CLIMATEMASTER®

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COMMERCIAL

TRANQUILITY® (SB) COMPACT HIGH-CAPACITY SERIES
REVISION C - MODELS WITH HOT GAS REHEAT

PRODUCT CATALOG

Part#: LC3067 | Revised: December 2, 2025

Models: SB 072-300
60Hz - R-454B
Revision C

Preliminary

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Models:
SB
072-300

THE TRANQUILITY (SB) COMPACT HIGH-CAPACITY SERIES

The Tranquility (SB) Compact High-Capacity Series raises the bar for water-source heat pump efficiencies, features and application flexibility. Not only does the Tranquility SB exceed ASHRAE 90.1 efficiencies, but it also uses R-454B low Global Warming Potential (GWP) refrigerant, making it an extremely environmentally friendly space conditioning product solution. The Tranquility SB is eligible for additional LEED® (Leadership in Energy and Environmental Design) points due to its innovative and environmentally conscious design. With one of the smallest cabinets in the industry, the Tranquility SB easily fits into tight spaces including standard doorways. Designed to be backward compatible with older water-source heat pumps, the Tranquility SB heat pump is packed full of the innovation you have come to expect from the experts at ClimateMaster.

Available in sizes 6 tons (21.1 kW) through 25 tons (87.9 kW) with multiple cabinet configurations, the Tranquility SB offers a wide range of units designed for most applications. The Tranquility SB has an extended range refrigerant circuit, capable of ground-loop (geothermal) applications (may require optional extended range insulation), ground-water (geothermal) applications, as well as water-loop (boiler tower) applications. Microprocessor controls, galvanized-steel cabinet, galvanized-steel with epoxy powder-coated drain pan and TXV refrigerant-metering device are just some of the features of the flexible Tranquility SB.

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.

Options such as waterside economizer, coated air coil, DDC controls, and dual-point power allow customized design solutions.

Variable-speed EC Plenum Fans expand the operating range and help overcome some of the challenges associated with ductwork for retrofit installations. A sound-absorbing UltraQuiet package makes a great unit even better.

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 enabling technicians to startup, commission, and service the equipment remotely via the cloud by smart phone or website. Communication can also be done at the unit via a Wireless 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. All this information is displayed in an easy-to-read format maximizing the usability of the experience.

The Hot Gas Reheat (HGRH) system ensures efficient dehumidification while maintaining comfortable space conditions, making it a cost-effective solution for environments with strict humidity requirements. In operation, return air from the space is first conditioned by the air-to-refrigerant coil. To prevent over-cooling, the air is then reheated to a neutral temperature using the hot gas reheat coil. The system's moisture removal effectiveness is determined by its latent capacity rating. When the desired space temperature is reached but the humidity is not, the humidistat signals the WSHP system to activate reheat mode. This process directs high-pressure refrigerant gas from the compressor through the reheat coil. As a result, it enables effective dehumidification without compromising comfort.

Waterside Economizers (WSE) take advantage of cool loop-water temperatures and can provide for free cooling. In shoulder seasons, lower building loop temperatures can be leveraged when there is cooling demand by adding a factory-installed hydronic coil. The WSE option meets IECC section C403.3.1 and is a requirement in many states.

The Tranquility SB 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

- Vertical sizes 072 (6 Tons, 21.1 kW) through 300 (25 Tons, 87.9 kW)
- Environmentally friendly R-454B low-GWP refrigerant
- Refrigerant Detection System (RDS) (required for all sizes)
- Vertical configurations with front or back return and top, front, or back discharge. Fan discharge on all models is field convertible and uses all existing parts.
- Electric power entry points from either side of the front
- Configurable water connections for left or right handling
- Dual refrigeration circuits (all sizes)
- Exceeds ASHRAE 90.1 efficiencies
- Galvanized-steel cabinet construction
- Insulated divider and separate compressor/ air handler compartments
- TXV metering device
- Direct drive variable-speed EC Plenum Fans
- DXM2.6 Advanced Communicating Controls:
  - 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 Wireless 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
- vFlow modulating water valves for ultimate part-load operation and head pressure control during reheat operation
- Hot Gas Reheat for enhanced climate control and humidity management

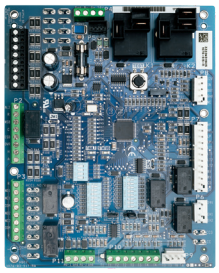
OPTIONS

- ClimaLink Edge controller with BACnet and Modbus compatibility options for Building Management Systems (BMS)
- Sound-absorbing UltraQuiet package
- Coated air coil
- Dual-point power
- Waterside Economizer (WSE)
- Extended-range insulation for geothermal applications
- Factory-configurable water connections for left or right handling on vertical units
- Easy-to-clean rust-prohibitive stainless-steel drain pans

ACCESSORIES

- iGate 2 Communicating (AWC) Thermostat with color touchscreen
- Wide variety of thermostat options to meet your application needs
- Braided-hose kits in various lengths with optional water valve, PT plugs, blowdown valve, flow regulator, and strainer
- 1-inch Merv 8 filter
- 2-inch Merv 8 or 13 filters
- Aesthetically pleasing wall sensors for connection to BMS ClimaLink Edge controls

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



The Tranquility SB 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: From the myUplink PRO website/mobile app paired with an AWC Thermostat or a Wireless Service Tool directly at the unit, installers can configure the following: 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.

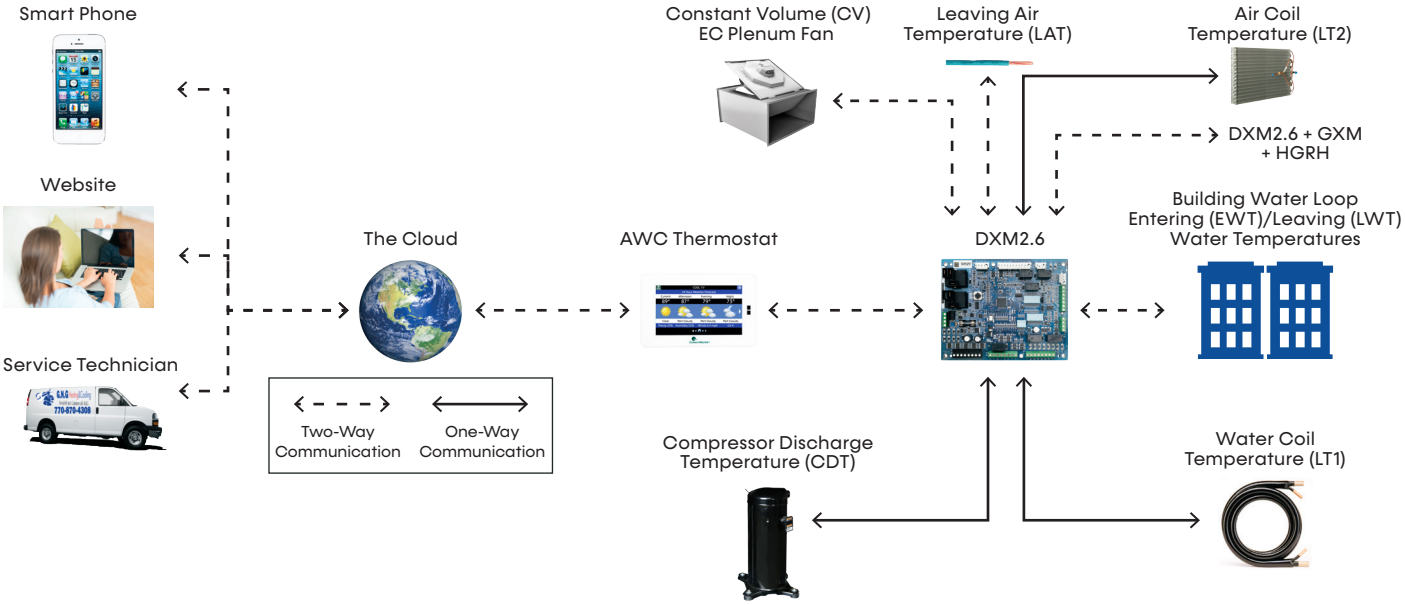
Precise Control: DXM2.6 enables intelligent, two-way communication between the DXM2.6 and smart components like the AWC Thermostat and Wireless Service Tool. DXM2.6 uses information received from the smart components and temperature sensors to precisely control operation of the variable speed CV EC plenum 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 Thermostat, Wireless 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, service personnel can access fault descriptions, see possible causes, and most importantly, see the conditions (temp, flow, i/o conditions, configuration) at the time of the fault. Manual Operation mode enables service personnel to manually command operation for any of the thermostat outputs, blower speed, to help troubleshoot specific components. Manual Operation mode can be conducted at the unit with an AWC Thermostat using the mobile app, using the Wireless Service Tool, or remotely with mobile app/website when the AWC Thermostat controls are used.

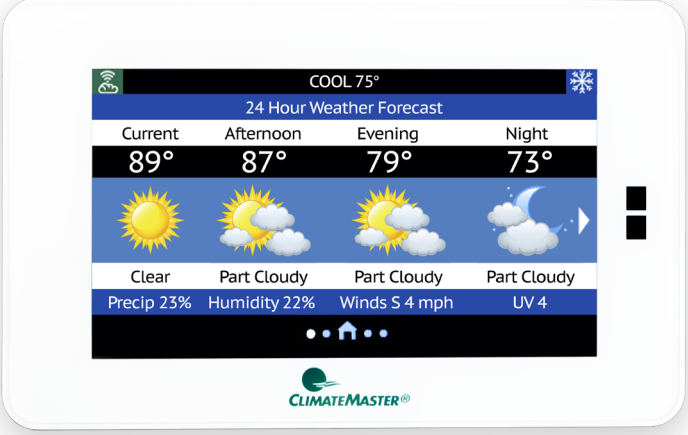
With an iGate 2 communicating system, users and contractors have a web-enabled gateway to system information never before available and exclusive to ClimateMaster products.



iGate 2 Communicating (AWC) Thermostat

Models:
SB
072-300

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



The iGate 2 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

Touchscreen Interface
A brilliantly customizable touchscreen monitor for simple control.

Seamless Integration
Between your AWC Thermostat and comfort system.

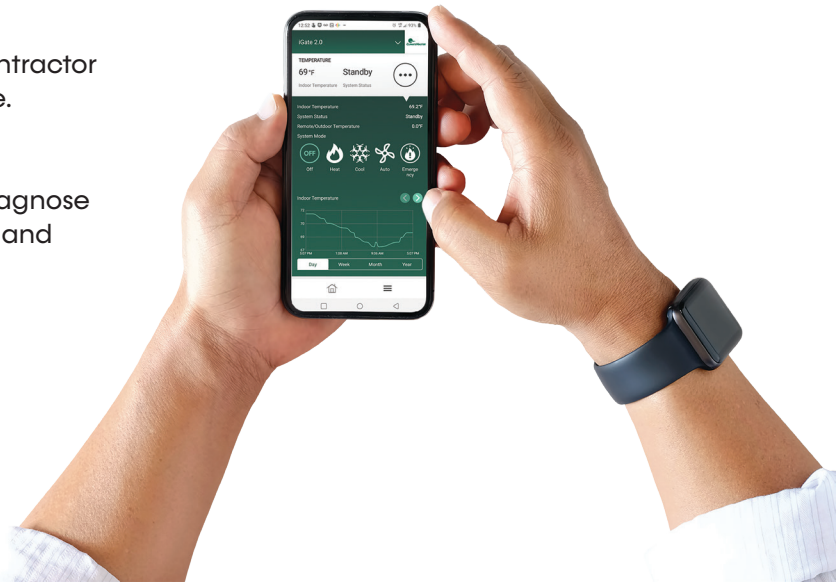
(Mobile) Remote System Control
Control temperature and schedule from anywhere in the world.

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.



vFlow Internal Variable Water Flow Control

Models:
SB
072-300

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 Intelligent Controls, which facilitates intelligent communication between the thermostat, DXM2.6, sensors, and internal water pump/valve to make true variable water flow a reality.

VALVE

- **Low System Pressure Drop Modulating Valve:** High CV motorized valve for central pumping. (Standard unit).

BENEFITS

Easier and quicker unit installation as the flow control is built in to the unit.

- Superior reliability by varying the water flow to deliver more stable operation.
- Increased cost savings by varying the flow (and pump watt consumption) to match the unit's mode of operation.
- Head pressure control during reheat operation to ensure maximum cooling and reheat capacity for enhanced dehumidification.

INTERNAL COMPONENTS

ClimateMaster water-source heat pumps 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 DXM2.6 adjusting the motorized valve to maintain an installer-set loop ΔT. By controlling the water flow, the system is able to operate at its optimal capacity and efficiency.

The motorized modulating valve delivers variable water flow, controlled by DXM2.6, based on loop water ΔT.

Reference Calculations

Heating

$$LWT = EWT - \frac{HE}{GPM \times Constant}$$

$$LAT = EAT + \frac{HC}{CFM \times 1.08}$$

Cooling

$$LWT = EWT + \frac{HR}{GPM \times Constant}$$

$$LC = TC - SC$$

$$LAT\ (DB) = EAT\ (DB) - \frac{SC}{CFM \times 1.08}$$

$$S/T = \frac{SC}{TC}$$

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
HGRH	Hot Gas Reheat
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. Determine the correction factor associated with antifreeze in system loop. If heating EWT is 50°F (10°C) or below you may have to use antifreeze. Calculate leaving water temperature per performance data selection notes. If antifreeze is required, use correction table for correcting total and sensible capacities.
8. 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.
9. 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..... 90,500 Btuh
Sensible Cooling.....73,300 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 (cooling)..... 90°F (32.2°C)
Entering Water Temp (heating).....60°F (15.6°C)
Water Flow (Based upon 10°F rise in temp)..18 GPM
Airflow .....2,800 CFM

Steps 3, 4, and 5: HP Selection

After making our preliminary selection (SB096), we enter the tables at design water flow and water temperature and read Total Cooling, Sensible Cooling and Heat of Rejection capacities:

Total Cooling.....93,200 Btuh

Sensible Cooling.....70,390 Btuh

Heat of Rejection .....120,100 Btuh

Airflow .....3,200 CFM

Steps 6, 7, and 8: Entering Airflow Corrections

Next, we determine our correction factors.

Airflow 2,800 ÷ 3,200 = 88% Antifreeze - None

Corrected Values		Table		Ent Air		Airflow		Corrected
Corrected Total Cooling	=	93,200	x	0.977	x	0.976	=	88,871
Corrected Sensible Cooling	=	70,390	x	1.088	x	0.933	=	71,453
Corrected Heat of Rejection	=	120,100	x	0.998	x	0.976	=	116,983

Step 9: Water Temperature Rise Calculation and Assessment

Rise = Heat of Rejection ÷ (GPM x 500)

Actual Temperature Rise 116,983 ÷ 9,000 = 13.0°F (-10°C)

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.

Alternate Step 7:

If your EWT for heating is 40°F (4.4°C), then system requires antifreeze. If a solution of 15% Propylene Glycol is required, then:

Corrected Values		Table		Ent Air		Airflow		Corrected
Corrected Total Cooling	=	88,871	x	0.986	x	0.976	=	87,626
Corrected Sensible Cooling	=	71,453	x	0.986	x	0.933	=	70,452

Model Nomenclature

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S	B	F	0	7	2	C	L	D	3	C	C	R	7	S

PRODUCT NAME
S = R-454B Refrigerant

MODEL TYPE
B = Compact High-Capacity Series

SUPPLY/RETURN CONFIGURATION

Vertical	
Return/Supply	**Option**
Front/Top	F
Back/Top	C
Back/Front	G
Front/Back	H

SIZE

072	192
096	240
120	300
168	

REVISION
C = Current

VOLTAGE

3 Phase 60 Hz	With RDS
208/230V	K
460V	L

CONTROLS

Control	Standard	ClimaLink Edge
DXM2.6 with GXM	D	P
DXM2.6 with GXM and Disconnect	B	S

STANDARD
S = Standard

BLOWER MOTOR

Option	Single-Point Power	Dual-Point Power
EC Plenum	7	G

EXTENDED OPTIONS
R = On/Off HGRH
S = On/Off HGRH with WSE

DRAIN PAN/HEAT EXCHANGER OPTIONS
C = Standard Drain Pan, Noncoated Air Coil
S = Stainless-Steel Drain Pan, Noncoated Air Coil
E = Standard Drain Pan, E-Coated Air Coil
M = Stainless-Steel Drain Pan, E-Coated Air Coil

WATER OPTIONS

Option	Coax			
	Copper		Cupronickel	
	Left	Right	Left	Right
MOD/MWV	C	N	5	6

CABINET OPTIONS

Cabinet	UltraQuiet	Rail / Frame		
		1"	2"	4"
Extended Range	No	1	J	Q
	Yes	2	L	T
Standard Range	No	3	N	U
	Yes	4	F	V

Use ClimateMaster's selection software at https://ccgencompass.climatecontrolgroup.com/ to configure your Tranquility SB model.

Tested in Accordance with AHRI/ASHRAE/ISO 13256-1 English (I-P) Units

Model	Part/ Full Load	Motor Type	Rated CFM	Rated GPM	Water Loop - Current				Ground Water - Current				Ground Loop - Current			
					Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Cooling 77°F		Heating 32°F	
					Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
SB072	F	EC Plenum	2,400	18	71000	14.1	92,300	5.3	77,800	20.5	76,000	4.6	74,100	15.5	58,300	3.8
SB096	F	EC Plenum	3,200	24	101,000	15.3	122,800	5.0	110,500	22.3	99,500	4.4	101,700	16.3	76,600	3.6
SB120	F	EC Plenum	4,000	30	122,000	13.7	156,000	4.6	128,000	18.1	127,000	4.0	124,500	14.3	98,500	3.4
SB168	F	EC Plenum	5,600	42	168,000	14.4	192,000	4.7	186,000	21.0	151,800	4.1	172,000	16.2	121,000	3.5
SB192	F	EC Plenum	6,400	48	187,000	14.9	220,000	5.1	201,000	21.5	181,000	4.5	194,000	16.5	139,000	3.7
SB240	F	EC Plenum	8,000	60	232,000	13.9	294,000	4.9	256,000	20.0	236,000	4.3	232,000	14.3	179,000	3.5
SB300	F	EC Plenum	10,000	75	290,000	12.0	372,000	4.5	328,000	18.0	290,000	4.0	299,000	13.6	217,000	3.2

Tested in Accordance with AHRI/ASHRAE/ISO 13256-1 Metric (S-I) Units

Model	Part/ Full Load	Motor Type	Rated Airflow (L/s)	Rated Water Flow L/s)	Water Loop - Current				Ground Water - Current				Ground Loop - Current			
					Cooling 30 °C		Heating 20 °C		Cooling 15 °C		Heating 10 °C		Cooling 25 °C		Heating 0 °C	
					Capacity Watts	EER W/W	Capacity Watts	COP	Capacity Watts	EER W/W	Capacity Watts	COP	Capacity Watts	EER W/W	Capacity Watts	COP
SB072	F	EC Plenum	1,133	1.14	20,809	4.1	27,052	5.3	22,802	6.0	22,274	4.6	21,717	4.5	17,087	3.8
SB096	F	EC Plenum	1,510	1.51	29,601	4.5	35,991	5.0	32,386	6.5	29,162	4.4	29,807	4.8	22,450	3.6
SB120	F	EC Plenum	1,888	1.89	35,756	4.0	45,721	4.6	37,515	5.3	37,222	4.0	36,489	4.2	28,869	3.4
SB168	F	EC Plenum	2,643	2.65	49,238	4.2	56,272	4.7	54,513	6.2	44,490	4.1	50,410	4.7	35,463	3.5
SB192	F	EC Plenum	3,020	3.03	54,807	4.4	64,478	5.1	58,910	6.3	53,048	4.5	56,858	4.8	40,739	3.7
SB240	F	EC Plenum	3,776	3.79	67,995	4.1	86,166	4.9	75,029	5.9	69,168	4.3	67,995	4.2	52,462	3.5
SB300	F	EC Plenum	4,719	4.73	84,994	3.5	109,027	4.5	96,131	5.3	84,994	4.0	87,632	4.0	63,599	3.2

SB096

WATER/BRINE				Heating - EAT 70°F				
EWT °F	FLOW GPM	PD psi	PD ft.	HC	kW	HE	LAT	COP
50	12.0	1.7	4.0	96.7	7.17	72.2	95.9	4.0
	18.0	4.5	10.3	101.9	7.27	77.1	97.4	4.1
	24.0	7.9	18.2	104.7	7.32	79.8	98.2	4.2

For operation in the shaded area when water is used in lieu of an antifreeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 42°F (5.6°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 42°F (5.6°C) or below and the JW3 jumper should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

Example:

At 50°F EWT (Entering Water Temperature) and 1.5 GPM/ton, a 8 ton unit has a HE of 72,200 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 = 72,200 / (12 x 500)

TD = 12°F

LWT = EWT - TD

LWT = 50 - 12 = 38°F - antifreeze must be used

In this example, a higher flow rate will be required for EWTs at or below 50°F without antifreeze.

2,400 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	18.0	6.1	14.0	Operation Not Recommended					48.9	4.8	32.6	86.8	3.0
30	9.0	1.7	3.9	79.0	55.2	3.40	90.6	23.2	54.0	4.9	37.3	88.8	3.2
	13.5	3.3	7.7	79.1	55.6	3.22	90.1	24.5	56.3	4.9	39.5	89.7	3.4
	18.0	5.1	11.7	79.0	55.8	3.14	89.7	25.1	57.5	4.9	40.7	90.1	3.4
40	9.0	1.4	3.2	78.2	54.4	3.72	91.0	21.0	61.8	5.0	44.8	91.8	3.6
	13.5	2.8	6.3	78.8	54.9	3.50	90.8	22.5	64.6	5.0	47.4	92.9	3.8
	18.0	4.4	10.1	79.0	55.2	3.40	90.6	23.2	66.1	5.1	48.8	93.4	3.8
50	9.0	1.2	2.7	76.9	53.5	4.11	90.9	18.7	69.7	5.1	52.2	94.8	4.0
	13.5	2.4	5.5	77.9	54.1	3.84	91.0	20.3	72.9	5.2	55.2	96.0	4.1
	18.0	3.9	9.0	78.3	54.4	3.72	90.9	21.0	74.6	5.2	56.9	96.7	4.2
60	9.0	1.0	2.4	74.9	52.5	4.54	90.4	16.5	77.4	5.2	59.6	97.8	4.3
	13.5	2.1	4.9	76.3	53.2	4.24	90.8	18.0	81.0	5.3	63.0	99.2	4.5
	18.0	3.6	8.3	76.9	53.5	4.10	90.9	18.7	82.9	5.3	64.8	99.9	4.6
70	9.0	1.0	2.3	72.5	51.4	5.04	89.7	14.4	85.1	5.4	66.8	100.7	4.7
	13.5	2.0	4.7	74.2	52.1	4.70	90.2	15.8	89.0	5.4	70.6	102.3	4.8
	18.0	3.4	7.8	74.9	52.5	4.54	90.4	16.5	91.2	5.4	72.6	103.1	4.9
80	9.0	1.0	2.2	69.7	50.3	5.59	88.7	12.5	92.6	5.5	74.0	103.6	5.0
	13.5	2.0	4.6	71.6	51.0	5.22	89.4	13.7	96.9	5.5	78.1	105.3	5.2
	18.0	3.3	7.6	72.5	51.4	5.04	89.7	14.4	99.2	5.5	80.2	106.2	5.2
90	9.0	0.9	2.2	66.5	49.0	6.19	87.6	10.7	99.9	5.6	81.0	106.5	5.3
	13.5	2.0	4.5	68.6	49.8	5.79	88.3	11.8	104.5	5.6	85.4	108.2	5.5
	18.0	3.2	7.5	69.6	50.2	5.60	88.7	12.4	106.9	5.6	87.7	109.2	5.6
100	9.0	0.9	2.1	63.0	47.6	6.85	86.4	9.2	Operation Not Recommended				
	13.5	1.9	4.4	65.3	48.5	6.42	87.2	10.2					
	18.0	3.2	7.3	66.4	49.0	6.21	87.5	10.7					
110	9.0	0.9	2.0	59.3	46.1	7.56	85.1	7.8					
	13.5	1.8	4.2	61.7	47.1	7.10	85.9	8.7					
	18.0	3.1	7.1	62.8	47.6	6.88	86.3	9.1					
120	9.0	0.7	1.7	55.4	44.5	8.32	83.8	6.7					
	13.5	1.6	3.8	57.9	45.5	7.84	84.6	7.4					
	18.0	2.9	6.7	59.1	46.0	7.60	85.0	7.8					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

3,200 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	24	9.1	20.9	Operation Not Recommended					64.6	6.6	42.2	86.7	2.9
30	12	2.6	5.9	107.1	74.0	4.52	122.6	23.7	71.5	6.7	48.8	88.6	3.2
	18	5.4	12.5	105.0	72.6	4.33	119.8	24.2	74.7	6.7	51.9	89.6	3.3
	24	8.3	19.2	103.7	71.7	4.26	118.2	24.3	76.5	6.7	53.6	90.1	3.3
40	12	2.3	5.3	108.5	75.0	4.89	125.1	22.2	82.9	6.8	59.7	91.9	3.6
	18	5.0	11.5	107.8	74.4	4.63	123.5	23.3	87.2	6.9	63.8	93.2	3.7
	24	7.7	17.7	107.1	73.9	4.52	122.5	23.7	89.6	6.9	66.0	93.9	3.8
50	12	2.1	4.8	108.0	75.0	5.34	126.3	20.2	95.1	7.0	71.3	95.4	4.0
	18	4.6	10.6	108.5	75.1	5.02	125.6	21.6	100.3	7.0	76.3	97.0	4.2
	24	7.1	16.5	108.4	75.0	4.87	125.1	22.3	103.3	7.1	79.1	97.8	4.3
60	12	1.9	4.5	106.2	74.2	5.89	126.3	18.0	107.5	7.1	83.1	99.0	4.4
	18	4.3	10.0	107.6	74.9	5.50	126.4	19.6	113.7	7.2	89.0	100.8	4.6
	24	6.7	15.5	108.1	75.0	5.32	126.2	20.3	117.1	7.3	92.3	101.8	4.7
70	12	1.9	4.3	103.3	72.9	6.51	125.6	15.9	120.0	7.3	95.0	102.6	4.8
	18	4.1	9.5	105.4	73.9	6.07	126.1	17.4	127.0	7.4	101.6	104.7	5.0
	24	6.4	14.7	106.3	74.3	5.86	126.3	18.2	130.8	7.5	105.2	105.7	5.1
80	12	1.8	4.1	99.7	71.1	7.21	124.3	13.8	132.2	7.5	106.6	106.2	5.2
	18	3.9	9.1	102.3	72.4	6.72	125.2	15.2	139.7	7.6	113.6	108.3	5.4
	24	6.1	14.0	103.5	73.0	6.48	125.6	16.0	143.6	7.7	117.3	109.5	5.5
90	12	1.8	4.1	95.6	68.9	7.99	122.8	12.0	143.9	7.7	117.6	109.5	5.5
	18	3.8	8.8	98.5	70.4	7.45	123.9	13.2	151.4	7.8	124.6	111.7	5.7
	24	5.9	13.6	99.8	71.1	7.19	124.4	13.9	155.2	7.9	128.2	112.8	5.8
100	12	1.7	4.0	91.1	66.7	8.85	121.3	10.3	Operation Not Recommended				
	18	3.7	8.6	94.2	68.2	8.26	122.3	11.4					
	24	5.7	13.2	95.7	69.0	7.97	122.9	12.0					
110	12	1.7	3.9	86.7	64.4	9.78	120.0	8.9					
	18	3.7	8.4	89.6	65.9	9.15	120.9	9.8					
	24	5.6	13.0	91.2	66.7	8.84	121.3	10.3					
120	12	1.6	3.7	82.4	62.2	10.80	119.2	7.6					
	18	3.6	8.3	85.2	63.6	10.12	119.7	8.4					
	24	5.6	12.9	86.6	64.4	9.79	120.0	8.9					

Notes:
- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

4,000 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	30.00	9.7	22.4	Operation Not Recommended					86.5	8.9	56.0	88.0	2.8
30	15.00	2.8	6.5	118.9	81.2	6.66	141.6	17.8	93.0	9.1	62.1	89.5	3.0
	22.50	5.9	13.6	113.8	76.9	6.33	135.4	18.0	96.4	9.1	65.2	90.3	3.1
	30.00	9.0	20.8	110.9	74.6	6.18	132.0	17.9	98.3	9.2	67.0	90.7	3.1
40	15.00	2.7	6.2	124.4	85.8	7.21	149.0	17.3	105.5	9.3	73.7	92.4	3.3
	22.50	5.6	12.8	121.2	83.1	6.86	144.6	17.7	110.3	9.4	78.1	93.5	3.4
	30.00	8.5	19.5	119.3	81.5	6.69	142.1	17.8	113.0	9.5	80.6	94.1	3.5
50	15.00	2.6	6.0	127.0	88.0	7.79	153.6	16.3	119.8	9.7	86.8	95.7	3.6
	22.50	5.3	12.3	125.5	86.8	7.40	150.8	17.0	125.9	9.8	92.5	97.1	3.8
	30.00	8.0	18.5	124.4	85.8	7.22	149.0	17.2	129.4	9.9	95.7	97.9	3.8
60	15.00	2.5	5.8	127.2	88.5	8.43	155.9	15.1	135.0	10.0	100.9	99.2	4.0
	22.50	5.1	11.8	127.3	88.4	7.99	154.5	15.9	142.4	10.2	107.7	100.9	4.1
	30.00	7.7	17.8	126.9	88.0	7.78	153.5	16.3	146.5	10.3	111.5	101.8	4.2
70	15.00	2.5	5.7	125.4	87.6	9.15	156.7	13.7	150.5	10.4	115.1	102.8	4.3
	22.50	5.0	11.5	126.8	88.3	8.64	156.3	14.7	158.9	10.6	122.8	104.7	4.4
	30.00	7.5	17.2	127.2	88.5	8.41	155.9	15.1	163.4	10.7	127.0	105.7	4.5
80	15.00	2.4	5.6	122.2	85.7	9.96	156.2	12.3	165.7	10.7	129.1	106.3	4.5
	22.50	4.8	11.2	124.6	87.1	9.38	156.6	13.3	174.4	10.9	137.1	108.3	4.7
	30.00	7.3	16.8	125.6	87.6	9.11	156.7	13.8	179.0	11.0	141.3	109.3	4.8
90	15.00	2.4	5.5	117.7	83.2	10.88	154.8	10.8	179.8	11.1	142.0	109.5	4.8
	22.50	4.7	10.9	120.9	85.0	10.23	155.8	11.8	188.2	11.3	149.8	111.5	4.9
	30.00	7.1	16.4	122.4	85.8	9.92	156.2	12.3	192.3	11.4	153.6	112.4	5.0
100	15.00	2.3	5.4	112.3	80.4	11.93	153.0	9.4	Operation Not Recommended				
	22.50	4.6	10.7	116.1	82.4	11.19	154.3	10.4					
	30.00	6.9	16.0	117.9	83.3	10.85	154.9	10.9					
110	15.00	2.3	5.2	106.2	77.4	13.14	151.0	8.1					
	22.50	4.5	10.4	110.4	79.4	12.30	152.4	9.0					
	30.00	6.7	15.5	112.4	80.4	11.91	153.1	9.4					
120	15.00	2.2	5.0	99.6	74.4	14.52	149.1	6.9					
	22.50	4.3	10.0	104.0	76.4	13.58	150.4	7.7					
	30.00	6.5	15.0	106.2	77.4	13.13	151.0	8.1					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

5,600 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	Operation Not Recommended												
30	21.00	1.4	3.2	194.0	140.6	7.21	218.6	26.9	112.8	11.2	74.5	86.6	2.9
	31.50	2.7	6.3	192.5	139.9	6.75	215.5	28.5	117.3	11.3	78.7	87.4	3.0
	42.00	4.5	10.3	191.0	139.3	6.56	213.4	29.1	119.8	11.4	81.0	87.8	3.1
40	21.00	1.3	3.0	193.4	140.7	8.03	220.8	24.1	131.4	11.6	91.8	89.7	3.3
	31.50	2.6	6.0	194.2	140.7	7.44	219.6	26.1	137.4	11.8	97.3	90.7	3.4
	42.00	4.2	9.8	194.0	140.6	7.18	218.5	27.0	140.7	11.8	100.4	91.2	3.5
50	21.00	1.3	2.9	190.1	139.7	9.00	220.8	21.1	151.1	12.1	109.9	92.9	3.7
	31.50	2.5	5.7	192.7	140.5	8.30	221.0	23.2	158.5	12.2	116.8	94.1	3.8
	42.00	4.1	9.3	193.5	140.7	7.99	220.8	24.2	162.6	12.3	120.6	94.8	3.9
60	21.00	1.2	2.8	184.7	137.9	10.09	219.1	18.3	171.2	12.5	128.5	96.2	4.0
	31.50	2.4	5.5	188.6	139.3	9.31	220.4	20.3	180.0	12.7	136.6	97.7	4.1
	42.00	3.9	9.0	190.3	139.8	8.95	220.8	21.3	184.9	12.8	141.0	98.5	4.2
70	21.00	1.2	2.7	177.8	135.4	11.31	216.4	15.7	191.5	13.0	147.1	99.6	4.3
	31.50	2.3	5.4	182.7	137.2	10.46	218.4	17.5	201.5	13.3	156.2	101.2	4.5
	42.00	3.8	8.8	184.9	138.0	10.05	219.2	18.4	206.8	13.4	161.1	102.1	4.5
80	21.00	1.2	2.7	170.1	132.2	12.63	213.2	13.5	211.4	13.5	165.3	102.9	4.6
	31.50	2.3	5.3	175.4	134.4	11.72	215.4	15.0	222.2	13.8	175.1	104.6	4.7
	42.00	3.8	8.7	178.0	135.5	11.28	216.5	15.8	227.9	13.9	180.3	105.6	4.8
90	21.00	1.1	2.6	161.9	128.4	14.06	209.8	11.5	230.5	14.0	182.7	106.0	4.8
	31.50	2.2	5.2	167.4	131.0	13.09	212.1	12.8	241.5	14.3	192.7	107.8	4.9
	42.00	3.7	8.5	170.2	132.2	12.62	213.2	13.5	247.2	14.5	197.9	108.8	5.0
100	21.00	1.1	2.6	153.8	124.4	15.57	206.9	9.9	Operation Not Recommended				
	31.50	2.2	5.1	159.1	127.1	14.56	208.8	10.9					
	42.00	3.6	8.4	161.9	128.4	14.06	209.8	11.5					
110	21.00	1.1	2.5	146.3	120.3	17.17	204.9	8.5					
	31.50	2.1	5.0	151.1	122.9	16.12	206.1	9.4					
	42.00	3.6	8.2	153.7	124.3	15.60	206.9	9.9					
120	21.00	1.1	2.4	139.9	116.4	18.85	204.2	7.4					
	31.50	2.1	4.8	143.9	118.9	17.75	204.5	8.1					
	42.00	3.4	8.0	146.1	120.1	17.21	204.8	8.5					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

6,400 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	Operation Not Recommended												
30	24.00	2.2	5.0	209.8	154.7	8.30	238.1	25.3	133.0	11.9	92.6	87.2	3.3
	36.00	4.8	11.0	207.4	151.9	7.94	234.5	26.1	138.0	12.0	97.2	87.9	3.4
	48.00	7.4	17.0	205.5	150.0	7.81	232.1	26.3	140.7	12.0	99.7	88.3	3.4
40	24.00	2.1	4.8	210.2	156.9	9.02	241.0	23.3	152.2	12.2	110.4	90.0	3.6
	36.00	4.5	10.5	210.4	155.7	8.52	239.4	24.7	158.8	12.4	116.5	90.9	3.8
	48.00	7.0	16.1	209.8	154.7	8.30	238.2	25.3	162.4	12.5	119.9	91.4	3.8
50	24.00	2.0	4.7	207.3	157.0	9.93	241.2	20.9	173.0	12.7	129.8	93.0	4.0
	36.00	4.4	10.1	209.5	157.1	9.30	241.3	22.5	181.2	12.8	137.4	94.2	4.1
	48.00	6.7	15.4	210.2	156.9	9.02	241.0	23.3	185.8	12.9	141.6	94.8	4.2
60	24.00	2.0	4.6	201.9	155.4	11.01	239.5	18.3	194.8	13.1	150.0	96.1	4.4
	36.00	4.2	9.8	205.8	156.6	10.27	240.8	20.0	204.5	13.3	159.1	97.5	4.5
	48.00	6.5	15.0	207.3	157.0	9.93	241.2	20.9	209.8	13.4	164.0	98.3	4.6
70	24.00	2.0	4.5	194.7	152.6	12.23	236.4	15.9	216.8	13.6	170.5	99.3	4.7
	36.00	4.2	9.6	199.7	154.6	11.41	238.6	17.5	227.8	13.8	180.8	100.9	4.8
	48.00	6.4	14.7	201.9	155.4	11.01	239.5	18.3	233.7	13.9	186.3	101.7	4.9
80	24.00	1.9	4.5	186.2	148.8	13.60	232.6	13.7	238.5	14.0	190.8	102.4	5.0
	36.00	4.1	9.5	191.9	151.4	12.69	235.2	15.1	250.2	14.2	201.8	104.1	5.2
	48.00	6.3	14.4	194.6	152.5	12.25	236.4	15.9	256.4	14.3	207.6	105.0	5.3
90	24.00	1.9	4.4	177.0	144.5	15.09	228.4	11.7	259.1	14.3	210.1	105.4	5.3
	36.00	4.0	9.3	183.0	147.3	14.12	231.1	13.0	270.9	14.5	221.3	107.1	5.5
	48.00	6.2	14.3	185.9	148.7	13.64	232.5	13.6	277.0	14.6	227.1	108.0	5.5
100	24.00	1.9	4.3	167.5	139.9	16.69	224.4	10.0	Operation Not Recommended				
	36.00	4.0	9.2	173.5	142.8	15.67	226.9	11.1					
	48.00	6.1	14.0	176.5	144.3	15.16	228.2	11.6					
110	24.00	1.8	4.2	158.3	135.5	18.41	221.1	8.6					
	36.00	3.9	9.0	163.9	138.2	17.33	223.1	9.5					
	48.00	5.9	13.7	166.9	139.6	16.80	224.2	9.9					
120	24.00	1.7	4.0	149.9	131.6	20.23	218.9	7.4					
	36.00	3.7	8.6	154.9	133.9	19.11	220.1	8.1					
	48.00	5.7	13.2	157.6	135.1	18.55	220.9	8.5					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

8,000 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	Operation Not Recommended												
30	30.00	1.8	4.2	249.6	187.5	11.51	288.9	21.7	162.5	16.2	107.1	86.8	2.9
	45.00	4.2	9.6	245.1	185.1	10.84	282.1	22.6	167.4	16.2	112.1	87.3	3.0
	60.00	6.5	15.1	242.1	183.5	10.53	278.1	23.0	170.2	16.2	115.0	87.7	3.1
40	30.00	1.7	3.8	252.7	189.3	12.64	295.8	20.0	184.8	16.3	129.0	89.3	3.3
	45.00	3.9	8.9	251.2	188.4	11.90	291.8	21.1	192.7	16.5	136.5	90.3	3.4
	60.00	6.1	14.0	249.8	187.6	11.55	289.2	21.6	197.2	16.6	140.7	90.8	3.5
50	30.00	1.6	3.6	251.6	189.0	13.87	298.9	18.1	212.5	16.9	154.8	92.5	3.7
	45.00	3.6	8.4	252.8	189.4	13.05	297.3	19.4	223.6	17.2	164.9	93.8	3.8
	60.00	5.7	13.2	252.7	189.3	12.66	295.9	20.0	229.8	17.4	170.6	94.5	3.9
60	30.00	1.5	3.5	247.0	187.2	15.22	298.9	16.2	243.5	17.8	182.9	96.1	4.0
	45.00	3.5	8.0	250.4	188.5	14.31	299.2	17.5	257.6	18.2	195.6	97.7	4.2
	60.00	5.4	12.6	251.6	189.0	13.87	298.9	18.1	265.5	18.4	202.6	98.7	4.2
70	30.00	1.5	3.4	239.6	184.0	16.71	296.6	14.3	276.2	18.8	212.2	99.9	4.3
	45.00	3.4	7.8	244.8	186.2	15.70	298.4	15.6	292.7	19.3	227.0	101.8	4.5
	60.00	5.3	12.1	247.0	187.1	15.22	298.9	16.2	301.9	19.5	235.2	102.9	4.5
80	30.00	1.5	3.4	229.9	179.9	18.37	292.5	12.5	308.8	19.7	241.5	103.7	4.6
	45.00	3.3	7.6	236.5	182.7	17.26	295.4	13.7	326.9	20.2	257.9	105.7	4.7
	60.00	5.1	11.8	239.5	184.0	16.73	296.5	14.3	336.5	20.5	266.7	106.9	4.8
90	30.00	1.4	3.3	218.3	174.7	20.23	287.3	10.8	339.8	20.6	269.7	107.2	4.8
	45.00	3.2	7.4	225.9	178.1	19.01	290.8	11.9	358.0	20.9	286.5	109.3	5.0
	60.00	5.0	11.6	229.6	179.7	18.42	292.4	12.5	367.1	21.1	295.2	110.4	5.1
100	30.00	1.4	3.2	205.3	168.8	22.31	281.5	9.2	Operation Not Recommended				
	45.00	3.2	7.3	213.7	172.6	20.97	285.2	10.2					
	60.00	4.9	11.4	217.7	174.5	20.32	287.1	10.7					
110	30.00	1.3	2.9	191.4	162.1	24.63	275.4	7.8					
	45.00	3.1	7.1	200.1	166.3	23.16	279.1	8.6					
	60.00	4.8	11.2	204.5	168.3	22.45	281.1	9.1					
120	30.00	1.1	2.5	176.8	154.7	27.23	269.7	6.5					
	45.00	2.9	6.7	185.7	159.2	25.62	273.1	7.2					
	60.00	4.7	10.9	190.1	161.5	24.84	274.9	7.7					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

10,000 CFM Rated Airflow

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	Operation Not Recommended												
30	37.50	2.4	5.5	335.7	253.1	17.1	394.0	19.6	212.7	22.9	134.6	89.2	2.7
	56.25	5.4	12.4	334.0	256.5	16.8	391.4	19.9	222.2	23.0	143.6	90.1	2.8
	75.00	8.4	19.4	332.0	258.3	16.8	389.3	19.8	227.4	23.1	148.5	90.9	2.9
40	37.50	2.2	5.0	333.6	247.9	17.9	394.7	18.6	250.0	23.5	169.7	92.7	3.1
	56.25	4.9	11.3	335.6	251.4	17.3	394.6	19.4	262.1	23.8	181.0	93.7	3.2
	75.00	7.6	17.6	335.7	253.5	17.1	393.9	19.6	268.8	23.9	187.2	94.6	3.3
50	37.50	2.0	4.6	327.1	242.7	19.1	392.4	17.1	287.7	24.3	204.8	96.2	3.5
	56.25	4.5	10.4	332.1	246.4	18.2	394.3	18.2	302.5	24.6	218.5	97.2	3.6
	75.00	7.0	16.2	333.9	248.1	17.8	394.7	18.8	310.7	24.8	226.1	98.3	3.7
60	37.50	1.9	4.3	317.0	237.5	20.8	388.0	15.2	325.9	25.2	240.1	99.7	3.8
	56.25	4.2	9.8	324.3	241.3	19.6	391.3	16.5	343.4	25.6	256.2	101.0	3.9
	75.00	6.6	15.2	327.5	243.0	19.1	392.6	17.1	353.1	25.8	265.1	102.3	4.0
70	37.50	1.8	4.1	304.3	232.2	22.8	382.1	13.3	364.5	26.1	275.5	103.2	4.1
	56.25	4.0	9.3	313.3	235.9	21.4	386.3	14.6	384.7	26.6	294.1	104.8	4.2
	75.00	6.3	14.5	317.4	237.7	20.7	388.2	15.3	396.0	26.8	304.4	106.4	4.3
80	37.50	1.7	4.0	289.9	226.1	25.1	375.4	11.5	403.3	27.0	311.1	106.7	4.4
	56.25	3.9	9.0	299.8	230.2	23.5	380.0	12.8	426.3	27.6	332.2	108.4	4.5
	75.00	6.1	14.0	304.6	232.1	22.8	382.2	13.4	439.1	27.9	344.0	110.1	4.6
90	37.50	1.7	3.9	274.3	219.7	27.6	368.4	9.9	442.3	28.0	347.0	110.3	4.6
	56.25	3.8	8.8	284.7	224.0	25.9	373.0	11.0	468.1	28.5	370.8	112.1	4.8
	75.00	5.9	13.7	289.8	226.1	25.1	375.4	11.5	482.4	28.9	384.0	113.9	4.9
100	37.50	1.7	3.8	258.4	212.9	30.3	361.9	8.5	Operation Not Recommended				
	56.25	3.7	8.6	268.7	217.4	28.5	366.1	9.4					
	75.00	5.8	13.4	274.0	219.7	27.6	368.3	9.9					
110	37.50	1.6	3.7	242.8	205.7	33.2	356.3	7.3					
	56.25	3.6	8.4	252.7	210.2	31.4	359.7	8.0					
	75.00	5.7	13.1	257.8	212.7	30.4	361.6	8.5					
120	37.50	1.5	3.5	228.5	198.5	36.3	352.3	6.3					
	56.25	3.5	8.1	237.3	202.9	34.4	354.6	6.9					
	75.00	5.5	12.7	242.1	205.3	33.4	356.0	7.2					

Notes:

- 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 data is based on the lower voltage of dual voltage units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
- Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
- See the *Corrections* section for operating conditions other than those listed above.
- See the *Performance Data Selection Notes* section for operation in the shaded areas.

Airflow Corrections

Percent of Rated Airflow	Total Capacity	Sensible	Power	Heat of Rejection	Heating Capacity	Power	Heat of Extraction
75%	0.962	0.869	0.947	0.959	0.959	1.039	0.962
81%	0.975	0.902	0.960	0.972	0.970	1.024	0.973
88%	0.988	0.934	0.972	0.984	0.981	1.009	0.985
94%	0.994	0.967	0.986	0.992	0.990	1.004	0.992
100%	1.000	1.000	1.000	1.000	1.000	1.000	1.000
106%	1.007	1.028	1.014	1.009	1.010	1.000	1.005
113%	1.014	1.056	1.028	1.017	1.020	1.001	1.010
119%	1.019	1.083	1.046	1.024	1.036	1.008	1.013
125%	1.023	1.109	1.063	1.031	1.051	1.015	1.016

Cooling Corrections

Entering Air WB°F	Total Capacity	Sensible Cooling Capacity Multiplier - Entering DB °F								Power	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95	
50	0.7335	0.8825	*	*	*	*	*	*	*	*	0.9782	0.7834
55	0.8063	0.6757	0.8842	1.1119	*	*	*	*	*	*	0.9836	0.8424
60	0.8830		0.6734	0.8817	1.0918	*	*	*	*	*	0.9900	0.9301
65	0.9774			0.6682	0.8764	1.0885	1.1136	1.2949	*	*	0.9973	0.9981
66.2	0.9851			0.6177	0.8243	1.0357	1.0612	1.2452	*	*	0.9987	0.9879
67	1.0000			0.5842	0.7897	1.0000	1.0262	1.2119	*	*	1.0000	1.0000
70	1.0426				0.6609	0.8688	0.8941	1.0811	1.2916	*	1.0043	1.0420
75	1.1386					0.6517	0.6517	0.8594	1.0695	1.2838	1.0118	1.1128

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

Heating Corrections

Entering Air DB °F	Heating Capacity	Power	Heat of Extraction
50	1.040	0.839	1.101
55	1.030	0.883	1.075
60	1.018	0.920	1.053
65	1.008	0.960	1.026
68	1.001	0.984	1.011
70	1.000	1.000	1.000
75	0.978	1.038	0.979
80	0.968	1.091	0.943

Wet Coil to Dry Coil Conversion Table

Required BHP Multiplier	Required RPM Multiplier	Air Coil Face Velocity
1.00	1.00	240
1.00	1.00	305
0.99	1.00	370
0.99	1.00	435
0.98	1.00	500
0.98	1.00	565

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

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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

Table 2: Modulating Valve Adders

Size	Flow	MOD Valve				
		C_v	Close Off Pressure	MOPD	Pressure Drop	
					PSI	FT
SB072	9.00	10	200	50	0.81	1.9
	13.50				1.82	4.2
	18.00				3.24	7.5
SB096	12.00	10	200	50	1.44	3.3
	18.00				3.24	7.5
	24.00				5.76	13.3
SB120	15.00	19	200	50	0.62	1.4
	22.50				1.40	3.2
	30.00				2.49	5.8
SB168	21.00	29	200	50	0.52	1.2
	31.50				1.18	2.7
	42.00				2.10	4.8
SB192	24.00	29	200	50	0.68	1.6
	36.00				1.54	3.6
	48.00				2.74	6.3
SB240	30.00	29	200	50	1.07	2.5
	45.00				2.41	5.6
	60.00				4.28	9.9
SB300	37.50	29	200	50	1.67	3.9
	56.25				3.76	8.7
	75.00				6.69	15.4

- PSI values are calculated based on manufacturer-recommended 70°F entering water temperature.

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
1,800	BHP			0.28	0.32	0.35	0.39	0.42	0.45	0.48	0.52	0.56	0.60	0.64	0.69	0.72	0.76
	RPM			599	645	690	735	775	815	850	885	910	940	965	995	1015	1040
1,900	BHP			0.31	0.36	0.40	0.44	0.49	0.53	0.58	0.62	0.65	0.69	0.73	0.76	0.80	0.84
	RPM			604	655	695	740	780	820	855	890	920	950	980	1005	1030	1055
2,000	BHP		0.31	0.34	0.39	0.45	0.50	0.54	0.59	0.63	0.67	0.72	0.75	0.79	0.82	0.86	0.90
	RPM		568	615	660	705	750	785	825	860	895	930	960	990	1015	1040	1065
2,100	BHP	0.33	0.38	0.42	0.46	0.50	0.54	0.59	0.65	0.70	0.74	0.78	0.81	0.85	0.89	0.94	0.98
	RPM	531	583	630	670	715	755	795	835	875	905	940	970	1000	1025	1055	1080
2,200	BHP	0.37	0.40	0.45	0.49	0.55	0.60	0.65	0.70	0.75	0.79	0.83	0.87	0.92	0.96	1.00	1.04
	RPM	552	599	645	685	730	770	810	850	885	915	950	980	1010	1040	1065	1090
2,300	BHP	0.42	0.47	0.51	0.56	0.60	0.65	0.70	0.75	0.80	0.84	0.89	0.94	1.00	1.05	1.10	1.16
	RPM	573	620	660	705	745	785	820	860	895	925	960	990	1020	1050	1075	1105
2,400	BHP	0.48	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.87	0.92	0.97	1.02	1.07	1.13	1.19	1.25
	RPM	604	645	690	730	765	805	845	880	910	945	975	1010	1035	1065	1095	1125
2,500	BHP	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.89	0.94	1.00	1.03	1.08	1.14	1.20	1.25	1.31
	RPM	620	660	700	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
2,600	BHP	0.56	0.61	0.66	0.70	0.76	0.82	0.88	0.93	0.98	1.04	1.08	1.14	1.20	1.26	1.32	1.37
	RPM	635	675	715	750	790	825	860	895	925	960	990	1020	1050	1080	1110	1135
2,700	BHP	0.61	0.66	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.15	1.21	1.27	1.33	1.39	1.45
	RPM	655	695	730	770	805	840	875	905	940	970	1000	1030	1060	1090	1120	1145
2,800	BHP	0.66	0.72	0.77	0.83	0.88	0.93	0.99	1.05	1.11	1.16	1.22	1.30	1.37	1.44	1.51	1.57
	RPM	670	710	750	785	815	850	885	915	950	980	1010	1040	1070	1100	1130	1155
2,900	BHP	0.71	0.77	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.22	1.30	1.36	1.43	1.50	1.57	1.63
	RPM	685	725	765	795	830	860	895	925	955	985	1020	1045	1075	1105	1135	1160
3,000	BHP	0.79	0.84	0.90	0.95	1.01	1.07	1.13	1.19	1.25	1.31	1.38	1.46	1.52	1.59	1.66	
	RPM	710	745	780	815	850	885	915	945	975	1005	1035	1065	1090	1120	1150	

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
2,400	BHP	0.45	0.50	0.54	0.59	0.63	0.69	0.74	0.80	0.85	0.90	0.94	0.99	1.04	1.10	1.16	1.22
	RPM	578	625	665	705	745	785	820	860	895	925	960	990	1020	1050	1080	1110
2,500	BHP	0.50	0.55	0.59	0.64	0.69	0.75	0.81	0.88	0.92	0.97	1.01	1.06	1.12	1.17	1.23	1.29
	RPM	599	645	685	725	765	800	835	875	905	940	970	1005	1035	1060	1090	1120
2,600	BHP	0.55	0.60	0.65	0.69	0.75	0.80	0.86	0.92	0.97	1.02	1.08	1.13	1.19	1.25	1.30	1.36
	RPM	625	665	705	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
2,700	BHP	0.60	0.65	0.70	0.75	0.80	0.86	0.91	0.97	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44
	RPM	645	685	725	760	795	830	865	900	930	960	995	1025	1055	1085	1115	1140
2,800	BHP	0.65	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.21	1.28	1.36	1.43	1.50	1.56
	RPM	665	705	745	780	810	845	880	910	945	975	1005	1035	1065	1095	1125	1150
2,900	BHP	0.71	0.76	0.82	0.87	0.92	0.98	1.03	1.09	1.16	1.22	1.29	1.36	1.43	1.50	1.57	1.63
	RPM	685	720	760	795	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
3,000	BHP	0.78	0.84	0.89	0.95	1.00	1.06	1.12	1.18	1.24	1.30	1.37	1.43	1.50	1.58	1.64	1.71
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1055	1085	1115	1140	1170
3,100	BHP	0.85	0.91	0.96	1.02	1.08	1.14	1.22	1.29	1.36	1.44	1.50	1.57	1.63	1.70	1.76	1.82
	RPM	720	755	790	825	860	890	925	955	985	1015	1040	1070	1095	1125	1150	1175
3,200	BHP	0.93	1.00	1.07	1.14	1.20	1.26	1.32	1.38	1.44	1.51	1.57	1.64	1.70	1.78	1.85	1.92
	RPM	740	775	810	845	875	905	935	965	995	1025	1050	1080	1105	1135	1160	1185
3,300	BHP	1.01	1.08	1.14	1.21	1.28	1.33	1.39	1.45	1.51	1.58	1.64	1.72	1.78	1.84	1.93	2.00
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1170	1195
3,400	BHP	1.08	1.15	1.22	1.29	1.35	1.41	1.47	1.53	1.59	1.68	1.75	1.83	1.90	1.96	2.02	2.08
	RPM	765	800	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
3,500	BHP	1.16	1.23	1.29	1.36	1.42	1.48	1.54	1.60	1.66	1.73	1.79	1.85	1.92	2.01	2.09	2.17
	RPM	780	815	845	880	910	940	970	1000	1025	1055	1080	1105	1130	1160	1185	1210
3,600	BHP	1.24	1.30	1.37	1.44	1.51	1.58	1.65	1.72	1.78	1.86	1.92	1.98	2.06	2.13	2.21	2.29
	RPM	795	825	860	890	920	950	980	1010	1035	1065	1090	1115	1145	1165	1190	1215
3,700	BHP	1.34	1.40	1.46	1.53	1.61	1.68	1.75	1.82	1.90	1.97	2.06	2.13	2.21	2.28	2.36	2.44
	RPM	820	850	880	910	940	970	1000	1025	1055	1080	1110	1135	1160	1180	1205	1230
3,800	BHP	1.43	1.49	1.56	1.63	1.70	1.78	1.86	1.94	2.02	2.12	2.20	2.28	2.34	2.42	2.50	2.58
	RPM	840	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1170	1195	1220	1245
3,900	BHP	1.58	1.64	1.71	1.78	1.85	1.93	2.01	2.09	2.19	2.27	2.35	2.41	2.49	2.57	2.65	
	RPM	865	890	920	950	980	1010	1035	1060	1090	1115	1140	1160	1185	1210	1235	
4,000	BHP	1.68	1.75	1.83	1.92	2.00	2.08	2.16	2.26	2.34	2.42	2.50	2.56	2.64	2.72	2.80	
	RPM	885	910	940	970	1000	1025	1050	1080	1105	1130	1155	1175	1200	1225	1250	

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Blower Performance
SB120

Models:
SB
072-300

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
3,000	BHP	0.75	0.81	0.86	0.91	0.97	1.03	1.09	1.15	1.21	1.27	1.34	1.41	1.47	1.54	1.61	1.67
	RPM	680	720	755	790	825	860	895	925	955	985	1015	1045	1070	1100	1130	1155
3,100	BHP	0.82	0.88	0.94	0.99	1.04	1.10	1.17	1.26	1.33	1.40	1.46	1.53	1.59	1.66	1.72	1.80
	RPM	700	735	775	805	840	875	905	940	970	1000	1025	1055	1080	1110	1135	1165
3,200	BHP	0.90	0.96	1.03	1.10	1.17	1.23	1.29	1.35	1.41	1.47	1.55	1.61	1.68	1.74	1.81	1.89
	RPM	720	755	790	825	860	890	920	950	980	1010	1040	1065	1095	1120	1145	1175
3,300	BHP	0.98	1.04	1.11	1.18	1.25	1.31	1.37	1.43	1.49	1.55	1.62	1.68	1.75	1.81	1.88	1.95
	RPM	740	770	805	840	875	905	935	965	995	1020	1050	1075	1105	1130	1155	1180
3,400	BHP	1.06	1.13	1.19	1.26	1.33	1.38	1.44	1.50	1.56	1.65	1.72	1.80	1.87	1.94	2.00	2.06
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1165	1190
3,500	BHP	1.14	1.21	1.27	1.34	1.40	1.46	1.52	1.58	1.65	1.71	1.77	1.84	1.90	1.98	2.06	2.14
	RPM	770	805	835	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1175	1200
3,600	BHP	1.23	1.29	1.36	1.42	1.50	1.57	1.64	1.71	1.77	1.84	1.90	1.96	2.05	2.13	2.21	2.27
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190	1210
3,700	BHP	1.32	1.38	1.44	1.51	1.58	1.65	1.73	1.81	1.88	1.96	2.03	2.10	2.18	2.26	2.34	2.42
	RPM	810	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1225
3,800	BHP	1.41	1.47	1.54	1.61	1.68	1.75	1.82	1.91	1.99	2.07	2.17	2.25	2.31	2.39	2.47	2.55
	RPM	830	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1160	1185	1210	1235
3,900	BHP	1.54	1.60	1.67	1.74	1.82	1.89	1.96	2.04	2.14	2.22	2.30	2.38	2.46	2.52	2.60	2.68
	RPM	850	875	905	935	965	995	1020	1045	1075	1100	1125	1150	1175	1195	1220	1245
4,000	BHP	1.63	1.71	1.78	1.86	1.94	2.03	2.11	2.19	2.27	2.37	2.45	2.51	2.59	2.67	2.75	2.85
	RPM	865	895	920	950	980	1010	1035	1060	1085	1115	1140	1160	1185	1210	1235	1260
4,100	BHP	1.73	1.81	1.90	1.97	2.05	2.12	2.20	2.27	2.34	2.42	2.52	2.62	2.70	2.80	2.90	
	RPM	885	915	945	970	1000	1025	1055	1080	1105	1130	1155	1180	1200	1225	1250	
4,200	BHP	1.87	1.94	2.02	2.08	2.16	2.24	2.32	2.40	2.48	2.58	2.68	2.76	2.86	2.96		
	RPM	905	935	965	990	1020	1045	1070	1095	1120	1145	1170	1190	1215	1240		
4,300	BHP	2.00	2.07	2.16	2.23	2.31	2.41	2.49	2.57	2.66	2.74	2.84	2.94	3.02	3.15		
	RPM	930	955	985	1010	1035	1065	1090	1115	1140	1160	1185	1210	1230	1255		
4,400	BHP	2.14	2.22	2.32	2.40	2.48	2.56	2.65	2.74	2.82	2.92	3.00	3.10	3.18			
	RPM	950	975	1005	1030	1055	1080	1110	1135	1155	1180	1200	1225	1245			
4,500	BHP	2.30	2.38	2.46	2.54	2.62	2.72	2.80	2.88	3.00	3.08	3.16	3.26				
	RPM	970	995	1020	1045	1070	1100	1125	1145	1170	1195	1215	1240				
4,600	BHP	2.39	2.45	2.54	2.63	2.72	2.83	2.92	3.00	3.10	3.18	3.28	3.38				
	RPM	980	1000	1025	1050	1075	1105	1130	1150	1175	1195	1220	1245				
4,700	BHP	2.46	2.52	2.62	2.72	2.82	2.92	3.02	3.12	3.22	3.32	3.40	3.50				
	RPM	985	1005	1030	1055	1080	1105	1130	1155	1180	1205	1225	1250				
4,800	BHP	2.57	2.64	2.74	2.84	2.94	3.04	3.14	3.24	3.32	3.42	3.52	3.60				
	RPM	990	1010	1035	1060	1085	1110	1135	1160	1180	1205	1230	1250				
4,900	BHP	2.68	2.78	2.88	3.00	3.06	3.16	3.26	3.36	3.44	3.54	3.64	3.75				
	RPM	995	1020	1045	1070	1090	1115	1140	1165	1185	1210	1235	1255				
5,000	BHP	2.82	2.92	3.00	3.10	3.20	3.28	3.38	3.48	3.56	3.66	3.74					
	RPM	1005	1030	1050	1075	1100	1120	1145	1170	1190	1215	1235					

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4,200	BHP			0.69	0.78	0.86	0.95	1.02	1.11	1.21	1.32	1.41	1.50	1.57	1.64	1.72	1.80
	RPM			547	594	640	685	725	765	805	845	880	915	945	975	1005	1030
4,400	BHP			0.75	0.83	0.92	1.01	1.11	1.21	1.31	1.41	1.51	1.60	1.68	1.76	1.85	1.94
	RPM			563	609	655	695	735	775	815	855	890	925	955	985	1015	1045
4,600	BHP		0.75	0.85	0.95	1.03	1.11	1.19	1.30	1.40	1.50	1.60	1.70	1.78	1.89	2.00	2.10
	RPM		526	573	625	665	705	745	785	825	860	895	930	960	995	1025	1050
4,800	BHP		0.83	0.94	1.03	1.12	1.20	1.30	1.40	1.53	1.63	1.73	1.82	1.92	2.00	2.12	2.22
	RPM		542	594	640	680	720	760	795	835	870	905	935	970	1000	1030	1055
5,000	BHP		0.93	1.02	1.11	1.20	1.31	1.41	1.52	1.64	1.76	1.85	1.95	2.03	2.12	2.24	2.36
	RPM		563	609	650	690	735	770	805	840	880	910	945	975	1005	1035	1065
5,200	BHP	0.93	1.02	1.10	1.20	1.29	1.39	1.50	1.61	1.72	1.83	1.94	2.06	2.15	2.26	2.38	2.50
	RPM	542	583	625	665	705	745	780	815	850	885	920	955	985	1015	1045	1075
5,400	BHP	1.03	1.10	1.19	1.29	1.39	1.50	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62
	RPM	563	599	640	680	720	760	790	825	860	895	925	960	990	1020	1050	1080
5,600	BHP	1.12	1.19	1.28	1.39	1.50	1.61	1.72	1.84	1.93	2.06	2.17	2.29	2.40	2.54	2.69	2.83
	RPM	583	620	655	695	735	770	805	840	870	905	935	970	1000	1030	1060	1090
5,800	BHP	1.17	1.28	1.39	1.49	1.60	1.70	1.81	1.90	2.02	2.14	2.28	2.40	2.52	2.67	2.81	2.96
	RPM	588	630	670	710	750	780	815	845	880	910	945	975	1005	1035	1065	1095
6,000	BHP	1.25	1.40	1.51	1.61	1.73	1.84	1.94	2.05	2.18	2.30	2.42	2.54	2.67	2.79	2.94	3.08
	RPM	604	645	685	720	760	795	825	860	895	925	955	985	1015	1040	1070	1100
6,200	BHP	1.40	1.51	1.62	1.75	1.86	1.98	2.09	2.20	2.34	2.49	2.63	2.78	2.92	3.06	3.18	
	RPM	625	660	695	735	770	805	840	875	905	935	965	995	1025	1055	1080	
6,400	BHP	1.55	1.68	1.79	1.90	2.04	2.18	2.32	2.44	2.56	2.68	2.80	2.92	3.07	3.19	3.33	
	RPM	640	680	715	750	785	820	855	885	915	945	975	1005	1035	1060	1090	
6,600	BHP	1.73	1.84	1.94	2.06	2.20	2.34	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	
	RPM	665	700	730	765	800	835	865	895	925	955	985	1015	1040	1070	1095	
6,800	BHP	1.87	1.98	2.08	2.20	2.34	2.48	2.62	2.74	2.86	2.96	3.08	3.24	3.38	3.55		
	RPM	685	715	745	775	810	845	880	910	940	965	995	1025	1050	1080		
7,000	BHP	2.03	2.13	2.22	2.36	2.50	2.62	2.76	2.88	3.00	3.12	3.22	3.37	3.49	3.61		
	RPM	705	730	755	790	825	855	890	920	950	980	1005	1035	1060	1085		

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4,800	BHP		0.98	1.07	1.16	1.24	1.34	1.47	1.59	1.69	1.78	1.87	1.96	2.06	2.18	2.30	2.42
	RPM		615	660	700	740	775	815	855	890	920	955	985	1015	1045	1075	1105
5,000	BHP	0.99	1.07	1.18	1.27	1.37	1.49	1.60	1.73	1.82	1.92	2.00	2.10	2.22	2.32	2.44	2.56
	RPM	594	635	680	720	760	795	830	870	900	935	965	1000	1030	1055	1085	1115
5,200	BHP	1.09	1.18	1.28	1.36	1.48	1.59	1.70	1.82	1.93	2.02	2.14	2.24	2.36	2.48	2.60	2.72
	RPM	620	660	700	735	775	810	845	880	915	945	980	1010	1040	1070	1100	1130
5,400	BHP	1.19	1.29	1.39	1.48	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62	2.74	2.87
	RPM	640	680	720	755	790	825	860	895	925	960	990	1020	1050	1080	1110	1140
5,600	BHP	1.30	1.40	1.51	1.62	1.74	1.85	1.95	2.08	2.18	2.31	2.42	2.57	2.71	2.86	2.98	3.12
	RPM	660	700	740	775	810	845	875	910	940	975	1005	1035	1065	1095	1120	1150
5,800	BHP	1.41	1.52	1.63	1.73	1.84	1.95	2.06	2.18	2.32	2.44	2.57	2.72	2.86	3.00	3.15	3.27
	RPM	680	720	760	790	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
6,000	BHP	1.56	1.67	1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30	3.42
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145	1170
6,200	BHP	1.70	1.83	1.94	2.06	2.17	2.30	2.44	2.58	2.73	2.87	3.02	3.14	3.28	3.40	3.54	3.66
	RPM	720	760	795	830	865	895	925	955	985	1015	1045	1070	1100	1125	1155	1180
6,400	BHP	1.88	2.02	2.16	2.28	2.42	2.54	2.66	2.78	2.90	3.04	3.16	3.31	3.43	3.58	3.72	3.86
	RPM	745	780	815	845	880	910	940	970	1000	1030	1055	1085	1110	1140	1165	1190
6,600	BHP	2.06	2.18	2.32	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	3.60	3.74	3.88	4.02
	RPM	765	795	830	865	895	925	955	985	1015	1040	1070	1095	1125	1150	1175	1200
6,800	BHP	2.22	2.36	2.50	2.62	2.74	2.86	3.00	3.10	3.27	3.41	3.58	3.72	3.85	3.97	4.11	4.23
	RPM	780	815	850	880	910	940	970	1000	1030	1055	1085	1110	1135	1160	1190	1215
7,000	BHP	2.40	2.54	2.66	2.80	2.92	3.04	3.14	3.27	3.39	3.54	3.66	3.78	3.96	4.12	4.28	4.44
	RPM	800	835	865	900	930	960	985	1015	1040	1070	1095	1120	1150	1175	1200	1225
7,200	BHP	2.58	2.70	2.85	2.99	3.14	3.28	3.42	3.54	3.66	3.81	3.93	4.06	4.22	4.38	4.54	4.70
	RPM	820	850	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1185	1210	1235
7,400	BHP	2.76	2.88	3.02	3.16	3.31	3.45	3.61	3.75	3.92	4.06	4.20	4.36	4.52	4.68	4.81	4.97
	RPM	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1220	1245
7,600	BHP	2.94	3.07	3.22	3.36	3.50	3.63	3.82	3.98	4.14	4.34	4.50	4.66	4.78	4.94		
	RPM	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1165	1185	1210		
7,800	BHP	3.22	3.34	3.49	3.63	3.78	3.96	4.12	4.28	4.44	4.63	4.76	4.92				
	RPM	880	905	935	965	995	1025	1050	1075	1100	1130	1150	1175				
8,000	BHP	3.41	3.58	3.75	3.92	4.06	4.26	4.42	4.58	4.74	4.90						
	RPM	895	925	955	985	1010	1040	1065	1090	1115	1140						

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
6,000	BHP				1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30
	RPM				775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145
6,200	BHP			1.82	1.93	2.04	2.15	2.30	2.44	2.58	2.73	2.87	2.99	3.14	3.26	3.40	3.52
	RPM			755	790	825	860	895	925	955	985	1015	1040	1070	1095	1125	1150
6,400	BHP			2.00	2.14	2.26	2.40	2.52	2.64	2.76	2.88	3.02	3.14	3.28	3.40	3.56	3.70
	RPM			775	810	840	875	905	935	965	995	1025	1050	1080	1105	1135	1160
6,600	BHP		2.02	2.16	2.30	2.42	2.56	2.68	2.80	2.92	3.05	3.17	3.29	3.43	3.55	3.71	3.85
	RPM		755	790	825	855	890	920	950	980	1010	1035	1060	1090	1115	1145	1170
6,800	BHP		2.18	2.32	2.46	2.58	2.70	2.84	2.94	3.06	3.21	3.35	3.52	3.66	3.82	3.94	4.06
	RPM		770	805	840	870	900	935	960	990	1020	1045	1075	1100	1130	1155	1180
7,000	BHP	2.22	2.34	2.48	2.62	2.74	2.86	2.98	3.10	3.22	3.34	3.49	3.61	3.73	3.90	4.06	4.22
	RPM	755	785	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190
7,200	BHP	2.38	2.52	2.64	2.78	2.92	3.06	3.21	3.35	3.47	3.62	3.74	3.88	4.00	4.16	4.32	4.48
	RPM	770	805	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
7,400	BHP	2.56	2.68	2.82	2.95	3.09	3.24	3.38	3.53	3.67	3.84	3.98	4.12	4.26	4.42	4.58	4.74
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1135	1160	1185	1210
7,600	BHP	2.74	2.86	2.98	3.12	3.26	3.41	3.55	3.70	3.89	4.05	4.21	4.40	4.53	4.69	4.85	
	RPM	810	840	870	900	930	960	990	1015	1045	1070	1095	1125	1145	1170	1195	
7,800	BHP	2.98	3.13	3.25	3.39	3.54	3.68	3.83	3.99	4.15	4.34	4.50	4.66	4.82	4.95		
	RPM	830	860	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1180		
8,000	BHP	3.18	3.30	3.44	3.61	3.78	3.94	4.10	4.29	4.45	4.61	4.77	4.93				
	RPM	850	875	900	930	960	990	1015	1045	1070	1095	1120	1145				
8,200	BHP	3.35	3.48	3.65	3.79	3.96	4.13	4.27	4.44	4.58	4.72	4.88					
	RPM	865	890	920	945	975	1005	1030	1060	1085	1110	1135					
8,400	BHP	3.62	3.74	3.89	4.03	4.18	4.33	4.49	4.65	4.81	4.97						
	RPM	880	905	935	965	995	1020	1045	1070	1095	1120						
8,600	BHP	3.81	3.98	4.12	4.29	4.46	4.62	4.78	4.94								
	RPM	895	925	950	980	1010	1035	1060	1085								
8,800	BHP	4.06	4.22	4.41	4.57	4.73	4.92										
	RPM	915	940	970	995	1020	1050										
9,000	BHP	4.38	4.54	4.70	4.86												
	RPM	935	960	985	1010												
9,200	BHP	4.65	4.76	4.90													
	RPM	955	975	1000													
9,400	BHP	4.83	4.94														
	RPM	970	990														

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Blower Performance
SB300

Models:
SB
072-300

SCFM	ESP (in.w.c.)	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
8,100	RPM	935	965	995	1025	1055	1085	1115	1145	1170	1195	1220	1245	1265	1285	1310	1330
8,400	BHP	3.36	3.52	3.74	3.92	4.14	4.36	4.57	4.75	4.93	5.11	5.29	5.47	5.62	5.80	5.94	6.12
	RPM	955	985	1020	1045	1075	1105	1135	1160	1185	1210	1235	1260	1280	1305	1325	1350
8,700	BHP	3.60	3.79	4.00	4.22	4.43	4.65	4.83	5.01	5.19	5.37	5.55	5.76	5.97	6.14	6.35	6.56
	RPM	975	1005	1035	1065	1095	1125	1150	1175	1200	1225	1250	1275	1300	1320	1345	1370
9,000	BHP	3.90	4.12	4.30	4.51	4.73	4.91	5.09	5.30	5.48	5.66	5.89	6.08	6.32	6.56	6.76	
	RPM	1000	1030	1055	1085	1115	1140	1165	1195	1220	1245	1270	1290	1315	1340	1360	
9,300	BHP	4.34	4.56	4.74	4.96	5.14	5.35	5.53	5.71	5.89	6.08	6.29	6.50	6.67	6.88	7.05	
	RPM	1020	1050	1075	1105	1130	1160	1185	1210	1235	1260	1285	1310	1330	1355	1375	
9,600	BHP	4.64	4.85	5.03	5.25	5.46	5.67	5.88	6.13	6.34	6.52	6.66	6.84	7.02	7.16		
	RPM	1040	1070	1095	1125	1150	1175	1200	1230	1255	1280	1300	1325	1350	1370		
9,900	BHP	4.93	5.15	5.33	5.53	5.78	5.99	6.20	6.41	6.62	6.83	7.04	7.21	7.42			
	RPM	1060	1090	1115	1140	1170	1195	1220	1245	1270	1295	1320	1340	1365			
10,200	BHP	5.36	5.57	5.77	5.95	6.17	6.35	6.53	6.74	6.94	7.18	7.42	7.61				
	RPM	1085	1110	1135	1160	1190	1215	1240	1265	1285	1310	1335	1355				
10,500	BHP	5.52	5.75	5.99	6.23	6.47	6.71	6.95	7.19	7.43	7.62	7.86	8.10				
	RPM	1100	1130	1155	1180	1205	1230	1255	1280	1305	1325	1350	1375				
10,800	BHP	6.00	6.24	6.48	6.72	6.96	7.20	7.39	7.63	7.87	8.11	8.30					
	RPM	1125	1150	1175	1200	1225	1250	1270	1295	1320	1345	1365					

Notes:
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Unit Size	Voltage Code	Voltage	Min/Max Voltage	Compressor			Fan Motor		Rated Current Amps	Min Circuit Amps	MOP	Max Fuse (HACR) Amps	SCCR kA RMS Symmetrical	SCCR Volts Maximum
				Qty	RLA	LRA	Qty	FLA						
SB072	K	208/230-3-60	187/252	2	12.2	97.5	1	6.6	31.0	34.0	46.2	45	5	600
	L	460-3-60	432/504	2	5.8	44.3	1	6.0	17.6	19.1	25.1	25	5	600
SB096	K	208/230-3-60	187/252	2	12.8	120.4	1	6.6	32.2	35.4	48.2	45	5	600
	L	460-3-60	432/504	2	6.0	49.4	1	6.0	18.0	19.5	25.5	25	5	600
SB120	K	208/230-3-60	187/252	2	18.6	155.0	1	6.6	43.8	48.4	67.0	60	5	600
	L	460-3-60	432/504	2	8.3	58.1	1	6.0	22.6	24.7	33.0	30	5	600
SB168	K	208/230-3-60	187/252	2	24.4	200.0	2	13.1	75.0	81.1	105.5	100	5	600
	L	460-3-60	432/504	2	11.9	103.0	2	12.0	47.8	50.8	62.8	60	5	600
SB192	K	208/230-3-60	187/252	2	27.7	178.5	2	13.1	81.6	88.5	116.2	110	5	600
	L	460-3-60	432/504	2	11.5	103.0	2	12.0	47.0	50.0	62.0	60	5	600
SB240	K	208/230-3-60	187/252	2	28.5	255.0	2	13.1	83.2	90.3	118.8	110	5	600
	L	460-3-60	432/504	2	13.5	123.0	2	12.0	51.0	54.4	67.9	60	5	600
SB300	K	208/230-3-60	187/252	2	40.8	270.0	2	16.4	114.4	124.6	165.4	150	5	600
	L	460-3-60	432/504	2	19.4	147.0	2	12.0	62.8	67.7	87.1	80	5	600

Unit Size	Voltage Code	Voltage	Min/Max Voltage	Compressor Power Supply							Fan Power Supply						SCCR kA RMS Symmetrical	SCCR Volts Maximum
				Qty	RLA	LRA	Rated Current Amps	Min Circuit Amps	MOP	Max Fuse (HACR) Amps	Qty	FLA	Rated Current Amps	Min Circuit Amps	MOP	Max Fuse (HACR) Amps		
SB072	K	208/230-3-60	187/252	2	12.2	97.5	24.4	27.5	39.7	35	1	6.6	6.6	8.2	14.7	15	5	600
	L	460-3-60	432/504	2	5.8	44.3	11.6	13.1	18.9	15	1	6.0	6.0	7.5	13.5	15	5	600
SB096	K	208/230-3-60	187/252	2	12.8	120.4	25.6	28.8	41.6	40	1	6.6	6.6	8.2	14.7	15	5	600
	L	460-3-60	432/504	2	6.0	49.4	12.0	13.5	19.5	15	1	6.0	6.0	7.5	13.5	15	5	600
SB120	K	208/230-3-60	187/252	2	18.6	155	37.2	41.9	60.5	60	1	6.6	6.6	8.2	14.7	15	5	600
	L	460-3-60	432/504	2	8.3	58.1	16.6	18.7	27.0	25	1	6.0	6.0	7.5	13.5	15	5	600
SB168	K	208/230-3-60	187/252	2	24.4	200	48.8	54.9	79.3	70	2	13.1	26.2	29.5	42.6	40	5	600
	L	460-3-60	432/504	2	11.9	103	23.8	26.8	38.7	35	2	12.0	24.0	27.0	39.0	35	5	600
SB192	K	208/230-3-60	187/252	2	27.7	178.5	55.4	62.3	90.0	90	2	13.1	26.2	29.5	42.6	40	5	600
	L	460-3-60	432/504	2	11.5	103	23.0	25.9	37.4	35	2	12.0	24.0	27.0	39.0	35	5	600
SB240	K	208/230-3-60	187/252	2	28.5	255	57.0	64.1	92.6	90	2	13.1	26.2	29.5	42.6	40	5	600
	L	460-3-60	432/504	2	13.5	123	27.0	30.4	43.9	40	2	12.0	24.0	27.0	39.0	35	5	600
SB300	K	208/230-3-60	187/252	2	40.8	270	81.6	91.8	132.6	125	2	16.4	32.8	36.9	53.3	50	5	600
	L	460-3-60	432/504	2	19.4	147	38.8	43.7	63.1	60	2	12.0	24.0	27.0	39.0	35	5	600

SB Physical Data

Configuration	Vertical						
Unit Size	072	096	120	168	192	240	300
Compressor Type	Scroll						
Number of Circuits (Compressors)	2						
Refrigerant Leak Detection System	R	R	R	R	R	R	R
Number of Sensors	2	2	2	2	2	2	2
Factory Charge R-454B (oz) [kg] per Circuit	54 [1.5]	62 [1.8]	66 [1.9]	94 [2.7]	103 [2.9]	134 [3.8]	184 [5.2]
Blower Motor							
Quantity	1			2			2
Backward Inclined EC Motor (hp) [kW]	2.3 [1.73]			2.3 [1.73]			3.0 [2.26]
Water Connections							
FPT (in) [mm]	1-1/4" [31.8]		1-1/2" [38.1]	2" [50.8]			2-1/2" [63.5]
Coax Data							
Number of Coaxes per Circuit	1			2		3	
Volume per Coax (gallon) [liter]	1.62 [6.13]	2.40 [9.08]	2.40 [9.08]	3.62 [13.70]	4.83 [18.28]	4.90 [18.55]	7.39 [27.98]
Condensate Connection Size							
FPT (in) [mm]	1" [25.4]						
Miscellaneous Data							
Filter Standard - 1" [2.54cm] Throwaway (qty) (in) [cm]	(QTY.4) 20 x 20 [50.8 x 50.8]			(QTY.4) 20 x 25 [50.80 x 63.5]			
				(QTY.2) 20 x 30 [50.80 x 76.2]			
Unit Weights							
Standard Weight - Operating (lbs.) [kg]	586 [265.8]	644 [292.1]	698 [316.6]	1,069 [484.9]	1,164 [528.0]	1,184 [537.1]	1,297 [588.3]
Standard Weight - Packaged (lbs.) [kg]	626 [283.9]	684 [310.3]	738 [334.8]	1,149 [521.2]	1,244 [564.3]	1,264 [573.3]	1,377 [624.6]
Cabinet with Waterside Economizer							
WSE Unit Weight - Operating (lbs.) [kg]	762 [345.5]	837 [379.7]	907 [411.6]	1,529 [693.4]	1,665 [755]	1,693 [768]	1,855 [841.3]
WSE Unit Weight - Packaged (lbs.) [kg]	814 [369.1]	889 [403.3]	962 [436.4]	1,643 [745.3]	1,779 [806.9]	1,808 [819.9]	1,974 [895.4]
Air Coil Volume (gal) [L]	4.3 [16.3]	4.8 [18.2]		9.7 [36.7]		19.0 [71.9]	

- R = Required

Unit Maximum Water Working Pressure

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

- Use the lowest maximum pressure rating when multiple options are combined.

Unit with WSE Cooling Performance – 45°F EWT, 400 CFM/Ton

Model	Water Side			Airside (Dry)		Capacity	
	Flow GPM	PD psi	PD ft	CFM	DP psi	TC	SC
SB072	20	2.7	6.3	2,400	<0.10	27,548	16,904
SB096	24	4.8	11.0	3,200	<0.10	35,545	21,568
SB120	30	3.0	7.0	4,000	<0.10	41,300	24,495
SB168	42	4.8	11.0	5,600	<0.10	76,156	45,598
SB192	48	5.9	13.5	6,400	<0.10	83,715	49,510
SB240	60	15.0	34.6	8,000	0.10	165,124	99,273
SB300	75	22.1	51.1	10,000	0.13	189,286	112,711

- EAT 80/67; EWT 45; nominal airflow at 1.00" ESP; nominal waterflow

Airside PD

Model	Coil	AirSide PD Adder (in. wg) at CFM/TON				
		300	350	400	450	500
SB072	Dry	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Wet	< 0.1	< 0.1	< 0.1	< 0.1	0.10
SB096	Dry	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Wet	< 0.1	< 0.1	< 0.1	< 0.1	0.10
SB120	Dry	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Wet	< 0.1	< 0.1	< 0.1	< 0.1	0.10
SB168	Dry	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Wet	< 0.1	< 0.1	< 0.1	< 0.1	0.10
SB192	Dry	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Wet	< 0.1	< 0.1	< 0.1	< 0.1	0.10
SB240	Dry	< 0.1	< 0.1	< 0.1	< 0.1	0.12
	Wet	< 0.1	0.11	0.14	0.17	0.20
SB300	Dry	< 0.1	< 0.1	< 0.1		
	Wet	< 0.1	0.11	0.14		

WSE Valve Flow Coefficient

Model	CV	
	Econ - On	Econ - Off
SB072	34	27
SB096	61	49
SB120	61	49
SB168	109	87
SB192	109	87
SB240	109	87
SB300	109	87

WSE Entering Air Correction tables include the following notes:

- *Sensible Capacity = Total Capacity
- Corrections are based on nominal gpm and cfm.
- Tot Clg Cap @ EAT 80db/67wb
- EWT @ 45°F

SB072 Vertical — Nominal Airflow (cfm) 2,400 — Nominal Waterflow (gpm) 18

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.922	*	*	*	*	*	*	*	*	*
55.0	0.925	*	*	*	*	*	*	*	*	*
60.0	0.929	0.431	0.667	*	*	*	*	*	*	*
65.0	0.870		0.574	0.803	1.038	1.063	1.700	*	*	*
66.2	0.885		0.538	0.894	1.131	1.174	2.164	*	*	*
67.0	1.000		0.533	0.769	1.000	1.100	1.290	1.951	*	*
70.0	1.196			0.704	0.934	1.020	1.169	1.410	2.109	*
75.0	1.566				0.825	0.854	1.058	1.297	1.536	1.785

SB096 Vertical — Nominal Airflow (cfm) 3,200 — Nominal Waterflow (gpm) 24

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.916	*	*	*	*	*	*	*	*	*
55.0	0.919	*	*	*	*	*	*	*	*	*
60.0	0.922	0.433	0.662	*	*	*	*	*	*	*
65.0	0.871		0.568	0.801	1.039	1.064	1.708	*	*	*
66.2	0.884		0.532	0.892	1.133	1.175	2.175	*	*	*
67.0	1.000		0.536	0.766	1.000	1.099	1.272	1.963	*	*
70.0	1.204			0.702	0.939	1.022	1.181	1.421	2.080	*
75.0	1.579				0.831	0.857	1.064	1.311	1.551	1.796

SB120 Vertical — Nominal Airflow (cfm) 4,000 — Nominal Waterflow (gpm) 30

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.907	*	*	*	*	*	*	*	*	*
55.0	0.910	*	*	*	*	*	*	*	*	*
60.0	0.914	0.403	0.644	*	*	*	*	*	*	*
65.0	0.867		0.546	0.790	1.041	1.067	1.737	*	*	*
66.2	0.879		0.508	0.884	1.138	1.182	2.211	*	*	*
67.0	1.000		0.512	0.754	1.000	1.092	1.279	2.004	*	*
70.0	1.211			0.687	0.936	1.011	1.191	1.443	2.117	*
75.0	1.597				0.823	0.843	1.068	1.328	1.580	1.837

SB0168 Vertical — Nominal Airflow (cfm) 5,600 — Nominal Waterflow (gpm) 42

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.884	*	*	*	*	*	*	*	*	*
55.0	0.887	*	*	*	*	*	*	*	*	*
60.0	0.890	0.482	0.680	*	*	*	*	*	*	*
65.0	0.884		0.620	0.820	1.030	1.051	1.559	*	*	*
66.2	0.887		0.577	0.905	1.120	1.157	2.037	*	*	*
67.0	1.000		0.599	0.798	1.000	1.117	1.212	1.797	*	*
70.0	1.195			0.756	0.960	1.067	1.168	1.375	1.739	*
75.0	1.554				0.889	0.937	1.095	1.303	1.511	1.723

SB192 Vertical — Nominal Airflow (cfm) 6,400 — Nominal Waterflow (gpm) 48

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.879	*	*	*	*	*	*	*	*	*
55.0	0.882	*	*	*	*	*	*	*	*	*
60.0	0.885	0.467	0.671	*	*	*	*	*	*	*
65.0	0.882		0.610	0.815	1.031	1.052	1.567	*	*	*
66.2	0.884		0.566	0.902	1.122	1.160	2.051	*	*	*
67.0	1.000		0.588	0.792	1.000	1.114	1.218	1.811	*	*
70.0	1.197			0.749	0.958	1.062	1.173	1.386	1.753	*
75.0	1.563				0.886	0.932	1.098	1.312	1.526	1.743

SB240 Vertical — Nominal Airflow (cfm) 8,000 — Nominal Waterflow (gpm) 60

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.858	*	*	*	*	*	*	*	*	*
55.0	0.862	*	*	*	*	*	*	*	*	*
60.0	0.866	0.481	0.680	*	*	*	*	*	*	*
65.0	0.876		0.621	0.824	1.026	1.051	1.556	*	*	*
66.2	0.876		0.584	0.899	1.107	1.146	2.010	*	*	*
67.0	1.000		0.592	0.797	1.000	1.117	1.204	1.786	*	*
70.0	1.191			0.754	0.956	1.063	1.159	1.367	1.730	*
75.0	1.549				0.882	0.930	1.085	1.290	1.494	1.701

SB300 Vertical — Nominal Airflow (cfm) 10,000 — Nominal Waterflow (gpm) 75

Ent Air WB (°F)	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50.0	0.886	*	*	*	*	*	*	*	*	*
55.0	0.890	*	*	*	*	*	*	*	*	*
60.0	0.894	0.477	0.676	*	*	*	*	*	*	*
65.0	0.874		0.623	0.822	1.023	1.047	1.579	*	*	*
66.2	0.880		0.576	0.908	1.119	1.158	2.063	*	*	*
67.0	1.000		0.596	0.800	1.000	1.118	1.202	1.815	*	*
70.0	1.196			0.755	0.961	1.067	1.162	1.368	1.720	*
75.0	1.552				0.888	0.936	1.089	1.293	1.497	1.704

WSE Cooling Correction tables include the following note:

- Corrections are based on 80/67°F; EWT 45°F; nominal airflow @ 1.00-inch ESP; nominal water flow

SB072 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.905	0.62
81.25	0.935	0.62
87.50	0.955	0.62
93.75	0.980	0.62
100.00	1.000	0.61
106.25	1.007	0.61
112.50	1.011	0.61
118.75	1.014	0.60
125.00	1.012	0.59

SB096 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.911	0.62
81.25	0.947	0.61
87.50	0.968	0.61
93.75	0.982	0.61
100.00	1.000	0.61
106.25	1.013	0.60
112.50	1.013	0.59
118.75	1.007	0.59
125.00	1.002	0.58

SB120 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.931	0.61
81.25	0.963	0.61
87.50	0.979	0.60
93.75	0.988	0.60
100.00	1.000	0.59
106.25	1.006	0.58
112.50	1.000	0.57
118.75	0.983	0.56
125.00	0.968	0.55

SB168 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.862	0.61
81.25	0.906	0.60
87.50	0.945	0.60
93.75	0.970	0.60
100.00	1.000	0.60
106.25	1.027	0.60
112.50	1.043	0.59
118.75	1.062	0.59
125.00	1.074	0.58

SB192 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.872	0.60
81.25	0.914	0.60
87.50	0.951	0.60
93.75	0.972	0.60
100.00	1.000	0.59
106.25	1.024	0.59
112.50	1.036	0.58
118.75	1.049	0.58
125.00	1.057	0.57

SB240 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.922	0.61
81.25	0.948	0.61
87.50	0.970	0.61
93.75	0.989	0.60
100.00	1.000	0.60
106.25	1.008	0.60
112.50	1.012	0.59
118.75	1.011	0.58
125.00	1.007	0.58

SB300 Vertical

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75.00	0.924	0.61
81.25	0.949	0.61
87.50	0.970	0.60
93.75	0.987	0.60
100.00	1.000	0.60

WSE Airflow Ratings tables include the following note:

- Corrections are based on 80/67°F; EWT 45°F; nominal airflow @ 1.00-inch ESP; nominal water flow

SB072 Vertical WSE 2,400 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	18.0	45.8	2.7	6.3	27,548	16,904
	13.5	45.7	1.5	3.6	24,818	15,840
	9.0	45.6	0.7	1.6	20,864	14,348
50	18.0	50.6	2.7	6.3	21,059	14,417
	13.5	50.6	1.5	3.6	18,896	13,623
	9.0	50.5	0.7	1.6	17,729	15,909
55	18.0	55.5	2.7	6.3	17,524	16,560
	13.5	55.5	1.5	3.6	16,409	15,486
	9.0	55.5	0.7	1.6	14,578	13,722
60	18.0	60.4	2.7	6.3	13,340	12,531
	13.5	60.4	1.5	3.6	12,458	11,681
	9.0	60.4	0.7	1.6	11,002	10,279

SB120 Vertical WSE 4,000 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	30.0	48.3	3.0	7.0	41,300	24,495
	22.5	49.1	1.7	4.0	37,714	23,077
	15.0	50.2	0.8	1.8	31,379	20,676
50	30.0	52.6	3.0	7.0	31,336	20,620
	22.5	53.2	1.7	4.0	27,886	19,342
	15.0	54.5	0.8	1.8	25,461	21,740
55	30.0	57.2	3.0	7.0	25,187	23,678
	22.5	57.8	1.7	4.0	23,536	22,088
	15.0	58.8	0.8	1.8	20,844	19,496
60	30.0	61.8	3.0	7.0	18,719	17,449
	22.5	62.3	1.7	4.0	17,434	16,212
	15.0	63.1	0.8	1.8	15,289	14,146

SB096 Vertical WSE 3,200 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	24.0	48.4	4.8	11.0	35,545	21,568
	18.0	49.2	2.7	6.3	32,522	20,374
	12.0	50.4	1.2	2.8	27,179	18,352
50	24.0	52.7	4.8	11.0	27,278	18,386
	18.0	53.3	2.7	6.3	24,401	17,335
	12.0	54.7	1.2	2.8	22,516	19,694
55	24.0	57.3	4.8	11.0	22,333	21,079
	18.0	57.9	2.7	6.3	20,942	19,739
	12.0	59.0	1.2	2.8	18,632	17,513
60	24.0	61.9	4.8	11.0	16,959	15,905
	18.0	62.4	2.7	6.3	15,822	14,809
	12.0	63.2	1.2	2.8	13,592	12,646

SB168 Vertical WSE 5,600 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	42.0	49.0	4.8	11.0	76,156	45,598
	31.5	50.0	2.8	6.5	70,874	43,453
	21.0	51.6	1.3	3.1	62,602	40,179
50	42.0	53.2	4.8	11.0	59,555	38,958
	31.5	53.9	2.8	6.5	54,953	37,209
	21.0	55.3	1.3	3.1	48,162	34,699
55	42.0	57.5	4.8	11.0	45,757	38,463
	31.5	58.4	2.8	6.5	46,368	42,567
	21.0	59.6	1.3	3.1	41,469	39,275
60	42.0	62.1	4.8	11.0	36,407	34,399
	31.5	62.7	2.8	6.5	34,760	32,812
	21.0	63.7	1.3	3.1	32,009	30,166

SB192 Vertical WSE 6,400 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	48.0	48.9	5.9	13.5	83,715	49,510
	36.0	49.9	3.5	8.1	77,852	47,129
	24.0	51.5	1.7	3.9	68,677	43,501
50	48.0	53.1	5.9	13.5	65,234	42,158
	36.0	53.9	3.5	8.1	60,117	40,210
	24.0	55.2	1.7	3.9	52,582	37,428
55	48.0	57.5	5.9	13.5	49,679	41,469
	36.0	58.3	3.5	8.1	50,341	46,088
	24.0	59.5	1.7	3.9	44,942	42,483
60	48.0	62.0	5.9	13.5	39,250	37,001
	36.0	62.6	3.5	8.1	37,445	35,262
	24.0	63.6	1.7	3.9	34,280	32,213

SB240 Vertical WSE 8,000 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	60.0	51.0	15.0	34.6	165,124	99,273
	45.0	52.5	9.0	20.9	151,928	93,931
	30.0	54.9	4.5	10.3	132,467	86,302
50	60.0	54.8	15.0	34.6	128,187	84,527
	45.0	55.9	9.0	20.9	116,892	80,250
	30.0	57.8	4.5	10.3	100,663	75,438
55	60.0	58.9	15.0	34.6	100,606	86,703
	45.0	60.1	9.0	20.9	99,532	88,502
	30.0	62.0	4.5	10.3	87,994	81,279
60	60.0	63.1	15.0	34.6	76,126	72,152
	45.0	63.9	9.0	20.9	72,497	68,656
	30.0	65.5	4.5	10.3	66,067	62,462

SB300 Vertical WSE 10,000 CFM Nominal Airflow

EWT °F	Waterside				Capacity	
	Flow GPM	LWT F°	WPD psi	WPD ft hd	TC	SC
45	75.0	50.6	18.3	42.2	189,286	112,711
	56.3	51.9	10.6	24.5	175,596	107,150
	37.5	54.3	4.8	11.1	154,285	98,745
50	75.0	54.4	18.3	42.2	147,281	96,007
	56.3	55.5	10.6	24.5	134,899	91,299
	37.5	57.2	4.8	11.1	116,174	84,855
55	75.0	58.6	18.3	42.2	115,518	98,176
	56.3	59.9	10.6	24.5	118,368	105,192
	37.5	61.6	4.8	11.1	104,828	96,837
60	75.0	62.9	18.3	42.2	90,334	85,588
	56.3	63.7	10.6	24.5	86,190	81,597
	37.5	65.2	4.8	11.1	78,786	74,464

Dimensional Data SB072-120 Vertical

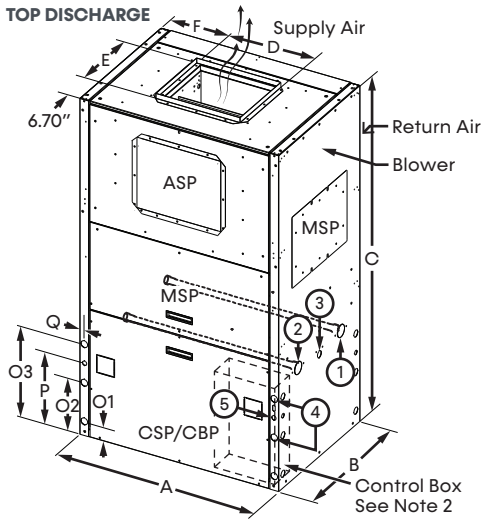
Models:
SB
072-300

Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height	1-3/8" (3.5cm)			7/8" (2.2 cm)		Return Width	Return Height		
072	inch	41.0	29.0	69.8	17.5	14.8	11.9	22.0	7.2	14.6	22.3	3.0	11.0	19.0	15.0	0.9	36.3	29.4	28.6	4.5
	cm	104.1	73.3	177.3	44.5	37.6	30.2	55.9	18.3	37.1	56.6	7.6	27.9	48.3	38.1	2.3	92.2	74.7	72.6	11.4
096-120	inch	41.0	29.0	69.8	17.5	14.8	11.9	22.0	7.2	14.6	22.3	3.0	11.0	19.0	15.0	0.9	36.0	35.1	28.6	2.6
	cm	104.1	73.3	177.3	44.5	37.6	30.2	55.9	18.3	37.1	56.6	7.6	27.9	48.3	38.1	2.3	91.4	89.2	72.6	6.6

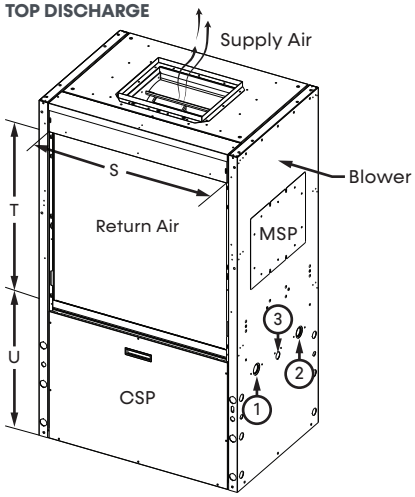
NOTES

1. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection will be tied inside the unit. Installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
2. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
3. Overall cabinet dimensions do not include duct flange or filter rails.
4. Units require 3 feet (90.1 cm) of clearance for water connections, CSP, CBP, MSP, and BSP service access. Service access is required at all removable panels locations and installer should take care to comply with all building codes and allow adequate clearance for future field service.
5. Filter removal is from right or left side of filter frame, allow 3 feet (61 cm) of access for servicing.

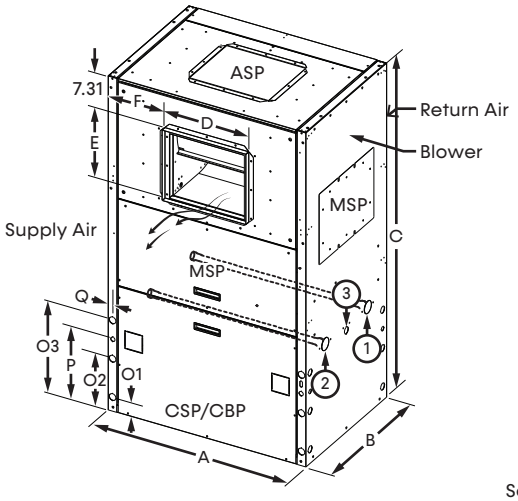
FRONT VIEW TOP DISCHARGE



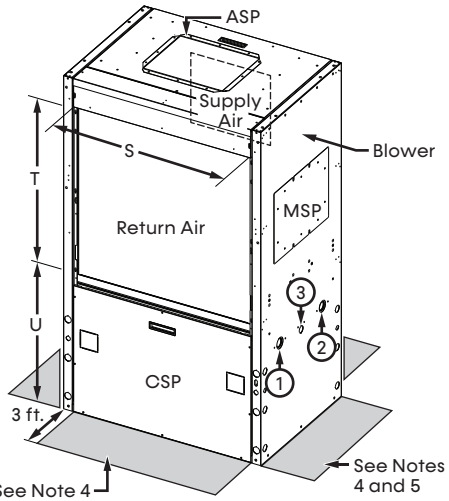
REAR VIEW TOP DISCHARGE



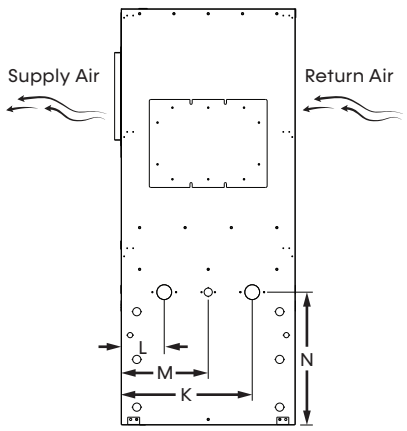
FRONT VIEW STRAIGHT DISCHARGE



REAR VIEW STRAIGHT DISCHARGE



RIGHT SIDE VIEW STRAIGHT DISCHARGE



Notes	SB072-096	SB120
① Water Inlet[1]	1-1/4" FPT	1-1/2" FPT
② Water Outlet[1]	1-1/4" FPT	1-1/2" FPT
③ Condensate Drain[2]	1" FPT	
④ High Voltage Access[3]	1-3/8" (3.49 cm)	
⑤ Low Voltage Access[3]	7/8" (2.2 cm)	

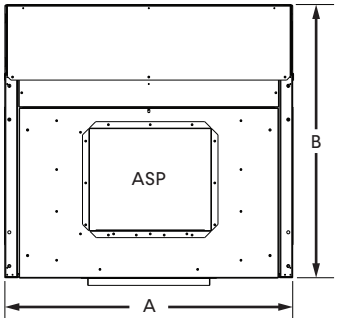
LEGEND

ASP = Alternate Supply Panel
BSP = Blower Service Panel
CBP = Control Box Panel
CSP = Compressor Service Panel
MSP = Motor Service Panel

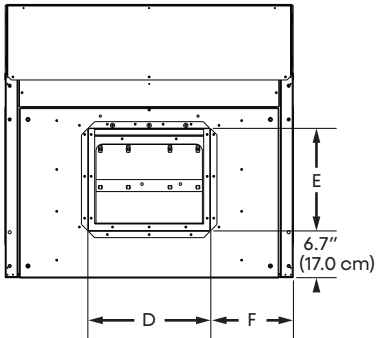
Dimensional Data
SB072-120 Vertical with WSE

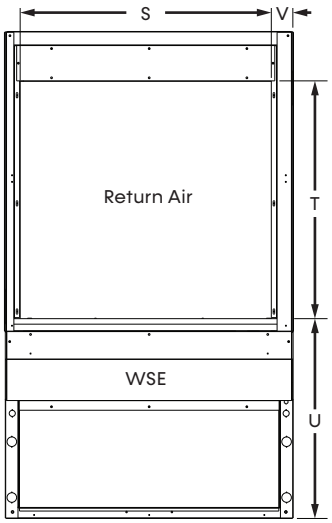
Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height						Return Width	Return Height		Return Side Offset
072	inch	41.3	39.2	69.8	17.5	14.7	11.9	22.0	7.2	14.6	22.3	3.0	11.0	19.0	15.1	0.9	34.0	31.6	28.6	3.6
	cm	104.9	99.6	177.3	44.5	37.3	30.2	55.9	18.3	37.1	56.6	7.6	27.9	48.3	38.4	2.3	86.4	80.3	72.7	9.1
096-120	inch	41.3	39.2	69.8	17.5	14.7	11.9	22.3	6.9	14.6	22.3	3.0	11.0	19.0	15.1	0.9	36.0	34.1	28.6	3.0
	cm	104.9	99.6	177.3	44.5	37.3	30.2	56.6	17.5	37.1	56.6	7.6	27.9	48.3	38.4	2.3	91.4	86.6	72.7	7.5

TOP VIEW
REAR RETURN FRONT DISCHARGE

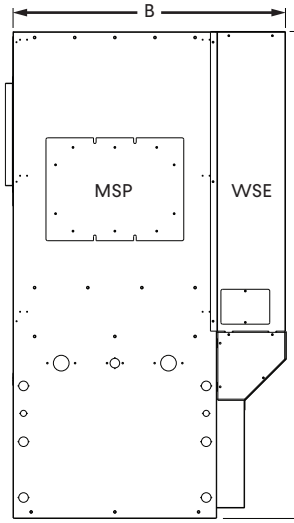


TOP VIEW
REAR RETURN TOP DISCHARGE

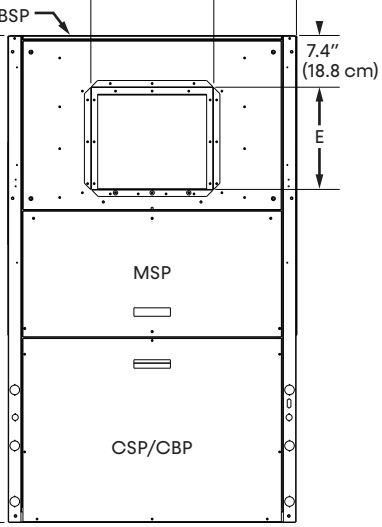




BACK VIEW
REAR RETURN FRONT DISCHARGE



RIGHT SIDE VIEW



FRONT VIEW
REAR RETURN FRONT DISCHARGE

NOTES

See the standard configuration for water connection and electrical knockout dimensions.

1. While clear access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3 feet (91 cm) of clearance for water connections, WSE coil air bleed, CBP, CSP, BSP, and MSP.
3. Condensate drain is internally trapped, externally vented.
4. For top discharge units, BSP is on front. For front discharge units, BSP is on top. Allow 3 feet above unit for service.

LEGEND

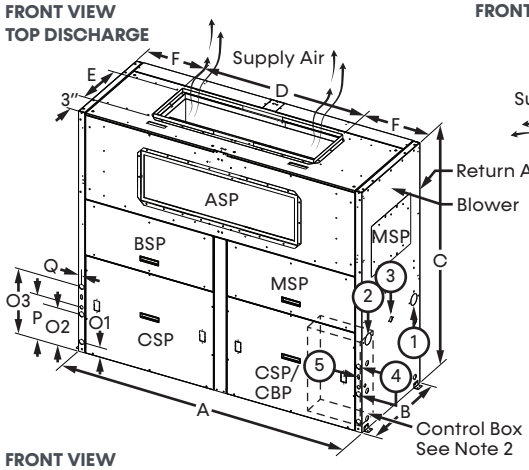
ASP = Alternate Supply Opening
BSP = Blower Service Panel
CSP = Compressor Service Panel
CBP = Control Box Panel
MSP = Motor Service Panel
WSE = Waterside Economizer

Dimensional Data SB168-240 Vertical

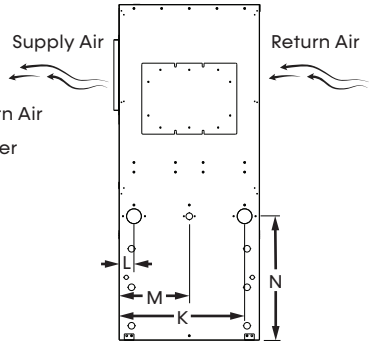
Models:
SB
072-300

Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height	1-3/8" (3.5cm)			7/8" (2.2 cm)		Return Width	Return Height		
168-240	inch	82.3	29.2	69.8	46.5	14.7	17.9	26.2	3.1	14.6	25.8	3.0	11.0	19.0	13.0	0.9	77.2	35.0	31.0	2.6
	cm	209.0	74.2	177.3	118.1	37.3	45.5	66.5	7.9	37.1	65.5	7.6	27.9	48.3	33.0	2.3	196.1	88.9	78.7	6.6

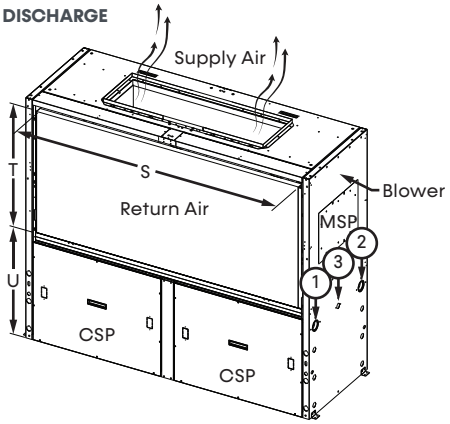
FRONT VIEW
TOP DISCHARGE



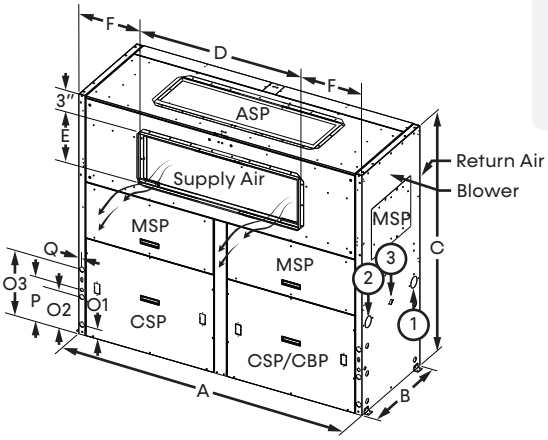
FRONT RETURN REAR DISCHARGE (FR/RD)



REAR VIEW
TOP DISCHARGE



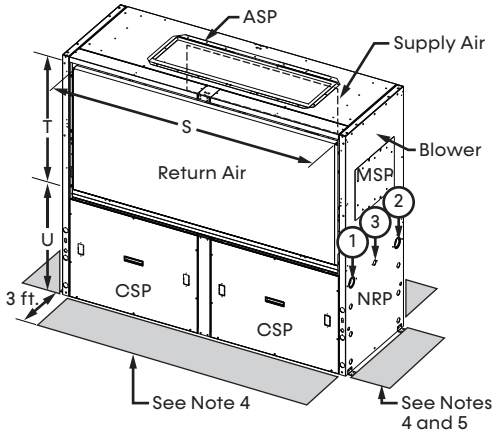
FRONT VIEW
STRAIGHT DISCHARGE



LEGEND

ASP	=	**Alternate Supply Panel**
BSP	=	**Blower Service Panel**
CBP	=	**Control Box Panel**
CSP	=	**Compressor Service Panel**
MSP	=	**Motor Service Panel**

REAR VIEW
STRAIGHT DISCHARGE



NOTES

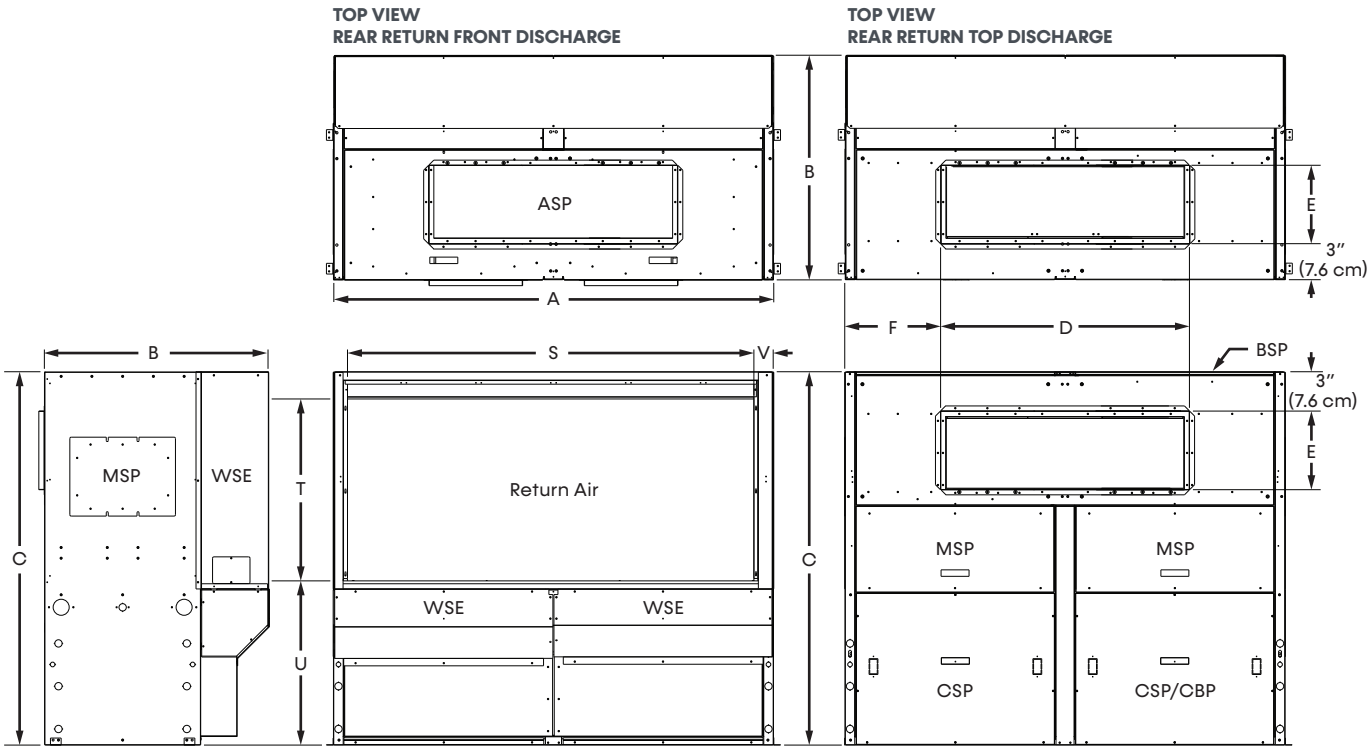
1. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection will be tied inside the unit. The installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
2. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
3. Overall cabinet height and depth dimensions do not include duct flange or filter rails.
4. Units require 3 feet (91 cm) of clearance for water connections, CBP, CSP, MSP, and BSP service access. Service access is required at all removable panels locations and installer should take care to comply with all building codes and allow adequate clearance for future field service.
5. Filter removal is from right or left side of filter frame, allow 3 feet (91 cm) of access for servicing.

Legend	SB168-240
① Water Inlet	2" FPT
② Water Outlet	2" FPT
③ Condensate Drain[1]	1" FPT
④ High Voltage Access[2]	1-3/8" (3.49 cm)
⑤ Low Voltage Access[2]	7/8" (2.2 cm)

Dimensional Data
SB168-240 Vertical with WSE

Models:
SB
072-300

Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height						Return Width	Return Height		Return Side Offset
168-240	inch	82.3	42.0	69.8	46.5	14.7	17.9	26.1	3.1	14.6	25.8	3.0	11.0	19.0	15.1	0.9	76.0	34.0	30.7	3.6
	cm	209.0	106.7	177.3	118.1	37.3	45.5	66.3	7.9	37.1	65.5	7.6	27.9	48.3	38.4	2.3	193.0	86.4	78.0	9.1



NOTES

See the standard configuration for water connection and electrical knockout dimensions.

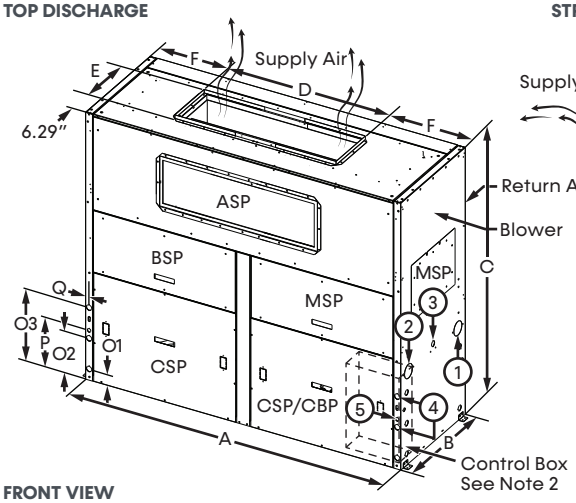
1. While clear access to all removable panels may not be required, the installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3 feet (91 cm) of clearance for water connections, WSE coil air bleed, CBP, CSP, BSP, and MSP.
3. Condensate drain is internally trapped, externally vented.
4. For top discharge units, BSP is on front. For front discharge units, BSP is on top. Allow 3 feet above unit for service.

LEGEND

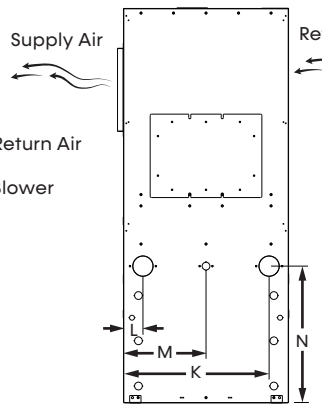
ASP = Alternate Supply Panel
BSP = Blower Service Panel
CSP = Compressor Service Panel
CBP = Control Box Panel
MSP = Motor Service Panel
WSE = Waterside Economizer

Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height	1-3/8" (3.5cm)			7/8" (2.2 cm)		Return Width	Return Height		
300	inch	82.3	29.2	69.8	46.5	14.7	17.9	25.8	3.4	14.6	24.2	3.0	11.0	19.0	13.0	0.9	77.2	35.0	31.0	2.6
	cm	209.0	74.2	177.3	118.1	37.3	45.5	65.5	8.6	37.1	61.5	7.6	27.7	48.3	33.0	2.3	196.1	88.9	78.7	6.6

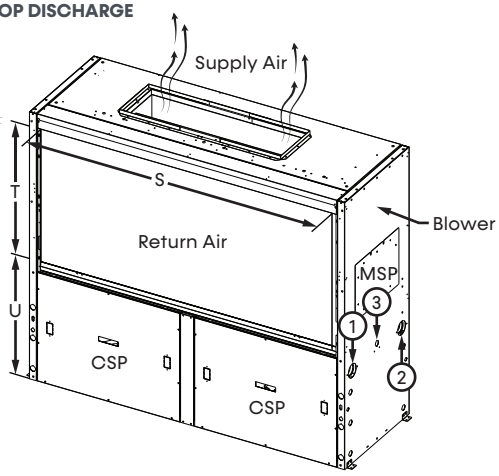
FRONT VIEW
TOP DISCHARGE



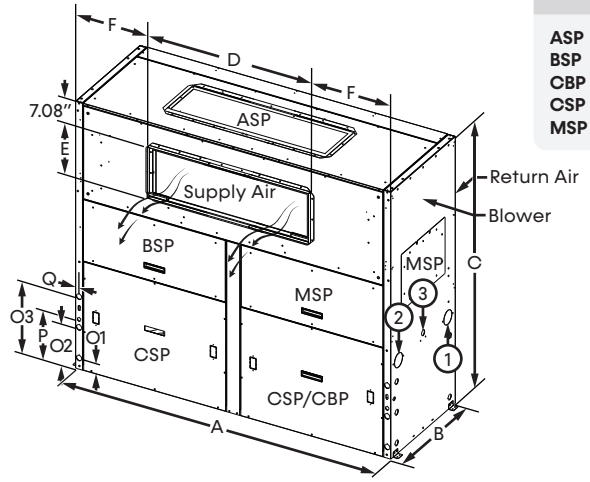
RIGHT SIDE VIEW
STRAIGHT DISCHARGE



REAR RETURN
TOP DISCHARGE



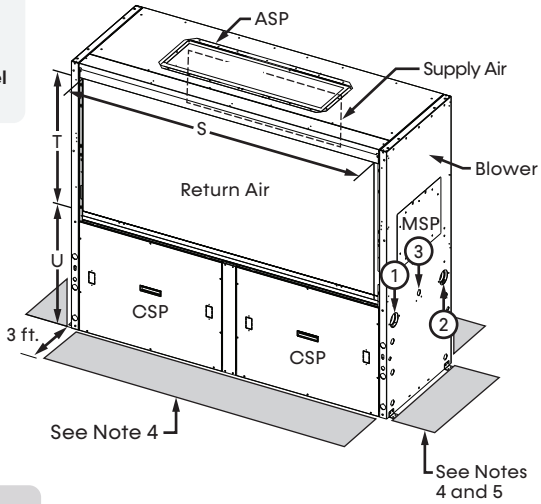
FRONT VIEW
STRAIGHT DISCHARGE



LEGEND

ASP	=	**Alternate Supply Panel**
BSP	=	**Blower Service Panel**
CBP	=	**Control Box Panel**
CSP	=	**Compressor Service Panel**
MSP	=	**Motor Service Panel**

REAR VIEW
STRAIGHT DISCHARGE

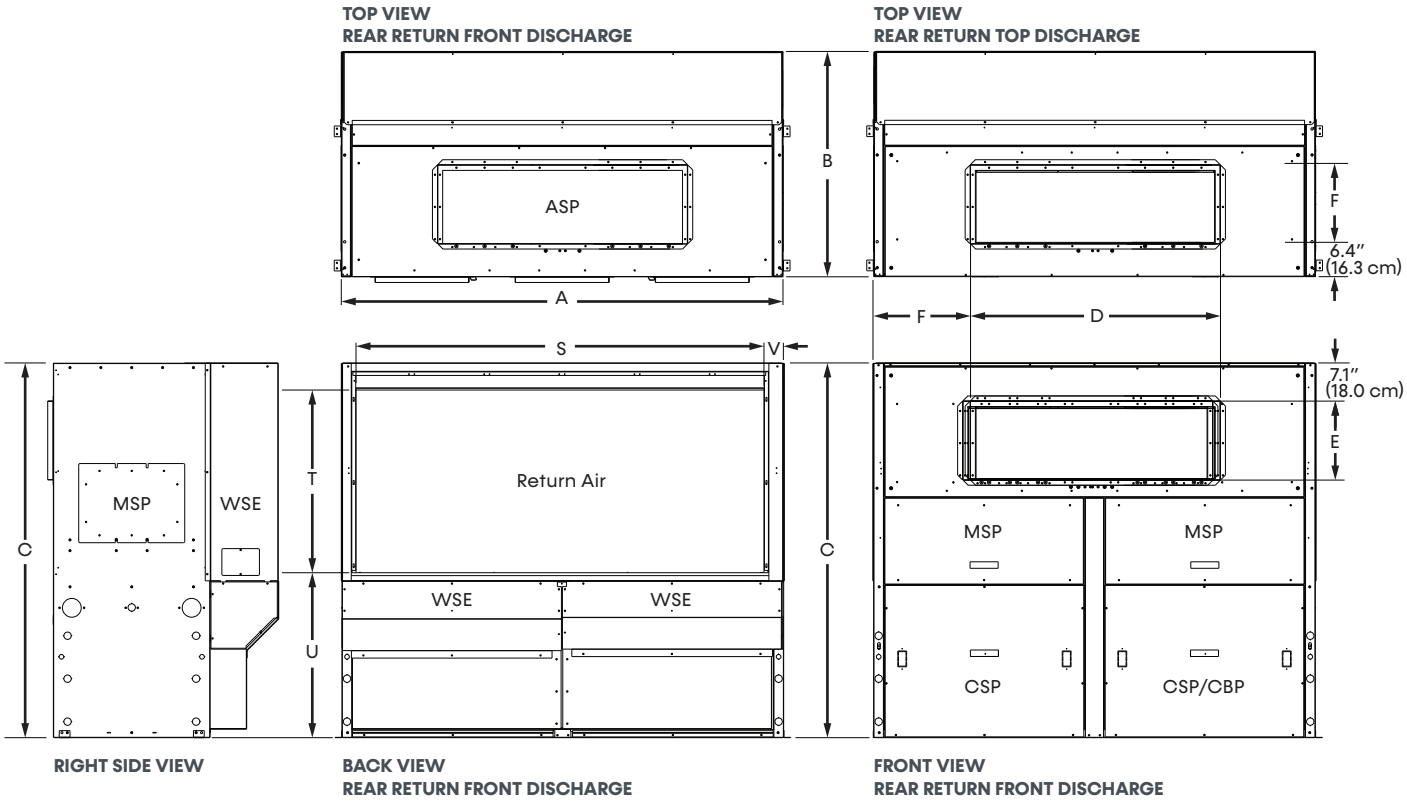


NOTES

1. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection are tied inside the unit. The installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
2. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
3. Overall cabinet height and depth dimension does not include duct flange for or filter rails.
4. Units require 3 feet (91 cm) of clearance, CBP, CSP, MSP and BSP service access. While access to all removable panels may not be required, the installer should take care to comply with all building codes and allow adequate clearance for future field service.
5. Filter removal is from right or left side of filter frame, allow 3 feet (91 cm) of access for servicing.

Legend	SB300
① Water Inlet	2-1/2" FPT
② Water Outlet	2-1/2" FPT
③ Condensate Drain[1]	1" FPT
④ High Voltage Access[2]	1-3/8" (3.49 cm)
⑤ Low Voltage Access[2]	7/8" (2.2 cm)

Unit Size		Overall Cabinet			Discharge Connections Duct Flange			Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	K	L	M	N	O			P	Q	S	T	U	V
								1	2	3		1	2	3						
		Width	Depth	Height	Supply Width	Supply Height	Side Offset	Water In	Water Out	Condensate	Connection Height						Return Width	Return Height		Return Side Offset
300	inch	82.3	42.0	69.8	46.5	14.7	17.9	25.8	3.4	14.6	24.2	3.0	11.0	19.0	15.1	0.9	76.0	34.0	30.7	3.6
	cm	209.0	106.7	177.3	118.1	37.3	45.5	65.5	8.6	37.1	61.5	7.6	27.9	48.3	38.4	2.3	193.0	86.4	78.0	9.1



NOTES

See the standard configuration for water connection and electrical knockout dimensions.

1. While clear access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3 feet (91 cm) of clearance for water connections, WSE coil air bleed, CBP, CSP, BSP, PAP, and MSP.
3. Condensate drain is internally trapped, externally vented.
4. For top discharge units, BSP is on front. For front discharge units, BSP is on top. Allow 3 feet above unit for service.

LEGEND

ASP = Alternate Supply Panel
BSP = Blower Service Panel
CSP = Compressor Service Panel
CBP = Control Box Panel
MSP = Motor Service Panel
WSE = Waterside Economizer

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
SB072	54	Vertical	186	70	46	40
SB096	62	Vertical	213	80	53	46
SB120	66	Vertical	227	85	57	49
SB168	94	Vertical	323	121	81	69
SB192	103	Vertical	354	133	89	76
SB240	134	Vertical	461	173	115	99
SB300	184	Vertical	633	237	158	136

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)	Q_{min} (ft³/min)
SB072	54	2.77	91
SB096	62	3.18	105
SB120	66	3.38	112
SB168	94	4.82	159
SB192	103	5.28	174
SB240	134	6.87	227
SB300	184	9.43	311

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)	A_{nv} (in²)
SB072	54	98.70
SB096	62	105.76
SB120	66	109.12
SB168	94	130.22
SB192	103	136.31
SB240	134	155.48
SB300	184	182.19

A_{nv} = Minimum natural ventilation area opening

When the openings for connected rooms or natural ventilation are required, apply the following conditions:

- 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.

BLOWER DESCRIPTION

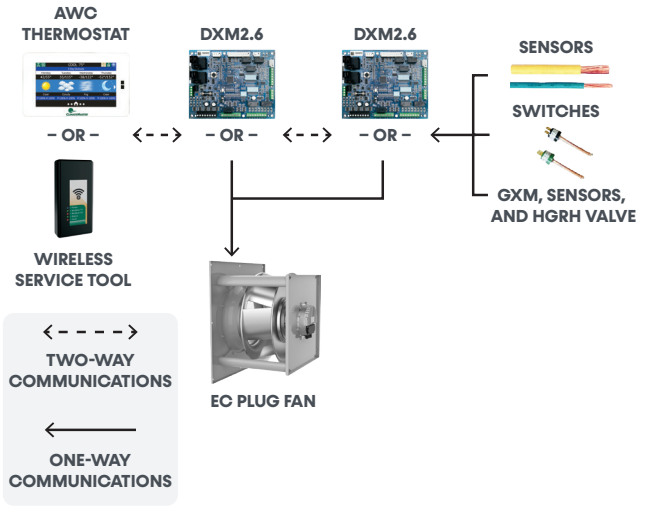
Electrically Commutated motors are electronically switched, brushless, DC, external rotor motors with permanent magnets. Motor speed is controlled by an integrated controller that directs the fan motor to ramp speed (CFM) up or down to match the load of the space they are servicing. SB units use EC motors to deliver variable capacity, optimizing system efficiency and saving owners money.

EC motors are quieter, more efficient, and can be eligible for utility rebates. These products are commonly used in single-zone variable-air-volume (VAV) applications. When applied to single-zone VAV applications, the system modulates the indoor fan and stages compressors as space temperature changes. This greater control increases part-load efficiency and provides more precise temperature control, reaching fan speeds as low as 37.5% of maximum air flow. Blower controls are paired with DXM2.6 to provide superior service and functionality.

BLOWER SEQUENCE OF OPERATION

The blower comes factory programmed with the standard DXM2.6. The DXM2.6 manages the blower controller using a 0–10VDC control signal, and comes factory programed for discrete speed operation. The actual operating range for the active blower is 3.7–10VDC associated to the operating speeds of 37–100%. When the blower is off, the output should be set to 0VDC. For each unit size, there is a maximum and minimum operating speed at which the blower can be operated for any mode, defined in the **Discrete Speed Control** table.

NOTE: Blower output is 50% of last value during heating or cooling blower-off delay times.



SINGLE ZONE VARIABLE AIR VOLUME (VAV)

Products with option "7" or "G" in the 14th digit of the model number come with EC Plenum Fans and are can be applied in single zone VAV applications. SB units use two DXM2.6 in a dual-board configuration. The EC Plenum Fan is controlled by board 2. The EC Plenum Fan receives a modulating 0-10VDC signal from the DXM2.6, and varies the fan speed directly proportionally to the input signal. A signal of 10VDC results in 100% fan speed. If the signal is 5VDC, the fan speed is 50%.

EC BLOWER OPERATION

If the DXM2.6 is configured for EC blower operation, the DXM2.6 controls the EC Plenum Fan using a 0–10VDC control signal on AO1, and will default to the discrete speed operation mode.

NOTE: Output is 50% of last value during heating or cooling blower off delay times.

The actual operating range for the fan when the blower should be active is 2–10VDC associated to the operating speed of 0–100%. When the fan should be off, the output should be set to 0VDC.

For each unit size, there is maximum and minimum operating speed at which the fan can operate for any mode, defined in the **EC Control Values** table.

The blower may be operated in discrete speed modes. If configured for discrete speed operation, the speed is operated using one of the three set operating speeds for each unit size, defined the **EC Control Values** table.

DISCRETE SPEED OPERATION

When the DXM2.6 is configured for discrete-speed operation, the fan speed is set to the selected operating speed (A, B or C) for full-load heating or cooling. Full-load operation is defined as the second stage enabled in either heating or cooling. The possible discrete operating speeds for each unit size are defined in the **EC Control Values** table.

When the DXM2.6 is configured for discrete-speed operation, the fan operating speed may be increased or decreased by 10%. The speed offset option defaults to normal (no offset). To increase the fan operating speed by 10%, set the speed offset option to increase. To decrease the fan operating speed by 10%, set the speed offset option decrease.

When operating in first-stage heating or cooling, the fan speed is set to the percentage multiplier of the selected full-load operating speed (A, B or C, plus or minus adjustment) listed for each unit size as defined in the **EC Control Values** table.

If the control switches from the heating mode to cooling, or cooling to heating without de-activating the compressor, the fan control voltage immediately switches to the last stored control voltage for the new operating mode, then is not adjusted for the first 90 seconds of operation in the new operating mode.

CONTINUOUS FAN OPERATION

When the DXM2.6 is configured for EC blower operation, the continuous fan operating speed is a selectable value. The default continuous fan operating speeds (default fan speeds) are shown in the **EC Control Values** table, along with the minimum and maximum operating speed values.

NOTE: In EC operation, the fan enable signal is triggered by the K1 relay. A01 output voltage for continuous fan operation will change to a percentage for the selected blower speed from the values presented in the EC Control Values table or for full load airflow needs.

Table 3: EC Control Values

Model	Min EC Speed	Max Speed	Fixed Speed A	Fixed Speed B	Fixed Speed C	Part Load Multiplier	Default Fan Speed
SB072	3.7	10.0	7.4	6.2	9.0	71%	5.2
SB096	3.8	10.0	7.0	6.0	9.0	75%	5.0
SB120	4.2	10.0	8.0	7.0	9.0	70%	6.0
SB168	4.1	10.0	7.9	6.4	9.0	76%	5.4
SB192	4.4	10.0	8.0	7.0	9.0	73%	6.0
SB240	4.2	10.0	8.0	7.0	9.0	70%	6.0
SB300	5.0	10.0	8.0	8.0	9.5	71%	7.0

ADVANCED CONTROL ALGORITHM

The DXM2.6 is a communicating controller which also features two-stage control of cooling and two-stage control of heating modes for exacting temperature and dehumidification purposes. This control system coupled with a multi-stage thermostat will better dehumidify room air by automatically running the heat pump's fan at lower speed on the first stage of cooling thereby implementing low sensible-heat-ratio cooling. When higher cooling performance is needed, the system activates the second stage of cooling and automatically switches the fan to the higher fan speed setting.

When DXM2.6 is connected to the Wireless Service Tool or AWC Thermostat, the installer/service technician can check or select fixed fan speed.

OPTION

The Hot Gas Reheat (HGRH) option provides effective dehumidification and reheat without the need for additional heating sources or complex controls. Hot Gas Reheat utilizes hot refrigerant gas generated during the cooling mode, which is redirected through a reheat coil downstream of the evaporator coil. This process allows the system to provide reheat while simultaneously removing moisture from the air, ensuring consistent temperature and humidity control.

BENEFITS

Hot Gas Reheat is a reliable solution for maintaining comfort in dehumidification mode. When activated, the system delivers 100% reheat capacity, making this option beneficial during periods when the cooling load is low, but humidity control is still necessary.

The system works by diverting hot refrigerant gas from the compressor discharge through a secondary coil which reheats the supply air to a neutral temperature before it enters the conditioned space. This simple design ensures ease of operation and maintenance.

APPLICATIONS

Hot Gas Reheat is ideal for a variety of applications where maintaining humidity levels is critical, including:

- Classrooms
- Condominiums
- Apartments
- Computer rooms
- Spaces with high latent loads like auditoriums, theaters, convention centers, etc.
- Any space requiring dehumidification with occasional reheat needs

NOTE: Hot gas reheat is not for use in high-fraction outdoor air applications or in applications with corrosive atmospheres, such as pool rooms.

With the Hot Gas Reheat option, return air from the space is cooled by the air-to-refrigerant (evaporator) coil, and then reheated by the hot gas reheat coil to dehumidify the air, while maintaining the desired space temperature.

The moisture removal capability of the heat pump is determined by the unit's latent capacity rating. Latent Capacity equals Total Capacity minus Sensible Capacity. Using unit performance data within this product catalog, use your maximum entering water temperature (EWT) and flow rate to select TC and SC. For example, at 80°F (26.7°C) EWT and 6.0 GPM, the moisture removal capability (latent capacity) of a SB036 is 8.4 Mbtuh (2.4 kW) as shown below.

Dividing the latent capacity by 1,069 BTU/LB of water vapor at 80°F DB and 67°F WB (26.7°C DB and 19.4°C WB) moist air enthalpy, converts the amount of moisture removal to pounds per hour (multiply pounds per hour by 0.4536 to obtain kg/hr). The calculations are shown below.

Most of the manufacturer's heat pumps have a sensible-to-total heat ratio (SHR) of 0.72 to 0.82. Therefore, approximately 25% of the cooling capacity is dedicated to latent cooling capacity (moisture removal). When selecting a unit with Hot Gas Reheat, the space sensible and latent loads should be calculated. If the unit will be used for space cooling, a unit with at least enough capacity to satisfy the building sensible load should be selected. If the latent cooling load is not satisfied by the selection, a larger unit with enough latent capacity is required. If the unit is used only for dehumidification purposes, the latent capacity is the only necessary consideration. In this case, sensible load is immaterial.

Table 4: Example SB120 EC Performance

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
70	15.00	2.5	5.7	125.4	87.6	9.15	156.7	13.7	150.5	10.4	115.1	102.8	4.3
	22.50	5.0	11.5	126.8	88.3	8.64	156.3	14.7	158.9	10.6	122.8	104.7	4.4
	30.00	7.5	17.2	127.2	88.5	8.41	155.9	15.1	163.4	10.7	127.0	105.7	4.5
80	15.00	2.4	5.6	122.2	85.7	9.96	156.2	12.3	165.7	10.7	129.1	106.3	4.5
	22.50	4.8	11.2	124.6	87.1	9.38	156.6	13.3	174.4	10.9	137.1	108.3	4.7
	30.00	7.3	16.8	125.6	87.5	9.11	156.7	13.8	179.0	11.0	141.3	109.3	4.8
90	15.00	2.4	5.5	117.7	83.2	10.88	154.8	10.8	179.8	11.1	142.0	109.5	4.8
	22.50	4.7	10.9	120.9	85.0	10.23	155.8	11.8	188.2	11.3	149.8	111.5	4.9
	30.00	7.1	16.4	122.4	85.8	9.92	156.2	12.3	192.3	11.4	153.6	112.4	5.0

LC = TC - SC = 124.6 - 87.1 = 37.5 MBtuh

37,500 Btuh ÷ 1,069 = 35.1 lbs/hr

Divide the latent capacity by 1,069 Btu/lb. of water vapor at 80°F DB and 67°F WB (26.7°C DB and 19.4°C WB) moist air enthalpy, which converts the amount of moisture removal to pounds per hour (multiply pounds per hour by 0.4536 to obtain kg/hr).

A heat pump equipped with HGRH can operate in three modes; cooling, cooling with reheat (dehumidification), and heating. The cooling/heating modes are like any other of the manufacturer's WSHP. The reversing valve ("O" signal) is energized in cooling, along with the compressor contactor(s) and blower relay. In the heating mode the reversing valve is de-energized. Most thermostats will activate the heat pump in Heating or Cooling modes. The DXM2.6 accepts either heat-pump (Y,O) thermostats or non-heat-pump (Y,W) thermostats.

Reheat mode requires either a separate humidistat/dehumidistat or a thermostat that has an integrated dehumidification function for activation. The control board is configured to work with either a humidistat or dehumidistat input to terminal "H". See the reference DIP switch settings for the DXM2.6 in the **Humidistat/Dehumidistat Logic and DXM2.6 (2.1, 2.2., 2.3) DIP Settings** table. Upon receiving an "H" input, the unit control activates the cooling mode and engages reheat. The **Hot Gas Reheat Operating Modes** table defines the relationship between thermostat input signals and unit operation.

There are four operational inputs for single stage units and six operational inputs for dual stage units:

- Fan Only
- 1st Stage Cooling
- 2nd Stage Cooling
- 1st Stage Heating
- 2nd Stage Heating
- Reheat Mode

NOTE: Be careful when using a humidistat to operate HGRH. When the DIP switch on the DXM2.6 is set for 'humidistat' it reverses the control logic so that an "open" control circuit initiates a HGRH run cycle. If a humidistat is not connected, or if a manual switch on the humidistat is set to "off", the unit control detects the open circuit and calls for dehumidification.

CONTROLS PRIORITY

Cooling is always prioritized. H-input triggers dehumidification demand. Simultaneous cooling and dehumidification calls enable cooling operation.

Table 5: Humidistat/Dehumidistat Logic and DXM2.6 (2.1, 2.2., 2.3) DIP Settings

Sensor	2.1	2.2	2.3	Logic	Reheat (ON)–H	Reheat (OFF)–H
Humidistat	OFF	OFF	OFF	Reverse	0VAC	24VAC
Dehumidistat	OFF	ON	OFF	Standard	24VAC	0VAC

Table 6: Hot Gas Reheat Operating Modes

Mode	Input					Output				
	O	G	Y1	Y2[3]	H	O	G	Y1	Y2[3]	Reheat
No Demand	ON/OFF	OFF	OFF	OFF	OFF	ON/OFF	OFF	OFF	OFF	OFF
Fan Only	ON/OFF	ON	OFF	OFF	OFF	ON/OFF	ON	OFF	OFF	OFF
Cooling 1st Stage	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF
Cooling 2nd Stage	ON	ON	ON	ON	OFF	ON	ON	ON	ON	OFF
Cooling and Dehumidistat[1]	ON	ON	ON	ON/OFF	ON	ON	ON	ON	ON/OFF	OFF
Dehumidistat Only	ON/OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Heating 1st Stage	OFF	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
Heating 2nd Stage	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF
Heating and Dehumidistat[2]	OFF	ON	ON	ON/OFF	ON	OFF	ON	ON	ON/OFF	OFF

1. Cooling input takes priority over dehumidify input.
2. DXM2.6 is programmed to ignore the H demand when the unit is in Heating mode.
3. N/A for single stage units; full load operation for dual capacity units.

- ON/OFF = Either ON or OFF.

OPERATION

General Operation: Hot gas reheat controls to a configurable leaving air temperature setpoint (68-72°F [20-22°C], default: 70°F [21.1°C]). A hysteresis prevents the hot gas reheat valve from toggling when the leaving air temperature is near the leaving air temperature setpoint. If the leaving air temperature is greater than 0.5°F (0.3°C) above the leaving air temperature setpoint, the hot gas reheat output will be disabled. Any time the hot gas reheat output is toggled to off, there is a minimum off time enforced. If the leaving air temperature drops 2°F (1.1°C) below the leaving air temperature setpoint, the hot gas reheat output is re-enabled and a specified minimum on time will be enforced.

AWC Thermostat Operation: If there is a smart wall sensor present, such as the AWC Thermostat, reheat operation is controlled by dehumidification demand and overcooling limitations.

Fan Only: A (G) call from the thermostat to the (G) terminal of the control board activates the unit in fan only mode.

1st Stage Cooling: A simultaneous call from (G), (Y1), and (O) to the (G), (Y1), (O/W2) terminals of the control board activates the unit in Cooling, and the unit runs until the call is removed or satisfied, shutting down the unit. If there is only cooling demand, there is no hot gas reheat operation.

2nd Stage Cooling: A simultaneous call from (G), (Y1), (Y2), and (O) to the (G), (Y1), (Y2), and (O/W2) terminals of the DXM2.6 activates the unit in 2nd Stage Cooling. When the call is satisfied at the thermostat, the unit continues to run in 1st Stage Cooling until the 1st Stage Cooling call is removed or satisfied, shutting down the unit.

1st Stage Heating: A simultaneous call from (G) and (Y1) to the (G) and (Y1) terminals of the control board activates the unit in Heating and run in heating until the call is removed or setpoint satisfied, shutting down the unit.

2nd Stage Heating: A simultaneous call from (G), (Y1), and (Y2) to the (G), (Y1), and (Y2) terminals of the DXM2.6 activates the unit in 2nd Stage Heating. When the call is satisfied at the thermostat, the unit continues to run in 1st Stage Heating until the call is removed or satisfied, shutting down the unit.

NOTE: Not all units have two-stage heating.

Dehumidification Only Operation: If there is demand for dehumidification, the control operates the hot gas reheat output until the dehumidification demand is satisfied or the overcooling setpoint (0-2°F [0-1.1°C] from Cooling Setpoint) is exceeded. The control operates the blower at a reduced cooling airflow (80-82% of rated). When the dehumidification call is removed, a bleed valve engages, pulling refrigerant and oil from the reheat circuit and back into the base unit refrigerant circuit.

NOTE: Cooling always overrides Reheat mode. In Cooling mode, the unit cools and dehumidifies. If the cooling thermostat is satisfied but there is still a call for dehumidification, the unit continues to operate in Reheat Mode.

Cooling with Dehumidification Operation: If there is demand for both cooling and dehumidification, the control maintains cooling operation until the setpoint is satisfied. Upon satisfaction of the cooling demand, if the dehumidification (H) demand remains, the control operates the hot gas reheat output until the dehumidification demand is satisfied or the over cooling setpoint (0-2°F [0-1.1°C] from Cooling Setpoint) is exceeded. When a dehumidification demand is present, the control operates the blower at a reduced cooling airflow (80-82%). If the cooling demand is satisfied before the dehumidification demand, the hot gas reheat operation continues until the above criteria is met.

FEATURES

The HGRH option consists of the following components:

- DXM2.6 with EC blower assembly and GXM control
- Hot Gas Reheat Valve
- Modulating Water Valve/Proportional Controller
- Supply Air Sensor
- EC Motor
- Reheat Coil

The control board operates on 24VAC power supply and automatically opens or closes the reheat valve based upon the reheat demand. The supply air sensor detects supply air temperature at the blower inlet providing the input signal necessary for the control board to drive the motorized water valve open or closed during the reheat mode of operation.

The proportional controller automatically adjusts the water valve based upon the Supply Air Sensor. The Supply Air Sensor senses supply air temperature at the blower inlet providing the input signal necessary for the proportional control to drive the motorized valve during the Reheat mode of operation.

The amount of reheating is dependent on the setpoint and how far from setpoint the supply air temperature is. The factory setpoint is 70°F (21.1°C), generally considered neutral air.

REFRIGERATION CHARGE AND OIL RETURN MITIGATION MODE

The system includes an advanced Refrigerant Charge and Oil Return Mitigation Mode designed to ensure optimal performance and reliability of the reheat circuit under various operating conditions. This feature seamlessly transitions refrigerant between the reheat circuit and the base unit refrigerant circuit to maintain system balance and compressor lubrication.

Operational Scenarios

- **Scenario 1 – Transition from Dehumidification with No Cooling Call:** When the system exits dehumidification mode and there is no active cooling call, a bleed valve engages to transfer refrigerant from the reheat circuit back into the base unit refrigerant circuit. This ensures proper refrigerant distribution and oil return. The bleed cycle operates for a specified period of time to complete this process.
- **Scenario 2 – Transition from Dehumidification with an Active Cooling Call:** If the system exits dehumidification mode but a cooling call remains active, the system enters the Refrigerant Charge and Oil Return Mitigation Mode. The bleed valve engages to transfer refrigerant from the reheat circuit to the base unit refrigerant circuit. This process operates for a specified period of time to ensure proper refrigerant and oil balance while maintaining uninterrupted cooling operation.

Key Advantages

- **System Reliability:** Prevents refrigerant pooling in the reheat circuit and ensures proper oil return to the compressor, minimizing wear and extending system lifespan.
- **Optimized Performance:** Maintains refrigerant balance between circuits for efficient operation in dehumidification and cooling modes.
- **Enhanced Flexibility:** Designed to handle diverse operating conditions, including transitions between dehumidification and cooling, to meet varying humidity and temperature requirements.

GENERAL

Furnish and install ClimateMaster Tranquility SB Series as indicated on the plans. Equipment shall be completely assembled, piped and internally wired. Capacities and characteristics as listed in the schedule and the specifications that follow.

Units shall be supplied completely factory built, capable of operating over an entering water temperature range from 20° to 120°F (-6.7° to 43.3°C) as standard. Equivalent units from other manufacturers may be proposed provided approval to bid is given 10 days prior to bid closing. All equipment listed in this section must be rated and certified in accordance with Air-Conditioning, Heating and Refrigeration Institute / International Standards Organization (AHRI / ISO 13256-1). All equipment must be tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL 60335-2-40 4th Edition, UL 60335-1 6th Edition for the United States and Can/CSA C22.2 No. 60335-2-40:22, CAN/CSA C22.2 No 60335-1:16 for Canada, by Intertek Testing Laboratories (ETL). The units shall have AHRI / ISO and ETL-US-C labels

All units shall pass a factory acceptance test. The quality control system shall automatically perform factory acceptance test via computer. A detailed report card from the factory acceptance test shall be shipped with each unit. **NOTE: If a unit fails the factory acceptance test, it shall not be allowed to ship. The unit serial number shall be recorded by factory acceptance test and furnished on report card for ease of unit warranty status.**

BASIC CONSTRUCTION

Vertical units shall have one of the following air flow arrangements: rear return/top discharge, front return/top discharge, rear return/front discharge, front return/rear discharge as shown on plans. Units can be field converted without requiring new panels. **Units that cannot be field converted shall not be acceptable.**

If units with these arrangements are not used, the contractor is responsible for any extra costs incurred by other trades. All units must have a minimum of two access panels for serviceability of compressor compartment. **Units having only one access panel to compressor/heat exchangers/expansion device/ refrigerant piping shall not be acceptable.**

Compressor section interior surfaces shall be lined with ½-inch (12.7 mm) thick, 1½ lb/ft³ (24 kg/m³) acoustic type glass fiber insulation. Air handling section interior surfaces shall be lined with ½-inch (12.7 mm) thick, 1¾ lb/ft³ (28 kg/m³) foil-backed fiber insulation for ease of cleaning. Insulation placement shall be designed in a manner that will eliminate any exposed edges to prevent the introduction of glass fibers into the air stream. **Units without foil-faced insulation in the air handling section will not be accepted.**

Units shall be fabricated from heavy-gauge galvanized steel.

Standard insulation must meet NFPA Fire Hazard Classification requirements 25/50 per ASTM E84, UL 723, CAN/ULC S102-M88 and NFPA 90A requirements; air erosion and mold growth limits of UL-181; stringent fungal resistance test per ASTM-C1071 and ASTM G21; and shall meet zero level bacteria growth per ASTM G22. **Unit insulation must meet these stringent requirements or unit(s) will not be accepted.**

All units must have an insulated panel separating the fan compartment from the compressor compartment. Units with the compressor in the air stream are not acceptable.

Vertical units shall have factory installed full filter frame with filter removal from either side. **The contractor shall purchase one spare set of filters and replace factory shipped filters on completion of startup.** Filters shall be standard sizes. **If units utilize non-standard filter sizes then the contractor shall provide 12 spare filter sets for each unit.**

Cabinets shall have separate knockouts on front and sides for entrance of line voltage and low-voltage control wiring. All factory-installed wiring passing through factory knockouts and openings shall be protected from sheet metal edges at openings by plastic ferrules. Supply and return water connections shall be copper FPT fittings, connections on either the left or right side and shall be securely mounted flush to the cabinet side allowing for connection of a flexible hose without the use of a back-up wrench. **Water connections that protrude through the cabinet or require the use of a backup wrench shall not be allowed.** Water connections on only one side will not be accepted. All water connections and electrical knockouts must not interfere with the serviceability of unit. **Contractors shall be responsible for any extra costs involved in the installation of units that do not have this feature.** Contractors must ensure that units can be easily removed for servicing and coordinate locations of electrical conduit and lights with the electrical contractor.

The unit will be supplied with internal factory-mounted modulating water valve with delta T control. The factory built-in valve shall modulate water flow through unit based on a field-adjustable water temperature difference between the entering and leaving water. The valve shall automatically adjust for operating mode, source water temperature and variations in external head pressure. The valve will also act as a shutoff valve to prevent water flow through the unit when the unit is not activated and will have a minimum position capability. Externally mounted, modulating water valves will not be accepted.

Option: Dual-point power.

Option: UltraQuiet construction shall consist of high technology sound attenuating material that is strategically applied to the compressor and air handling compartment casings and fan scroll in addition to the standard system design, to further dampen and attenuate sound transmissions. Compressor is mounted on specially engineered sound-tested isolators.

FAN AND MOTOR ASSEMBLY

All units shall have a direct drive, variable speed, backward inclined plenum fan. Fan motor shall be premium duty and permanently lubricated with thermal overload protection. Units supplied without permanently lubricated motors must provide external oilers for easy service. The fan and motor assembly must be capable of overcoming the external static pressures as shown on the schedule. Airflow/Static pressure rating of the unit shall be based on a wet coil and a clean filter in place. **Ratings based on a dry coil and/or no filter, or on an ESP less than 0.25 inches (6.35 mm w.g.) shall NOT be acceptable.**

REFRIGERANT CIRCUIT

All units shall contain an R-454B sealed refrigerant circuit including a high-efficiency scroll compressor designed for heat-pump operation, a thermostatic expansion valve for refrigerant metering, an enhanced corrugated-aluminum lanced fin and rifled copper tube refrigerant-to-air heat exchanger, reversing valve, coaxial (tube-in-tube) refrigerant-to-water heat exchanger, and safety controls including a high-pressure switch, low-pressure switch (loss-of-charge), water coil low-temperature sensor, and air coil low-temperature sensor. Access fittings shall be factory installed on high and low-pressure refrigerant lines to facilitate field service. Activation of any safety device shall prevent compressor operation via a microprocessor lockout circuit. The lockout circuit shall be reset at the thermostat or at the contractor supplied disconnect switch. **Units that cannot be reset at the thermostat shall not be acceptable.**

The scroll compressors shall have a dual-level vibration isolation system. The compressor(s) will be mounted on specially engineered sound-tested EPDM vibration-isolation grommets to a large heavy gauge compressor mounting plate, which is then isolated from the cabinet base with EPDM grommets to minimize vibration and maximize vibration attenuation. Compressor shall have thermal-overload protection. Compressors shall be located in an insulated compartment isolated from air stream to minimize sound transmission.

Refrigerant-to-air heat exchangers shall utilize enhanced corrugated lanced aluminum fins and rifled copper tube construction rated to withstand 625 PSIG (4,309 kPa) refrigerant working pressure. Refrigerant-to-water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 625 PSIG (4,309 kPa) working refrigerant pressure and 300 PSIG (2,068 kPa) working water pressure. The refrigerant-to-water heat exchanger shall be "electro-coated" with a low-cure cathodic epoxy material a minimum of 0.4 mils thick (0.4 – 1.5 mils range) on all surfaces. The black-colored coating shall provide a minimum of 1,000 hours of salt-spray protection per ASTM B117-97 on all external steel and copper tubing. The material shall be formulated without the inclusion of any heavy metals and shall exhibit a pencil hardness of 2H (ASTM D3363-92A), crosshatch adhesion of 4B-5B (ASTM D3359-95), and impact resistance of 160 in-lbs (184 kg-cm) direct (ASTM D2794-93).

The unit water circuit is protected by two high-pressure switches set at 300 PSI (2,068 kPa). Switches will reset automatically when pressure is reduced. Units that do not have auto-reset water high-pressure switches are not acceptable.

Refrigerant metering shall be accomplished by thermostatic expansion valve only. Expansion valves shall be dual port balanced type with external equalizer for optimum refrigerant metering. Units shall be designed and tested for operating ranges of entering water temperatures from 20° to 120°F (-6.7° to 48.9°C). A reversing valve shall be a four-way solenoid-activated refrigerant valve, which shall default to heating mode should the solenoid fail to function. If the reversing-valve solenoid defaults to cooling mode, an additional low-temperature thermostat must be provided to prevent over-cooling an already cold room.

Individual refrigeration circuits charged with 62 ounces or greater of R-454B shall be supplied with a Refrigerant Detection System (RDS) with sensors to be strategically placed within the cabinet. In the event of a refrigerant leak, the RDS disables compressor operation, and the unit blower runs to disperse any concentration of leaked refrigerant in compliance with UL 60335-2-40 safety standards for flammable refrigerants. **Individual refrigeration circuits charged with 62 ounces or greater of R-454B that do not have an RDS shall not be acceptable.**

The unit shall be supplied with a hot gas reheat (HGRH) coil intended to provide air at or near neutral conditions to the conditioned space during dehumidification mode. The reheat system includes an advanced Refrigerant Charge and Oil Return Mitigation Mode designed to ensure optimal performance and reliability under various operating conditions. This feature seamlessly transitions refrigerant between the reheat circuit and the base unit refrigerant circuit to maintain system balance and compressor lubrication. **Systems not providing Refrigerant Charge and Oil Return Mitigation functionality will not be accepted**.

Option: The unit shall be supplied with extended range insulation option, which adds closed cell insulation to internal water lines, and provides insulation on suction side refrigeration tubing including refrigerant-to-water heat exchanger.

Option: The refrigerant-to-air heat exchanger shall be coated.

Option: The unit shall be supplied with a WSE. The WSE will consist of hydronic coil, three-way valve, and aquastat. The aquastat will be adjustable type and factory set at 45°F (7.2°C).

DRAIN PAN

The drain pan shall be constructed of galvanized steel and have a powder coat paint application to further inhibit corrosion. This corrosion protection system shall meet the stringent 1,000-hour salt spray test per ASTM B117. If plastic type material is used, it must be HDPE (High-Density Polyethylene) to avoid thermal-cycling shock-stress failure over the lifetime of the unit. Drain pans shall be fully insulated. Drain pan outlet shall be located to ensure positive unobstructed drainage of condensate. For vertical units drain pan hose assembly can be connected to either side, drain outlet to be 1-inch FPT fitting. The unit as standard will be supplied with solid-state electronic condensate overflow protection. **Mechanical float switches will NOT be accepted.**

Option: The unit shall be supplied with stainless-steel drain pan.

ELECTRICAL

A control box shall be located within the unit compressor compartment and shall contain a 100VA transformer with load side circuit breaker protection, 24V activated, two- or three-pole compressor contactor, terminal block for thermostat wiring, and solid-state controller for complete unit operation. Reversing valve and fan motor wiring shall be routed through this electronic controller. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24-volt and provide heating or cooling as required by the remote thermostat/sensor. Units shall have a solid-state time delay relay and random start to prevent both compressors from starting simultaneously.

ENHANCED SOLID STATE CONTROL SYSTEM (DXM2.6)

Units shall have a solid-state control system. Units utilizing electro-mechanical control shall not be acceptable. The control system microprocessor board shall be specifically designed to protect against building electrical system noise contamination, EMI, and RFI interference. This control system is a communicating controller with the following features.

a. Anti-short cycle time delay on compressor operation.
b. Random start on power up mode.
c. Low-voltage protection.
d. High-voltage protection.
e. Unit shutdown on high or low refrigerant pressures.
f. Unit shutdown on low water temperature.
g. Condensate overflow electronic protection.
h. Option to reset unit at thermostat or disconnect.
i. Automatic intelligent reset. Unit shall automatically reset the unit 5 minutes after trip if the fault has cleared. If a fault occurs 3 times sequentially without thermostat meeting temperature, then lockout requiring manual reset will occur.
j. Ability to defeat time delays for servicing.
k. Light emitting diode (LED) on circuit board to indicate high pressure, low pressure, low-voltage, high-voltage, low water/air temperature cut-out, condensate overflow, and control voltage status.
l. The low pressure switch shall not be monitored for the first 120 seconds after a compressor start command to prevent nuisance safety trips.
m. 24V output to cycle a motorized water valve or other device with compressor contactor.
n. Unit Performance Sentinel (UPS). The UPS warns when the heat pump is running inefficiently.
o. Water coil low temperature sensing (selectable for water or antifreeze).
p. Air coil low temperature sensing.
q. Removable thermostat connector.
r. Night setback control.
s. Random start on return from night setback.
t. Minimized reversing-valve operation (Unit control logic shall only switch the reversing valve when cooling is demanded for the first time. The reversing valve shall be held in this position until the first call for heating, ensuring quiet operation and increased valve life).
u. Override temperature control with 2-hour timer for room occupant to override setback temperature at the thermostat.
v. Dry contact night setback output for digital night setback thermostats.
w. Ability to work with heat pump (Y, O) or heat/cool (Y, W) type thermostats.
x. Ability to work with heat-pump thermostats using O or B reversing valve control.
y. Emergency shutdown contacts.
z. Entering and leaving water temperature sensing.
aa. Leaving air temperature sensing.
ab. Compressor discharge temperature sensing.
ac. Boilerless system heat control at low loop water temperature.
ad. Ability to allow up to three units to be controlled by one thermostat.

ae. Relay to operate an external damper.

af. Relay to start system pump.

ag. 100VA control transformer. Control transformer shall have load side short circuit and overload protection via a built-in circuit breaker.

NOTE: Units not providing the eight safety protections of anti-short cycle, low-voltage, high-voltage, high refrigerant pressure, low pressure (loss of charge), air coil low temperature cut-out, water coil low temperature cut-out, and condensate overflow protection will not be accepted.

When DXM2.6 is connected to the AWC Thermostat via the myUplink Pro website/mobile app or the Wireless Service Tool directly at the unit, the installer/service technician can; check DIP switch S2 settings; run operation modes manually; check DIP switch S2 settings; run operation modes manually; check all physical inputs from thermostat and refrigerant pressure switches status, (Y1, Y2, W, O, G, H, ESD, NSB, OR, HP switch, and LOC switch); current or at time of fault the following temperatures - water coil (LT1), air coil (LT2), compressor discharge, leaving air, leaving water, entering water and control voltage; record last five faults, list possible reasons, and clear faults. When the AWC Thermostat is use this same functionality can be viewed and adjusted remotely in the web portal or mobile app. **Systems not providing remote access, diagnosis, and adjustment functionality will not be accepted.**

DIGITAL NIGHT SETBACK WITH PUMP RESTART (DXM2.6 WITH ATP32U03C/04C, AWC99U01):

The unit will be provided with a Digital Night Setback feature using an accessory relay on the DXM2.6 controller with an ATP32U03C/04C or AWC99U01 thermostat and an external, field-provided time clock. The external time clock will initiate and terminate the night setback period. The thermostat will have a night setback override feature with a programmable override time period. An additional accessory relay on the unit DXM2.6 controller will energize the building loop pump control for the duration of the override period. **NOTE: This feature requires additional low-voltage wiring. Consult application drawings for details.**

REMOTE SERVICE SENTINEL (DXM2.6)

The solid-state control system shall communicate with applicable thermostats to display (at the thermostat) the unit status, fault status, and specific fault condition, as well as retrieve previously stored fault that caused unit shutdown. The Remote Service Sentinel allows building maintenance personnel or service personnel to diagnose units from the wall thermostat. The control board shall provide a signal to the thermostat, indicating a lockout. A detailed message shall be provided at the communicating thermostat or Wireless Service Tool and specific fault status such as over/under voltage fault, high-pressure fault, low-pressure fault, low-water-temperature fault, condensate-overflow fault, etc. **Units that do not provide this remote service sentinel shall not be acceptable.**

Option: ClimaLink Edge integration controller

Units shall have all the DXM2.6 features listed above and the control board will be supplied with a ClimaLink Edge controller. Available protocols are BACnet IP and MS/TP or Modbus TCP and RTU. The choice of protocol shall be field-selectable/changeable via Wireless Service Tool. Protocol selection shall not require any additional programming or special external hardware or software tools. The ClimaLink Edge supports daisy chain wiring for both Ethernet and serial connections. See the *Points* section the in ClimaLink Edge AOM for the list of points that require connectivity.

WARRANTY

ClimateMaster shall warranty equipment for a period of 12 months from startup or 18 months from shipping (whichever occurs first).

Option: Extended 4-year compressor warranty covers compressor for a total of 5 years.

Option: Extended 4-year refrigeration circuit warranty covers coils, reversing valve, expansion valve and compressor for a total of 5 years.

Option: Extended 4-year control board warranty covers the factory-supplied controls for a total of 5 years.

Option: Extended 4-year electronic components warranty covers the factory-supplied controls, modulating water valve, constant volume variable-speed fan, and pump for a total of 5 years.

FIELD-INSTALLED OPTIONS

Hose Kits:

All units 120,000 Btuh (35 kW) and below shall be connected with hoses. The hoses shall be 2-feet (61-cm) long, braided stainless steel; fire-rated hoses complete with adapters. **Only fire rated hoses will be accepted.**

Valves:

The following valves are available and will be shipped loose:

a. Ball valve; bronze material, standard port full flow design, FPT connections.
b. Ball valve with memory stop and PT port.
c. "Y" strainer with blowdown valve; bronze material, FPT connections.
d. Motorized water valve; slow acting, 24V, FPT connections.

Hose Kit Assemblies:

The following assemblies ship with the valves already assembled to the hose described:

a. Supply and return hoses having ball valve with PT port.
b. Supply hose having ball valve with PT port; return hose having automatic flow regulator valve with PT ports, and ball valve.
c. Supply hose having "Y" strainer with blowdown valve, and ball valve with PT port; return hose having automatic flow regulator with PT ports, and ball valve.
d. Supply hose having "Y" strainer with blowdown valve, and ball valve with PT port; return hose having ball valve with PT port.

THERMOSTATS

The thermostat shall be a ClimateMaster mechanical or electronic type thermostat as selected below with the described features:

Note: All units will require heat pump thermostat with two-stage cooling.

a. **iGate 2 Communicating (AWC) Thermostat (AWC99U01)**
An electronic communicating web-enabled touchscreen 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 provide access to via the web portal or mobile application to include temperature adjustment, schedule adjustment including occupied/unoccupied, entering-water temperature, leaving-water temperature, water-coil temperature, air-coil temperature, leaving-air temperature, and compressor-discharge temperature. A graphical system layout to be provided with real-time operating mode information of the temperature sensors for easy diagnostics. The thermostat shall display system faults with probable cause and troubleshooting guidance. The system shall provide in clear language the last five faults, time of faults, operating temps at time of fault, and possible reasons for the fault. The thermostat shall provide access for immediate manual control of all outputs via the web portal/mobile application for rapid troubleshooting.

b. **Multi-stage Digital Automatic Changeover (ATA22U01)**
The thermostat shall be multi-stage (2H/2C), manual or automatic changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. The thermostat shall have an LCD display with temperature, setpoint(s), mode, and status indication. The temperature indication shall be selectable for °F or °C. The thermostat shall provide permanent memory of setpoint(s) without batteries. A fault LED shall be provided to indicate specific fault condition(s). The thermostat shall provide temperature display offset for custom applications. The thermostat shall allow unit to provide better dehumidification with the standard DXM2.6 controller by automatically using lower fan speed on stage-1 cooling (higher latent cooling) as main cooling mode, and automatically shifting to high-speed fan on stage-2 cooling.

c. **CM300 – Multi-stage, Automatic or Manual Changeover, 7-day Programmable with Wi-Fi and Humidity Control (AVB32V02C/C)**
7-day programmable with four occupied/unoccupied periods per day with up to 4-hour override. Multi-stage (3H/2C), automatic or manual changeover with HEATOFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings, Wi-Fi, pre-occupancypurge fan option, night time control of display backlight, bi-color LED indicates a heating or cooling demand, keypad lock, title 24 compliant, openADR2.0b certified with Skyport web portal. Compatible with condensate overflow warning systems – lockout compressor with message on.

d. **CM500 – Color Touchscreen Display, Multistage, Automatic or Manual Changeover, 7-day Programmable with Wi-Fi and Humidity Control (AVB32V03C/C)**

The thermostat shall have color resistive touchscreen display with space temperature, relative humidity, setpoints, mode, status indication and local weather (if connected to Wi-Fi). Residential version shall be 7-day programmable with up to four setpoints per day. Commercial version shall be 7-day programmable with four occupied/unoccupied periods per day with up to 4-hour override. Multi-stage (3H/2C), automatic or manual changeover with HEATOFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings, Wi-Fi, pre-occupancy purge fan option, customizable screen saver and background displays, indicator on display indicates a heating or cooling demand, setpoint lock, title 24 compliant, openADR2.0b certified with Skyport web portal. Compatible with condensate overflow warning systems – lockout compressor with message on the display. Capable of being monitored by 3rd-party software. Compatible with AST014 Wi-Fi remote sensor. Configurator mobile app or web portal for easy setup. Separate dehumidification and humidification setpoints shall be configurable for discreet outputs to a dehumidification option and/or an external humidifier. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12- or 24-hour clock. The thermostat shall provide permanent memory of setpoints without batteries. The thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, dead-band range setting, and inter-stage differential settings. The thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. The thermostat shall provide access to a web portal and mobile app for installer setup for configuring options. The thermostat shall have menu-driven selections for ease of use and programming.

e. Multi-stage Automatic or Manual Changeover Programmable 7-Day (ATP32U03C)

The thermostat shall be 7-day programmable (with up to four setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. The thermostat shall have a blue backlit dot matrix LCD display with temperature, setpoints, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12- or 24-hour clock. Fault identification shall be provided to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. The thermostat shall provide heating-setpoint range limit, cooling-setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. The thermostat shall provide progressive recovery to anticipate the time required to bring space temperature to the next programmed event. The thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. The thermostat shall allow the use of an accessory remote and/or outdoor-temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

f. Multi-stage Automatic or Manual Changeover Programmable 7-Day with Humidity Control (ATP32U04C)

The thermostat shall be 7-day programmable (with up to four setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Separate dehumidification and humidification setpoints shall be configurable for discreet outputs to a dehumidification option and/or an external humidifier. Installer configuration mode shall allow the thermostat to operate with EC fan dehumidification mode via settings changes. The thermostat shall have a blue backlit dot matrix LCD display with temperature, relative humidity, setpoints, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12- or 24-hour clock. Fault identification shall be provided to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. The thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. The thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. The thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

WIRELESS SERVICE TOOL

Allows installation and service personnel to access the configuration and service modes of the unit control.

a. Configure the airflow, pump, or modulating valve operation etc.

b. Diagnose by viewing fault history and operating conditions at the time of fault and manually operating the unit.

DDC SENSORS

ClimateMaster wall-mounted ASW sensor to monitor room temperature and interfaces with the optional ClimaLink Edge integration controller. Choose from the following options:

a. Sensor only with no display

b. Sensor with setpoint adjustment and override

c. Sensor with setpoint adjustment and override, LCD display, status/fault indication

⚠ NOTICE

This product specification document is furnished as a means to copy and paste ClimateMaster product information into project specification. It is not intended to be a complete list of product requirements. This document is an excerpt from the product submittal and must not be used without consulting the complete product submittal. For complete product installation and application requirements, please consult the complete product submittal. ClimateMaster is not responsible for misuse of this document or a failure to adequately review specific requirements in the product catalog.

Revision History

Date	Section	Description
12/02/25	All	Created

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LC3067