



COMMERCIAL  
TRANQUILITY® (SD) CONSOLE SERIES

# PRODUCT CATALOG

Part#: LC3022 | Revised: June 19, 2025

Models: SD 09-18  
60Hz - R-454B

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SD  
09-18

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## THE TRANQUILITY (SD) CONSOLE SERIES

The Tranquility (SD) Console Series unit provides a high-efficiency WSHP “ductless” solution for spaces where individual, quiet control of the heating and cooling system is important. Tranquility SD units are especially ideal where ceiling height and space are limited, or when preserving the integrity of an existing structure. Not only does the Tranquility SD exceed ASHRAE 90.1 efficiency standards, but it also uses R-454B low Global Warming Potential (GWP) refrigerant, making it an extremely environmentally friendly space conditioning product solution.

Available in sizes  $\frac{3}{4}$  ton (2.64 kW) through 1½ tons (5.3 kW) with numerous cabinet, water piping and control choices, the Tranquility SD offers a wide range of units for most any installation. The Tranquility SD has an extended-range refrigerant circuit, capable of ground-loop (geothermal) applications as well as water-loop (boiler-tower) applications. Standard features are many. Microprocessor controls, galvanized steel cabinet, polyester powder-coat paint and TXV refrigerant metering device are just some of the features of the flexible Tranquility SD.

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

Compressors are mounted on specially engineered sound-tested EPDM grommets for quiet operation. Options such as coated air coil, DDC controls, internal pump and factory-installed water solenoid valves allow customized design solutions.

iGate® 2 technology provides technicians an interface into the operation of the system in real time without the need for hard tooling. On-board advanced controls communicate the key operating system temperatures enabling technicians to startup, commission, and service the equipment remotely by smart phone or website via the cloud. Communication can also be done at the unit via an iGate 2 Communicating (AWC) Thermostat or 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.

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

The heart of vFlow is a modulating water valve intelligently controlled with CXM2 Communicating Controls. Water flow is automatically varied based on changes in unit operation and source water temperature to maintain optimum system performance. vFlow allows the use of direct return piping, while eliminating external two-way valves and automatic flow regulators, making vFlow systems inherently self-balancing.

vFlow systems can provide reduced system water pumping power compared to traditional normally closed/open water valves. They also protect the unit against extreme operating conditions, thus extending the life of the compressor and air coil. Since vFlow is built inside the unit, it also saves on installation time and makes for a very clean and compact installation.

The Tranquility (SD) Console Series console water-source heat pumps are designed to meet the challenges of today’s HVAC demands with a low-cost, high-value, ductless solution.

# Features and Options

## FEATURES

- Sizes 09 (¾ ton, 2.64 kW) through 18 (1½ ton, 5.3 kW)
- High-efficiency rotary compressors
- Exceeds ASHRAE 90.1 efficiencies
- Two-piece chassis/cabinet design
- Galvanized-steel cabinet with durable Polar Ice or Bright White powder-coat finish
- Slope-top/aluminum rigid bar supply-air grille
- TXV metering device
- Microprocessor controls with eight standard safety features
- Field-convertable right- or left-hand piping arrangement
- Front or bottom return air configuration
- Hydrophilic coated air coils
- Unit Performance Sentinel performance-monitoring system
- CXM2 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

## OPTIONS

- Refrigerant Detection System (RDS) (optional for all sizes)
- Unit subbase with black-matte or Bright White finish
  - Available with or without fresh-air motorized damper
- UltraQuiet sound-attenuation package
- High efficiency EC blower motors:
  - Entry-level Constant Torque (CT) EC motors provide efficiency at a value (Standard on size 18)
- Digital auto change-over unit-mounted controls with temperature display and high/low fan-speed selection
- Remote-mounted controls
- BACnet, Modbus, and Johnson Controls N2 compatibility options for Building Management Systems (BMS)
- Unit-integrated power disconnect
- Extended-range insulation for geothermal applications
- Autoflow regulators that limit water flow to the unit preventing system overpumping
- Two-way motorized water valves that prevent water flow through the unit when it is not in operation, increasing system-pumping efficiency
- vFlow unit-integrated modulating water valve for maximum water-flow control (replaces traditional motorized water valve and autoflow regulator)
- Internally mounted water pump for single-pipe systems
- 115-1-60 with or without 20A plug and cord
- Locking control door
- No cabinet, chassis-only replacements
- Extended cabinets
- Easy-to-clean rust-prohibitive stainless-steel drain pans

# iGate 2 Communicating Controls Powered by CXM2 Communicating Controls

Models:  
SD  
09-18

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

iGate 2 Communication – Cloud connected, web-enabled information gateway to monitor, control, and diagnose your system.

The Tranquility SD 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.

**Monitor/Configure** – From the myUplink PRO website, mobile app, AWC Thermostat, or Wireless Service Tool, installers can configure the following: Unit family, size, accessory configuration, and demand reduction (optional, to limit unit operation during peak times). Users can look up the current system status: temperature sensor readings and operational status of the blower.

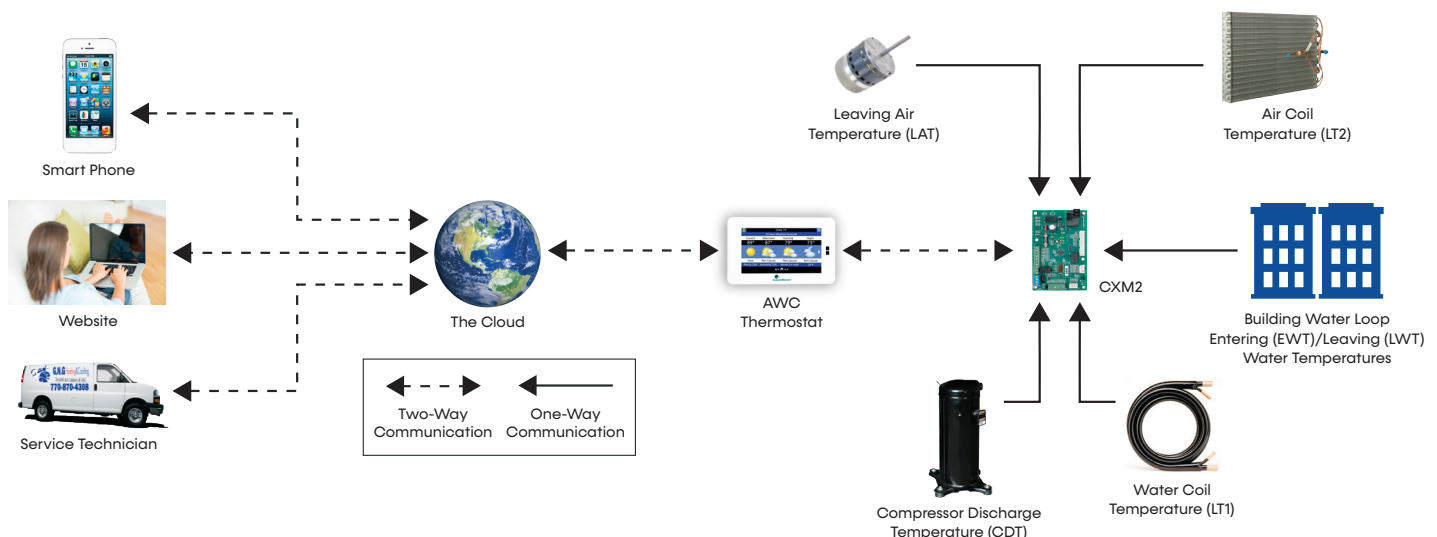
**Precise Control** – The new CXM2 enables intelligent, two-way communication between the CXM2 and smart components like the AWC Thermostat and Wireless Service Tool. CXM2 Communicating Controls uses information received from the temperature sensors to precisely control operation to deliver high efficiency, 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/email with possible causes. Additionally, the current system status can be viewed graphically on the web portal and mobile app.

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

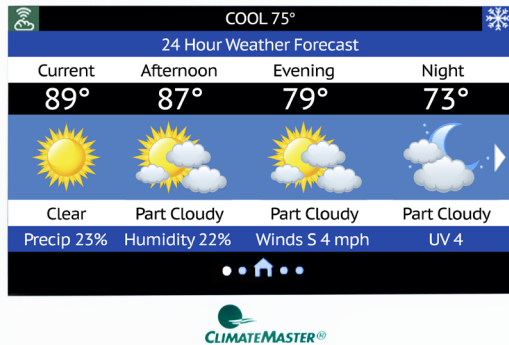


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# iGate 2 Communicating (AWC) Thermostat

Models:  
SD  
09-18

## 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.



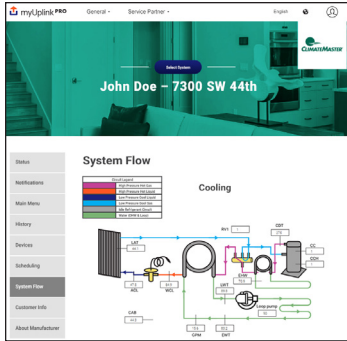
### Revenue Stream

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



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## HVAC Professional | User Experience



iGate 2 establishes a two-way link between the AWC Thermostat and the cloud, adding significant value for both residential and commercial customers. Our new thermostat works with your customers' Tranquility comfort systems to

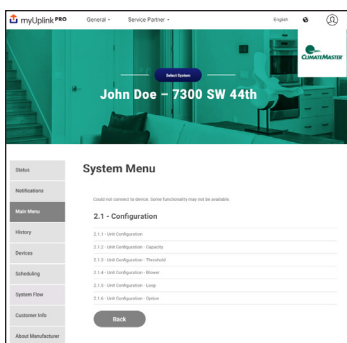
provide the most efficient link between their system and your services. The customizable monitoring from the myUplink PRO web portal or phone app account allows for continuous system monitoring, analysis, repair recognition, and early warnings for potential system faults that are sent to you and your customer.



### Benefits

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

## Homeowner | User Experience



iGate 2 advanced unit controls enable a two-way communication link for critical system information between the unit and the cloud. From any internet connected device or smart phone, building owners can control and monitor their systems

from anywhere in the world. iGate 2 offers building owners peace of mind their systems are operating at peak performance with advanced operational performance issue notifications. HVAC professionals get notifications when systems are operating out of range. They can log in remotely to check system faults, review current operating conditions, and diagnose issues remotely. This gives the HVAC technician the upper hand when showing up to perform service, saving time which in turn, saves money.



### Benefits

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

## vFLOW INTERNAL VARIABLE WATER FLOW

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, CXM2, sensors, and internal water pump/valve to make true variable water flow a reality.

### vFlow OPTION:

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

## vFLOW DELIVERS TWO BENEFITS:

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

1. Superior reliability by varying the water flow to deliver more stable operation.
2. Increased cost savings by varying the flow (and pump watt consumption) to match the unit's mode of operation.

## INTERNAL COMPONENTS

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

## VARIABLE FLOW

vFlow technology enables variable water flow through the unit, with the CXM2 adjusting the motorized valve to maintain an installer-set loop  $\Delta T$ . By controlling the water flow, the system is able to operate at its optimal capacity and efficiency.

The motorized modulating valve delivers variable water flow, controlled by CXM2, based on loop water  $\Delta T$ .



# Selection Procedure

Models:  
SD  
09-18

## Reference Calculations

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

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

Abbreviations	Descriptions
HR	Total heat of rejection, Btuh
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

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## USE THE FOLLOWING SELECTION STEPS

1. Determine the actual heating and cooling loads at the desired dry bulb and wet bulb conditions.
2. Obtain the following design parameters: Entering water temperature, water flow rate in GPM, airflow in CFM, water flow pressure drop and design wet and dry bulb temperatures. Airflow CFM should be between 300 and 450 CFM per ton. Unit water pressure drop should be kept as close as possible to each other to make water balancing easier. Go to the appropriate tables and find the proper indicated water flow and water temperature.
3. Select a unit based on total and sensible cooling conditions. Select a unit which is closest to, but no larger than, the actual cooling load.
4. Enter tables at the design water flow and water temperature. Read the total and sensible cooling capacities. **NOTE: interpolation is permissible, extrapolation is not.**
5. Read the heating capacity. If it exceeds the design criteria it is acceptable. It is quite normal for water-source heat pumps to be selected on cooling capacity only since the heating output is usually greater than the cooling capacity.
6. Determine the correction factors associated with the variable factors of dry bulb and wet bulb.  
  
Corrected Total Cooling =  
tabulated total cooling x wet bulb correction.  
  
Corrected Sensible Cooling =  
tabulated sensible cooling x wet/dry bulb correction.
7. Compare the corrected capacities to the load requirements. Normally if the capacities are within 10% of the loads, the equipment is acceptable. It is better to undersize than oversize, as undersizing improves humidity control, reduces sound levels and extends the life of the equipment.
8. When completed, calculate water temperature rise and assess the selection. If the units selected are not within 10% of the load calculations, then review what effect changing the GPM, water temperature and/or air flow and air temperature would have on the corrected capacities. If the desired capacity cannot be achieved, select the next larger or smaller unit and repeat the procedure. Remember, when in doubt, undersize slightly for best performance.

## EXAMPLE EQUIPMENT SELECTION FOR COOLING

### Step 1: Load Determination

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

Total Cooling ..... 10,200 Btuh  
Sensible Cooling ..... 8,350 Btuh  
Entering Air Temp..... 80°F Dry Bulb / 65°F Wet Bulb

### Step 2: Design Conditions

Similarly, we have also obtained the following design parameters:

Entering Water Temp ..... 90°F  
Water Flow (Based upon 10°F rise in temp) .2.3 GPM  
Airflow ..... 350 CFM

### Steps 3, 4 and 5: HP Selection

After making our preliminary selection (SD12), we enter the tables at design water flow and water temperature and read Total Cooling, Sensible Cooling and Heat of Rejection capacities:

Total Cooling ..... 10,800 Btuh  
Sensible Cooling ..... 9,200 Btuh  
Heat of Rejection ..... 13,900 Btuh

### Steps 6 and 7: Entering Airflow Corrections

Next, we determine our correction factors.

Corrected Values	Table	Ent Air	Airflow	Corrected
Corrected Total Cooling	= 10,800	x 0.976	x 0.954	= 10,056
Corrected Sensible Cooling	= 9,200	x 1.071	x 0.927	= 9,134
Corrected Heat of Rejection	= 13,900	x 0.979	x 0.958	= 13,037

### Step 8: Water Temperature Rise Calculation and Assessment

Actual Temperature Rise ..... 11.3°F

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

# Model Nomenclature

Models:  
SD  
09-18

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
| S | D | M | T | O | 9 | A | G | C | S | O | C | S | P | S |

## PRODUCT NAME

S = R-454B Refrigerant

## MODEL TYPE

D = Console Series

## CABINET, RETURN, AND COLOR

Option	Polar Ice		Bright White	
	Bottom	Front	Bottom	Front
Standard	B	F	D	G
Locking Control Door	L	C	M	Q
Extended Cabinet	E	A	H	J
Extended Cabinet w/ Locking Door	K	S	U	V
No Cabinet	N	T	P	R
No Cabinet w/ Extended Length	1	2	3	4

## SUBBASE

Color	Size	No Damper	Damper
No Subbase	None	N	-
Black	3" <sup>1</sup>	3	-
	5"	5	F
Bright White	3" <sup>1</sup>	4	-
	5"	6	G

## SIZE

09 15  
12 18

## REVISION

A = Current

## VOLTAGE

Voltage	Standard	With Refrigerant Detection System
115-1-60	A	B
208/230-1-60	G	J
265-1-60	E	D

## CONTROLS

CXM2	Unit Mounted		Remote Tstat	Remote Wall Sensor/Internally Mounted MPC
	CM100 Tstat	CM300 Tstat		
Field Connected	A	F	R	L
Disconnect	B	G	S	M
Circuit Breaker	C	H	T	N
Plug and Cord	D	J	U	P

## STANDARD

S = Standard

## BLOWER MOTOR

P = PSC

T = Constant Torque (CT) EC

## COPPER CONNECTIONS

Pipe Location	Right	Left
Sweat	R	L
FPT	S	M
MPT	T	N

## DRAIN PAN/HEAT EXCHANGER OPTIONS

C = Standard Drain Pan, Hydrophilic-Coated Air Coil

S = Stainless Steel Drain Pan, Hydrophilic-Coated Air Coil

## WATER OPTIONS

Option	Description
0	None
M	Motorized Water Valve
C	Modulating Valve, Low System Pressure Drop
7	Internal Secondary Pump
A	AFR 2.25 GPM/ton
W	MWV and AFR 2.25 GPM/ton
F	AFR 3.0 GPM/ton
T	MWV and AFR 3.0 GPM/ton

## CHASSIS OPTIONS

Range	UltraQuiet	
Extended Range	No	E
	Yes	F
Standard	No	S
	Yes	T

1. If a 3-inch subbase is selected, the blower motor's LOW speed tap cannot be utilized.

Use ClimateMaster's selection software at <https://climatemastersolutions.com/eRep/> to configure your Tranquility SD model.

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# Performance Data: ASHRAE/AHRI/ISO 13256-1

Models:  
SD  
09-18

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

Model	Motor Type	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Full Cooling 77°F		Full Heating 32°F	
		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
SD09	PSC	8,500	13.3	11,400	4.5	9,500	21.5	9,500	3.8	8,800	15.0	7,300	3.2
	EC	8,600	14.0	11,300	4.6	9,600	23.0	9,400	4.0	8,900	16.5	7,200	3.3
SD12	PSC	11,300	13.0	14,300	4.5	13,000	19.0	11,800	3.9	11,800	15.0	9,200	3.3
	EC	11,600	13.5	14,500	4.5	13,100	20.0	11,900	3.9	12,200	15.5	9,200	3.3
SD15	PSC	13,700	12.9	17,500	4.7	15,700	18.9	14,600	4.0	14,500	14.8	11,400	3.3
	EC	13,800	13.2	18,000	4.8	16,000	19.4	14,700	4.0	14,700	15.0	11,500	3.3
SD18	EC	17,000	13.0	23,000	4.2	20,000	20.0	19,000	3.8	18,000	15.0	15,000	3.3

Notes:

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

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

Model	Motor Type	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 30°C		Heating 20°C		Cooling 15°C		Heating 10°C		Full Cooling 25°C		Full Heating 0°C	
		Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP
SD09	PSC	2.5	3.9	3.3	4.5	2.8	6.3	2.8	3.8	2.6	4.4	2.1	3.2
	EC	2.5	4.1	3.3	4.6	2.8	6.7	2.8	4.0	2.6	4.8	2.1	3.3
SD12	PSC	3.3	3.8	4.2	4.5	3.8	5.6	3.5	3.9	3.5	4.4	2.7	3.3
	EC	3.4	4.0	4.2	4.5	3.8	5.9	3.5	3.9	3.6	4.5	2.7	3.3
SD15	PSC	4.0	3.8	5.1	4.7	4.6	5.5	4.3	4.0	4.2	4.3	3.3	3.3
	EC	4.0	3.9	5.3	4.8	4.7	5.7	4.3	4.0	4.3	4.4	3.4	3.3
SD18	EC	5.0	3.8	6.7	4.2	5.9	5.9	5.6	3.8	5.3	4.4	4.4	3.3

Notes:

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

# Performance Data: Selection Notes

Models:  
SD  
09-18

For operation in the shaded area when water is used instead of an antifreeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 40°F (4.4°C) when the JW3 jumper is not clipped (see example below). Otherwise, use appropriate levels of a proper antifreeze solution in systems with leaving water temperatures of 40°F (4.4°C) or below and clip the JW3 jumper. 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 outout due to the activation of the Low Temperature Protection. Never clip JW3 for standard-range equipment or systems without antifreeze.

Example:

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

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

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

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

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

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

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

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

Heating - EAT 70°F					
EER	HC	Power kW	HE	LAT	COP
Not Recommended					
8.6	27.4				
8.6	31.0				
8.6	33.0				
8.4	23.3				
8.5	26.3				
8.6	27.9				
8.2	19.8				
4	22.3				
	23.7				
16.7	7.0	0.51	5.3	96.9	4.0
18.8	7.4	0.52	5.6	98.5	4.1
	7.6	0.52	5.8	99.3	4.2
		0.53	6.0		

# Performance Data SD09

Models:  
SD  
09-18

## 300 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/67°F										GPM	WPD		HEATING - EAT 70°F									
		PSI	FT	PSC					EC						PSI	FT	PSC					EC				
				TC	SC	kW	HR	EER	TC	SC	kW	HR	EER				HC	kW	COP	HE	HC	kW	COP	HE		
20	Operation Not Recommended													Operation Not Recommended												
														2.3	6.5	14.9	6.2	0.6	2.9	4.0	6.0	0.6	3.0	4.0		
30	1.1	2.1	4.8	11.0	7.1	0.3	12.1	31.9	11.1	7.1	0.3	12.1	35.3	1.1	2.0	4.6	6.5	0.6	3.0	4.4	6.4	0.6	3.2	4.4		
	1.7	3.7	8.5	11.1	7.1	0.3	12.2	34.9	11.2	7.1	0.3	12.2	38.9	1.7	3.9	9.0	6.8	0.6	3.1	4.6	6.7	0.6	3.2	4.6		
	2.3	5.2	12.1	11.3	7.1	0.3	12.3	38.4	11.4	7.1	0.3	12.3	43.1	2.3	5.8	13.3	7.1	0.6	3.2	4.9	6.9	0.6	3.3	4.9		
40	1.1	1.7	4.0	10.7	7.3	0.4	12.0	27.6	10.8	7.3	0.4	12.0	30.2	1.1	1.5	3.5	7.7	0.7	3.4	5.5	7.6	0.6	3.6	5.5		
	1.7	3.3	7.6	10.9	7.3	0.4	12.1	30.0	11.0	7.3	0.3	12.1	33.0	1.7	3.4	7.8	7.9	0.7	3.5	5.7	7.8	0.6	3.6	5.7		
	2.3	4.9	11.3	11.1	7.4	0.3	12.2	32.7	11.2	7.4	0.3	12.2	36.2	2.3	5.3	12.2	8.2	0.7	3.6	5.9	8.1	0.6	3.7	5.9		
50	1.1	1.4	3.2	10.3	7.4	0.4	11.8	23.6	10.4	7.4	0.4	11.8	25.6	1.1	1.1	2.6	9.0	0.7	3.9	6.6	8.9	0.7	4.0	6.6		
	1.7	3.0	6.9	10.5	7.4	0.4	12.0	25.5	10.6	7.4	0.4	12.0	27.7	1.7	3.0	7.0	9.2	0.7	3.9	6.9	9.1	0.7	4.1	6.9		
	2.3	4.6	10.6	10.7	7.5	0.4	12.1	27.5	10.8	7.5	0.4	12.1	30.1	2.3	4.9	11.3	9.5	0.7	4.0	7.1	9.4	0.7	4.1	7.1		
60	1.1	1.1	2.6	10.0	7.4	0.5	11.7	20.0	10.1	7.4	0.5	11.7	21.5	1.1	0.9	2.0	10.3	0.7	4.3	7.9	10.2	0.7	4.4	7.9		
	1.7	2.7	6.3	10.2	7.4	0.5	11.8	21.5	10.3	7.4	0.4	11.8	23.2	1.7	2.7	6.3	10.5	0.7	4.3	8.1	10.4	0.7	4.5	8.1		
	2.3	4.3	10.0	10.3	7.5	0.4	11.9	23.0	10.4	7.5	0.4	11.9	24.9	2.3	4.6	10.7	10.8	0.7	4.4	8.3	10.7	0.7	4.5	8.3		
70	1.1	0.9	2.1	9.5	7.3	0.6	11.4	17.0	9.6	7.3	0.5	11.4	18.1	1.1	0.6	1.5	11.5	0.7	4.6	9.0	11.4	0.7	4.7	9.0		
	1.7	2.5	5.7	9.7	7.3	0.5	11.6	18.1	9.8	7.3	0.5	11.6	19.3	1.7	2.5	5.8	11.8	0.7	4.6	9.2	11.7	0.7	4.8	9.2		
	2.3	4.1	9.4	9.9	7.4	0.5	11.7	19.3	10.0	7.4	0.5	11.7	20.7	2.3	4.4	10.2	12.0	0.8	4.7	9.5	11.9	0.7	4.8	9.5		
80	1.1	0.7	1.6	9.0	7.1	0.6	11.2	14.3	9.1	7.1	0.6	11.2	15.2	1.1	0.5	1.2	12.6	0.8	4.8	10.0	12.5	0.7	5.0	10.0		
	1.7	2.3	5.3	9.2	7.2	0.6	11.3	15.2	9.3	7.2	0.6	11.3	16.1	1.7	2.3	5.4	12.8	0.8	4.9	10.2	12.7	0.7	5.0	10.2		
	2.3	3.9	8.9	9.4	7.2	0.6	11.4	16.1	9.5	7.2	0.6	11.4	17.2	2.3	4.2	9.7	13.1	0.8	4.9	10.4	13.0	0.8	5.1	10.4		
90	1.1	0.5	1.2	8.4	6.9	0.7	10.9	12.0	8.6	6.9	0.7	10.9	12.7	1.1	0.5	1.2	13.4	0.8	4.9	10.6	13.2	0.8	5.0	10.6		
	1.7	2.1	4.9	8.6	6.9	0.7	11.0	12.7	8.7	6.9	0.7	11.0	13.4	1.7	2.1	4.8	13.6	0.8	4.9	10.9	13.5	0.8	5.1	10.9		
	2.3	3.7	8.5	8.8	6.9	0.7	11.1	13.4	8.9	6.9	0.6	11.1	14.2	2.3	4.0	9.2	13.9	0.8	5.0	11.1	13.8	0.8	5.1	11.1		
100	1.1	0.5	1.2	7.8	6.6	0.8	10.5	10.0	7.9	6.6	0.8	10.5	10.5	Operation Not Recommended												
	1.7	1.9	4.5	8.0	6.6	0.8	10.6	10.6	8.1	6.6	0.7	10.6	11.1													
	2.3	3.5	8.2	8.2	6.6	0.7	10.7	11.2	8.3	6.6	0.7	10.7	11.8													
110	1.1	0.5	1.2	7.1	6.2	0.9	10.0	8.3	7.2	6.2	0.8	10.0	8.7													
	1.7	1.9	4.3	7.3	6.2	0.8	10.1	8.7	7.4	6.2	0.8	10.1	9.2													
	2.3	3.4	7.9	7.5	6.2	0.8	10.2	9.2	7.6	6.2	0.8	10.2	9.7													
120	1.1	0.5	1.2	6.3	5.7	0.9	9.5	6.7	6.4	5.7	0.9	9.5	7.0													
	1.7	1.7	4.0	6.5	5.8	0.9	9.6	7.1	6.6	5.8	0.9	9.6	7.5													
	2.3	3.3	7.7	6.7	5.8	0.9	9.7	7.5	6.8	5.8	0.9	9.7	7.9													

### 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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All performance data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- This table does not reflect corrections for fan and pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3 and high speed for PSC motor.
- For units with modulating water valves, see vFlow performance tables.
- Performance capacities shown in thousands of Btuh.

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# Performance Data SD12

Models:  
SD  
09-18

## 400 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/67°F										GPM	WPD		HEATING - EAT 70°F									
		PSI	FT	PSC					EC						PSI	FT	PSC					EC				
				TC	SC	kW	HR	EER	TC	SC	kW	HR	EER				HC	kW	COP	HE	HC	kW	COP	HE		
20	Operation Not Recommended													Operation Not Recommended												
30	1.5	2.9	6.8	14.1	9.1	0.4	15.6	32.6	14.2	9.1	0.4	15.6	35.3	1.5	2.7	6.2	8.7	0.8	3.3	6.0	8.6	0.7	3.4	6.0		
	2.3	5.0	11.5	14.1	9.1	0.4	15.5	35.5	14.2	9.1	0.4	15.5	38.7	2.3	5.2	12.1	8.9	0.8	3.4	6.3	8.8	0.7	3.5	6.3		
	3.0	7.1	16.3	14.2	9.1	0.4	15.4	39.0	14.3	9.1	0.3	15.4	42.8	3.0	7.8	18.0	9.2	0.8	3.4	6.5	9.1	0.8	3.5	6.5		
40	1.5	2.3	5.3	14.0	9.6	0.5	15.7	28.4	14.1	9.6	0.5	15.7	30.5	1.5	2.0	4.6	10.2	0.8	3.8	7.5	10.1	0.8	3.9	7.5		
	2.3	4.4	10.1	14.1	9.6	0.5	15.6	30.6	14.2	9.6	0.4	15.6	33.0	2.3	4.5	10.4	10.5	0.8	3.8	7.8	10.4	0.8	4.0	7.8		
	3.0	6.4	14.8	14.1	9.6	0.4	15.6	33.2	14.2	9.6	0.4	15.6	36.0	3.0	7.1	16.3	10.8	0.8	3.9	8.0	10.6	0.8	4.0	8.0		
50	1.5	1.8	4.1	13.7	9.8	0.6	15.7	24.3	13.8	9.8	0.5	15.7	25.9	1.5	1.4	3.2	11.8	0.8	4.2	9.0	11.7	0.8	4.3	9.0		
	2.3	3.9	8.9	13.8	9.8	0.5	15.6	25.9	13.9	9.8	0.5	15.6	27.7	2.3	3.9	9.1	12.0	0.8	4.3	9.2	11.9	0.8	4.4	9.2		
	3.0	5.9	13.6	13.8	9.9	0.5	15.5	27.8	13.9	9.9	0.5	15.5	29.8	3.0	6.5	14.9	12.3	0.8	4.3	9.5	12.2	0.8	4.5	9.5		
60	1.5	1.3	3.1	13.2	9.8	0.6	15.4	20.6	13.3	9.8	0.6	15.4	21.7	1.5	0.9	2.1	13.3	0.8	4.6	10.4	13.2	0.8	4.7	10.4		
	2.3	3.4	7.9	13.3	9.8	0.6	15.4	21.8	13.4	9.8	0.6	15.4	23.1	2.3	3.4	7.9	13.5	0.9	4.6	10.6	13.4	0.8	4.8	10.6		
	3.0	5.5	12.6	13.3	9.8	0.6	15.3	23.1	13.4	9.8	0.5	15.3	24.6	3.0	6.0	13.8	13.8	0.9	4.7	10.9	13.7	0.8	4.8	10.9		
70	1.5	1.0	2.3	12.6	9.6	0.7	15.1	17.3	12.7	9.6	0.7	15.1	18.1	1.5	0.5	1.2	14.7	0.9	4.9	11.7	14.6	0.9	5.0	11.7		
	2.3	3.1	7.1	12.6	9.6	0.7	15.0	18.1	12.7	9.6	0.7	15.0	19.1	2.3	3.0	7.0	14.9	0.9	4.9	11.9	14.8	0.9	5.1	11.9		
	3.0	5.1	11.8	12.7	9.7	0.7	14.9	19.2	12.8	9.7	0.6	14.9	20.2	3.0	5.6	12.9	15.2	0.9	5.0	12.1	15.1	0.9	5.1	12.1		
80	1.5	0.7	1.6	11.8	9.3	0.8	14.6	14.4	11.9	9.3	0.8	14.6	15.1	1.5	0.5	1.2	16.0	0.9	5.0	12.8	15.9	0.9	5.2	12.8		
	2.3	2.8	6.4	11.9	9.3	0.8	14.6	15.0	12.0	9.3	0.8	14.6	15.8	2.3	2.7	6.2	16.2	0.9	5.1	13.0	16.1	0.9	5.2	13.0		
	3.0	4.8	11.2	11.9	9.3	0.8	14.5	15.8	12.0	9.3	0.7	14.5	16.6	3.0	5.2	12.1	16.5	0.9	5.1	13.3	16.4	0.9	5.3	13.3		
90	1.5	0.5	1.2	11.0	8.8	0.9	14.2	11.9	11.1	8.8	0.9	14.2	12.5	1.5	0.5	1.2	17.1	1.0	5.1	13.7	17.0	1.0	5.2	13.7		
	2.3	2.6	5.9	11.0	8.9	0.9	14.1	12.4	11.1	8.9	0.9	14.1	13.0	2.3	2.4	5.6	17.4	1.0	5.1	14.0	17.3	1.0	5.3	14.0		
	3.0	4.6	10.6	11.1	8.9	0.9	14.0	13.0	11.2	8.9	0.8	14.0	13.6	3.0	4.9	11.4	17.6	1.0	5.2	14.2	17.5	1.0	5.3	14.2		
100	1.5	0.5	1.2	10.2	8.3	1.0	13.7	9.9	10.3	8.3	1.0	13.7	10.3	Operation Not Recommended												
	2.3	2.3	5.4	10.2	8.3	1.0	13.6	10.3	10.3	8.3	1.0	13.6	10.7													
	3.0	4.4	10.2	10.2	8.4	1.0	13.5	10.7	10.3	8.4	0.9	13.5	11.1													
110	1.5	0.5	1.2	9.3	7.8	1.1	13.2	8.2	9.4	7.8	1.1	13.2	8.5													
	2.3	2.2	5.0	9.3	7.8	1.1	13.1	8.5	9.4	7.8	1.1	13.1	8.8													
	3.0	4.2	9.8	9.4	7.8	1.1	13.0	8.8	9.5	7.8	1.0	13.0	9.2													
120	1.5	0.5	1.2	8.5	7.2	1.2	12.8	6.9	8.6	7.2	1.2	12.8	7.1													
	2.3	2.0	4.7	8.6	7.3	1.2	12.7	7.1	8.7	7.3	1.2	12.7	7.3													
	3.0	4.1	9.4	8.6	7.3	1.2	12.6	7.3	8.7	7.3	1.1	12.6	7.6													

### 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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All performance data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- This table does not reflect corrections for fan and pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3 and high speed for PSC motor.
- For units with modulating water valves, see vFlow performance tables.
- Performance capacities shown in thousands of Btuh.

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# Performance Data SD15

Models:  
SD  
09-18

## 500 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/67°F										GPM	WPD		HEATING - EAT 70°F									
		PSI	FT	PSC					EC						PSI	FT	PSC				EC					
				TC	SC	kW	HR	EER	TC	SC	kW	HR	EER				HC	kW	COP	HE	HC	kW	COP	HE		
20	Operation Not Recommended													3.8	4.9	11.4	Operation Not Recommended									
30	1.9	1.7	3.9	17.8	12.1	0.6	19.8	29.7	17.8	12.1	0.6	19.8	30.9	1.9	1.6	3.8	10.3	1.0	3.1	7.0	10.2	1.0	3.2	7.0		
	2.8	2.9	6.7	18.0	12.2	0.6	19.8	32.5	18.0	12.2	0.5	19.8	33.8	2.8	3.1	7.1	10.6	1.0	3.2	7.3	10.6	1.0	3.2	7.3		
	3.8	4.1	9.5	18.1	12.3	0.5	19.9	35.7	18.2	12.3	0.5	19.9	37.3	3.8	4.5	10.4	10.9	1.0	3.2	7.6	10.9	1.0	3.3	7.6		
40	1.9	1.4	3.2	17.2	12.4	0.7	19.6	25.2	17.3	12.4	0.7	19.6	26.0	1.9	1.3	3.0	12.2	1.0	3.5	8.7	12.1	1.0	3.6	8.7		
	2.8	2.6	6.0	17.4	12.5	0.6	19.6	27.2	17.5	12.5	0.6	19.6	28.2	2.8	2.7	6.3	12.5	1.0	3.6	9.0	12.4	1.0	3.7	9.0		
	3.8	3.8	8.8	17.6	12.5	0.6	19.6	29.6	17.7	12.5	0.6	19.6	30.7	3.8	4.2	9.6	12.8	1.0	3.7	9.3	12.8	1.0	3.7	9.3		
50	1.9	1.1	2.6	16.6	12.4	0.8	19.2	21.5	16.7	12.4	0.8	19.2	22.1	1.9	1.0	2.3	14.0	1.0	3.9	10.4	13.9	1.0	4.0	10.4		
	2.8	2.3	5.4	16.8	12.5	0.7	19.3	23.0	16.8	12.5	0.7	19.3	23.8	2.8	2.4	5.6	14.3	1.1	4.0	10.7	14.2	1.0	4.0	10.7		
	3.8	3.5	8.2	17.0	12.6	0.7	19.3	24.9	17.0	12.6	0.7	19.3	25.7	3.8	3.9	8.9	14.6	1.1	4.0	11.0	14.6	1.0	4.1	11.0		
60	1.9	0.9	2.1	15.8	12.3	0.9	18.8	18.4	15.9	12.3	0.8	18.8	18.9	1.9	0.8	1.8	15.7	1.1	4.3	12.1	15.7	1.1	4.3	12.1		
	2.8	2.1	4.9	16.0	12.3	0.8	18.8	19.6	16.1	12.3	0.8	18.8	20.2	2.8	2.2	5.1	16.1	1.1	4.3	12.3	16.0	1.1	4.4	12.3		
	3.8	3.3	7.7	16.2	12.4	0.8	18.8	21.0	16.3	12.4	0.8	18.8	21.6	3.8	3.6	8.4	16.4	1.1	4.4	12.6	16.3	1.1	4.4	12.6		
70	1.9	0.7	1.7	15.0	12.0	1.0	18.3	15.7	15.1	12.0	0.9	18.3	16.1	1.9	0.6	1.3	17.5	1.1	4.6	13.7	17.4	1.1	4.7	13.7		
	2.8	1.9	4.5	15.2	12.1	0.9	18.3	16.7	15.3	12.1	0.9	18.3	17.1	2.8	2.0	4.6	17.8	1.1	4.6	14.0	17.8	1.1	4.7	14.0		
	3.8	3.2	7.3	15.4	12.1	0.9	18.3	17.8	15.4	12.1	0.8	18.3	18.3	3.8	3.4	7.9	18.2	1.1	4.7	14.3	18.1	1.1	4.8	14.3		
80	1.9	0.6	1.4	14.1	11.6	1.1	17.7	13.4	14.2	11.6	1.0	17.7	13.7	1.9	0.5	1.2	19.3	1.2	4.9	15.4	19.2	1.1	5.0	15.4		
	2.8	1.8	4.2	14.3	11.7	1.0	17.7	14.2	14.4	11.7	1.0	17.7	14.5	2.8	1.8	4.2	19.6	1.2	5.0	15.7	19.6	1.1	5.0	15.7		
	3.8	3.0	7.0	14.5	11.7	1.0	17.8	15.0	14.5	11.7	0.9	17.8	15.4	3.8	3.2	7.5	20.0	1.2	5.0	16.0	19.9	1.1	5.1	16.0		
90	1.9	0.5	1.2	13.2	11.2	1.2	17.1	11.4	13.3	11.2	1.1	17.1	11.7	1.9	0.5	1.2	21.2	1.2	5.3	17.2	21.1	1.2	5.3	17.2		
	2.8	1.7	3.9	13.4	11.2	1.1	17.2	12.0	13.4	11.2	1.1	17.2	12.3	2.8	1.6	3.8	21.5	1.2	5.3	17.5	21.5	1.2	5.4	17.5		
	3.8	2.9	6.7	13.6	11.3	1.1	17.2	12.7	13.6	11.3	1.0	17.2	13.0	3.8	3.1	7.1	21.9	1.2	5.3	17.8	21.8	1.2	5.4	17.8		
100	1.9	0.5	1.2	12.3	10.7	1.3	16.6	9.7	12.3	10.7	1.2	16.6	9.9	Operation Not Recommended												
	2.8	1.6	3.6	12.4	10.7	1.2	16.6	10.2	12.5	10.7	1.2	16.6	10.4													
	3.8	2.8	6.4	12.6	10.8	1.2	16.6	10.7	12.7	10.8	1.2	16.6	11.0													
110	1.9	0.5	1.2	11.3	10.2	1.4	16.1	8.2	11.4	10.2	1.4	16.1	8.3													
	2.8	1.5	3.4	11.5	10.3	1.3	16.1	8.6	11.6	10.3	1.3	16.1	8.8													
	3.8	2.7	6.2	11.7	10.3	1.3	16.1	9.0	11.8	10.3	1.3	16.1	9.2													
120	1.9	0.5	1.2	10.5	9.8	1.5	15.6	6.9	10.5	9.8	1.5	15.6	7.0													
	2.8	1.3	3.1	10.6	9.9	1.5	15.7	7.2	10.7	9.9	1.5	15.7	7.4													
	3.8	2.6	5.9	10.8	9.9	1.4	15.7	7.6	10.9	9.9	1.4	15.7	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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All performance data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- This table does not reflect corrections for fan and pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3 and high speed for PSC motor.
- For units with modulating water valves, see vFlow performance tables.
- Performance capacities shown in thousands of Btuh.

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## 600 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/67°F						GPM	WPD		HEATING - EAT 70°F			
		PSI	FT	EC							PSI	FT	EC			
				TC	SC	kW	HR	EER	HC				kW	COP	HE	
20	Operation Not Recommended								Operation Not Recommended							
									5.0	9.7	22.5	12.2	1.2	3.0	8.1	
30	2.5	4.7	10.9	20.5	14.3	0.7	23.0	27.9	2.5	3.0	6.9	13.5	1.2	3.2	9.3	
	3.8	6.5	15.0	20.8	14.4	0.7	23.2	30.4	3.8	6.0	13.8	13.9	1.2	3.3	9.7	
	5.0	8.3	19.1	21.1	14.5	0.6	23.3	33.5	5.0	8.9	20.6	14.3	1.3	3.3	10.1	
40	2.5	4.1	9.5	20.4	14.8	0.8	23.2	24.6	2.5	2.3	5.4	15.8	1.3	3.6	11.4	
	3.8	5.9	13.6	20.7	14.9	0.8	23.3	26.7	3.8	5.3	12.2	16.2	1.3	3.6	11.8	
	5.0	7.7	17.7	21.0	15.0	0.7	23.5	29.0	5.0	8.3	19.1	16.6	1.3	3.7	12.1	
50	2.5	3.6	8.3	19.9	14.9	0.9	23.1	21.3	2.5	1.8	4.1	18.2	1.4	3.9	13.5	
	3.8	5.4	12.4	20.2	15.0	0.9	23.2	22.9	3.8	4.7	10.9	18.6	1.4	4.0	13.9	
	5.0	7.2	16.6	20.5	15.1	0.8	23.3	24.8	5.0	7.7	17.8	19.0	1.4	4.0	14.2	
60	2.5	3.2	7.3	19.1	14.8	1.1	22.7	18.2	2.5	1.3	3.0	20.5	1.4	4.2	15.6	
	3.8	5.0	11.5	19.4	14.9	1.0	22.8	19.4	3.8	4.3	9.9	20.9	1.5	4.2	15.9	
	5.0	6.8	15.6	19.7	15.0	0.9	22.9	20.9	5.0	7.2	16.7	21.3	1.5	4.3	16.3	
70	2.5	2.9	6.6	18.1	14.4	1.2	22.1	15.4	2.5	0.9	2.1	22.7	1.5	4.4	17.6	
	3.8	4.6	10.7	18.4	14.5	1.1	22.2	16.4	3.8	3.9	9.0	23.1	1.5	4.4	17.9	
	5.0	6.4	14.8	18.7	14.6	1.1	22.4	17.5	5.0	6.8	15.8	23.6	1.5	4.5	18.3	
80	2.5	2.6	5.9	17.0	13.9	1.3	21.5	12.9	2.5	0.6	1.4	24.8	1.6	4.6	19.4	
	3.8	4.3	10.0	17.3	14.0	1.3	21.6	13.7	3.8	3.5	8.2	25.2	1.6	4.6	19.8	
	5.0	6.1	14.2	17.6	14.1	1.2	21.7	14.5	5.0	6.5	15.1	25.6	1.6	4.6	20.1	
90	2.5	2.3	5.3	15.8	13.3	1.5	20.8	10.8	2.5	0.5	1.2	26.7	1.7	4.7	21.0	
	3.8	4.1	9.5	16.1	13.4	1.4	20.9	11.4	3.8	3.2	7.5	27.1	1.7	4.7	21.4	
	5.0	5.9	13.6	16.4	13.5	1.4	21.0	12.1	5.0	6.2	14.4	27.5	1.7	4.8	21.7	
100	2.5	2.1	4.9	14.6	12.7	1.6	20.1	9.0	Operation Not Recommended							
	3.8	3.9	9.0	14.9	12.8	1.6	20.2	9.5								
	5.0	5.7	13.1	15.2	12.9	1.5	20.4	10.1								
110	2.5	1.9	4.4	13.5	12.1	1.8	19.5	7.6								
	3.8	3.7	8.6	13.8	12.2	1.7	19.7	8.0								
	5.0	5.5	12.7	14.1	12.3	1.7	19.8	8.4								
120	2.5	1.7	4.0	12.5	11.6	1.9	19.1	6.5								
	3.8	3.5	8.2	12.8	11.7	1.9	19.3	6.8								
	5.0	5.3	12.3	13.1	11.8	1.8	19.4	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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All performance data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- This table does not reflect corrections for fan and pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3.
- For units with modulating water valves, see vFlow performance tables.
- Performance capacities shown in thousands of Btuh.

# Performance Data SD09 with vFlow

Models:  
SD  
09-18

## 300 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/66.2 °F												GPM	WPD		HEATING - EAT 70°F											
		PSI	FT	PSC						EC							PSI	FT	PSC						EC					
				TC	SC	kW	HR	EER	LWT	TC	SC	kW	HR	EER	LWT				HC	kW	COP	HE	LWT	HC	kW	COP	HE	LWT		
20	0.6	0.9	2.2	10.6	6.6	0.4	11.9	27.6	60.0	10.7	6.6	0.4	11.9	30.2	60.0	1.5	4.0	9.3	5.9	0.6	2.8	3.8	15.0	5.8	0.6	2.9	3.8	15.0		
																0.5	0.7	1.6	5.5	0.6	2.7	3.5	13.0	5.5	0.6	2.8	3.5	13.0		
																0.7	1.1	2.6	4.6	0.6	2.3	2.6	8.0	4.6	0.5	2.5	2.7	8.0		
30	0.8	1.1	2.7	10.7	7.0	0.4	12.0	28.4	60.0	10.8	7.0	0.3	12.0	31.1	60.0	1.9	4.6	10.6	6.9	0.6	3.2	4.8	25.0	6.8	0.6	3.3	4.8	25.0		
																0.4	0.5	1.2	6.7	0.6	3.1	4.5	23.0	6.6	0.6	3.2	4.5	23.0		
																0.4	0.5	1.2	6.0	0.6	2.9	3.9	18.0	5.9	0.6	3.0	3.9	18.0		
40	1.2	1.9	4.5	10.7	7.3	0.4	12.0	28.3	60.0	10.8	7.3	0.3	12.0	31.0	60.0	2.4	5.7	13.1	8.2	0.7	3.6	5.9	35.0	8.1	0.6	3.7	5.9	35.0		
																0.3	0.5	1.2	8.0	0.7	3.5	5.7	33.0	7.9	0.6	3.7	5.7	33.0		
																0.4	0.5	1.2	7.5	0.6	3.4	5.3	28.0	7.4	0.6	3.5	5.3	28.0		
50	2.4	5.1	11.7	10.7	7.5	0.4	12.1	27.7	60.0	10.8	7.5	0.4	12.1	30.3	60.0	2.9	7.0	16.2	9.6	0.7	4.0	7.2	45.0	9.5	0.7	4.2	7.2	45.0		
	2.4	5.1	11.7	10.7	7.5	0.4	12.1	27.7	60.0	10.8	7.5	0.4	12.1	30.3	60.0	0.3	0.5	1.2	9.4	0.7	4.0	7.0	43.0	9.3	0.7	4.1	7.0	43.0		
	1.2	1.5	3.6	10.4	7.4	0.4	11.9	24.0	70.0	10.5	7.4	0.4	11.9	26.1	70.0	0.4	0.5	1.2	9.0	0.7	3.9	6.7	38.0	8.9	0.7	4.0	6.7	38.0		
60	2.6	5.5	12.6	10.4	7.5	0.4	11.9	23.4	69.0	10.5	7.5	0.4	11.9	25.4	69.0	3.4	8.5	19.5	11.0	0.7	4.4	8.5	55.0	10.9	0.7	4.6	8.5	55.0		
	2.4	4.7	10.8	10.4	7.5	0.4	11.9	23.1	70.0	10.5	7.5	0.4	11.9	25.0	70.0	0.3	0.5	1.2	10.8	0.7	4.4	8.3	53.0	10.7	0.7	4.5	8.3	53.0		
	1.2	1.2	2.9	10.0	7.4	0.5	11.7	20.3	80.0	10.1	7.4	0.5	11.7	21.8	80.0	0.3	0.5	1.2	10.4	0.7	4.3	8.0	48.0	10.3	0.7	4.4	8.0	48.0		
70	2.6	5.0	11.6	9.9	7.4	0.5	11.7	19.5	79.0	10.0	7.4	0.5	11.7	21.0	79.0	3.9	9.8	22.7	12.2	0.8	4.7	9.6	65.0	12.1	0.7	4.9	9.6	65.0		
	2.3	4.3	9.9	9.9	7.4	0.5	11.7	19.3	80.0	10.0	7.4	0.5	11.7	20.7	80.0	0.3	0.5	1.2	12.1	0.8	4.7	9.5	63.0	12.0	0.7	4.9	9.5	63.0		
	1.1	0.9	2.2	9.6	7.3	0.6	11.5	17.1	90.0	9.7	7.3	0.5	11.5	18.3	90.0	0.3	0.5	1.2	11.8	0.7	4.6	9.3	58.0	11.7	0.7	4.8	9.3	58.0		
80	2.5	4.7	10.8	9.4	7.2	0.6	11.4	16.3	89.0	9.5	7.2	0.5	11.4	17.4	89.0	2.1	3.6	8.4	13.0	0.8	4.9	10.4	70.0	12.9	0.8	5.0	10.4	70.0		
	2.3	3.9	9.1	9.4	7.2	0.6	11.4	16.1	90.0	9.5	7.2	0.6	11.4	17.2	90.0	0.3	0.5	1.2	13.0	0.8	4.9	10.4	70.0	12.9	0.8	5.0	10.4	70.0		
	1.1	0.7	1.5	9.0	7.1	0.6	11.2	14.3	100.0	9.1	7.1	0.6	11.2	15.2	100.0	0.3	0.5	1.2	12.9	0.8	4.9	10.3	68.0	12.8	0.7	5.0	10.3	68.0		
90	2.5	4.3	9.9	8.9	6.9	0.7	11.1	13.5	99.0	9.0	6.9	0.6	11.1	14.4	99.0	1.1	0.5	1.2	13.3	0.8	4.9	10.6	70.0	13.2	0.8	5.0	10.6	70.0		
	2.2	3.6	8.3	8.8	6.9	0.7	11.1	13.4	100.0	8.9	6.9	0.6	11.1	14.2	100.0															
	1.1	0.5	1.2	8.4	6.9	0.7	10.9	12.0	110.0	8.5	6.9	0.7	10.9	12.7	110.0															
100	2.4	3.9	8.9	8.2	6.6	0.7	10.7	11.2	109.0	8.3	6.6	0.7	10.7	11.8	109.0	0.7	0.5	1.2	13.2	0.8	4.7	10.4	70.0	13.1	0.8	4.9	10.4	70.0		
	2.1	3.2	7.4	8.2	6.6	0.7	10.7	11.1	110.0	8.3	6.6	0.7	10.7	11.7	110.0															
	1.0	0.5	1.2	7.8	6.5	0.8	10.5	9.9	120.0	7.9	6.5	0.8	10.5	10.4	120.0															
110	2.3	3.4	8.0	7.5	6.2	0.8	10.2	9.2	119.0	7.6	6.2	0.8	10.2	9.7	119.0	0.5	0.5	1.2	12.6	0.8	4.4	9.7	70.0	12.4	0.8	4.5	9.7	70.0		
	2.0	2.8	6.6	7.4	6.2	0.8	10.2	9.1	120.0	7.5	6.2	0.8	10.2	9.6	120.0															
	1.0	0.5	1.2	7.0	6.2	0.9	10.0	8.1	130.0	7.1	6.2	0.8	10.0	8.5	130.0															
120	2.2	3.0	7.0	6.7	5.8	0.9	9.7	7.5	129.0	6.8	5.8	0.9	9.7	7.8	129.0	0.3	0.5	1.2	11.1	0.8	3.8	8.2	70.0	11.0	0.8	3.9	8.2	70.0		
	1.9	2.5	5.7	6.6	5.8	0.9	9.7	7.4	130.0	6.7	5.8	0.9	9.7	7.8	130.0															
	0.9	0.5	1.2	6.2	5.7	0.9	9.4	6.5	140.0	6.3	5.7	0.9	9.4	6.9	140.0															

- 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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All catalog data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- Table does not reflect corrections for Fan and Pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3 and high speed for PSC motor.
- Water flow is controlled to maintain a water delta T, with a minimum LWT of 60°F (15.6°C) in cooling and a maximum LWT of 70°F (21.1°C) in heating.
- Performance capacities shown in thousands of Btu/h.

ClimateMaster works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be as described herein. Please contact ClimateMaster's Customer Service Department at 800-299-9747 for specific information on the current design and specifications. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely ClimateMaster's opinion or commendation of its products. The latest version of

Models:  
SD  
09-18

EWT °F	GPM	WPD		COOLING - EAT 80/66.2 °F												GPM	WPD		HEATING - EAT 70°F											
		PSI	FT	PSC						EC							PSI	FT	PSC						EC					
				TC	SC	kW	HR	EER	LWT	TC	SC	kW	HR	EER	LWT				HC	kW	COP	HE	LWT	HC	kW	COP	HE	LWT		
20	0.8	1.7	3.9	13.8	8.2	0.5	15.5	27.7	60.0	13.9	8.2	0.5	15.5	29.7	60.0	1.9	4.9	11.4	7.3	0.8	2.9	4.8	15.0	7.2	0.7	2.9	4.8	15.0		
																0.7	0.8	1.8	7.0	0.7	2.8	4.4	13.0	6.9	0.7	2.8	4.5	13.0		
																0.9	1.5	3.5	6.0	0.7	2.5	3.6	8.0	6.0	0.7	2.6	3.7	8.0		
30	1.0	1.7	3.9	14.1	9.1	0.5	15.7	29.0	60.0	14.2	9.1	0.5	15.7	31.1	60.0	2.6	6.3	14.6	9.1	0.8	3.4	6.4	25.0	9.0	0.8	3.5	6.4	25.0		
																0.5	0.5	1.2	8.8	0.8	3.3	6.2	23.0	8.7	0.7	3.4	6.2	23.0		
																0.6	0.5	1.2	8.2	0.8	3.2	5.6	18.0	8.1	0.7	3.3	5.6	18.0		
40	1.6	2.5	5.8	14.0	9.6	0.5	15.7	29.0	60.0	14.2	9.6	0.5	15.7	31.1	60.0	3.2	7.7	17.9	10.8	0.8	3.9	8.0	35.0	10.7	0.8	4.0	8.0	35.0		
																0.5	0.5	1.2	10.6	0.8	3.9	7.8	33.0	10.5	0.8	4.0	7.8	33.0		
																0.5	0.5	1.2	10.1	0.8	3.7	7.4	28.0	10.0	0.8	3.9	7.4	28.0		
50	3.1	6.2	14.2	13.8	9.9	0.5	15.5	27.8	60.0	13.9	9.9	0.5	15.5	29.8	60.0	3.8	9.2	21.3	12.4	0.8	4.3	9.5	45.0	12.3	0.8	4.5	9.5	45.0		
	3.1	6.2	14.2	13.8	9.9	0.5	15.5	27.8	60.0	13.9	9.9	0.5	15.5	29.8	60.0	0.4	0.5	1.2	12.2	0.8	4.3	9.4	43.0	12.1	0.8	4.4	9.4	43.0		
	1.6	2.0	4.5	13.8	9.8	0.6	15.7	24.7	70.0	13.9	9.8	0.5	15.7	26.3	70.0	0.5	0.5	1.2	11.8	0.8	4.2	9.0	38.0	11.7	0.8	4.4	9.0	38.0		
60	3.4	6.5	15.1	13.3	9.9	0.6	15.3	23.3	69.0	13.4	9.9	0.5	15.3	24.8	69.0	4.4	10.7	24.7	13.9	0.9	4.7	11.0	55.0	13.8	0.8	4.8	11.0	55.0		
	3.1	5.6	13.0	13.3	9.8	0.6	15.3	23.1	70.0	13.4	9.8	0.5	15.3	24.5	70.0	0.4	0.5	1.2	13.8	0.9	4.7	10.9	53.0	13.7	0.8	4.8	10.9	53.0		
	1.5	1.5	3.4	13.3	9.8	0.6	15.4	20.8	80.0	13.4	9.8	0.6	15.4	22.0	80.0	0.4	0.5	1.2	13.4	0.9	4.6	10.5	48.0	13.3	0.8	4.8	10.5	48.0		
70	3.3	6.0	13.8	12.7	9.7	0.7	14.9	19.3	79.0	12.8	9.7	0.6	14.9	20.3	79.0	4.9	12.1	27.9	15.4	0.9	5.0	12.3	65.0	15.3	0.9	5.1	12.3	65.0		
	3.0	5.1	11.7	12.7	9.7	0.7	14.9	19.1	80.0	12.8	9.7	0.6	14.9	20.1	80.0	0.4	0.5	1.2	15.3	0.9	5.0	12.2	63.0	15.2	0.9	5.1	12.2	63.0		
	1.5	1.0	2.4	12.6	9.6	0.7	15.1	17.3	90.0	12.7	9.6	0.7	15.1	18.2	90.0	0.4	0.5	1.2	14.9	0.9	4.9	11.9	58.0	14.8	0.9	5.1	11.9	58.0		
80	3.2</																													

- Interpolation is permissible, extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All catalog data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- Table does not reflect corrections for Fan and Pump watts used in ISO-13256.
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- Performance data is based on EC CT Tap 3 and high speed for PSC motor.
- Water flow is controlled to maintain a water delta T, with a minimum LWT of 60°F (15.6°C) in cooling and a maximum LWT of 70°F (21.1°C) in heating.
- Performance capacities shown in thousands of Btuh.

Models:  
SD  
09-18

EWT °F	GPM	WPD		COOLING - EAT 80/66.2 °F												GPM	WPD		HEATING - EAT 70°F											
		PSI	FT	PSC						EC							PSI	FT	PSC						EC					
				TC	SC	kW	HR	EER	LWT	TC	SC	kW	HR	EER	LWT				HC	kW	COP	HE	LWT	HC	kW	COP	HE	LWT		
20	1.0	0.9	2.0	17.6	11.4	0.7	19.8	26.9	60.0	17.7	11.4	0.6	19.8	27.8	60.0	2.1	2.4	5.5	8.4	0.9	2.6	5.2	15.0	8.4	0.9	2.7	5.3	15.0		
																0.7	0.5	1.2	7.9	0.9	2.5	4.7	13.0	7.9	0.9	2.6	4.8	13.0		
																0.9	0.6	1.3	6.5	0.9	2.2	3.5	8.0	6.6	0.9	2.2	3.7	8.0		
30	1.3	1.0	2.2	17.5	12.0	0.7	19.8	26.4	60.0	17.6	12.0	0.6	19.8	27.3	60.0	3.0	3.3	7.6	10.8	1.0	3.2	7.4	25.0	10.7	1.0	3.2	7.4	25.0		
																0.6	0.5	1.2	10.4	1.0	3.1	7.1	23.0	10.3	1.0	3.2	7.1	23.0		
																0.7	0.5	1.2	9.5	0.9	2.9	6.3	18.0	9.5	0.9	3.0	6.3	18.0		
40	2.0	1.5	3.4	17.3	12.4	0.7	19.6	25.6	60.0	17.4	12.4	0.7	19.6	26.5	60.0	3.7	4.1	9.5	12.8	1.0	3.7	9.3	35.0	12.7	1.0	3.7	9.3	35.0		
																0.5	0.5	1.2	12.5	1.0	3.6	9.1	33.0	12.5	1.0	3.7	9.1	33.0		
																0.6	0.5	1.2	11.8	1.0	3.5	8.4	28.0	11.8	1.0	3.5	8.4	28.0		
50	3.9	3.7	8.5	17.0	12.6	0.7	19.3	24.8	60.0	17.0	12.6	0.7	19.3	25.7	60.0	4.4	4.9	11.3	14.7	1.1	4.0	11.1	45.0	14.6	1.0	4.1	11.1	45.0		
	3.9	3.7	8.5	17.0	12.6	0.7	19.3	24.8	60.0	17.0	12.6	0.7	19.3	25.7	60.0	0.5	0.5	1.2	14.5	1.1	4.0	10.9	43.0	14.4	1.0	4.1	10.9	43.0		
	1.9	1.2	2.7	16.6	12.4	0.8	19.2	21.7	70.0	16.7	12.4	0.7	19.2	22.4	70.0	0.5	0.5	1.2	13.9	1.0	3.9	10.3	38.0	13.8	1.0	4.0	10.3	38.0		
60	4.2	3.9	9.0	16.2	12.4	0.8	18.8	21.2	69.0	16.3	12.4	0.7	18.8	21.8	69.0	5.1	5.7	13.2	16.5	1.1	4.4	12.8	55.0	16.5	1.1	4.5	12.8	55.0		
	3.8	3.4	7.7	16.2	12.4	0.8	18.8	20.9	70.0	16.3	12.4	0.8	18.8	21.5	70.0	0.5	0.5	1.2	16.3	1.1	4.4	12.6	53.0	16.3	1.1	4.4	12.6	53.0		
	1.9	0.9	2.1	15.8	12.3	0.9	18.8	18.4	80.0	15.9	12.3	0.8	18.8	19.0	80.0	0.5	0.5	1.2	15.9	1.1	4.3	12.2	48.0	15.8	1.1	4.4	12.2	48.0		
70	4.1	3.6	8.3	15.4	12.1	0.9	18.3	17.9	79.0	15.4	12.1	0.8	18.3	18.4	79.0	5.8	6.5	15.1	18.4	1.1	4.7	14.5	65.0	18.3	1.1	4.8	14.5	65.0		
	3.7	3.0	7.0	15.3	12.1	0.9	18.3	17.6	80.0	15.4	12.1	0.9	18.3	18.1	80.0	0.5	0.5	1.2	18.2	1.1	4.7	14.3	63.0	18.1	1.1	4.8	14.3	63.0		
	1.8	0.7	1.5	15.0	12.0	1.0	18.3	15.7	90.0	15.1	12.0	0.9	18.3	16.1	90.0	0.5	0.5	1.2	17.8	1.1	4.6	13.9	58.0	17.7	1.1	4.7	13.9	58.0		

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# Performance Data SD18 with vFlow

Models:  
SD  
09-18

## 600 CFM Rated Airflow

EWT °F	GPM	WPD		COOLING - EAT 80/66.2 °F							GPM	WPD		HEATING - EAT 70°F						
		PSI	FT	EC								PSI	FT	EC						
				TC	SC	kW	HR	EER	LWT	HC				kW	COP	HE	LWT			
20	1.1	3.4	7.8	18.9	12.9	0.9	22.0	21.2	60.0	3.0	5.1	11.9	11.6	1.2	2.9	7.6	15.0			
										1.1	0.5	1.2	11.0	1.2	2.8	7.1	13.0			
										1.4	1.4	3.1	9.5	1.1	2.5	5.8	8.0			
30	1.5	3.3	7.7	19.9	14.1	0.9	22.8	23.2	60.0	3.9	6.4	14.8	14.1	1.2	3.3	9.9	25.0			
										0.8	0.5	1.2	13.7	1.2	3.3	9.5	23.0			
										0.9	0.5	1.2	12.6	1.2	3.1	8.5	18.0			
40	2.3	3.9	8.9	20.3	14.8	0.8	23.2	24.2	60.0	4.8	7.9	18.2	16.6	1.3	3.7	12.1	35.0			
										0.7	0.5	1.2	16.2	1.3	3.6	11.8	33.0			
										0.8	0.5	1.2	15.3	1.3	3.5	11.0	28.0			
50	4.7	6.7	15.5	20.4	15.1	0.8	23.3	24.4	60.0	5.7	9.4	21.7	19.1	1.4	4.0	14.3	45.0			
	4.7	6.7	15.5	20.4	15.1	0.8	23.3	24.4	60.0	0.7	0.5	1.2	18.8	1.4	4.0	14.0	43.0			
	2.3	3.3	7.6	19.8	14.9	0.9	23.0	21.0	70.0	0.7	0.5	1.2	18.0	1.4	3.9	13.4	38.0			
60	5.1	6.9	15.9	19.7	15.0	0.9	22.9	20.8	69.0	6.6	11.0	25.4	21.5	1.5	4.3	16.4	55.0			
	4.6	6.2	14.2	19.6	15.0	1.0	22.9	20.5	70.0	0.6	0.5	1.2	21.2	1.5	4.2	16.2	53.0			
	2.3	2.8	6.5	19.0	14.8	1.1	22.6	17.8	80.0	0.7	0.5	1.2	20.6	1.4	4.2	15.7	48.0			
70	5.0	6.4	14.7	18.7	14.6	1.1	22.4	17.4	79.0	7.4	12.5	28.9	23.8	1.6	4.5	18.5	65.0			
	4.5	5.7	13.1	18.6	14.6	1.1	22.3	17.1	80.0	0.6	0.5	1.2	23.6	1.5	4.5	18.3	63.0			
	2.2	2.4	5.6	18.0	14.4	1.2	22.1	15.0	90.0	0.6	0.5	1.2	23.0	1.5	4.4	17.8	58.0			
80	4.8	5.9	13.6	17.5	14.1	1.2	21.7	14.4	89.0	4.0	4.1	9.5	25.4	1.6	4.6	19.9	70.0			
	4.3	5.2	12.0	17.5	14.1	1.2	21.7	14.2	90.0	0.6	0.5	1.2	25.4	1.6	4.6	19.9	70.0			
	2.1	2.0	4.7	16.8	13.9	1.3	21.4	12.5	100.0	0.6	0.5	1.2	25.2	1.6	4.6	19.7	68.0			
90	4.7	5.4	12.5	16.3	13.5	1.4	21.0	12.0	99.0	2.1	0.5	1.2	26.4	1.6	4.7	20.8	70.0			
	4.2	4.7	10.9	16.3	13.5	1.4	21.0	11.8	100.0											
	2.1	1.7	3.9	15.6	13.2	1.5	20.7	10.4	110.0											
100	4.5	5.0	11.5	15.1	12.8	1.5	20.3	9.9	109.0	1.4	0.5	1.2	27.2	1.7	4.8	21.5	70.0			
	4.1	4.3	10.0	15.1	12.8	1.5	20.3	9.8	110.0											
	2.0	1.4	3.3	14.4	12.6	1.7	20.0	8.7	120.0											
110	4.4	4.6	10.7	14.0	12.2	1.7	19.8	8.3	119.0	1.1	0.5	1.2	27.7	1.7	4.8	21.9	70.0			
	3.9	4.0	9.2	13.9	12.2	1.7	19.7	8.2	120.0											
	1.9	1.1	2.6	13.2	12.0	1.8	19.4	7.3	130.0											
120	4.3	4.3	10.0	13.0	11.7	1.8	19.4	7.1	129.0	0.9	0.5	1.2	27.7	1.7	4.8	21.9	70.0			
	3.9	3.7	8.6	13.0	11.7	1.9	19.3	7.0	130.0											
	1.9	0.9	2.0	12.3	11.5	2.0	19.0	6.2	140.0											

- 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.
- All performance data is based upon the lower voltage of dual-voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- All catalog data taken at nominal GPM and Rated CFM.
- All performance data is based upon 0.0-inch external static.
- See performance correction tables for operating conditions other than those listed above.
- Table does not reflect corrections for Fan and Pump watts used in ISO-13256.
- Operation below 40°F (4.4°C) EWT is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.6°C) EWT requires optional insulated water/refrigerant circuit.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), you must use antifreeze and clip the JW3 jumper on the CXM2. 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. Never clip JW3 for standard range equipment or systems without antifreeze.
- Performance data is based on EC CT Tap 3.
- Water flow is controlled to maintain a water delta T, with a minimum LWT of 60°F (15.6°C) in cooling and a maximum LWT of 70°F (21.1°C) in heating.
- Performance capacities shown in thousands of Btuh.

Entering Air Cooling Corrections

Full Load Cooling Corrections										
Ent Air WB F	Total Clg Cap	Sens Clg Cap Multipliers- Entering DB F							Power	Heat of Rejection
		65	70	75	80	80.6	85	90		
60	0.926	0.632	0.820	1.004	1.182	*	*	*	1.003	0.931
65	0.976		0.615	0.856	1.071	1.095	1.260	*	1.000	0.979
66	0.990		0.555	0.807	1.030	1.055	1.224	*	1.000	0.992
67	1.000		0.507	0.765	1.000	1.017	1.188	*	1.000	1.000
70	1.039			0.620	0.865	0.893	1.076	1.252	1.001	1.032
75	1.113				0.566	0.597	0.805	1.013	1.002	1.089

- \* Sensible Capacity equals Total Capacity.
- AHRI/ISO/ASHRAE 13256-1 uses entering air conditions of Cooling - 80.6°F DB/ 66.2°F WB, and Heating - 68°F DB/ 59°F WB entering air temperature.
- Entering DB temperature range is based on operating limits, not on commission limits.
- Cooling air corrections based on rated airflow.

Entering Air Heating Corrections

Full EAT Heating Corrections			
Ent Air DB °F	Heating Capacity	Power	Heat of Extraction
60	1.036	0.910	1.068
65	1.019	0.955	1.035
68	1.008	0.982	1.014
70	1.000	1.000	1.000
75	0.980	1.046	0.964
80	0.960	1.091	0.927

- Heating air corrections based on rated airflow.

Airflow Correction Table

Full Airflow Corrections							
Airflow	Heating			Cooling			
	Heating Capacity	Heating Power	Heat of Extraction	Total Capacity	Sensible Capacity	Power	Heat of Rejection
73	0.946	0.898	0.971	0.951	0.967	1.084	0.937
78	0.954	0.927	0.976	0.958	0.976	1.062	0.954
83	0.964	0.953	0.981	0.967	0.983	1.042	0.968
89	0.974	0.974	0.987	0.977	0.990	1.026	0.981
94	0.987	0.990	0.993	0.988	0.995	1.012	0.991
100	1.000	1.000	1.000	1.000	1.000	1.000	1.000
106	1.015	1.002	1.008	1.014	1.004	0.991	1.007
111	1.031	0.996	1.016	1.028	1.006	0.985	1.011

- Cooling and heating air corrections based on rated airflow.

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## Motorized Water Valve

Model	Max. Close-off Pressure PSIG (kPa)	Cv	GPM	Pressure Drop Adder PSIG	Head (FT)
SD09	150 (1,034)	4.9	1.1	0.1	0.1
			1.7	0.1	0.3
			2.3	0.2	0.5
SD12			1.5	0.1	0.2
			2.3	0.2	0.5
			3.0	0.4	0.9
SD15			1.9	0.1	0.3
			2.8	0.3	0.8
			3.8	0.6	1.4
SD18		10.3	2.5	0.1	0.1
			3.8	0.1	0.3
			5.0	0.2	0.5

## Modulating Water Valve

Model	Max. Close-off Pressure PSIG (kPa)	Cv	GPM	Pressure Drop Adder PSIG	Head (FT)
SD09	200 (1,379)	3	1.1	0.1	0.3
			1.7	0.3	0.7
			2.3	0.6	1.3
SD12			1.5	0.3	0.6
			2.3	0.6	1.3
			3.0	1.0	2.3
SD15			1.9	0.4	0.9
			2.8	0.9	2.0
			3.8	1.6	3.6
SD18		4.7	2.5	0.3	0.7
			3.8	0.6	1.5
			5.0	1.1	2.6

## Optional Auto Flow Valve

Model	2.25 GPM/ton (0.142 LPS/ton)	3 GPM/ton (0.189 LPS/ton)
SD09	2.0 (0.126)	2.5 (0.158)
SD12	2.5 (0.158)	3.0 (0.189)
SD15	3.0 (0.189)	3.5 (0.221)
SD18	3.5 (0.221)	4.0 (0.252)

## Unit-Mounted Thermostat Options

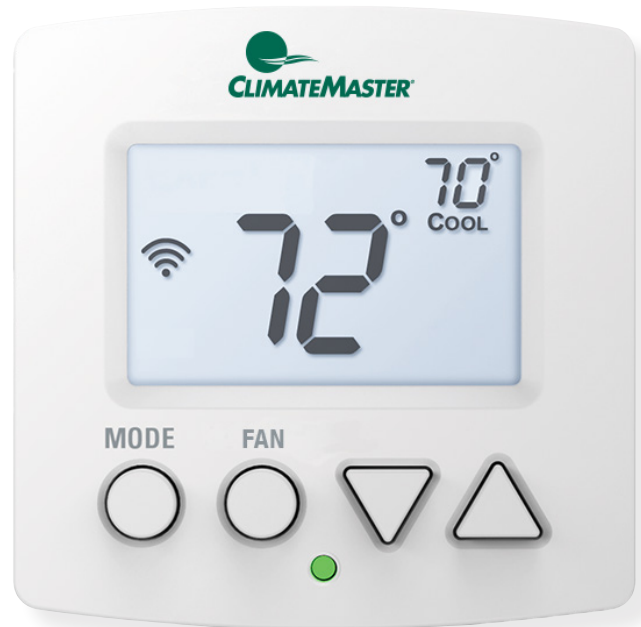
Models:  
SD  
09-18



**CM100  
(ATA32V01)**

- Up to three heat and two cool stages
- For use with water-source heat pumps
- Configurable auto or manual changeover
- Time clock with day of week

**NOTE: Additional unit-mounted thermostat options can be ordered via special quote request.**



**CM300  
(AVB32V02R)**

- 7-day Programmable
- Wi-Fi enabled
- Humidity control
- For use with water-source heat pumps or gas/electric systems
- Mobile and web apps available for remote monitoring
- California Title 24 compliant

# Antifreeze Correction Table

Models:  
SD  
09-18

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

Table continued on next page

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# Antifreeze Correction Table

Models:  
SD  
09-18

Table continued from previous page

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

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# Blower Performance

Models:  
SD  
09-18

## PSC Blower Performance

Model	Rated Airflow CFM	SCFM		
		Low Speed	Medium Speed	High Speed
SD09	300	225	300	330
SD12	400	225	300	400
SD15	500	370	425	500

- Blower performance data is based on the lowest nameplate voltage setting.
- Blower performance is based on a wet coil with clean 1-inch filter.
- Blower performance is based on operating conditions of 80°F DB and 67°F WB.
- CFM Tolerance is  $\pm 7\%$
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

## CT EC Blower Performance

Model	Rated Airflow CFM	SCFM			
		TAP1	TAP2	TAP3	TAP4
SD09	300	165	225	300	375
SD12	400	315	350	400	490
SD15	500	365	440	500	525
SD18	600	450	525	600	650

- Blower performance data is based on the lowest nameplate voltage setting.
- Blower performance is based on a wet coil with clean 1-inch filter.
- Blower performance is based on operating conditions of 80°F DB and 67°F WB.
- CFM Tolerance is  $\pm 7\%$
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

# Electrical Data PSC Blower Motor

Models:  
SD  
09-18

## No Internal Secondary Pump

MODEL	VOLTAGE CODE	VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR				BLOWER MOTOR		TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/HACR AMP
				MCC	RLA	LRA	Qty	FLA	HP			
SD09	A.B.	115-1-60	104/126	12.5	8.0	50.0	1	1.0	1/25	9.0	11.0	15
	G.J.	208/230-1-60	187/252	6.2	4.0	22.0	1	0.5	1/25	4.5	5.5	15
	E.D.	265-1-60	249/291	6.2	4.0	23.0	1	0.3	1/30	4.3	5.3	15
SD12	A.B.	115-1-60	104/126	13.4	8.6	57.0	1	1.0	1/14	9.6	11.7	20
	G.J.	208/230-1-60	187/252	7.2	4.6	25.0	1	0.5	1/14	5.1	6.3	15
	E.D.	265-1-60	249/291	6.1	3.9	21.0	1	0.4	1/14	4.3	5.3	15
SD15	G.J.	208/230-1-60	187/252	8.1	5.2	26.0	1	0.7	1/8	5.9	7.2	15
	E.D.	265-1-60	249/291	7.4	4.7	21.0	1	0.7	1/8	5.4	6.6	15

## With Internal Secondary Pump

MODEL	VOLTAGE CODE	VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR				Pump FLA	BLOWER MOTOR		TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/HACR AMP
				MCC	RLA	LRA	Qty		FLA	HP			
SD09	A.B.	115-1-60	104/126	12.5	8.0	50.0	1	0.8	1.0	1/25	9.8	11.8	15
	G.J.	208/230-1-60	187/252	6.2	4.0	22.0	1	0.9	0.5	1/25	5.4	6.3	15
	E.D.	265-1-60	249/291	6.2	4.0	23.0	1	0.7	0.3	1/30	5.0	6.0	15
SD12	A.B.	115-1-60	104/126	13.4	8.6	57.0	1	1.5	1.0	1/14	11.0	13.2	20
	G.J.	208/230-1-60	187/252	7.2	4.6	25.0	1	1.2	0.5	1/14	6.3	7.5	15
	E.D.	265-1-60	249/291	6.1	3.9	21.0	1	1.4	0.4	1/14	5.7	6.7	15
SD15	G.J.	208/230-1-60	187/252	8.1	5.2	26.0	1	1.2	0.7	1/8	7.1	8.4	15
	E.D.	265-1-60	249/291	7.4	4.7	21.0	1	1.4	0.7	1/8	6.8	7.9	15

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# Electrical Data CT EC Blower Motor

Models:  
SD  
09-18

## No Internal Secondary Pump

MODEL	VOLTAGE CODE	VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR				BLOWER MOTOR		TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/HACR AMP
				MCC	RLA	LRA	Qty	FLA	HP			
SD09	A.B.	115-1-60	104/126	12.5	8.0	50.0	1	3.5	1/4	11.5	13.5	20
	G.J.	208/230-1-60	187/252	6.2	4.0	22.0	1	2.4	1/4	6.3	7.3	15
	E.D.	265-1-60	249/291	6.2	4.0	23.0	1	2.3	1/4	6.2	7.2	15
SD12	A.B.	115-1-60	104/126	13.4	8.6	57.0	1	3.5	1/4	12.1	14.3	20
	G.J.	208/230-1-60	187/252	7.2	4.6	25.0	1	2.4	1/4	7.0	8.1	15
	E.D.	265-1-60	249/291	6.1	3.9	21.0	1	2.3	1/4	6.2	7.1	15
SD15	G.J.	208/230-1-60	187/252	8.1	5.2	26.0	1	2.4	1/4	7.6	8.9	15
	E.D.	265-1-60	249/291	7.4	4.7	21.0	1	2.3	1/4	7.0	8.2	15
SD18	G.J.	208/230-1-60	187/252	14.3	9.2	35.0	1	2.4	1/4	11.5	13.8	20
	E.D.	265-1-60	249/291	10.2	6.5	40.0	1	2.3	1/4	8.8	10.4	15

## With Internal Secondary Pump

MODEL	VOLTAGE CODE	VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR				Pump FLA	BLOWER MOTOR		TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/HACR AMP
				MCC	RLA	LRA	Qty		FLA	HP			
SD09	A.B.	115-1-60	104/126	12.5	8.0	50.0	1	0.8	3.5	1/4	12.4	14.4	20
	G.J.	208/230-1-60	187/252	6.2	4.0	22.0	1	0.9	2.4	1/4	7.2	8.2	15
	E.D.	265-1-60	249/291	6.2	4.0	23.0	1	0.7	2.3	1/4	7.0	7.9	15
SD12	A.B.	115-1-60	104/126	13.4	8.6	57.0	1	1.5	3.5	1/4	13.6	15.7	20
	G.J.	208/230-1-60	187/252	7.2	4.6	25.0	1	1.2	2.4	1/4	8.2	9.3	15
	E.D.	265-1-60	249/291	6.1	3.9	21.0	1	1.4	2.3	1/4	7.5	8.5	15
SD15	G.J.	208/230-1-60	187/252	8.1	5.2	26.0	1	1.2	2.4	1/4	8.7	10.0	15
	E.D.	265-1-60	249/291	7.4	4.7	21.0	1	1.4	2.3	1/4	8.4	9.5	15
SD18	G.J.	208/230-1-60	187/252	14.3	9.2	35.0	1	1.2	2.4	1/4	12.7	15.0	20
	E.D.	265-1-60	249/291	10.2	6.5	40.0	1	1.4	2.3	1/4	10.1	11.8	15

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## SD Console Series

Unit Size	09	12	15	18
Number of Refrigerant Circuits	1			
Factory Charge R-454B (oz) [kg]	18 [0.51]	22 [0.62]	26 [0.74]	27 [0.77]
Refrigerant Leak Detection System	Optional			
Refrigerant Leak Detection Sensors	1			
Water Connection Size				
O.D. Sweat (in) [mm]	5/8 [15.9]			7/8 [22.2]
Optional FPT Fittings (in)	1/2 [12.7]			3/4 [19.1]
Optional MPT Fittings (in)	1/2 [12.7]			3/4 [19.1]
Condensate Connection Size				
I.D. Vinyl Hose (In) [mm]	5/8 [15.9]			
Filter Size				
Bottom Return (in)	10 x 30 x 1			10 x 36 x 1
Front Return (In)	7 x 29.5 x 0.125			7 x 35.5 x 0.125
Weight - Operating, (lbs) [kg]	184 [83.5]	187 [84.8]	199 [90.3]	224 [101.6]
Weight - Packaged, (lbs) [kg]	211 [95.7]	214 [97.1]	226 [102.5]	251 [113.9]

- FPT = Female Pipe Thread, MPT = Male Pipe Thread

## Unit Maximum Water Working Pressure

Options	Max Pressure PSIG [kPa]
Base Unit	300 (2,068)
Internal Secondary Pump (ISP)	150 (1,034)
Internal Motorized Water Valve (MWV)	150 (1,034)
Internal Modulating Water Valve (MOD)	200 (1,379)
Internal Auto Flow Valve	300 (2,068)

- Use the lowest maximum pressure rating when multiple options are combined.
- Optional hoses have a pressure rating of 400 PSIG (2,758 kPa)
- When AFR and MWV are used together, the max working pressure of the system assumes the pressure of the lesser component's pressure

## Cabinet and Shipping Dimensions (in)

Model size	Cabinet Configuration	Overall Cabinet (in)			Shipping Dimensions (in)		
		Depth/Length	Width	Height	Depth/Length	Width	Height
SD09-15	Standard Cabinet	12.0	48.0	21.0	18.0	60.0	31.0
	Standard Cabinet with 3" Subbase	12.0	48.0	24.0	18.0	60.0	34.0
	Standard Cabinet with 5" Subbase	12.0	48.0	26.0	18.0	60.0	36.0
	Extended Cabinet	12.0	54.0	21.0	18.0	60.0	31.0
	Extended Cabinet with 3" Subbase	12.0	54.0	24.0	18.0	60.0	34.0
	Extended Cabinet with 5" Subbase	12.0	54.0	26.0	18.0	60.0	36.0
SD18	Standard Cabinet	12.0	54.0	21.0	18.0	60.0	31.0
	Standard Cabinet with 5" Subbase	12.0	54.0	26.0	18.0	60.0	36.0
	Extended Cabinet	12.0	60.0	21.0	18.0	60.0	31.0
	Extended Cabinet with 5" Subbase	12.0	60.0	26.0	18.0	60.0	36.0

- See Revit files for additional dimensional details
- The condensate plastic drain pan uses a 3/4-inch rubber schedule 40/80 PVC coupling

## Cabinet and Shipping Dimensions (cm)

Model size	Cabinet Configuration	Overall Cabinet (cm)			Shipping Dimensions (cm)		
		Depth/Length	Width	Height	Depth/Length	Width	Height
SD09-15	Standard Cabinet	30.5	121.9	53.3	45.7	152.4	78.7
	Standard Cabinet with 3" Subbase	30.5	121.9	60.9	45.7	152.4	86.3
	Standard Cabinet with 5" Subbase	30.5	121.9	66.0	45.7	152.4	91.4
	Extended Cabinet	30.5	137.2	53.3	45.7	152.4	78.7
	Extended Cabinet with 3" Subbase	30.5	137.2	60.9	45.7	152.4	86.3
	Extended Cabinet with 5" Subbase	30.5	137.2	66.0	45.7	152.4	91.4
SD18	Standard Cabinet	30.5	137.2	53.3	45.7	152.4	78.7
	Standard Cabinet with 5" Subbase	30.5	137.2	66.0	45.7	152.4	91.4
	Extended Cabinet	30.5	152.4	53.3	45.7	152.4	78.7
	Extended Cabinet with 5" Subbase	30.5	152.4	66.0	45.7	152.4	91.4

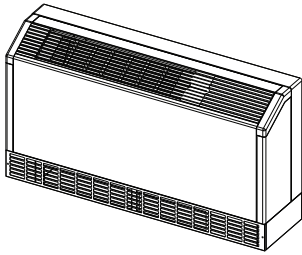
- See Revit files for additional dimensional details
- The condensate plastic drain pan uses a 3/4-inch rubber schedule 40/80 PVC coupling

# Standard Console Dimensions SD09-15 Bottom Return

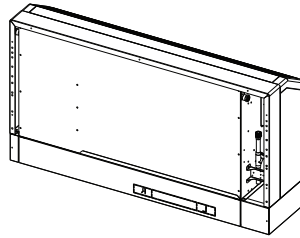
Models:  
SD  
09-18

**BOTTOM RETURN LEFT-HAND PIPING**

ISO FRONT

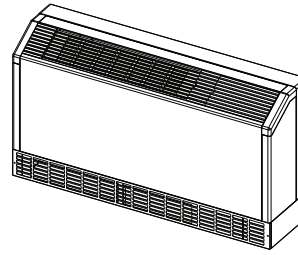


ISO BACK

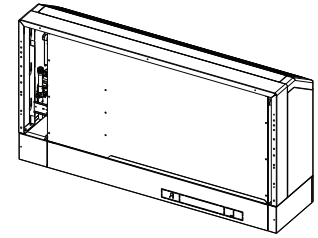


**BOTTOM RETURN RIGHT-HAND PIPING**

ISO FRONT



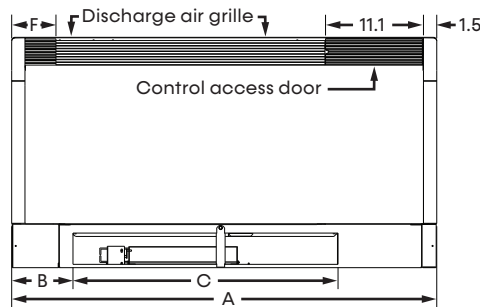
ISO BACK



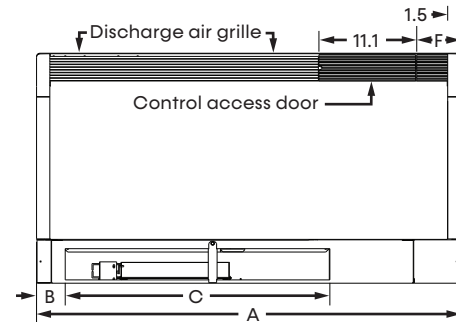
LEFT SIDE



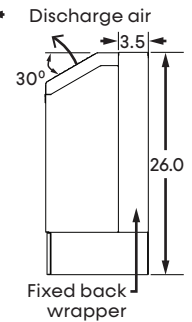
FRONT (LEFT-HAND PIPING)



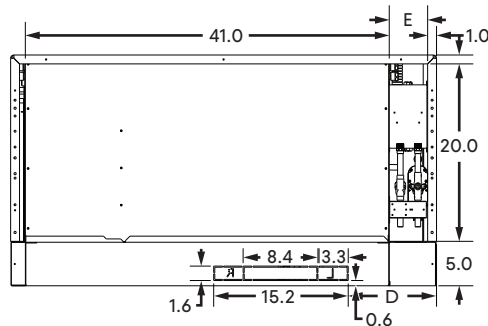
FRONT (RIGHT-HAND PIPING)



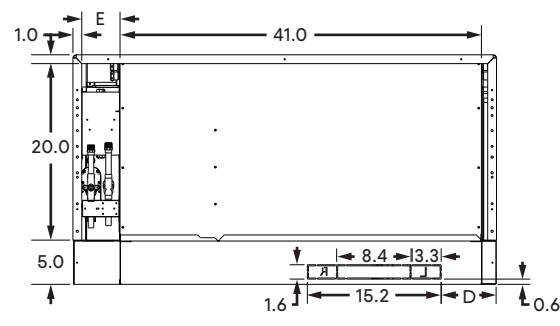
RIGHT SIDE



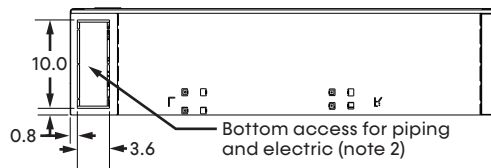
REAR



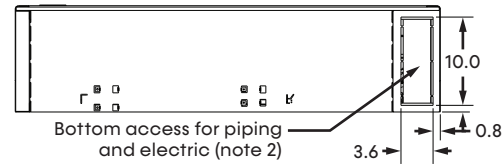
REAR



BOTTOM



BOTTOM



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.
8. Shown with optional 5-inch subbase.

## SD09-15: Bottom Return, Left-Hand Piping

Dimension	A	B	C	D	E	F
Standard Unit - in (cm)	48.0 (121.9)	6.9 (17.5)	29.9 (75.9)	9.9 (25.1)	4.3 (10.9)	5.0 (12.7)

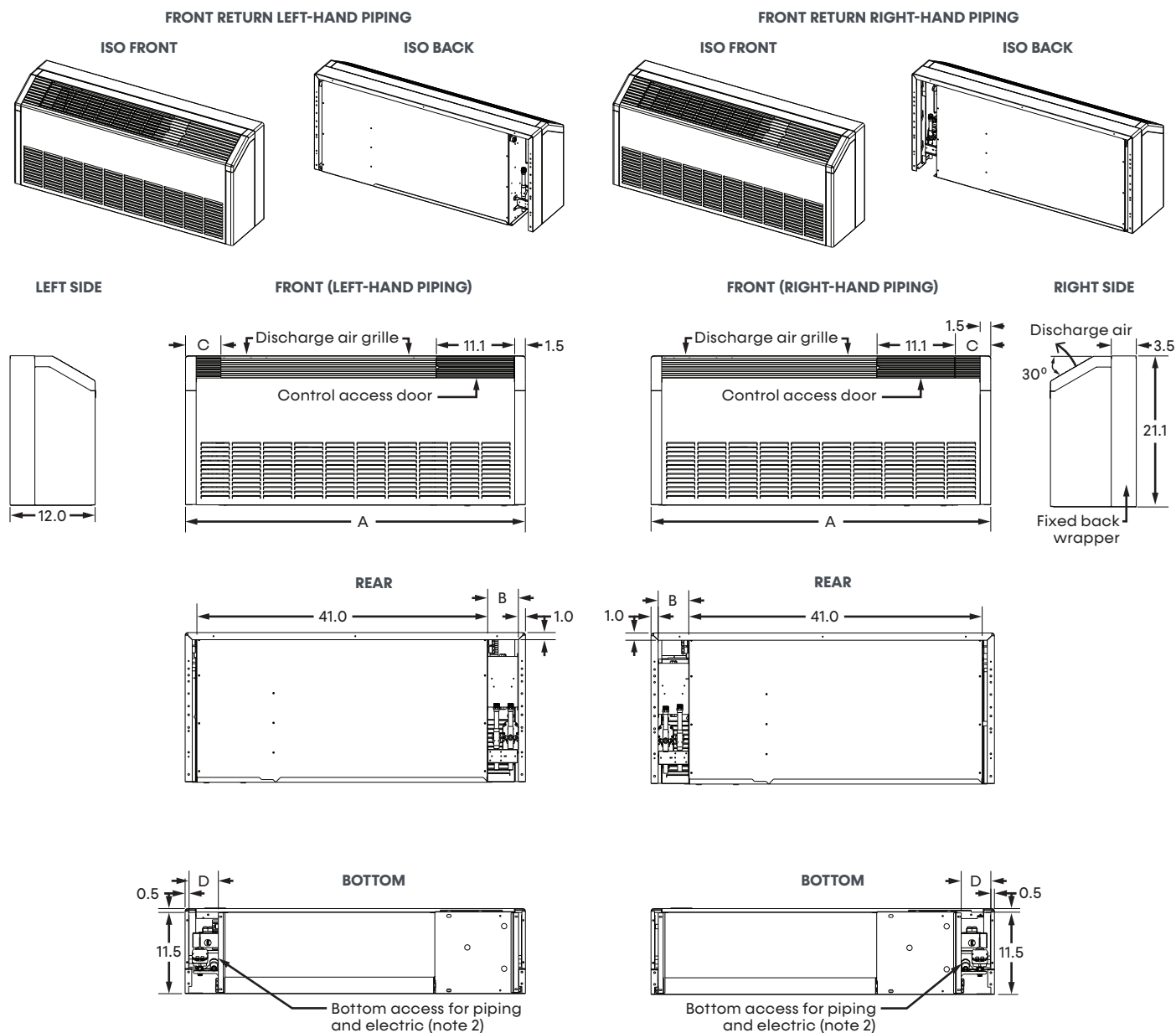
## SD09-15: Bottom Return, Right-Hand Piping

Dimension	A	B	C	D	E	F
Standard Unit - in (cm)	48.0 (121.9)	3.2 (8.1)	29.9 (75.9)	6.2 (15.7)	4.3 (10.9)	5.0 (12.7)

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# Standard Console Dimensions: SD09-15 Front Return

Models:  
SD  
09-18



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. To access filters on front return units, lift up then remove the cabinet.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

## SD09-15: Front Return, Left-Hand Piping

Dimension	A	B	C	D
Standard Unit - in (cm)	48.0 (121.9)	4.3 (10.9)	5.0 (12.7)	4.1 (10.4)

## SD09-15: Front Return, Right-Hand Piping

Dimension	A	B	C	D
Standard Unit - in (cm)	48.0 (121.9)	4.3 (10.9)	5.0 (12.7)	4.1 (10.4)

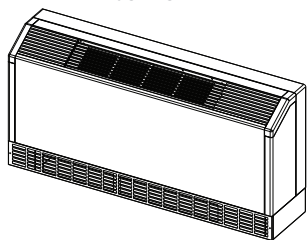
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# Standard Console Dimensions: SD18 Bottom Return

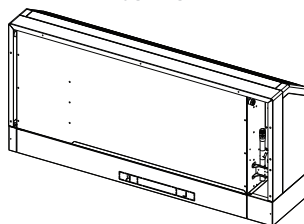
Models:  
SD  
09-18

**BOTTOM RETURN LEFT-HAND PIPING**

**ISO FRONT**

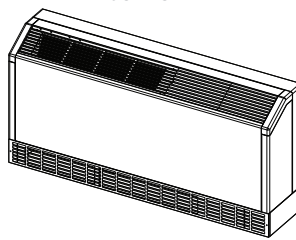


**ISO BACK**

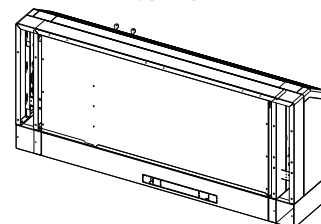


**BOTTOM RETURN RIGHT-HAND PIPING**

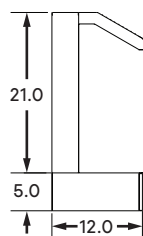
**ISO FRONT**



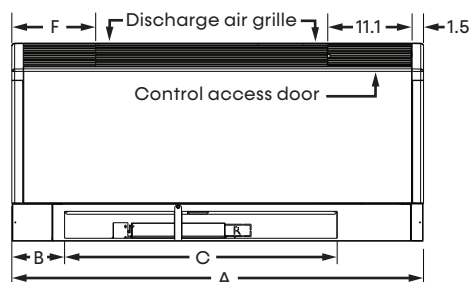
**ISO BACK**



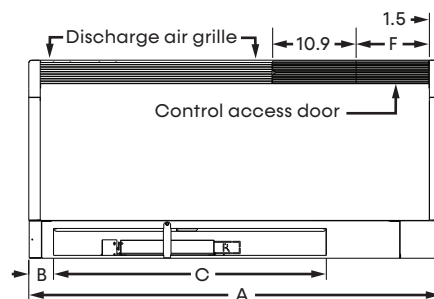
**LEFT SIDE**



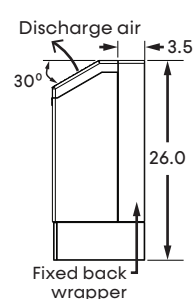
**FRONT (LEFT-SIDE PIPING)**



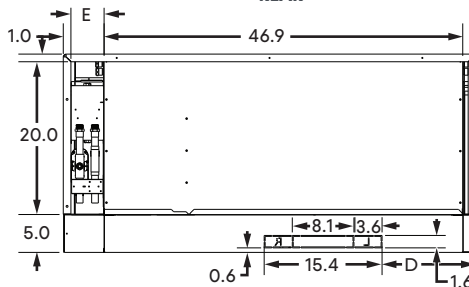
**FRONT (RIGHT-SIDE PIPING)**



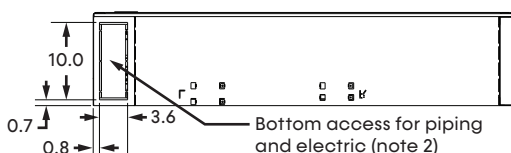
**RIGHT SIDE**



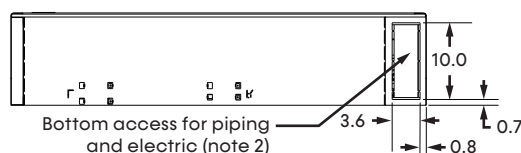
**REAR**



**BOTTOM**



**BOTTOM**



**Notes:**

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.
8. Shown with optional 5-inch subbase.

**SD18: Bottom Return, Left-Hand Piping**

Dimension	A	B	C	D	E	F
Standard Unit - in (cm)	54.0 (137.2)	6.9 (17.5)	35.8 (90.9)	15.9 (40.4)	4.3 (10.9)	11.0 (27.9)

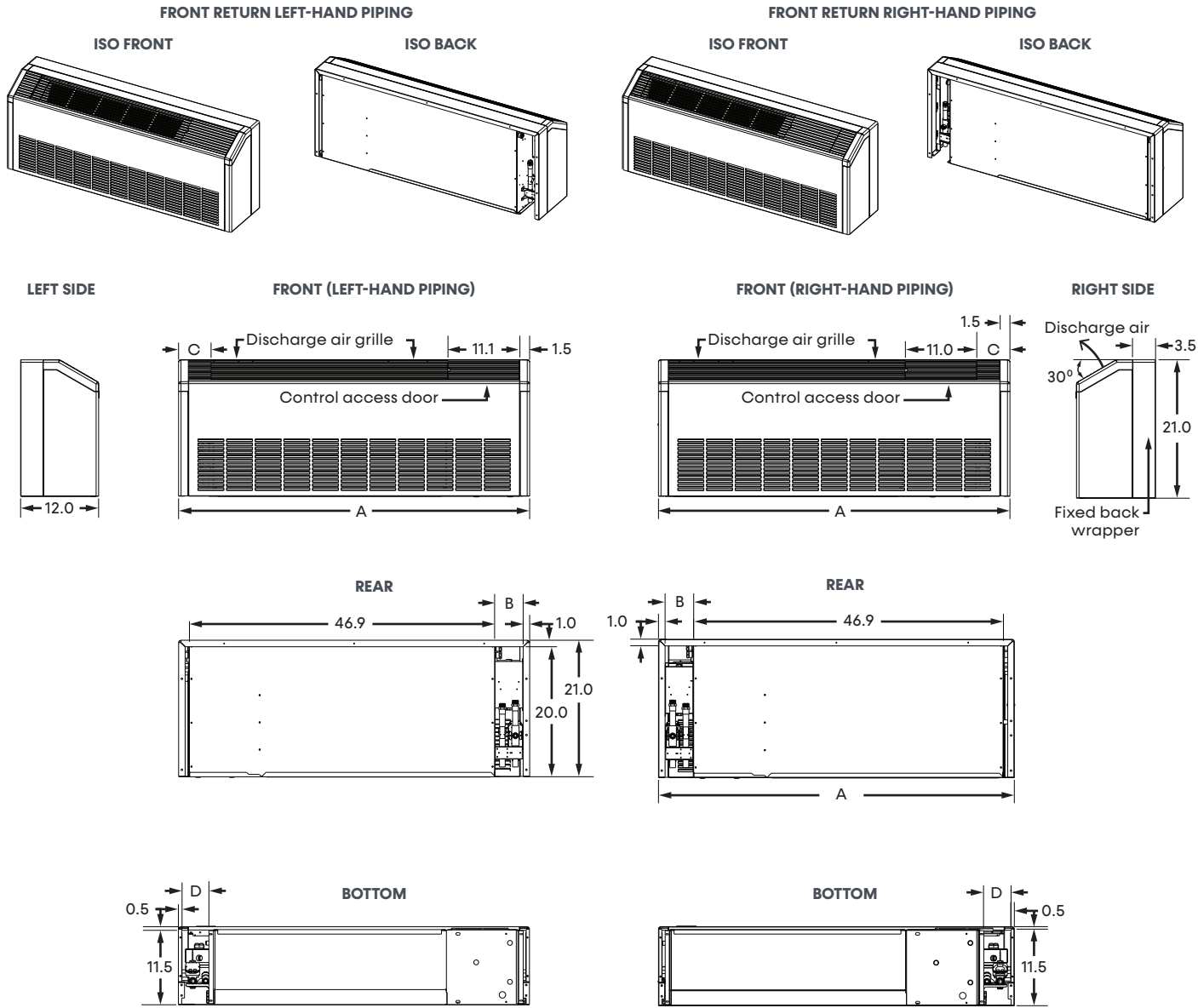
**SD18: Bottom Return, Right-Hand Piping**

Dimension	A	B	C	D	E	F
Standard Unit - in (cm)	54.0 (137.2)	3.2 (8.1)	35.8 (90.9)	15.9 (40.4)	4.3 (10.9)	11.0 (27.9)

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# Standard Console Dimensions: SD18 Front Return

Models:  
SD  
09-18



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. To access filters on front return units, lift up then remove the cabinet.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

## SD18: Front Return, Left-Hand Piping

Dimension	A	B	C	D
Standard Unit - in (cm)	54.0 (137.2)	4.3 (10.9)	11.0 (27.9)	4.1 (10.4)

## SD18: Front Return, Right-Hand Piping

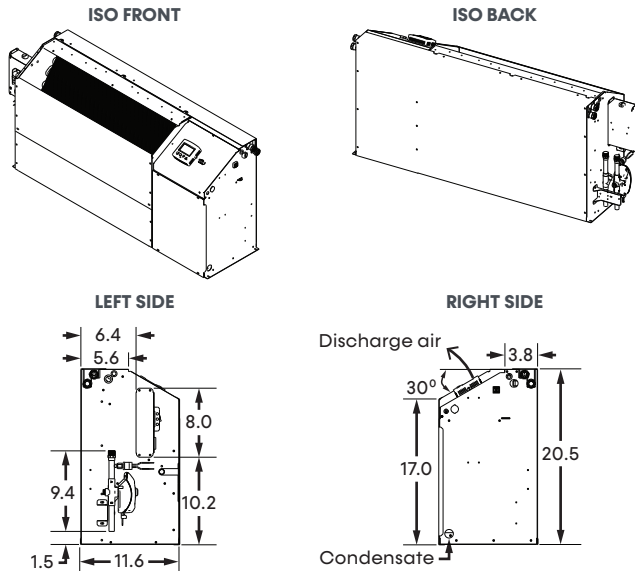
Dimension	A	B	C	D
Standard Unit - in (cm)	54.0 (137.2)	4.3 (10.9)	11.0 (27.9)	4.1 (10.4)

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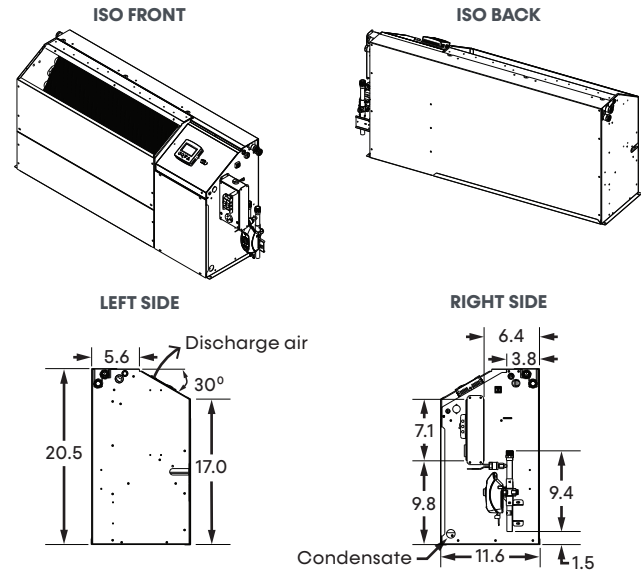
# Standard Console Chassis Dimensions

Models:  
SD  
09-18

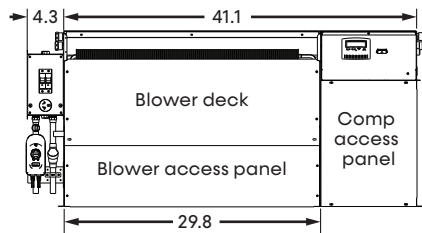
CHASSIS ONLY LEFT-HAND PIPING



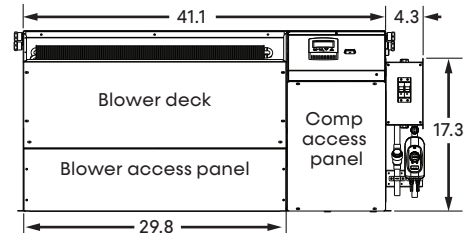
CHASSIS ONLY RIGHT-HAND PIPING



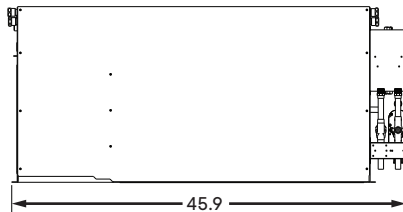
FRONT (LEFT-HAND PIPING)



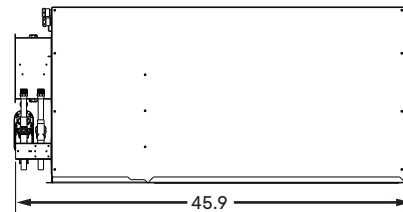
FRONT (RIGHT-HAND PIPING)



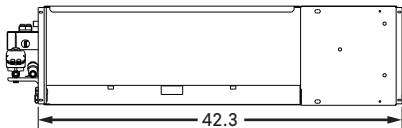
REAR



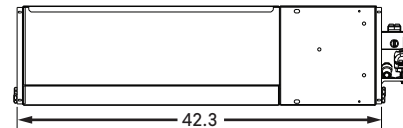
REAR



BOTTOM



BOTTOM



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

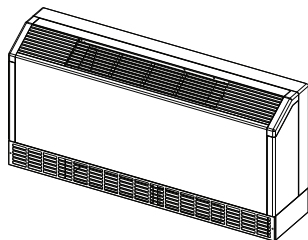
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# Extended Console Dimensions SD09-15 Bottom Return

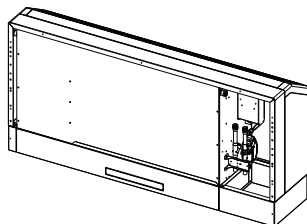
Models:  
SD  
09-18

**BOTTOM RETURN LEFT-HAND PIPING**

**ISO FRONT**

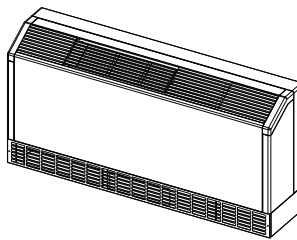


**ISO BACK**

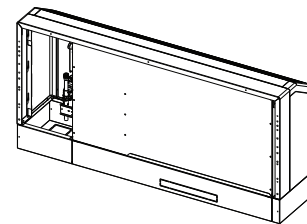


**BOTTOM RETURN RIGHT-HAND PIPING**

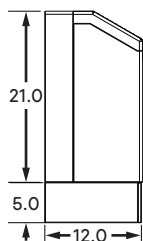
**ISO FRONT**



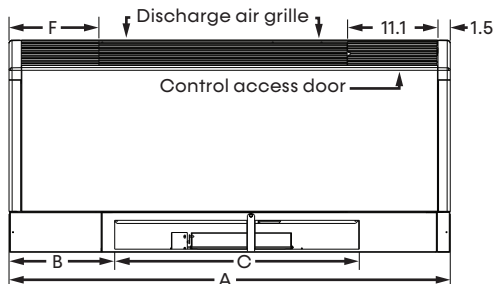
**ISO BACK**



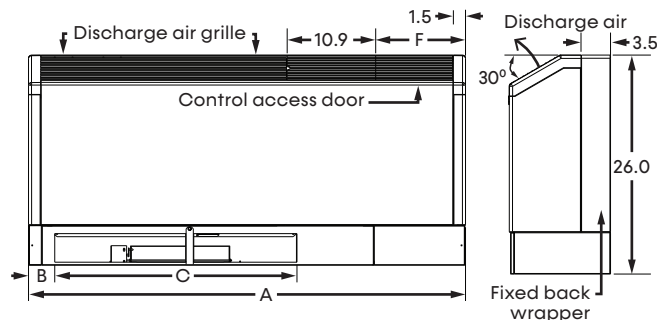
**LEFT SIDE**



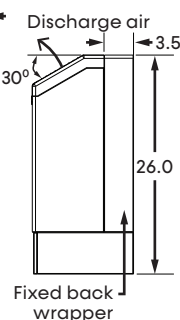
**FRONT (LEFT-HAND PIPING)**



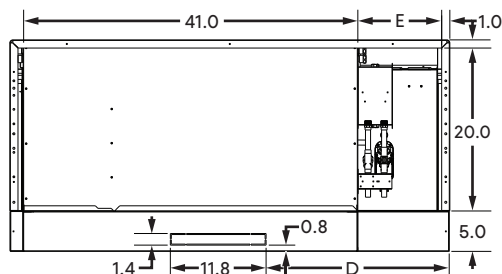
**FRONT (RIGHT-HAND PIPING)**



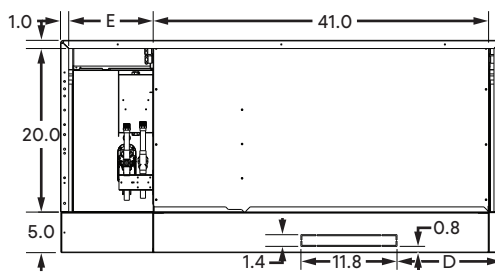
**RIGHT SIDE**



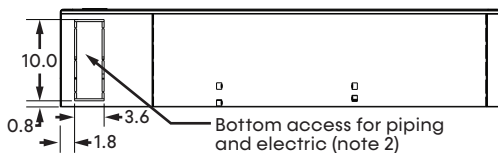
**REAR**



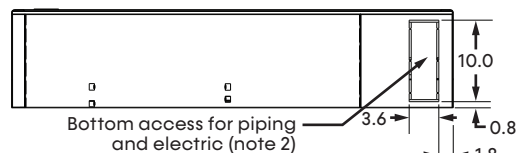
**REAR**



**BOTTOM**



**BOTTOM**



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.
8. Shown with optional 5-inch subbase.

## SD09-15: Bottom Return, Left-Hand Piping

Dimension	A	B	C	D	E	F
Extended Unit - in (cm)	54.0 (137.2)	12.9 (32.8)	29.9 (75.9)	22.5 (57.2)	10.5 (26.7)	11.0 (27.9)

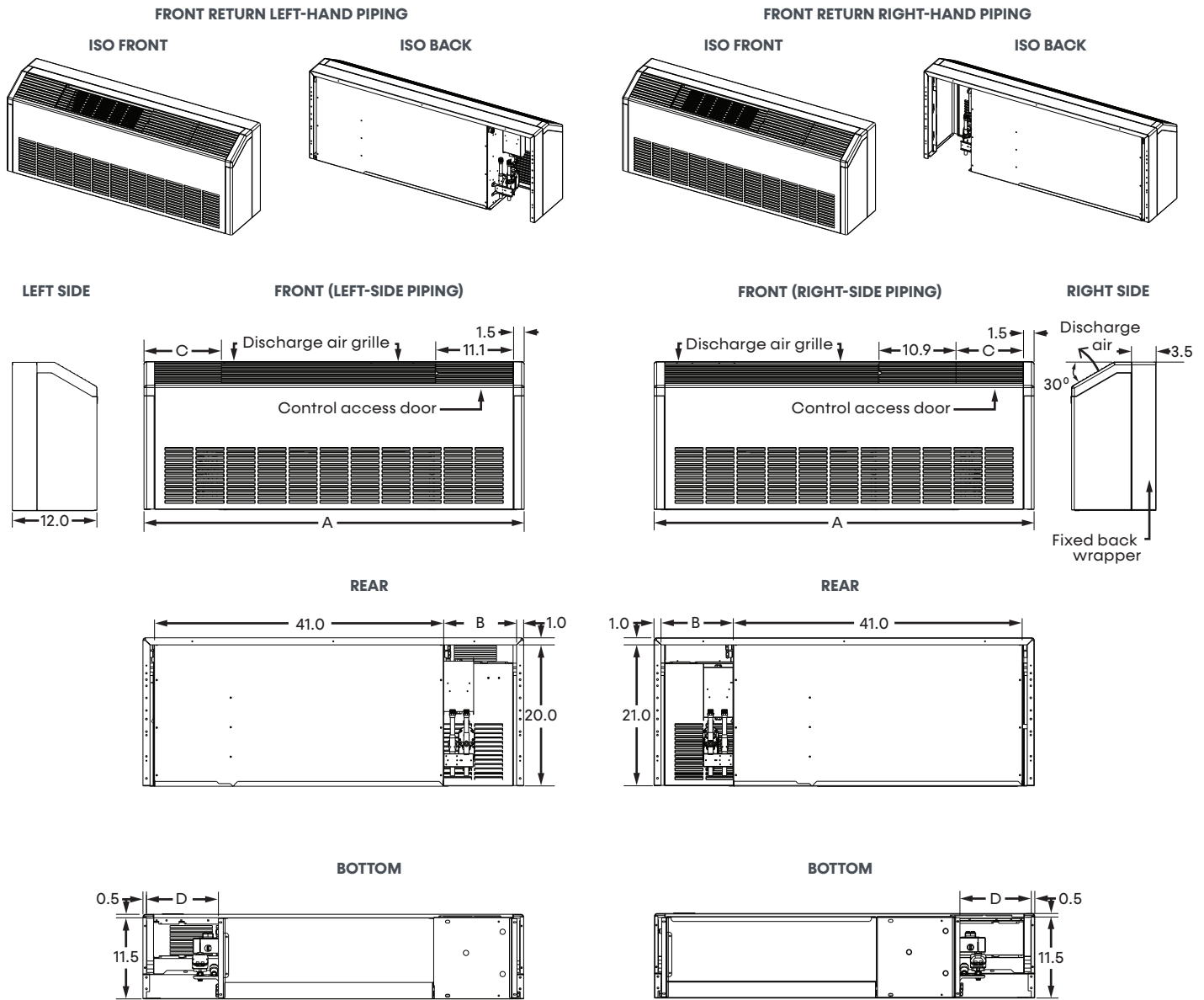
## SD09-15: Bottom Return, Right-Hand Piping

Dimension	A	B	C	D	E	F
Extended Unit - in (cm)	54.0 (137.2)	3.2 (8.1)	29.9 (75.9)	12.8 (32.5)	10.5 (26.7)	11.0 (27.9)

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# Extended Console Dimensions: SD09-15 Front Return

Models:  
SD  
09-18



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. To access filters on front return units, lift up then remove the cabinet.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

## SD09-15: Front Return, Left-Hand Piping

Dimension	A	B	C	D
Extended Unit - in (cm)	54.0 (137.2)	10.5 (26.7)	11.0 (27.9)	10.5 (26.7)

## SD09-15: Front Return, Right-Hand Piping

Dimension	A	B	C	D
Extended Unit - in (cm)	54.0 (137.2)	10.5 (26.7)	11.0 (27.9)	10.5 (26.7)

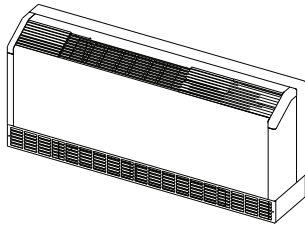
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# Extended Console Dimensions: SD18 Bottom Return

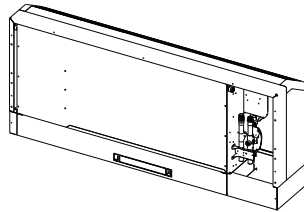
Models:  
SD  
09-18

**BOTTOM RETURN LEFT-HAND PIPING**

**ISO FRONT**

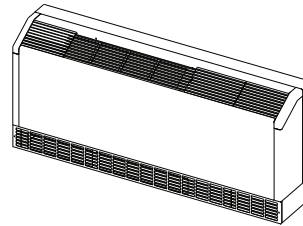


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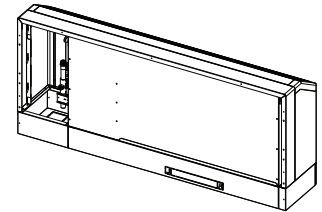


**BOTTOM RETURN RIGHT-HAND PIPING**

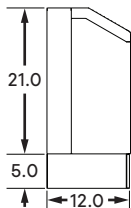
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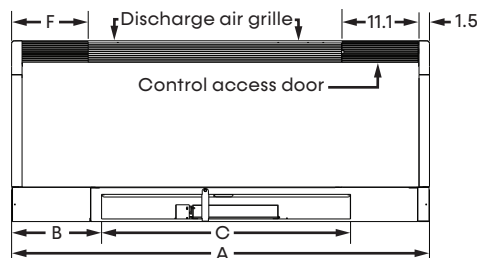
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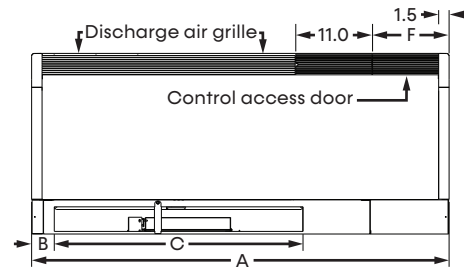
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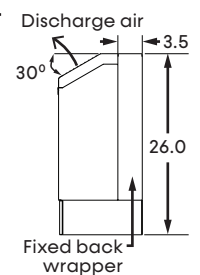
**FRONT (LEFT-SIDE PIPING)**



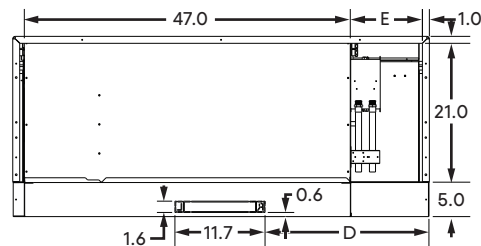
**FRONT (RIGHT-SIDE PIPING)**



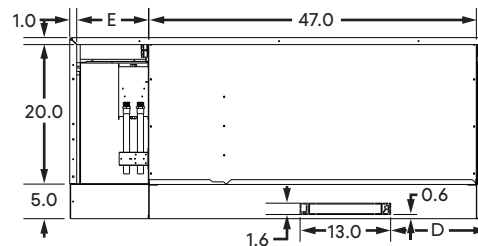
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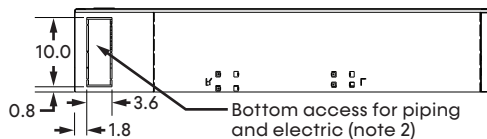
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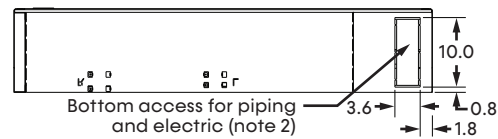
**REAR**



**BOTTOM**



**BOTTOM**



**Notes:**

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.
8. Shown with optional 5-inch subbase.

**SD18: Bottom Return, Left-Hand Piping**

Dimension	A	B	C	D	E	F
Extended Unit - in (cm)	60.0 (152.4)	12.9 (32.8)	35.8 (90.9)	24.9 (63.2)	10.5 (26.7)	11.0 (27.9)

**SD18: Bottom Return, Right-Hand Piping**

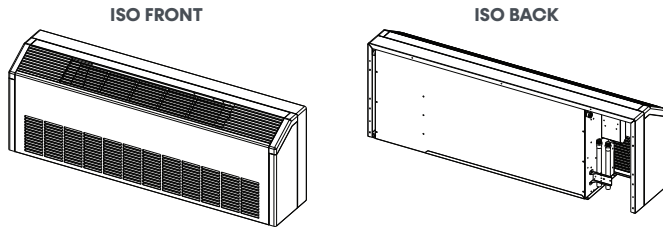
Dimension	A	B	C	D	E	F
Extended Unit - in (cm)	60.0 (152.4)	3.2 (8.1)	35.8 (90.9)	13.9 (35.3)	10.5 (26.7)	11.0 (27.9)

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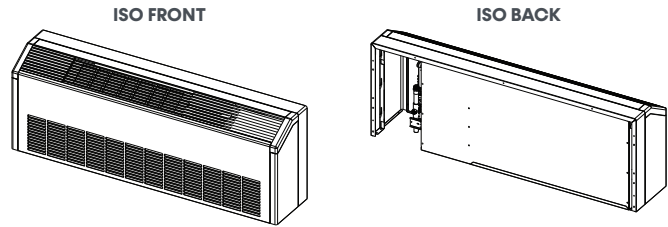
# Extended Console Dimensions: SD18 Front Return

Models:  
SD  
09-18

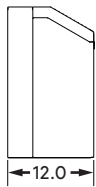
FRONT RETURN LEFT-HAND PIPING



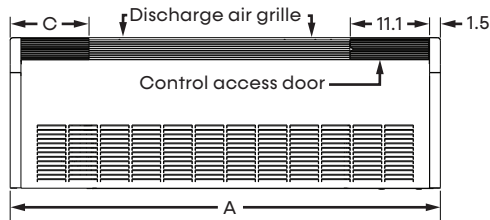
FRONT RETURN RIGHT-HAND PIPING



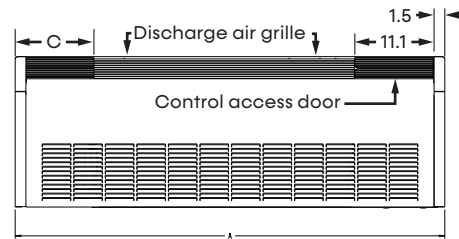
LEFT SIDE



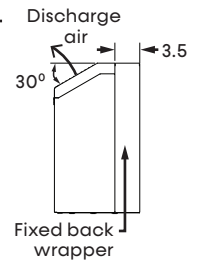
FRONT (LEFT-HAND PIPING)



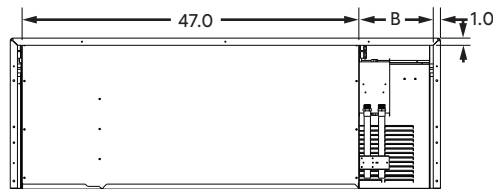
FRONT (RIGHT-HAND PIPING)



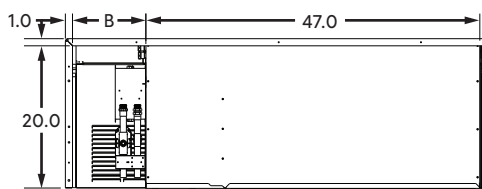
RIGHT SIDE



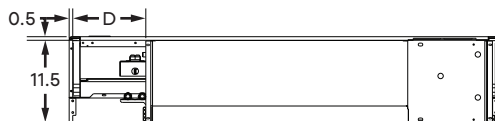
REAR



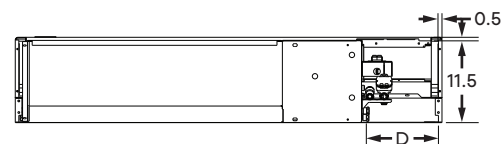
REAR



BOTTOM



BOTTOM



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. To access filters on front return units, lift up then remove the cabinet.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

## SD18: Front Return, Left-Hand Piping

Dimension	A	B	C	D
Extended Unit - in (cm)	60.0 (152.4)	10.5 (26.7)	11.0 (27.9)	10.5 (26.7)

## SD18: Front Return, Right-Hand Piping

Dimension	A	B	C	D
Extended Unit - in (cm)	60.0 (152.4)	10.5 (26.7)	11.0 (27.9)	10.5 (26.7)

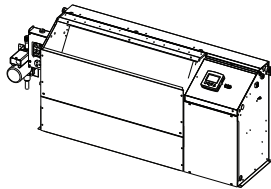
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# Extended Console Chassis Dimensions

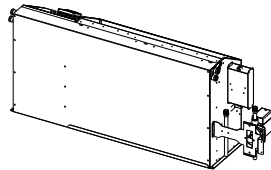
Models:  
SD  
09-18

CHASSIS ONLY LEFT-HAND PIPING

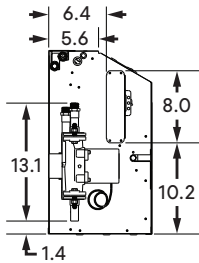
ISO FRONT



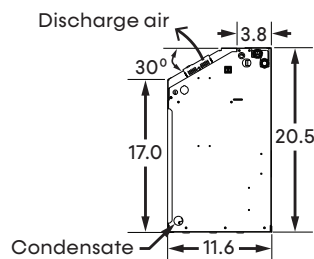
ISO BACK



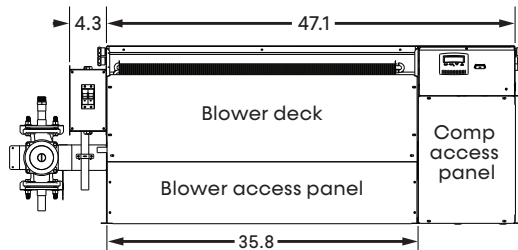
LEFT SIDE



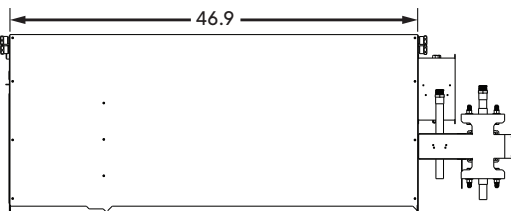
RIGHT SIDE



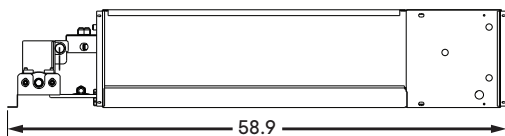
FRONT (LEFT-HAND PIPING)



REAR

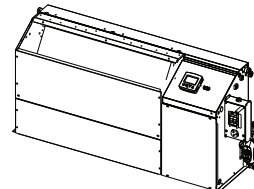


BOTTOM

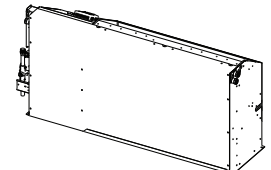


CHASSIS ONLY RIGHT-HAND PIPING

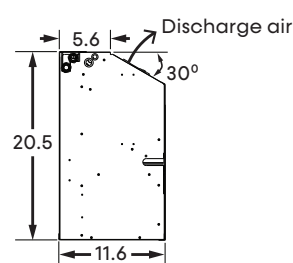
ISO FRONT



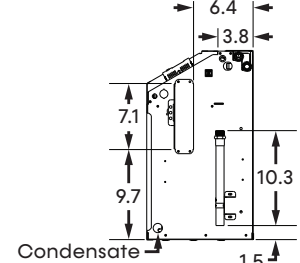
ISO BACK



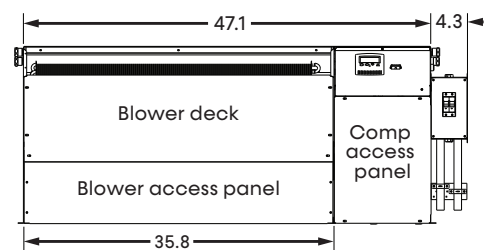
LEFT SIDE



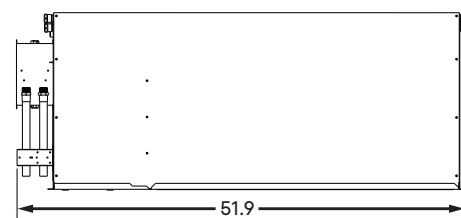
RIGHT SIDE



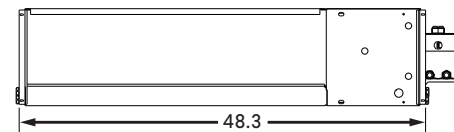
FRONT (RIGHT-HAND PIPING)



REAR



BOTTOM



## Notes:

1. All dimensions are in inches. See the dimensional tables for measurements in cm.
2. Access is reduced if the optional disconnect box is selected.
3. Some options such as autoflow regulator, motorized water valve, and disconnect box might not be shown.
4. Filter is 1-inch (25 mm) thick fiberglass throwaway.
5. All bottom return units require some form of subbase or return plenum. The filter is located inside and on top of the air inlet area. Rotate the filter latch forward for removal. You can pull the filter rack forward 3-4 inches for filter access.
6. Water piping is connected to associated options such as water valves, pumps, and auto-flow regulators via stainless steel braided hose kits (not shown).
7. See Revit files for additional dimensional details.

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## GENERAL

Furnish and install ClimateMaster Tranquility (SD) Console water-source heat pumps, 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 48.9°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 ship with each unit. **NOTE: If unit fails the factory acceptance test, it shall not be allowed to ship. Unit serial number shall be recorded by factory acceptance test and furnished on report card for ease of unit warranty status.**

## BASIC CONSTRUCTION

Console units shall have one of the following air flow and piping arrangements: Front Inlet/Right-hand Piping; Front Inlet/Left-hand piping; Bottom Inlet/Right-hand piping; or Bottom Inlet/Left-hand piping as shown on the plans. If units with these arrangements are NOT used, the contractor is responsible for any extra costs incurred by other trades. If other arrangements make servicing difficult, the contractor must provide access panels and clear routes to ease service. Architect/Engineer must approve any changes in layout.

The cabinet, wall-mounted back wrapper, and subbase shall be constructed of heavy gauge galvanized steel with a baked polyester powder-coat paint finish. Corrosion protection system shall meet the stringent 1000 hour salt spray test per ASTM B117.

**Unit corrosion protection must meet these stringent requirements or unit(s) will not be accepted.** Color will be Polar Ice or Bright White. Both sides of the steel shall be painted for added protection. Additionally, the wall mounted back wrapper shall have welded corner bracing. The easily removable cabinet enclosure allows for easy service to the chassis, piping compartment and control compartment.

All interior surfaces shall be lined with ¼-inch (6.4-mm) thick, 2 lb/ft³ (32 kg/m³) acoustic flexible-blanket type glass-fiber insulation with a non-woven, anti-microbial treated-mat face. 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. 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.**

The cabinet shall have a 30° sloped top with aluminum rigid bar type discharge grille. Aluminum discharge grille shall be anodized charcoal grey in color including hinged control door. Cabinet shall have rounded edges (0.325-inch/8.255-mm minimum radius) on all exposed corners for safety and aesthetic purposes. **Units not having sloped top and rounded corners (0.325-inch/8.255-mm minimum) on front, side, top slope, and top corners shall not be accepted.**

The return air filter shall be 1-inch (25.4 mm) fiberglass disposable type media for bottom return units (units with subbase) or ½-inch (3.2 mm) permanent cleanable type media for front return type units.

**Option: The unit shall be provided with a keyed lock on the control access door.**

**Option: The unit shall be provided with a motorized outside air damper and damper assembly, factory mounted and wired.**

- Option:** The unit shall be provided in front return air configuration. Front return air unit shall include a front return air grille integrally stamped into the cabinet and shall be provided without a 5-inch-high subbase.
- Option:** The unit shall include an optional architectural-style field-installed return air grille to help conceal the subbase return air opening (units with bottom return only).
- Option:** UltraQuiet package shall consist of high technology sound-attenuating material that is strategically applied to the compressor and compressor compartment in addition to the standard ClimaQuiet system design, to further dampen and attenuate sound transmissions. Compressor is mounted on specially engineered sound-tested EPDM isolators.

## FAN AND MOTOR ASSEMBLY

Fan and motor assembly shall be assembled on a slide out fan deck with quick electrical disconnecting means to provide and facilitate easy field servicing. The fan motor shall be multi-speed, permanently lubricated, PSC type, with internal thermal overload protection. Units supplied without permanently lubricated motors must provide external oilers for easy service. The fan motor shall include a torsionally flexible motor mounting system or saddle mount system with resilient rings to inhibit vibration induced high noise levels associated with "hard wire belly band" motor mounting. The airflow 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 shall NOT be acceptable.**

- Option:** Constant Torque (CT) EC motors (Standard on 18): The CT EC fan motor maximizes efficiency over its static operating range and provides airflow adjustment with 4 speed taps. The motor shall be permanently lubricated and have thermal overload protection.

## REFRIGERANT CIRCUIT

All units shall contain an R-454B sealed-refrigerant circuit including a high-efficiency rotary 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 optional disconnect switch. **Units that cannot be reset at the thermostat shall not be acceptable.**

Hermetic compressors shall be internally sprung. The compressor will be mounted on specially engineered sound-tested EPDM vibration isolation grommets for maximized vibration attenuation. Compressor shall have thermal overload protection. Compressor shall be located in an insulated compartment away 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 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).

Additionally, the air coil shall be coated with a hydrophilic layer to further promote condensate drainage and prevent condensate carry-over.

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). Reversing valve shall be 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.

**Option:** 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:** The unit will be supplied with internally factory-mounted two-way water valve for variable-speed pumping requirements. A factory-mounted or field-installed high-pressure switch shall be installed in the water piping to disable compressor operation in the event water pressures build due to water freezing in the piping system.

**Option:** The unit will be supplied with internally factory-mounted automatic water flow regulators.

**Option:** The unit will be supplied with internally mounted secondary pump for primary/secondary applications, specifically single-pipe systems. (Requires extended unit).

**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.

## PIPING

Water piping shall be factory installed in either a left or right-hand configuration and be field-convertible without additional parts if required. Units that do not have field-convertible piping, or require additional parts to do so, shall not be accepted.

**Option:** Threaded MPT copper fittings (sweat connections) are standard.

**Option:** Threaded FPT copper fittings (sweat connections are standard).

## 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 pan shall be insulated. Drain outlet shall be located at pan as to allow complete and unobstructed drainage of condensate. 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

Unit control shall be located under the hinged control door in the sloped top grille. Operating control shall consist of push buttons to select mode of operation "OFF", "HEAT," "COOL," "AUTO", Fan "AUTO" (fan cycles with compressor), Fan "ON" (continuous fan), Fan "LO" (low speed fan), and Fan "HI" (high speed fan).

Temperature adjustment shall be accomplished via two push buttons, one labeled with an arrow up, and the other labeled with an arrow down. Control shall include an LCD display for display of temperature and setpoint.

**Units without an LCD display shall not be accepted.**

A control box shall be located above the unit compressor compartment and shall contain operating controls as outlined in the paragraph above, 24VAC transformer, double-pole compressor relay, 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. A unit-mounted digital thermostat (CM100 or CM300) with a remote sensor measuring return air temperature shall control the compressor operation for heating and cooling. Thermostat shall be a single-stage, digital, auto or manual changeover with HEAT-OFF-COOL-AUTO system switch, fan ON-AUTO switch, and fan LO-HI switch. Thermostat shall have an LCD display with temperature and setpoint(s) in °F or °C. Field can configure digital thermostat for ACO or MCO operation.

**Option: Provisions for remote thermostat**

**Option: Disconnect Switch, Non-Fused.**

**Option: Breaker.**

**Option: 20A power plug/cord.**

## ENHANCED SOLID STATE CONTROL SYSTEM (CXM2)

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. The control system shall interface with a heat pump type thermostat. The control system shall have 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 three times sequentially without thermostat meeting temperature, then lockout requiring manual reset will occur.
- j. Ability to defeat time delays for servicing.
- k. The low-pressure switch shall not be monitored for the first 120 seconds after a compressor-start command to prevent nuisance safety trips.
- l. 24V output to cycle a motorized water valve or other device with compressor contactor.
- m. Unit Performance Sentinel (UPS). The UPS warns when the heat pump is running inefficiently.
- n. Water coil low temperature sensing (selectable for water or antifreeze).
- o. Air coil low temperature sensing.
- p. 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).
- q. Emergency shutdown contacts.
- r. Entering and leaving water temperature sensing.
- s. Leaving air temperature sensing.
- t. Compressor discharge temperature sensing.

**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 protections will not be accepted.**

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When CXM2 is connected to AWC Thermostat or Wireless Service Tool, the installer/service technician can; 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 iGate 2 Communicating (AWC) Thermostat is used 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.

## REMOTE SERVICE SENTINEL (CXM2)

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 unit from the wall thermostat. The CXM2 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: MPC (Multiple Protocol Control) Interface System

Units shall have all the features listed above and the CXM2 will be supplied with a Multiple Protocol interface board. Available protocols are BACnet MS/TP, Modbus, or Johnson Controls N2. The choice of protocol shall be field selectable/changeable via the use of a simple selector switch. **Protocol selection shall not require any additional programming or special external hardware or software tools.** This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. The following points must be available at a central or remote computer location:

- a. space temperature
- b. leaving water temperature
- c. discharge air temperature
- d. command of space temperature setpoint
- e. cooling status
- f. heating status
- g. low temperature sensor alarm
- h. low pressure sensor alarm
- i. high pressure switch alarm
- j. condensate-overflow alarm
- k. hi-/low-voltage alarm
- l. fan "ON/AUTO" position of space thermostat as specified above
- m. unoccupied/occupied command
- n. cooling command
- o. heating command
- p. fan "ON/AUTO" command
- q. fault reset command
- r. itemized fault code revealing reason for specific shutdown fault (any one of seven)

This option also provides the upgraded 75VA control transformer with load-side short circuit and overload protection via a built in circuit breaker.

## 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 CXM2 for a total of 5 years.**

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## FIELD-INSTALLED OPTIONS

### Hose Kits

Hoses shall be 1-foot (31 cm) long, braided stainless steel; fire rated hoses complete with adapters. Only fire rated hoses will be accepted. **NOTE: Threaded connection piping option must be ordered for hose kit connections.**

**Option: 2-foot (61 cm) hose lengths instead of standard 1-foot (31 cm) length.**

### Valves

The following valves are available and will be shipped loose:

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

## HOSE KIT ASSEMBLIES

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

- Supply and return hoses having ball valve with PT port.
- Supply hose having ball valve with PT port; return hose having automatic flow regulator valve with PT ports, and ball valve.
- 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.
- 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:

- CM100 - Multi-stage Automatic or Manual Changeover digital thermostat (ATA32V01)**  
Multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have a green backlit LED display with temperature, setpoints, mode, and status indication via a green (cooling) or red(heating) LED. 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. 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. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring. Thermostat navigation shall be accomplished via four buttons (Mode/fan/down/up) with menu-driven selections for ease of use and programming.
- CM300 – Multi-stage, Automatic or Manual Changeover, 7-day Programmable with Wi-Fi and Humidity Control (AVB32V02R)**  
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 HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings, Wi-Fi, pre-occupancy purge 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.

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. **Single-Stage Digital Auto or Manual Changeover (ATA11U01)**

The thermostat shall be a single-stage, digital, auto or manual changeover with HEAT-OFF-COOL-AUTO system switch and fan ON-AUTO switch. The thermostat shall have an LCD display with temperature and setpoint(s) in °F or °C. The Thermostat shall provide permanent memory of setpoint(s) without batteries. A fault LED shall be provided to display specific fault condition. The thermostat shall provide temperature display offset for custom applications.

c. **Multi-stage Manual Changeover Programmable 5/2 Day (ATP21W02)**

The thermostat shall be 5-day/2-day programmable (with up to four setpoints per day), multi-stage (2H/1C), manual changeover with HEAT-OFF-COOL-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. The thermostat shall provide convenient override feature to temporarily change setpoint.

d. **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.

e. **Multistage 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.

f. **CM500 – Color Touchscreen Display, Multi-stage, Automatic or Manual Changeover, 7-day Programmable with Wi-Fi and Humidity Control (AVB32V03C)**

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 HEAT-OFF-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, set-point 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. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide access to a web portal and mobile app for installer setup for configuring options. Thermostat shall have menu-driven selections for ease of use and programming.

## DDC SENSORS

ClimateMaster wall-mounted DDC sensor to monitor room temperature and interfaces with optional interface system described above. Several types as described below:

- a. Sensor only with no display (MPC).
- b. Sensor with setpoint adjustment and override (MPC only).
- c. Sensor with setpoint adjustment and override, LCD display, status/fault indication (MPC).

## SUBBASE RETURN AIR GRILLE

Decorative louvered grille covers the front of subbase including the large return air opening are provided with all models. **Units that do not offer decorative louvered grills as standard shall not be accepted.**

## WIRELESS SERVICE TOOL (AWSTCWS01)

Allows installation and service personnel to access the configuration and service modes of the CXM2 without installing the AWC Thermostat:

- a. Configure the airflow or modulating valve operation etc.
- b. Diagnose by viewing fault history and operating conditions at the time of fault and manually operating the unit.

### NOTICE

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# Revision History

Models:  
SD  
09-18

Date	Section	Description
06/19/25	Features and Options	Updated features and options
		Updated section title
	vFlow Internal Variable Water Flow Control	Added section
	Model Nomenclature	Updated
	Performance Data: ASHRAE/AHRI/ISO 13256-1	Updated data
	Performance Data	Updated data
		Added Performance Data tables with vFlow
	Correction Tables	Updated Entering Air Correction data
	Water Options	Updated Motorized Water Valve and Modulating Water Valve data
	Blower Performance	Updated data
	Physical Data	Updated factory charge for size 18
		Updated front return dimensions for size 18
		Updated operating and packaged weights for all sizes
	Electrical Data	Removed size 18 from Electrical Data for PSC Blower Motors
		Updated MCC, RLA, and LRA for sizes 09-15 for units with PSC Blower Motors and sizes 09-18 for units with CT EC Blower Motors
		Updated Pump FLA for sizes 09-15 for units with PSC Blower Motors and sizes 09-18 for units with CT EC Blower Motors
		Updated Fan Motor FLA for sizes 09-18 for units with CT EC Blower Motors
		Updated Total Unit FLA for sizes 09-15 for units with PSC Blower Motors and sizes 09-18 for units with CT EC Blower Motors
		Updated Min Circuit Amp for sizes 09-15 for units with PSC Blower Motors and sizes 09-18 for units with CT EC Blower Motors
		Updated Fuse/HACR for size 18 for units with CT EC Blower Motors
		Added horsepower data for all sizes
	Engineering Specifications	Updated
03/20/25	All	Updated compatibility from ACDU01/Handheld Service tool to Wireless Service Tool.
		Updated reference conventions for control board and AWC Thermostat.
		Reorganized the document's sections.
		Removed inapplicable refrigerant valve plating options
10/22/24	Model Nomenclature	Updated cabinet options.
	Performance Data	Updated Cooling Temperature Range
	Blower Performance	Added note concerning maximum allowable altitude of installation
	Engineering Specs	Updated Unit Maximum Water Working Pressure



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