CLIMATEMASTER®

A NIBE GROUP MEMBER

RESIDENTIAL

TRANQUILITY® 30 (SE) PREMIER TWO-STAGE SERIES

PRODUCT CATALOG

Part#: RP3001 | Revised: September 30, 2024

Models: SE 024-072
60Hz - R-454B

Most Efficient 2024
ENERGY STAR
www.energystar.gov

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Models:
SE
024-072

THE TRANQUILITY® 30 (SE) PREMIER TWO-STAGE SERIES

The Tranquility 30 (SE) Premier Two-Stage Series showcases superb efficiency ratings, quiet operation, and application flexibility that is synonymous with the ClimateMaster Tranquility family. The Tranquility SE surpasses ASHRAE 90.1 efficiency standards and utilizes R-454B low Global Warming Potential (GWP) refrigerant, setting a high standard for eco-friendly performance. The SE is Energy Star certified due to its innovative and environmentally conscious design.

Available in sizes 2 tons (7.0 kW) through 6 tons (21.1 kW) with multiple cabinet options (vertical upflow, vertical downflow, and horizontal) the Tranquility SE offers a wide range of units for most any installation. The Tranquility SE has an extended range refrigerant circuit, capable of ground loop (geothermal) applications as well as open loop applications. Some of the features of the innovative Tranquility SE series include: ultra-efficient Two-Stage unloading scroll compressor, EC variable fan motor, microprocessor controls, galvanized steel cabinet construction, corrosive-resistant stainless-steel drain pan, and acoustic type fiber insulation are just some of the features of the innovative Tranquility SE Series.

Recent EPA mandates require an industry transition to low-GWP refrigerants, such as R-454B which is a gas that is classified as having low-toxicity, low-flammability rating. Due to these characteristics, R-454B systems charged with over 62 ounces of refrigerant must contain an integrated Refrigerant Detection System (RDS). In the unlikely event of a system-refrigerant leak, the RDS shuts down compressor operation and runs the unit blower motor to disperse any concentration of leaked refrigerant in compliance with UL 60335-2-40 safety standards. For Tranquility SE products, only the 5- and 6-ton sizes (060 & 072) are required to have the RDS and the feature is optional on all other sizes.

ClimateMaster's exclusive double isolation compressor mounting system makes the Tranquility SE one of the quietest units on the market. Compressors are mounted using specially engineered sound tested EPDM grommets to a heavy gauge mounting plate, which is then isolated from the cabinet base with EPDM grommets to minimize vibration transmission and maximize sound attenuation. Multiple removable access panels and an easily accessible control box make installation and maintenance user friendly. Options such as coated air coil, internal variable speed pump, modulating water valve, and high efficiency MERV rated air filters allow for customizable design solutions.

iGate® 2 technology provides technicians an interface into the operation of the system in real time without the need for hard tooling. On-board advanced controls communicate the key operating system temperatures allowing technicians to startup, commission, and service equipment remotely by smart phone or website interface. Communication can also be established at the unit via a communicating thermostat or handheld service tool. Not only does iGate 2 monitor current performance, it also allows the functionality to make system adjustments and captures operating conditions at time of fault. The data is presented in a user-friendly format, enhancing the overall usability of the experience.

vFlow® is ClimateMaster's variable water flow technology. It represents a major advancement in water flow system management efficiency. vFlow not only builds major water circulation components into the unit for a clean installation, it also intelligently varies water flow to minimize pump energy consumption and improve system reliability.

The heart of vFlow is either a variable-speed pump or modulating water valve intelligently controlled with DXM2.5 unit controls. Water flow is automatically varied based on changes in unit capacity level (stage) and source water temperature to maintain optimum system performance. vFlow allows the use of direct return piping, while eliminating external two-way valves and automatic flow regulators - making vFlow systems inherently self-balancing.

vFlow systems provide reduced water pumping power compared to traditional fixed-speed pumping systems. They also protect the unit against extreme operating conditions, thus extending the life of the compressor and air coil. Since vFlow is built inside the unit, it also saves on installation time and makes for a very clean and compact installation. The Tranquility SE Series water-source heat pumps are designed to meet the challenges of today's HVAC demands with one of the most innovative products available on the market.

Features, Options, and Accessories

FEATURES

- Sizes 024 (2 ton, 7 kW) through 072 (6 tons, 21.1 kW)
- Exceeds ASHRAE 90.1 efficiency standards
- Environmentally-friendly R-454B low-GWP refrigerant
- Refrigerant Detection System (RDS) (mandatory on sizes 060 and 072, optional feature for sizes 024-048)
- Intelligent variable speed Constant Volume (CV) EC blower motors for precise airflow control and soft-start feature
- Part-load operation significantly lowers annual operating costs
- Galvanized-steel cabinet construction with matte black polyester powder coated finish and stainless-steel access panels
- Sound-absorbing glass-fiber insulation
- Unique double-isolation compressor mounting with vibration isolation for quieter operation
- Insulated divider and separate compressor/ air-handler compartments
- TXV metering device
- Field-convertible supply-air arrangement (horizontal configurations only)
- Unit Performance Sentinel performance-monitoring system
- Eight standard safety features
- Easy-to-clean rust-prohibitive stainless-steel drain pans
- Communicating Controls Powered by DXM2.5:
  - Multiple communication pathways for unit access and diagnosis:
    - Cloud-based remote monitoring via Wi-Fi communicating color touchscreen thermostat
    - Connect directly to the system with a handheld service tool
  - Provides real-time unit operating conditions
  - Reduces startup, commissioning, and service time by providing key system temperatures electronically
  - Captures operating conditions in the event of a safety shutdown
- Anti-short cycle and over/under-voltage protection
- Easy-access control box
- High-pressure, loss-of-charge, and condensate-overflow protection
- LED fault and status indication at controller
- Tin-plated air coils for added protection from formicary corrosion (060 - 072)
- Aluminum Microchannel air coils for added protection and improved efficiency (024 - 048)
- Extended-range insulation for geothermal applications
- Return-air filter frames for 2-inch MERV 11 filter

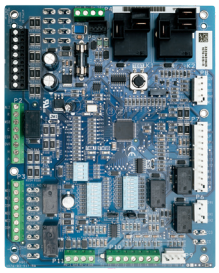
OPTIONS

- Corrosion-resistant cupro-nickel water-heat exchanger
- Domestic Hot Water Generator (HWG)
- vFlow unit-integrated variable-speed water pump
- vFlow unit-integrated modulating water valve for maximum water-flow control (replaces traditional motorized water valve and autoflow regulator)
- Factory-installed compressor soft starter to reduce inrush currents for more efficient startups
- Integrated power disconnect

ACCESSORIES

- Wi-Fi communicating (AWC) thermostat with color touchscreen
- Wide variety of thermostat options to meet your application needs
- Auxiliary electric heaters

iGATE 2 COMMUNICATION – CLOUD CONNECTED, WEB-ENABLED INFORMATION GATEWAY TO MONITOR, CONTROL, AND DIAGNOSE YOUR SYSTEM



The Tranquility (SE) is equipped with industry-first, iGate 2 communication information gateway that allows users to interact with their water-source system in easy to read clear language AND delivers improved reliability and efficiency by precisely controlling smart components.

Monitor/Configure – Installers can configure from the myUplink PRO website, mobile app, Communicating AWC Thermostat, or diagnostic tool, including: airflow, unit family, size, accessory configuration, and demand reduction (optional, to limit unit operation during peak times). Users can look up the current system status: temperature sensor readings and operational status of the blower.

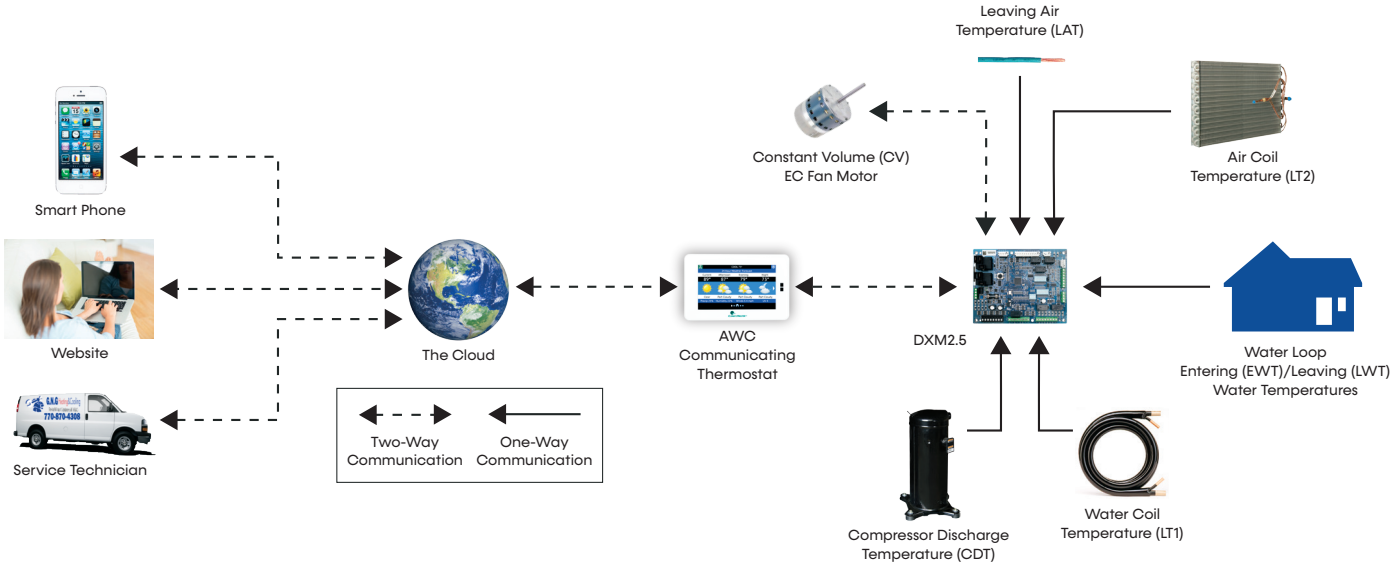
Precise Control – The new DXM2.5 board enables intelligent, two-way communication between the DXM2.5 board and smart components like the communicating thermostat/diagnostic tool and constant volume CV EC blower motor. The advanced DXM2.5 board uses information received from the smart components and temperature sensors to precisely control operation of the variable speed CV EC fan to deliver higher efficiency, reliability and increased comfort.

Diagnostics – iGate 2 takes diagnosing water source heat pump units to a next level of simplicity, by providing a dashboard of system and fault information, in clear language, on the AWC Communicating Thermostat, handheld service tool and the web portal/mobile app on the internet.

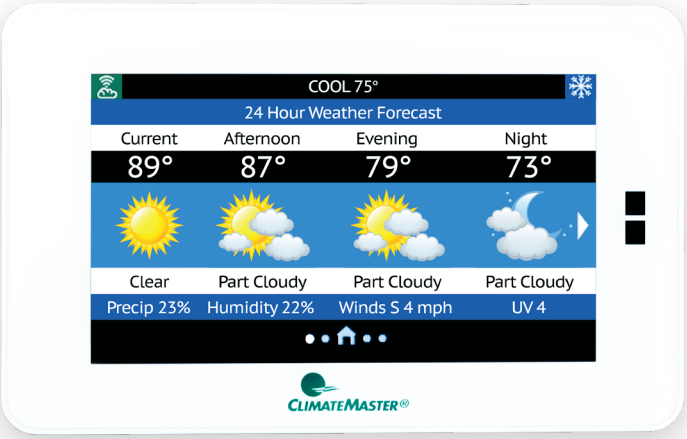
iGate 2 Service Warnings notify the homeowner and contractor of a fault and displays fault descriptions by app notifications and email with possible causes. Additionally, the current system status can be viewed graphically on the web portal and mobile app.

In iGate 2 Service Mode, the service personnel can access fault description, possible causes and most importantly, the conditions (temp, flow, i/o conditions, configuration) at the time of the fault. Manual Operation mode allows the service personnel to manually command operation for any of the thermostat outputs, blower speed, to help troubleshoot specific components. This operation can either be conducted at the unit with a diagnostic tool or remotely with mobile app/website when the AWC Communicating Thermostat controls are used.

With an iGate 2 communicating system, users and contractors have a web-enabled gateway to system information never before available and exclusive to ClimateMaster products.



IGATE 2 COMMUNICATION – CLOUD CONNECTED, WEB-ENABLED INFORMATION GATEWAY TO MONITOR, CONTROL, AND DIAGNOSE YOUR SYSTEM



The Communicating (AWC) Thermostat is innovating the future of comfort technology, one building at a time. The inspired design of the touch screen interface allows you to see real-time data for the efficiency and health of your system, with early warnings for potential system faults. The cloud based information gateway allows technicians to remotely diagnose system issues before occupants even know there is a problem. Control and monitor the system in your home or business from anywhere in the world with an easy to use app on your phone.

Features with Efficiency in Mind

Touch Screen Interface
A brilliantly customizable touch screen monitor for simple control.

Seamless Integration
Between your Communicating (AWC) Thermostat and comfort system.

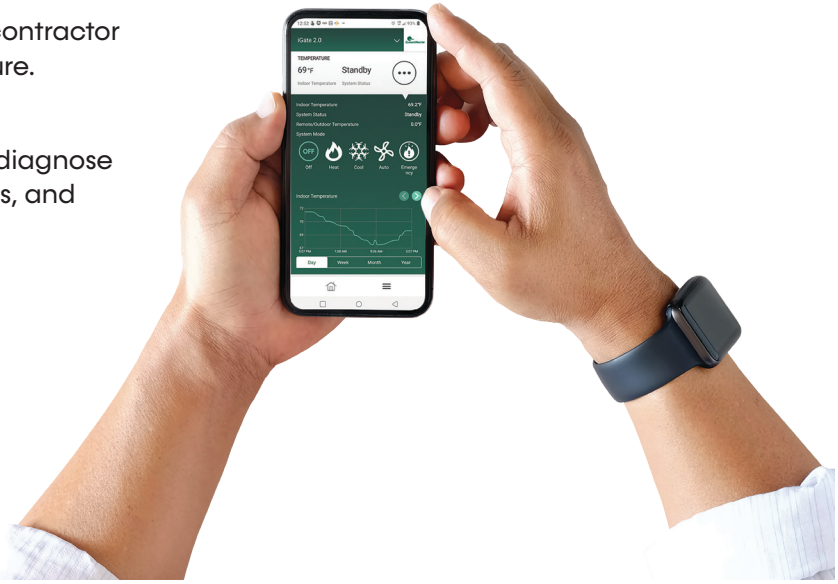
(Mobile) Remote System Control
Control temperature and schedule from anywhere in the world.

Early Fault Warnings
Alerts the building owner and the contractor of potential system faults in the future.

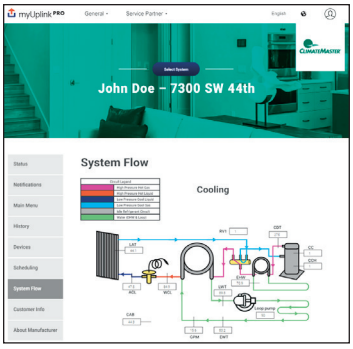
Remote Diagnostics
Enable the contractor to remotely diagnose system issues, adjust system settings, and reset faults.

Real-Time Operations Data and System Schematics
Access simply via the myUplink Pro Account and web portal to view system diagrams with current operating temperatures.

Revenue Stream
HVAC professionals can offer owners service contracts with remote monitoring and diagnostic capabilities without the large expense of a building management system.



HVAC Professional | User Experience



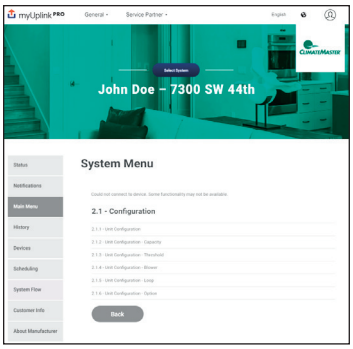
The iGate 2 establishes a two-way link between the communicating (AWC) thermostat and the cloud, adding significant value for both residential and commercial customers. Our new thermostat works with your customers' Tranquility comfort systems to provide the most efficient link between their system and your services. The customizable monitoring from the myUplink PRO web portal or phone app account allows for continuous system monitoring, analysis, repair recognition, and early warnings for potential system faults that are sent to you and your customer.

myUplink PRO

Benefits

- Remote login from anywhere, anytime from any internet connected device
- View system fault history with possible root causes
- Information is available for contractors to troubleshoot and diagnose systems remotely
- Secure internet connection keeps homeowner information private
- Access thermostat(s) through Android and iPhone mobile apps

Homeowner | User Experience



The iGate 2 advanced unit controls enable a two-way communication link for critical system information between the unit and the cloud. From any internet connected device or smart phone, building owners can control and monitor their systems from anywhere in the world. iGate 2 offers building owners peace of mind their systems are operating at peak performance with advanced operational performance issue notifications. HVAC professionals get notifications when systems are operating out of range. They can log in remotely to check system faults, review current operating conditions, and diagnose issues remotely. This gives the HVAC technician the upper hand when showing up to perform service, saving time which in turn, saves money.

myUplink

Benefits

- Communicates personal settings and reminders through the iGate 2 communication system
- Easy-to-use, full-color, high-resolution user interface
- Sleek, intuitive control panel
- Secure internet connection keeps your information private
- Contains unit model, serial number and your HVAC professionals contact information
- System monitoring automatically contacts HVAC system providers when service is needed

vFlow Internal Variable Water Flow Control

Models:
SE
024-072

vFLOW INTERNAL VARIABLE WATER FLOW

Industry-first, Built-in vFlow replaces a traditionally inefficient, external component of the system (water circulation) with an ultra-high-efficient, variable speed, internal water flow system. This saves 70-80% on water circulation compared to traditional single speed pump systems. Multi-unit installations are also much simpler with vFlow systems, as the units automatically adjust water flow across the system.

vFlow is enabled by iGate 2, which facilitates intelligent communication between the thermostat, DXM2.5 control, sensors, and internal water pump/valve to make true variable water flow a reality.

vFLOW IS AVAILABLE IN FOUR VARIATIONS:

1. **Low System Pressure Drop Modulating Valve**

   The high CV motorized valve is used for a multi-unit or central pumping, closed loop application.

2. **High System Pressure Drop Modulating Valve**

   Motorized valve for higher pressure water systems such as a water well or other open loop applications. A cupro-nickel water coil is standard with this option.

3. **Standard Head Variable Pump Internal Flow Controller**

   Multi-unit or central pumping for a closed loop application. The Internal Flow Controller includes a variable speed pump, flushing ports, 3-way flushing valves, and an expansion tank.

4. **High-Head Variable Pump Internal Flow Controller**

   Multi-unit or individual unit for a closed loop application. The Internal Flow Controller includes a variable speed pump, flushing ports, 3-way flushing valves, and an expansion tank.

vFLOW DELIVERS THREE MAIN BENEFITS:

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

INTERNAL COMPONENTS

All Tranquility products can be installed more easily and compactly than their predecessors because vFlow components are internal to the unit. They also save installing contractors labor and time by eliminating the need for an external flow regulator or a bulky external pumping module.

VARIABLE FLOW

vFlow technology enables variable water flow through the unit, with the DXM2.5 control adjusting the pump speed to maintain an installer-set loop delta T. By controlling the water flow, the system is able to operate at its optimal capacity and efficiency. vFlow provides a lower flow rate for part load where units typically operate 80% of the time and a higher, more normal flow rate for full load operation.

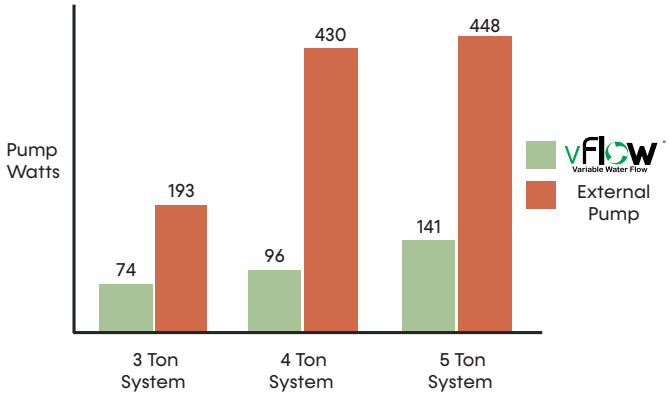
Variable speed pump or motorized modulating valve delivers variable water-flow, controlled by DXM2.5 control, based on loop water ΔT.

ENERGY SAVINGS WITH WATER CIRCULATION CONTROL

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

In applications using vFlow with internal variable speed electronically commuted (EC) pump, the EC pump uses fewer watts than a fixed speed (PSC) pump even at full load. The EC pump excels in energy savings in part load, saving 70-80% watts compared to fixed speed pumps (see chart). The EC pump can operate with independent flow rates for both heating and cooling operations allowing for more energy savings.

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



Reference Calculations

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

Constant = 500 for water, 485 for antifreeze

Conversion Table - to convert inch-pound (English) to S-I (Metric)

Airflow	Water Flow	External Static Pressure	Water Pressure Drop
Airflow (L/s) = CFM x 0.472	Water Flow (L/s) = GPM x 0.0631	ESP (Pa) = ESP (in of wg) x 249	PD (kPa) = PD (ft of hd) x 2.99

Legend and Glossary of Abbreviations

Abbreviations	Descriptions
Btuh	Btu (British Thermal Unit) per hour
BMS	Building Management System
CDT	Compressor discharge temperature
CFM	Airflow, cubic feet per minute
COP	Coefficient of performance = Btuh output/Btuh input
CT EC	Electronically commutated constant torque blower motor
CV EC	Electronically commutated constant volume blower motor
DB	Dry bulb temperature, °F
DT	Delta T
EAT	Entering air temperature
EER	Energy efficient ratio = Btuh output/Watt input
ESP	External static pressure, inches w.g.
EWT	Entering water temperature
FPT	Female pipe thread
GPM	Water flow in U.S., gallons per minute
HC	Air heating capacity, Btuh
HE	Total heat of extraction, Btuh
HR	Total heat of rejection, Btuh

Abbreviations	Descriptions
HWG	Hot water generator (desuperheater) capacity, MBtuh
kW	Total power unit input, kilowatts
LAT	Leaving air temperature, °F
LC	Latent cooling capacity, Btuh
LOC	Loss of charge
LWT	Leaving water temperature, °F
MBtuh	1,000 Btu per hour
MPT	Male pipe thread
MWV	Motorized water valve
PSC	Permanent split capacitor
RDS	Refrigerant Detection System
SC	Sensible cooling capacity, Btuh
S/T	Sensible to total cooling ratio
TC	Total cooling capacity, Btuh
TD or delta T	Temperature differential
VFD	Variable frequency drive
WB	Wet bulb temperature, °F
WPD	Waterside pressure drop, psi or feet of head
WSE	Waterside economizer

USE THE FOLLOWING SELECTION STEPS

1. Determine the actual heating and cooling loads at the desired dry bulb and wet bulb conditions.
2. Obtain the following design parameters: Entering water temperature, water flow rate in GPM, airflow in CFM, water flow pressure drop and design wet and dry bulb temperatures. Airflow CFM should be between 300 and 450 CFM per ton. Unit water pressure drop should be kept as close as possible to each other to make water balancing easier. Go to the appropriate tables and find the proper indicated water flow and water temperature.
3. Select a unit based on total and sensible cooling conditions. Select a unit which is closest to, but no larger than, the actual cooling load.
4. Enter tables at the design water flow and water temperature. Read the total and sensible cooling capacities

   Note: interpolation is permissible, extrapolation is not.
5. Read the heating capacity. If it exceeds the design criteria it is acceptable. It is quite normal for water-source heat pumps to be selected on cooling capacity only since the heating output is usually greater than the cooling capacity.
6. Determine the correction factors associated with the variable factors of dry bulb and wet bulb.

   Corrected Total Cooling =
   tabulated total cooling x wet bulb correction.

   Corrected Sensible Cooling =
   tabulated sensible cooling x wet/dry bulb correction.
7. Compare the corrected capacities to the load requirements. Normally if the capacities are within 10% of the loads, the equipment is acceptable. It is better to undersize than oversize, as undersizing improves humidity control, reduces sound levels and extends the life of the equipment.
8. When completed, calculate water temperature rise and assess the selection. If the units selected are not within 10% of the load calculations, then review what effect changing the GPM, water temperature and/or air flow and air temperature would have on the corrected capacities. If the desired capacity cannot be achieved, select the next larger or smaller unit and repeat the procedure. Remember, when in doubt, undersize slightly for best performance.

EXAMPLE EQUIPMENT SELECTION FOR COOLING

Step 1: Load Determination

Assume we have determined that the appropriate cooling load at the desired dry bulb 80°F and wet bulb 65°F conditions is as follows:

Total Cooling ..... 22,000 Btuh
Sensible Cooling ..... 18,200 Btuh
Entering Air Temp..... 80°F Dry Bulb / 65°F Wet Bulb

Step 2: Design Conditions

Similarly, we have also obtained the following design parameters:

Entering Water Temp .....90°F
Water Flow (Based upon 10°F rise in temp) .4.5 GPM
Airflow ..... 600 CFM

Steps 3, 4, and 5: HP Selection

After making our preliminary selection (SE024), we enter the tables at design water flow and water temperature and read Total Cooling, Sensible Cooling and Heat of Rejection capacities:

Total Cooling .....22,500 Btuh
Sensible Cooling ..... 16,500 Btuh
Heat of Rejection.....28,800 Btuh

Steps 6 and 7: Entering Airflow Corrections

Next, we determine our correction factors.

Corrected Values		Table		Ent Air		Airflow		Corrected
Corrected Total Cooling	=	22,500	x	0.976	x	0.967	=	21,235
Corrected Sensible Cooling	=	16,500	x	0.919	x	1.089	=	16,513
Corrected Heat of Rejection	=	28,800	x	0.969	x	0.972	=	27,126

Step 8: Water Temperature Rise Calculation and Assessment

Actual Temperature Rise .....12.1°F

When we compare the Corrected Total Cooling and Corrected Sensible Cooling figures with our load requirements stated in Step 1, we discover that our selection is within ±10% of our sensible load requirement. Furthermore, we see that our Corrected Total Cooling figure is within 1,000 Btuh the actual indicated load.

Model Nomenclature

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S	E	L	0	2	4	A	G	D	D	0	R	0	V	S

MODEL
S = R-454B Refrigerant

MODEL TYPE
E = Premier Two-Stage Series

SUPPLY & RETURN CONFIGURATIONS

Horizontal Configuration		
	Left	Right
Straight	L	R
Back	B	P

Down Flow Configuration		
	Left	Right
Down	D	N

Vertical Configuration		
	Left	Right
Top	T	K

SIZE
024 060
036 072
048

REVISION
A = Current

VOLTAGE[1]
G = 208/230-1-60
J = 208/230-1-60 Refrigerant Detection System

CONTROLS

Control	Standard	Soft Start
DXM2.5	D	4
DXM2.5 with Disconnect	B	-

STANDARD
S = Standard

BLOWER MOTOR
V = Constant Volume (CV) EC

EXTENDED OPTIONS
0 = Standard
P = HWG and Pump

DRAIN PAN/HEAT EXCHANGER OPTIONS[3]
S = Stainless Steel Drain Pan, Non-Coated Microchannel Air Coil
R = Stainless Steel Drain Pan, Tin-Coated Air Coil

WATER/HEAT EXCHANGER OPTIONS[2]

Water Option	Standard	Cupro-Nickel
None	0	Z
MOD Valve, Low System Pressure Drop	C	-
MOD Valve, High System Pressure Drop	-	P
Internal Flow Controller Standard Head with Check Valve	1	-
Internal Flow Controller Standard Head w/o Check Valve	G	
Internal Flow Controller High Head with Check Valve	2	
Internal Flow Controller High Head w/o Check Valve	H	

CABINET
D = Residential

NOTES:
1. SE sizes 060 and 072 require J voltage.
2. All Open Loop vFlow Water Circuit Options require a Cupro-Nickel Heat Exchanger.
   All Closed Loop vFlow Water Circuit Options require a Standard Heat Exchanger.
   If no Water Circuit Option is selected, then the Heat Exchanger can be either Standard or Cupro-Nickel.
3. SE 024-048 offered with Microchannel Air coil only.
   SE 060-072 offered with Tin-Coated Air coil only.

ASHRAE/AHRI/ISO 13256-1 English (I-P) Units

Model	Motor Type	WSHP (Part Load)											
		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Cooling 68°F		Heating 41°F	
		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
SE024	EC	17,900	19.2	20,100	6.6	20,200	36.2	17,100	5.7	19,400	27.9	18,900	4.4
SE036	EC	26,400	20.2	30,600	6.5	30,200	35.3	25,800	5.6	28,500	29.7	22,700	5.0
SE048	EC	35,700	19.6	42,900	6.5	41,000	41.8	33,700	5.3	37,400	28.6	29,000	4.7
SE060	EC	42,200	18.9	44,800	5.9	48,000	32.9	35,900	4.8	46,400	27.5	30,900	4.1
SE072	EC	53,500	17.9	59,200	5.4	61,400	34.8	48,000	4.5	58,000	24.1	42,400	4.1

Notes:
- Where dual voltages are available ratings are based on the lower voltage setting.
- Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature.
- Heating capacities based upon 68°F DB, 59°F WB entering air temperature.
- Ground Loop Heat Pump ratings based on 15% antifreeze solution.

ASHRAE/AHRI/ISO 13256-1 English (I-P) Units

Model	Motor Type	WSHP (Full Load)											
		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Full Cooling 77°F		Full Heating 32°F	
		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
SE024	EC	25,300	17.1	29,000	5.7	28,600	26.2	23,400	5.0	26,300	19.9	17,800	4.1
SE036	EC	37,500	17.0	43,100	5.4	41,000	24.4	35,700	4.9	39,000	18.8	28,400	4.2
SE048	EC	48,000	17.2	60,200	5.3	54,600	26.0	49,100	4.5	51,700	19.4	38,100	3.9
SE060	EC	61,800	16.9	67,300	5.3	66,800	24.7	55,700	4.7	62,600	18.7	44,300	3.9
SE072	EC	72,000	16.1	81,400	4.9	77,000	22.4	67,400	4.4	74,700	18.4	54,000	3.8

Notes:
- Where dual voltages are available ratings are based on the lower voltage setting.
- Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature.
- Heating capacities based upon 68°F DB, 59°F WB entering air temperature.
- Ground Loop Heat Pump ratings based on 15% antifreeze solution.

ASHRAE/AHRI/ISO 13256-1 Metric (S-I) Units

Model	Motor Type	WSHP (Part Load)											
		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 30°C		Heating 20°C		Cooling 15°C		Heating 10°C		Full Cooling 20°C		Full Heating 5°C	
		Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP
SE024	EC	5	5.6	6	6.6	6	10.6	5	5.7	6	8.2	6	4.4
SE036	EC	8	5.9	9	6.5	9	10.4	8	5.6	8	8.7	7	5.0
SE048	EC	10	5.7	13	6.5	12	12.3	10	5.3	11	8.4	8	4.7
SE060	EC	12	5.5	13	5.9	14	9.6	11	4.8	14	8.1	9	4.1
SE072	EC	16	5.2	17	5.4	18	10.2	14	4.5	17	7.1	12	4.1

Notes:
- Where dual voltages are available ratings are based on the lower voltage setting.
- Cooling capacities based upon 20°C DB, 15°C WB entering air temperature.
- Heating capacities based upon 20°C DB, 15°C WB entering air temperature.
- Ground Loop Heat Pump ratings based on 15% antifreeze solution.

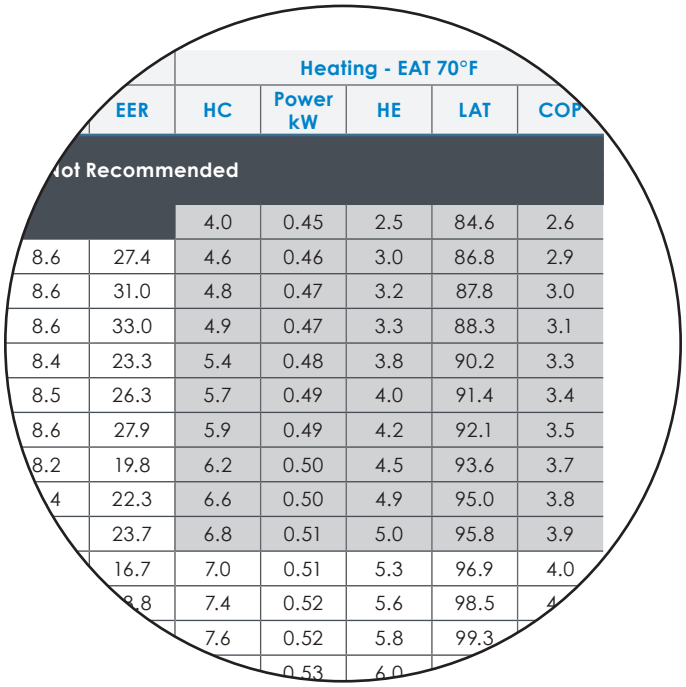
ASHRAE/AHRI/ISO 13256-1 Metric (S-I) Units

Model	Motor Type	WSHP (Full Load)											
		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 30°C		Heating 20°C		Cooling 15°C		Heating 10°C		Full Cooling 25°C		Full Heating 0°C	
		Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP
SE024	EC	7	5.0	8	5.7	8	7.7	7	5.0	8	5.8	5	4.1
SE036	EC	11	5.0	13	5.4	12	7.2	10	4.9	11	5.5	8	4.2
SE048	EC	14	5.0	18	5.3	16	7.6	14	4.5	15	5.7	11	3.9
SE060	EC	18	5.0	20	5.3	20	7.2	16	4.7	18	5.5	13	3.9
SE072	EC	21	4.7	24	4.9	23	6.6	20	4.4	22	5.4	16	3.8

Notes:
- Where dual voltages are available ratings are based on the lower voltage setting.
- Cooling capacities based upon 27°C DB, 19°C WB entering air temperature.
- Heating capacities based upon 20°C DB, 15°C WB entering air temperature.
- Ground Loop Heat Pump ratings based on 15% antifreeze solution.

Performance Data: Selection Notes

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



		Heating - EAT 70°F				
	EER	HC	Power kW	HE	LAT	COP
Not Recommended						
		4.0	0.45	2.5	84.6	2.6
8.6	27.4	4.6	0.46	3.0	86.8	2.9
8.6	31.0	4.8	0.47	3.2	87.8	3.0
8.6	33.0	4.9	0.47	3.3	88.3	3.1
8.4	23.3	5.4	0.48	3.8	90.2	3.3
8.5	26.3	5.7	0.49	4.0	91.4	3.4
8.6	27.9	5.9	0.49	4.2	92.1	3.5
8.2	19.8	6.2	0.50	4.5	93.6	3.7
4	22.3	6.6	0.50	4.9	95.0	3.8
	23.7	6.8	0.51	5.0	95.8	3.9
	16.7	7.0	0.51	5.3	96.9	4.0
	8	7.4	0.52	5.6	98.5	4
		7.6	0.52	5.8	99.3	
			0.53	6.0		

Example:

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

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

TD = HE / (GPM x 500)

TD = 22,500 / (4.5 x 500)

TD = 10°F

LWT = EWT - TD

LWT = 50 - 10 = 40°F

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

700 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										4.70	0.7	1.5	10.7	1.09	7.0	2.9	17.0	1.2
30	1.60	0.1	0.2	22.0	15.3	0.60	24.0	36.8	60.0	0.2	2.35	0.1	0.3	12.3	1.09	8.5	3.3	22.7	1.3
											3.53	0.2	0.5	12.8	1.09	9.1	3.4	24.8	1.4
											4.70	0.5	1.2	13.1	1.09	9.4	3.5	26.0	1.4
40	2.34	0.1	0.2	21.3	14.7	0.63	23.4	34.1	60.0	0.2	2.35	0.1	0.3	14.4	1.09	10.7	3.9	30.9	1.4
											3.53	0.2	0.4	15.1	1.09	11.4	4.1	33.5	1.4
											4.70	0.4	1.0	15.5	1.09	11.8	4.2	35.0	1.5
50	2.35	0.1	0.3	21.2	15.1	0.73	23.7	29.0	70.2	0.7	2.35	0.1	0.3	16.5	1.09	12.8	4.5	39.1	1.5
	3.53	0.2	0.3	21.3	14.9	0.66	23.6	32.4	63.4	0.7	3.53	0.2	0.3	17.3	1.09	13.6	4.7	42.3	1.6
	4.70	0.4	0.9	21.3	14.7	0.63	23.4	34.0	60.0	0.7	4.70	0.4	0.9	17.8	1.09	14.1	4.8	44.0	1.6
60	2.35	0.1	0.3	20.7	15.1	0.86	23.6	24.1	80.1	1.1	2.35	0.1	0.3	18.6	1.09	14.9	5.0	47.3	1.7
	3.53	0.1	0.3	21.1	15.1	0.77	23.7	27.3	73.5	1.1	3.53	0.1	0.3	19.5	1.09	15.8	5.3	51.0	1.7
	4.70	0.3	0.8	21.2	15.1	0.73	23.7	29.0	70.1	1.0	4.70	0.3	0.8	20.0	1.09	16.3	5.4	53.1	1.8
70	2.35	0.1	0.3	19.8	14.8	1.00	23.2	19.8	89.7	1.6	2.35	0.1	0.3	20.6	1.09	16.9	5.6	55.6	1.8
	3.53	0.1	0.3	20.4	15.0	0.90	23.5	22.6	83.3	1.5	3.53	0.1	0.3	21.6	1.09	17.9	5.8	59.8	1.9
	4.70	0.3	0.7	20.7	15.1	0.86	23.6	24.1	80.0	1.5	4.70	0.3	0.7	22.2	1.09	18.5	6.0	62.1	1.9
80	2.35	0.1	0.3	18.6	14.4	1.16	22.6	16.1	99.2	2.2	2.35	0.1	0.3	22.6	1.09	18.9	6.1	63.9	2.0
	3.53	0.1	0.3	19.4	14.7	1.05	23.0	18.4	93.0	2.1	3.53	0.1	0.3	23.7	1.09	20.0	6.4	68.7	2.1
	4.70	0.3	0.7	19.8	14.8	1.00	23.2	19.7	89.9	2.0	4.70	0.3	0.7	24.3	1.09	20.5	6.5	71.3	2.1
85	2.35	0.1	0.3	18.0	14.1	1.24	22.2	14.5	103.9	2.4	2.35	0.1	0.3	23.6	1.09	19.8	6.3	68.1	2.1
	3.53	0.1	0.3	18.8	14.4	1.13	22.7	16.6	97.9	2.4	3.53	0.1	0.3	24.7	1.09	21.0	6.6	73.1	2.1
	4.70	0.3	0.6	19.2	14.6	1.08	22.9	17.8	94.7	2.3	4.70	0.3	0.6	25.3	1.09	21.6	6.8	75.8	2.2
90	2.35	0.1	0.3	17.2	13.8	1.33	21.8	13.0	108.5	2.9	2.03	0.1	0.2	24.0	1.09	20.3	6.5	70.0	2.2
	3.53	0.1	0.3	18.1	14.2	1.22	22.3	14.9	102.6	2.8									
	4.70	0.3	0.6	18.6	14.3	1.16	22.5	16.0	99.6	2.7									
100	2.35	0.1	0.3	15.7	13.2	1.51	20.9	10.4	117.8	3.7	1.35	0.10	0.2	24.0	1.09	20.3	6.5	70.0	2.2
	3.53	0.1	0.3	16.7	13.6	1.40	21.4	12.0	112.2	3.6									
	4.70	0.2	0.5	17.1	13.8	1.34	21.7	12.8	109.2	3.5									
110	2.35	0.1	0.3	14.2	12.6	1.70	20.0	8.3	127.0	4.6	1.01	0.10	0.2	24.0	1.09	20.3	6.5	70.0	2.2
	3.53	0.1	0.3	15.1	12.9	1.59	20.5	9.5	121.6	4.4									
	4.70	0.2	0.4	15.6	13.1	1.53	20.8	10.2	118.8	4.3									
120	2.35	0.1	0.3	12.6	11.9	1.91	19.1	6.6	136.2	5.6	0.81	0.10	0.2	24.0	1.09	20.3	6.5	70.0	2.2
	3.53	0.1	0.3	13.4	12.3	1.79	19.6	7.5	131.1	5.4									
	4.70	0.1	0.3	13.9	12.5	1.73	19.8	8.0	128.4	5.3									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

800 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										6.00	1.2	2.7	16.2	1.47	11.1	3.2	16.3	1.9
30	2.14	0.10	0.20	28.5	19.1	1.06	32.1	27.0	60.0	1.4	3.00	0.1	0.3	17.9	1.49	12.8	3.5	21.5	2.0
											4.50	0.5	1.2	18.7	1.50	13.6	3.7	24.0	2.2
											6.00	1.0	2.3	19.2	1.50	14.0	3.7	25.3	2.5
40	3.15	0.10	0.30	27.8	18.5	1.07	31.5	26.0	60.0	1.4	3.00	0.1	0.3	20.6	1.52	15.4	4.0	29.7	2.2
											4.50	0.4	1.0	21.6	1.53	16.3	4.1	32.7	2.5
											6.00	0.9	2.1	22.1	1.53	16.8	4.2	34.4	2.7
50	3.00	0.1	0.3	27.8	18.9	1.21	32.0	23.0	71.3	1.7	3.00	0.1	0.3	23.2	1.55	18.0	4.4	38.0	2.5
	4.50	0.4	0.8	27.9	18.7	1.12	31.7	25.0	64.1	1.6	4.50	0.4	0.8	24.3	1.56	19.0	4.6	41.6	2.7
	6.00	0.8	1.9	27.9	18.6	1.07	31.5	25.9	60.5	1.4	6.00	0.8	1.9	24.9	1.57	19.6	4.6	43.5	3.0
60	3.00	0.1	0.3	27.3	18.8	1.35	31.9	20.2	81.3	2.1	3.00	0.1	0.3	25.8	1.59	20.4	4.8	46.4	2.8
	4.50	0.3	0.7	27.7	18.9	1.25	32.0	22.2	74.2	1.9	4.50	0.3	0.7	27.1	1.61	21.6	4.9	50.4	3.1
	6.00	0.8	1.7	27.9	18.9	1.20	31.9	23.2	70.6	1.8	6.00	0.8	1.7	27.8	1.62	22.2	5.0	52.6	3.3
70	3.00	0.1	0.3	26.3	18.4	1.51	31.5	17.4	91.0	2.7	3.00	0.1	0.3	28.4	1.63	22.9	5.1	54.8	3.1
	4.50	0.3	0.6	27.0	18.7	1.40	31.8	19.4	84.1	2.4	4.50	0.3	0.6	29.8	1.65	24.2	5.3	59.3	3.5
	6.00	0.7	1.6	27.3	18.8	1.34	31.9	20.4	80.6	2.2	6.00	0.7	1.6	30.6	1.67	24.9	5.4	61.7	3.8
80	3.00	0.1	0.3	25.1	17.9	1.70	30.9	14.8	100.6	3.4	3.00	0.1	0.3	31.0	1.68	25.3	5.4	63.2	3.5
	4.50	0.2	0.5	26.0	18.3	1.57	31.4	16.6	93.9	3.1	4.50	0.2	0.5	32.5	1.71	26.7	5.6	68.1	3.9
	6.00	0.7	1.6	26.4	18.5	1.51	31.5	17.5	90.5	2.8	6.00	0.7	1.6	33.4	1.73	27.5	5.7	70.8	4.3
85	3.00	0.1	0.3	24.4	17.6	1.80	30.6	13.6	105.4	3.5	3.00	0.1	0.3	32.3	1.70	26.5	5.6	67.4	3.7
	4.50	0.2	0.5	25.4	18.0	1.66	31.0	15.3	98.8	3.3	4.50	0.2	0.5	33.9	1.74	28.0	5.7	72.6	4.1
	6.00	0.7	1.5	25.8	18.2	1.60	31.3	16.2	95.4	3.2	6.00	0.7	1.5	34.8	1.76	28.8	5.8	75.4	4.4
90	3.00	0.1	0.3	23.7	17.2	1.91	30.2	12.4	110.1	4.4	2.72	0.1	0.2	33.1	1.72	27.2	5.6	70.0	4.4
	4.50	0.2	0.5	24.7	17.7	1.76	30.7	14.0	103.6	4.0									
	6.00	0.6	1.5	25.2	17.9	1.69	30.9	14.9	100.3	3.6									
100	3.00	0.1	0.3	22.1	16.6	2.15	29.5	10.3	119.6	5.4	1.82	0.1	0.2	33.1	1.72	27.2	5.6	70.0	4.4
	4.50	0.2	0.4	23.2	17.0	1.99	30.0	11.7	113.3	5.0									
	6.00	0.6	1.4	23.7	17.2	1.91	30.2	12.4	110.1	4.1									
110	3.00	0.1	0.3	20.5	15.9	2.43	28.8	8.4	129.2	6.7	1.36	0.1	0.2	33.1	1.72	27.2	5.6	70.0	4.4
	4.50	0.2	0.4	21.6	16.3	2.25	29.2	9.6	123.0	6.2									
	6.00	0.6	1.3	22.1	16.6	2.16	29.5	10.2	119.8	5.1									
120	3.00	0.1	0.3	18.9	15.4	2.75	28.3	6.9	138.8	8.2	1.09	0.1	0.2	33.1	1.72	27.2	5.6	70.0	4.4
	4.50	0.1	0.3	19.9	15.7	2.54	28.6	7.8	132.7	7.5									
	6.00	0.5	1.1	20.4	15.9	2.45	28.8	8.4	129.6	6.2									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
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- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1100 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										6.70	2.2	5.0	16.7	1.47	11.7	3.3	16.5	1.6
30	2.42	0.2	0.4	33.4	21.9	0.87	36.3	38.3	60.0	1.1	3.35	0.6	1.4	18.9	1.49	13.8	3.7	21.7	1.7
											5.03	1.2	2.7	19.9	1.50	14.8	3.9	24.1	1.7
											6.70	2.0	4.5	20.4	1.50	15.3	4.0	25.4	1.8
40	3.49	0.6	1.3	31.8	20.8	0.91	34.9	35.0	60.0	1.1	3.35	0.5	1.2	22.1	1.52	17.0	4.3	29.9	1.8
											5.03	1.1	2.5	23.3	1.52	18.1	4.5	32.8	1.8
											6.70	1.8	4.1	23.9	1.53	18.7	4.6	34.4	1.9
50	3.35	0.5	1.1	31.8	21.4	1.05	35.4	30.3	71.2	1.3	3.35	0.5	1.1	25.2	1.54	20.0	4.8	38.1	1.9
	5.03	1.0	2.3	32.0	21.2	0.95	35.2	33.5	64.0	1.3	5.03	1.0	2.3	26.5	1.55	21.2	5.0	41.6	1.9
	6.70	1.6	3.8	31.8	20.9	0.91	34.9	34.9	60.4	1.2	6.70	1.6	3.8	27.2	1.56	21.9	5.1	43.5	2.0
60	3.35	0.5	1.1	30.9	21.3	1.21	35.1	25.6	80.9	1.4	3.35	0.5	1.1	28.2	1.57	22.9	5.3	46.3	2.0
	5.03	0.9	2.1	31.7	21.5	1.09	35.4	28.9	74.1	1.4	5.03	0.9	2.1	29.6	1.58	24.3	5.5	50.4	2.1
	6.70	1.5	3.6	31.9	21.4	1.04	35.4	30.6	70.6	1.3	6.70	1.5	3.6	30.4	1.59	25.0	5.6	52.5	2.2
70	3.35	0.5	1.0	29.5	20.8	1.38	34.2	21.3	90.4	1.8	3.35	0.5	1.0	31.1	1.59	25.7	5.7	54.6	2.3
	5.03	0.9	2.1	30.5	21.2	1.26	34.8	24.3	83.9	1.7	5.03	0.9	2.1	32.7	1.61	27.2	6.0	59.2	2.3
	6.70	1.5	3.4	31.0	21.3	1.20	35.1	25.9	80.5	1.7	6.70	1.5	3.4	33.6	1.61	28.1	6.1	61.6	2.4
80	3.35	0.4	1.0	27.7	20.1	1.58	33.1	17.5	99.8	2.4	3.35	0.4	1.0	34.0	1.62	28.5	6.2	63.0	2.5
	5.03	0.9	2.0	28.9	20.6	1.45	33.9	20.0	93.5	2.3	5.03	0.9	2.0	35.7	1.63	30.2	6.4	68.0	2.6
	6.70	1.4	3.3	29.5	20.8	1.38	34.2	21.4	90.2	2.3	6.70	1.4	3.3	36.7	1.64	31.1	6.5	70.7	2.7
85	3.35	0.4	1.0	26.8	19.7	1.69	32.5	15.9	104.4	2.9	3.35	0.4	1.0	35.5	1.63	29.9	6.4	67.2	2.6
	5.03	0.9	2.0	28.0	20.2	1.55	33.3	18.1	98.2	2.8	5.03	0.9	2.0	37.3	1.65	31.6	6.6	72.4	2.7
	6.70	1.4	3.3	28.6	20.5	1.48	33.7	19.4	95.1	2.6	6.70	1.4	3.3	38.2	1.66	32.6	6.8	75.3	2.8
90	3.35	0.4	1.0	25.8	19.2	1.80	31.9	14.4	109.1	3.3	3.1	0.1	0.2	36.4	1.64	30.8	6.5	70.0	2.8
	5.03	0.9	2.0	27.0	19.8	1.65	32.7	16.4	103.0	3.2									
	6.70	1.4	3.2	27.7	20.1	1.58	33.1	17.5	99.9	3.1									
100	3.35	0.4	1.0	24.0	18.5	2.04	30.9	11.8	118.5	4.4	2.1	0.1	0.2	36.4	1.6	30.8	6.5	70.0	2.8
	5.03	0.8	1.9	25.1	19.0	1.88	31.5	13.3	112.5	4.3									
	6.70	1.4	3.2	25.7	19.2	1.81	31.9	14.2	109.5	4.1									
110	3.35	0.4	1.0	22.4	18.0	2.30	30.3	9.7	128.1	5.7	1.5	0.1	0.2	36.4	1.6	30.8	6.5	70.0	2.8
	5.03	0.8	1.9	23.3	18.3	2.14	30.6	10.9	122.2	5.6									
	6.70	1.3	3.1	23.8	18.5	2.06	30.9	11.6	119.2	5.4									
120	3.35	0.4	1.0	21.4	18.1	2.60	30.3	8.2	138.1	7.3	1.2	0.1	0.2	36.4	1.6	30.8	6.5	70.0	2.8
	5.03	0.8	1.8	22.0	18.0	2.42	30.2	9.1	132.0	7.1									
	6.70	1.3	3.0	22.3	18.0	2.33	30.3	9.6	129.0	6.9									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1200 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										9.00	3.7	8.5	23.9	1.95	17.3	3.6	16.2	2.0
30	3.30	0.4	0.9	44.2	27.8	1.55	49.5	28.5	60.0	1.1	4.50	1.0	2.3	26.7	2.00	19.9	3.9	21.2	2.5
											6.75	2.0	4.7	28.1	2.02	21.2	4.1	23.7	2.7
											9.00	3.2	7.5	28.8	2.04	21.9	4.1	25.1	3.0
40	4.74	1.0	2.2	42.1	26.5	1.56	47.4	27.0	60.0	1.1	4.50	0.9	2.1	31.1	2.08	24.0	4.4	29.4	3.0
											6.75	1.8	4.2	32.7	2.11	25.5	4.5	32.5	3.3
											9.00	2.9	6.8	33.5	2.13	26.3	4.6	34.2	3.6
50	4.50	0.8	1.9	42.5	27.3	1.75	48.5	24.4	71.6	1.6	4.50	0.8	1.9	35.3	2.17	27.9	4.8	37.6	3.5
	6.75	1.6	3.8	42.5	27.0	1.63	48.1	26.1	64.2	1.5	6.75	1.6	3.8	37.1	2.21	29.6	4.9	41.2	3.8
	9.00	2.7	6.2	42.2	26.6	1.57	47.6	26.9	60.6	1.4	9.00	2.7	6.2	38.1	2.24	30.5	5.0	43.2	4.2
60	4.50	0.8	1.8	41.6	27.2	1.93	48.2	21.6	81.4	2.2	4.50	0.8	1.8	39.4	2.27	31.7	5.1	45.9	4.0
	6.75	1.5	3.5	42.4	27.4	1.80	48.5	23.6	74.4	2.0	6.75	1.5	3.5	41.4	2.32	33.5	5.2	50.1	4.4
	9.00	2.5	5.9	42.6	27.3	1.73	48.5	24.6	70.8	1.8	9.00	2.5	5.9	42.5	2.35	34.5	5.3	52.3	4.8
70	4.50	0.7	1.7	39.9	26.5	2.12	47.1	18.8	90.9	3.0	4.50	0.7	1.7	43.5	2.37	35.4	5.4	54.3	4.5
	6.75	1.5	3.4	41.2	27.0	1.98	47.9	20.8	84.2	2.7	6.75	1.5	3.4	45.7	2.43	37.4	5.5	58.9	5.0
	9.00	2.4	5.6	41.7	27.2	1.91	48.2	21.8	80.7	2.5	9.00	2.4	5.6	46.8	2.47	38.4	5.6	61.5	5.4
80	4.50	0.7	1.7	37.7	25.5	2.34	45.7	16.1	100.3	3.9	4.50	0.7	1.7	47.4	2.48	38.9	5.6	62.7	5.0
	6.75	1.4	3.3	39.2	26.2	2.19	46.7	17.9	93.8	3.6	6.75	1.4	3.3	49.8	2.56	41.1	5.7	67.8	5.5
	9.00	2.4	5.5	40.0	26.6	2.11	47.2	18.9	90.5	3.3	9.00	2.4	5.5	51.1	2.60	42.2	5.8	70.6	6.0
85	4.50	0.7	1.7	36.5	24.9	2.46	44.9	14.9	105.0	4.4	4.50	0.7	1.7	49.4	2.54	40.7	5.7	66.9	5.3
	6.75	1.4	3.3	38.1	25.7	2.30	46.0	16.6	98.6	4.1	6.75	1.4	3.3	51.9	2.62	42.9	5.8	72.3	5.8
	9.00	2.4	5.4	38.9	26.1	2.22	46.5	17.5	95.3	3.8	9.00	2.4	5.4	53.2	2.66	44.1	5.9	75.2	6.3
90	4.50	0.7	1.7	35.4	24.3	2.59	44.2	13.7	109.6	5.1	4.20	0.1	0.2	50.8	2.59	42.0	5.8	70.0	6.3
	6.75	1.4	3.3	36.9	25.1	2.42	45.2	15.3	103.4	4.6									
	9.00	2.3	5.4	37.8	25.5	2.34	45.7	16.2	100.2	4.2									
100	4.50	0.7	1.6	33.1	23.2	2.87	42.9	11.5	119.1	6.4	2.80	0.1	0.2	50.8	2.59	42.0	5.8	70.0	6.3
	6.75	1.4	3.2	34.5	23.9	2.68	43.7	12.9	112.9	5.9									
	9.00	2.3	5.3	35.3	24.3	2.59	44.2	13.6	109.8	5.3									
110	4.50	0.7	1.6	31.2	22.3	3.19	42.0	9.8	128.7	7.9	2.10	0.1	0.2	50.8	2.59	42.0	5.8	70.0	6.3
	6.75	1.4	3.2	32.3	22.8	2.98	42.5	10.8	122.6	7.3									
	9.00	2.2	5.1	33.0	23.1	2.88	42.8	11.4	119.5	6.6									
120	4.50	0.7	1.5	29.9	22.0	3.57	42.1	8.4	138.7	9.7	1.68	0.1	0.2	50.8	2.59	42.0	5.8	70.0	6.3
	6.75	1.3	3.0	30.6	22.1	3.33	41.9	9.2	132.4	8.9									
	9.00	2.1	4.9	31.1	22.3	3.21	42.0	9.7	129.3	8.1									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1500 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										9.20	2.1	4.9	23.1	2.16	15.7	3.1	16.6	2.4
30	3.16	0.3	0.6	43.2	30.4	1.22	47.4	35.5	60.0	1.3	4.60	0.7	1.6	25.4	2.15	18.1	3.5	22.1	2.6
											6.90	1.3	2.9	26.4	2.15	19.1	3.6	24.5	2.7
											9.20	2.0	4.6	27.0	2.15	19.6	3.7	25.7	2.8
40	4.59	0.6	1.4	41.6	29.0	1.27	45.9	32.8	60.0	1.3	4.60	0.6	1.5	29.2	2.15	21.9	4.0	30.5	2.9
											6.90	1.2	2.7	30.6	2.16	23.2	4.1	33.3	3.0
											9.20	1.9	4.3	31.3	2.16	23.9	4.2	34.8	3.0
50	4.60	0.6	1.4	41.5	29.8	1.46	46.4	28.5	70.2	1.5	4.60	0.6	1.4	33.3	2.17	25.9	4.5	38.8	3.1
	6.90	1.1	2.6	41.6	29.3	1.33	46.2	31.4	63.4	1.5	6.90	1.1	2.6	34.9	2.17	27.5	4.7	42.0	3.2
	9.20	1.8	4.1	41.5	28.9	1.27	45.8	32.8	60.0	1.4	9.20	1.8	4.1	35.9	2.18	28.4	4.8	43.8	3.3
60	4.60	0.6	1.4	40.4	29.8	1.68	46.1	24.0	80.0	2.0	4.60	0.6	1.4	37.5	2.19	30.0	5.0	46.9	3.4
	6.90	1.1	2.5	41.2	29.9	1.53	46.4	27.0	73.5	1.9	6.90	1.1	2.5	39.5	2.20	32.0	5.3	50.7	3.5
	9.20	1.7	3.9	41.5	29.8	1.46	46.4	28.5	70.1	1.8	9.20	1.7	3.9	40.6	2.20	33.0	5.4	52.8	3.7
70	4.60	0.6	1.3	38.5	29.0	1.93	45.1	20.0	89.6	2.5	4.60	0.6	1.3	41.8	2.21	34.2	5.5	55.1	3.8
	6.90	1.1	2.4	39.8	29.6	1.76	45.8	22.6	83.3	2.5	6.90	1.1	2.4	44.0	2.22	36.5	5.8	59.4	3.9
	9.20	1.7	3.9	40.4	29.8	1.68	46.1	24.0	80.0	2.4	9.20	1.7	3.9	45.3	2.22	37.7	6.0	61.8	4.0
80	4.60	0.6	1.3	36.1	27.8	2.20	43.6	16.4	99.0	3.3	4.60	0.6	1.3	46.0	2.23	38.4	6.1	63.3	4.2
	6.90	1.0	2.4	37.7	28.6	2.02	44.6	18.6	92.9	3.2	6.90	1.0	2.4	48.5	2.24	40.9	6.4	68.2	4.3
	9.20	1.7	3.8	38.5	29.0	1.93	45.1	19.9	89.8	3.1	9.20	1.7	3.8	49.9	2.24	42.2	6.5	70.8	4.4
85	4.60	0.6	1.3	34.8	27.2	2.35	42.8	14.8	103.6	4.0	4.60	0.6	1.3	48.1	2.24	40.5	6.3	67.4	4.3
	6.90	1.0	2.4	36.5	28.0	2.16	43.8	16.8	97.7	3.8	6.90	1.0	2.4	50.7	2.25	43.0	6.6	72.5	4.4
	9.20	1.6	3.8	37.3	28.4	2.07	44.3	18.0	94.6	3.5	9.20	1.6	3.8	52.1	2.25	44.4	6.8	75.3	4.6
90	4.60	0.6	1.3	33.3	26.4	2.50	41.9	13.3	108.2	4.2	4.18	0.1	0.2	49.5	2.24	41.8	6.5	70.0	4.6
	6.90	1.0	2.4	35.1	27.3	2.31	43.0	15.2	102.5	4.1									
	9.20	1.6	3.8	36.0	27.8	2.22	43.5	16.2	99.5	4.0									
100	4.60	0.6	1.4	30.4	25.0	2.82	40.0	10.8	117.4	5.3	2.79	0.10	0.23	49.5	2.24	41.8	6.47	70.0	4.6
	6.90	1.0	2.4	32.2	25.8	2.63	41.1	12.2	111.9	5.2									
	9.20	1.6	3.7	33.1	26.3	2.53	41.7	13.1	109.1	5.0									
110	4.60	0.6	1.3	27.3	23.5	3.16	38.1	8.6	126.6	6.6	2.09	0.10	0.23	49.5	2.24	41.8	6.47	70.0	4.6
	6.90	1.0	2.4	29.0	24.3	2.97	39.2	9.8	121.3	6.4									
	9.20	1.6	3.7	29.9	24.8	2.87	39.7	10.4	118.6	6.2									
120	4.60	0.6	1.3	24.3	22.2	3.53	36.3	6.9	135.8	8.0	1.67	0.10	0.23	49.5	2.24	41.8	6.47	70.0	4.6
	6.90	1.0	2.3	25.9	22.9	3.33	37.3	7.8	130.8	7.8									
	9.20	1.6	3.6	26.7	23.3	3.23	37.8	8.3	128.2	7.5									

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- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1600 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										12.00	3.4	7.8	34.0	2.95	23.9	3.4	16.0	3.2
30	4.35	0.4	0.9	57.7	37.5	2.21	65.2	26.1	60.0	1.2	6.00	1.0	2.4	36.5	2.98	26.3	3.6	21.2	3.6
											9.00	1.9	4.5	37.9	3.00	27.6	3.7	23.9	3.9
											12.00	3.1	7.2	38.7	3.01	28.4	3.8	25.3	4.3
40	6.31	1.0	2.3	55.5	36.2	2.22	63.1	25.0	60.0	1.2	6.00	0.9	2.2	41.3	3.05	30.9	4.0	29.7	4.0
											9.00	1.8	4.2	43.2	3.08	32.6	4.1	32.7	4.3
											12.00	2.9	6.7	44.2	3.11	33.6	4.2	34.4	4.5
50	6.00	0.9	2.1	55.7	37.2	2.47	64.2	22.6	71.4	2.3	6.00	0.9	2.1	46.6	3.15	35.9	4.3	38.0	4.4
	9.00	1.7	3.9	55.9	36.7	2.31	63.7	24.2	64.2	2.1	9.00	1.7	3.9	49.0	3.20	38.1	4.5	41.5	4.8
	12.00	2.8	6.4	55.6	36.3	2.23	63.3	24.9	60.5	1.9	12.00	2.8	6.4	50.3	3.23	39.3	4.6	43.5	5.0
60	6.00	0.9	2.0	54.5	37.1	2.71	63.7	20.1	81.2	3.1	6.00	0.9	2.0	52.3	3.28	41.1	4.7	46.3	4.8
	9.00	1.6	3.8	55.5	37.3	2.53	64.1	21.9	74.3	2.8	9.00	1.6	3.8	55.1	3.34	43.7	4.8	50.3	5.3
	12.00	2.7	6.2	55.8	37.2	2.45	64.1	22.8	70.7	2.6	12.00	2.7	6.2	56.6	3.38	45.1	4.9	52.5	5.7
70	6.00	0.9	2.0	52.3	36.2	2.98	62.4	17.6	90.8	4.0	6.00	0.9	2.0	58.1	3.41	46.4	5.0	54.5	5.3
	9.00	1.6	3.7	53.9	36.9	2.78	63.4	19.4	84.1	3.6	9.00	1.6	3.7	61.2	3.49	49.3	5.1	59.0	5.9
	12.00	2.6	6.1	54.6	37.1	2.69	63.8	20.3	80.6	3.3	12.00	2.6	6.1	62.9	3.53	50.9	5.2	61.5	6.4
80	6.00	0.8	2.0	49.4	34.8	3.28	60.6	15.1	100.2	5.0	6.00	0.8	2.0	63.8	3.55	51.6	5.3	62.8	5.9
	9.00	1.6	3.7	51.4	35.8	3.07	61.9	16.8	93.8	4.6	9.00	1.6	3.7	67.1	3.63	54.7	5.4	67.8	6.5
	12.00	2.6	6.0	52.4	36.3	2.96	62.5	17.7	90.4	4.2	12.00	2.6	6.0	68.8	3.68	56.3	5.5	70.6	7.1
85	6.00	0.8	2.0	47.9	34.0	3.44	59.6	13.9	104.9	5.6	6.00	0.8	2.0	66.5	3.62	54.2	5.4	66.9	6.2
	9.00	1.6	3.7	50.0	35.1	3.22	61.0	15.5	98.5	4.9	9.00	1.6	3.7	69.8	3.70	57.2	5.5	72.3	6.8
	12.00	2.6	5.9	51.0	35.6	3.11	61.6	16.4	95.3	4.7	12.00	2.6	5.9	71.6	3.74	58.8	5.6	75.2	7.4
90	6.00	0.8	2.0	46.3	33.2	3.62	58.6	12.8	109.5	6.2	5.60	0.1	0.2	68.5	3.67	56.0	5.5	70.0	7.4
	9.00	1.6	3.7	48.4	34.3	3.38	60.0	14.3	103.3	5.7									
	12.00	2.6	5.9	49.5	34.9	3.27	60.6	15.1	100.1	5.1									
100	6.00	0.8	2.0	43.1	31.4	4.00	56.7	10.8	118.9	7.5	3.73	0.1	0.2	68.5	3.67	56.0	5.5	70.0	7.4
	9.00	1.6	3.6	45.2	32.5	3.75	57.9	12.0	112.9	6.8									
	12.00	2.5	5.9	46.2	33.1	3.62	58.6	12.8	109.8	6.2									
110	6.00	0.8	1.9	40.0	29.7	4.45	55.2	9.0	128.4	8.9	2.80	0.1	0.2	68.5	3.67	56.0	5.5	70.0	7.4
	9.00	1.6	3.6	41.9	30.7	4.16	56.1	10.1	122.5	8.2									
	12.00	2.5	5.8	42.9	31.3	4.03	56.6	10.7	119.4	7.4									
120	6.00	0.8	1.9	37.3	28.4	4.96	54.2	7.5	138.1	10.5	2.24	0.1	0.2	68.5	3.67	56.0	5.5	70.0	7.4
	9.00	1.5	3.5	38.9	29.1	4.64	54.7	8.4	132.2	9.6									
	12.00	2.5	5.7	39.7	29.6	4.49	55.1	8.9	129.2	8.7									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1700 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										10.50	3.6	8.3	24.3	2.49	15.8	2.9	17.0	3.0
30	3.81	0.7	1.5	48.9	35.9	1.45	53.9	33.8	50.5	1.3	5.25	1.2	2.8	26.7	2.51	18.2	3.1	23.1	3.0
											7.95	2.2	5.1	27.6	2.51	19.1	3.2	25.2	3.1
											10.50	3.1	7.2	28.1	2.52	19.5	3.3	26.3	3.1
40	5.55	1.0	2.4	50.4	38.1	1.63	55.9	31.0	61.3	1.3	5.25	0.9	2.2	30.6	2.53	22.0	3.5	31.6	3.1
											7.95	1.9	4.3	31.9	2.54	23.2	3.7	34.2	3.2
											10.50	2.7	6.3	32.5	2.54	23.9	3.8	35.5	3.3
50	5.25	0.8	1.8	49.9	39.0	1.84	56.2	27.1	71.4	1.8	5.25	0.8	1.8	34.9	2.55	26.2	4.0	40.0	3.3
	7.95	1.6	3.7	50.4	38.5	1.68	56.2	30.0	64.1	1.8	7.95	1.6	3.7	36.5	2.56	27.8	4.2	43.0	3.4
	10.50	2.4	5.6	50.4	38.0	1.61	55.9	31.2	60.6	1.7	10.50	2.4	5.6	37.4	2.56	28.6	4.3	44.5	3.5
60	5.25	0.6	1.5	48.1	39.1	2.09	55.3	23.1	81.1	2.3	5.25	0.6	1.5	39.5	2.57	30.7	4.5	48.3	3.5
	7.95	1.4	3.3	49.5	39.1	1.91	56.0	26.0	74.1	2.1	7.95	1.4	3.3	41.5	2.58	32.7	4.7	51.8	3.7
	10.50	2.2	5.1	50.0	39.0	1.83	56.2	27.4	70.7	2.0	10.50	2.2	5.1	42.5	2.58	33.7	4.8	53.6	3.8
70	5.25	0.6	1.3	45.7	38.5	2.36	53.7	19.4	90.5	3.0	5.25	0.6	1.3	44.2	2.59	35.4	5.0	56.5	3.9
	7.95	1.3	3.1	47.5	39.0	2.16	54.9	22.0	83.8	2.9	7.95	1.3	3.1	46.6	2.59	37.7	5.3	60.5	4.0
	10.50	2.0	4.7	48.3	39.1	2.07	55.3	23.3	80.5	2.8	10.50	2.0	4.7	47.8	2.60	39.0	5.4	62.6	4.1
80	5.25	0.6	1.3	42.9	37.5	2.67	52.0	16.1	99.8	3.9	5.25	0.6	1.3	49.1	2.60	40.2	5.5	64.7	4.2
	7.95	1.2	2.9	44.8	38.2	2.45	53.2	18.3	93.4	3.7	7.95	1.2	2.9	51.8	2.61	42.9	5.8	69.2	4.4
	10.50	1.9	4.4	45.8	38.5	2.35	53.8	19.4	90.2	3.6	10.50	1.9	4.4	53.3	2.61	44.4	6.0	71.6	4.5
85	5.25	0.5	1.3	41.5	36.9	2.83	51.2	14.6	104.5	4.6	5.25	0.5	1.3	51.6	2.61	42.7	5.8	68.7	4.4
	7.95	1.2	2.8	43.4	37.7	2.61	52.3	16.6	98.2	4.3	7.95	1.2	2.8	54.5	2.61	45.6	6.1	73.5	4.5
	10.50	1.8	4.3	44.3	38.1	2.51	52.9	17.7	95.1	4.1	10.50	1.8	4.3	56.0	2.61	47.1	6.3	76.0	4.7
90	5.25	0.5	1.3	40.1	36.3	3.01	50.4	13.3	109.2	5.0	4.34	0.1	0.2	52.3	2.61	43.4	5.9	70.0	4.7
	7.95	1.2	2.8	41.9	37.1	2.78	51.4	15.1	102.9	4.9									
	10.50	1.8	4.2	42.9	37.5	2.67	52.0	16.0	99.9	4.7									
100	5.25	0.5	1.3	37.7	35.3	3.40	49.3	11.1	118.8	6.3	2.9	0.1	0.23	52.3	2.61	43.44	5.88	70.0	4.7
	7.95	1.2	2.7	39.2	35.9	3.14	49.9	12.5	112.6	6.1									
	10.50	1.8	4.1	40.0	36.3	3.03	50.3	13.2	109.6	6.0									
110	5.25	0.5	1.2	36.2	34.7	3.84	49.3	9.4	128.8	7.9	2.17	0.1	0.23	52.3	2.61	43.44	5.88	70.0	4.7
	7.95	1.2	2.7	37.0	35.0	3.55	49.2	10.4	122.4	7.6									
	10.50	1.7	4.0	37.6	35.2	3.42	49.3	11.0	119.4	7.4									
120	5.25	0.5	1.2	36.1	35.4	4.34	50.9	8.3	139.4	9.6	1.74	0.1	0.23	52.3	2.61	43.44	5.88	70.0	4.7
	7.95	1.1	2.6	35.9	34.8	4.01	49.6	9.0	132.5	9.4									
	10.50	1.7	4.0	36.1	34.7	3.86	49.3	9.3	129.4	9.1									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1900 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										15.00	6.5	15.0	38.9	3.44	27.1	3.3	16.4	3.9
30	5.41	1.0	2.3	71.7	50.2	2.74	81.1	26.2	60.0	2.4	7.50	2.0	4.6	42.4	3.50	30.4	3.5	21.9	4.2
											11.25	3.8	8.8	44.0	3.53	31.9	3.6	24.3	4.3
											15.00	5.6	13.0	44.8	3.55	32.7	3.7	25.6	4.3
40	7.68	1.7	3.9	67.5	47.6	2.71	76.8	24.9	60.0	2.4	7.50	1.6	3.7	48.1	3.60	35.8	3.9	30.5	4.5
											11.25	3.3	7.6	50.1	3.64	37.7	4.0	33.3	4.5
											15.00	4.9	11.4	51.2	3.66	38.7	4.1	34.8	4.5
50	7.50	1.3	3.1	68.9	49.2	3.02	79.3	22.8	71.1	3.6	7.50	1.3	3.1	54.1	3.71	41.5	4.3	38.9	4.9
	11.25	2.9	6.6	68.4	48.3	2.82	78.0	24.2	63.9	3.3	11.25	2.9	6.6	56.5	3.75	43.7	4.4	42.2	5.0
	15.00	4.4	10.2	67.6	47.6	2.72	76.8	24.8	60.2	3.0	15.00	4.4	10.2	57.8	3.78	44.9	4.5	44.0	5.1
60	7.50	1.2	2.7	67.9	49.3	3.31	79.2	20.5	81.1	3.8	7.50	1.2	2.7	60.3	3.83	47.3	4.6	47.4	5.4
	11.25	2.6	6.0	68.8	49.4	3.11	79.4	22.2	74.1	3.6	11.25	2.6	6.0	63.1	3.88	49.9	4.8	51.1	5.6
	15.00	4.0	9.3	68.9	49.2	3.01	79.2	22.9	70.6	3.4	15.00	4.0	9.3	64.6	3.91	51.3	4.8	53.2	5.8
70	7.50	1.1	2.5	65.4	48.5	3.62	77.7	18.0	90.7	4.6	7.50	1.1	2.5	66.6	3.95	53.2	4.9	55.8	5.9
	11.25	2.4	5.6	67.3	49.1	3.40	78.9	19.8	84.0	4.5	11.25	2.4	5.6	69.8	4.02	56.1	5.1	60.0	6.4
	15.00	3.7	8.6	68.0	49.3	3.30	79.3	20.6	80.6	4.2	15.00	3.7	8.6	71.5	4.06	57.7	5.2	62.3	6.8
80	7.50	1.0	2.4	61.9	47.0	3.97	75.4	15.6	100.1	5.6	7.50	1.0	2.4	73.0	4.09	59.0	5.2	64.3	6.4
	11.25	2.3	5.3	64.3	48.1	3.73	77.0	17.3	93.7	5.5	11.25	2.3	5.3	76.4	4.17	62.2	5.4	68.9	7.1
	15.00	3.5	8.2	65.5	48.5	3.61	77.8	18.1	90.4	5.0	15.00	3.5	8.2	78.3	4.22	63.9	5.4	71.5	7.6
85	7.50	1.0	2.4	60.0	46.1	4.16	74.2	14.4	104.8	6.3	7.50	1.0	2.4	76.1	4.16	61.9	5.4	68.5	6.8
	11.25	2.3	5.2	62.5	47.3	3.90	75.9	16.0	98.5	6.0	11.25	2.3	5.2	79.7	4.25	65.2	5.5	73.4	7.4
	15.00	3.5	8.0	63.8	47.8	3.78	76.7	16.9	95.2	5.5	15.00	3.5	8.0	81.6	4.30	66.9	5.6	76.1	8.0
90	7.50	1.0	2.4	58.0	45.2	4.36	72.9	13.3	109.4	7.4	6.30	0.1	0.2	77.2	4.19	63.0	5.4	70.0	8.0
	11.25	2.2	5.2	60.6	46.4	4.09	74.6	14.8	103.3	6.6									
	15.00	3.4	7.9	61.9	47.0	3.96	75.4	15.6	100.1	6.1									
100	7.50	1.0	2.4	54.1	43.4	4.83	70.6	11.2	118.8	8.9	1.82	0.1	0.2	33.1	1.72	27.2	5.6	70.0	8.0
	11.25	2.2	5.1	56.6	44.5	4.52	72.0	12.5	112.8	8.2									
	15.00	3.3	7.7	57.9	45.2	4.37	72.8	13.2	109.7	7.4									
110	7.50	1.0	2.3	50.6	41.8	5.39	69.0	9.4	128.4	10.7	1.36	0.1	0.2	33.1	1.72	27.2	5.6	70.0	8.0
	11.25	2.1	4.9	52.7	42.7	5.03	69.8	10.5	122.4	9.8									
	15.00	3.3	7.6	53.9	43.3	4.86	70.4	11.1	119.4	8.9									
120	7.50	0.9	2.1	48.1	41.0	6.07	68.8	7.9	138.3	12.4	1.09	0.1	0.2	33.1	1.72	27.2	5.6	70.0	8.0
	11.25	2.1	4.8	49.5	41.4	5.64	68.7	8.8	132.2	11.2									
	15.00	3.2	7.5	50.4	41.7	5.44	68.9	9.3	129.2	10.6									

- Interpolation is permissible; extrapolation is not.
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- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
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- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1700 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										13.70	5.1	11.9	32.8	3.26	21.7	2.9	16.8	3.9
30	4.7	0.6	1.4	63.8	46.5	2.0	70.6	31.9	60.0	1.9	6.90	1.6	3.7	36.4	3.33	25.1	3.2	22.7	4.2
											10.30	3.1	7.2	37.7	3.34	26.3	3.3	24.9	4.3
											13.70	4.6	10.7	38.3	3.35	26.9	3.4	26.1	4.4
40	6.87	1.4	3.2	61.6	44.9	2.07	68.7	29.8	60.0	1.9	6.90	1.4	3.2	41.1	3.37	29.6	3.6	31.4	4.5
											10.30	2.8	6.5	42.4	3.37	30.9	3.7	34.0	4.6
											13.70	4.2	9.8	43.1	3.38	31.5	3.7	35.4	4.8
50	6.90	1.3	2.9	61.4	45.5	2.35	69.4	26.1	70.1	2.7	6.90	1.3	2.9	45.4	3.38	33.9	3.9	40.2	4.9
	10.30	2.6	6.0	61.7	45.2	2.16	69.1	28.6	63.4	2.6	10.30	2.6	6.0	46.8	3.37	35.3	4.1	43.1	5.1
	13.70	3.9	9.0	61.6	44.9	2.07	68.7	29.7	60.0	2.5	13.70	3.9	9.0	47.6	3.37	36.1	4.1	44.7	5.2
60	6.90	1.2	2.7	59.9	45.1	2.68	69.0	22.3	80.0	3.3	6.90	1.2	2.7	49.8	3.37	38.3	4.3	48.9	5.4
	10.30	2.4	5.6	61.0	45.4	2.46	69.4	24.8	73.5	3.2	10.30	2.4	5.6	51.6	3.38	40.1	4.5	52.2	5.6
	13.70	3.7	8.5	61.4	45.5	2.35	69.4	26.1	70.1	3.1	13.70	3.7	8.5	52.6	3.38	41.1	4.6	54.0	5.7
70	6.90	1.1	2.5	57.4	44.0	3.07	67.9	18.7	89.7	4.1	6.90	1.1	2.5	54.7	3.40	43.1	4.7	57.5	6.0
	10.30	2.3	5.3	59.1	44.8	2.81	68.7	21.0	83.3	4.0	10.30	2.3	5.3	57.2	3.42	45.5	4.9	61.2	6.2
	13.70	3.5	8.1	59.9	45.1	2.69	69.0	22.3	80.1	3.9	13.70	3.5	8.1	58.6	3.44	46.9	5.0	63.2	6.4
80	6.90	1.0	2.4	54.4	42.5	3.49	66.3	15.6	99.2	5.1	6.90	1.0	2.4	60.7	3.48	48.8	5.1	65.8	6.7
	10.30	2.2	5.1	56.4	43.5	3.21	67.4	17.6	93.1	5.0	10.30	2.2	5.1	64.1	3.54	52.0	5.3	69.9	6.9
	13.70	3.3	7.7	57.4	44.0	3.08	67.9	18.7	89.9	4.8	13.70	3.3	7.7	66.1	3.58	53.9	5.4	72.1	7.1
85	6.90	1.0	2.3	52.7	41.7	3.73	65.4	14.1	104.0	6.0	6.90	1.0	2.3	64.1	3.54	52.0	5.3	69.9	7.0
	10.30	2.1	5.0	54.8	42.7	3.43	66.5	16.0	97.9	5.7	10.30	2.1	5.0	68.2	3.63	55.8	5.5	74.2	7.3
	13.70	3.3	7.6	55.8	43.2	3.29	67.1	17.0	94.8	5.5	13.70	3.3	7.6	70.6	3.69	58.0	5.6	76.5	7.4
90	6.90	1.0	2.3	50.9	40.8	3.97	64.5	12.8	108.7	6.3	5.16	0.1	0.2	63.5	3.51	51.6	5.3	70.0	7.4
	10.30	2.1	4.8	53.1	41.9	3.67	65.6	14.5	102.7	6.1									
	13.70	3.2	7.4	54.2	42.4	3.52	66.2	15.4	99.7	5.9									
100	6.90	0.9	2.1	47.3	39.2	4.49	62.7	10.5	118.2	7.6	3.44	0.1	0.2	63.5	3.51	51.6	5.3	70.0	7.4
	10.30	2.0	4.6	49.5	40.2	4.17	63.7	11.9	112.4	7.4									
	13.70	3.1	7.1	50.7	40.7	4.01	64.3	12.6	109.4	7.1									
110	6.90	0.8	2.0	43.8	37.7	5.06	61.1	8.7	127.7	9.1	2.58	0.1	0.2	63.5	3.51	51.6	5.3	70.0	7.4
	10.30	1.9	4.4	45.9	38.5	4.72	62.0	9.7	122.0	8.9									
	13.70	2.9	6.8	47.0	39.0	4.55	62.5	10.3	119.1	8.6									
120	6.90	0.7	1.7	40.7	36.7	5.69	60.1	7.2	137.4	10.8	2.06	0.1	0.2	63.5	3.51	51.6	5.31	70.0	7.4
	10.30	1.7	4.0	42.5	37.2	5.32	60.6	8.0	131.8	10.5									
	13.70	2.7	6.3	43.4	37.5	5.14	61.0	8.5	128.9	10.2									

- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- AHRI/ISO certified conditions are 80.6°F (27°C) DB and 66.2°F (19°C) WB in cooling and 68°F (20°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 50°F (10.0°C) EWT is based upon 15% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Regular Cooling operation with an EWT of less than 50°F (10.0°C) is not recommended unless variable water flow is available.
- Regular Heating operation with an EWT of more than 90°F (32°C) is not recommended unless variable water flow is available.
- For quiet operation and long term reliability, it is recommended that systems be designed to avoid continuous operation in the outlined areas.
- Performance capacities shown in thousands of Btuh

1900 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67 °F							WPD			HEATING - EAT 70°F					
	FLOW GPM	PSI	FT	TC	SC	EC					FLOW GPM	PSI	FT	HC	EC				
						kW	HR	EER	LWT	HWG Cap					kW	HE	COP	LWT	HWG Cap
20	Operation Not Recommended										17.00	7.6	17.7	47.9	4.22	33.5	3.3	16.1	4.2
30	6.09	0.9	2.0	79.7	56.4	3.42	91.3	23.3	60.0	2.4	8.50	2.2	5.0	50.2	4.37	35.3	3.4	21.7	4.3
											12.75	4.5	10.4	51.5	4.44	36.3	3.4	24.3	4.3
											17.00	6.8	15.7	52.2	4.48	36.9	3.4	25.7	4.3
40	8.93	2.1	4.8	77.8	54.8	3.37	89.3	23.1	60.0	2.4	8.50	1.9	4.3	55.0	4.61	39.2	3.5	30.8	4.5
											12.75	4.0	9.3	56.7	4.69	40.7	3.5	33.6	4.5
											17.00	6.1	14.2	57.6	4.73	41.5	3.6	35.1	4.6
50	8.50	1.7	3.8	79.4	55.2	3.72	92.1	21.3	71.4	4.2	8.50	1.7	3.8	60.5	4.85	44.0	3.7	39.6	5.0
	12.75	3.6	8.4	79.9	55.1	3.48	91.8	23.0	64.1	3.8	12.75	3.6	8.4	62.7	4.93	45.9	3.7	42.8	5.1
	17.00	5.6	13.0	79.8	54.9	3.37	91.3	23.7	60.5	3.5	17.00	5.6	13.0	63.9	4.97	47.0	3.8	44.5	5.1
60	8.50	1.5	3.4	77.6	54.5	4.09	91.6	19.0	81.2	4.6	8.50	1.5	3.4	66.8	5.07	49.5	3.9	48.4	5.8
	12.75	3.4	7.8	79.0	55.1	3.82	92.1	20.7	74.2	4.4	12.75	3.4	7.8	69.5	5.16	51.8	3.9	51.9	6.5
	17.00	5.2	12.1	79.5	55.2	3.69	92.1	21.5	70.7	4.2	17.00	5.2	12.1	70.9	5.21	53.2	4.0	53.7	7.1
70	8.50	1.4	3.2	74.8	53.2	4.51	90.2	16.6	90.5	5.8	8.50	1.4	3.2	73.5	5.29	55.4	4.1	57.0	6.5
	12.75	3.2	7.3	76.9	54.2	4.20	91.2	18.3	84.0	5.2	12.75	3.2	7.3	76.7	5.39	58.3	4.2	60.9	7.3
	17.00	4.9	11.4	77.8	54.6	4.06	91.6	19.2	80.6	5.0	17.00	4.9	11.4	78.4	5.45	59.8	4.2	63.0	7.9
80	8.50	1.3	3.0	71.3	51.4	4.99	88.3	14.3	99.6	7.2	8.50	1.3	3.0	80.5	5.51	61.7	4.3	65.5	7.1
	12.75	3.0	7.0	73.8	52.7	4.64	89.7	15.9	93.5	6.7	12.75	3.0	7.0	84.2	5.62	65.0	4.4	69.8	7.9
	17.00	4.7	10.9	75.0	53.3	4.48	90.3	16.7	90.3	6.3	17.00	4.7	10.9	86.2	5.68	66.8	4.4	72.1	8.7
85	8.50	1.3	3.0	69.4	50.5	5.26	87.3	13.2	103.9	8.2	8.50	1.3	3.0	84.1	5.62	65.0	4.4	69.7	7.7
	12.75	3.0	6.8	72.0	51.8	4.89	88.7	14.7	98.2	7.4	12.75	3.0	6.8	88.0	5.73	68.5	4.5	74.3	8.1
	17.00	4.6	10.7	73.3	52.4	4.72	89.4	15.5	95.0	6.9	17.00	4.6	10.7	90.1	5.79	70.4	4.6	76.7	8.8
90	8.50	1.3	2.9	67.4	49.5	5.56	86.3	12.1	108.2	9.1	6.52	0.1	0.2	84.4	5.62	65.2	4.4	70.0	8.8
	12.75	2.9	6.7	70.1	50.8	5.16	87.7	13.6	102.7	8.3									
	17.00	4.5	10.5	71.5	51.5	4.97	88.4	14.4	99.8	7.4									
100	8.50	1.2	2.8	63.2	47.6	6.22	84.5	10.2	116.6	10.6	4.34	0.1	0.2	84.4	5.62	65.2	4.4	70.0	8.8
	12.75	2.8	6.5	66.0	48.9	5.76	85.7	11.5	111.7	9.9									
	17.00	4.4	10.2	67.4	49.5	5.55	86.4	12.2	109.0	9.0									
110	8.50	1.2	2.7	59.2	45.8	7.00	83.0	8.5	124.7	12.3	3.26	0.1	0.2	84.4	5.62	65.2	4.4	70.0	8.8
	12.75	2.7	6.3	61.8	46.9	6.47	83.9	9.6	120.5	11.7									
	17.00	4.3	9.9	63.2	47.6	6.22	84.4	10.2	118.1	10.6									
120	8.50	1.1	2.6	55.4	44.4	7.92	82.4	7.0	132.5	14.1	2.61	0.1	0.2	84.4	5.62	65.2	4.4	70.0	8.8
	12.75	2.6	6.1	57.8	45.2	7.31	82.7	7.9	129.0	13.6									
	17.00	4.1	9.6	59.1	45.8	7.02	83.0	8.4	127.0	12.4									

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- Performance capacities shown in thousands of Btuh

Blower Performance: CV EC Standard Unit

CV EC MOTOR ADVANTAGE

A major benefit of the CV EC motor over other blower motor types is its ability to adjust airflow remotely through the iGate 2 web portal/mobile app or directly at the unit with a communicating diagnostic service tool. Airflow levels can be adjusted in increments of 25 CFM from the unit's minimum and maximum CFM range (see the Blower Performance: CV EC Blower Motor Standard Unit table for details).

Blower Performance: CV EC Blower Motor Standard Unit

Model	Max ESP (in wg)	Range	Cooling Mode			Dehumid Mode			Heating Mode		
			Stage 2	Stage 1	Fan	Stage 2	Stage 1	Fan	Stage 2	Stage 1	Fan
SE024	1	Minimum	600	450	300	600	450	300	600	450	300
		Default	750	575	350	650	500	350	750	575	350
		Maximum	850	650	850	800	600	850	850	850	850
SE 036	0.9	Minimum	900	600	450	900	600	450	900	600	450
		Default	1,125	750	525	975	650	525	1,125	750	525
		Maximum	1,250	950	1,250	1,200	800	1,250	1,250	1,250	1,250
SE 048	1	Minimum	1,200	900	600	1,200	900	600	1,200	900	600
		Default	1,500	1,125	700	1,300	975	700	1,500	1,125	700
		Maximum	1,700	1,300	1,700	1,600	1,200	1,700	1,700	1,700	1,700
SE 060	0.7	Minimum	1,500	1,200	750	1,500	1,200	750	1,500	1,200	750
		Default	1,875	1,500	875	1,625	1,300	875	1,875	1,500	875
		Maximum	2,100	1,700	2,100	2,000	1,600	2,100	2,100	2,100	2,100
SE 072	0.7	Minimum	1,500	1,200	750	1,500	1,200	750	1,500	1,200	750
		Default	1,875	1,500	875	1,625	1,300	875	1,875	1,500	875
		Maximum	2,100	1,700	2,100	2,000	1,600	2,100	2,100	2,100	2,100

- Blower performance data is based on the lowest nameplate voltage setting.
- Blower performance is based on a wet coil with clean 1-inch filter.
- Blower performance is based on operating conditions of 80°F DB and 67°F WB.
- Airflow is controlled within ±5% up to Max ESP shown with wet coil and standard 1" fiberglass air filter.

Part Load Performance: Correction Tables

Cooling Correction

Entering Air WB °F	Total Capacity	Sensible Cooling Capacity Multipliers - Entering DB °F								Power	Heat of Rejection
		65	70	75	80	85	90	95	100		
45	0.623	*	*	*	*	*	*	*	*	1.020	0.720
50	0.708	*	*	*	*	*	*	*	*	1.015	0.783
55	0.794	0.893	*	*	*	*	*	*	*	1.011	0.847
60	0.880	0.671	0.883	1.089	*	*	*	*	*	1.006	0.911
65	0.966		0.662	0.868	1.088	1.279	*	*	*	1.002	0.975
67	1.000		0.574	0.779	1.000	1.190	1.396	*	*	1.000	1.000
70	1.051			0.646	0.868	1.057	1.263	*	*	0.997	1.038
75	1.137				0.648	0.835	1.041	1.237	1.451	0.993	1.102

Notes:
- AHRI/ISO/ASHRAE 13256-1 uses entering air conditions of Cooling - 80.6°F (27°C) DB/ 66.2°F (19°C) WB, and Heating 68°F (20°C) DB/ 59°F (15°C) WB entering air temperature.
- Asteriscs indicate that no correction factor is needed, Total Capacity equals Sensible capacity.
- Entering DB temperature range is based on operating limits, not on commision limits.
- Cooling and heating air corrections based on rated airflow.

Entering Air Heating Correction

Entering Air WB °F	Heating Capacity	Power	Heat of Rejection
50	1.020	0.763	1.102
55	1.015	0.822	1.076
60	1.010	0.882	1.051
65	1.005	0.941	1.025
70	1.000	1.000	1.000
75	0.995	1.059	0.975
80	0.990	1.118	0.949

Airflow Correction

% of Rated	Heating			Cooling				
	Heating Capacity	Power	Heat of Extraction	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection
80	0.969	1.009	0.974	0.979	0.905	0.924	0.947	0.979
85	0.977	1.007	0.980	0.984	0.929	0.944	0.961	0.984
90	0.984	1.005	0.987	0.989	0.952	0.963	0.974	0.989
95	0.992	1.002	0.993	0.995	0.976	0.981	0.987	0.995
100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
105	1.008	0.998	1.007	1.005	1.024	1.018	1.013	1.005
110	1.016	0.995	1.013	1.011	1.048	1.037	1.026	1.011

Full Load Performance: Correction Tables

Cooling Correction

Entering Air WB °F	Total Capacity	Sensible Cooling Capacity Multipliers - Entering DB °F								Power	Heat of Rejection
		65	70	75	80	85	90	95	100		
45	0.651	*	*	*	*	*	*	*	*	0.927	0.723
50	0.730	*	*	*	*	*	*	*	*	0.944	0.786
55	0.809	0.913	*	*	*	*	*	*	*	0.960	0.849
60	0.889	0.689	0.894	1.098	*	*	*	*	*	0.977	0.912
65	0.968		0.672	0.877	1.087	1.287	*	*	*	0.993	0.975
67	1.000		0.583	0.788	1.000	1.199	1.404	*	*	1.000	1.000
70	1.048			0.655	0.869	1.067	1.272	*	*	1.010	1.038
75	1.127				0.650	0.847	1.053	1.255	1.466	1.027	1.101

Notes:
- AHRI/ISO/ASHRAE 13256-1 uses entering air conditions of Cooling - 80.6°F (27°C) DB/ 66.2°F (19°C) WB, and Heating 68°F (20°C) DB/ 59°F (15°C) WB entering air temperature.
- Asteriscs indicate that no correction factor is needed, Total Capacity equals Sensible capacity.
- Entering DB temperature range is based on operating limits, not on commision limits.
- Cooling and heating air corrections based on rated airflow.

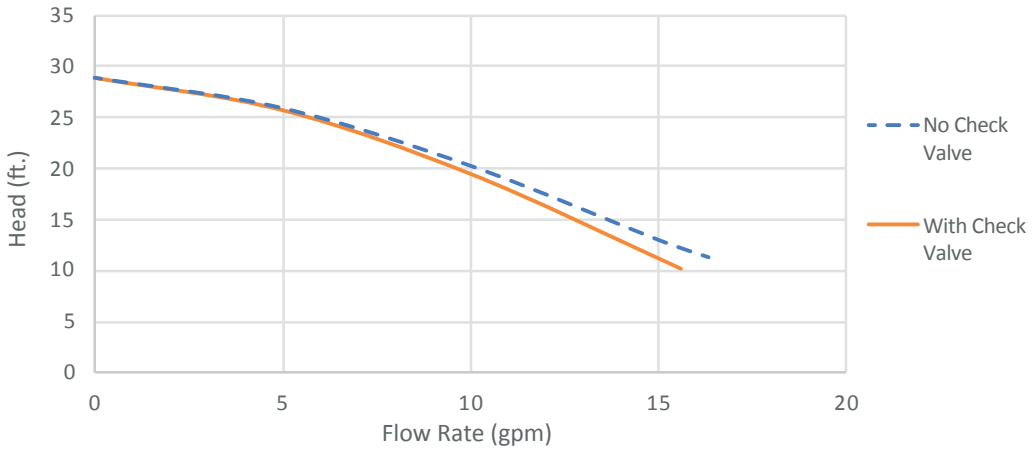
Entering Air Heating Correction

Entering Air WB °F	Heating Capacity	Power	Heat of Rejection
50	1.026	0.807	1.103
55	1.019	0.855	1.077
60	1.013	0.904	1.052
65	1.006	0.952	1.026
70	1.000	1.000	1.000
75	0.994	1.048	0.974
80	0.987	1.096	0.948

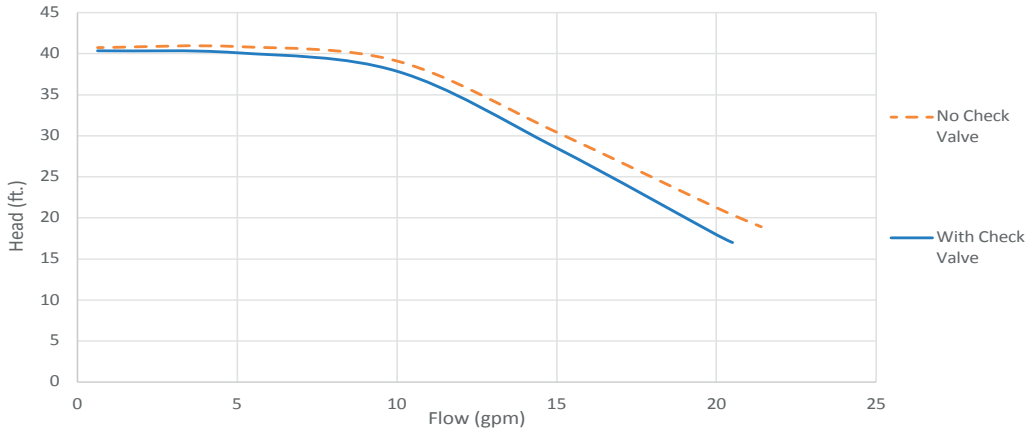
Airflow Correction

% of Rated	Heating			Cooling				
	Heating Capacity	Power	Heat of Extraction	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection
80	0.963	1.008	0.965	0.975	0.913	0.936	0.937	0.974
85	0.972	1.006	0.974	0.981	0.935	0.952	0.952	0.980
90	0.981	1.004	0.983	0.988	0.956	0.968	0.968	0.987
95	0.991	1.002	0.991	0.994	0.978	0.984	0.984	0.993
100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
105	1.009	0.998	1.009	1.006	1.022	1.015	1.016	1.007
110	1.019	0.996	1.017	1.012	1.044	1.031	1.032	1.013

Standard Head Variable Pump Performance



High Head Variable Pump Performance



Antifreeze Correction Table

EWT (°F)	Antifreeze Type	Antifreeze %	Cooling			Heating		WPD
			Total Cap	Sensible Cap	Watts	Total Cap	Watts	
90	Water	0%	1.000	1.000	1.000	1.000	1.000	1.000
	Ethanol	5%	0.998	0.998	1.002	0.996	0.999	1.025
		10%	0.996	0.996	1.003	0.991	0.997	1.048
		15%	0.994	0.994	1.005	0.987	0.996	1.098
		20%	0.991	0.991	1.006	0.982	0.994	1.142
		25%	0.986	0.986	1.009	0.972	0.991	1.207
		30%	0.981	0.981	1.012	0.962	0.988	1.265
		35%	0.977	0.977	1.015	0.953	0.985	1.312
		40%	0.972	0.972	1.018	0.943	0.982	1.370
		45%	0.966	0.966	1.023	0.931	0.978	1.431
		50%	0.959	0.959	1.027	0.918	0.974	1.494
	Ethylene Glycol	5%	0.998	0.998	1.002	0.996	0.999	1.021
		10%	0.996	0.996	1.003	0.991	0.997	1.040
		15%	0.994	0.994	1.004	0.987	0.996	1.079
		20%	0.991	0.991	1.005	0.982	0.995	1.114
		25%	0.988	0.988	1.008	0.976	0.993	1.146
		30%	0.985	0.985	1.010	0.969	0.990	1.175
		35%	0.982	0.982	1.012	0.963	0.988	1.208
		40%	0.979	0.979	1.014	0.956	0.986	1.243
		45%	0.976	0.976	1.016	0.950	0.984	1.278
		50%	0.972	0.972	1.018	0.943	0.982	1.314
	Methanol	5%	0.997	0.997	1.002	0.993	0.998	1.039
		10%	0.993	0.993	1.004	0.986	0.996	1.075
		15%	0.990	0.990	1.007	0.979	0.994	1.116
		20%	0.986	0.986	1.009	0.972	0.991	1.154
		25%	0.982	0.982	1.012	0.964	0.989	1.189
		30%	0.978	0.978	1.014	0.955	0.986	1.221
		35%	0.974	0.974	1.017	0.947	0.984	1.267
		40%	0.970	0.970	1.020	0.939	0.981	1.310
		45%	0.966	0.966	1.023	0.930	0.978	1.353
		50%	0.961	0.961	1.026	0.920	0.975	1.398
	Propylene Glycol	5%	0.995	0.995	1.003	0.990	0.997	1.065
		10%	0.990	0.990	1.006	0.980	0.994	1.119
		15%	0.986	0.986	1.009	0.971	0.991	1.152
		20%	0.981	0.981	1.012	0.962	0.988	1.182
		25%	0.978	0.978	1.014	0.956	0.986	1.227
		30%	0.975	0.975	1.016	0.950	0.984	1.267
		35%	0.972	0.972	1.018	0.944	0.982	1.312
		40%	0.969	0.969	1.020	0.938	0.980	1.356
		45%	0.965	0.965	1.023	0.929	0.977	1.402
		50%	0.960	0.960	1.026	0.919	0.974	1.450

Table continued on next page

Antifreeze Correction Table

Table continued from previous page

EWT (°F)	Antifreeze Type	Antifreeze %	Cooling			Heating		WPD
			Total Cap	Sensible Cap	Watts	Total Cap	Watts	
30	Water	0%	1.000	1.000	1.000	1.000	1.000	1.000
	Ethanol	5%	0.991	0.991	1.006	0.981	0.994	1.140
		10%	0.981	0.981	1.012	0.961	0.988	1.242
		15%	0.973	0.973	1.018	0.944	0.983	1.295
		20%	0.964	0.964	1.024	0.927	0.977	1.343
		25%	0.959	0.959	1.028	0.917	0.974	1.363
		30%	0.954	0.954	1.031	0.907	0.970	1.383
		35%	0.949	0.949	1.035	0.897	0.967	1.468
		40%	0.944	0.944	1.038	0.887	0.964	1.523
		45%	0.940	0.940	1.041	0.880	0.962	1.580
		50%	0.936	0.936	1.043	0.872	0.959	1.639
	Ethylene Glycol	5%	0.997	0.997	1.002	0.993	0.998	1.040
		10%	0.993	0.993	1.004	0.986	0.996	1.075
		15%	0.990	0.990	1.006	0.980	0.994	1.122
		20%	0.987	0.987	1.008	0.973	0.992	1.163
		25%	0.983	0.983	1.011	0.966	0.990	1.195
		30%	0.979	0.979	1.013	0.958	0.987	1.225
		35%	0.976	0.976	1.016	0.951	0.985	1.279
		40%	0.972	0.972	1.018	0.943	0.982	1.324
		45%	0.969	0.969	1.021	0.937	0.980	1.371
		50%	0.966	0.966	1.023	0.930	0.978	1.419
	Methanol	5%	0.995	0.995	1.004	0.989	0.997	1.069
		10%	0.989	0.989	1.007	0.978	0.993	1.127
		15%	0.984	0.984	1.011	0.968	0.990	1.164
		20%	0.979	0.979	1.014	0.957	0.986	1.197
		25%	0.975	0.975	1.017	0.949	0.984	1.216
		30%	0.971	0.971	1.019	0.941	0.981	1.235
		35%	0.967	0.967	1.022	0.933	0.979	1.286
		40%	0.963	0.963	1.025	0.924	0.976	1.323
		45%	0.959	0.959	1.028	0.917	0.974	1.360
		50%	0.955	0.955	1.030	0.910	0.971	1.399
	Propylene Glycol	5%	0.995	0.995	1.004	0.989	0.997	1.071
		10%	0.989	0.989	1.007	0.978	0.993	1.130
		15%	0.985	0.985	1.010	0.968	0.990	1.206
		20%	0.980	0.980	1.013	0.958	0.987	1.270
		25%	0.974	0.974	1.017	0.947	0.983	1.359
		30%	0.968	0.968	1.021	0.935	0.979	1.433
		35%	0.963	0.963	1.025	0.924	0.976	1.522
		40%	0.957	0.957	1.029	0.913	0.972	1.614
		45%	0.949	0.949	1.034	0.898	0.967	1.712
		50%	0.941	0.941	1.039	0.882	0.962	1.816

System Pressure Drop Valve

Model	GPM	Low System Pressure Drop Valve (Adders)					High System Pressure Drop Valve (Adders)				
		CV	Close Off	MOPD	PSI	FT	CV	Close Off	MOPD	PSI	FT
SE024	3	4.7	200	30	0.41	0.94	4.7	200	30	0.41	0.94
	4.5				0.92	2.12				0.92	2.12
	6				1.63	3.76				1.63	3.76
SE036	4.5	7.4	200	30	0.37	0.85	4.7	200	30	0.92	2.12
	6.8				0.84	1.95				2.09	4.84
	9				1.48	3.42				3.67	8.47
SE048	6	10	200	30	0.36	0.83	4.7	200	30	1.63	3.76
	9				0.81	1.87				3.67	8.47
	12				1.44	3.33				6.52	15.06
SE060	7.5	19	200	30	0.16	0.36	7.4	200	30	1.03	2.37
	11.3				0.35	0.82				2.33	5.39
	15				0.62	1.44				4.11	9.49
SE072	8.5	19	200	30	0.20	0.46	7.4	200	30	1.32	3.05
	12.8				0.45	1.05				2.99	6.91
	17				0.80	1.85				5.28	12.19

Tranquility (SE) Series

Model (SE)	024	036	048	060	072
Compressor (1 each)	Scroll				
Factory Charge HFC/HFO-454B - (oz.)	34	43	59	102	109
Refrigerant Leak Detection System	O	O	O	R	R
Number of Sensors	2	2	2	2	2
Water Connection Size					
Swivel	1"	1"	1"	1"	1"
System Water Volume (gallons)	0.323	0.738	0.890	0.939	0.939
Vertical					
Filter Standard - 2" Throwaway	28 x 24	28 x 29.5	32 x 29.5	36 x 29.5	36 x 29.5
Weight - Operating (lbs.)	298	359	448	475	475
Weight - Packaged (lbs.)	208	369	458	485	485
Horizontal					
Filter Standard - 2" Throwaway	2 - 18 x 18	1 - 12 x 20 1 - 20 x 25	1 - 18 x 20 1 - 20 x 24	2 - 20 x 24	2 - 20 x 24
Weight - Operating (lbs.)	298	359	448	475	475
Weight - Packaged (lbs.)	308	369	458	485	485
Downflow					
Filter Standard - 2" Throwaway	28 x 24	28 x 29.5	32 x 29.5	36 x 29.5	36 x 29.5
Weight - Operating (lbs.)	298	359	448	475	475
Weight - Packaged (lbs.)	308	369	458	485	485
Hot Water Generator					
Swivel - Residential Class	1"	1"	1"	1"	1"
Weight - HWG Adder (lbs.)	+15	+15	+15	+15	+15

- All dimensions displayed above are in inches unless otherwise marked.
- All units have TXV expansion device and ½-inch and ¾-inch electrical knockouts.
- The Stainless Steel Condensate Drain Connection is ¾-inch MPT.
- FPT=Female Pipe Thread
- O = Optional, R = Required

Unit Maximum Water Working Pressure

Options	Max Pressure PSIG [kPa]
Base Unit	300 [2,068]
Internal Modulating Valve	300 [2,068]

Cabinet Dimensions (in)

Model	Cabinet Config	Depth/ Length	Width	Height
		A	B	C
SE024	H	62.2	22.4	19.3
	V	25.6	22.4	48.5
	D	25.6	22.4	52.4
SE036	H	71.2	25.4	21.3
	V	30.6	25.4	50.5
	D	30.6	25.4	54.3
SE048	H	76.2	25.4	21.3
	V	30.6	25.4	54.5
	D	30.6	25.4	58.3
SE060-SE072	H	81.2	25.4	21.3
	V	30.6	25.4	58.5
	D	30.6	25.4	62.3

Electrical Knockouts (in)

Model	Cabinet Config	H	Low Voltage	High Voltage	G
			J KO 1/2"	K KO 3/4"	
SE024	H	4.1	3.6	8.6	1.3
	V	4.1	3.6	8.6	1.3
	D	37.4	40.4	47.9	1.3
SE036	H	4.1	3.6	8.6	1.3
	V	4.1	3.6	8.6	1.3
	D	37.4	40.3	50.0	1.3
SE048	H	4.1	3.6	8.6	1.3
	V	4.1	3.6	8.6	1.3
	D	41.3	48.4	54.0	1.3
SE060-SE072	H	4.1	3.6	8.6	1.3
	V	4.1	3.6	8.6	1.3
	D	45.4	48.4	58.1	1.3

Water Connections (in)

Model	Cabinet Config	Water Connections									Condensate Drain Pan		
		Water In		Water Out		Water In/Out	HWG In		HWG Out		AA	BB	Condensate Drain Pan Fitting
		D	E	F	E		DD	EE	FF	EE			
SE024	H	3.9	1.7	8.4	1.7	3/4"	13.9	1.6	16.9	1.6	3.3	1.5	3/4" MPT
	V	3.9	1.6	8.4	1.6	3/4"	13.9	1.6	16.9	1.6	1.4	20.0	3/4" MPT
	D	37.0	2.0	43.0	2.0	3/4"	46.4	1.6	49.1	1.6	1.6	4.7	3/4" MPT
SE036	H	3.9	2.0	8.4	2.0	3/4"	15.6	1.6	18.9	1.6	3.3	3.4	3/4" MPT
	V	3.9	2.0	8.4	2.0	3/4"	15.6	1.6	18.9	1.6	2.0	22.3	3/4" MPT
	D	37.0	2.0	44.3	2.0	3/4"	49.0	1.6	51.8	1.6	1.6	4.7	3/4" MPT
SE048	H	3.9	2.0	8.4	2.0	1"	15.6	1.6	18.9	1.6	3.3	3.4	3/4" MPT
	V	3.9	2.0	8.4	2.0	1"	15.6	1.6	18.9	1.6	2.0	22.3	3/4" MPT
	D	41.0	2.0	48.3	2.0	1"	53.0	1.6	55.7	1.6	1.6	4.7	3/4" MPT
SE060-SE072	H	3.9	2.0	8.4	2.0	1"	15.6	1.6	18.9	1.6	3.3	3.4	3/4" MPT
	V	3.9	2.0	8.4	2.0	1"	15.6	1.6	18.9	1.6	2.0	21.7	3/4" MPT
	D	45.0	2.0	52.3	2.0	1"	56.9	1.6	59.7	1.6	1.6	4.7	3/4" MPT

Note:
* 1-inch swivel connections.
See PDF drawings for reference

Discharge and Return Connections (in)

Model	Cabinet Config	Discharge Connection Duct Flange Installed					Return Connection Using Return Air Opening			
		Supply Height	Supply Width	OL (Left Return)	OR (Right Return)	P	Return Width	Return Height	S	T
		M	N				Q	R		
SE024	H	15.4	12.4	3.8	3.8	2.0	32.1	17.3	4.8	1.0
	V	13.9	13.9	6.8	6.7	5.7	21.2	26.8	2.3	1.0
	D	13.9	13.9	4.9	2.8	5.8	21.2	27.3	2.4	6.0
SE036	H	18.9	17.4	2.9	2.9	1.0	36.0	19.3	2.8	1.0
	V	17.9	17.9	2.0	5.3	6.2	26.1	26.1	2.3	1.0
	D	17.9	17.9	5.4	3.0	6.2	26.1	26.0	2.2	6.0
SE048	H	18.9	17.4	3.0	3.0	1.0	41.0	19.3	2.8	1.0
	V	17.9	17.9	3.0	5.3	6.2	26.1	30.2	2.3	1.0
	D	17.9	17.9	5.4	3.0	6.2	26.1	30.4	2.2	5.7
SE060-SE072	H	18.9	17.4	3.0	3.0	1.0	46.0	19.3	2.8	1.0
	V	17.9	17.9	3.0	5.3	6.2	26.1	34.7	2.3	1.0
	D	17.9	17.9	5.4	3.0	6.2	26.1	36.0	2.2	5.2

Corner Weights (lb)

Model	Left - Front	Right - Front	Left - Back	Right/Back
SE024	68.0	56.0	42.0	42.0
SE036	76.0	63.0	47.0	47.0
SE048	98.0	81.0	60.0	60.0
SE060-SE072	103.0	85.0	63.0	63.0

Hanger Dimensions (in)

Model	Cabinet Config	Unit Hanger Detail		
		U	V	W
SE024	H	48.4	24.6	20.3
SE036	H	53.3	24.6	23.3
SE048	H	68.0	27.6	23.3
SE060-SE072	H	68.0	27.6	23.3

Cabinet Dimensions (cm)

Model	Cabinet Config	Depth/ Length	Width	Height
		A	B	C
SE024	H	158.0	56.9	49.0
	V	65.0	56.9	123.2
	D	65.0	56.9	133.1
SE036	H	180.8	64.5	54.1
	V	77.7	64.5	128.3
	D	77.7	64.5	137.8
SE048	H	193.5	64.5	54.1
	V	77.7	64.5	138.4
	D	77.7	64.5	148.0
SE060-SE072	H	206.2	64.5	54.1
	V	77.7	64.5	148.6
	D	77.7	64.5	158.1

Electrical Knockouts (cm)

Model	Cabinet Config	H	Low Voltage	High Voltage	G
			J KO 1/2"	K KO 3/4"	
SE024	H	10.4	9.1	21.8	3.2
	V	10.4	9.1	21.8	3.2
	D	95.0	102.7	121.8	3.2
SE036	H	10.4	9.1	21.8	3.2
	V	10.4	9.1	21.8	3.2
	D	95.0	102.3	127.0	3.2
SE048	H	10.4	9.1	21.8	3.2
	V	10.4	9.1	21.8	3.2
	D	104.9	122.9	137.2	3.2
SE060-SE072	H	10.4	9.1	21.8	3.2
	V	10.4	9.1	21.8	3.2
	D	115.3	122.9	147.4	3.2

Water Connections (cm)

Model	Cabinet Config	Water Connections									Condensate Drain Pan		
		Water In		Water Out		Water In/Out	HWG In		HWG Out		AA	BB	Condensate Drain Pan Fitting
		D	E	F	E		DD	EE	FF	EE			
SE024	H	9.9	4.3	21.3	4.3	3/4"	35.3	4.1	42.9	4.1	8.5	3.8	3/4" MPT
	V	9.9	4.1	21.3	4.1	3/4"	35.3	4.1	42.9	4.1	3.6	50.7	3/4" MPT
	D	94.0	5.1	109.3	5.1	3/4"	117.9	4.0	124.8	4.1	4.1	11.9	3/4" MPT
SE036	H	9.9	5.0	21.3	5.0	3/4"	39.6	4.1	48.0	4.1	8.3	8.6	3/4" MPT
	V	9.9	5.0	21.3	5.0	3/4"	39.6	4.1	48.0	4.1	5.0	56.6	3/4" MPT
	D	94.0	5.1	112.4	5.1	3/4"	124.5	4.1	131.4	4.1	4.1	11.9	3/4" MPT
SE048	H	9.9	5.0	21.3	5.0	1"	39.6	4.1	48.0	4.1	8.3	8.6	3/4" MPT
	V	9.9	5.0	21.3	5.0	1"	39.6	4.1	48.0	4.1	5.0	56.6	3/4" MPT
	D	104.0	5.0	122.7	5.0	1"	134.5	4.1	141.4	4.1	4.1	11.9	3/4" MPT
SE060-SE072	H	9.9	5.0	21.3	5.0	1"	39.6	4.1	48.0	4.1	8.3	8.6	3/4" MPT
	V	9.9	5.0	21.3	5.0	1"	39.6	4.1	48.0	4.1	5.0	55.1	3/4" MPT
	D	114.4	5.0	132.8	5.0	1"	144.6	4.1	151.6	4.1	4.1	11.9	3/4" MPT

Note:
* 1-inch swivel connections
See PDF drawings for reference

Discharge and Return Connections (cm)

Model	Cabinet Config	Discharge Connection Duct Flange Installed					Return Connection Using Return Air Opening			
		Supply Height	Supply Width	OL (Left Return)	OR (Right Return)	P	Return Width	Return Height	S	T
		M	N				Q	R		
SE024	H	39.1	31.5	9.5	9.5	5.0	81.5	43.9	12.2	2.5
	V	35.3	35.3	17.3	17.0	14.5	53.8	68.1	5.8	2.5
	D	35.3	35.3	12.4	7.1	14.7	53.8	69.3	6.1	15.2
SE036	H	48.0	44.2	7.5	7.5	2.5	91.4	49.0	7.1	2.5
	V	45.5	45.5	5.1	13.5	15.7	66.3	66.3	5.8	2.5
	D	45.5	45.5	13.7	7.6	15.7	66.3	66.0	5.6	15.2
SE048	H	48.0	44.2	7.6	7.6	2.5	104.1	49.0	7.1	2.5
	V	45.5	45.5	7.6	13.5	15.7	66.3	76.7	5.8	2.5
	D	45.5	45.5	13.7	7.6	15.7	66.3	77.2	5.6	14.5
SE060-SE072	H	48.0	44.2	7.6	7.6	2.5	116.8	49.0	7.1	2.5
	V	45.5	45.5	7.6	13.5	15.7	66.3	88.1	5.8	2.5
	D	45.5	45.5	13.7	7.6	15.7	66.3	91.4	5.6	13.2

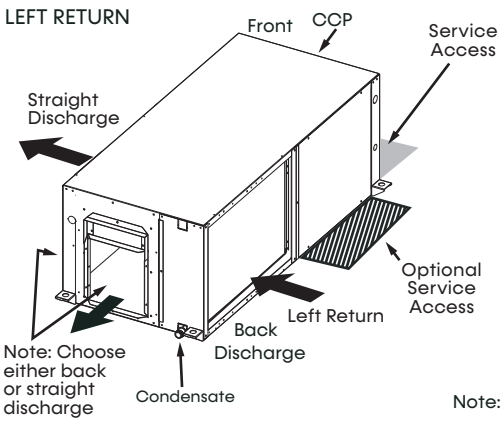
Corner Weights (kg)

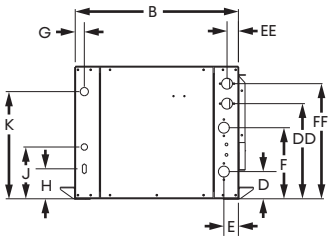
Model	Left - Front	Right - Front	Left - Back	Right/Back
SE024	30.8	25.4	19.1	19.1
SE036	34.5	28.6	21.3	21.3
SE048	44.5	36.7	27.2	27.2
SE060-SE072	46.7	38.6	28.6	28.6

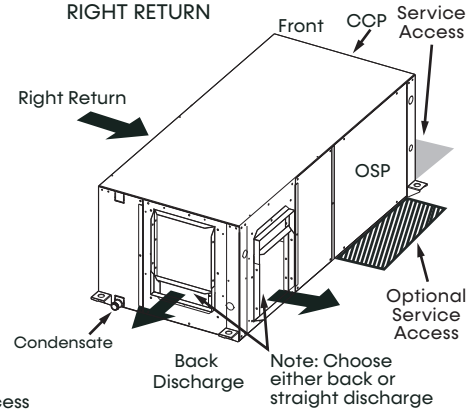
Hanger Dimensions (cm)

Model	Cabinet Config	Unit Hanger Detail		
		U	V	W
SE024	H	122.9	62.5	51.6
SE036	H	135.4	62.5	59.2
SE048	H	172.7	70.1	59.2
SE060-SE072	H	172.7	70.1	59.2

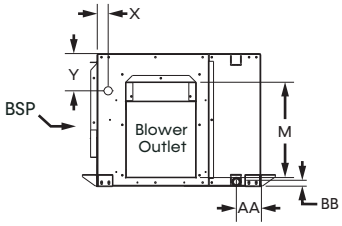
Horizontal Dimensional Data



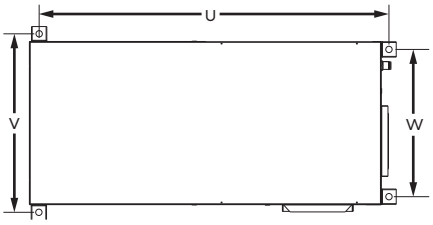


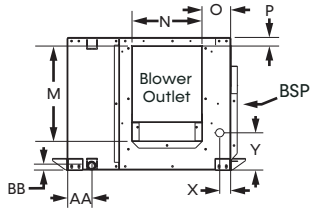


Note: Blower service panel requires 2-foot service access

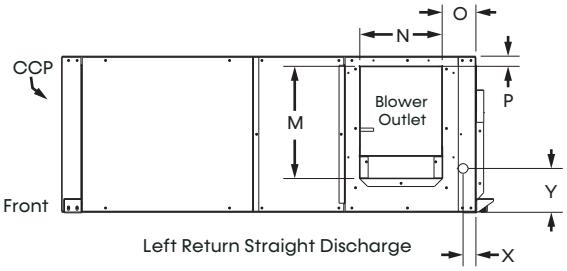


Left Return Back Discharge

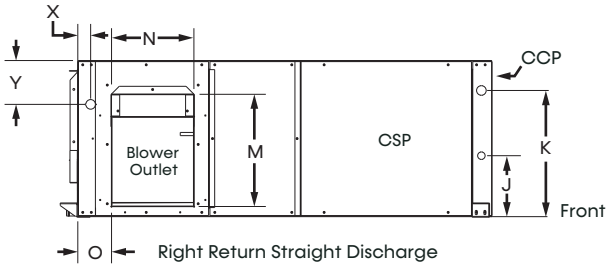




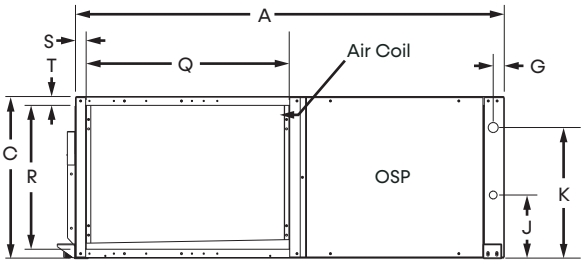
Right Return Back Discharge



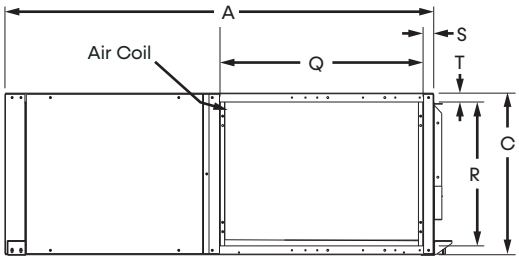
Left Return Straight Discharge



Right Return Straight Discharge



Left Return Left View
Air Coil Opening



Right Return Right View
Air Coil Opening

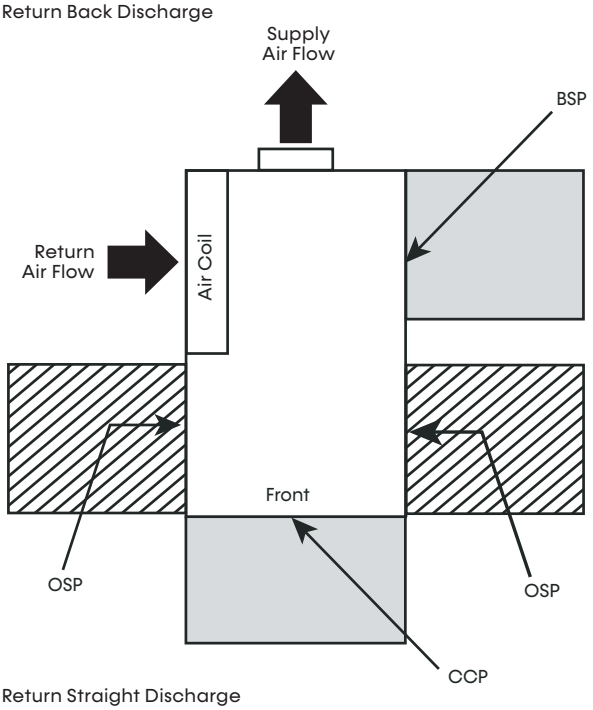
Notes:
1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units come standard with air filter rails. For duct connections, order optional filter frames. See product options decoder for details. You can convert filter rails in the field with an accessory air filter frame kit. Please see the accessory submittal for details.
3. Discharge flange and hanger brackets are factory installed.
4. Condensate connection is 3/4-inch MPT.
5. Blower service panel requires 2-foot service access.
6. Blower service access is through back panel on straight discharge units or through panel opposite air coil on back discharge units.
7. Water connections for optional hot water generator are 1-inch swivels.
8. OSP are removable panels that provide additional access to the units interior. Clear access to OSP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.

Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

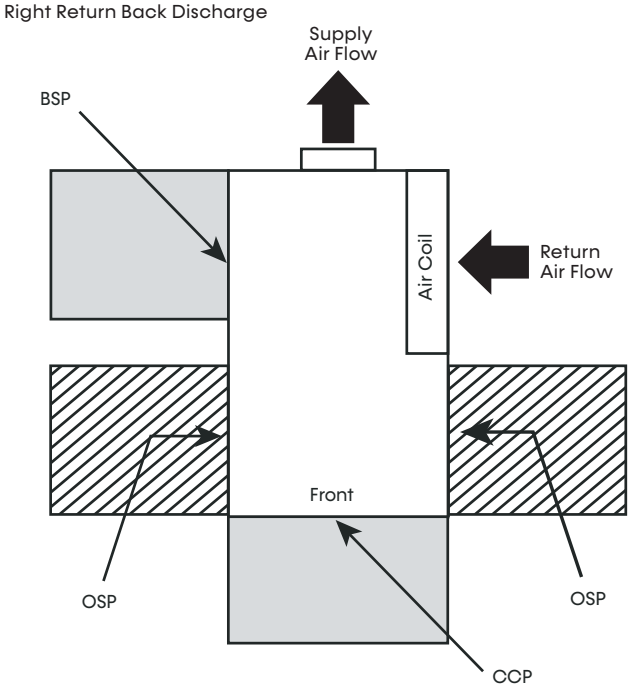
Horizontal Service Access

Models:
SE
024-072

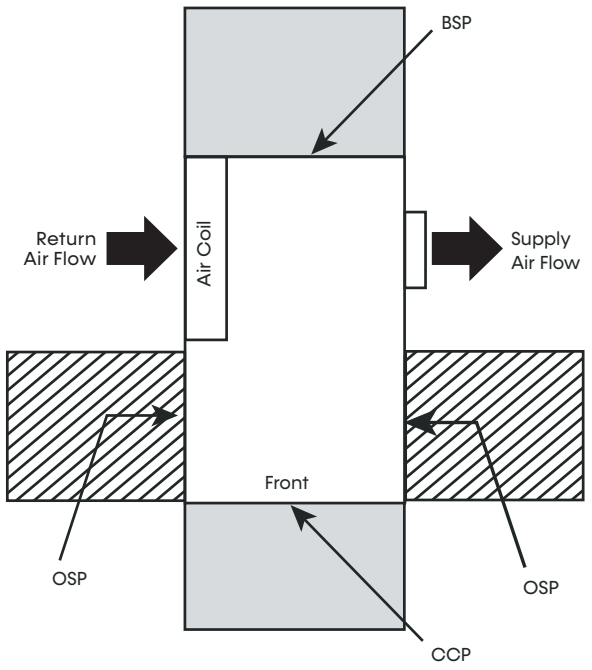
Left Return Back Discharge



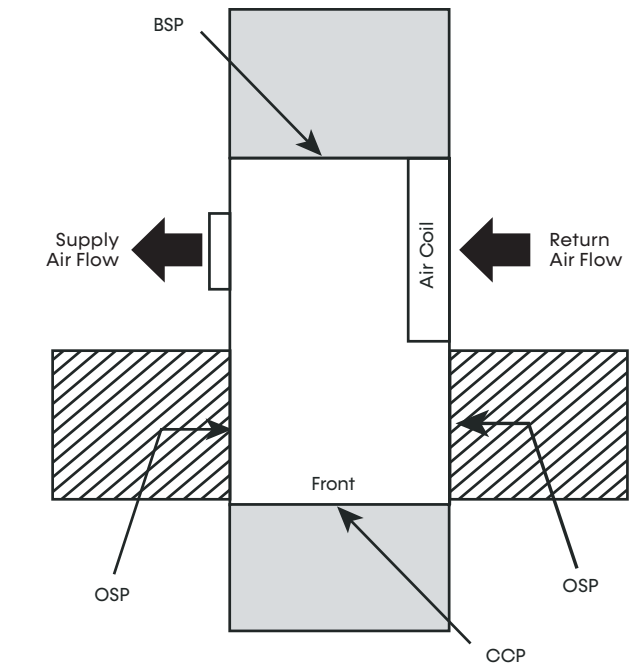
Right Return Back Discharge



Left Return Straight Discharge



Right Return Straight Discharge



Notes:

1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. CCP and BSP requires 2-feet of service access.
3. Blower service access is through back panel on straight discharge units or through panel opposite air coil on back discharge units.
4. OSP are removable panels that provide additional access to the units interior. Clear access to OSP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.

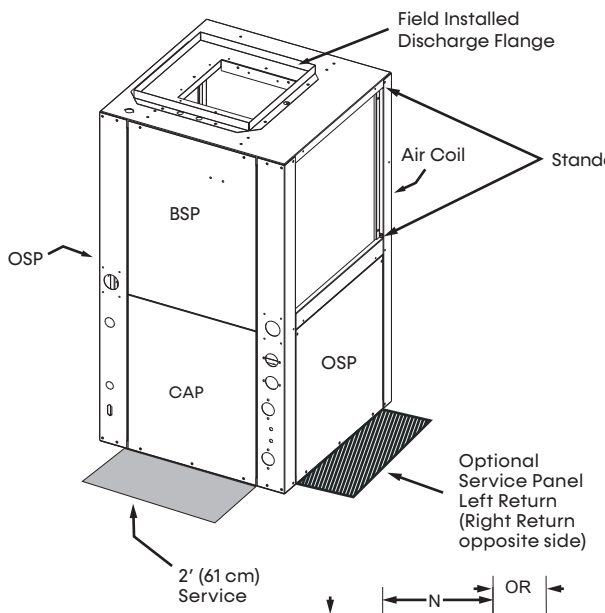
= Mandatory Service Access 2-foot (61 cm)

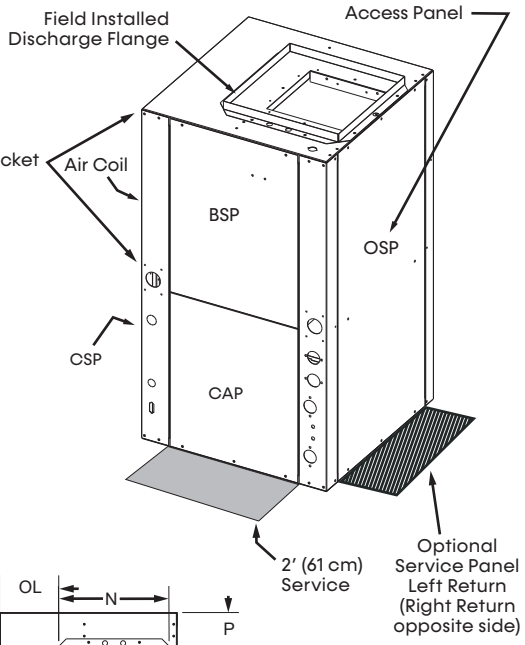
= Optional Service Access 2-foot (61 cm)

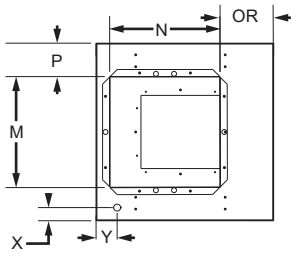
Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

Vertical Upflow Dimensional Data

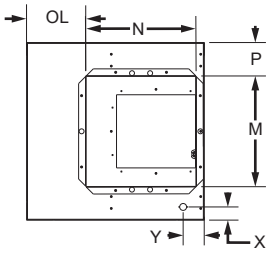
Models:
SE
024-072



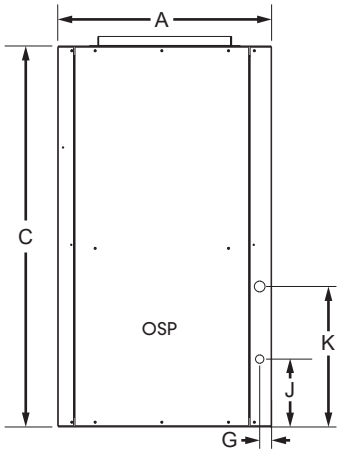




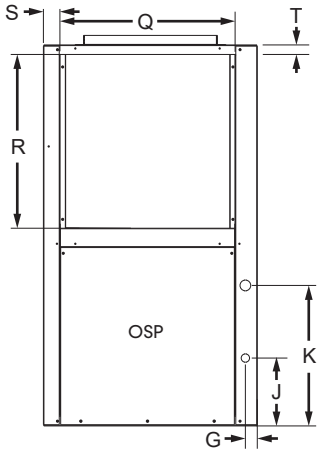
Top View - Right Return



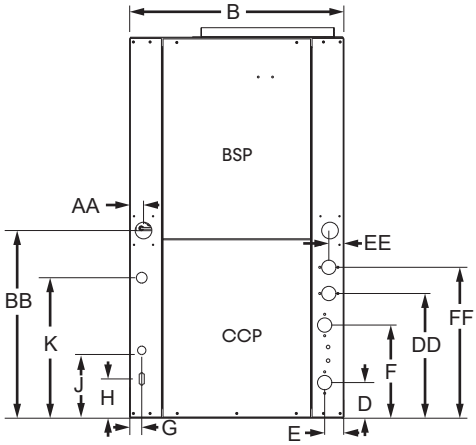
Top View - Left Return



Right Return Right View
Air Coil Opening



Left Return Left View
Air Coil Opening



Notes:

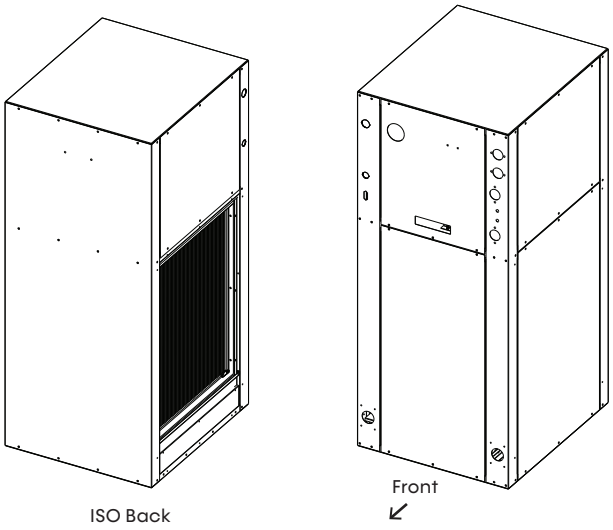
1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Front and Side access is preferred for service access. However, all components may be serviced from the front access panel if side access is not available.
3. Discharge flange is field installed.
4. Condensate Connection is 3/4-inch MPT.
5. Water connections for optional hot water generator are 1-inch swivels.
6. Units come standard with air filter rails. For duct connections, optional filter frames should be ordered. See product options decoder for details. Filter rails can be converted in the field with an accessory air filter frame kit. Please see the accessory submittal for details.

Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

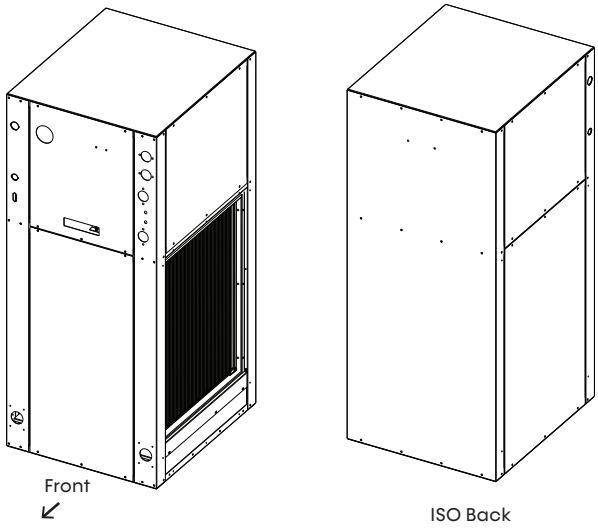
Vertical Downflow Dimensional Data

Models:
SE
024-072

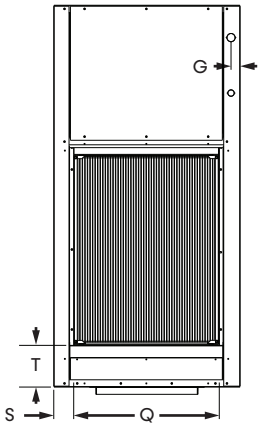
Left Downflow

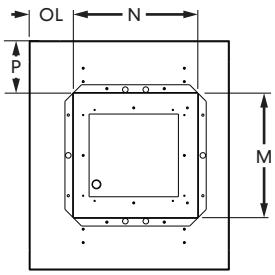


Right Downflow

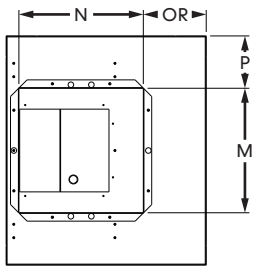


Left

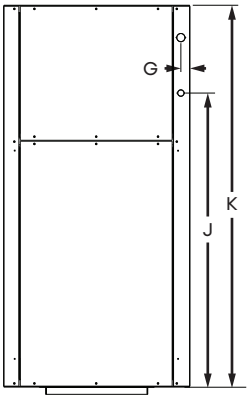




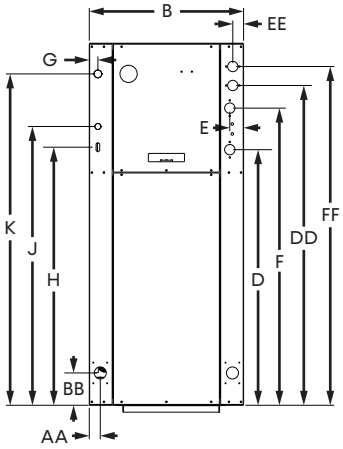
Front



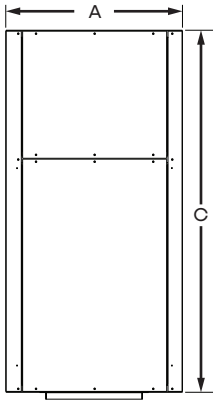
Right



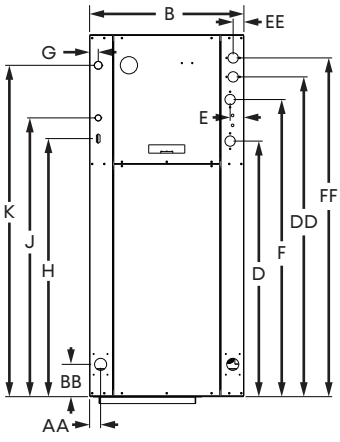
Front



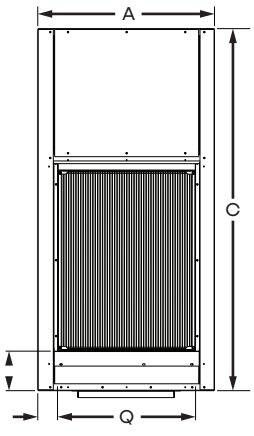
Right



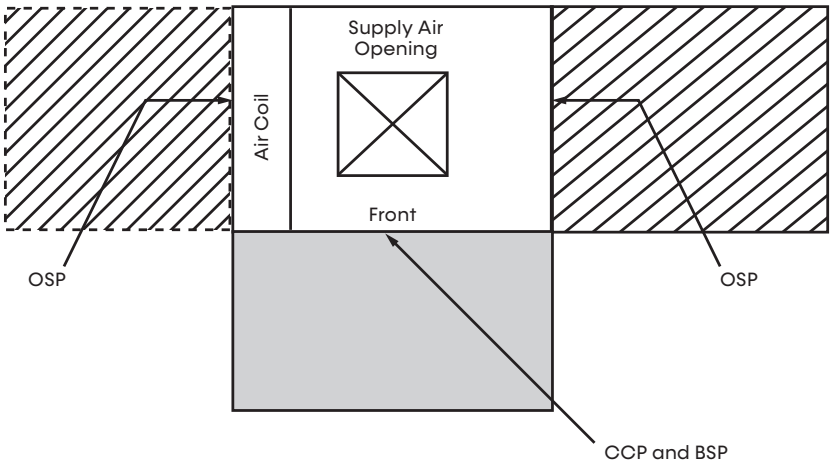
Front



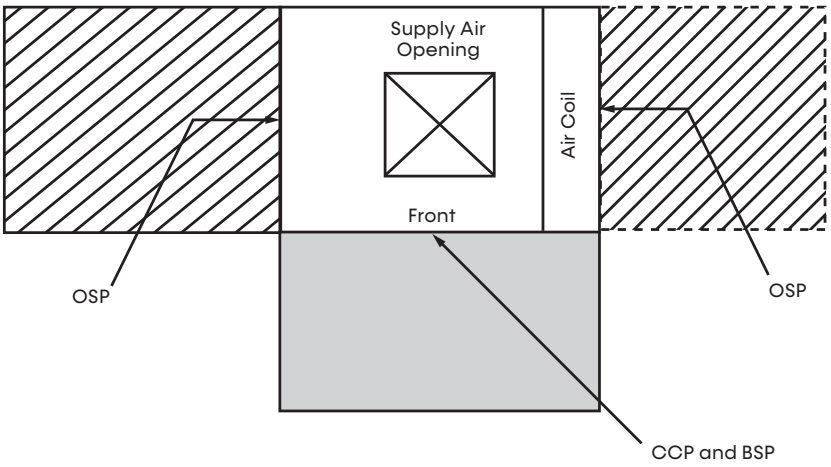
Left



Left Return



Right Return



Notes:

1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Front and side access is preferred for service access. However, all components may be serviced from the front access panel if side access is not available.
3. OSP are removable panels that provide additional access to the units interior. Clear access to OSP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.
4. Top supply air is shown, the same clearances apply to bottom supply air units.

= Mandatory Service Access 2-foot (61 cm)

= Optional Service Access 2-foot (61 cm)

Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

MINIMUM INSTALLATION AREA

Minimum area where a blower-equipped unit must be installed, and mechanical/natural ventilation is not required

Model	Charge (oz)	Configuration	Minimum Installation Area ft² (m²) [A_{min}]			
			Floor	Window	Wall	Ceiling
SE060	102	Vertical	179 (16.6)	133 (12.4)	88 (8.2)	76 (7.0)
		Horizontal	322 (29.9)	200 (18.6)	113 (10.5)	93 (8.7)
SE072	109	Vertical	191 (17.7)	142 (13.2)	95 (8.8)	81 (7.5)
		Horizontal	344 (32)	213 (19.8)	121 (11.3)	100 (9.3)

A_{min}	=	Minimum area where unit is installed where unit has incorporated airflow
h_{inst} (floor)	=	0.0 ft (0.0 m)
h_{inst} (window)	=	3.3 ft (1.0 m)
h_{inst} (wall)	=	5.9 ft (1.8 m)
h_{inst} (ceiling)	=	7.2 ft (2.2 m)

Minimum area and CFM requirements for the conditioned space

Model	Charge (oz)	Minimum CFM [Q_{min}]	
		TA_{min} ft² (m²)	Q_{min} (ft³/min)
SE060	102	5.23 (8.88)	173 (293.07)
SE072	109	5.59 (9.49)	184 (313.19)

TA_{min}	=	Minimum conditioned area for venting leaked refrigerant
Q_{min}	=	Minimum ventilation flow rate for conditioned space if space is less than TA_{min}

Minimum area of opening for natural ventilation

Model	Charge (oz)	Anv_{min} in² (m²)
SE060	102	135.65 (12.60)
SE072	109	140.23 (13.03)

Anv_{min}	=	Minimum natural ventilation area opening

When the openings for connected rooms or natural ventilation are required, the following conditions shall be applied:

- The area of any openings above 11.8 inches (300 mm) from the floor shall not be considered in determining compliance with Anv_{min}.
- At least 50% of the required opening area Anv_{min} shall be below 7.8 inches (200 mm) from the floor.
- The bottom of the lowest openings shall not be higher than the point of release when the unit is installed and not more than 3.9 inches (100 mm) from the floor.
- Openings are permanent openings which cannot be closed.
  - For openings extending to the floor, the height shall not be less than 0.78 inch (20 mm) above the surface of the floor covering.
- A second higher opening shall be provided. The total size of the second opening shall not be less than 50% of minimum opening area for Anv_{min} and shall be at least 3.3 ft (1.5 m) above the floor.

Electrical Data: CV EC Blower Motor

Units without Internal Flow Controller

Model	Voltage Code	Rated Voltage	Voltage Min/Max	Compressor A				Fan Motor FLA	Pump	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR Amp
				MCC	RLA	LRA	Qty		HWG FLA			
24	G.J	208/230-1-60	187/252	16.0	10.3	62.0	1	4.2	0.28	17.4	27.7	25
36	G.J	208/230-1-60	187/252	22.7	14.6	76.0	1	5.9	0.28	24.4	39.0	35
48	G.J	208/230-1-60	187/252	28.6	18.3	138.0	1	5.9	0.28	29.1	47.4	45
60	G.J	208/230-1-60	187/252	34.8	22.3	149.0	1	7.5	0.28	35.7	58.0	50
72	G.J	208/230-1-60	187/252	40	31.2	166	1	7.5	1.28	46.8	78.0	70.0

Notes:
- All fuses Class RK-5.

Units with Internal Flow Controller - Standard Head Variable Pump

Model	Voltage Code	Voltage	Voltage Min/Max	Compressor				Fan Motor FLA	Pump		Total Unit FLA	Min Circ Amp	Max Fuse/ HACR Amp
				MCC	RLA	LRA	Qty		GEO FLA	HWG FLA			
SE*024	G.J.	208/230-1-60	187/252	16.0	10.3	62.0	1	4.2	0.64	0.28	15.4	18.0	25
SE*036	G.J.	208/230-1-60	187/252	22.7	14.6	82.0	1	4.2	0.64	0.28	21.4	25.1	30
SE*048	G.J.	208/230-1-60	187/252	28.6	14.6	76.0	1	5.9	0.64	0.28	25.1	29.7	45
SE*060	G.J.	208/230-1-60	187/252	34.8	18.2	37.0	1	5.9	0.64	0.28	30.7	36.3	50
SE*072	G.J.	208/230-1-60	187/252	40.0	18.3	138.0	1	5.9	0.64	0.28	39.6	47.4	70

Notes:
- All fuses Class RK-5.

Units with Internal Flow Controller - High Head Variable Pump

Model	Voltage Code	Voltage	Voltage Min/Max	Compressor				Fan Motor FLA	Pump		Total Unit FLA	Min Circ Amp	Max Fuse/ HACR Amp
				MCC	RLA	LRA	Qty		Motor FLA	HWG FLA			
SE*024	G.J.	208/230-1-60	187/252	16.0	10.3	62.0	1	4.2	1.44	0.28	16.2	18.8	25
SE*036	G.J.	208/230-1-60	187/252	22.7	14.6	82.0	1	4.2	1.44	0.28	22.2	25.9	40
SE*048	G.J.	208/230-1-60	187/252	28.6	14.6	76.0	1	5.9	1.44	0.28	25.9	30.5	45
SE*060	G.J.	208/230-1-60	187/252	34.8	18.2	37.0	1	5.9	1.44	0.28	31.5	37.1	50
SE*072	G.J.	208/230-1-60	187/252	40.0	18.3	138.0	1	5.9	1.44	0.28	40.4	48.2	70

Notes:
- All fuses Class RK-5.

ACCESSORIES & OPTIONS

Hot Water Generator

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

Cupro-Nickel Heat Exchanger

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

Thermostat (field installed)

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

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

The thermostat shall display system faults with probable cause and troubleshooting guidance. Comprehensive service diagnostics menus shall display, system inputs, system outputs, configuration settings, Geo source inlet and outlet temperatures, compressor discharge line temperature, liquid line temperature, leaving air temperature, and entering potable water temperature (on units equipped with a Hot Water Generator). The thermostat shall allow for immediate manual control of all DXM2.5 outputs at the thermostat for rapid troubleshooting.

Auxiliary Heater (field installed)

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

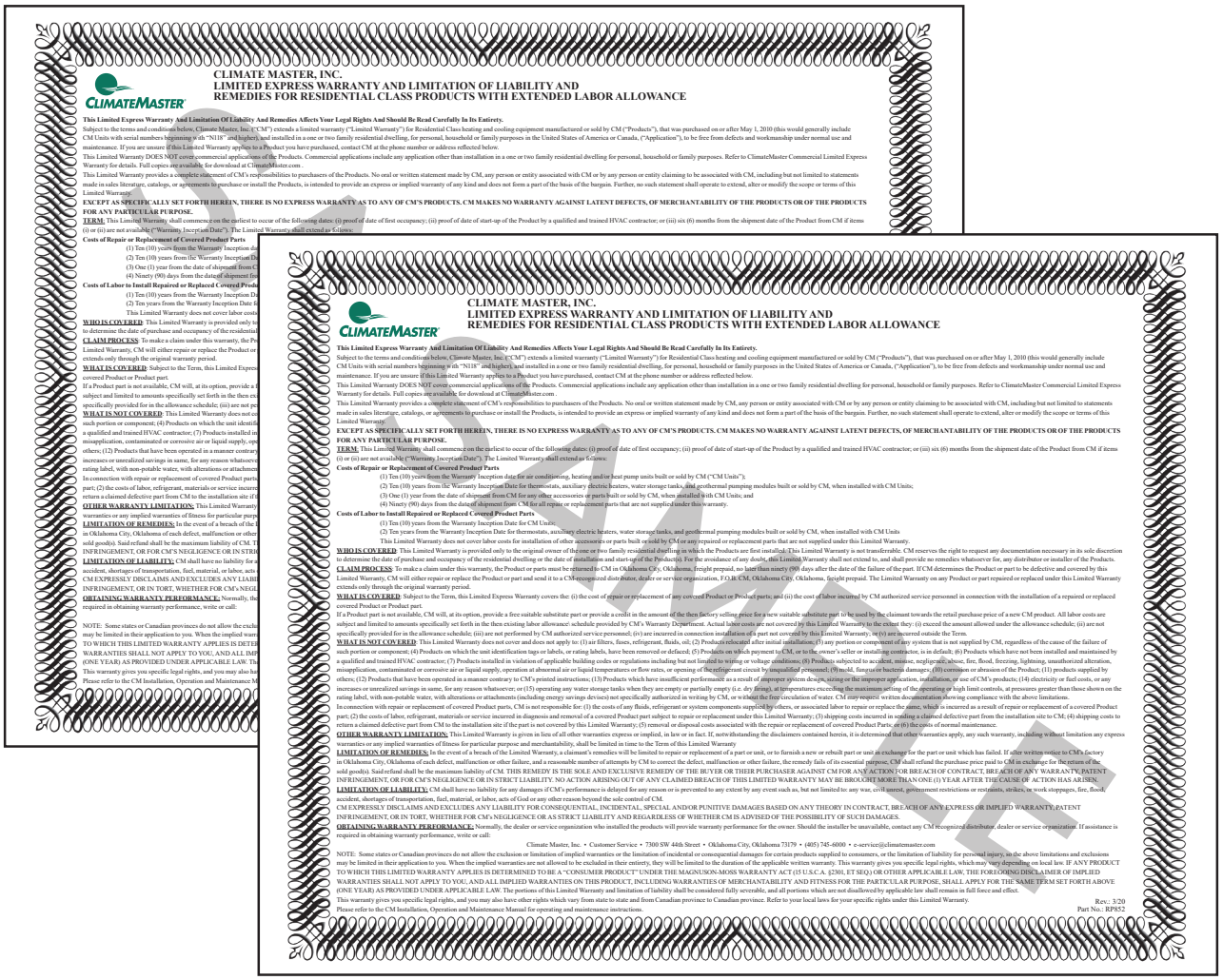
WARRANTY INFORMATION

ClimateMaster residential class heat pumps are backed by a ten-year limited warranty on all unit parts, including the following accessories when installed with ClimateMaster units: Thermostats & Electric Heaters. Warranty Certificate RP851 for specific coverage and limitation.

ClimateMaster goes even further to back up its commitment to quality by including a service labor allowance for the first five years on unit parts and thermostats, auxiliary electric heaters and geothermal pumping modules.

The Optional Extended Factory Service Labor Allowance Warranty offers additional length of term protection to the consumer by offsetting service labor costs for 10 years.

To order this warranty, contact your ClimateMaster distributor. This coverage must be purchased within 90 days of unit installation. See Limited Express Extended Labor Warranty Certificate RP852 for details.



CLIMATE MASTER, INC.
LIMITED EXPRESS WARRANTY AND LIMITATION OF LIABILITY AND
REMEDIES FOR RESIDENTIAL CLASS PRODUCTS WITH EXTENDED LABOR ALLOWANCE

This Limited Express Warranty And Limitation Of Liability And Remedies Affects Your Legal Rights And Should Be Read Carefully In Its Entirety.

Subject to the terms and conditions below, Climate Master, Inc. ("CM") extends a limited warranty ("Limited Warranty") for Residential Class heating and cooling equipment manufactured or sold by CM ("Products"), that was purchased on or after May 1, 2010 (this would generally include CM Units with serial numbers beginning with "N18" and higher), and installed in a one or two family residential dwelling, for personal, household or family purposes in the United States of America or Canada, ("Application"), to be free from defects and workmanship under normal use and maintenance. If you are unsure if this Limited Warranty applies to a Product you have purchased, contact CM at the phone number or address reflected below.

This Limited Warranty DOES NOT cover commercial applications of the Products. Commercial applications include any application other than installation in a one or two family residential dwelling for personal, household or family purposes. Refer to ClimateMaster Commercial Limited Express Warranty for details. Full copies are available for download at ClimateMaster.com.

This Limited Warranty provides a complete statement of CM's responsibilities to purchasers of the Products. No oral or written statement made by CM, any person or entity associated with CM or by any person or entity claiming to be associated with CM, including but not limited to statements made in sales literature, catalogs, or agreements to purchase or install the Products, is intended to provide an express or implied warranty of any kind and does not form a part of the basis of the bargain. Further, no such statement shall operate to extend, alter or modify the scope or terms of this Limited Warranty.

EXCEPT AS SPECIFICALLY SET FORTH HEREIN, THERE IS NO EXPRESS WARRANTY AS TO ANY OF CM'S PRODUCTS. CM MAKES NO WARRANTY AGAINST LATENT DEFECTS, OF MERCHANTABILITY OF THE PRODUCTS OR OF THE PRODUCTS FOR ANY PARTICULAR PURPOSE.

TERM: This Limited Warranty shall commence on the earliest to occur of the following dates: (i) proof of date of first occupancy; (ii) proof of date of start-up of the Product by a qualified and trained HVAC contractor; or (iii) six (6) months from the shipment date of the Product from CM if items (i) or (ii) are not available ("Warranty Inception Date"). The Limited Warranty shall extend as follows:

Costs of Repair or Replacement of Covered Product Parts

(1) Ten (10) years from the Warranty Inception Date for air conditioning, heating and/or heat pump units built or sold by CM ("CM Units");
(2) Ten (10) years from the Warranty Inception Date for thermostats, auxiliary electric heaters, water storage tanks, and geothermal pumping modules built or sold by CM, when installed with CM Units;
(3) One (1) year from the date of shipment from CM for any other accessories or parts built or sold by CM, when installed with CM Units; and
(4) Ninety (90) days from the date of shipment from CM for all repairs or replacement parts that are not supplied under this warranty.

Costs of Labor to Install Repaired or Replaced Covered Product Parts

(1) Ten (10) years from the Warranty Inception Date for CM Units;
(2) Ten years from the Warranty Inception Date for thermostats, auxiliary electric heaters, water storage tanks, and geothermal pumping modules built or sold by CM, when installed with CM Units
This Limited Warranty does not cover labor costs for installation of other accessories or parts built or sold by CM or any repaired or replacement parts that are not supplied under this Limited Warranty.

WHO IS COVERED: This Limited Warranty is provided only to the original owner of the one or two family residential dwelling in which the Products are first installed. This Limited Warranty is not transferable. CM reserves the right to request any documentation necessary in its sole discretion to determine the date of purchase and occupancy of the residential dwelling or the date of installation and start-up of the Product(s). For the avoidance of any doubt, this Limited Warranty shall not extend to, and shall provide no remedies whatsoever for, any distributor or installer of the Products.

CLAIM PROCESS: To make a claim under this warranty, the Product or parts must be returned to CM in Oklahoma City, Oklahoma, freight prepaid, no later than ninety (90) days after the date of the failure of the part. If CM determines the Product or part to be defective and covered by this Limited Warranty, CM will either repair or replace the Product or part and send it to a CM-recognized distributor, dealer or service organization, F.O.B. CM, Oklahoma City, Oklahoma, freight prepaid. The Limited Warranty on any Product or part repaired or replaced under this Limited Warranty extends only through the original warranty period.

WHAT IS COVERED: Subject to the Term, this Limited Express Warranty covers the: (i) the cost of repair or replacement of any covered Product or Product parts; and (ii) the cost of labor incurred by CM authorized service personnel in connection with the installation of a repaired or replaced covered Product or Product part.

If a Product part is not available, CM will, at its option, provide a free suitable substitute part or provide a credit in the amount of the then factory selling price for a new suitable substitute part to be used by the claimant towards the retail purchase price of a new CM product. All labor costs are subject and limited to amounts specifically set forth in the then existing labor allowance schedule provided by CM's Warranty Department. Actual labor costs are not covered by this Limited Warranty to the extent they: (i) exceed the amount allowed under the allowance schedule; (ii) are not specifically provided for in the allowance schedule; (iii) are not performed by CM authorized service personnel; (iv) are incurred in connection installation of a part not covered by this Limited Warranty, or (v) are incurred outside the Term.

WHAT IS NOT COVERED: This Limited Warranty does not cover and does not apply to: (1) air filters, fuses, refrigerant, fluids, oil; (2) Products relocated after initial installation; (3) any portion or component of any system that is not supplied by CM, regardless of the cause of the failure of such portion or component; (4) Products on which the unit identification tags or labels, or rating labels, have been removed or defaced; (5) Products on which payment to CM, or to the owner's seller or installing contractor, is in default; (6) Products which have not been installed and maintained by a qualified and trained HVAC contractor; (7) Products installed in violation of applicable building codes or regulations including but not limited to wiring or voltage conditions; (8) Products subjected to accident, misuse, negligence, abuse, fire, flood, freezing, lightning, unauthorized alteration, misapplication, contaminated or corrosive air or liquid supply, operation at abnormal air or liquid temperatures or flow rates, or opening of the refrigerant circuit by unqualified personnel; (9) mold, fungus or bacterial damages; (10) corrosion or abrasion of the Product; (11) products supplied by others; (12) Products that have been operated in a manner contrary to CM's printed instructions; (13) Products which have insufficient performance as a result of improper system design, sizing or the improper application, installation, or use of CM's products; (14) electricity or fuel costs, or any increases or unrealized savings in same, for any reason whatsoever; or (15) operating any water storage tanks when they are empty or partially empty (i.e. dry firing), at temperatures exceeding the maximum setting of the operating or high limit controls, at pressures greater than those shown on the rating label, with non-potable water, with alterations or attachments (including energy savings devices) not specifically authorized in writing by CM, or without the free circulation of water. CM may request written documentation showing compliance with the above limitations.

In connection with repair or replacement of covered Product parts, CM is not responsible for: (1) the costs of any fluids, refrigerant or system components supplied by others, or associated labor to repair or replace the same, which is incurred as a result of repair or replacement of a covered Product part; (2) the costs of labor, refrigerant, materials or service incurred in diagnosis and removal of a covered Product part subject to repair or replacement under this Limited Warranty; (3) shipping costs incurred in sending a claimed defective part from the installation site to CM; (4) shipping costs to return a claimed defective part from CM to the installation site if the part is not covered by this Limited Warranty; (5) removal or disposal costs associated with the repair or replacement of covered Product Parts, or (6) the costs of normal maintenance.

OTHER WARRANTY LIMITATION: This Limited Warranty is given in lieu of all other warranties express or implied, in law or in fact. If, notwithstanding the disclaimers contained herein, it is determined that other warranties apply, any such warranty, including without limitation any express warranties or any implied warranties of fitness for particular purpose and merchantability, shall be limited in time to the Term of this Limited Warranty

LIMITATION OF REMEDIES: In the event of a breach of the Limited Warranty, a claimant's remedies will be limited to repair or replacement of a part or unit, or to furnish a new or rebuilt part or unit in exchange for the part or unit which has failed. If after written notice to CM's factory in Oklahoma City, Oklahoma of each defect, malfunction or other failure, and a reasonable number of attempts by CM to correct the defect, malfunction or other failure, the remedy fails of its essential purpose, CM shall refund the purchase price paid to CM in exchange for the return of the sold good(s). Said refund shall be the maximum liability of CM. THIS REMEDY IS THE SOLE AND EXCLUSIVE REMEDY OF THE BUYER OR THEIR PURCHASER AGAINST CM FOR ANY ACTION FOR BREACH OF CONTRACT, BREACH OF ANY WARRANTY, PATENT INFRINGEMENT, OR FOR CM'S NEGLIGENCE OR IN STRICT LIABILITY. NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS LIMITED WARRANTY MAY BE BROUGHT MORE THAN ONE (1) YEAR AFTER THE CAUSE OF ACTION HAS ARISEN.

LIMITATION OF LIABILITY: CM shall have no liability for any damages if CM's performance is delayed for any reason or is prevented to any extent by any event such as, but not limited to: any war, civil unrest, government restrictions or restraints, strikes, or work stoppages, fire, flood, accident, shortages of transportation, fuel, material, or labor, acts of God or any other reason beyond the sole control of CM.

CM EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL AND/OR PUNITIVE DAMAGES BASED ON ANY THEORY IN CONTRACT, BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, PATENT INFRINGEMENT, OR IN TORT. WHETHER FOR CM's NEGLIGENCE OR AS STRICT LIABILITY AND REGARDLESS OF WHETHER CM IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

OBTAINING WARRANTY PERFORMANCE: Normally, the dealer or service organization who installed the products will provide warranty performance for the owner. Should the installer be unavailable, contact any CM recognized distributor, dealer or service organization. If assistance is required in obtaining warranty performance, write or call:

Climate Master, Inc. • Customer Service • 7300 SW 44th Street • Oklahoma City, Oklahoma 73179 • (405) 745-6000 • e-service@climatemaster.com

NOTE: Some states or Canadian provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights, which may vary depending on local law. IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS DETERMINED TO BE A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPLICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY FOR THE SAME TERM SET FORTH ABOVE (ONE YEAR) AS PROVIDED UNDER APPLICABLE LAW. The portions of this Limited Warranty and limitation of liability shall be considered fully severable, and all portions which are not disallowed by applicable law shall remain in full force and effect.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and from Canadian province to Canadian province. Refer to your local laws for your specific rights under this Limited Warranty.

Please refer to the CM Installation, Operation and Maintenance Manual for operating and maintenance instructions.

Rev.: 3/20
Part No.: RP852

Date	Section	Description
09/30/24	Blower Performance: CV EC Standard Unit	Updated the CV EC table
	Dimensional Data	Updated measurements for O
	Vertical Downflow Dimensional Data	Added section
09/16/24	Model Nomenclature	Updated Voltage, Drain Pan/Heat Exchanger, and Water/Heat Exchanger options
	Blower Performance Data	Updated Max ESP for all sizes.
	Electrical Data: CV EC Blower Motor	Aligned available data to offerings. Updated Table Title.
	Physical Data	Updated presentation of HWG weight
	Performance Data	Updated performance data
08/12/24	All	First published

RP3001

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