082	24.9	131431
			85	71	52.1	79847	59881	3.177	23.74	81129	61163	3.091	24.8	131522
	17.5	24.3	75	63	44.1	79327	27706	2.972	25.30	80609	28988	2.571	30.0	125886
			80	67	45.1	79624	38308	2.972	25.40	80906	39590	2.797	27.5	134158
			85	71	46.0	79824	48348	2.971	25.46	81106	49630	2.752	28.1	142652
	23.3	41.3	75	63	40.7	79316	16041	2.844	26.49	80598	17323	2.100	37.0	126967
			80	67	41.4	79611	32740	2.844	26.59	80893	34022	2.650	29.1	135421
			85	71	42.2	79811	43138	2.844	26.66	81093	44420	2.590	29.9	144107
40	11.7	11.5	75	63	60.8	78565	38601	3.722	19.71	79834	39870	2.714	28.0	122440
			80	67	62.1	78859	49673	3.477	21.28	80128	50942	2.780	27.4	130130
			85	71	62.1	79057	60486	3.477	21.34	80326	61755	2.789	27.4	130220
	17.5	24.3	75	63	54.1	78542	27986	3.272	22.61	79811	29256	2.264	33.9	124640
			80	67	55.1	78835	38695	3.272	22.70	80105	39964	2.490	30.8	132830
			85	71	56.0	79033	48837	3.271	22.76	80302	50106	2.444	31.5	141240
	23.3	41.3	75	63	50.7	78530	16203	3.144	23.58	79800	17473	1.791	43.2	125710
			80	67	51.4	78823	33071	3.144	23.67	80092	34340	2.339	32.8	134080
			85	71	52.2	79021	43574	3.144	23.73	80290	44843	2.278	33.8	142680
50	11.7	11.5	75	63	68.0	77787	38991	4.022	17.94	79044	40248	3.327	22.4	105500
			80	67	68.0	78078	50175	3.777	19.27	79335	51432	3.412	21.9	105510
			85	71	68.0	78274	61097	3.777	19.33	79531	62354	3.412	21.9	105520
	17.5	24.3	75	63	63.0	77764	28269	3.572	20.37	79021	29526	2.940	25.5	114540
			80	67	63.0	78055	39086	3.572	20.45	79311	40343	3.207	23.3	114570
			85	71	63.0	78251	49330	3.571	20.51	79507	50587	3.207	23.4	114640
	23.3	41.3	75	63	60.2	77753	16367	3.444	21.18	79009	17624	2.475	30.5	119470
			80	67	60.2	78043	33405	3.444	21.26	79299	34662	3.079	24.4	119590
			85	71	60.2	78239	44014	3.444	21.32	79495	45271	3.079	24.4	119660
60	11.7	11.5	75	63	76.4	77017	45347	4.322	17.38	78261	46591	3.873	19.2	96303
			80	67	76.5	77305	55925	4.326	17.43	78549	57169	3.961	18.8	96574
			85	71	76.5	77499	66525	4.328	17.46	78743	67769	3.963	18.9	96756
	17.5	24.3	75	63	71.2	76994	45337	4.146	18.09	78238	46581	3.514	21.3	97876
			80	67	71.2	77282	55915	4.148	18.15	78526	57159	3.783	19.8	98160
			85	71	71.2	77476	66515	4.150	18.19	78720	67759	3.785	19.8	98350
	23.3	41.3	75	63	68.5	76983	45333	4.056	18.48	78227	46577	3.087	24.3	98637
			80	67	68.5	77270	55910	4.058	18.54	78514	57154	3.693	20.3	98925
			85	71	68.5	77464	66511	4.059	18.58	78708	67755	3.694	20.3	99119
70	11.7	11.5	75	63	84.6	72838	43611	4.599	15.47	74082	44855	4.149	16.9	85611
			80	67	84.7	73123	54201	4.602	15.52	74367	55445	4.238	16.5	85858
			85	71	84.7	73316	64813	4.605	15.55	74560	66057	4.240	16.6	86026
	17.5	24.3	75	63	79.9	72815	43602	4.457	15.94	74059	44846	3.825	18.4	86987
			80	67	80.0	73099	54192	4.461	15.99	74343	55436	4.096	17.2	87244
			85	71	80.0	73292	64803	4.463	16.03	74536	66047	4.098	17.2	87418
	23.3	41.3	75	63	77.5	72806	43598	4.387	16.19	74050	44842	3.418	20.7	87663
			80	67	77.6	73091	54188	4.390	16.24	74335	55432	4.025	17.5	87924
			85	71	77.6	73284	64800	4.392	16.28	74528	66044	4.027	17.5	88101
80	11.7	11.5	75	63	93.8	72904	43638	5.100	13.99	74148	44882	4.651	14.9	80531
			80	67	93.9	73189	54229	5.105	14.03	74433	55473	4.740	14.7	80761
			85	71	93.9	73381	64840	5.108	14.06	74625	66084	4.743	14.7	80916
	17.5	24.3	75	63	89.4	72889	43632	4.970	14.35	74133	44876	4.338	16.1	81898
			80	67	89.4	73174	54222	4.974	14.39	74418	55466	4.609	15.1	82136
			85	71	89.4	73366	64834	4.977	14.42	74610	66078	4.612	15.2	82297
	23.3	41.3	75	63	87.1	72885	43630	4.905	14.53	74129	44874	3.936	17.8	82571
			80	67	87.1	73169	54221	4.909	14.58	74413	55465	4.544	15.4	82814
			85	71	87.1	73361	64832	4.911	14.61	74605	66076	4.547	15.4	82979
85	11.7	11.5	75	63	97.6	70309	42579	5.278	13.05	71553	43823	4.828	13.8	73195
			80	67	97.6	70588	53165	5.283	13.09	71832	54409	4.918	13.6	73397
			85	71	97.6	70774	63772	5.287	13.11	72018	65016	4.922	13.6	73532
	17.5	24.3	75	63	93.5	70301	42576	5.172	13.31	71545	43820	4.540	14.8	74432
			80	67	93.6	70580	53162	5.177	13.35	71824	54406	4.812	13.9	74641
			85	71	93.6	70766	63769	5.180	13.38	72010	65013	4.816	14.0	74781
	23.3	41.3	75	63	91.5	70288	42571	5.120	13.44	71532	43815	4.151	16.2	75047
			80	67	91.5	70567	53157	5.124	13.48	71811	54401	4.760	14.1	75260
			85	71	91.5	70754	63764	5.128	13.51	71998	65008	4.763	14.1	75402
90	11.7	11.5	75	63	102.1	70334	42589	5.496	12.55	71578	43833	5.047	13.2	70515
			80	67	102.2	70612	53175	5.502	12.58	71856	54419	5.137	13.0	70707
			85	71	102.2	70799	63782	5.506	12.61	72043	65026	5.141	13.0	70836
	17.5	24.3	75	63	98.2	70322	42584	5.398	12.77	71566	43828	4.766	14.0	71749
			80	67	98.3	70600	53170	5.403	12.81	71844	54414	5.038	13.3	71949
			85	71	98.3	70786	63777	5.406	12.83	72030	65021	5.042	13.3	72082
	23.3	41.3	75	63	96.2	70317	42582	5.348	12.88	71561	43826	4.379	15.3	72361
			80	67	96.3	70595	53168	5.354	12.92	71839	54412	4.989	13.4	72565
			85	71	96.3	70782	63775	5.357	12.95	72026	65019	4.992	13.4	72701
100	11.7	11.5	75	63	111.2	70404	42618	5.920	11.68	71648	43862	5.471	12.1	64922
			80	67	111.2	70684	53204	5.927	11.71	71928	54448	5.562	11.9	65096
			85	71	111.2	70870	63811	5.931	11.73	72114	65055	5.566	12.0	65212
	17.5	24.3	75	63	107.6	70398	42615	5.832	11.85	71642	43859	5.200	12.8	66124
			80	67	107.6	70676	53201	5.838	11.88	71920	54445	5.473	12.1	66304
			85	71	107.7	70862	63808	5.842	11.91	72106	65052	5.477	12.2	66424
	23.3	41.3	75	63	105.8	70391	42612	5.788	11.94	71635	43856	4.818	13.9	66721
			80	67	105.8	70670	53198	5.794	11.97	71914	54442	5.429	12.2	66905
			85	71	105.8	70856	63806	5.798	11.99	72100	65050	5.433	12.3	67028
110	11.7	11.5	75	63	120.2	70466	42642	6.320	10.96	71710	43886	5.870	11.2	58812
			80	67	120.2	70743	53228	6.327	10.99	71987	54472	5.962	11.1	58954
			85	71	120.2	70930	63836	6.331	11.01	72174	65080	5.966	11.1	59049
	17.5	24.3	75	63	116.9	70452	42637	6.248	11.08	71696	43881	5.616	11.8	60131
			80	67	117.0	70729	53222	6.255	11.11	71973	54466	5.890	11.2	60282
			85	71	117.0	70916	63830	6.259	11.14	72160	65074	5.894	11.2	60383
	23.3	41.3	75	63	115.3	70445	42634	6.210	11.15	71689	43878	5.240	12.7	60736
			80	67	115.3	70722	53219	6.216	11.18	71966	54463	5.852	11.3	60899
			85	71	115.3	70909	63827	6.221	11.20	72153	65071	5.856	11.3	61009

Heating Capacity Data – Unit Size 070

EWT	GPM	WPD	System					ISO			
			EA	LWT	TOT	kW	COP	TOT	kW	COP	THA
20	11.7	11.5	60	14.5	40105	4.174	1.99	38861	3.725	3.05	28399
			70	14.4	51310	4.448	2.18	50066	4.083	3.59	33185
			80	13.7	47025	4.740	2.30	45781	4.375	3.06	37235
	17.5	24.3	60	15.7	52500	4.379	2.23	53800	3.747	4.10	37801
			70	15.7	50639	4.950	2.23	49395	4.586	3.15	37751
			80	15.5	49010	4.833	2.37	47766	4.468	3.13	39177
	23.3	41.3	60	16.8	51568	4.565	2.41	50324	3.596	4.10	37691
			70	16.7	52011	4.473	2.56	50767	4.109	3.62	39121
			80	16.6	49010	4.833	2.37	47766	4.468	3.13	39177
30	11.7	11.5	60	22.2	60705	4.717	2.86	59461	4.268	4.08	46159
			70	22.6	56831	4.638	2.75	55587	4.273	3.81	43622
			80	22.6	53473	5.023	2.54	52229	4.658	3.28	43666
	17.5	24.3	60	24.8	60705	4.717	2.86	59461	4.085	4.26	46159
			70	24.8	59413	4.717	2.86	58169	4.352	3.91	46101
			80	24.8	55869	5.116	2.64	54625	4.751	3.37	46148
	23.3	41.3	60	20.6	59555	4.541	2.84	58311	3.571	4.78	44104
			70	26.0	60953	4.769	2.92	59709	4.404	3.97	47596
			80	25.9	57299	5.177	2.69	56055	4.812	3.41	47647
40	11.7	11.5	60	31.0	66891	4.535	3.41	65647	4.085	4.70	52827
			70	31.8	61678	4.569	3.11	60434	4.205	4.21	48510
			80	31.8	57968	4.979	2.85	56724	4.615	3.60	48557
	17.5	24.3	60	34.0	66891	4.535	3.41	65647	3.903	4.93	52827
			70	34.2	64724	4.651	3.24	63480	4.286	4.34	51548
			80	34.2	60796	5.079	2.97	59552	4.714	3.70	51603
	23.3	41.3	60	37.1	75521	4.332	2.31	74277	3.362	6.47	34151
			70	35.5	66422	4.690	3.32	65178	4.325	4.41	53283
			80	35.5	62371	5.126	3.04	61127	4.761	3.76	53339
50	11.7	11.5	60	39.1	77935	4.491	4.16	76691	4.042	5.56	63806
			70	40.4	69567	4.771	3.47	68323	4.406	4.54	56542
			80	40.4	65280	5.223	3.17	64036	4.858	3.86	56592
	17.5	24.3	60	43.2	77409	4.367	4.04	76165	3.735	5.97	60244
			70	43.1	73111	4.852	3.64	71867	4.487	4.69	60305
			80	43.1	68559	5.321	3.32	67315	4.956	3.98	60364
	23.3	41.3	60	44.7	79624	4.404	4.15	78380	3.435	6.68	62465
			70	44.7	75169	4.899	3.73	73925	4.534	4.77	62531
			80	44.7	70469	5.379	3.40	69225	5.014	4.04	62597
60	11.7	11.5	60	49.0	81490	4.690	4.04	80246	4.240	5.54	64760
			70	49.0	76845	5.192	3.65	75601	4.827	4.59	64813
			80	48.9	71975	5.680	3.34	70731	5.315	3.90	64872
	17.5	24.3	60	52.1	86051	4.774	4.26	84807	4.143	5.99	69601
			70	52.1	81077	5.297	3.85	79833	4.932	4.74	69662
			80	52.1	75890	5.801	3.52	74646	5.436	4.02	69721
	23.3	41.3	60	53.8	88711	4.824	4.40	87467	3.855	6.64	72510
			70	53.8	83552	5.355	3.96	82308	4.991	4.83	72574
			80	53.8	78171	5.871	3.62	76927	5.507	4.09	72635
70	11.7	11.5	60	57.3	90177	4.847	4.47	88933	4.398	5.92	74142
			70	57.3	84906	5.383	4.03	83662	5.018	4.88	74199
			80	57.3	79415	5.905	3.68	78171	5.541	4.13	74254
	17.5	24.3	60	60.8	95413	4.940	4.74	94169	4.308	6.40	80079
			70	60.8	89749	5.496	4.27	88505	5.131	5.05	80150
			80	60.8	83876	6.039	3.89	82632	5.674	4.26	80207
	23.3	41.3	60	62.8	98451	4.987	4.90	97207	4.018	7.08	83621
			70	62.8	92563	5.557	4.41	91319	5.192	5.15	83698
			80	62.8	86437	6.107	4.01	85193	5.742	4.34	83767
80	11.7	11.5	60	65.5	99123	4.999	4.94	97879	4.550	6.30	84414
			70	65.5	93178	5.572	4.44	91934	5.207	5.17	84481
			80	65.5	86983	6.123	4.04	85739	5.758	4.36	84544
	17.5	24.3	60	69.5	104970	5.088	5.26	103726	4.456	6.82	91510
			70	69.5	98585	5.679	4.72	97341	5.314	5.36	91580
			80	69.5	91856	6.247	4.29	90612	5.882	4.51	91657
	23.3	41.3	60	71.7	108430	5.139	5.46	107186	4.170	7.53	95867
			70	71.7	101780	5.744	4.89	100536	5.379	5.47	95937
			80	71.7	94734	6.322	4.44	93490	5.957	4.59	96018
85	11.7	11.5	60	69.6	103570	5.065	5.19	102326	4.615	6.49	89787
			70	69.6	97293	5.652	4.65	96049	5.287	5.32	89856
			80	69.6	90691	6.216	4.23	89447	5.851	4.48	89928
	17.5	24.3	60	73.8	109810	5.155	5.54	108566	4.523	7.03	97634
			70	73.8	103050	5.765	4.96	101806	5.400	5.52	97701
			80	73.8	95866	6.345	4.51	94622	5.980	4.63	97777
	23.3	41.3	60	76.2	113470	5.206	5.76	112226	4.237	7.76	102440
			70	76.2	106440	5.831	5.14	105196	5.466	5.63	102500
			80	76.2	98882	6.414	4.68	97638	6.050	4.73	102570
90	11.7	11.5	60	73.6	108120	5.135	5.44	106876	4.686	6.68	95469
			70	73.6	101490	5.739	4.87	100246	5.374	5.46	95532
			80	73.6	94464	6.316	4.43	93220	5.951	4.59	95602
	17.5	24.3	60	78.0	114680	5.223	5.83	113436	4.591	7.23	104040
			70	78.0	107540	5.850	5.21	106296	5.485	5.67	104110
			80	78.0	99867	6.437	4.73	98623	6.073	4.76	104170
	23.3	41.3	60	80.6	118500	5.265	6.07	117256	4.296	7.99	109230
			70	80.6	111010	5.900	5.42	109766	5.535	5.81	109310
			80	80.6	102980	6.499	4.92	101736	6.134	4.86	109380

Fan Performance

Enfinity Horizontal Units (007 - 070)
(Airflow vs. CFM - Standard PSC Static Motor)

Size	Speed	Factory Wired	Nominal cfm	External Static Pressure (in. w.c)													
				0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75
007	High	Yes	300	410	400	390	380	360	350	330	320	310	290	270	250		
009	High	Yes	300	390	380	370	360	350	330	320	310	300	280	260	240		
012	Low	No	400	350	340	330	320	300	290	270	260	240	220	200	170	140	110
	High	Yes		430	420	400	390	370	360	340	320	300	270	250	220	190	160
015	Low	Yes	630	950	950	950	940	930	920	900	880	860	830	800	770	710	630
	High	No		1140	1130	1110	1090	1070	1050	1020	990	980	930	890	850	800	750
019	Low	Yes	630	950	950	950	940	930	920	900	880	860	830	800	770	710	630
	High	No		1140	1130	1110	1090	1070	1050	1020	990	980	930	890	850	800	750
024	Low	No	800	1000	990	980	970	950	940	910	890	880	830	800	760	720	660
	High	Yes		1190	1170	1150	1130	1110	1090	1060	1030	990	950	920	880	820	770
030	Low	No	1000	1050	1040	1030	1020	1010	990	970	950	920	890	850	820	770	720
	High	Yes		1270	1260	1240	1210	1190	1170	1140	1110	1070	1030	980	940	890	840
036	Low	No	1200				1170	1170	1160	1140	1120	1090	1060	1020	980	940	900
	High	Yes		1510	1500	1480	1460	1430	1390	1350	1310	1260	1200	1150	1090	1040	980
042	Low	No	1400					1450	1440	1420	1370	1280	1200	1120			
	High	Yes		2130	2110	2090	2050	2020	1970	1930	1870	1790	1690	1580	1460	1250	
048	Low	Yes	1600	2100	2070	2030	1990	1950	1900	1850	1790	1720	1600	1400			
	High	No		2440	2380	2330	2260	2200	2130	2070	2000	1910	1780	1590	1410		
060	Low	No	2000			2080	2070	2050	2020	1980	1940	1900	1850	1770	1680	1430	
	High	Yes		2600	2570	2530	2490	2440	2390	2320	2260	2180	2100	2010	1920	1620	

Note: *PSC blower motors are designed to deliver nominal 400cfm/ton.*

(Airflow vs. CFM - Low Static PSC Motor)

Size	Speed	Factory Wired	Nominal cfm	External Static Pressure (in. w.c)													
				0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75
019	Low	Yes	630	670	650	640	610	590	570	540	510						
	High	No		890	870	840	820	790	760	730	700	660	620	570			
024	Low	No	800	670	650	640	610	590	570	540	510						
	High	Yes		890	870	840	820	790	760	730	700	660	620	570			

For wet coil, calculate face velocity (cfm/ coil face area, sq. ft.). Add the following static to the external static pressure for the corresponding face velocity: 300 fpm = 0.05", 400 fpm = 0.10", 500 fpm = 0.14". Re-enter table at the increased external static pressure to determine final cfm.

= Out of Range

(Airflow vs. CFM - ECM Fan Motor)

Size	Speed	Factory Wired	Nominal cfm	External Static Pressure (in. w.c)													
				0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75
015	High	Yes	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
019	High	Yes	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630
024	High	Yes	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
030	High	Yes	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
036	High	Yes	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
042	High	Yes	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
048	High	Yes	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
060	High	Yes	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
070	High	Yes	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330	2330

Note: *ECM blower motors are pre-programmed to deliver nominal 400cfm/ton.*

Standard PSC Motor

Unit Size	Voltage/Hz/Phase	Compressor		Fan Motor FLA	Total Unit FLA	Minimum Voltage	Minimum Circuit Amps	Maximum Fuse Size
		RLA	LRA					
007	115/60-1	8.3	45.5	1.9	10.2	104	12.3	20.0
	208/230-60-1	4.0	22.2	0.8	4.8	197	5.8	15.0
009	115/60-1	8.3	45.5	1.9	10.2	104	12.3	20.0
	208/230-60-1	4.0	22.2	0.8	4.8	197	5.8	15.0
	265/277-60-1	4.2	18.8	0.65	4.93	240	6.0	15.0
012	208/230-60-1	5.6	29.0	0.8	6.4	197	7.8	15.0
	265/277-60-1	4.7	20.0	0.7	5.4	240	6.5	15.0
015	208/230-60-1	5.6	29.0	3.00	8.6	197	10.0	15.0
	265/277-60-1	5.0	28.0	1.30	6.3	240	7.6	15.0
019	208/230-60-1	6.5	43.0	3.00	9.3	197	11.1	15.0
	265/277-60-1	5.8	46.0	1.30	8.2	240	8.6	15.0
024	208/230-60-1	7.4	43.0	3.00	10.4	197	12.3	15.0
	265/277-60-1	6.7	46.0	1.30	8.0	240	9.7	15.0
	208/230-60-3	5.9	63.0	3.00	8.9	197	10.4	15.0
	460-60-3	2.9	30.0	2.50	4.6	416	5.3	15.0
030	208/230-60-1	16.4	72.5	3.00	19.4	197	23.5	35.0
	265/277-60-1	13.9	61.0	3.00	16.9	240	20.4	30.0
	208/230-60-3	11.6	63.0	3.00	14.6	197	17.5	25.0
	460-60-3	5.0	31.0	1.70	6.7	416	8.0	15.0
036	208/230-60-1	17.1	83.0	3.50	20.6	197	24.9	35.0
	265/277-60-1	17.1	83.0	2.80	19.9	240	24.2	35.0
	208/230-60-3	12.9	77.0	3.50	16.4	197	19.6	25.0
	460-60-3	5.7	35.0	1.60	7.3	416	8.7	15.0
042	208/230-60-1	21.4	104.0	3.40	34.8	197	30.3	45.0
	208/230-60-3	15.0	88.0	3.40	18.4	197	22.2	30.0
	460-60-3	7.1	46.0	1.50	8.6	416	10.3	15.0
	575-60-3	5.6	34.0	1.60	7.2	520	8.6	15.0
048	208/230-60-1	25.7	134.0	5.30	36.0	197	37.4	50.0
	208/230-60-3	17.9	91.0	5.30	23.2	197	27.7	40.0
	460-60-3	7.9	46.0	2.00	9.9	416	11.9	15.0
	575-60-3	6.2	37.0	1.80	8.0	520	9.5	15.0
060	208/230-60-1	30.7	158.0	5.30	36.0	197	43.7	60.0
	208/230-60-3	20.2	137.0	5.30	25.5	197	30.5	50.0
	460-60-3	10.0	62.0	2.00	12.0	416	14.5	20.0
	575-60-3	7.6	50.0	1.80	9.4	520	11.3	20.0

Low Static Motor

Unit Size	Voltage/Hz/Phase	Compressor		Fan Motor FLA	Total Unit FLA	Minimum Voltage	Minimum Circuit Amps	Maximum Fuse Size
		RLA	LRA					
19	208/230-60-1	6.5	43.0	1.20	7.6	197	9.3	15.0
	265-60-1	5.8	46.0	0.90	6.7	240	8.2	15.0
024	208/230-60-1	7.4	43.0	1.20	8.6	197	10.5	15.0
	265/277-60-1	6.7	46.0	0.90	7.6	240	9.3	15.0
	208/230-60-3	5.9	63.0	1.20	7.1	197	8.6	15.0
	460-60-3	2.9	30.0	0.60	3.5	416	4.2	15.0

Electrical Data

ECM Motor

Unit Size	Voltage/Hz/Phase	Compressor		Fan Motor FLA	Total Unit FLA	Minimum Voltage	Minimum Circuit Amps	Maximum Fuse Size	Fan Motor HP
		RLA	LRA						
015	208/230-60-1	5.6	29.0	2.80	8.4	197	9.8	15	
	265/277-60-1	5.0	28.0	2.40	7.4	240	8.7	15	
019	208/230-60-1	6.5	43.0	2.80	11.1	197	10.9	15	
	265/277-60-1	5.8	46.0	2.40	9.5	240	9.7	15	1/3
024	208/230-60-1	7.4	43.0	2.80	10.2	197	12.1	15	
	265/277-60-1	6.7	46.0	2.40	9.1	240	10.8	15	
	208/230-60-3	5.9	63.0	2.80	8.7	197	10.2	15	
	460-60-3	2.9	30.0	2.40	5.3	416	6.0	15	
030	208/230-60-1	16.4	72.5	4.30	20.2	197	24.8	40	
	265/277-60-1	13.9	61.0	4.10	18.0	240	21.5	35	
	208/230-60-3	11.6	63.0	4.30	15.9	197	18.8	30	
	460-60-3	5.0	31.0	4.10	9.1	416	10.4	15	1/2
036	208/230-60-1	17.1	83.0	4.30	21.4	197	25.7	40	
	265/277-60-1	17.1	83.0	4.10	21.2	240	25.5	40	
	208/230-60-3	12.9	77.0	4.30	17.2	197	30.4	30	
	460-60-3	5.7	35.0	4.10	9.8	416	11.2	15	
042	208/230-60-1	21.4	104.0	6.80	28.2	197	33.6	50	
	208/230-60-3	15.0	88.0	6.80	21.8	197	25.6	40	
	460-60-3	7.1	46.0	5.50	12.6	416	14.3	20	3/4
048	208/230-60-1	25.7	134.0	6.80	32.5	197	38.9	60	
	208/230-60-3	17.9	91.0	6.80	24.7	197	29.2	45	
	460-60-3	7.9	46.0	5.50	13.4	416	15.3	20	
060	208/230-60-1	30.7	158.0	9.10	39.8	197	47.5	75	
	208/230-60-3	20.2	137.0	9.10	29.3	197	34.4	50	
	460-60-3	10.0	62.0	6.90	16.9	416	19.4	25	1
070	208/230-60-3	25.0	149.0	9.10	34.1	197	40.4	65	
	460-60-3	11.8	75.0	6.90	18.7	416	21.7	35	

Air Limits - °F (English units)

	Standard Range Units		Geothermal Range Units	
	Cooling	Heating	Cooling	Heating
Min. Ambient Air	50ºF	50ºF	40ºF	40ºF
Normal Ambient Air	80ºF	70ºF	80ºF	70ºF
Max Ambient Air	100ºF	85ºF	100ºF	85ºF
Min. Entering Air [1,2]	50ºF	50ºF	50ºF	40ºF
Normal Entering Air db/wb	80/67ºF	70ºF	80/67ºF	70ºF
Max Entering Air db/wb [1,2]	100/83ºF	80ºF	100/83ºF	80ºF

Air Limits - °C (SI units)

	Standard Range Units		Geothermal Range Units	
	Cooling	Heating	Cooling	Heating
Min. Ambient Air	10ºC	10ºC	5ºC	5ºC
Normal Ambient Air	27ºC	21ºC	27ºC	21ºC
Max Ambient Air	38ºC	29ºC	38ºC	29ºC
Min. Entering Air [1,2]	10ºC	10ºC	10ºC	5ºC
Normal Entering Air db/wb	27/19ºC	21ºC	27/19ºC	21ºC
Max Entering Air db/wb [1,2]	38/28ºC	27ºC	38/28ºC	27ºC

Water - °F (English units)

	Standard Range Units		Geothermal Range Units	
	Cooling	Heating	Cooling	Heating
Min. Entering Water [1,2]	55ºF	55ºF	30ºF	20ºF
Normal Entering Water	85ºF	70ºF	77ºF	40ºF
Max Entering Water	110ºF	90ºF	110ºF	90ºF

Water - °C (SI units)

	Standard Range Units		Geothermal Range Units	
	Cooling	Heating	Cooling	Heating
Min. Entering... Water [1,2]	13ºC	13ºC	-1ºC	-6ºC
Normal Entering Water	29ºC	21ºC	25ºC	4ºC
Max Entering Water	43ºC	32ºC	43ºC	32ºC

1 At ARI flow rate

2 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. Extended range units may combine any two maximum conditions, but not more than two, with all other conditions being normal conditions.

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%.

Additional information for initial start-up only

Standard range units:

Units are designed to start in an ambient of 50ºF (10ºC), with entering air at 50ºF (10ºC), with entering water at 70ºF (21ºC), with both air and water at the flow rates used in the ISO 13256-1 rating test, for initial start-up in winter.

Note: 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.

Geothermal range units:

Geothermal range heat pump conditioners are designed to start in an ambient of 40ºF (5ºC), with entering air at 40ºF (5ºC), with entering water at 40ºF (5ºC), with both air and water at the flow rates used in the ISO 13256-1 rating test, for initial start-up in winter.

Note: 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.

Correction Factors

Airflow Correction Factors

	Percent of Nominal Airflow									
	55	60	65	70	75	80	85	90	95	100
Total Cooling Capacity	0.935	0.942	0.948	0.955	0.962	0.969	0.976	0.983	0.990	1.000
Sensible Cooling Capacity	0.779	0.803	0.828	0.852	0.877	0.901	0.926	0.950	0.975	1.000
kW - Cooling	0.925	0.933	0.942	0.950	0.959	0.967	0.976	0.984	0.993	1.000
Total Heat of Rejection	0.931	0.939	0.946	0.954	0.961	0.969	0.976	0.984	0.991	1.000
Total Heating Capacity	0.912	0.921	0.931	0.940	0.950	0.960	0.969	0.979	0.988	1.000
kW - Heating	1.025	1.022	1.019	1.017	1.014	1.011	1.009	1.006	1.003	1.000
Total Heat of Absorption	0.908	0.918	0.928	0.938	0.948	0.958	0.968	0.978	0.988	1.000

	Percent of Nominal Airflow									
	105	110	115	120	125	130	135	140	145	150
Total Cooling Capacity	1.004	1.011	1.017	1.024	1.031	1.038	1.045	1.052	1.059	1.066
Sensible Cooling Capacity	1.024	1.048	1.073	1.098	1.122	1.147	1.171	1.196	1.220	1.245
kW - Cooling	1.010	1.019	1.027	1.036	1.044	1.053	1.061	1.070	1.078	1.087
Total Heat of Rejection	1.006	1.014	1.021	1.029	1.036	1.044	1.051	1.059	1.066	1.074
Total Heating Capacity	1.007	1.017	1.027	1.036	1.046	1.055	1.065	1.074	1.084	1.094
kW - Heating	0.998	0.995	0.992	0.990	0.987	0.984	0.981	0.979	0.976	0.973
Total Heat of Absorption	1.008	1.018	1.028	1.038	1.048	1.058	1.068	1.078	1.088	1.098

	Percent of Nominal Airflow								
	155	160	165	170	175	180	185	190	195
Total Cooling Capacity	1.073	1.079	1.086	1.093	1.100	1.107	1.114	1.121	1.128
Sensible Cooling Capacity	1.269	1.294	1.318	1.343	1.367	1.392	1.417	1.441	1.466
kW - Cooling	1.095	1.104	1.113	1.121	1.130	1.138	1.147	1.155	1.164
Total Heat of Rejection	1.081	1.089	1.096	1.104	1.111	1.119	1.126	1.134	1.141
Total Heating Capacity	1.103	1.113	1.122	1.132	1.141	1.151	1.161	1.170	1.180
kW - Heating	0.971	0.968	0.965	0.962	0.960	0.957	0.954	0.952	0.949
Total Heat of Absorption	1.108	1.118	1.128	1.138	1.149	1.159	1.169	1.179	1.189

Antifreeze Correction Factors

Ethylene Glycol

	10%	20%	30%	40%	50%
Cooling Capacity	0.9950	0.9920	0.9870	0.9830	0.9790
Heating Capacity	0.9910	0.9820	0.9770	0.9690	0.9610
Pressure Drop	1.0700	1.1300	1.1800	1.2600	1.2800

Propylene Glycol

	10%	20%	30%	40%	50%
Cooling Capacity	0.9900	0.9800	0.9700	0.9600	0.9500
Heating Capacity	0.9870	0.9750	0.9620	0.9420	0.9300
Pressure Drop	1.0700	1.1500	1.2500	1.3700	1.4200

Methanol

	10%	20%	30%	40%	50%
Cooling Capacity	0.9980	0.9720	–	–	–
Heating Capacity	0.9950	0.9700	–	–	–
Pressure Drop	1.0230	1.0570	–	–	–

Ethanol

	10%	20%	30%	40%	50%
Cooling Capacity	0.9910	0.9510	–	–	–
Heating Capacity	0.9950	0.9600	–	–	–
Pressure Drop	1.0350	0.9600	–	–	–

Size 007 - 024

Unit Size		007	009	012	015	019	024
Fan Wheel - D x W		6.3" x 6.0"	6.3" x 6.0"	6.2" x 7.4"	9.5" x 7.1"	9.5" x 7.1"	9.5" x 7.1"
Fan Motor Horsepower		1/8	1/8	1/8	1/3	1/3	1/3
Coil Face Area (Sq. Ft.)		0.97	1.11	1.53	2.75	2.75	2.75
Coil Rows		3	3	4	3	3	3
Refrigerant Charge (Oz.)		17	19	31.5	43	45	40.5
Filters	1" Filter, (Qty.) Size	(1) 10"H x 20"W	(1) 10"H x 20"W	(1) 10"H x 24"W	(1) 18"H x 24"W	(1) 18"H x 24"W	(1) 18"H x 24"W
	2" Filter (Qty.) Size	(1) 9.5"H x 21.5"W	(1) 9.5"H x 21.5"W	(1) 9.5"H x 27.5"W	(1) 18"H x 25"W	(1) 18"H x 25"W	(1) 18"H x 25"W
Water Connections, Female NPT		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Condensate Connections, Female NPT		3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.
Weight, Operating (Lbs.)		98	99	115	195	195	195
Weight, Shipping (Lbs.)		130	130	145	214	214	214

Size 030 - 070

Unit Size		030	036	042	048	060	070
Fan Wheel - D x W		9.5" x 7.1"	9.5" x 7.1"	12.9" x 11.1"	12.9" x 11.1"	12.9" x 11.1"	12.9" x 11.1"
Fan Motor Horsepower		1/3	1/2	1/2	1/2	1/2	1/2
Coil Face Area (Sq. Ft.)		3.43	3.43	3.43	3.43	6.11	6.11
Coil Rows		3	3	3	3	3	3
Refrigerant Charge (Oz.)		48	49	60	55	74	64
Filters	1" Filter, (Qty.) Size	(1) 19"H x 27"W	(1) 19"H x 27"W	(2) 22.5"H x 16"W	(2) 22.5"H x 16"W	(2) 22"H x 22"W	(2) 22"H x 22"W
	2" Filter (Qty.) Size	(1) 18.5"H x 30.5"W	(1) 18.5"H x 30.5"W	(1) 21.5"H x 34.5"W	(1) 21.5"H x 34.5"W	(1) 21.5"H x 46.5"W	(1) 21.5"H x 46.5"W
Water Connections, Female NPT		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Condensate Connections, Female NPT		3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.
Weight, Operating (Lbs.)		225	223	293	298	332	332
Weight, Shipping (Lbs.)		244	242	314	319	351	351

Dimensional Data – Enfinity Horizontal Size 007, 009, 012

Left Hand Return – End and Straight Discharge

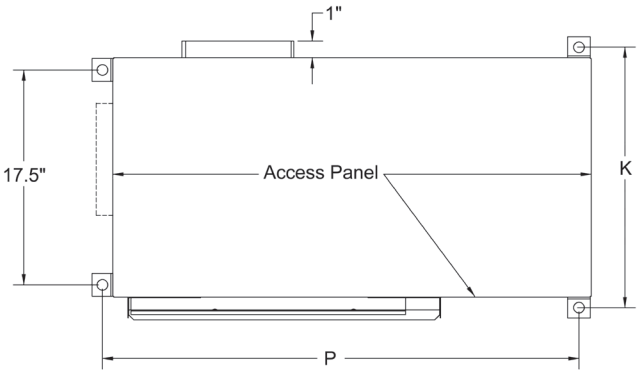
Physical Data (in inches)

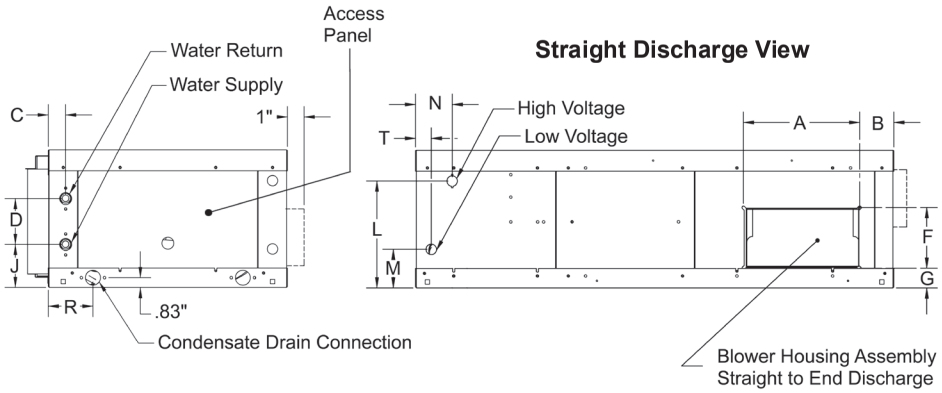
Unit Size	007	009	012
Fan Wheel - D x W	6.3 x 6.0	6.3 x 6.0	6.2 x 7.4
Standard PSC Motor Horsepower	1/8	1/8	1/8
Coil Face Area (Sq. Ft.)	0.97	1.11	1.53
Coil Rows	3	3	4
Refrigerant Charge (oz.)	17 oz.	19 oz.	31.5 oz.
1" Filter, (Qty.) Size (In.)	(1)10 x 20	(1)10 x 20	(1)10 x 26
Water Connections, FPT	1/2	1/2	1/2
Condensate Connections, FPT	3/4	3/4	3/4
Weight, Operate (Lbs.)	98	99	115
Weight, Shipping (Lbs.)	130	130	145

Overall Unit Dimensions
Size 007, 009 = 20"W x 34"L x 11.50"H
Size 012 = 20"W x 40"L x 11.50"H

Dimensions are approximate

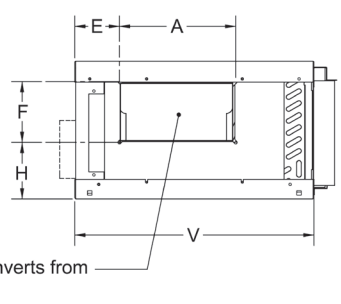
Right and left hand return determined by facing the water connection side of the unit.

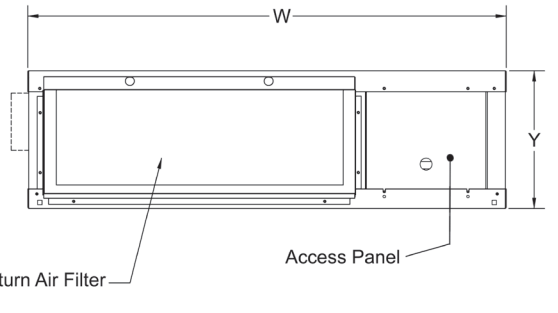




Straight Discharge View

End Discharge View





Dimensional Data (in inches)

Unit Size	Dimensions																		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y
007–009	7.55	3.25	1.45	3.83	4.12	4.95	1.80	5.00	3.60	22	8.93	3.23	3.00	34	3.73	1.25	20	34	11.50
012	9.60	2.80	1.45	3.83	3.75	4.80	1.80	5.00	3.60	22	8.93	3.23	3.00	40	3.73	1.25	20	40	11.50

Dimensional Data – Enfinity Horizontal Size 007, 009, 012

Right Hand Return – End and Straight Discharge

Physical Data (in inches)

Unit Size	007	009	012
Fan Wheel - D x W	6.3 x 6.0	6.3 x 6.0	6.2 x 7.4
Standard PSC Motor Horsepower	1/8	1/8	1/8
Coil Face Area (Sq. Ft.)	0.97	1.11	1.53
Coil Rows	3	3	4
Refrigerant Charge (oz.)	17 oz.	19 oz.	31.5 oz.
1" Filter, (Qty.) Size (In.)	(1)10 x 20	(1)10 x 20	(1)10 x 26
Water Connections, FPT	1/2	1/2	1/2
Condensate Connections, FPT	3/4	3/4	3/4
Weight, Operate (Lbs.)	98	99	115
Weight, Shipping (Lbs.)	130	130	145

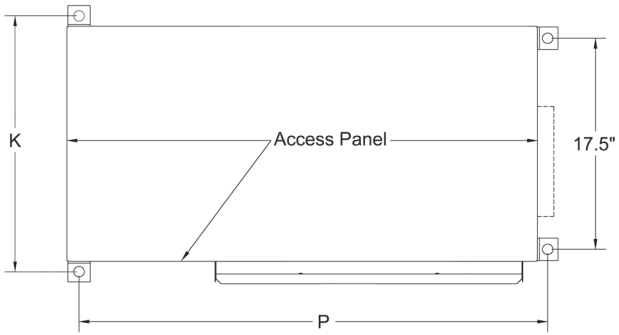
Overall Unit Dimensions

Size 007, 009 = 20"W x 34"L x 11.50"H

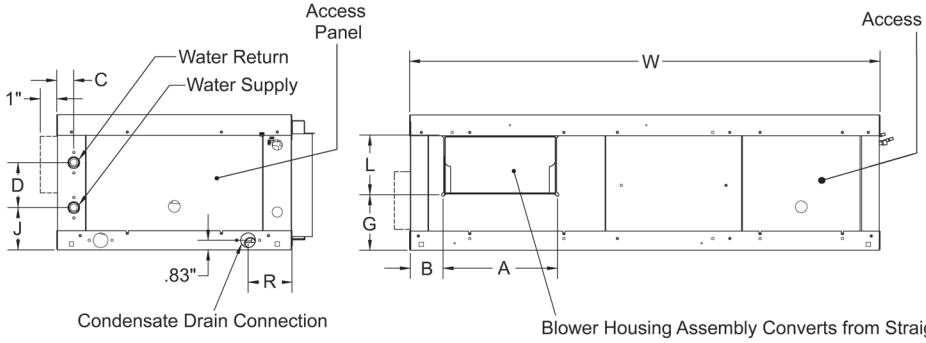
Size 012 = 20"W x 40"L x 11.50"H

Dimensions are approximate

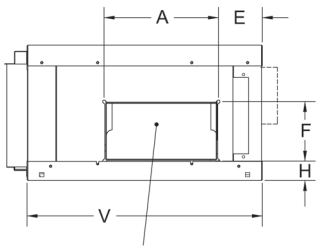
Right and left hand return determined by facing the water connection side of the unit.

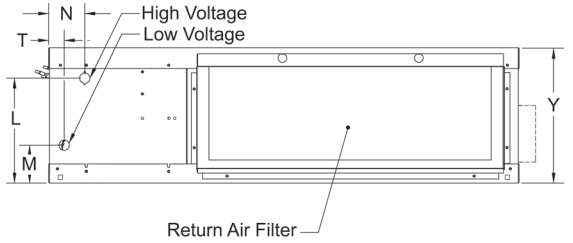


Straight Discharge View



End Discharge View





Dimensional Data (in inches)

Unit Size	Dimensions																		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y
007–009	7.55	3.25	1.45	3.83	4.12	4.95	5.00	1.80	3.60	22	8.93	3.23	3.00	34	3.73	1.25	20	34	11.50
012	9.60	2.80	1.45	3.83	3.75	4.80	5.00	1.80	3.60	22	8.93	3.23	3.00	40	3.73	1.25	20	40	11.50

Dimensional Data – Enfinity Horizontal Size 015, 019, 024

Left Hand Return – End and Straight Discharge

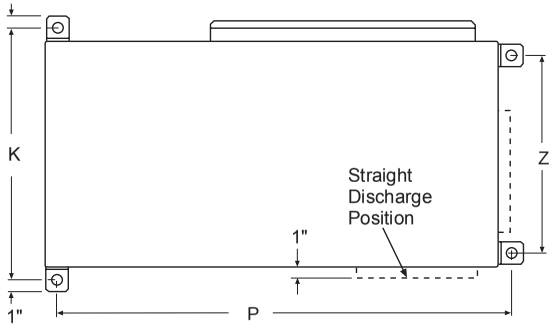
Physical Data (in inches)

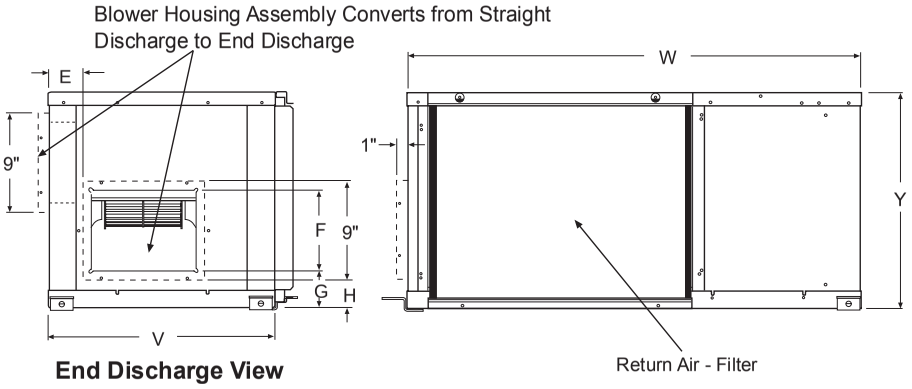
Unit Size	015	019	024
Fan Wheel - D x W	9.5 x 7.1	9.5 x 7.1	9.5 x 7.1
Standard PSC Motor Horsepower	1/3	1/3	1/3
Coil Face Area (Sq. Ft.)	2.75	2.75	2.75
Coil Rows	3	3	3
Refrigerant Charge (oz.)	43 oz.	45 oz.	40.5 oz.
1" Filter, (Qty.) Size (In.)	(1)18 x 24	(1)18 x 24	(1)18 x 24
Water Connections, FPT	1/2	1/2	1/2
Condensate Connections, FPT	3/4	3/4	3/4
Weight, Operate (Lbs.)	195	195	195
Weight, Shipping (Lbs.)	214	214	214

Overall Unit Dimensions =
20"W x 42"L x 19"H

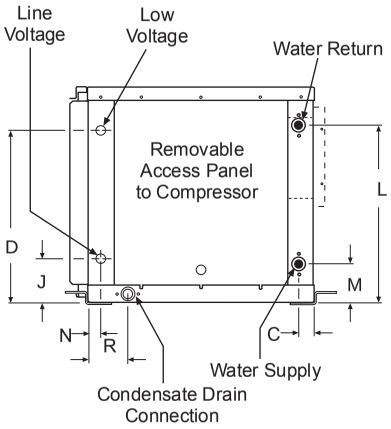
Dimensions are approximate.

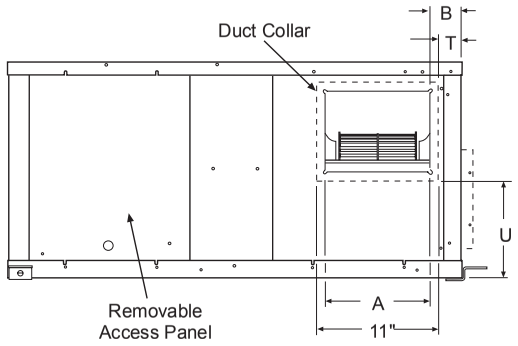
Right and left hand return determined by facing the water connection side of the unit.





End Discharge View





Straight Discharge View

Dimensional Data (in inches)

Unit Size	Dimensions																				
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	U	V	W	Y	Z
015	9.22	3.00	1.45	14.93	2.91	7.12	3.15	2.15	4.10	22	15.43	3.60	1.25	42	3.73	2.03	8.30	20	42	19	17.5
019	9.22	3.00	1.45	14.93	2.91	7.12	3.15	2.15	4.10	22	15.43	3.60	1.25	42	3.73	2.03	8.30	20	42	19	17.5
024	9.22	3.00	1.45	14.93	2.91	7.12	3.15	2.15	4.10	22	15.43	3.60	1.25	42	3.73	2.03	8.30	20	42	19	17.5

Dimensional Data – Enfinity Horizontal Size 015, 019, 024

Right Hand Return – End and Straight Discharge

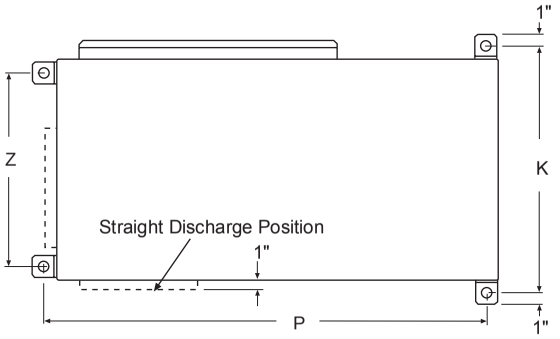
Physical Data (in inches)

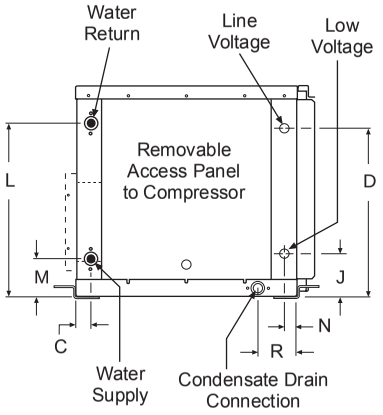
Unit Size	015	019	024
Fan Wheel - D x W	9.5 x 7.1	9.5 x 7.1	9.5 x 7.1
Standard PSC Motor Horsepower	1/3	1/3	1/3
Coil Face Area (Sq. Ft.)	2.75	2.75	2.75
Coil Rows	3	3	3
Refrigerant Charge (oz.)	43 oz.	45 oz.	40.5 oz.
1" Filter, (Qty.) Size (In.)	(1)18 x 24	(1)18 x 24	(1)18 x 24
Water Connections, FPT	1/2	1/2	1/2
Condensate Connections, FPT	3/4	3/4	3/4
Weight, Operate (Lbs.)	195	195	195
Weight, Shipping (Lbs.)	214	214	214

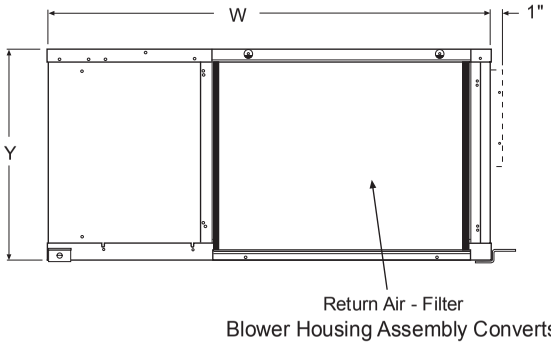
Overall Unit Dimensions =
20"W x 42"L x 19"H

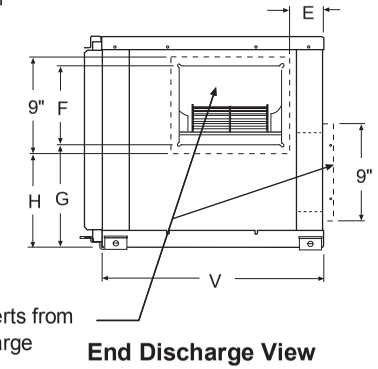
Dimensions are approximate.

Right and left hand return determined by facing the water connection side of the unit.

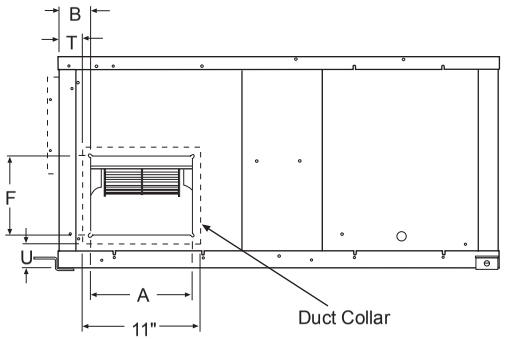








End Discharge View



Straight Discharge View

Dimensional Data (in inches)

Unit Size	Dimensions																				
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	U	V	W	Y	Z
015	9.22	2.98	1.45	14.93	2.91	7.12	9.28	8.30	4.10	22	15.43	3.60	1.25	42	3.73	2.00	2.15	20	42	19	17.5
019	9.22	2.98	1.45	14.93	2.91	7.12	9.28	8.30	4.10	22	15.43	3.60	1.25	42	3.73	2.00	2.15	20	42	19	17.5
024	9.22	2.98	1.45	14.93	2.91	7.12	9.28	8.30	4.10	22	15.43	3.60	1.25	42	3.73	2.00	2.15	20	42	19	17.5

Dimensional Data – Enfinity Horizontal Size 030, 036

Left Hand Return – End and Straight Discharge

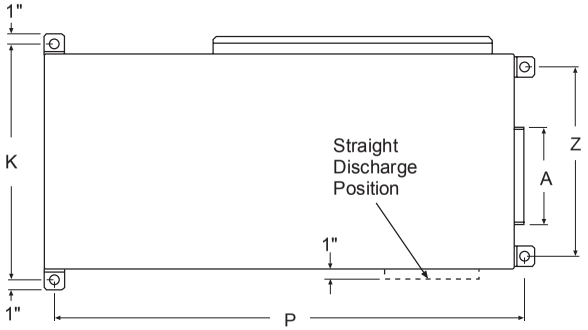
Physical Data (in inches)

Unit Size	030	036
Fan Wheel - D x W	9.5 x 7.1	9.5 x 7.1
Standard PSC Motor Horsepower	1/3	1/2
Coil Face Area (Sq. Ft.)	3.43	3.43
Coil Rows	3	3
Refrigerant Charge (oz.)	48 oz.	49 oz.
1" Filter, (Qty.) Size (In.)	(1)19 x 27	(1)19 x 27
Water Connections, FPT	3/4	3/4
Condensate Connections, FPT	3/4	3/4
Weight, Operate (Lbs.)	225	223
Weight, Shipping (Lbs.)	244	242

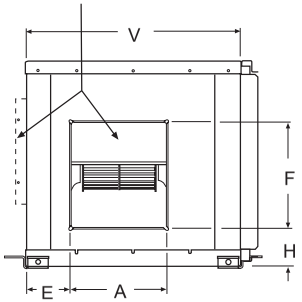
Overall Unit Dimensions =
21"W x 46"L x 20"H

Dimensions are approximate.

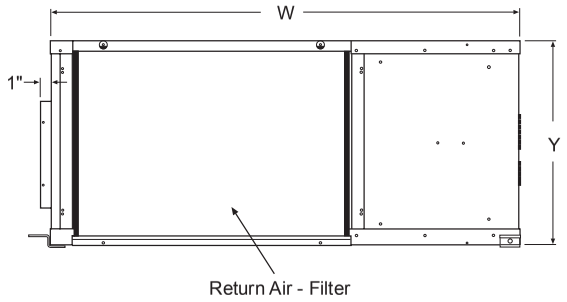
Right and left hand return determined by facing the water connection side of the unit.

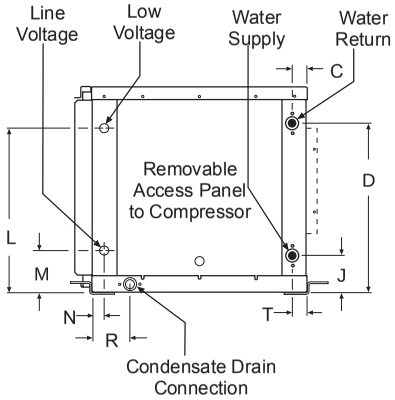


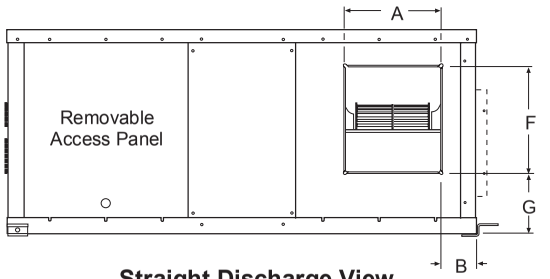
Blower Housing Assembly Converts from Straight Discharge to End Discharge



End Discharge View







Straight Discharge View

Dimensional Data (in inches)

Unit Size	Dimensions																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y	Z
030	9.29	3.53	1.45	16.43	4.41	10.26	6.17	4.06	3.60	23	15.93	4.10	1.25	46	3.74	1.45	21	46	20	18.5
036	9.29	3.53	1.45	16.43	4.41	10.26	6.17	4.06	3.60	23	15.93	4.10	1.25	46	3.74	1.45	21	46	20	18.5

Dimensional Data – Enfinity Horizontal Size 030, 036

Right Hand Return – End and Straight Discharge

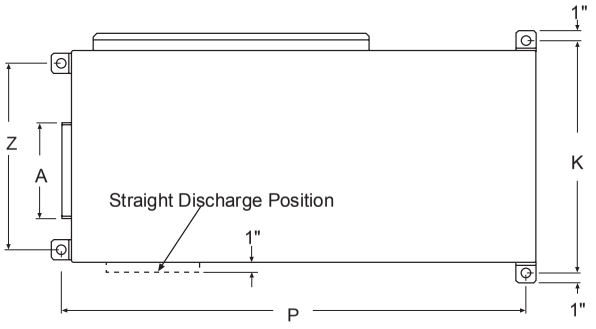
Physical Data (in inches)

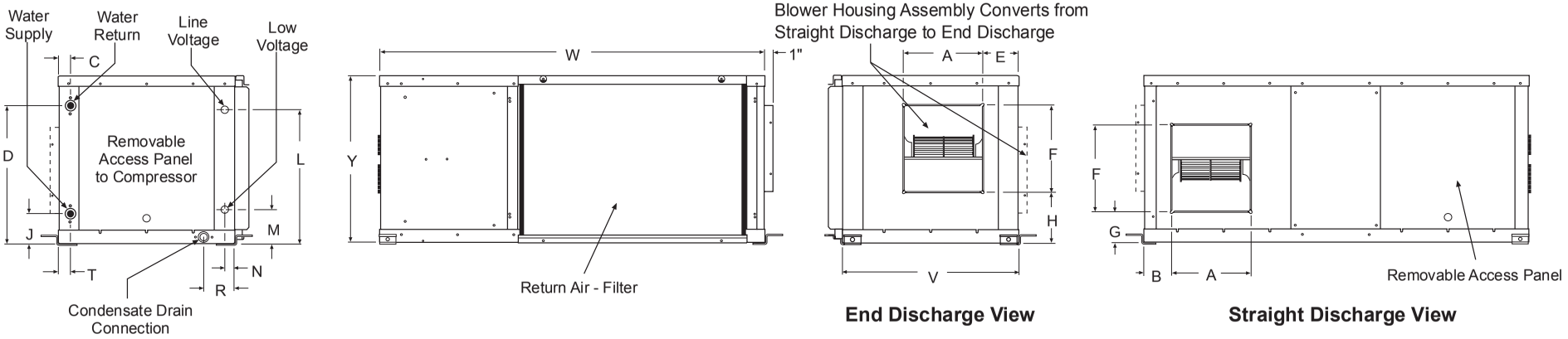
Unit Size	030	036
Fan Wheel - D x W	9.5 x 7.1	9.5 x 7.1
Standard PSC Motor Horsepower	1/3	1/2
Coil Face Area (Sq. Ft.)	3.43	3.43
Coil Rows	3	3
Refrigerant Charge (oz.)	48 oz.	49 oz.
1" Filter, (Qty.) Size (In.)	(1)19 x 27	(1)19 x 27
Water Connections, FPT	3/4	3/4
Condensate Connections, FPT	3/4	3/4
Weight, Operate (Lbs.)	225	223
Weight, Shipping (Lbs.)	244	242

Overall Unit Dimensions = 21"W x 46"L x 20"H

Dimensions are approximate.

Right and left hand return determined by facing the water connection side of the unit.





Dimensional Data (in inches)

Unit Size	Dimensions																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y	Z
030	9.29	3.53	1.45	16.43	4.41	10.26	4.06	6.17	3.60	23	15.93	4.10	1.25	46	3.74	1.45	21	46	20	18.5
036	9.29	3.53	1.45	16.43	4.41	10.26	4.06	6.17	3.60	23	15.93	4.10	1.25	46	3.74	1.45	21	46	20	18.5

Dimensional Data – Enfinity Horizontal Size 042, 048, 060, 070

Left Hand Return – End and Straight Discharge

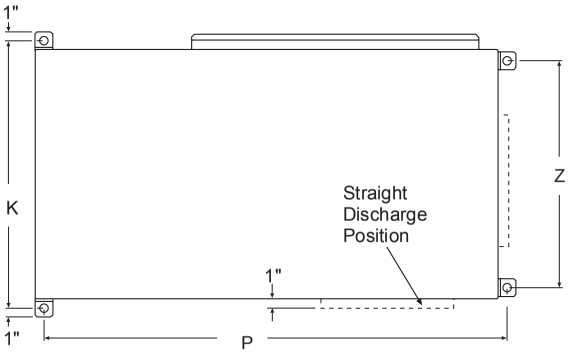
Physical Data (in inches)

Unit Size	042	048	060	070
Fan Wheel - D x W	12.9 x 11.1	12.9 x 11.1	12.9 x 11.1	12.9 x 11.1
Standard PSC Motor Horsepower	1/2	3/4	3/4	3/4
Coil Face Area (Sq. Ft.)	4.43	4.43	6.11	6.11
Coil Rows	3	3	3	3
Refrigerant Charge (oz.)	60.0 oz.	55.0 oz.	74.0 oz.	64.0 oz.
1" Filter, (Qty.) Size (In.)	(2)16 x 22.5	(2)16 x 22.5	(2)22 x 22	(2)22 x 22
Water Connections, FPT	3/4	3/4	3/4	3/4
Condensate Connections, FPT	3/4	3/4	3/4	3/4
Weight, Operate (Lbs.)	293	298	332	332
Weight, Shipping (Lbs.)	314	319	351	351

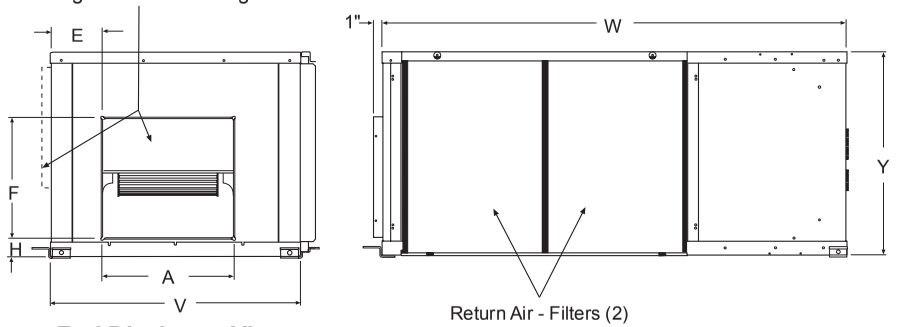
Overall Unit Dimensions =
28"W x 52"L x 23"H

Dimensions are approximate.

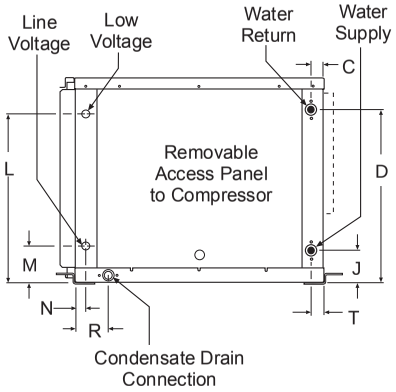
Right and left hand return determined by facing the water connection side of the unit.

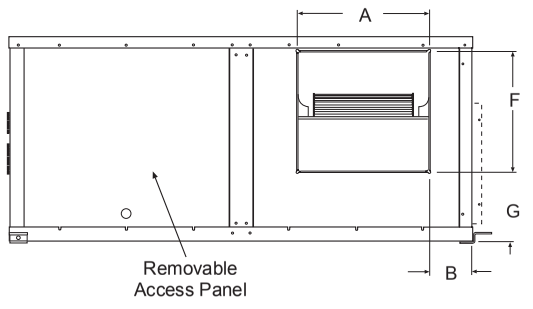


Blower Housing Assembly Converts from Straight Discharge to End Discharge



End Discharge View





Straight Discharge View

Dimensional Data (in inches)

Unit Size	Dimensions																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y	Z
042 – 070	14.68	4.89	1.45	19.43	5.76	13.43	8.06	1.95	3.60	30	17.43	5.60	1.25	52	3.74	1.45	28	52	23	25.5

Dimensional Data – Enfinity Horizontal Size 042, 048, 060, 070

Right Hand Return – End and Straight Discharge

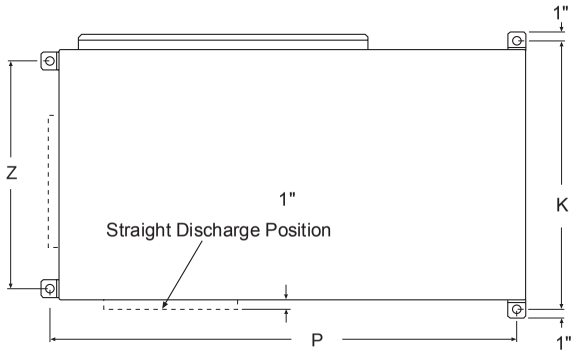
Physical Data (in inches)

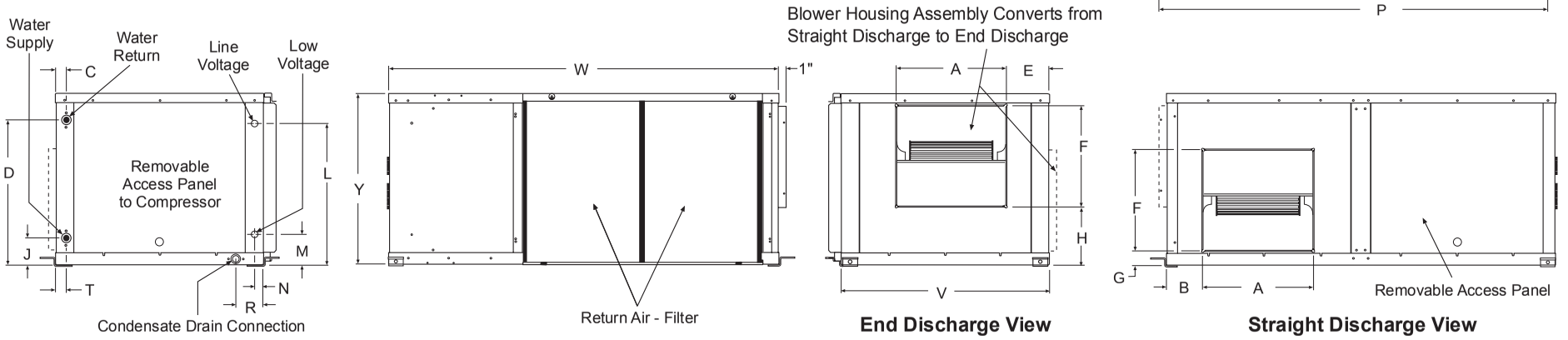
Unit Size	042	048	060	070
Fan Wheel - D x W	12.9 x 11.1	12.9 x 11.1	12.9 x 11.1	12.9 x 11.1
Standard PSC Motor Horsepower	1/2	3/4	3/4	3/4
Coil Face Area (Sq. Ft.)	3.43	3.43	6.11	6.11
Coil Rows	3	3	3	3
Refrigerant Charge (oz.)	60.0 oz.	55.0 oz.	74.0 oz.	64.0 oz.
1" Filter, (Qty.) Size (In.)	(2)16 x 22.5	(2)16 x 22.5	(2)22 x 22	(2)22 x 22
Water Connections, FPT	3/4	3/4	3/4	3/4
Condensate Connections, FPT	3/4	3/4	3/4	3/4
Weight, Operate (Lbs.)	293	298	332	332
Weight, Shipping (Lbs.)	314	319	351	351

Overall Unit Dimensions =
28"W x 52"L x 23"H

Dimensions are approximate.

Right and left hand return determined by facing the water connection side of the unit.





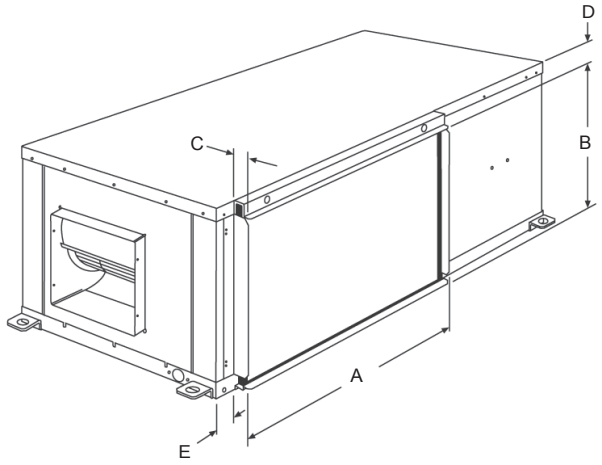
Dimensional Data (in inches)

Unit Size	Dimensions																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	V	W	Y	Z
042 – 070	14.68	4.89	1.45	19.43	5.76	13.43	1.95	8.06	3.60	30	17.43	5.60	1.25	52	3.74	1.45	28	52	23	25.5

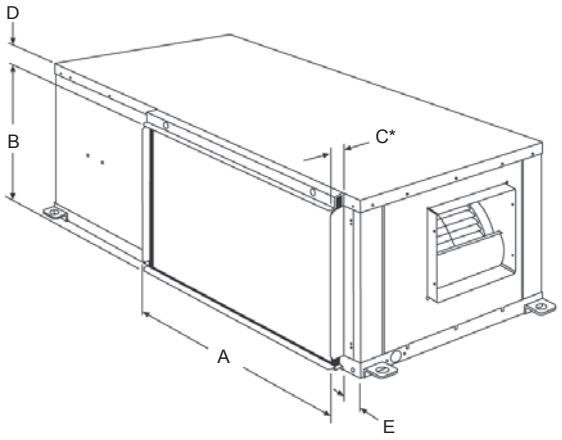
Filter Rack/Return Air Duct Collar

Unit Sizes 007 thru 070

Standard 1" Filter Rack – Left Hand Return, End Discharge

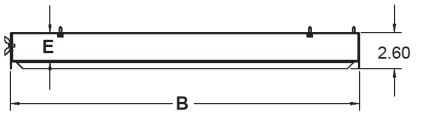


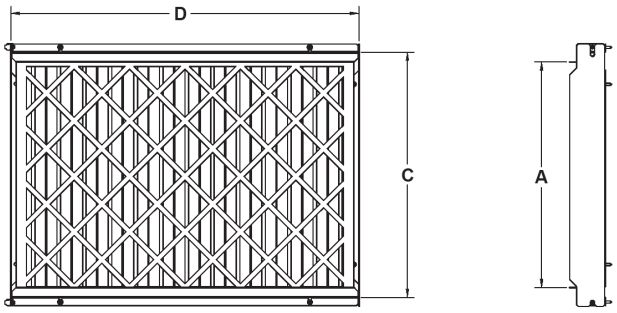
Standard 1" Filter Rack – Right Hand Return, End Discharge

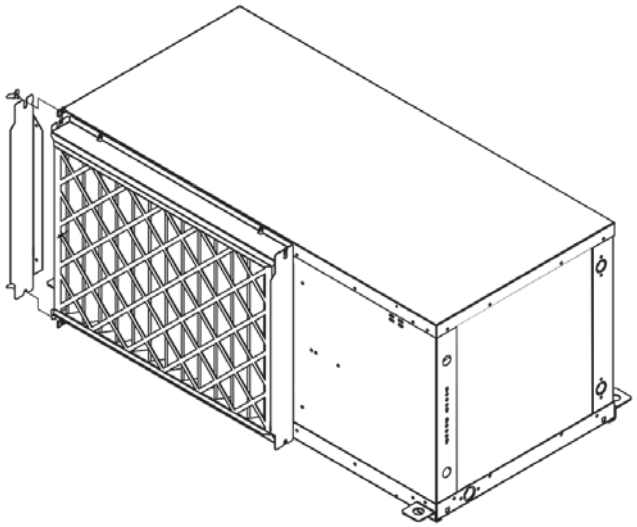


Unit size	Dimensions (inches)				
	A	B	C	D	E
007, 009	20.17	8.88	1.90	1.56	1.25
012	26.17	8.88	1.90	1.56	1.25
015, 019, 024	24.00	17.02	1.76	1.06	1.39
030, 036	27.32	18.01	1.63	1.06	1.63
042, 048	32.07	21.54	1.63	1.06	2.16
060, 070	44.20	20.97	1.63	1.06	2.16

Optional 2" Filter Rack Assembly







Unit size	Dimensions (inches)				
	A	B	C	D	E
007, 009	8.22	21.43	9.55	21.53	2.06
012	8.22	27.42	9.55	27.42	2.06
015, 019, 024	16.29	25.15	17.62	25.15	2.06
030, 036	17.23	30.75	18.56	30.75	2.06
042, 048	20.28	34.75	21.61	34.75	2.06
060, 070	20.22	46.9	21.54	46.9	2.06

These easy-to-operate comfort command centers bring you a complete range of deluxe features. Features that enable you to match temperature programming to your application, provide added convenience, and help save energy and money. All packed into an extra rugged, highly reliable design that will look and perform like new for years to come.

Programmable Electronic Thermostat Two-Stage Heat/Two-Stage Cool, 7-Day Programmable

McQuay Part No. 668375301
(1-Pk, White with Wall Plate)

ENERGY STAR

Features

- Hardwired
- Programmable and configurable
- Simpleset™ feature enables easy copying of one day's programming for the entire week
- Title 24 compliant/No batteries required
- Relay Ouputs (minimum voltage drop in thermostat)
- Clear, backlit display makes it easy to see time, temperature, and setpoint — even in the dark
- Ideally suited for: Light commercial/residential (new construction/replacement)
- Lockout feature prevents unwanted tampering
- Optional remote temperature sensor available (see page 59)

668375301 – Specifications

Electrical Rating:
- 24 VAC (18 to 30 VAC/VDC)
- 1 amp maximum per terminal
- 4 amp maximum total load
- Easy access terminal block

Temperature Control Ranges:
- 45ºF to 90ºF (7ºC to 32ºC), Accuracy: ± 1ºF (± 0.5ºC)

System Configurations:
- Two-stage heat/Two-stage cool

Terminations:
- R, C, W1, Y1, W2, Y2, G, S1, S2

Non-Programmable, Auto or Manual Change-over Two Stage Heat/Two Stage Cool, Night Setback Override

McQuay Part No. 668375401
(1-Pk, White with Wall Plate)

Features

- Hardwired
- Two-stage heat / two-stage cool systems
- Backlit display
- Field temperature calibration
- Status indicator light
- Relay outputs (minimum voltage drop in thermostat)
- Night set-back override (used when unit is wired through a time clock on the U-terminal)
- Optional remote temperature sensor available (see page 58)

668375401 – Specifications

Electrical Rating:
- 24 VAC (18 to 30 VAC/VDC)
- 1 amp maximum per terminal
- 4 amp maximum total load
- Easy access terminal block

Temperature Control Ranges:
- 45ºF to 90ºF (7ºC to 32ºC), Accuracy: ± 1ºF (± 0.5ºC)

System Configurations:
- Two-stage heat / two-stage cool

Timing:
- Backlight Operation: 13 seconds after mode change or button press

Terminations:
- +R, -C, W1, Y1, W2, Y2, G, O, S1, S2

Optional Remote Sensor

Part No. 667720401 – Used with Thermostat(s) 668375301 & 668375401

The fast, easy solution for temperature sensing problems.

- For tamper prone areas
- Poor airflow areas
- Troubled applications
- Foam gasket prevents drafts through wall opening
- Mounts to standard 2" x 4" outlet box
- $2^{3}/_{4}$"W x $4^{1}/_{2}$"H

MicroTech III Water Source Heat Pump Room Temperature Sensors

(Kit P/N 669529101, 669529201, 669529001)

Sensor 669529101
Sensor 669529201 Not Shown

Sensor 669529001

Room temperature sensors provide electronic sensing of room temperatures at interior wall locations. All sensor models feature a thermistor (10kΩ), a green LED for unit status and tenant override button. Setpoint adjustment potentiometer, heat and fan mode switches are optional features.

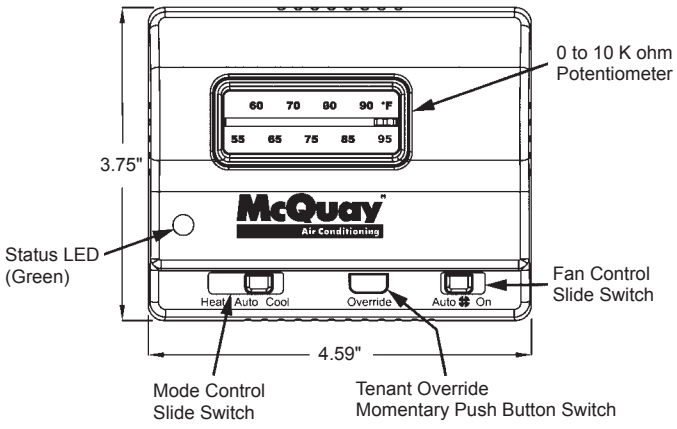
Feature	Sensor Kit Part Numbers		
	669529001	669529101	669529201
Tenant Override Button	Yes	Yes	Yes
SPT Adj. Pot	No	Yes	Yes
Status LED	Yes	Yes	Yes
Fan and Mode Switches	No	[1]Yes	[2]Yes

Notes:

[1] 55º to 95°F (13º to 35ºC)

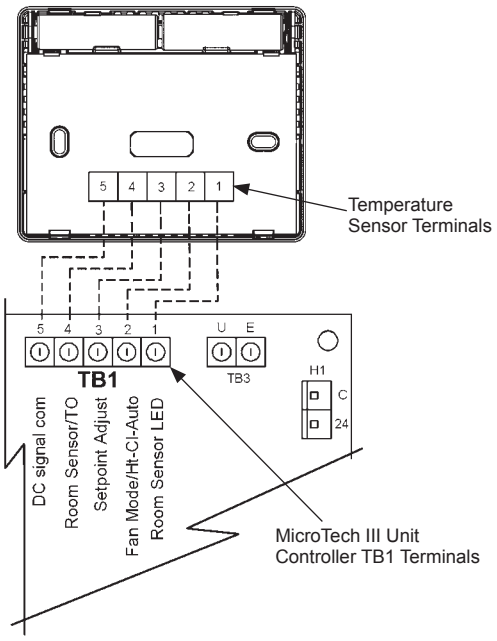
[2] -3º to +3ºF (-1.5º to +1.5ºC)

MicroTech III Wall Sensor Details

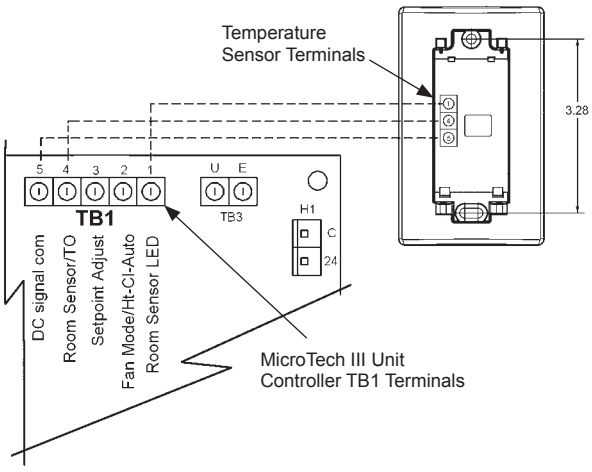


Optional Water Source Heat Pump Room Temperature Sensors Wiring

Kit Part No.s 669529101, 669529201



Temperature Sensor Wiring to MicroTech III Unit Controller (Part No. 669529001)



Combination Balancing and Shutoff (Ball) Valves

Constructed of brass and rated at 400 psig (2758 kPa) maximum working pressure. Valves have a built-in adjustable memory stop to eliminate rebalancing. Valves have FPT connections on both ends for connection to the water hose and to the field piping.

Shut off Ball Valve

Motorized Valve

Used for variable pumping applications, the valve is wired directly to the H8 terminal on the MicroTech III controller and typically piped in the return water line from the unit. The valve will allow water flow only when there is a call for heating or cooling. The valve is rated for 300 psig (2070 kPa).

2-Way Motorized Valve

Field Installed Controls

- A multiple unit control panel allows a single thermostat to control up to three units in parallel.
- An auxiliary relay controls optional devices when the fan is operating. The relay has SPDT contacts.

Supply and Return Water Hoses

Available as fire rated construction in 2 or 3 foot (610 mm or 914 mm) lengths. Fire rated hoses have a synthetic polymer core with an outer rated covering of stainless steel. Fittings are steel. Assembly is “fire rated” and tested according to UL 94 with a VO rating and ASTM 84. Each hose has MPT connections. Hoses have a swivel connection at one end and are available in 3/4" (19 mm) to match the FPT fittings on the unit.

Flow Control, Supply and Return Water Hoses

Hose Specifications

Inner Tube: Fire retardant TRP (Thermosplastic Rubber) tested to UL-94 with V-O rating.

Outer Braid: Stainless steel wire (ANSI 302/304)

Temperature range: 40°F to 200°F

Hose Size	GPM	Part Number
3/4"	3.0	106582913
3/4"	3.5	106582914
3/4"	4.0	106582915
3/4"	4.5	106582916
3/4"	5.0	106582917
3/4"	5.5	106582918
3/4"	6.0	106582919
3/4"	6.5	106582920
3/4"	7.0	106582921
3/4"	7.5	106582921
3/4"	8.0	106582922
3/4"	9.0	106582923
3/4"	10.0	106582924
3/4"	11.0	106582925
3/4"	12.0	106582926
3/4"	13.0	106582927
3/4"	14.0	106582928
3/4"	15.0	106582929

Condensate Hose Kit

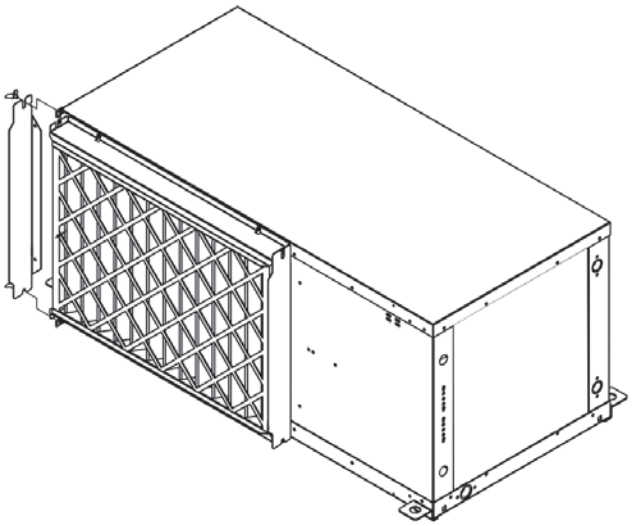
Available as a long clear plastic hose with the necessary clamps and a MPT hose fitting for connection to the FPT field piping.

Condensate Hose Kit

Two-inch Filter Rack

Selectable as factory-mounted or as an optional field-installed kit, replacing the standard 1" filter rack. It provides a 1" (25 mm) extended collar for connection of return air ductwork and accepts a 2" (51 mm) thick, high performance filter. The filter rack can be mounted for left hand or right hand filter removal by rotating it 180 degrees. Two thumb screws allow easy removal of the access door for quick filter changes without using a tool.

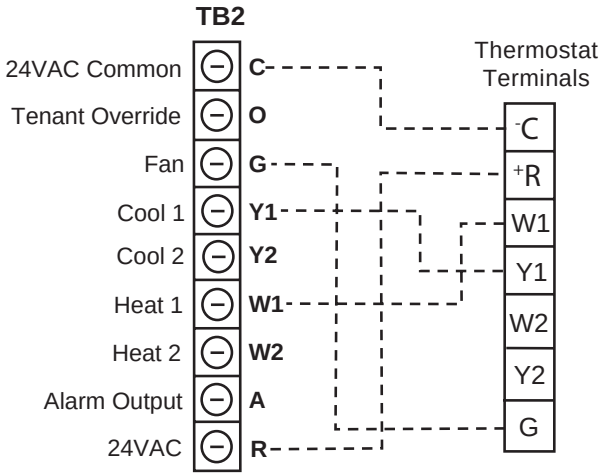
Two-inch Filter Rack



Programmable Electronic Thermostat Two-Stage Heat/Two-Stage Cool, 7-Day Programmable

1 Circuit (Part No. 668375301)

MicroTech III Unit Control Board
Low Voltage Terminal Strip (Circuit 1)

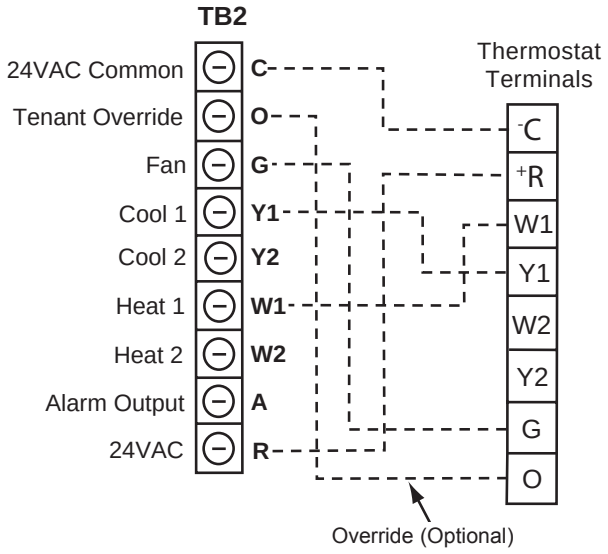


Notes: *Includes Thermostat and Wall Plate.*

Non-Programmable, Auto or Manual Changeover Two Stage Heat/Two Stage Cool, Night Setback and Override Feature

1 Circuit (Part No. 668375401)

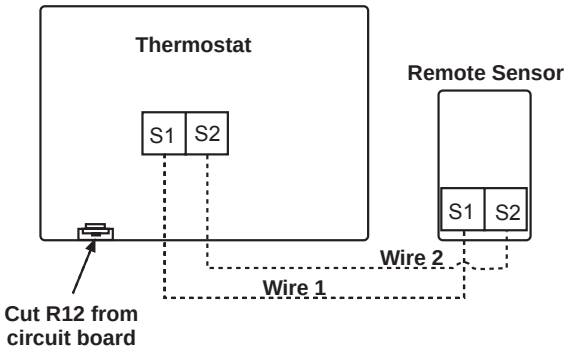
MicroTech III Unit Control Board
Low Voltage Terminal Strip (Circuit 1)



Note: An additional conductor is required between "O" terminals for the override feature to work.

Optional Remote Sensor Wiring to Thermostat(s) 668375301 or 668375401

Part No. 667720401



Typical Wiring Diagram

MicroTech III Unit Controller with PSC Motor – 208/230-60-1 Unit Sizes 019-060

Drawing No. 668991002

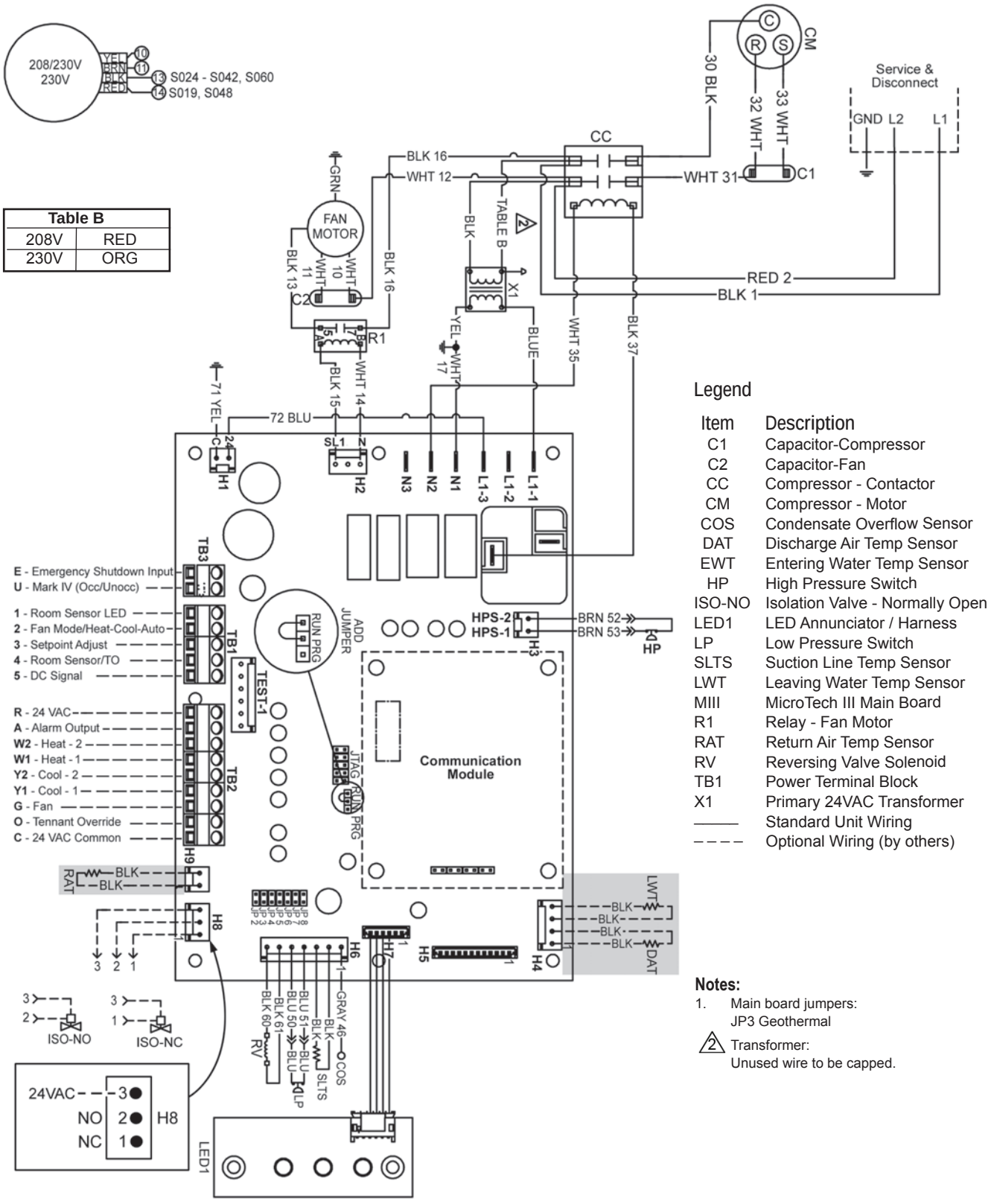


Table B	
208V	RED
230V	ORG

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Compressor - Contactor
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp Sensor
EWT	Entering Water Temp Sensor
HP	High Pressure Switch
ISO-NO	Isolation Valve - Normally Open
LED1	LED Annunciator / Harness
LP	Low Pressure Switch
SLTS	Suction Line Temp Sensor
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
R1	Relay - Fan Motor
RAT	Return Air Temp Sensor
RV	Reversing Valve Solenoid
TB1	Power Terminal Block
X1	Primary 24VAC Transformer
———	Standard Unit Wiring
– – – –	Optional Wiring (by others)

Notes:

1. Main board jumpers:
   JP3 Geothermal
2. Transformer:
   Unused wire to be capped.

Note: *The gray tinted areas in the wiring diagram; Leaving Water (LWT), Discharge Air (DAT) and Return Air (RAT) Temperature sensors are shipped or are field installed on units configured with a communication module.*
**Wiring diagrams are typical. For the latest drawing version refer to the wiring diagram located on the inside of the controls access panel of the unit.*

MicroTech III Unit Controller with PSC Motor – 208/230/460/575-60-3 Unit Sizes 024-060

Drawing No. 668991202

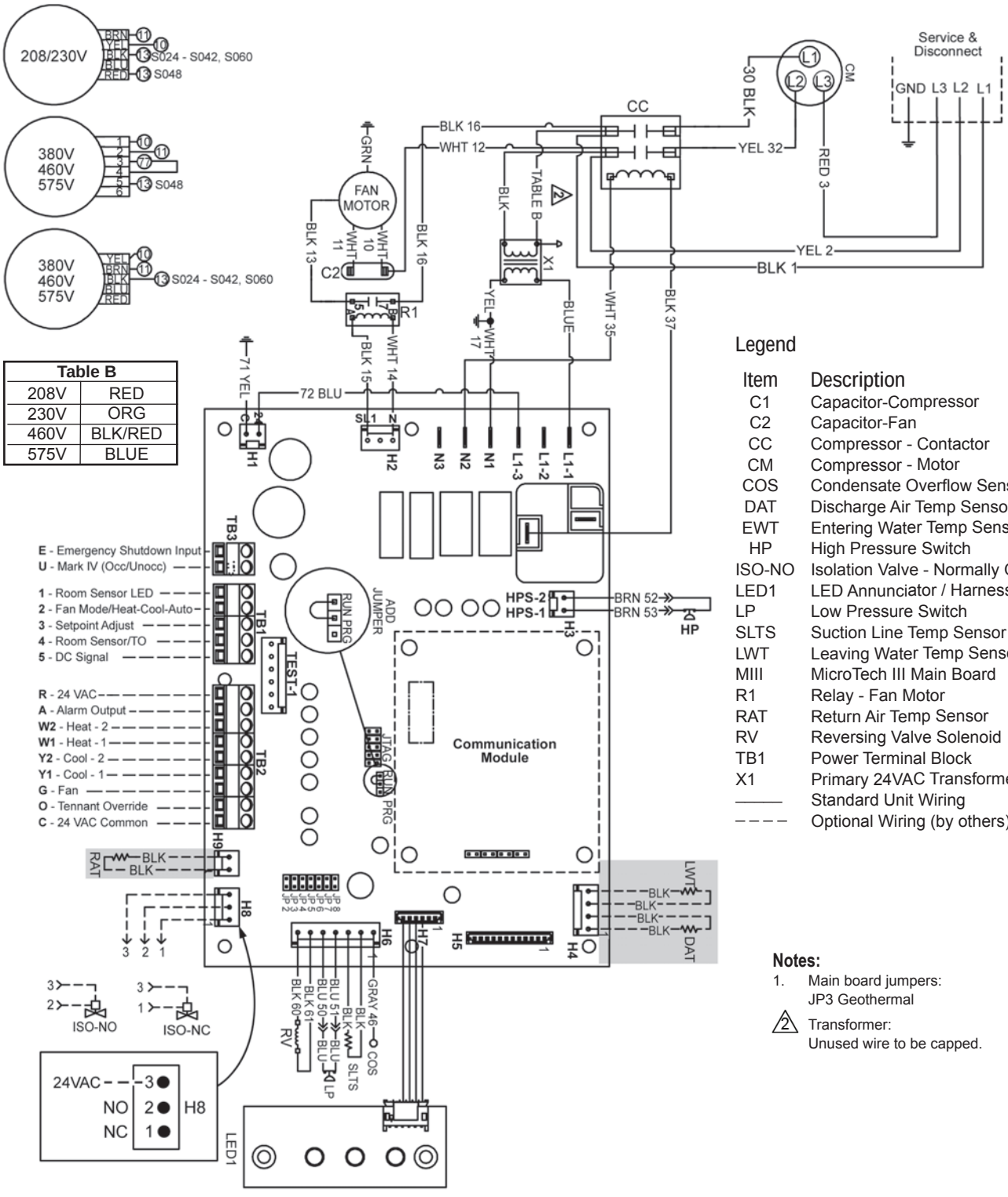


Table B	
208V	RED
230V	ORG
460V	BLK/RED
575V	BLUE

Legend

Item	Description
C1	Capacitor-Compressor
C2	Capacitor-Fan
CC	Compressor - Contactor
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp Sensor
EWT	Entering Water Temp Sensor
HP	High Pressure Switch
ISO-NO	Isolation Valve - Normally Open
LED1	LED Annunciator / Harness
LP	Low Pressure Switch
SLTS	Suction Line Temp Sensor
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
R1	Relay - Fan Motor
RAT	Return Air Temp Sensor
RV	Reversing Valve Solenoid
TB1	Power Terminal Block
X1	Primary 24VAC Transformer
———	Standard Unit Wiring
– – – –	Optional Wiring (by others)

Notes:

1. Main board jumpers: JP3 Geothermal
2. Transformer: Unused wire to be capped.

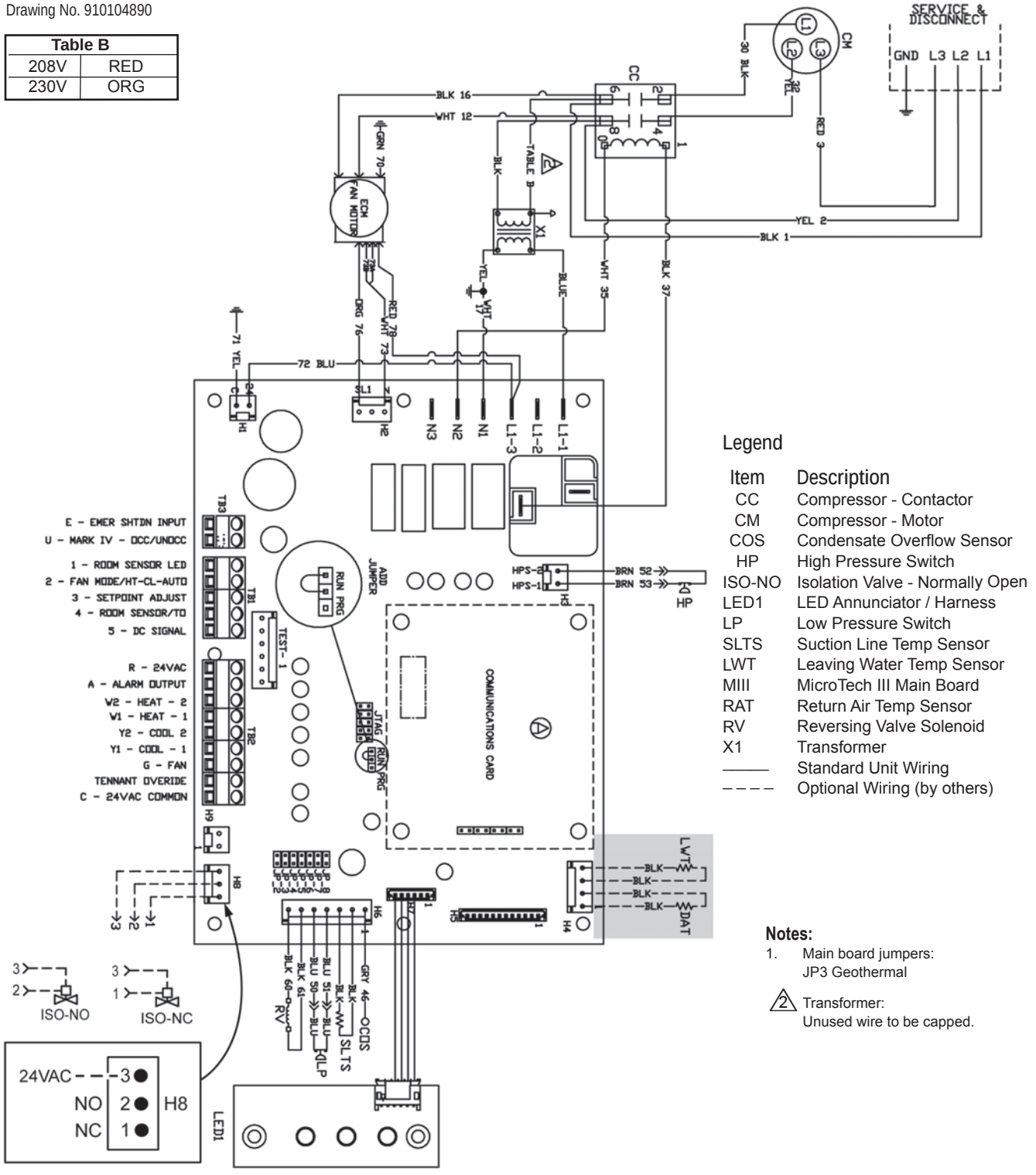
Note: *The gray tinted areas in the wiring diagram; Leaving Water (LWT), Discharge Air (DAT) and Return Air (RAT) Temperature sensors are shipped or are field installed on units configured with a communication module.*
**Wiring diagrams are typical. For the latest drawing version refer to the wiring diagram located on the inside of the controls access panel of the unit.*

Typical Wiring Diagram

MicroTech III Unit Controller with ECM Motor – 208/230-60-3 Unit Sizes 024-070

Drawing No. 910104890

Table B	
208V	RED
230V	ORG



Legend

Item	Description
CC	Compressor - Contactor
CM	Compressor - Motor
COS	Condensate Overflow Sensor
HP	High Pressure Switch
ISO-NO	Isolation Valve - Normally Open
LED1	LED Annunciator / Harness
LP	Low Pressure Switch
SLTS	Suction Line Temp Sensor
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
RAT	Return Air Temp Sensor
RV	Reversing Valve Solenoid
X1	Transformer
———	Standard Unit Wiring
– – – –	Optional Wiring (by others)

Notes:

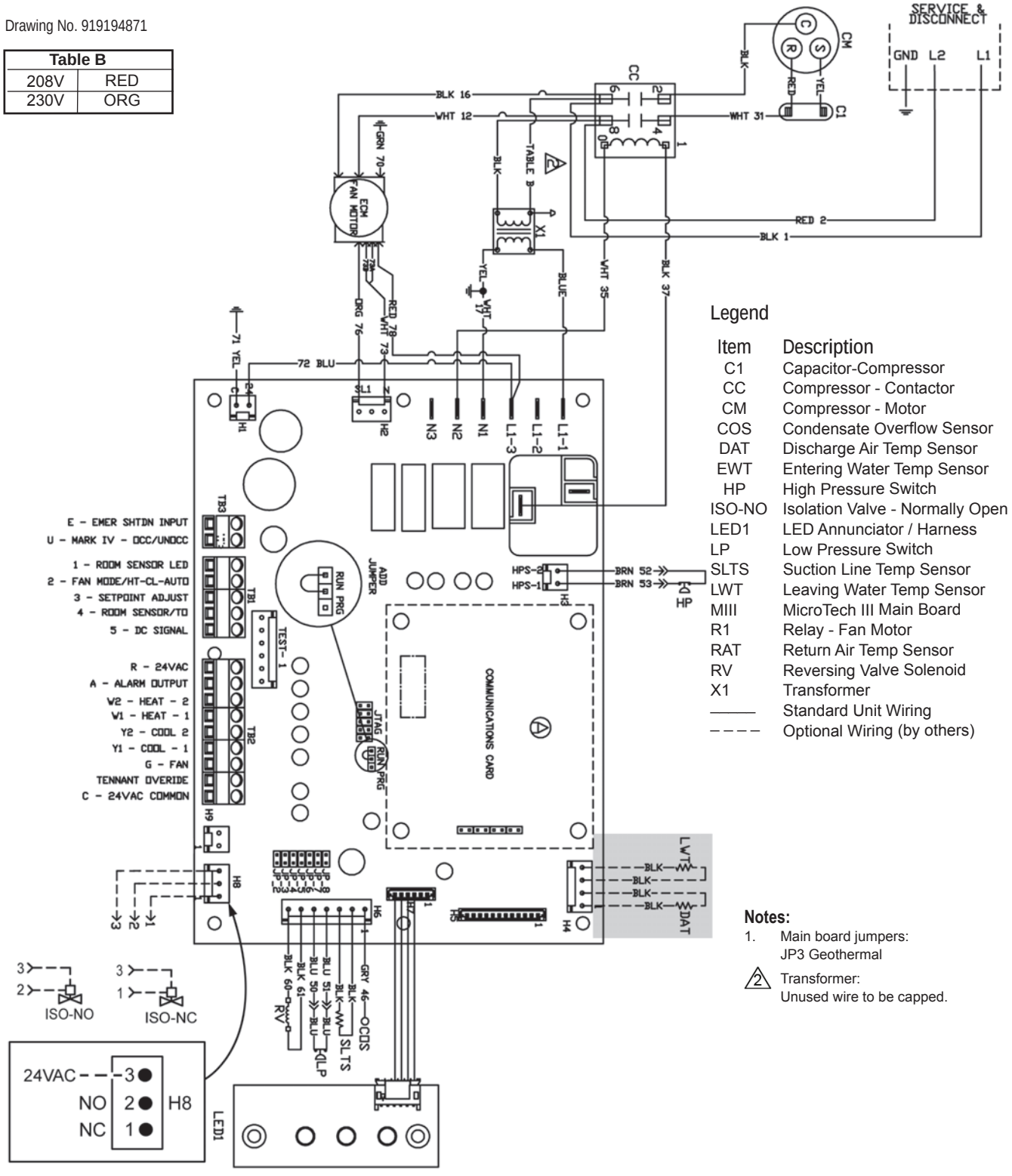
1. Main board jumpers:
   JP3 Geothermal
2. Transformer:
   Unused wire to be capped.

Note: *The gray tinted areas in the wiring diagram; Leaving Water (LWT) and Discharge Air (DAT) Temperature sensors are shipped or are field installed on units configured with a communication module.*
**Wiring diagrams are typical. For the latest drawing version refer to the wiring diagram located on the inside of the controls access panel of the unit.*

MicroTech III Unit Controller with ECM Motor – 208/230-60-1 Unit Sizes 015-060

Drawing No. 919194871

Table B	
208V	RED
230V	ORG



Legend

Item	Description
C1	Capacitor-Compressor
CC	Compressor - Contactor
CM	Compressor - Motor
COS	Condensate Overflow Sensor
DAT	Discharge Air Temp Sensor
EWT	Entering Water Temp Sensor
HP	High Pressure Switch
ISO-NO	Isolation Valve - Normally Open
LED1	LED Annunciator / Harness
LP	Low Pressure Switch
SLTS	Suction Line Temp Sensor
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
R1	Relay - Fan Motor
RAT	Return Air Temp Sensor
RV	Reversing Valve Solenoid
X1	Transformer
———	Standard Unit Wiring
– – – –	Optional Wiring (by others)

Notes:

1. Main board jumpers: JP3 Geothermal
2. Transformer: Unused wire to be capped.

Note: *The gray tinted areas in the wiring diagram; Leaving Water (LWT) and Discharge Air (DAT) Temperature sensors are shipped or are field installed on units configured with a communication module.*

**Wiring diagrams are typical. For the latest drawing version refer to the wiring diagram located on the inside of the controls access panel of the unit.*

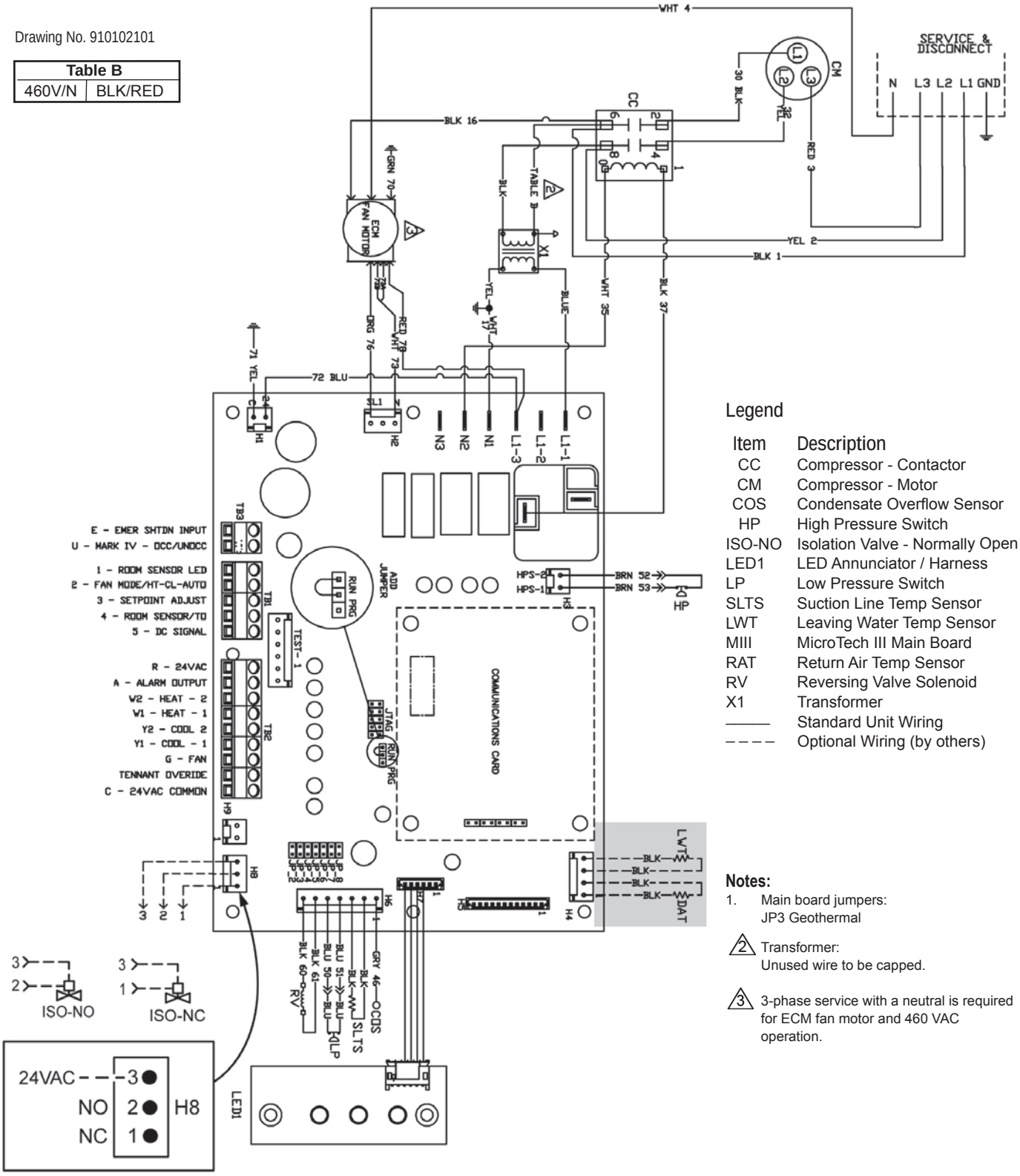
Typical Wiring Diagram

MicroTech III Unit Controller with ECM Motor and Optional Communication Module – 460-60-3

Unit Sizes 024-070

Drawing No. 910102101

Table B	
460V/N	BLK/RED



Legend

Item	Description
CC	Compressor - Contactor
CM	Compressor - Motor
COS	Condensate Overflow Sensor
HP	High Pressure Switch
ISO-NO	Isolation Valve - Normally Open
LED1	LED Annunciator / Harness
LP	Low Pressure Switch
SLTS	Suction Line Temp Sensor
LWT	Leaving Water Temp Sensor
MIII	MicroTech III Main Board
RAT	Return Air Temp Sensor
RV	Reversing Valve Solenoid
X1	Transformer
———	Standard Unit Wiring
– – – –	Optional Wiring (by others)

Notes:

1. Main board jumpers:
   JP3 Geothermal
2. Transformer:
   Unused wire to be capped.
3. 3-phase service with a neutral is required for ECM fan motor and 460 VAC operation.

Note: *The gray tinted areas in the wiring diagram; Leaving Water (LWT) and Discharge Air (DAT) Temperature sensors are shipped or are field installed on units configured with a communication module.*

**Wiring diagrams are typical. For the latest drawing version refer to the wiring diagram located on the inside of the controls access panel of the unit.*

General

Units shall be supplied completely factory assembled, piped, internally wired, fully charged with [R-410A, horizontal unit sizes 007-070] and capable of operation with an entering water temperature range from [55°F to 110°F on models CCH] [30° to 110°F (-6.7°C to 49°C) on models CCW]. All equipment must be rated and certified in accordance with ARI / ISO 13256-1, ETL, ETL and have correct ARI / ISO and ETL labels mounted on side of the cabinets. Each unit shall be run tested at the factory. The installing contractor shall be responsible for furnishing and installing McQuay Water Source Heat Pumps as indicated on the plans and per installation instructions.

Casing and Cabinet

The cabinet shall be fabricated from heavy gauge G-60 galvanized sheet metal with interior surfaces lined with 1/2-inch thick, 1-1/2 lb. [1/2" thick coated glass fiber insulation] [3/8" thick closed-cell non-fibrous Rubatex IAQ 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 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 requirements.

Units shall be configured in one of the following airflow arrangements:

- Left Return/End Discharge
- Right Return/End Discharge
- Left Return/Straight Discharge
- Right Return/Straight Discharge

Units shall have a factory-installed 1" duct flange on the discharge of the blower and must have a minimum of two access panels, one for the compressor compartment and one for the blower compartment. Unit shall have an insulated panel separating the blower compartment from the compressor compartment. Units are to ship with heavy metal brackets, rubber isolators, fasteners and washers to suspend and isolate the unit from the building.

Cabinets shall have separate openings and knockouts for entrance of line voltage and low voltage control wiring. Supply and return water connections shall be brass FPT fittings and shall be securely mounted flush to the cabinet corner post allowing for connection to a flexible hose without the use of a back-up wrench. Unit shall have a high-density polyethylene plastic “dual-sloped” drain pan with a drain connection being flush mounted to the unit casing. It is the installing contractor’s responsibility to provide sufficient clearance so that units can be easily removed for servicing.

Filter Rack and Filters

Unit shall have a 1" (25 mm thick [throwaway] construction filter and a 1" factory-installed combination filter rack/return air duct collar. The filters shall be removable from either side of the unit.

Unit shall have a 2" (51mm) thick construction filter factory installed when the user selects an optional 2" filter rack/return air duct collar. The 2" filter rack is design to accommodate a standard 2" pleated filter and access shall be achieved without a tool.

Refrigerant Circuit

Units shall have a sealed refrigerant circuit, which includes a non-CFC depleting R-410A refrigerant [rotary (sizes 007-015), reciprocating (sizes 019-024) and scroll compressor (sizes 030 to 070)]. In addition each unit will have a thermostatic expansion valve, an aluminum fin and rifled copper tube refrigerant-to-air heat exchanger, a reversing valve and a water-to-refrigerant coaxial heat exchanger. The coaxial coils shall be made of [copper] [or optional cupronickel] and shall be deeply fluted to enhance heat transfer and minimize fouling and scaling. The coaxial coil shall have a working pressure of 400 psig on the waterside of the unit and 500 psig on the refrigerant side for all R-410A units.

Refrigerant metering shall be regulated by a thermostatic expansion valve (TXV) only. Reversing valve shall be four-way solenoid activated refrigerant valve, which fails in the cooling “dominant” operation. Safety controls include a high-pressure switch, a low-pressure switch (sizes 015 to 070 only) and a low refrigerant temperature sensor. Refrigerant gauge access fittings shall be factory installed on high and low pressure refrigerant lines to facilitate field service. Activation of any safety switch shall prevent the compressor from operating. Units shall be capable of being reset only by interrupting the power supply to the unit. Unit shall not be able to be reset from the wall thermostat.

Drain Pan

The condensate pan shall be constructed of high impact IAQ, High Density Polyethylene (HDPE) 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. The water source heat pump unit shall be supplied with standard solid-state electronic condensate overflow protection.

Fan and Motor Assembly

Units 6 tons and smaller shall have a direct drive centrifugal fan. The fan housing shall have a removable orifice ring to facilitate fan motor and fan wheel removal. The fan housing shall protrude through the cabinet to facilitate field supply duct connection. The standard fan motor shall be PSC type isolated from the fan housing and shall have internal thermal overload protection. Units above one ton shall have a terminal strip mounted on the fan motor to facilitate motor speed change. The fan and motor assembly must be capable of overcoming the external static pressures as shown on the schedule. An ECM motor shall be optional for unit sizes 019 thru 060 and standard for unit size 070. The ECM motor shall deliver precise speed and economical performance regardless of system static pressure.

Electrical

A control box shall be located within the unit and shall contain controls for compressor, reversing valve and fan motor operation and shall have either, a 50VA or (optional) 75VA transformer and a terminal block for low voltage field wiring connections. 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 switches. An optional 75VA transformer may be necessary

Solid-State Control System

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

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 w/ 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 normal 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 heating and cooling operation of each MicroTech III Water Source Heat Pump.

Available room sensors include:

- Room Sensor with timed override button and LED;
- Room temperature sensor with timed-override button and set point adjustment (55 to 95 deg F);
- Room sensor with timed-override button and set point adjustment (-3 to +3 deg F);
- Room sensor (no options, sensor only).

Warranty

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.

Field Installed Accessories

Wall Thermostat Options

- Programmable Electronic Thermostat Two-stage heat/Two-stage cool, 7-day programmable. Subbase shall have system "Mode/Prog" and fan "Auto/On" switches. Thermostat shall have the option of an Optional Remote Sensor.
- Non-programmable, auto or manual changeover Two-stage heat/Two-stage cool, night setback override. Subbase shall have system "Cool/Off/Heat/Auto" and fan "Auto/On switches. Thermostat shall have the option of an Optional Remote Sensor.

Wall Temperature Sensor Options:

- Wall Sensor with timed-override button.
- Wall Sensor with timed-override button and set point adjustment (55 to 95 deg F), fan mode switch (auto/on), operational mode button (Heat/Cool/Auto) and status LED to display fault condition.
- Wall Sensor with timed-override button and set point adjustment (-3 to +3 deg F), fan mode switch (auto/on), operational mode button (Heat/Cool/Auto) and status LED to display fault condition.

Hose Kits:

Two fire-rated flexible hoses with ASTM ratings of Flame Spread 25, Fuel Contribution 25 and Smoke Density 50 for connection to unit and field piping. Hose shall be covered with stainless steel braiding to prevent damage.

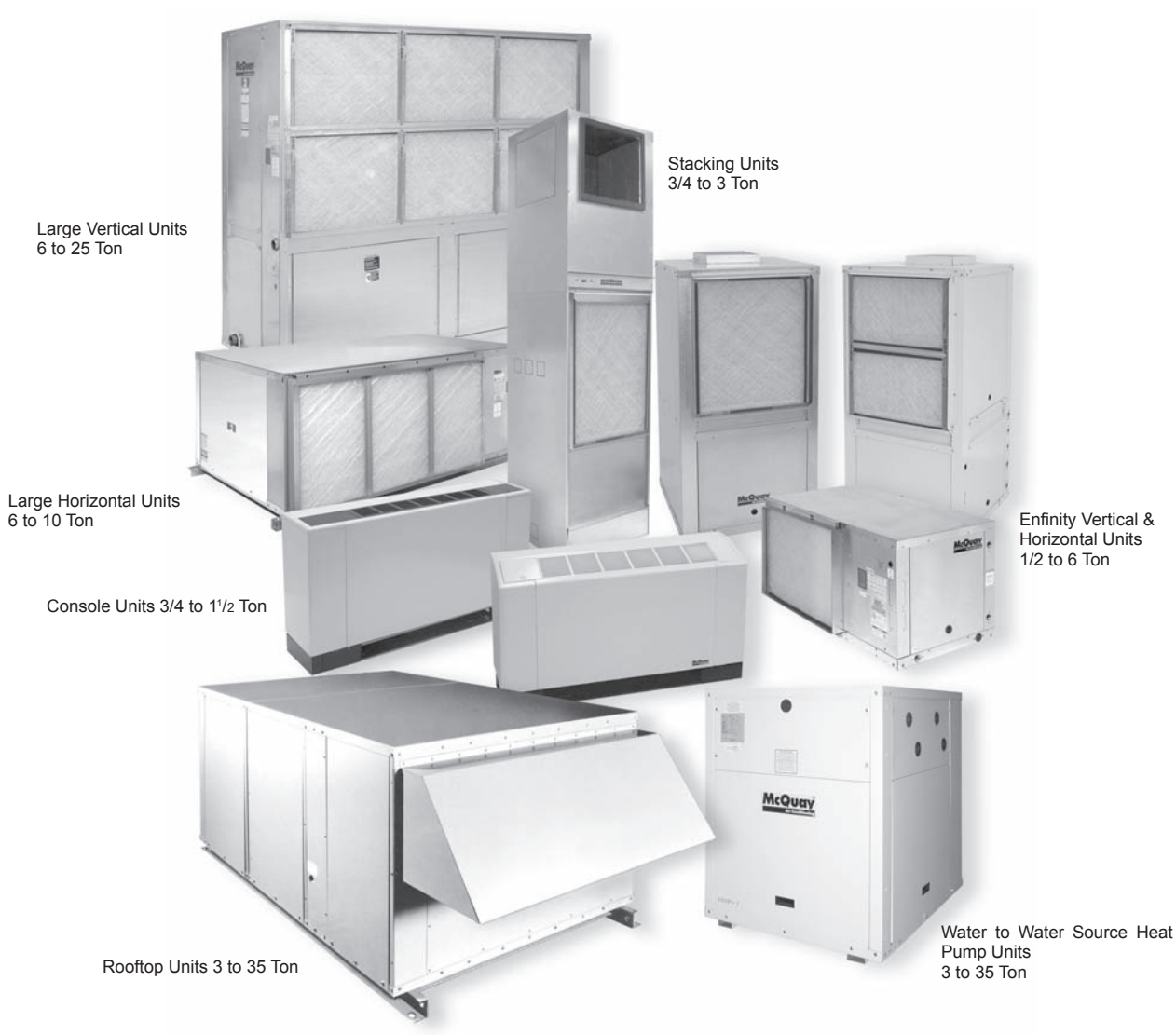
Valve Options:

- Combination balancing and shutoff valve with adjustable memory stop.
- Optional 2-way, Normally Open (N.O.) or Normally Closed (N.C.) motorized valves.

Automatic Flow Hose Kit:

The automatic flow hose kit shall include an automatic flow control valve, two ball valves, two flexible hoses, a high flow Y-strainer, and may include a strainer blow-down and various other accessories. The automatic flow control valve shall be factory set to a rated flow, and shall automatically control the flow to within 10% of the rated value over a 40 to 1 differential pressure, operating range (2 to 80 PSID). Operational temperature shall be rated from fluid freezing, to 225°F. The valve body shall be constructed from hot forged brass UNS C37700 per ASTM B-283 latest revision.

McQuay Water Source Heat Pumps
Quality Products, Flexible Configurations



Warranty

All McQuay equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local McQuay Representative for warranty details. Refer to Form 933-43285Y. To find your local McQuay Representative, go to www.mcquay.com.

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