Comfort-Aire | Century

MARS 18 (MC) COMPACT SINGLE-STAGE SERIES

PRODUCT CATALOG

Part#: LC3032 | Revised: January 13, 2025

Models: MC 006-060
60 Hz - R-454B

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MC
006-060

THE MARS 18 (MC) COMPACT SINGLE-STAGE SERIES

The MARS 18 (MC) Compact Singe-Stage Series raises the bar for water-source heat pump efficiencies, features, and application flexibility. Not only does the MC 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. The MARS MC is eligible for LEED® (Leadership in Energy and Environmental Design) points due to its innovative and environmentally-conscious design. With one of the smallest cabinets in the industry, the MC easily fits into tight spaces. Designed to be backward compatible with thousands of older water-source heat pumps, the MARS MC heat pump is packed full of the innovation you have come to expect from the experts at MARS.

Available in sizes from ½ ton (1.8 kW) through 5 tons (17.6 kW) with multiple cabinet options (vertical upflow and horizontal) the MC offers a wide range of units for most any application. The MC has an extended range refrigerant circuit, capable of geothermal ground loop applications (with optional extended range insulation) as well as boiler-tower water loop applications. Standard features include: scroll compressors, microprocessor controls, galvanized steel cabinet, polymer drain pan and sound absorbing air handler insulation are just some of the features of the MC.

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 MARS MC products, only the 5 ton size (060) is required to have the RDS and the feature is optional on all other sizes.

MARS' double isolation compressor mounting system makes the MC one of the quietest units on the market. Compressors are mounted on specially engineered sound-tested EPDM grommets to a heavy gauge mounting plate, which is further isolated from the cabinet base with EPDM grommets to minimize vibration transmission and to maximize sound attenuation. The easy access control box and large access panels make installing and maintaining the unit easier than other water-source heat pumps currently on the market, proving that a small unit can be easy to service.

Options such as tin-plated air coil, DDC controls, and high efficiency pleated MERV-rated air filters allow customized design solutions. Two tiers of Electronically Commutated (EC) fan motor options allow for premium efficiency at a budget price with a Constant Torque (CT) EC or maximized airflow control with an intelligent Constant Volume (CV) EC. Cupro-nickel water-coils and MARS' industry-leading sound attenuation package are options that make a great unit even better.

Intelligent communicating controls provide technicians an interface into the operation of the system in real time without the need for hard tooling. On-board advanced controls communicate the key operating system temperatures allowing technicians to startup, commission, and service equipment remotely by smart phone or website interface. Communication can also be established at the unit via a handheld service tool. Communicating controls also enable the functionality to make system adjustments and capture operating conditions at time of fault. The data is presented in a user-friendly format, enhancing the overall usability of the experience.

The MARS 18 (MC) Compact Single-Stage Series water-source heat pumps are designed to meet the challenges of today's HVAC demands with one of the most innovative products available on the market.

Features, Options, and Accessories

FEATURES

- Sizes 006 (½ ton, 1.8 kW) through 060 (5 tons, 17.6 kW)
- Exceeds ASHRAE 90.1 efficiency standards
- Environmentally-friendly R-454B low-GWP refrigerant
- Refrigerant Detection System (RDS) (mandatory on size 060, optional feature for sizes 006-048)
- Coaxial heat exchanger
- Galvanized-steel cabinet construction
- Sound-absorbing glass-fiber insulation
- Unique double-isolation compressor mounting for quiet operation
- Insulated divider and separate compressor/ air handler compartments
- TXV metering device
- Microprocessor controls with on-board fuse and emergency shutdown
- Field-convertible discharge-air arrangement for horizontal units
- PSC three-speed fan motor (two-speed for 575V)
- Unit Performance Sentinel performance-monitoring system
- Eight standard safety features
- Non-corrosive polymer drain pan
- External Connecting Port on front-left corner post facilitates service tool connectivity, thereby reducing startup, commissioning, and service time
- CXM2 Communicating Controls:
  - Connect directly to the system with a handheld service tool
  - Provides real-time unit operating conditions
  - Reduces startup, commissioning, and service time by providing key system temperatures electronically
  - Captures operating conditions in the event of a safety shutdown

OPTIONS

- High-efficiency EC blower motors:
  - Intelligent Constant Volume (CV) EC motors for ultimate airflow control
  - Entry-level Constant Torque (CT) EC motors provide efficiency at a value
- DXM2.5 Advanced Communicating Controls:
  - Includes all of the CXM2 features
  - Dial in desired airflows for CV EC blower motors
- BACnet, Modbus, and Johnson Controls N2 compatibility options for Building Management Systems (BMS)
- Corrosion-resistant cupro-nickel water heat exchanger
- Sound-attenuation package
- Tin-plated air coils for added protection from formicary corrosion
- Easy-to-clean rust-prohibitive stainless-steel drain pans
- Extended-range insulation for geothermal applications
- Electrical-service disconnect

ACCESSORIES

- Wide variety of thermostat options to meet your application needs
- Braided-hose kits in various lengths with optional water valve, PT plugs, blowdown valve, flow regulator, and strainer
- Externally-mounted manual and motorized water valves
- 1-inch Merv 8 filter
- 2-inch Merv 8 or 13 filters
- Aesthetically-pleasing wall sensors for connection to BMS (MPC) controls

AN INFORMATION GATEWAY TO MONITOR, CONTROL, AND DIAGNOSE YOUR SYSTEM

MARS' communicating water-source heat pump offers an information gateway into the system. This allows users to interact with their system in clear language, delivering improved reliability and efficiency by monitoring and controlling the system. This makes MARS water-source heat pumps easy to install and service.

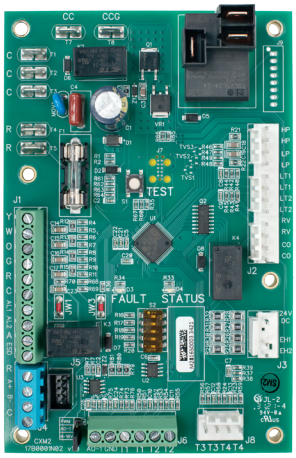
Monitor/Configure – Installers can configure from the configuration/diagnostic tool, Unit family, size, accessory configuration, and demand reduction (optional, to limit unit operation during peak times). Users can look up the current system status: temperature sensor readings and operational status of the blower.

Precise Control – DXM2.5 Exclusive - Intelligent, 2-way communication between the DXM2.5 and smart components like the variable CFM constant volume CV EC blower motor. The DXM2.5 uses information received from the smart components and sensors to precisely control unit operation to deliver higher efficiency, reliability and increased comfort.

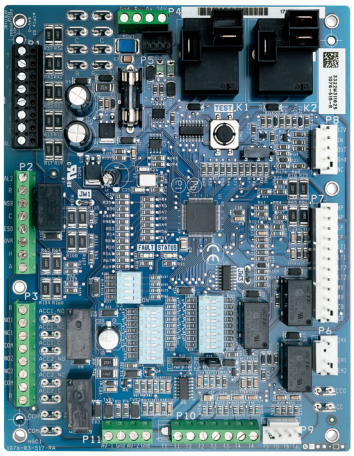
Diagnostics – While in Service Mode, technicians can access fault description, possible causes and most importantly, the conditions (temp, flow, i/o conditions, configuration) at the time of the fault. Manual Operation mode allows technicians to manually command operation for any of the thermostat outputs, blower speed, to help troubleshoot specific components.

With communicating controls, technicians have a gateway to system information never before available to MARS water source heat pump products.

CXM2



DXM2.5



AIRFLOW SELECTION	CFM
HEAT STAGE 1	600
HEAT STAGE 2	750
AUXILIARY HEAT	850
EMERGENCY HEAT	850
COOL STAGE 1	525
COOL STAGE 2	700
COOL DEHUMID 1	425
COOL DEHUMID 2	550
CONTINUOUS FAN	350
HEAT OFF DELAY	60
COOL OFF DELAY	30

◀ PREVIOUS NEXT ▶

POSSIBLE FAULT CAUSES
LOW WATER COIL TEMP

LOW WATER TEMP - HTG

LOW WATER FLOW - HTG

LOW REFRIG CHARGE - HTG

INCORRECT LT1 SETTING

BAD LT1 THERMISTOR

◀ PREVIOUS

FAULT TEMPERATURE CONDITIONS
LT1 LOW WATER TEMP
HEAT 1 11:11 AM 11/14

LT1 TEMP	28.1
LT2 TEMP	97.3
HOT WATER EWT	121.5
COMP DISCHARGE	157.7
LEAVING AIR	92.7
LEAVING WATER	34.9
ENTERING WATER	42.1
CONTROL VOLTAGE	26.4

◀ PREVIOUS

Reference Calculations

Heating

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

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

Cooling

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

$$LC = TC - SC$$

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

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

Constant = 500 for water, 485 for antifreeze

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

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

Legend and Glossary of Abbreviations

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

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

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 ..... 23,700 Btuh
Sensible Cooling ..... 16,500 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) .6.0 GPM
Airflow ..... 800 CFM

Steps 3, 4, and 5: HP Selection

After making our preliminary selection (MC024), we enter the tables at design water flow and water temperature and read Total Cooling, Sensible Cooling and Heat of Rejection capacities:

Total Cooling ..... 23,400 Btuh
Sensible Cooling ..... 17,500 Btuh
Heat of Rejection ..... 30,200 Btuh

Steps 6 and 7: Entering Airflow Corrections

Next, we determine our correction factors.

Corrected Values		Table		Ent Air		Airflow		Corrected
Corrected Total Cooling	=	23,400	x	0.9681	x	1.0050	=	22,767
Corrected Sensible Cooling	=	17,500	x	1.1213	x	0.9820	=	19,270
Corrected Heat of Rejection	=	30,200	x	0.9747	x	1.0434	=	30,713

Step 8: Water Temperature Rise Calculation and Assessment

Actual Temperature Rise ..... 10.2°F

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

Model Nomenclature

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
M	C	L	0	2	4	A	G	C	3	0	C	0	P	S

MODEL
M = R-454B Refrigerant

MODEL TYPE
C = Compact Single-Stage Series

SUPPLY & RETURN CONFIGURATIONS

Horizontal Configuration		
	Left	Right
Straight	L	R
Back	B	P

Vertical Configuration		
	Left	Right
Top	T	K
Front/Top	F	

SIZE

006	018	041
009	024	042
012	030	048
015	036	060

REVISION
A = Current

VOLTAGE

G = 208/230-1-60	J = 208/230-1-60 Refrigerant Detection System
H = 208/230-3-60	K = 208/230-3-60 Refrigerant Detection System
E = 265-1-60	D = 265-1-60 Refrigerant Detection System
F = 460-3-60	L = 460-3-60 Refrigerant Detection System
N = 575-3-60	M = 575-3-60 Refrigerant Detection System

CONTROLS

Control	Standard	MPC
CXM2	C	N
DXM2.5	D	P
CXM2 with Disconnect	W	R
DXM2.5 with Disconnect	B	S

CABINET

Cabinet	Sound Attenuation Package	Rail		Frame	
		1"	2"	1"	2"
Extended Range	No	1	J	K	A
	Yes	2	L	M	C
Standard Range	No	3	N	P	E
	Yes	4	F	S	G

STANDARD
S = MARS

BLOWER MOTOR
P = Permanent Split Capacitor (PSC)
T = Constant Torque Electronically Commuted (CT EC)
V = Constant Volume Electronically Commuted (CV EC)

EXTENDED OPTIONS
0 = Standard
C = Cooling Only

DRAIN PAN/HEAT EXCHANGER OPTIONS
C = Standard Drain Pan, Non-Coated Air Coil
T = Standard Drain Pan, Tin-Coated Air Coil
S = Stainless Steel Drain Pan, Non-Coated Air Coil
R = Stainless Steel Drain Pan, Tin-Coated Air Coil

WATER/HEAT EXCHANGER OPTIONS

Water Option	Standard	Cupro Nickel
None	0	Z

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
MC006	PSC	5,900	13.4	8,400	4.8	7,200	22.8	6,600	3.9	6,300	15.5	4,900	3.1
	EC	6,100	15.0	8,300	5.1	7,300	26.6	6,500	4.0	6,400	17.7	4,800	3.3
MC009	PSC	8,500	13.8	11,700	4.4	10,000	22.0	9,500	3.9	8,900	15.7	7,200	3.3
	EC	8,600	14.3	11,600	4.5	10,000	23.4	9,500	4.0	9,000	16.7	7,200	3.3
MC012	PSC	10,500	12.7	14,400	4.5	12,800	19.0	11,700	3.9	11,400	14.1	9,300	3.2
	EC	10,700	13.4	14,400	4.6	13,000	21.0	11,700	4.0	11,500	14.9	9,300	3.3
MC015	PSC	14,500	15.2	16,000	4.8	16,700	23.5	13,800	4.3	15,000	16.5	11,000	3.5
	EC	14,700	16.4	15,900	4.9	16,900	26.2	13,800	4.5	15,200	17.3	10,700	3.6
MC018	PSC	17,900	14.3	21,500	4.9	20,700	23.0	17,900	4.2	19,000	16.1	14,000	3.4
	EC	18,000	15.0	21,500	5.1	20,900	25.0	17,700	4.4	19,400	17.3	13,800	3.6
MC024	PSC	24,700	14.7	28,800	5.0	27,500	23.3	24,200	4.4	25,600	17.3	19,000	3.6
	EC	24,900	15.4	28,500	5.1	27,800	24.0	24,000	4.5	25,800	18.0	19,000	3.7
MC030	PSC	28,800	13.7	35,400	4.6	32,400	21.0	29,200	4.1	30,100	16.0	23,300	3.5
	EC	29,200	14.5	35,000	4.8	32,800	23.5	28,800	4.3	30,500	17.3	23,000	3.6
MC036	PSC	34,800	14.6	43,900	4.6	38,800	23.3	36,200	4.0	36,100	16.7	28,500	3.4
	EC	35,200	15.3	43,500	4.8	39,200	25.2	35,800	4.2	36,400	17.4	27,900	3.6
MC042	PSC	41,100	14.0	49,500	4.6	45,200	21.0	40,900	4.0	42,700	16.0	32,700	3.4
	EC	41,800	15.2	48,500	4.9	46,000	22.9	39,900	4.3	43,400	17.4	31,700	3.5
MC048	PSC	48,000	14.3	57,900	4.7	53,000	21.5	48,000	4.1	50,400	16.5	38,000	3.5
	EC	48,900	15.2	57,500	4.8	53,500	22.8	47,700	4.2	50,800	17.6	38,100	3.5
MC060	PSC	59,400	13.2	70,000	4.4	65,800	18.2	59,200	3.9	61,300	15.0	45,400	3.3
	EC	60,200	14.7	68,000	4.7	67,000	21.5	57,100	4.2	62,200	17.4	44,300	3.5
MC041	PSC	36,000	14.0	43,300	4.3	40,300	22.0	35,500	3.8	37,500	16.5	28,000	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.

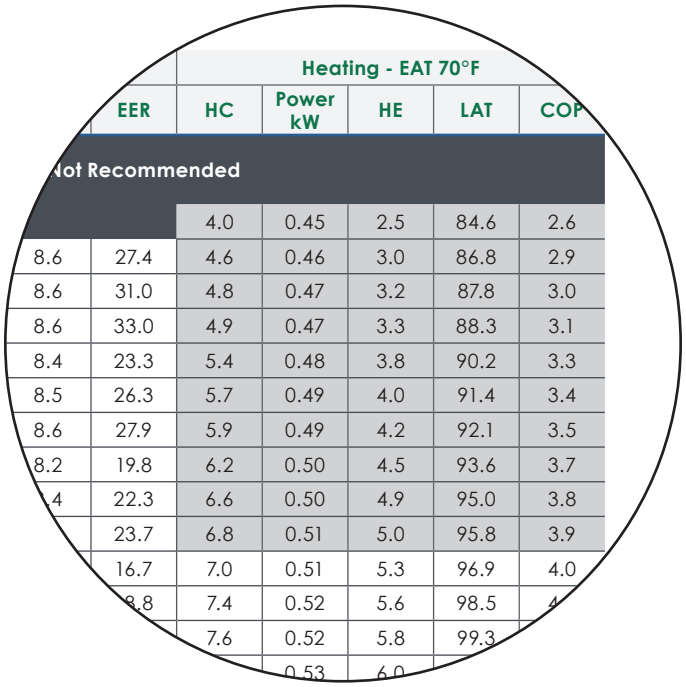
ASHRAE/AHRI/ISO 13256-1 Metric (S-I) Units

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
MC006	PSC	2	3.9	2	4.8	2	6.7	2	3.9	2	4.5	1	3.1
	EC	2	4.4	2	5.1	2	7.8	2	4.0	2	5.2	1	3.3
MC009	PSC	2	4.0	3	4.4	3	6.5	3	3.9	3	4.6	2	3.3
	EC	3	4.2	3	4.5	3	6.9	3	4.0	3	4.9	2	3.3
MC012	PSC	3	3.7	4.2	4.5	3.8	5.6	3	3.9	3	4.1	3	3.2
	EC	3	3.9	4.2	4.6	3.8	6.2	3	4.0	3	4.4	3	3.3
MC015	PSC	4	4.5	4.7	4.8	4.9	6.9	4	4.3	4	4.8	3	3.5
	EC	4	4.8	4.7	4.9	5.0	7.7	4	4.5	4	5.1	3	3.6
MC018	PSC	5	4.2	6.3	4.9	6.1	6.7	5	4.2	6	4.7	4	3.4
	EC	5	4.4	6.3	5.1	6.1	7.3	5	4.4	6	5.1	4	3.6
MC024	PSC	7.2	4.3	8.4	5.0	8.1	6.8	7.1	4.4	7.5	5.1	5.6	3.6
	EC	7.3	4.5	8.4	5.1	8.1	7.0	7.0	4.5	7.6	5.3	5.6	3.7
MC030	PSC	8.4	4.0	10.4	4.6	9.5	6.2	8.6	4.1	8.8	4.7	6.8	3.5
	EC	8.6	4.3	10.3	4.8	9.6	6.9	8.4	4.3	8.9	5.1	6.7	3.6
MC036	PSC	10.2	4.3	12.9	4.6	11.4	6.8	10.6	4.0	10.6	4.9	8.4	3.4
	EC	10.3	4.5	12.7	4.8	11.5	7.4	10.5	4.2	10.7	5.1	8.2	3.6
MC042	PSC	12.0	4.1	14.5	4.6	13.2	6.2	12.0	4.0	12.5	4.7	9.6	3.4
	EC	12.3	4.5	14.2	4.9	13.5	6.7	11.7	4.3	12.7	5.1	9.3	3.5
MC048	PSC	14.1	4.2	17.0	4.7	15.5	6.3	14.1	4.1	14.8	4.8	11.1	3.5
	EC	14.3	4.5	16.9	4.8	15.7	6.7	14.0	4.2	14.9	5.2	11.2	3.5
MC060	PSC	17.4	3.9	20.5	4.4	19.3	5.3	17.3	3.9	18.0	4.4	13.3	3.3
	EC	17.6	4.3	19.9	4.7	19.6	6.3	16.7	4.2	18.2	5.1	13.0	3.5
MC041	PSC	10.6	4.1	12.7	4.3	11.8	6.5	10.4	3.8	11.0	4.8	8.2	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

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



		Heating - EAT 70°F				
	EER	HC	Power kW	HE	LAT	COP
Not Recommended						
		4.0	0.45	2.5	84.6	2.6
8.6	27.4	4.6	0.46	3.0	86.8	2.9
8.6	31.0	4.8	0.47	3.2	87.8	3.0
8.6	33.0	4.9	0.47	3.3	88.3	3.1
8.4	23.3	5.4	0.48	3.8	90.2	3.3
8.5	26.3	5.7	0.49	4.0	91.4	3.4
8.6	27.9	5.9	0.49	4.2	92.1	3.5
8.2	19.8	6.2	0.50	4.5	93.6	3.7
.4	22.3	6.6	0.50	4.9	95.0	3.8
	23.7	6.8	0.51	5.0	95.8	3.9
	16.7	7.0	0.51	5.3	96.9	4.0
	8.8	7.4	0.52	5.6	98.5	4
		7.6	0.52	5.8	99.3	
			0.53	6.0		

Example:

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

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

TD = HE / (GPM x 500)

TD = 22,500 / (4.5 x 500)

TD = 10°F

LWT = EWT - TD

LWT = 50 - 10 = 40°F

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

275 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								2.0	4.4	10.1	4.4	0.5	2.8	2.8
30	1.0	1.5	3.6	7.5	5.5	0.3	8.4	29.5	1.0	1.5	3.6	4.9	0.5	3.0	3.2
	1.5	2.7	6.1	7.5	5.4	0.2	8.3	31.9	1.5	2.7	6.1	5.0	0.5	3.1	3.4
	2.0	3.8	8.7	7.5	5.3	0.2	8.2	33.2	2.0	3.8	8.7	5.1	0.5	3.1	3.5
40	1.0	1.3	3.0	7.4	5.6	0.3	8.4	25.5	1.0	1.3	3.0	5.6	0.5	3.4	3.9
	1.5	2.3	5.3	7.5	5.6	0.3	8.4	27.7	1.5	2.3	5.3	5.8	0.5	3.5	4.2
	2.0	3.3	7.6	7.5	5.5	0.3	8.4	28.8	2.0	3.3	7.6	6.0	0.5	3.5	4.3
50	1.0	1.1	2.6	7.2	5.5	0.3	8.3	21.9	1.0	1.1	2.6	6.5	0.5	3.8	4.8
	1.5	2.0	4.7	7.3	5.6	0.3	8.4	23.9	1.5	2.0	4.7	6.8	0.5	3.9	5.0
	2.0	2.9	6.7	7.4	5.6	0.3	8.4	24.9	2.0	2.9	6.7	6.9	0.5	4.0	5.2
60	1.0	1.0	2.4	6.8	5.4	0.4	8.1	18.6	1.0	1.0	2.4	7.4	0.5	4.2	5.6
	1.5	1.8	4.2	7.0	5.5	0.3	8.2	20.4	1.5	1.8	4.2	7.7	0.5	4.4	6.0
	2.0	2.6	6.1	7.1	5.5	0.3	8.3	21.3	2.0	2.6	6.1	7.9	0.5	4.5	6.2
70	1.0	1.0	2.2	6.4	5.1	0.4	7.8	15.7	1.0	1.0	2.2	8.3	0.5	4.7	6.5
	1.5	1.7	3.9	6.7	5.3	0.4	8.0	17.2	1.5	1.7	3.9	8.7	0.5	4.9	6.9
	2.0	2.4	5.6	6.8	5.3	0.4	8.1	18.1	2.0	2.4	5.6	8.9	0.5	5.0	7.1
80	1.0	0.9	2.1	6.0	4.8	0.5	7.5	13.1	1.0	0.9	2.1	9.2	0.5	5.1	7.4
	1.5	1.6	3.7	6.2	5.0	0.4	7.7	14.4	1.5	1.6	3.7	9.6	0.5	5.3	7.8
	2.0	2.3	5.3	6.3	5.1	0.4	7.8	15.1	2.0	2.3	5.3	9.9	0.5	5.4	8.0
90	1.0	0.9	2.1	5.5	4.5	0.5	7.2	10.7	1.0	0.9	2.1	10.0	0.5	5.5	8.2
	1.5	1.6	3.6	5.7	4.7	0.5	7.4	11.9	1.5	1.6	3.6	10.4	0.5	5.7	8.6
	2.0	2.2	5.1	5.9	4.8	0.5	7.5	12.5	2.0	2.2	5.1	10.7	0.5	5.8	8.8
100	1.0	0.9	2.1	5.0	4.2	0.6	7.0	8.7	Operation Not Recommended						
	1.5	1.5	3.5	5.2	4.4	0.5	7.1	9.6							
	2.0	2.1	5.0	5.4	4.4	0.5	7.2	10.1							
110	1.0	0.9	2.0	4.5	3.9	0.6	6.7	7.0							
	1.5	1.5	3.4	4.7	4.1	0.6	6.8	7.8							
	2.0	2.1	4.8	4.8	4.1	0.6	6.9	8.2							
120	1.0	0.8	1.9	4.0	3.7	0.7	6.5	5.6							
	1.5	1.4	3.3	4.2	3.8	0.7	6.6	6.2							
	2.0	2.0	4.7	4.3	3.8	0.7	6.6	6.5							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

275 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								2.0	4.4	10.1	4.4	0.4	2.8	2.8
30	1.0	1.5	3.6	7.6	5.5	0.2	8.4	31.7	1.0	1.5	3.6	4.8	0.5	3.1	3.2
	1.5	2.7	6.1	7.6	5.4	0.2	8.3	34.5	1.5	2.7	6.1	5.0	0.5	3.1	3.4
	2.0	3.8	8.7	7.5	5.4	0.2	8.2	36.0	2.0	3.8	8.7	5.0	0.5	3.2	3.5
40	1.0	1.3	3.0	7.5	5.6	0.3	8.4	27.2	1.0	1.3	3.0	5.6	0.5	3.4	3.9
	1.5	2.3	5.3	7.5	5.6	0.3	8.4	29.6	1.5	2.3	5.3	5.8	0.5	3.6	4.2
	2.0	3.3	7.6	7.6	5.6	0.2	8.4	30.9	2.0	3.3	7.6	5.9	0.5	3.6	4.3
50	1.0	1.1	2.6	7.2	5.6	0.3	8.3	23.2	1.0	1.1	2.6	6.4	0.5	3.9	4.8
	1.5	2.0	4.7	7.4	5.6	0.3	8.4	25.4	1.5	2.0	4.7	6.7	0.5	4.0	5.0
	2.0	2.9	6.7	7.4	5.6	0.3	8.4	26.5	2.0	2.9	6.7	6.9	0.5	4.1	5.2
60	1.0	1.0	2.4	6.9	5.4	0.4	8.1	19.7	1.0	1.0	2.4	7.3	0.5	4.3	5.6
	1.5	1.8	4.2	7.1	5.5	0.3	8.2	21.5	1.5	1.8	4.2	7.7	0.5	4.5	6.0
	2.0	2.6	6.1	7.2	5.5	0.3	8.3	22.6	2.0	2.6	6.1	7.9	0.5	4.6	6.2
70	1.0	1.0	2.2	6.5	5.2	0.4	7.8	16.5	1.0	1.0	2.2	8.2	0.5	4.8	6.5
	1.5	1.7	3.9	6.7	5.3	0.4	8.0	18.1	1.5	1.7	3.9	8.7	0.5	5.0	6.9
	2.0	2.4	5.6	6.8	5.4	0.4	8.1	19.0	2.0	2.4	5.6	8.9	0.5	5.1	7.1
80	1.0	0.9	2.1	6.0	4.9	0.4	7.5	13.7	1.0	0.9	2.1	9.1	0.5	5.2	7.4
	1.5	1.6	3.7	6.3	5.0	0.4	7.7	15.1	1.5	1.6	3.7	9.6	0.5	5.4	7.8
	2.0	2.3	5.3	6.4	5.1	0.4	7.8	15.8	2.0	2.3	5.3	9.8	0.5	5.5	8.0
90	1.0	0.9	2.1	5.6	4.6	0.5	7.2	11.2	1.0	0.9	2.1	10.0	0.5	5.6	8.2
	1.5	1.6	3.6	5.8	4.7	0.5	7.4	12.4	1.5	1.6	3.6	10.4	0.5	5.8	8.6
	2.0	2.2	5.1	5.9	4.8	0.5	7.5	13.0	2.0	2.2	5.1	10.6	0.5	5.9	8.8
100	1.0	0.9	2.1	5.1	4.3	0.6	7.0	9.1	Operation Not Recommended						
	1.5	1.5	3.5	5.3	4.4	0.5	7.1	10.0							
	2.0	2.1	5.0	5.4	4.5	0.5	7.2	10.6							
110	1.0	0.9	2.0	4.6	4.0	0.6	6.7	7.3							
	1.5	1.5	3.4	4.8	4.1	0.6	6.8	8.1							
	2.0	2.1	4.8	4.9	4.2	0.6	6.9	8.5							
120	1.0	0.8	1.9	4.1	3.7	0.7	6.5	5.8							
	1.5	1.4	3.3	4.3	3.8	0.7	6.6	6.4							
	2.0	2.0	4.7	4.4	3.9	0.7	6.6	6.7							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

345 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								2.5	6.3	14.5	6.2	0.7	2.7	3.9
30	1.3	1.9	4.4	10.6	7.6	0.4	11.9	28.7	1.3	1.9	4.4	6.9	0.7	3.0	4.6
	1.9	3.5	8.0	10.7	7.6	0.3	11.8	31.8	1.9	3.5	8.0	7.2	0.7	3.1	4.9
	2.5	5.0	11.6	10.7	7.6	0.3	11.8	33.5	2.5	5.0	11.6	7.4	0.7	3.1	5.0
40	1.3	1.6	3.6	10.4	7.5	0.4	11.8	24.2	1.3	1.6	3.6	8.1	0.7	3.3	5.7
	1.9	2.9	6.6	10.5	7.5	0.4	11.9	26.9	1.9	2.9	6.6	8.5	0.7	3.5	6.0
	2.5	4.2	9.6	10.6	7.6	0.4	11.9	28.4	2.5	4.2	9.6	8.7	0.7	3.5	6.2
50	1.3	1.4	3.2	10.0	7.3	0.5	11.6	20.5	1.3	1.4	3.2	9.3	0.7	3.7	6.8
	1.9	2.5	5.7	10.2	7.4	0.4	11.8	22.8	1.9	2.5	5.7	9.7	0.7	3.8	7.2
	2.5	3.6	8.3	10.3	7.5	0.4	11.8	24.0	2.5	3.6	8.3	10.0	0.7	3.9	7.4
60	1.3	1.3	2.9	9.5	7.1	0.5	11.4	17.3	1.3	1.3	2.9	10.5	0.8	4.0	7.9
	1.9	2.3	5.2	9.8	7.2	0.5	11.6	19.2	1.9	2.3	5.2	11.0	0.8	4.2	8.4
	2.5	3.3	7.6	10.0	7.3	0.5	11.6	20.3	2.5	3.3	7.6	11.3	0.8	4.3	8.7
70	1.3	1.2	2.8	9.0	6.8	0.6	11.1	14.6	1.3	1.2	2.8	11.7	0.8	4.4	9.0
	1.9	2.2	5.0	9.3	7.0	0.6	11.3	16.2	1.9	2.2	5.0	12.3	0.8	4.5	9.6
	2.5	3.1	7.2	9.5	7.0	0.6	11.4	17.0	2.5	3.1	7.2	12.6	0.8	4.6	9.9
80	1.3	1.2	2.8	8.4	6.5	0.7	10.7	12.3	1.3	1.2	2.8	12.8	0.8	4.7	10.1
	1.9	2.2	5.0	8.7	6.7	0.6	10.9	13.6	1.9	2.2	5.0	13.5	0.8	4.9	10.7
	2.5	3.1	7.2	8.9	6.8	0.6	11.0	14.3	2.5	3.1	7.2	13.8	0.8	4.9	11.0
90	1.3	1.2	2.8	7.8	6.3	0.8	10.3	10.3	1.3	1.2	2.8	13.9	0.8	5.0	11.1
	1.9	2.2	5.0	8.1	6.4	0.7	10.6	11.4	1.9	2.2	5.0	14.6	0.8	5.1	11.8
	2.5	3.1	7.2	8.3	6.5	0.7	10.7	12.0	2.5	3.1	7.2	15.0	0.8	5.2	12.1
100	1.3	1.2	2.8	7.1	6.0	0.8	10.0	8.6	Operation Not Recommended						
	1.9	2.1	5.0	7.5	6.1	0.8	10.2	9.5							
	2.5	3.1	7.2	7.7	6.2	0.8	10.3	10.0							
110	1.3	1.1	2.6	6.5	5.7	0.9	9.6	7.2							
	1.9	2.1	4.8	6.8	5.9	0.9	9.8	7.9							
	2.5	3.0	6.9	7.0	5.9	0.8	9.9	8.3							
120	1.3	1.0	2.4	5.9	5.4	1.0	9.2	6.0							
	1.9	1.9	4.3	6.2	5.6	0.9	9.4	6.6							
	2.5	2.7	6.3	6.4	5.6	0.9	9.5	6.9							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

345 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								2.5	6.3	14.5	6.1	0.6	2.8	3.9
30	1.3	1.9	4.4	10.7	7.6	0.4	11.9	30.5	1.3	1.9	4.4	6.9	0.7	3.0	4.6
	1.9	3.5	8.0	10.8	7.7	0.3	11.8	34.1	1.9	3.5	8.0	7.2	0.7	3.1	4.9
	2.5	5.0	11.6	10.8	7.7	0.3	11.8	36.0	2.5	5.0	11.6	7.3	0.7	3.2	5.0
40	1.3	1.6	3.6	10.4	7.5	0.4	11.8	25.6	1.3	1.6	3.6	8.0	0.7	3.4	5.7
	1.9	2.9	6.6	10.6	7.6	0.4	11.9	28.6	1.9	2.9	6.6	8.4	0.7	3.5	6.0
	2.5	4.2	9.6	10.7	7.6	0.4	11.9	30.2	2.5	4.2	9.6	8.6	0.7	3.6	6.2
50	1.3	1.4	3.2	10.1	7.3	0.5	11.6	21.5	1.3	1.4	3.2	9.2	0.7	3.8	6.8
	1.9	2.5	5.7	10.3	7.4	0.4	11.8	24.0	1.9	2.5	5.7	9.7	0.7	3.9	7.2
	2.5	3.6	8.3	10.4	7.5	0.4	11.8	25.4	2.5	3.6	8.3	9.9	0.7	4.0	7.4
60	1.3	1.3	2.9	9.6	7.1	0.5	11.4	18.1	1.3	1.3	2.9	10.4	0.7	4.1	7.9
	1.9	2.3	5.2	9.9	7.3	0.5	11.6	20.1	1.9	2.3	5.2	10.9	0.7	4.3	8.4
	2.5	3.3	7.6	10.0	7.3	0.5	11.6	21.3	2.5	3.3	7.6	11.2	0.8	4.4	8.7
70	1.3	1.2	2.8	9.0	6.9	0.6	11.1	15.2	1.3	1.2	2.8	11.6	0.8	4.5	9.0
	1.9	2.2	5.0	9.4	7.0	0.6	11.3	16.9	1.9	2.2	5.0	12.2	0.8	4.6	9.6
	2.5	3.1	7.2	9.5	7.1	0.5	11.4	17.8	2.5	3.1	7.2	12.5	0.8	4.7	9.9
80	1.3	1.2	2.8	8.5	6.6	0.7	10.7	12.8	1.3	1.2	2.8	12.8	0.8	4.8	10.1
	1.9	2.2	5.0	8.8	6.8	0.6	10.9	14.1	1.9	2.2	5.0	13.4	0.8	5.0	10.7
	2.5	3.1	7.2	9.0	6.8	0.6	11.0	14.9	2.5	3.1	7.2	13.7	0.8	5.0	11.0
90	1.3	1.2	2.8	7.8	6.3	0.7	10.3	10.7	1.3	1.2	2.8	13.9	0.8	5.1	11.1
	1.9	2.2	5.0	8.2	6.5	0.7	10.6	11.8	1.9	2.2	5.0	14.5	0.8	5.2	11.8
	2.5	3.1	7.2	8.4	6.6	0.7	10.7	12.4	2.5	3.1	7.2	14.9	0.8	5.3	12.1
100	1.3	1.2	2.8	7.2	6.0	0.8	10.0	8.9	Operation Not Recommended						
	1.9	2.1	5.0	7.5	6.2	0.8	10.2	9.8							
	2.5	3.1	7.2	7.7	6.3	0.7	10.3	10.3							
110	1.3	1.1	2.6	6.6	5.8	0.9	9.6	7.4							
	1.9	2.1	4.8	6.9	5.9	0.8	9.8	8.2							
	2.5	3.0	6.9	7.1	6.0	0.8	9.9	8.6							
120	1.3	1.0	2.4	6.0	5.5	1.0	9.2	6.2							
	1.9	1.9	4.3	6.3	5.6	0.9	9.4	6.8							
	2.5	2.7	6.3	6.4	5.7	0.9	9.5	7.1							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

400 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								3.0	10.0	23.1	8.2	0.9	2.8	5.2
30	1.5	2.7	6.3	13.6	8.6	0.6	15.5	24.3	1.5	2.7	6.3	9.0	0.9	3.0	6.0
	2.3	5.6	13.0	13.8	8.7	0.5	15.5	27.0	2.3	5.6	13.0	9.4	0.9	3.1	6.4
	3.0	8.5	19.6	13.8	8.8	0.5	15.5	28.4	3.0	8.5	19.6	9.7	0.9	3.1	6.6
40	1.5	2.3	5.4	13.3	8.4	0.6	15.4	21.1	1.5	2.3	5.4	10.4	0.9	3.3	7.3
	2.3	4.8	11.1	13.5	8.5	0.6	15.5	23.3	2.3	4.8	11.1	10.9	0.9	3.4	7.8
	3.0	7.3	16.8	13.6	8.6	0.6	15.5	24.5	3.0	7.3	16.8	11.2	0.9	3.5	8.0
50	1.5	2.0	4.7	12.8	8.1	0.7	15.2	18.3	1.5	2.0	4.7	11.9	1.0	3.7	8.6
	2.3	4.2	9.7	13.2	8.3	0.7	15.4	20.1	2.3	4.2	9.7	12.5	1.0	3.8	9.2
	3.0	6.4	14.7	13.3	8.4	0.6	15.4	21.2	3.0	6.4	14.7	12.9	1.0	3.9	9.5
60	1.5	1.8	4.2	12.3	7.9	0.8	14.9	15.8	1.5	1.8	4.2	13.4	1.0	4.0	10.0
	2.3	3.8	8.7	12.7	8.1	0.7	15.1	17.4	2.3	3.8	8.7	14.1	1.0	4.1	10.7
	3.0	5.7	13.2	12.8	8.1	0.7	15.2	18.3	3.0	5.7	13.2	14.5	1.0	4.2	11.0
70	1.5	1.7	3.8	11.6	7.6	0.9	14.6	13.6	1.5	1.7	3.8	14.9	1.0	4.3	11.4
	2.3	3.4	8.0	12.1	7.8	0.8	14.8	15.0	2.3	3.4	8.0	15.6	1.0	4.4	12.1
	3.0	5.2	12.1	12.3	7.9	0.8	14.9	15.8	3.0	5.2	12.1	16.1	1.0	4.5	12.5
80	1.5	1.6	3.6	10.9	7.3	0.9	14.1	11.7	1.5	1.6	3.6	16.3	1.0	4.5	12.7
	2.3	3.2	7.5	11.4	7.5	0.9	14.4	12.9	2.3	3.2	7.5	17.1	1.1	4.7	13.5
	3.0	4.9	11.3	11.6	7.6	0.9	14.5	13.6	3.0	4.9	11.3	17.5	1.1	4.8	13.9
90	1.5	1.5	3.4	10.2	7.0	1.0	13.7	10.0	1.5	1.5	3.4	17.6	1.1	4.8	14.0
	2.3	3.1	7.1	10.7	7.2	1.0	14.0	11.1	2.3	3.1	7.1	18.4	1.1	4.9	14.7
	3.0	4.7	10.8	10.9	7.3	0.9	14.1	11.6	3.0	4.7	10.8	18.9	1.1	5.0	15.1
100	1.5	1.4	3.2	9.4	6.6	1.1	13.2	8.5	Operation Not Recommended						
	2.3	2.9	6.8	9.9	6.8	1.1	13.5	9.4							
	3.0	4.5	10.4	10.1	6.9	1.0	13.6	9.9							
110	1.5	1.3	3.1	8.6	6.3	1.2	12.7	7.2							
	2.3	2.8	6.5	9.1	6.5	1.1	13.0	7.9							
	3.0	4.3	10.0	9.3	6.6	1.1	13.1	8.4							
120	1.5	1.2	2.8	7.8	5.9	1.3	12.2	6.0							
	2.3	2.7	6.1	8.3	6.1	1.2	12.5	6.7							
	3.0	4.1	9.5	8.5	6.2	1.2	12.6	7.0							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

400 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								3.0	10.0	23.1	8.1	0.8	2.8	5.2
30	1.5	2.7	6.3	13.7	8.6	0.5	15.5	25.6	1.5	2.7	6.3	9.0	0.9	3.0	6.0
	2.3	5.6	13.0	13.8	8.8	0.5	15.5	28.5	2.3	5.6	13.0	9.3	0.9	3.1	6.4
	3.0	8.5	19.6	13.9	8.8	0.5	15.5	30.1	3.0	8.5	19.6	9.6	0.9	3.2	6.6
40	1.5	2.3	5.4	13.4	8.4	0.6	15.4	22.1	1.5	2.3	5.4	10.4	0.9	3.4	7.3
	2.3	4.8	11.1	13.6	8.6	0.6	15.5	24.5	2.3	4.8	11.1	10.9	0.9	3.5	7.8
	3.0	7.3	16.8	13.7	8.7	0.5	15.5	25.8	3.0	7.3	16.8	11.1	0.9	3.6	8.0
50	1.5	2.0	4.7	12.9	8.2	0.7	15.2	19.1	1.5	2.0	4.7	11.8	0.9	3.7	8.6
	2.3	4.2	9.7	13.2	8.4	0.6	15.4	21.1	2.3	4.2	9.7	12.4	0.9	3.9	9.2
	3.0	6.4	14.7	13.4	8.4	0.6	15.4	22.2	3.0	6.4	14.7	12.8	1.0	3.9	9.5
60	1.5	1.8	4.2	12.4	7.9	0.8	14.9	16.4	1.5	1.8	4.2	13.3	1.0	4.0	10.0
	2.3	3.8	8.7	12.8	8.1	0.7	15.1	18.2	2.3	3.8	8.7	14.0	1.0	4.2	10.7
	3.0	5.7	13.2	12.9	8.2	0.7	15.2	19.1	3.0	5.7	13.2	14.4	1.0	4.3	11.0
70	1.5	1.7	3.8	11.7	7.7	0.8	14.6	14.2	1.5	1.7	3.8	14.8	1.0	4.4	11.4
	2.3	3.4	8.0	12.2	7.8	0.8	14.8	15.6	2.3	3.4	8.0	15.6	1.0	4.5	12.1
	3.0	5.2	12.1	12.4	7.9	0.8	14.9	16.4	3.0	5.2	12.1	16.0	1.0	4.6	12.5
80	1.5	1.6	3.6	11.0	7.4	0.9	14.1	12.1	1.5	1.6	3.6	16.2	1.0	4.6	12.7
	2.3	3.2	7.5	11.5	7.5	0.9	14.4	13.4	2.3	3.2	7.5	17.0	1.0	4.8	13.5
	3.0	4.9	11.3	11.7	7.6	0.8	14.5	14.1	3.0	4.9	11.3	17.5	1.1	4.9	13.9
90	1.5	1.5	3.4	10.3	7.0	1.0	13.7	10.4	1.5	1.5	3.4	17.6	1.1	4.9	14.0
	2.3	3.1	7.1	10.7	7.2	0.9	14.0	11.4	2.3	3.1	7.1	18.4	1.1	5.0	14.7
	3.0	4.7	10.8	11.0	7.3	0.9	14.1	12.0	3.0	4.7	10.8	18.8	1.1	5.1	15.1
100	1.5	1.4	3.2	9.5	6.7	1.1	13.2	8.8	Operation Not Recommended						
	2.3	2.9	6.8	10.0	6.9	1.0	13.5	9.7							
	3.0	4.5	10.4	10.2	7.0	1.0	13.6	10.2							
110	1.5	1.3	3.1	8.7	6.3	1.2	12.7	7.4							
	2.3	2.8	6.5	9.2	6.5	1.1	13.0	8.2							
	3.0	4.3	10.0	9.4	6.6	1.1	13.1	8.6							
120	1.5	1.2	2.8	7.9	6.0	1.3	12.2	6.2							
	2.3	2.7	6.1	8.3	6.2	1.2	12.5	6.9							
	3.0	4.1	9.5	8.6	6.3	1.2	12.6	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

525 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								3.8	5.3	12.3	9.5	0.9	2.9	6.2
30	1.9	1.8	4.1	17.5	12.3	0.6	19.6	28.4	1.9	1.8	4.1	10.6	1.0	3.2	7.3
	2.8	3.1	7.1	17.6	12.2	0.6	19.5	31.1	2.8	3.1	7.1	11.0	1.0	3.3	7.7
	3.8	4.4	10.2	17.6	12.0	0.5	19.4	32.6	3.8	4.4	10.2	11.3	1.0	3.3	7.9
40	1.9	1.5	3.4	17.2	12.2	0.7	19.6	24.7	1.9	1.5	3.4	12.2	1.0	3.5	8.8
	2.8	2.6	6.0	17.4	12.3	0.6	19.6	27.2	2.8	2.6	6.0	12.7	1.0	3.7	9.3
	3.8	3.7	8.6	17.5	12.3	0.6	19.6	28.6	3.8	3.7	8.6	13.0	1.0	3.7	9.5
50	1.9	1.3	2.9	16.8	11.9	0.8	19.5	21.5	1.9	1.3	2.9	13.8	1.0	3.9	10.3
	2.8	2.3	5.3	17.1	12.2	0.7	19.6	23.7	2.8	2.3	5.3	14.4	1.1	4.0	10.9
	3.8	3.3	7.6	17.2	12.3	0.7	19.6	24.9	3.8	3.3	7.6	14.8	1.1	4.1	11.2
60	1.9	1.2	2.7	16.2	11.5	0.9	19.2	18.5	1.9	1.2	2.7	15.4	1.1	4.2	11.8
	2.8	2.1	4.8	16.6	11.8	0.8	19.4	20.5	2.8	2.1	4.8	16.1	1.1	4.4	12.4
	3.8	3.0	7.0	16.8	12.0	0.8	19.5	21.6	3.8	3.0	7.0	16.5	1.1	4.4	12.8
70	1.9	1.1	2.5	15.5	11.1	1.0	18.8	15.9	1.9	1.1	2.5	17.0	1.1	4.5	13.3
	2.8	2.0	4.6	16.0	11.4	0.9	19.1	17.7	2.8	2.0	4.6	17.8	1.1	4.7	14.0
	3.8	2.9	6.6	16.2	11.5	0.9	19.2	18.6	3.8	2.9	6.6	18.2	1.1	4.8	14.4
80	1.9	1.1	2.5	14.7	10.6	1.1	18.3	13.6	1.9	1.1	2.5	18.6	1.1	4.8	14.8
	2.8	1.9	4.5	15.2	10.9	1.0	18.7	15.1	2.8	1.9	4.5	19.5	1.1	5.0	15.6
	3.8	2.8	6.5	15.5	11.1	1.0	18.8	15.9	3.8	2.8	6.5	19.9	1.1	5.1	16.0
90	1.9	1.1	2.5	13.7	10.2	1.2	17.7	11.6	1.9	1.1	2.5	20.2	1.2	5.1	16.3
	2.8	1.9	4.5	14.3	10.5	1.1	18.1	12.9	2.8	1.9	4.5	21.1	1.2	5.3	17.2
	3.8	2.8	6.4	14.6	10.6	1.1	18.3	13.6	3.8	2.8	6.4	21.7	1.2	5.4	17.7
100	1.9	1.1	2.5	12.6	9.9	1.3	17.0	9.7	Operation Not Recommended						
	2.8	1.9	4.4	13.3	10.1	1.2	17.4	10.8							
	3.8	2.7	6.3	13.6	10.2	1.2	17.7	11.5							
110	1.9	1.0	2.4	11.4	9.7	1.4	16.2	8.1							
	2.8	1.8	4.3	12.1	9.8	1.3	16.7	9.0							
	3.8	2.6	6.1	12.5	9.9	1.3	16.9	9.6							
120	1.9	0.9	2.2	10.1	9.4	1.5	15.3	6.6							
	2.8	1.7	3.9	10.8	9.6	1.5	15.8	7.4							
	3.8	2.4	5.6	11.2	9.6	1.4	16.0	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

525 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								3.8	5.3	12.3	9.4	0.9	3.0	6.2
30	1.9	1.8	4.1	17.6	12.4	0.6	19.6	30.0	1.9	1.8	4.1	10.5	0.9	3.3	7.3
	2.8	3.1	7.1	17.7	12.2	0.5	19.5	33.1	2.8	3.1	7.1	10.9	1.0	3.4	7.7
	3.8	4.4	10.2	17.7	12.1	0.5	19.4	34.7	3.8	4.4	10.2	11.2	1.0	3.4	7.9
40	1.9	1.5	3.4	17.3	12.3	0.7	19.6	26.0	1.9	1.5	3.4	12.1	1.0	3.6	8.8
	2.8	2.6	6.0	17.5	12.4	0.6	19.6	28.7	2.8	2.6	6.0	12.6	1.0	3.7	9.3
	3.8	3.7	8.6	17.6	12.4	0.6	19.6	30.2	3.8	3.7	8.6	12.9	1.0	3.8	9.5
50	1.9	1.3	2.9	16.9	12.0	0.8	19.5	22.5	1.9	1.3	2.9	13.7	1.0	4.0	10.3
	2.8	2.3	5.3	17.2	12.2	0.7	19.6	24.9	2.8	2.3	5.3	14.3	1.0	4.1	10.9
	3.8	3.3	7.6	17.3	12.3	0.7	19.6	26.2	3.8	3.3	7.6	14.7	1.0	4.2	11.2
60	1.9	1.2	2.7	16.3	11.6	0.8	19.2	19.3	1.9	1.2	2.7	15.3	1.0	4.3	11.8
	2.8	2.1	4.8	16.7	11.9	0.8	19.4	21.4	2.8	2.1	4.8	16.0	1.1	4.5	12.4
	3.8	3.0	7.0	16.9	12.0	0.7	19.5	22.6	3.8	3.0	7.0	16.4	1.1	4.5	12.8
70	1.9	1.1	2.5	15.6	11.1	0.9	18.8	16.6	1.9	1.1	2.5	16.9	1.1	4.6	13.3
	2.8	2.0	4.6	16.1	11.4	0.9	19.1	18.4	2.8	2.0	4.6	17.7	1.1	4.8	14.0
	3.8	2.9	6.6	16.3	11.6	0.8	19.2	19.4	3.8	2.9	6.6	18.1	1.1	4.9	14.4
80	1.9	1.1	2.5	14.8	10.7	1.0	18.3	14.1	1.9	1.1	2.5	18.5	1.1	4.9	14.8
	2.8	1.9	4.5	15.3	11.0	1.0	18.7	15.7	2.8	1.9	4.5	19.4	1.1	5.1	15.6
	3.8	2.8	6.5	15.6	11.1	0.9	18.8	16.6	3.8	2.8	6.5	19.8	1.1	5.2	16.0
90	1.9	1.1	2.5	13.8	10.3	1.2	17.7	12.0	1.9	1.1	2.5	20.1	1.1	5.2	16.3
	2.8	1.9	4.5	14.4	10.5	1.1	18.1	13.3	2.8	1.9	4.5	21.0	1.1	5.4	17.2
	3.8	2.8	6.4	14.7	10.7	1.0	18.3	14.1	3.8	2.8	6.4	21.6	1.1	5.5	17.7
100	1.9	1.1	2.5	12.7	10.0	1.3	17.0	10.1	Operation Not Recommended						
	2.8	1.9	4.4	13.4	10.2	1.2	17.4	11.2							
	3.8	2.7	6.3	13.7	10.3	1.2	17.7	11.8							
110	1.9	1.0	2.4	11.5	9.8	1.4	16.2	8.4							
	2.8	1.8	4.3	12.2	9.9	1.3	16.7	9.3							
	3.8	2.6	6.1	12.6	10.0	1.3	16.9	9.9							
120	1.9	0.9	2.2	10.2	9.5	1.5	15.3	6.8							
	2.8	1.7	3.9	10.9	9.7	1.4	15.8	7.7							
	3.8	2.4	5.6	11.3	9.7	1.4	16.0	8.1							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

630 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								4.5	9.2	21.1	11.9	1.2	3.0	7.9
30	2.3	2.7	6.3	23.0	15.7	0.8	25.6	29.8	2.3	2.7	6.3	13.2	1.2	3.2	9.1
	3.4	5.2	12.1	23.5	16.0	0.7	25.9	33.8	3.4	5.2	12.1	13.8	1.2	3.3	9.7
	4.5	7.7	17.9	23.8	16.2	0.7	26.1	36.0	4.5	7.7	17.9	14.1	1.2	3.4	10.0
40	2.3	2.4	5.6	22.2	15.3	0.9	25.2	25.3	2.3	2.4	5.6	15.3	1.2	3.6	11.0
	3.4	4.6	10.5	22.8	15.6	0.8	25.5	28.7	3.4	4.6	10.5	16.0	1.3	3.7	11.7
	4.5	6.7	15.4	23.1	15.8	0.8	25.7	30.5	4.5	6.7	15.4	16.4	1.3	3.8	12.0
50	2.3	2.2	5.1	21.4	15.0	1.0	24.8	21.5	2.3	2.2	5.1	17.3	1.3	3.9	12.9
	3.4	4.1	9.4	22.0	15.2	0.9	25.1	24.3	3.4	4.1	9.4	18.1	1.3	4.0	13.6
	4.5	5.9	13.7	22.3	15.4	0.9	25.3	25.8	4.5	5.9	13.7	18.5	1.3	4.1	14.0
60	2.3	2.1	4.8	20.6	14.6	1.1	24.4	18.2	2.3	2.1	4.8	19.3	1.3	4.2	14.7
	3.4	3.8	8.7	21.2	14.9	1.0	24.7	20.5	3.4	3.8	8.7	20.2	1.4	4.4	15.6
	4.5	5.4	12.6	21.5	15.0	1.0	24.9	21.8	4.5	5.4	12.6	20.7	1.4	4.4	16.0
70	2.3	2.0	4.5	19.7	14.2	1.3	24.0	15.5	2.3	2.0	4.5	21.2	1.4	4.5	16.5
	3.4	3.5	8.2	20.3	14.5	1.2	24.3	17.4	3.4	3.5	8.2	22.2	1.4	4.7	17.4
	4.5	5.1	11.9	20.7	14.6	1.1	24.5	18.5	4.5	5.1	11.9	22.8	1.4	4.7	17.9
80	2.3	1.9	4.4	18.7	13.8	1.4	23.5	13.1	2.3	1.9	4.4	23.1	1.4	4.8	18.3
	3.4	3.4	7.9	19.4	14.1	1.3	23.9	14.7	3.4	3.4	7.9	24.2	1.4	4.9	19.3
	4.5	5.0	11.5	19.7	14.3	1.3	24.0	15.6	4.5	5.0	11.5	24.8	1.4	5.0	19.8
90	2.3	1.8	4.2	17.6	13.3	1.6	23.0	11.1	2.3	1.8	4.2	25.0	1.4	5.1	20.0
	3.4	3.3	7.7	18.3	13.7	1.5	23.3	12.5	3.4	3.3	7.7	26.1	1.5	5.2	21.1
	4.5	4.9	11.2	18.7	13.8	1.4	23.5	13.2	4.5	4.9	11.2	26.7	1.5	5.3	21.7
100	2.3	1.8	4.1	16.3	12.8	1.7	22.3	9.4	Operation Not Recommended						
	3.4	3.3	7.5	17.2	13.1	1.6	22.8	10.5							
	4.5	4.8	11.0	17.6	13.3	1.6	23.0	11.1							
110	2.3	1.7	3.9	15.0	12.1	1.9	21.6	7.8							
	3.4	3.2	7.3	15.9	12.5	1.8	22.1	8.8							
	4.5	4.6	10.6	16.3	12.8	1.7	22.3	9.3							
120	2.3	1.6	3.7	13.6	11.3	2.1	20.7	6.5							
	3.4	3.0	6.9	14.5	11.8	2.0	21.3	7.3							
	4.5	4.3	10.0	15.0	12.1	1.9	21.5	7.8							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

630 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								4.5	9.2	21.1	11.8	1.1	3.0	7.9
30	2.3	2.7	6.3	23.1	15.8	0.8	25.6	30.7	2.3	2.7	6.3	13.1	1.2	3.3	9.1
	3.4	5.2	12.1	23.6	16.1	0.7	25.9	34.9	3.4	5.2	12.1	13.7	1.2	3.4	9.7
	4.5	7.7	17.9	23.9	16.2	0.6	26.1	37.2	4.5	7.7	17.9	14.1	1.2	3.4	10.0
40	2.3	2.4	5.6	22.3	15.4	0.9	25.2	26.0	2.3	2.4	5.6	15.2	1.2	3.6	11.0
	3.4	4.6	10.5	22.9	15.7	0.8	25.5	29.5	3.4	4.6	10.5	15.9	1.2	3.7	11.7
	4.5	6.7	15.4	23.2	15.8	0.7	25.7	31.4	4.5	6.7	15.4	16.3	1.3	3.8	12.0
50	2.3	2.2	5.1	21.5	15.0	1.0	24.8	22.0	2.3	2.2	5.1	17.2	1.3	4.0	12.9
	3.4	4.1	9.4	22.1	15.3	0.9	25.1	24.9	3.4	4.1	9.4	18.0	1.3	4.1	13.6
	4.5	5.9	13.7	22.4	15.4	0.8	25.3	26.5	4.5	5.9	13.7	18.5	1.3	4.2	14.0
60	2.3	2.1	4.8	20.7	14.7	1.1	24.4	18.6	2.3	2.1	4.8	19.2	1.3	4.3	14.7
	3.4	3.8	8.7	21.3	14.9	1.0	24.7	21.0	3.4	3.8	8.7	20.1	1.3	4.4	15.6
	4.5	5.4	12.6	21.6	15.1	1.0	24.9	22.4	4.5	5.4	12.6	20.6	1.3	4.5	16.0
70	2.3	2.0	4.5	19.7	14.3	1.3	24.0	15.8	2.3	2.0	4.5	21.2	1.4	4.6	16.5
	3.4	3.5	8.2	20.4	14.6	1.1	24.3	17.8	3.4	3.5	8.2	22.2	1.4	4.7	17.4
	4.5	5.1	11.9	20.7	14.7	1.1	24.5	18.9	4.5	5.1	11.9	22.7	1.4	4.8	17.9
80	2.3	1.9	4.4	18.7	13.8	1.4	23.5	13.3	2.3	1.9	4.4	23.1	1.4	4.8	18.3
	3.4	3.4	7.9	19.4	14.2	1.3	23.9	15.0	3.4	3.4	7.9	24.1	1.4	5.0	19.3
	4.5	5.0	11.5	19.8	14.3	1.2	24.0	15.9	4.5	5.0	11.5	24.7	1.4	5.1	19.8
90	2.3	1.8	4.2	17.6	13.4	1.6	23.0	11.3	2.3	1.8	4.2	24.9	1.4	5.1	20.0
	3.4	3.3	7.7	18.4	13.7	1.5	23.3	12.7	3.4	3.3	7.7	26.0	1.4	5.3	21.1
	4.5	4.9	11.2	18.8	13.9	1.4	23.5	13.4	4.5	4.9	11.2	26.6	1.5	5.4	21.7
100	2.3	1.8	4.1	16.4	12.8	1.7	22.3	9.5	Operation Not Recommended						
	3.4	3.3	7.5	17.2	13.2	1.6	22.8	10.7							
	4.5	4.8	11.0	17.6	13.4	1.6	23.0	11.3							
110	2.3	1.7	3.9	15.1	12.1	1.9	21.6	7.9							
	3.4	3.2	7.3	16.0	12.6	1.8	22.1	8.9							
	4.5	4.6	10.6	16.4	12.8	1.7	22.3	9.5							
120	2.3	1.6	3.7	13.7	11.4	2.1	20.7	6.6							
	3.4	3.0	6.9	14.6	11.9	2.0	21.3	7.4							
	4.5	4.3	10.0	15.0	12.1	1.9	21.5	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

800 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								6.0	4.2	9.6	17.1	1.7	3.0	11.4
30	3.0	1.2	2.7	27.7	18.7	1.1	31.3	26.2	3.0	1.2	2.7	18.7	1.7	3.2	13.0
	4.5	2.3	5.3	27.1	18.2	1.0	30.5	27.3	4.5	2.3	5.3	19.6	1.7	3.4	13.7
	6.0	3.3	7.7	26.7	17.9	1.0	30.0	27.6	6.0	3.3	7.7	20.0	1.7	3.4	14.2
40	3.0	0.9	2.1	27.9	19.0	1.2	31.9	23.8	3.0	0.9	2.1	21.5	1.7	3.6	15.5
	4.5	1.8	4.2	27.9	18.9	1.1	31.6	25.6	4.5	1.8	4.2	22.5	1.8	3.7	16.4
	6.0	2.7	6.3	27.7	18.7	1.1	31.3	26.3	6.0	2.7	6.3	23.0	1.8	3.8	17.0
50	3.0	0.7	1.7	27.6	19.0	1.3	32.0	21.0	3.0	0.7	1.7	24.2	1.8	3.9	18.1
	4.5	1.5	3.4	27.9	19.0	1.2	32.0	23.0	4.5	1.5	3.4	25.4	1.8	4.1	19.2
	6.0	2.3	5.4	27.9	19.0	1.2	31.9	24.0	6.0	2.3	5.4	26.0	1.8	4.2	19.8
60	3.0	0.6	1.4	26.8	18.7	1.5	31.8	18.2	3.0	0.6	1.4	27.0	1.9	4.3	20.6
	4.5	1.3	3.0	27.4	18.9	1.4	32.0	20.2	4.5	1.3	3.0	28.3	1.9	4.4	21.9
	6.0	2.1	4.8	27.6	19.0	1.3	32.0	21.2	6.0	2.1	4.8	29.0	1.9	4.5	22.5
70	3.0	0.6	1.3	25.7	18.2	1.7	31.3	15.5	3.0	0.6	1.3	29.7	1.9	4.6	23.2
	4.5	1.2	2.7	26.5	18.6	1.5	31.7	17.4	4.5	1.2	2.7	31.2	1.9	4.7	24.5
	6.0	2.0	4.5	26.8	18.7	1.5	31.8	18.3	6.0	2.0	4.5	32.0	2.0	4.8	25.3
80	3.0	0.5	1.2	24.4	17.7	1.9	30.8	13.1	3.0	0.5	1.2	32.4	2.0	4.8	25.7
	4.5	1.1	2.6	25.3	18.1	1.7	31.2	14.7	4.5	1.1	2.6	33.9	2.0	5.0	27.1
	6.0	1.9	4.3	25.7	18.3	1.6	31.3	15.6	6.0	1.9	4.3	34.8	2.0	5.1	27.9
90	3.0	0.5	1.1	23.1	17.0	2.1	30.2	11.0	3.0	0.5	1.1	35.0	2.0	5.1	28.1
	4.5	1.1	2.5	24.0	17.5	1.9	30.6	12.4	4.5	1.1	2.5	36.6	2.1	5.2	29.6
	6.0	1.8	4.3	24.4	17.7	1.9	30.8	13.1	6.0	1.8	4.3	37.5	2.1	5.3	30.4
100	3.0	0.5	1.1	21.7	16.4	2.4	29.8	9.2	Operation Not Recommended						
	4.5	1.1	2.4	22.6	16.8	2.2	30.1	10.3							
	6.0	1.8	4.1	23.1	17.0	2.1	30.2	11.0							
110	3.0	0.4	0.9	20.6	15.9	2.7	29.7	7.7							
	4.5	1.0	2.2	21.3	16.2	2.5	29.7	8.6							
	6.0	1.7	3.9	21.7	16.4	2.4	29.8	9.2							
120	3.0	0.3	0.7	19.7	15.6	3.0	30.0	6.5							
	4.5	0.8	1.9	20.2	15.8	2.8	29.7	7.3							
	6.0	1.5	3.4	20.6	15.9	2.7	29.7	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

800 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								6.0	4.2	9.6	17.0	1.6	3.1	11.5
30	3.0	1.2	2.7	27.7	18.7	1.0	31.2	27.2	3.0	1.2	2.7	18.6	1.7	3.3	13.0
	4.5	2.3	5.3	27.1	18.2	1.0	30.3	28.4	4.5	2.3	5.3	19.5	1.7	3.4	13.8
	6.0	3.3	7.7	26.6	17.9	0.9	29.8	28.8	6.0	3.3	7.7	19.9	1.7	3.5	14.2
40	3.0	0.9	2.1	27.9	19.0	1.1	31.8	24.7	3.0	0.9	2.1	21.4	1.7	3.7	15.5
	4.5	1.8	4.2	27.8	18.8	1.0	31.4	26.5	4.5	1.8	4.2	22.4	1.7	3.8	16.5
	6.0	2.7	6.3	27.7	18.7	1.0	31.1	27.3	6.0	2.7	6.3	22.9	1.7	3.9	17.0
50	3.0	0.7	1.7	27.5	19.0	1.3	31.9	21.7	3.0	0.7	1.7	24.1	1.8	4.0	18.1
	4.5	1.5	3.4	27.9	19.0	1.2	31.9	23.8	4.5	1.5	3.4	25.3	1.8	4.1	19.2
	6.0	2.3	5.4	27.9	19.0	1.1	31.8	24.8	6.0	2.3	5.4	25.9	1.8	4.2	19.8
60	3.0	0.6	1.4	26.7	18.7	1.4	31.6	18.7	3.0	0.6	1.4	26.8	1.8	4.3	20.6
	4.5	1.3	3.0	27.3	18.9	1.3	31.8	20.8	4.5	1.3	3.0	28.2	1.8	4.5	21.9
	6.0	2.1	4.8	27.6	19.0	1.3	31.9	21.9	6.0	2.1	4.8	28.9	1.9	4.6	22.5
70	3.0	0.6	1.3	25.7	18.2	1.6	31.2	15.9	3.0	0.6	1.3	29.5	1.9	4.6	23.2
	4.5	1.2	2.7	26.4	18.6	1.5	31.5	17.8	4.5	1.2	2.7	31.0	1.9	4.8	24.5
	6.0	2.0	4.5	26.8	18.7	1.4	31.7	18.8	6.0	2.0	4.5	31.8	1.9	4.9	25.2
80	3.0	0.5	1.2	24.4	17.6	1.8	30.6	13.4	3.0	0.5	1.2	32.2	1.9	4.9	25.6
	4.5	1.1	2.6	25.3	18.1	1.7	31.0	15.1	4.5	1.1	2.6	33.8	2.0	5.1	27.1
	6.0	1.9	4.3	25.7	18.2	1.6	31.2	16.0	6.0	1.9	4.3	34.6	2.0	5.1	27.9
90	3.0	0.5	1.1	23.0	17.0	2.1	30.1	11.2	3.0	0.5	1.1	34.8	2.0	5.1	28.0
	4.5	1.1	2.5	23.9	17.4	1.9	30.4	12.6	4.5	1.1	2.5	36.4	2.0	5.3	29.6
	6.0	1.8	4.3	24.4	17.7	1.8	30.6	13.4	6.0	1.8	4.3	37.3	2.0	5.4	30.4
100	3.0	0.5	1.1	21.7	16.4	2.3	29.7	9.3	Operation Not Recommended						
	4.5	1.1	2.4	22.6	16.8	2.1	29.9	10.5							
	6.0	1.8	4.1	23.0	17.0	2.1	30.1	11.2							
110	3.0	0.4	0.9	20.6	15.9	2.6	29.5	7.8							
	4.5	1.0	2.2	21.3	16.2	2.4	29.6	8.8							
	6.0	1.7	3.9	21.7	16.4	2.3	29.7	9.3							
120	3.0	0.3	0.7	19.7	15.6	3.0	29.8	6.6							
	4.5	0.8	1.9	20.2	15.8	2.7	29.6	7.4							
	6.0	1.5	3.4	20.5	15.9	2.6	29.5	7.8							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,000 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								7.5	6.6	15.3	20.0	2.0	3.0	13.2
30	3.8	2.0	4.6	33.5	23.1	1.3	37.9	26.1	3.8	2.0	4.6	22.0	2.0	3.2	15.1
	5.6	3.7	8.5	33.4	23.0	1.2	37.5	27.6	5.6	3.7	8.5	22.8	2.0	3.3	15.8
	7.5	5.3	12.3	33.2	22.9	1.2	37.3	28.3	7.5	5.3	12.3	23.2	2.1	3.3	16.2
40	3.8	1.6	3.6	33.2	23.0	1.4	38.1	23.4	3.8	1.6	3.6	25.0	2.1	3.5	17.8
	5.6	2.9	6.7	33.5	23.1	1.3	38.0	25.2	5.6	2.9	6.7	25.9	2.1	3.6	18.7
	7.5	4.4	10.1	33.5	23.1	1.3	37.9	26.0	7.5	4.4	10.1	26.4	2.1	3.7	19.2
50	3.8	1.3	3.0	32.5	22.8	1.6	37.8	20.7	3.8	1.3	3.0	27.9	2.1	3.8	20.6
	5.6	2.4	5.5	33.0	23.0	1.5	38.0	22.4	5.6	2.4	5.5	29.0	2.2	3.9	21.6
	7.5	3.8	8.7	33.2	23.0	1.4	38.1	23.4	7.5	3.8	8.7	29.6	2.2	4.0	22.1
60	3.8	1.1	2.5	31.3	22.5	1.7	37.3	17.9	3.8	1.1	2.5	30.8	2.2	4.1	23.3
	5.6	2.1	4.8	32.1	22.7	1.6	37.7	19.7	5.6	2.1	4.8	32.0	2.2	4.2	24.4
	7.5	3.4	7.8	32.4	22.8	1.6	37.8	20.6	7.5	3.4	7.8	32.7	2.2	4.3	25.1
70	3.8	1.0	2.3	29.9	22.0	2.0	36.6	15.3	3.8	1.0	2.3	33.7	2.3	4.4	26.0
	5.6	1.9	4.4	30.8	22.3	1.8	37.1	16.9	5.6	1.9	4.4	35.1	2.3	4.5	27.3
	7.5	3.2	7.3	31.3	22.5	1.8	37.3	17.8	7.5	3.2	7.3	35.9	2.3	4.5	28.0
80	3.8	1.0	2.2	28.3	21.4	2.2	35.8	13.0	3.8	1.0	2.2	36.7	2.3	4.6	28.7
	5.6	1.9	4.3	29.3	21.8	2.0	36.3	14.4	5.6	1.9	4.3	38.2	2.4	4.7	30.1
	7.5	3.1	7.1	29.9	22.0	2.0	36.6	15.2	7.5	3.1	7.1	39.1	2.4	4.8	30.9
90	3.8	0.9	2.1	26.6	20.7	2.5	35.0	10.9	3.8	0.9	2.1	39.6	2.4	4.9	31.5
	5.6	1.8	4.2	27.7	21.1	2.3	35.5	12.1	5.6	1.8	4.2	41.3	2.4	5.0	33.0
	7.5	3.0	7.0	28.2	21.4	2.2	35.7	12.8	7.5	3.0	7.0	42.3	2.4	5.1	33.9
100	3.8	0.9	2.0	24.8	19.9	2.8	34.3	9.0	Operation Not Recommended						
	5.6	1.8	4.1	25.9	20.4	2.6	34.7	10.1							
	7.5	3.0	6.9	26.4	20.6	2.5	34.9	10.7							
110	3.8	0.8	1.9	23.1	19.1	3.1	33.7	7.4							
	5.6	1.7	3.8	24.1	19.6	2.9	34.0	8.3							
	7.5	2.8	6.5	24.6	19.9	2.8	34.2	8.8							
120	3.8	0.7	1.5	21.5	18.3	3.5	33.4	6.1							
	5.6	1.4	3.3	22.4	18.8	3.3	33.5	6.9							
	7.5	2.5	5.8	22.9	19.0	3.1	33.6	7.3							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,000 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								7.5	6.6	15.3	19.9	1.9	3.0	13.3
30	3.8	2.0	4.6	33.5	23.1	1.2	37.7	27.3	3.8	2.0	4.6	21.8	2.0	3.3	15.1
	5.6	3.7	8.5	33.4	23.0	1.2	37.4	29.0	5.6	3.7	8.5	22.6	2.0	3.3	15.9
	7.5	5.3	12.3	33.3	22.9	1.1	37.1	29.8	7.5	5.3	12.3	23.1	2.0	3.4	16.3
40	3.8	1.6	3.6	33.2	23.0	1.4	37.9	24.5	3.8	1.6	3.6	24.8	2.0	3.6	17.9
	5.6	2.9	6.7	33.5	23.1	1.3	37.8	26.3	5.6	2.9	6.7	25.7	2.0	3.7	18.7
	7.5	4.4	10.1	33.5	23.1	1.2	37.7	27.3	7.5	4.4	10.1	26.3	2.1	3.7	19.2
50	3.8	1.3	3.0	32.5	22.8	1.5	37.6	21.5	3.8	1.3	3.0	27.7	2.1	3.9	20.6
	5.6	2.4	5.5	33.0	23.0	1.4	37.8	23.4	5.6	2.4	5.5	28.8	2.1	4.0	21.6
	7.5	3.8	8.7	33.2	23.0	1.4	37.9	24.4	7.5	3.8	8.7	29.4	2.1	4.1	22.2
60	3.8	1.1	2.5	31.4	22.5	1.7	37.1	18.6	3.8	1.1	2.5	30.6	2.1	4.2	23.3
	5.6	2.1	4.8	32.1	22.7	1.6	37.5	20.4	5.6	2.1	4.8	31.8	2.2	4.3	24.4
	7.5	3.4	7.8	32.5	22.8	1.5	37.6	21.4	7.5	3.4	7.8	32.5	2.2	4.4	25.1
70	3.8	1.0	2.3	30.0	22.0	1.9	36.4	15.8	3.8	1.0	2.3	33.5	2.2	4.5	26.0
	5.6	1.9	4.4	30.9	22.3	1.8	36.9	17.5	5.6	1.9	4.4	34.9	2.2	4.6	27.3
	7.5	3.2	7.3	31.3	22.5	1.7	37.1	18.5	7.5	3.2	7.3	35.7	2.3	4.6	28.0
80	3.8	1.0	2.2	28.4	21.4	2.1	35.6	13.3	3.8	1.0	2.2	36.5	2.3	4.7	28.7
	5.6	1.9	4.3	29.4	21.8	2.0	36.1	14.8	5.6	1.9	4.3	38.0	2.3	4.8	30.1
	7.5	3.1	7.1	29.9	22.0	1.9	36.4	15.7	7.5	3.1	7.1	38.8	2.3	4.9	30.9
90	3.8	0.9	2.1	26.6	20.7	2.4	34.8	11.1	3.8	0.9	2.1	39.4	2.3	5.0	31.4
	5.6	1.8	4.2	27.7	21.2	2.2	35.3	12.4	5.6	1.8	4.2	41.1	2.4	5.1	33.0
	7.5	3.0	7.0	28.2	21.4	2.1	35.6	13.2	7.5	3.0	7.0	42.0	2.4	5.2	33.9
100	3.8	0.9	2.0	24.9	20.0	2.7	34.1	9.2	Operation Not Recommended						
	5.6	1.8	4.1	25.9	20.4	2.5	34.5	10.3							
	7.5	3.0	6.9	26.5	20.7	2.4	34.7	10.9							
110	3.8	0.8	1.9	23.1	19.2	3.0	33.5	7.6							
	5.6	1.7	3.8	24.1	19.6	2.8	33.8	8.5							
	7.5	2.8	6.5	24.7	19.9	2.7	34.0	9.0							
120	3.8	0.7	1.5	21.5	18.3	3.4	33.2	6.2							
	5.6	1.4	3.3	22.4	18.8	3.2	33.4	7.0							
	7.5	2.5	5.8	22.9	19.1	3.1	33.5	7.4							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,150 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								9.0	5.1	11.7	24.6	2.4	3.0	16.4
30	3.0	0.9	2.0	38.7	27.4	1.6	44.0	24.9	4.5	1.6	3.8	25.6	2.4	3.1	17.3
	6.0	2.4	5.5	38.0	26.0	1.3	42.4	29.3	6.0	2.4	5.5	27.9	2.5	3.3	19.5
	9.0	4.1	9.5	37.3	25.3	1.2	41.5	30.4	9.0	4.1	9.5	28.9	2.5	3.4	20.4
40	3.0	0.6	1.5	38.3	27.7	1.8	44.3	21.7	4.5	1.3	3.0	29.2	2.5	3.4	20.7
	6.0	1.9	4.3	38.7	27.1	1.5	43.7	26.4	6.0	1.9	4.3	32.1	2.6	3.6	23.3
	9.0	3.4	7.8	38.5	26.7	1.4	43.2	27.9	9.0	3.4	7.8	33.2	2.6	3.7	24.3
50	3.0	0.5	1.2	37.3	27.5	2.0	44.1	18.7	4.5	1.0	2.4	32.9	2.6	3.7	24.0
	6.0	1.5	3.5	38.6	27.6	1.7	44.3	23.2	6.0	1.5	3.5	36.2	2.7	4.0	27.1
	9.0	2.9	6.7	38.7	27.5	1.6	44.1	24.8	9.0	2.9	6.7	37.5	2.7	4.0	28.2
60	3.0	0.4	1.0	35.9	27.0	2.2	43.6	16.0	4.5	0.9	2.1	36.6	2.7	4.0	27.4
	6.0	1.3	3.1	37.8	27.7	1.9	44.3	20.1	6.0	1.3	3.1	40.3	2.8	4.2	30.8
	9.0	2.6	6.0	38.3	27.7	1.8	44.3	21.6	9.0	2.6	6.0	41.8	2.8	4.3	32.1
70	3.0	0.4	0.9	34.3	26.3	2.5	42.8	13.6	4.5	0.8	2.0	40.2	2.8	4.2	30.7
	6.0	1.2	2.9	36.6	27.3	2.1	43.9	17.2	6.0	1.2	2.9	44.4	2.9	4.5	34.5
	9.0	2.4	5.6	37.3	27.5	2.0	44.1	18.6	9.0	2.4	5.6	46.0	2.9	4.6	35.9
80	3.0	0.4	0.9	32.4	25.4	2.8	42.0	11.6	4.5	0.8	1.9	43.8	2.9	4.5	34.0
	6.0	1.2	2.8	35.0	26.6	2.4	43.2	14.6	6.0	1.2	2.8	48.3	3.0	4.7	38.0
	9.0	2.4	5.5	35.8	27.0	2.3	43.5	15.8	9.0	2.4	5.5	50.0	3.1	4.8	39.6
90	3.0	0.4	0.9	30.5	24.5	3.1	41.2	9.8	4.5	0.8	1.9	47.4	3.0	4.6	37.2
	6.0	1.2	2.8	33.2	25.8	2.7	42.3	12.4	6.0	1.2	2.8	52.2	3.1	4.9	41.5
	9.0	2.3	5.4	34.1	26.2	2.5	42.7	13.4	9.0	2.3	5.4	54.0	3.2	5.0	43.1
100	3.0	0.4	0.9	28.7	23.6	3.4	40.4	8.3	Operation Not Recommended						
	6.0	1.2	2.8	31.3	24.9	3.0	41.5	10.5							
	9.0	2.3	5.3	32.2	25.3	2.8	41.9	11.3							
110	3.0	0.4	0.9	27.0	22.9	3.8	40.0	7.1							
	6.0	1.1	2.6	29.3	23.9	3.3	40.7	8.8							
	9.0	2.2	5.2	30.2	24.4	3.2	41.0	9.5							
120	3.0	0.3	0.7	25.6	22.4	4.2	39.9	6.1							
	6.0	1.0	2.3	27.5	23.1	3.7	40.1	7.5							
	9.0	2.1	4.7	28.3	23.5	3.5	40.3	8.1							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,150 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								9.0	5.1	11.7	24.5	2.3	3.1	16.5
30	3.0	0.9	2.0	38.7	27.4	1.5	43.9	25.6	4.5	1.6	3.8	25.5	2.4	3.1	17.4
	6.0	2.4	5.5	38.0	26.0	1.3	42.2	30.2	6.0	2.4	5.5	27.9	2.4	3.4	19.6
	9.0	4.1	9.5	37.3	25.3	1.2	41.3	31.4	9.0	4.1	9.5	28.8	2.5	3.4	20.4
40	3.0	0.6	1.5	38.3	27.7	1.7	44.2	22.2	4.5	1.3	3.0	29.1	2.5	3.5	20.7
	6.0	1.9	4.3	38.7	27.1	1.4	43.6	27.1	6.0	1.9	4.3	32.0	2.5	3.7	23.3
	9.0	3.4	7.8	38.5	26.7	1.3	43.0	28.7	9.0	3.4	7.8	33.1	2.6	3.8	24.3
50	3.0	0.5	1.2	37.3	27.5	2.0	44.0	19.1	4.5	1.0	2.4	32.8	2.6	3.8	24.1
	6.0	1.5	3.5	38.6	27.6	1.6	44.1	23.8	6.0	1.5	3.5	36.1	2.6	4.0	27.1
	9.0	2.9	6.7	38.7	27.5	1.5	43.9	25.4	9.0	2.9	6.7	37.4	2.7	4.1	28.3
60	3.0	0.4	1.0	35.9	27.0	2.2	43.4	16.3	4.5	0.9	2.1	36.5	2.7	4.0	27.4
	6.0	1.3	3.1	37.8	27.7	1.8	44.1	20.5	6.0	1.3	3.1	40.2	2.8	4.3	30.8
	9.0	2.6	6.0	38.3	27.7	1.7	44.2	22.1	9.0	2.6	6.0	41.7	2.8	4.4	32.1
70	3.0	0.4	0.9	34.3	26.3	2.5	42.7	13.9	4.5	0.8	2.0	40.1	2.7	4.3	30.7
	6.0	1.2	2.9	36.6	27.3	2.1	43.7	17.6	6.0	1.2	2.9	44.2	2.9	4.5	34.5
	9.0	2.4	5.6	37.3	27.5	2.0	44.0	19.0	9.0	2.4	5.6	45.8	2.9	4.6	35.9
80	3.0	0.4	0.9	32.4	25.4	2.8	41.9	11.7	4.5	0.8	1.9	43.7	2.8	4.5	34.0
	6.0	1.2	2.8	35.0	26.6	2.4	43.0	14.9	6.0	1.2	2.8	48.2	3.0	4.7	38.0
	9.0	2.4	5.5	35.8	27.0	2.2	43.4	16.1	9.0	2.4	5.5	49.9	3.0	4.8	39.6
90	3.0	0.4	0.9	30.6	24.5	3.1	41.0	9.9	4.5	0.8	1.9	47.3	2.9	4.7	37.2
	6.0	1.2	2.8	33.2	25.8	2.6	42.2	12.6	6.0	1.2	2.8	52.0	3.1	4.9	41.5
	9.0	2.3	5.4	34.1	26.2	2.5	42.6	13.6	9.0	2.3	5.4	53.8	3.2	5.0	43.0
100	3.0	0.4	0.9	28.7	23.7	3.4	40.3	8.4	Operation Not Recommended						
	6.0	1.2	2.8	31.3	24.9	3.0	41.3	10.6							
	9.0	2.3	5.3	32.2	25.3	2.8	41.7	11.5							
110	3.0	0.4	0.9	27.0	22.9	3.8	39.9	7.2							
	6.0	1.1	2.6	29.4	24.0	3.3	40.6	8.9							
	9.0	2.2	5.2	30.2	24.4	3.1	40.9	9.7							
120	3.0	0.3	0.7	25.6	22.4	4.1	39.8	6.2							
	6.0	1.0	2.3	27.6	23.1	3.6	40.0	7.6							
	9.0	2.1	4.7	28.3	23.5	3.5	40.2	8.1							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,100 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								10.0	4.2	9.7	23.7	2.5	2.7	15.0
30	5.0	1.3	3.0	44.9	26.7	1.4	49.7	31.7	5.0	1.3	3.1	26.2	2.5	3.0	17.5
	7.5	2.4	5.6	45.0	26.7	1.3	49.6	33.8	7.5	2.6	6.1	27.0	2.6	3.1	18.3
	10.0	3.5	8.1	45.2	26.7	1.3	49.5	36.1	10.0	4.0	9.2	27.9	2.6	3.2	19.1
40	5.0	1.1	2.5	42.9	27.1	1.7	48.6	25.8	5.0	1.0	2.4	32.4	2.6	3.6	23.4
	7.5	2.2	5.0	43.1	27.1	1.6	48.5	27.2	7.5	2.4	5.5	33.3	2.6	3.7	24.2
	10.0	3.2	7.5	43.3	27.1	1.5	48.4	28.8	10.0	3.7	8.5	34.1	2.7	3.8	25.1
50	5.0	0.8	1.9	42.3	27.1	1.8	48.3	24.2	5.0	0.8	1.8	34.5	2.7	3.8	25.4
	7.5	1.8	4.1	42.5	27.1	1.7	48.2	25.5	7.5	1.8	4.2	35.3	2.7	3.9	26.2
	10.0	2.7	6.2	42.7	27.1	1.6	48.1	26.9	10.0	2.9	6.7	36.2	2.7	3.9	27.0
60	5.0	0.7	1.7	41.1	27.0	1.9	47.7	21.3	5.0	0.7	1.5	38.6	2.8	4.1	29.2
	7.5	1.7	3.8	41.2	27.0	1.9	47.5	22.3	7.5	1.7	4.0	39.5	2.8	4.2	30.0
	10.0	2.6	6.0	41.4	27.0	1.8	47.4	23.4	10.0	2.8	6.4	40.4	2.8	4.2	30.8
70	5.0	0.6	1.5	39.7	26.7	2.2	47.0	18.4	5.0	0.6	1.3	42.8	2.9	4.3	32.9
	7.5	1.6	3.6	39.9	26.7	2.1	46.9	19.2	7.5	1.6	3.7	43.7	2.9	4.4	33.7
	10.0	2.5	5.7	40.0	26.7	2.0	46.8	20.1	10.0	2.7	6.2	44.5	2.9	4.4	34.5
80	5.0	0.5	1.3	38.1	26.1	2.4	46.5	15.6	5.0	0.4	1.0	47.0	3.1	4.5	36.5
	7.5	1.5	3.4	38.3	26.1	2.4	46.4	16.2	7.5	1.5	3.4	47.9	3.1	4.5	37.3
	10.0	2.4	5.5	38.5	26.1	2.3	46.3	16.9	10.0	2.5	5.9	48.7	3.1	4.6	38.1
90	5.0	0.5	1.1	36.3	25.2	2.8	46.0	12.9	5.0	0.3	0.6	51.2	3.3	4.6	40.0
	7.5	1.4	3.2	36.5	25.2	2.7	45.9	13.3	7.5	1.3	3.1	52.1	3.3	4.6	40.9
	10.0	2.3	5.4	36.7	25.2	2.7	45.8	13.8	10.0	2.4	5.5	53.0	3.3	4.7	41.7
100	5.0	0.4	0.9	34.2	24.1	3.3	45.5	10.3	Operation Not Recommended						
	7.5	1.3	3.1	34.3	24.1	3.2	45.4	10.6							
	10.0	2.2	5.2	34.5	24.1	3.2	45.3	10.9							
110	5.0	0.3	0.8	31.6	22.6	4.0	45.1	8.0							
	7.5	1.3	2.9	31.8	22.6	3.9	45.0	8.2							
	10.0	2.2	5.0	31.9	22.6	3.8	44.9	8.4							
120	5.0	0.3	0.6	28.5	20.8	4.8	44.8	6.0							
	7.5	1.2	2.7	28.7	20.8	4.7	44.7	6.1							
	10.0	2.1	4.9	28.8	20.9	4.6	44.6	6.3							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,350 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								10.5	3.9	8.9	28.2	2.8	3.0	18.8
30	5.3	1.2	2.8	43.9	30.4	1.8	50.0	24.2	5.3	1.2	2.8	30.7	2.8	3.2	21.2
	7.9	2.2	5.1	43.0	29.5	1.7	48.9	25.0	7.9	2.2	5.1	31.8	2.8	3.3	22.2
	10.5	3.3	7.6	42.5	28.9	1.7	48.2	25.4	10.5	3.3	7.6	32.4	2.8	3.4	22.8
40	5.3	0.9	2.2	44.4	31.3	2.0	51.2	22.3	5.3	0.9	2.2	34.8	2.9	3.5	25.0
	7.9	1.8	4.2	44.2	30.8	1.9	50.6	23.6	7.9	1.8	4.2	36.1	2.9	3.7	26.2
	10.5	2.8	6.5	43.9	30.5	1.8	50.1	24.1	10.5	2.8	6.5	36.9	2.9	3.7	26.9
50	5.3	0.8	1.7	44.1	31.6	2.2	51.6	20.1	5.3	0.8	1.7	39.0	3.0	3.9	28.9
	7.9	1.6	3.6	44.4	31.5	2.1	51.4	21.5	7.9	1.6	3.6	40.6	3.0	4.0	30.3
	10.5	2.5	5.9	44.4	31.3	2.0	51.2	22.2	10.5	2.5	5.9	41.4	3.0	4.0	31.2
60	5.3	0.7	1.5	43.2	31.4	2.4	51.6	17.7	5.3	0.7	1.5	43.2	3.1	4.1	32.8
	7.9	1.4	3.2	43.9	31.5	2.3	51.7	19.2	7.9	1.4	3.2	45.0	3.1	4.3	34.5
	10.5	2.3	5.4	44.1	31.6	2.2	51.6	20.0	10.5	2.3	5.4	46.0	3.1	4.3	35.4
70	5.3	0.6	1.4	41.9	30.8	2.7	51.2	15.3	5.3	0.6	1.4	47.5	3.2	4.4	36.7
	7.9	1.3	3.1	42.8	31.2	2.5	51.5	16.9	7.9	1.3	3.1	49.4	3.2	4.5	38.5
	10.5	2.2	5.2	43.2	31.3	2.5	51.6	17.6	10.5	2.2	5.2	50.5	3.2	4.6	39.5
80	5.3	0.6	1.4	40.1	30.0	3.1	50.5	13.1	5.3	0.6	1.4	51.6	3.3	4.6	40.5
	7.9	1.3	3.0	41.2	30.5	2.8	50.9	14.5	7.9	1.3	3.0	53.7	3.3	4.8	42.4
	10.5	2.2	5.0	41.8	30.8	2.7	51.1	15.2	10.5	2.2	5.0	54.8	3.3	4.8	43.4
90	5.3	0.6	1.5	38.0	29.1	3.4	49.8	11.0	5.3	0.6	1.5	55.6	3.4	4.9	44.1
	7.9	1.3	3.0	39.3	29.6	3.2	50.3	12.3	7.9	1.3	3.0	57.7	3.4	5.0	46.1
	10.5	2.2	5.0	40.0	29.9	3.1	50.5	13.0	10.5	2.2	5.0	58.8	3.4	5.0	47.1
100	5.3	0.6	1.5	35.8	28.1	3.9	49.1	9.2	Operation Not Recommended						
	7.9	1.3	3.0	37.2	28.7	3.6	49.5	10.3							
	10.5	2.1	4.9	37.9	29.0	3.5	49.7	10.9							
110	5.3	0.6	1.4	33.5	27.2	4.4	48.5	7.6							
	7.9	1.3	2.9	34.9	27.7	4.1	48.8	8.5							
	10.5	2.1	4.8	35.6	28.0	3.9	49.0	9.0							
120	5.3	0.6	1.3	31.2	26.3	5.0	48.2	6.2							
	7.9	1.2	2.7	32.6	26.8	4.6	48.4	7.0							
	10.5	2.0	4.6	33.3	27.1	4.5	48.5	7.5							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,350 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								10.5	3.9	8.9	27.9	2.6	3.1	19.0
30	5.3	1.2	2.8	43.9	30.4	1.7	49.5	26.5	5.3	1.2	2.8	30.4	2.6	3.4	21.4
	7.9	2.2	5.1	43.1	29.5	1.6	48.4	27.6	7.9	2.2	5.1	31.5	2.7	3.5	22.4
	10.5	3.3	7.6	42.6	28.9	1.5	47.7	28.0	10.5	3.3	7.6	32.1	2.7	3.5	23.0
40	5.3	0.9	2.2	44.4	31.3	1.8	50.7	24.3	5.3	0.9	2.2	34.4	2.7	3.7	25.2
	7.9	1.8	4.2	44.2	30.9	1.7	50.1	25.8	7.9	1.8	4.2	35.8	2.7	3.8	26.4
	10.5	2.8	6.5	44.0	30.5	1.7	49.6	26.4	10.5	2.8	6.5	36.5	2.8	3.9	27.1
50	5.3	0.8	1.7	44.2	31.6	2.0	51.1	21.7	5.3	0.8	1.7	38.6	2.8	4.0	29.0
	7.9	1.6	3.6	44.4	31.5	1.9	50.9	23.4	7.9	1.6	3.6	40.2	2.8	4.2	30.5
	10.5	2.5	5.9	44.4	31.4	1.8	50.7	24.2	10.5	2.5	5.9	41.0	2.9	4.2	31.3
60	5.3	0.7	1.5	43.3	31.4	2.3	51.1	19.0	5.3	0.7	1.5	42.8	2.9	4.3	32.9
	7.9	1.4	3.2	43.9	31.6	2.1	51.1	20.7	7.9	1.4	3.2	44.6	2.9	4.4	34.6
	10.5	2.3	5.4	44.1	31.6	2.0	51.1	21.6	10.5	2.3	5.4	45.6	3.0	4.5	35.5
70	5.3	0.6	1.4	41.9	30.8	2.6	50.6	16.3	5.3	0.6	1.4	47.0	3.0	4.6	36.8
	7.9	1.3	3.1	42.8	31.2	2.4	50.9	18.0	7.9	1.3	3.1	49.0	3.0	4.7	38.6
	10.5	2.2	5.2	43.2	31.4	2.3	51.1	18.9	10.5	2.2	5.2	50.0	3.1	4.8	39.5
80	5.3	0.6	1.4	40.1	30.0	2.9	50.0	13.8	5.3	0.6	1.4	51.1	3.1	4.8	40.5
	7.9	1.3	3.0	41.3	30.5	2.7	50.4	15.4	7.9	1.3	3.0	53.2	3.2	4.9	42.4
	10.5	2.2	5.0	41.8	30.8	2.6	50.6	16.2	10.5	2.2	5.0	54.3	3.2	5.0	43.4
90	5.3	0.6	1.5	38.1	29.1	3.3	49.3	11.6	5.3	0.6	1.5	55.0	3.2	5.0	44.1
	7.9	1.3	3.0	39.4	29.7	3.0	49.8	12.9	7.9	1.3	3.0	57.1	3.2	5.2	46.0
	10.5	2.2	5.0	40.0	30.0	2.9	50.0	13.7	10.5	2.2	5.0	58.2	3.3	5.2	47.1
100	5.3	0.6	1.5	35.9	28.1	3.7	48.6	9.6	Operation Not Recommended						
	7.9	1.3	3.0	37.2	28.7	3.5	49.0	10.8							
	10.5	2.1	4.9	37.9	29.0	3.3	49.2	11.4							
110	5.3	0.6	1.4	33.5	27.2	4.3	48.0	7.9							
	7.9	1.3	2.9	34.9	27.8	3.9	48.4	8.9							
	10.5	2.1	4.8	35.7	28.0	3.8	48.5	9.4							
120	5.3	0.6	1.3	31.2	26.4	4.8	47.8	6.4							
	7.9	1.2	2.7	32.6	26.9	4.5	47.9	7.3							
	10.5	2.0	4.6	33.3	27.1	4.3	48.0	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,550 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								12.0	6.9	15.8	33.3	3.4	2.9	21.8
30	6.0	1.9	4.3	55.4	36.5	2.2	62.8	25.7	6.0	1.9	4.3	36.1	3.4	3.1	24.3
	9.0	3.8	8.9	55.7	36.5	2.0	62.7	27.4	9.0	3.8	8.9	37.4	3.5	3.2	25.5
	12.0	6.2	14.3	55.8	36.4	2.0	62.5	28.3	12.0	6.2	14.3	38.1	3.5	3.2	26.2
40	6.0	1.7	3.9	54.6	36.3	2.4	62.7	23.1	6.0	1.7	3.9	40.8	3.5	3.4	28.8
	9.0	3.5	8.0	55.2	36.5	2.2	62.8	24.9	9.0	3.5	8.0	42.5	3.6	3.5	30.3
	12.0	5.7	13.2	55.5	36.5	2.1	62.8	25.8	12.0	5.7	13.2	43.4	3.6	3.6	31.2
50	6.0	1.6	3.6	53.4	35.9	2.6	62.3	20.5	6.0	1.6	3.6	45.9	3.6	3.7	33.5
	9.0	3.2	7.5	54.3	36.2	2.4	62.6	22.3	9.0	3.2	7.5	48.0	3.7	3.8	35.5
	12.0	5.4	12.4	54.7	36.3	2.4	62.7	23.2	12.0	5.4	12.4	49.2	3.7	3.9	36.6
60	6.0	1.5	3.4	51.9	35.3	2.9	61.7	18.0	6.0	1.5	3.4	51.3	3.7	4.0	38.5
	9.0	3.1	7.1	53.0	35.7	2.7	62.1	19.8	9.0	3.1	7.1	53.8	3.8	4.2	40.8
	12.0	5.2	11.9	53.5	35.9	2.6	62.3	20.6	12.0	5.2	11.9	55.1	3.8	4.2	42.1
70	6.0	1.4	3.3	50.1	34.5	3.2	61.0	15.6	6.0	1.4	3.3	56.7	3.9	4.3	43.6
	9.0	3.0	6.8	51.4	35.1	3.0	61.5	17.2	9.0	3.0	6.8	59.5	3.9	4.4	46.1
	12.0	5.0	11.6	52.0	35.3	2.9	61.8	18.1	12.0	5.0	11.6	61.0	4.0	4.5	47.5
80	6.0	1.4	3.2	48.0	33.7	3.6	60.2	13.3	6.0	1.4	3.2	62.1	4.0	4.6	48.5
	9.0	2.9	6.7	49.4	34.3	3.3	60.8	14.8	9.0	2.9	6.7	65.1	4.0	4.7	51.3
	12.0	4.9	11.4	50.1	34.6	3.2	61.0	15.6	12.0	4.9	11.4	66.7	4.1	4.8	52.8
90	6.0	1.4	3.2	45.6	32.6	4.1	59.4	11.3	6.0	1.4	3.2	67.3	4.1	4.8	53.3
	9.0	2.9	6.6	47.2	33.3	3.7	60.0	12.6	9.0	2.9	6.6	70.4	4.2	4.9	56.2
	12.0	4.9	11.3	48.0	33.7	3.6	60.2	13.3	12.0	4.9	11.3	72.0	4.2	5.0	57.6
100	6.0	1.3	3.1	43.1	31.5	4.6	58.7	9.4	Operation Not Recommended						
	9.0	2.8	6.5	44.8	32.3	4.2	59.2	10.6							
	12.0	4.8	11.2	45.6	32.6	4.1	59.4	11.2							
110	6.0	1.3	3.0	40.3	30.3	5.2	58.1	7.7							
	9.0	2.8	6.4	42.1	31.1	4.8	58.5	8.8							
	12.0	4.7	11.0	43.0	31.5	4.6	58.7	9.3							
120	6.0	1.2	2.9	37.4	29.0	5.9	57.6	6.3							
	9.0	2.7	6.1	39.3	29.9	5.5	57.9	7.2							
	12.0	4.6	10.6	40.2	30.3	5.2	58.0	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

1,550 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								12.0	6.9	15.8	33.1	3.3	3.0	21.9
30	6.0	1.9	4.3	55.4	36.5	2.1	62.5	26.8	6.0	1.9	4.3	35.8	3.3	3.1	24.4
	9.0	3.8	8.9	55.7	36.5	1.9	62.4	28.7	9.0	3.8	8.9	37.1	3.4	3.2	25.6
	12.0	6.2	14.3	55.8	36.4	1.9	62.2	29.7	12.0	6.2	14.3	37.8	3.4	3.3	26.3
40	6.0	1.7	3.9	54.6	36.3	2.3	62.4	24.0	6.0	1.7	3.9	40.6	3.4	3.5	28.8
	9.0	3.5	8.0	55.2	36.5	2.1	62.5	26.0	9.0	3.5	8.0	42.3	3.5	3.6	30.4
	12.0	5.7	13.2	55.4	36.5	2.1	62.5	26.9	12.0	5.7	13.2	43.2	3.5	3.6	31.3
50	6.0	1.6	3.6	53.4	35.9	2.5	62.0	21.3	6.0	1.6	3.6	45.7	3.5	3.8	33.6
	9.0	3.2	7.5	54.3	36.2	2.3	62.3	23.2	9.0	3.2	7.5	47.7	3.6	3.9	35.5
	12.0	5.4	12.4	54.7	36.3	2.3	62.4	24.1	12.0	5.4	12.4	48.9	3.6	4.0	36.6
60	6.0	1.5	3.4	51.9	35.3	2.8	61.4	18.6	6.0	1.5	3.4	51.0	3.7	4.1	38.5
	9.0	3.1	7.1	53.0	35.7	2.6	61.8	20.4	9.0	3.1	7.1	53.4	3.7	4.2	40.8
	12.0	5.2	11.9	53.5	35.9	2.5	62.0	21.4	12.0	5.2	11.9	54.8	3.7	4.3	42.0
70	6.0	1.4	3.3	50.1	34.5	3.1	60.7	16.0	6.0	1.4	3.3	56.4	3.8	4.4	43.5
	9.0	3.0	6.8	51.4	35.1	2.9	61.2	17.8	9.0	3.0	6.8	59.2	3.8	4.5	46.1
	12.0	5.0	11.6	51.9	35.3	2.8	61.4	18.7	12.0	5.0	11.6	60.6	3.9	4.6	47.5
80	6.0	1.4	3.2	48.0	33.7	3.5	59.9	13.7	6.0	1.4	3.2	61.7	3.9	4.7	48.5
	9.0	2.9	6.7	49.4	34.3	3.2	60.5	15.3	9.0	2.9	6.7	64.7	4.0	4.8	51.2
	12.0	4.9	11.4	50.1	34.6	3.1	60.7	16.1	12.0	4.9	11.4	66.3	4.0	4.9	52.7
90	6.0	1.4	3.2	45.6	32.7	4.0	59.2	11.5	6.0	1.4	3.2	66.9	4.0	4.9	53.2
	9.0	2.9	6.6	47.2	33.3	3.7	59.7	12.9	9.0	2.9	6.6	70.0	4.1	5.0	56.0
	12.0	4.9	11.3	48.0	33.7	3.5	59.9	13.7	12.0	4.9	11.3	71.6	4.1	5.1	57.5
100	6.0	1.3	3.1	43.1	31.5	4.5	58.4	9.6	Operation Not Recommended						
	9.0	2.8	6.5	44.8	32.3	4.1	58.9	10.8							
	12.0	4.8	11.2	45.6	32.6	4.0	59.1	11.5							
110	6.0	1.3	3.0	40.3	30.3	5.1	57.8	7.9							
	9.0	2.8	6.4	42.1	31.1	4.7	58.2	9.0							
	12.0	4.7	11.0	43.0	31.5	4.5	58.4	9.5							
120	6.0	1.2	2.9	37.4	29.0	5.8	57.3	6.4							
	9.0	2.7	6.1	39.3	29.9	5.4	57.6	7.3							
	12.0	4.6	10.6	40.2	30.3	5.1	57.8	7.8							

Notes:
- Interpolation is permissible; extrapolation is not.
- All entering air conditions are 80°F (26.6°C) DB and 67°F (19.4°C) WB in cooling, and 70°F (21°C) DB in heating.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

2,000 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								15.0	9.5	22.0	37.2	4.1	2.6	23.1
30	7.5	2.6	6.0	66.6	44.5	2.9	76.6	22.6	7.5	2.6	6.0	41.8	4.2	2.9	27.5
	11.3	5.3	12.3	65.6	43.3	2.8	75.3	23.2	11.3	5.3	12.3	43.5	4.2	3.0	29.2
	15.0	8.5	19.6	64.9	42.5	2.8	74.4	23.4	15.0	8.5	19.6	44.5	4.2	3.1	30.1
40	7.5	2.3	5.3	66.8	45.5	3.2	77.6	21.1	7.5	2.3	5.3	48.6	4.3	3.3	34.0
	11.3	4.7	10.9	66.8	44.9	3.0	77.0	22.2	11.3	4.7	10.9	50.8	4.3	3.4	36.1
	15.0	7.7	17.8	66.5	44.5	2.9	76.6	22.6	15.0	7.7	17.8	52.1	4.3	3.5	37.2
50	7.5	2.1	4.9	66.0	45.6	3.4	77.7	19.2	7.5	2.1	4.9	55.6	4.4	3.7	40.5
	11.3	4.3	10.0	66.7	45.6	3.2	77.7	20.6	11.3	4.3	10.0	58.3	4.5	3.8	43.0
	15.0	7.2	16.5	66.8	45.5	3.2	77.6	21.2	15.0	7.2	16.5	59.7	4.5	3.9	44.4
60	7.5	2.0	4.6	64.3	45.2	3.8	77.2	17.1	7.5	2.0	4.6	62.5	4.5	4.0	47.0
	11.3	4.1	9.4	65.6	45.6	3.5	77.6	18.6	11.3	4.1	9.4	65.6	4.6	4.2	49.8
	15.0	6.8	15.6	66.1	45.7	3.4	77.7	19.3	15.0	6.8	15.6	67.2	4.6	4.2	51.4
70	7.5	1.9	4.4	62.0	44.3	4.1	76.2	15.0	7.5	1.9	4.4	69.3	4.7	4.3	53.3
	11.3	3.9	9.0	63.7	44.9	3.9	76.9	16.4	11.3	3.9	9.0	72.6	4.8	4.5	56.3
	15.0	6.5	15.1	64.4	45.2	3.7	77.2	17.2	15.0	6.5	15.1	74.3	4.8	4.5	57.9
80	7.5	1.9	4.3	59.2	43.1	4.6	74.9	12.9	7.5	1.9	4.3	75.7	4.8	4.6	59.3
	11.3	3.8	8.8	61.2	43.9	4.3	75.8	14.3	11.3	3.8	8.8	79.1	4.9	4.7	62.3
	15.0	6.4	14.8	62.1	44.3	4.1	76.2	15.0	15.0	6.4	14.8	80.8	4.9	4.8	63.9
90	7.5	1.8	4.2	56.1	41.7	5.1	73.5	11.0	7.5	1.8	4.2	81.6	5.0	4.8	64.7
	11.3	3.8	8.7	58.2	42.6	4.8	74.4	12.2	11.3	3.8	8.7	84.8	5.0	4.9	67.6
	15.0	6.3	14.5	59.2	43.1	4.6	74.9	12.9	15.0	6.3	14.5	86.3	5.1	5.0	69.1
100	7.5	1.8	4.1	52.8	40.3	5.7	72.2	9.3	Operation Not Recommended						
	11.3	3.7	8.5	55.0	41.2	5.3	73.1	10.4							
	15.0	6.2	14.3	56.1	41.7	5.1	73.5	11.0							
110	7.5	1.7	4.0	49.6	38.9	6.3	71.2	7.8							
	11.3	3.6	8.2	51.7	39.8	5.9	71.8	8.7							
	15.0	6.0	13.9	52.7	40.2	5.7	72.2	9.2							
120	7.5	1.6	3.7	46.4	37.8	7.1	70.6	6.5							
	11.3	3.4	7.8	48.4	38.5	6.6	71.0	7.3							
	15.0	5.8	13.4	49.4	38.9	6.4	71.2	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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
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- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

2,000 CFM Rated Airflow

EWT °F	WPD			COOLING - EAT 80/67°F					WPD			Heating - EAT 70°F			
	FLOW GPM	PSI	FT	TC	SC	kW	HR	EER	FLOW GPM	PSI	FT	HC	kW	COP	HE
20	Operation Not Recommended								15.0	9.5	22.0	36.4	3.9	2.7	23.1
30	7.5	2.6	6.0	66.6	44.5	2.7	75.8	24.6	7.5	2.6	6.0	41.0	3.9	3.0	27.5
	11.3	5.3	12.3	65.6	43.3	2.6	74.4	25.4	11.3	5.3	12.3	42.7	4.0	3.2	29.2
	15.0	8.5	19.6	64.9	42.5	2.5	73.6	25.6	15.0	8.5	19.6	43.7	4.0	3.2	30.1
40	7.5	2.3	5.3	66.8	45.5	2.9	76.8	22.9	7.5	2.3	5.3	47.8	4.1	3.5	34.0
	11.3	4.7	10.9	66.8	44.9	2.8	76.2	24.1	11.3	4.7	10.9	50.0	4.1	3.6	36.1
	15.0	7.7	17.8	66.5	44.5	2.7	75.7	24.7	15.0	7.7	17.8	51.2	4.1	3.7	37.2
50	7.5	2.1	4.9	66.0	45.6	3.2	76.9	20.7	7.5	2.1	4.9	54.8	4.2	3.8	40.5
	11.3	4.3	10.0	66.7	45.6	3.0	76.9	22.2	11.3	4.3	10.0	57.4	4.2	4.0	43.0
	15.0	7.2	16.5	66.8	45.5	2.9	76.8	23.0	15.0	7.2	16.5	58.9	4.3	4.1	44.4
60	7.5	2.0	4.6	64.3	45.2	3.5	76.3	18.3	7.5	2.0	4.6	61.7	4.3	4.2	47.0
	11.3	4.1	9.4	65.6	45.6	3.3	76.8	20.0	11.3	4.1	9.4	64.7	4.4	4.3	49.8
	15.0	6.8	15.6	66.1	45.7	3.2	76.9	20.8	15.0	6.8	15.6	66.4	4.4	4.4	51.4
70	7.5	1.9	4.4	62.0	44.3	3.9	75.3	15.9	7.5	1.9	4.4	68.5	4.4	4.5	53.3
	11.3	3.9	9.0	63.7	44.9	3.6	76.1	17.5	11.3	3.9	9.0	71.7	4.5	4.7	56.3
	15.0	6.5	15.1	64.4	45.2	3.5	76.4	18.4	15.0	6.5	15.1	73.5	4.6	4.7	57.9
80	7.5	1.9	4.3	59.2	43.1	4.3	74.1	13.6	7.5	1.9	4.3	74.9	4.6	4.8	59.3
	11.3	3.8	8.8	61.2	43.9	4.0	74.9	15.1	11.3	3.8	8.8	78.2	4.7	4.9	62.3
	15.0	6.4	14.8	62.1	44.3	3.9	75.4	15.9	15.0	6.4	14.8	79.9	4.7	5.0	63.9
90	7.5	1.8	4.2	56.1	41.7	4.9	72.7	11.5	7.5	1.8	4.2	80.8	4.7	5.0	64.7
	11.3	3.8	8.7	58.2	42.6	4.5	73.6	12.9	11.3	3.8	8.7	84.0	4.8	5.1	67.6
	15.0	6.3	14.5	59.2	43.1	4.3	74.1	13.6	15.0	6.3	14.5	85.5	4.8	5.2	69.1
100	7.5	1.8	4.1	52.8	40.3	5.4	71.4	9.7	Operation Not Recommended						
	11.3	3.7	8.5	55.0	41.2	5.1	72.2	10.9							
	15.0	6.2	14.3	56.1	41.7	4.9	72.7	11.5							
110	7.5	1.7	4.0	49.6	38.9	6.1	70.4	8.1							
	11.3	3.6	8.2	51.7	39.8	5.7	71.0	9.1							
	15.0	6.0	13.9	52.7	40.2	5.5	71.4	9.6							
120	7.5	1.6	3.7	46.4	37.8	6.9	69.8	6.8							
	11.3	3.4	7.8	48.4	38.5	6.4	70.1	7.6							
	15.0	5.8	13.4	49.4	38.9	6.1	70.4	8.0							

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.
- Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
- All performance is based upon the lower voltage of dual voltage rated units.
- Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
- Operation below 40°F (4.4°C) is based upon 20% methanol antifreeze solution.
- Operation below 60°F (15.5°C) EWT requires optional insulated water/refrigerant circuit.
- See performance correction tables for operating conditions other than those listed above.
- See Performance Data Selection Notes for operation in the shaded areas.
- Performance capacities shown in thousands of Btuh.
- For unit operation in the shaded area when LWT is below 40°F (4.4°C), antifreeze must be used and the JW3 jumper on the DXM2.5/CXM2 should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F (0°C) with 40°F (4.4°C) LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

CV EC Motor Limits

CV EC MOTOR ADVANTAGE

A major benefit of the CV EC motor over other blower motor types is its ability to adjust airflow directly at the unit with a communicating diagnostic service tool. Airflow levels can be adjusted in increments of 25 CFM from the unit's minimum and maximum CFM range (see the CV EC motor configuration table for details).

Table 1: CV EC Blower Motor Limits

Size	Max ESP (in. wg)	Fan Motor (hp)	Airflow Range	Cooling Mode	Heating Mode	Dehumid Mode	Fan Only
6	0.9	1/8	Minimum	150	150	150	150
	1.0		Default	275	275	150	275
	1.0		Maximum	275	275	225	275
9	0.9	1/8	Minimum	225	225	225	225
	0.9		Default	345	345	225	345
	0.9		Maximum	375	375	325	375
12	0.8	1/4	Minimum	300	300	300	300
	0.8		Default	400	400	300	400
	0.9		Maximum	415	415	380	415
15	0.8	1/3	Minimum	375	375	375	375
	1.0		Default	525	525	375	525
	1.0		Maximum	625	625	600	625
18	0.8	1/3	Minimum	450	450	450	450
	0.9		Default	630	630	450	630
	0.9		Maximum	750	750	600	750
24	0.75	1/2	Minimum	600	600	600	300
			Default	750	750	650	350
			Maximum	850	850	800	850
30	0.5	1/2	Minimum	750	750	750	375
			Default	925	925	800	425
			Maximum	1,050	1,050	1,000	1,050
36	0.6	3/4	Minimum	900	900	900	450
			Default	1,125	1,125	975	525
			Maximum	1,275	1,275	1,200	1,275
42	0.6	3/4	Minimum	1,050	1,050	1,050	525
			Default	1,300	1,300	1,125	600
			Maximum	1,475	1,475	1,400	1,475
48	0.6	3/4	Minimum	1,200	1,200	1,200	600
			Default	1,500	1,500	1,300	700
			Maximum	1,700	1,700	1,600	1,700
60	0.75	1	Minimum	1,500	1,500	1,500	750
			Default	1,875	1,875	1,625	875
			Maximum	2,125	2,125	2,000	2,125

- Airflow is controlled within ±5% up to Max ESP shown with wet coil and standard 1-inch fiberglass air filter.
- Performance shown is with wet coil and factory air filters.

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	85	90		
50	0.708	1.158	*	*	*	*	*	1.004	0.775
55	0.794	0.895	1.101	*	*	*	*	1.003	0.852
60	0.880	0.686	0.891	1.097	*	*	*	1.002	0.914
65	0.966		0.680	0.884	1.086	1.293	*	1.000	0.975
67	1.000		0.596	0.799	1.000	1.207	1.410	1.000	1.000
70	1.052			0.672	0.871	1.077	1.280	0.999	1.037
75	1.138				0.657	0.862	1.063	0.998	1.098

* 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 commision limits.
Cooling air corrections based on rated airflow.

Heating Corrections

Full EAT Heating Corrections			
Ent Air DB °F	Heating Capacity	Power	Heat of Extraction
50	1.022	0.775	1.086
55	1.016	0.841	1.060
60	1.011	0.894	1.040
65	1.005	0.947	1.020
70	1.000	1.000	1.000
75	0.995	1.053	0.980
80	0.989	1.106	0.960

Heating air corrections based on rated airflow.

Airflow Correction Table

Full Airflow Corrections								
Airflow	Heating			Cooling				
% of Rated	Heating Capacity	Heating Power	Heat of Extraction	Total Capacity	Sensible Capacity	Sens/Total Ratio	Power	Heat of Rejection
80	0.979	1.044	0.969	0.970	0.904	0.932	0.968	0.974
85	0.984	1.033	0.977	0.977	0.928	0.950	0.976	0.980
90	0.989	1.022	0.985	0.985	0.952	0.967	0.984	0.987
95	0.995	1.011	0.992	0.992	0.976	0.983	0.992	0.993
100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
105	1.005	0.989	1.008	1.008	1.024	1.016	1.008	1.007
110	1.011	0.978	1.015	1.015	1.048	1.032	1.016	1.013

Cooling and heating air corrections based on rated airflow.

Antifreeze Correction Table

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

Table continued on next page

Antifreeze Correction Table

Table continued from previous page

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

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC006	275	150	PSC	Low	Power (W)	72	69	65	61	57	Operation Not Recommended				
					CFM	238	218	196	170	142					
				Medium	Power (W)	81	77	73	68	63	58				
					CFM	261	242	220	193	163	129				
				High	Power (W)	103	98	93	88	82	75	68			
					CFM	326	306	282	253	219	181	139			
	275	150	CT EC	1	Power (W)	22	24	25	28	30					
					CFM	225	207	187	169	150					
				2	Power (W)			34	37	39	42	44	48	51	
					CFM			233	217	201	185	173	164	150	
				3	Power (W)				43	45	48	51	54	58	61
					CFM				241	227	212	200	188	179	168
				4	Power (W)	Operation Not Recommended					55	58	61	65	67
					CFM						240	227	216	205	193
	275	150	CV EC	Minimum CFM	Power (W)	16	21	27	40	36	41	46	52	59	
					CFM	150	150	150	150	150	150	150	150	150	
				Default CFM	Power (W)	29	35	41	47	53	60	67	76	81	77
					CFM	225	225	225	225	225	225	225	225	225	255
				Maximum CFM	Power (W)	35	41	47	53	60	67	76	84	88	78
					CFM	250	250	250	250	250	250	250	250	250	250

- 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 ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC009	345	225	PSC	Low	Power (W)	Operation Not Recommended									
					CFM	340	322	300	260						
				Medium	Power (W)										
					CFM	390	360	320	290	260					
				High	Power (W)										
					CFM	410	380	350	320	280					
	345	225	CT EC	1	Power (W)	40	42	44	47	49					
					CFM	294	278	259	245	230					
				2	Power (W)	67	70	73	74	79	82	85	88	90	85
					CFM	370	357	343	326	318	302	291	278	265	235
				3	Power (W)	Operation Not Recommended		86	88	91	95	98	101	96	90
					CFM			370	358	346	334	322	307	280	247
				4	Power (W)							120	113	107	102
					CFM							340	309	276	234
	345	225	CV EC	Minimum CFM	Power (W)	25	32	39	45	53	60	66	78	83	
					CFM	225	225	225	225	225	225	225	225	225	
				Default CFM	Power (W)	49	58	67	77	88	100	105	95	88	
					CFM	325	325	325	325	325	325	325	325	325	
				Maximum CFM	Power (W)	126	134	131	125	119	118	105	98	90	
					CFM	375	375	375	375	375	375	375	375	375	

- 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 ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC012	400	300	PSC	Low	Power (W)	Operation Not Recommended									
					CFM	360	350	320	310						
				Medium	Power (W)										
					CFM	420	400	380	360	340					
				High	Power (W)										
					CFM	470	450	430	400	380	320				
	400	300	CT EC	1	Power (W)	64	66	69	71	75	78	82	85	87	83
					CFM	358	345	332	319	305	291	275	261	247	218
				2	Power (W)	86	88	91	94	97	100	103	104	97	91
					CFM	400	388	377	365	354	342	328	309	269	237
				3	Power (W)	116	119	122	124	126	126	121	114	99	91
					CFM	449	437	427	414	401	385	359	327	274	238
				4	Power (W)	131	133	135	137	135	130	123	110	99	92
					CFM	467	456	444	433	414	390	361	318	273	239
	400	300	CV EC	Minimum CFM	Power (W)	55	64	73	81	90	99	107	106		
					CFM	300	300	300	300	300	300	300	300		
				Default CFM	Power (W)	105	115	125	135	132	127	123	118		
					CFM	380	380	380	380	380	380	380	380		
				Maximum CFM	Power (W)	147	149	146	143	139	134	130	126	120	
					CFM	415	415	415	415	415	415	415	415	415	

- 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 ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC015	525	375	PSC	Low	Power (W)	161	158	146	138	Operation Not Recommended					
					CFM	503	490	479	439						
				Medium	Power (W)	184	181	174	153	143					
					CFM	595	575	562	510	451					
				High	Power (W)				174	159	141				
					CFM				581	510	386				
	525	375	CT EC	1	Power (W)	67	55	62	68	75	82				
					CFM	648	588	542	493	441	378				
				2	Power (W)	67	74	81	87	95	102	108			
					CFM	648	608	557	514	460	402	354			
				3	Power (W)	79	86	94	101	107	117	124	130		
					CFM	695	659	611	570	526	475	422	377		
				4	Power (W)	92	98	107	114	121	129	138	145	151	
					CFM	737	705	661	622	582	534	482	438	396	
				5	Power (W)	106	110	117	126	133	141	151	159	165	172
					CFM	745	745	708	662	626	585	535	488	444	402
	525	375	CV EC	Minimum CFM	Power (W)		36	52	68	84	99	114	129		
					CFM		375	375	375	375	375	375	375		
				Default CFM	Power (W)		55	74	90	108	127	147	166	186	
					CFM		525	525	525	525	525	525	525	525	
				Maximum CFM	Power (W)	54	73	93	112	132	152	173	194	216	238
					CFM	625	625	625	625	625	625	625	625	625	625

- 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 ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC018	630	450	PSC	Low	Power (W)	147	145	135	127	Operation Not Recommended					
					CFM	524	509	493	451						
				Medium	Power (W)	170	167	161	143						
					CFM	611	588	564	514						
				High	Power (W)	195	189	184	177	149					
					CFM	704	668	643	617	504					
	630	450	CT EC	1	Power (W)	73	78	85	90						
					CFM	600	558	518	491						
				2	Power (W)	92	99	107	109	116	123	131			
					CFM	676	641	599	570	536	498	452			
				3	Power (W)	112	118	126	135	140	147	155	163	170	
					CFM	741	713	677	640	619	586	554	512	471	
				4	Power (W)	138	144	152	161	170	174	181	190	199	207
					CFM	802	780	751	714	680	662	633	603	567	529
				5	Power (W)	170	175	182	190	201	210	214	222	231	240
					CFM	854	848	820	791	754	724	711	683	655	625
	630	450	CV EC	Minimum CFM	Power (W)	Operation Not Recommended			93	111	132	157	180		
					CFM				450	450	450	450	450		
				Default CFM	Power (W)	85	101	113	145	178	206	228	248	266	
					CFM	600	600	600	600	600	600	600	600	600	
				Maximum CFM	Power (W)	157	171	186	200	214	251	286	323		
					CFM	750	750	750	750	750	750	750	750		

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- Blower performance is based on operating conditions of 80°F DB and 67°F WB.
- CFM Tolerance is ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC024	800	600	PSC	Low	Power (W)	224	215	204	191	176	Operation Not Recommended				
					CFM	777	768	737	684	608					
				Medium	Power (W)	257	246	233	219	204	187				
					CFM	888	868	830	774	701	610				
				High	Power (W)	294	281	268	253	237	219				
					CFM	997	964	916	854	777	686				
	800	600	CT EC	1	Power (W)	116	122	128	135						
					CFM	755	728	695	653						
				2	Power (W)	146	152	159	166	174	185	193			
					CFM	836	810	782	750	708	657	616			
				3	Power (W)	181	187	194	201	209	218	230	239	246	252
					CFM	910	887	861	834	804	762	714	674	642	619
				4	Power (W)	232	240	247	254	262	270	278	291	303	312
					CFM	996	975	952	929	904	876	845	798	755	725
				5	Power (W)	Operation Not Recommended				323	331	340	348	361	374
					CFM					999	975	951	923	884	840
	800	600	CV EC	Minimum CFM	Power (W)	71	89	107	124	141	159	177	195	213	230
					CFM	600	600	600	600	600	600	600	600	600	600
				Default CFM	Power (W)	145	165	185	205	225	245	266	285	306	326
					CFM	800	800	800	800	800	800	800	800	800	800
				Maximum CFM	Power (W)	284	300	315	332	351	364	379	396	412	428
					CFM	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

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Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC030	1,000	750	PSC	Low	Power (W)	305	290	274	256	236	Operation Not Recommended				
					CFM	916	911	883	833	761					
				Medium	Power (W)	338	323	306	288	268	246				
					CFM	1,021	1,014	983	929	850	747				
				High	Power (W)	384	372	357	340	322	301				
					CFM	1,084	1,076	1,044	988	906	800				
	1,000	750	CT EC	1	Power (W)	158	165	176	184	192					
					CFM	904	873	832	796	763					
				2	Power (W)	211	219	227	240	250	258	267	276	285	
					CFM	1,020	992	965	927	894	864	835	805	771	
				3	Power (W)	280	289	298	306	321	330	342	351	361	368
					CFM	1,139	1,113	1,089	1,064	1,027	999	966	937	910	879
				4	Power (W)	336	346	355	364	374	389	399	413	423	430
					CFM	1,216	1,193	1,168	1,146	1,123	1,086	1,062	1,028	1,002	975
				5	Power (W)				452	462	471	490	499	508	478
					CFM				1,250	1,229	1,208	1,173	1,151	1,112	1,036
	1,000	750	CV EC	Minimum CFM	Power (W)	71	89	108	127	145	162	181	199	217	235
					CFM	750	750	750	750	750	750	750	750	750	750
				Default CFM	Power (W)	251	274	296	315	337	362	387	407		
					CFM	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
				Maximum CFM	Power (W)	388	410	431	453	471	Operation Not Recommended				
					CFM	1,150	1,150	1,150	1,150	1,150					

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- CFM Tolerance is ±7%.
- Cells in grey - option not available.
- The maximum allowable altitude of installation for this product is 6,561 ft (2,000 m).

Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC036	1,150	900	PSC	Low	Power (W)										
					CFM	970	960	951	941	902	Operation Not Recommended				
				Medium	Power (W)										
					CFM	1,106	1,096	1,086	1,067	1,009	912				
				High	Power (W)										
					CFM	1,436	1,387	1,329	1,280	1,174	1,077	931			
	1,150	900	CT EC	1	Power (W)	166	175	184							
					CFM	974	941	904							
				2	Power (W)	241	251	261	272	282	292	299	307		
					CFM	1,132	1,103	1,074	1,041	1,005	973	944	916		
				3	Power (W)	294	304	316	326	337	349	359	367	375	385
					CFM	1,271	1,242	1,214	1,185	1,153	1,118	1,083	1,056	1,029	999
				4	Power (W)	376	387	399	409	421	433	446	457	468	478
					CFM	1,403	1,377	1,351	1,324	1,295	1,268	1,233	1,201	1,169	1,143
				5	Power (W)			499	510	523	524	521	519	516	514
					CFM			1,485	1,460	1,434	1,396	1,347	1,295	1,240	1,194
	1,150	900	CV EC	Minimum CFM	Power (W)	105	132	164	188	211	233	257	280	307	339
					CFM	900	900	900	900	900	900	900	900	900	900
				Default CFM	Power (W)	205	232	261	303	349	382	415	446	475	505
					CFM	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
				Maximum CFM	Power (W)	406	403	438	474	511	564	629	680	692	691
					CFM	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500

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- CFM Tolerance is ±7%.
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Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC041	1,100	850	PSC	Low	Power (W)	291	268	Operation Not Recommended							
					CFM	876	810								
				Medium	Power (W)	359	355	337							
					CFM	1017	963	887							
				High	Power (W)	392	369	347	325						
					CFM	1071	993	906	809						

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- CFM Tolerance is ±7%.
- Cells in grey - option not available.
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Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC042	1,350	1,050	PSC	Low	Power (W)	388	Operation Not Recommended								
					CFM	918									
				Medium	Power (W)	517	509	496	477	452	422				
					CFM	1,201	1,223	1,218	1,185	1,125	1,038				
				High	Power (W)	665	654	636	611	580	542	498			
					CFM	1,584	1,592	1,571	1,518	1,436	1,323	1,180			
	1,350	1,050	CT EC	1	Power (W)	238	248	259	272						
					CFM	1,186	1,152	1,113	1,056						
				2	Power (W)	331	369	352	365	381	396	411	423	437	446
					CFM	1,345	1,317	1,283	1,251	1,215	1,181	1,150	1,124	1,094	1,050
				3	Power (W)	448	461	474	486	501	518	534	551	568	581
					CFM	1,507	1,482	1,455	1,427	1,396	1,365	1,331	1,296	1,276	1,246
				4	Power (W)	582	595	609	622	635	651	669	688	706	681
					CFM	1,641	1,623	1,601	1,577	1,548	1,519	1,488	1,455	1,423	1,355
				5	Power (W)			756	775	776	774	772	768	765	679
					CFM			1,743	1,717	1,688	1,645	1,596	1,541	1,490	1,352
	1,350	1,050	CV EC	Minimum CFM	Power (W)	154	177	200	224	252	280	306	331	355	383
					CFM	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
				Default CFM	Power (W)	334	359	390	421	453	484	517	555	595	636
					CFM	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
				Maximum CFM	Power (W)	658	674	703	700	697	Operation Not Recommended				
					CFM	1,750	1,750	1,750	1,750	1,750					

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Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC048	1,550	1,200	PSC	Low	Power (W)	608	585	559	531	499	Operation Not Recommended				
					CFM	1,512	1,487	1,440	1,371	1,280					
				Medium	Power (W)	680	652	622	588	552	513				
					CFM	1,670	1,639	1,584	1,507	1,406	1,281				
				High	Power (W)	780	746	709	669	625	579	529			
					CFM	1,885	1,841	1,772	1,678	1,560	1,416	1,248			
	1,550	1,200	CT EC	1	Power (W)	286	303	320	336	351					
					CFM	1,482	1,411	1,342	1,276	1,211					
				2	Power (W)	360	379	397	415	433	450	467			
					CFM	1,604	1,553	1,500	1,444	1,385	1,323	1,258			
				3	Power (W)	457	472	488	505	525	546	569			
					CFM	1,753	1,707	1,659	1,607	1,553	1,495	1,435			
				4	Power (W)	626	642	658	673	687	701				
					CFM	1,984	1,937	1,890	1,843	1,795	1,747				
				5	Power (W)				805	829					
					CFM				1,980	1,938					
	1,550	1,200	CV EC	Minimum CFM	Power (W)	240	132	163	293	342	309	280	395	401	453
					CFM	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
				Default CFM	Power (W)	445	251	294	500	570	498	438	617	602	672
					CFM	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
				Maximum CFM	Power (W)	723	418	474	780	873	761	644	912	853	939
					CFM	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900

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Model	Rated CFM	Min CFM	Motor Type	Speed Tap		External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MC060	2,000	1,500	PSC	Low	Power (W)	779	766	750	731	710	686	659			
					CFM	1,771	1,756	1,732	1,700	1,658	1,608	1,549			
				Medium	Power (W)	877	856	833	806	777	744	708	669		
					CFM	1,979	1,968	1,940	1,894	1,831	1,751	1,653	1,539		
				High	Power (W)	996	969	938	904	867	826	783	736	687	
					CFM	2,208	2,178	2,132	2,069	1,990	1,893	1,780	1,649	1,502	
	2,000	1,500	CT EC	1	Power (W)	342	354	366	380	Operation Not Recommended					
					CFM	1,685	1,640	1,593	1,545						
				2	Power (W)	460	476	489	501	518	533	548	561	577	
					CFM	1,879	1,833	1,795	1,754	1,705	1,657	1,608	1,563	1,514	
				3	Power (W)	648	666	678	694	708	724	740	757	773	
					CFM	2,113	2,069	2,039	1,998	1,963	1,925	1,885	1,840	1,795	
				4	Power (W)	771	785	803	817	832	848	864	883	900	
					CFM	2,235	2,198	2,163	2,130	2,094	2,061	2,019	1,977	1,939	
				5	Power (W)	866	881	899	916	934	951	970	977	973	969
					CFM	2,322	2,290	2,253	2,219	2,188	2,152	2,120	2,083	2,013	1,940
	2,000	1,500	CV EC	Minimum CFM	Power (W)	246	301	354	405	453	500	544	587	627	665
					CFM	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
				Default CFM	Power (W)	503	564	631	686	734	808	875	929	990	1,051
					CFM	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
				Maximum CFM	Power (W)	885	896	901	916	937	Operation Not Recommended				
					CFM	2,200	2,200	2,200	2,200	2,200					

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MARS (MC) Series

Unit Size	006	009	012	015	018	024	030	036	041	042	048	060
Number of refrigerant circuits	1	1	1	1	1	1	1	1	1	1	1	1
Factory Charge R-454B (oz)	17	18	21	29	37	40	39	46	53	56	56	69
Refrigerant Leak Detection System	O	O	O	O	O	O	O	O	O	O	O	R
Number of Sensors	2	2	2	2	2	2	2	2	2	2	2	2
Water Connection Size												
FPT	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Coax Volume (gallons)	0.143	0.143	0.167	0.286	0.45	0.323	0.323	0.738	0.89	0.89	0.89	0.939
Vertical												
Filter Standard - 1" Throwaway	10x18	10x18	10x18	20x20	20x20	20x20	20x20	24x24	20x20	24x24	28x28	28x28
Weight - Operating (lbs.)	103	105	114	153	158	189	197	203	210	218	315	330
Weight - Packaged (lbs.)	113	115	124	158	163	194	202	209	217	224	322	337
Horizontal												
Filter Standard - 1" Throwaway	10x18	10x18	10x18	16x25	16x25	18x24	18x24	2-14x20		2-14x20	1-20x24 1-14x20	1-20x24 1-14x20
Weight - Operating (lbs.)	103	105	114	153	158	174	182	203		218	263	278
Weight - Packaged (lbs.)	113	115	124	158	163	179	187	209		224	270	285

Notes:
All dimensions displayed above are in inches unless otherwise marked.
All units have a TXV and ½-inch and ¾-inch electrical knockouts.
The standard Condensate Drain Connection is a rubber coupling that couples to ¾-inch schedule 40/80 PVC.
The optional Stainless Steel Condensate Drain Connection is ¾-inch FPT.
FPT = Female Pipe Thread
575V fan motors are two speed.
O = Optional, R = Required

Unit Maximum Water Working Pressure

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

Cabinet, Shipping, Water Connections, and Condensate Drain Pan Dimensions (in)

Model	Cabinet Config.	Overall Cabinet			Shipping Overall Dimensions			Water Connections					Condensate Drain Pan		
		Depth/ Length	Width	Height	Depth/ Length	Width	Height	Water In		Water Out		Water In/Out	AA	BB	Condensate Drain Pan Fitting
		A	B	C	A	B	C	D	E	F	E				
MC006	H	34.1	19.1	11.0	40.0	25.1	17.0	5.7	1.0	9.7	1.0	1/2"	3.3	0.7	*3/4" MPT
	V	19.0	19.1	22.0	24.8	24.8	28.0	1.7	1.7	9.7	1.7	1/2"	11.7	1.5	*3/4" MPT
MC009	H	34.1	19.1	11.0	40.0	25.1	17.0	5.7	1.0	9.7	1.0	1/2"	3.3	0.7	*3/4" MPT
	V	19.0	19.1	22.0	24.8	24.8	28.0	1.7	1.7	9.7	1.7	1/2"	11.7	1.5	*3/4" MPT
	F	19.0	19.1	22.0	24.8	24.8	28.0	1.7	1.8	9.7	1.8	1/2"	11.7	1.5	*3/4" MPT
MC012	H	34.1	19.1	11.0	40.0	25.1	17.0	5.7	1.0	9.7	1.0	1/2"	3.3	0.7	*3/4" MPT
	V	19.0	19.1	22.0	24.8	24.8	28.0	1.7	1.7	9.7	1.7	1/2"	11.7	1.5	*3/4" MPT
	F	19.0	19.1	22.0	24.8	24.8	28.0	1.7	1.8	9.7	1.8	1/2"	11.7	1.5	*3/4" MPT
MC015	H	43.0	20.1	17.0	48.5	33.5	23.0	3.5	1.5	13.8	1.5	1/2"	3.4	1.0	*3/4" MPT
	V	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.5	9.7	1.5	1/2"	19.7	1.5	*3/4" MPT
	F	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.9	9.7	1.9	1/2"	19.7	1.5	*3/4" MPT
MC018	H	43.0	20.1	17.0	48.5	33.5	23.0	3.5	1.5	13.8	1.5	1/2"	3.4	1.0	*3/4" MPT
	V	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.5	9.7	1.5	1/2"	19.7	1.5	*3/4" MPT
	F	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.9	9.7	1.9	1/2"	19.7	1.5	*3/4" MPT
MC024	H	43.0	20.1	18.3	48.5	33.5	24.3	2.0	1.5	15.4	1.5	3/4"	3.5	0.8	*3/4" MPT
	V	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.5	9.8	1.5	3/4"	19.7	1.5	*3/4" MPT
	F	21.5	21.6	40.0	27.3	27.3	46.0	3.8	1.9	9.8	1.9	3/4"	19.7	1.5	*3/4" MPT
MC030	H	43.0	20.1	18.3	48.5	33.5	24.3	2.0	1.5	15.4	1.5	3/4"	3.5	0.8	*3/4" MPT
	V	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.5	9.8	1.5	3/4"	19.7	1.5	*3/4" MPT
	F	21.5	21.6	40.0	27.3	27.3	46.0	3.8	1.9	9.8	1.9	3/4"	19.7	1.5	*3/4" MPT
MC036	H	47.1	20.1	21.0	52.0	34.0	27.0	2.0	1.6	16.8	1.6	3/4"	3.4	0.8	*3/4" MPT
	V	26.0	21.6	45.0	31.8	27.3	51.0	3.7	1.5	9.8	1.5	3/4"	20.7	1.4	*3/4" MPT
MC042	H	47.1	20.1	21.0	52.0	34.0	27.0	2.0	1.6	16.8	1.6	3/4"	3.4	0.8	*3/4" MPT
	V	26.0	21.6	45.0	31.8	27.3	51.0	3.7	1.5	9.8	1.5	3/4"	20.7	1.4	*3/4" MPT
MC048	H	54.1	24.1	21.0	58.5	38.0	27.0	2.0	1.5	16.8	1.5	1"	3.4	0.8	*3/4" MPT
	V	29.3	25.5	50.5	36.0	31.0	56.5	3.7	2.0	11.1	2.0	1"	22.1	1.4	*3/4" MPT
MC060	H	54.1	24.1	21.0	58.5	38.0	27.0	2.0	1.5	17.4	1.5	1"	3.4	0.8	*3/4" MPT
	V	29.3	25.5	50.5	36.0	31.0	56.5	3.7	2.0	11.1	2.0	1"	22.1	1.4	*3/4" MPT
MC041	V	21.5	21.6	40.0	27.3	27.3	46.0	3.7	1.5	9.8	1.5	3/4"	19.7	1.4	*3/4" MPT
	F	21.5	21.6	40.0	27.3	27.3	46.0	3.8	1.9	9.8	1.9	3/4"	19.7	1.6	*3/4" MPT

*See PDF drawings for reference.

Discharge Connection Duct Flange, Return Connection, Hanger, and Electrical Knockout Dimensions (in)

Model	Cabinet Config.	Discharge Connection Duct Flange Installed				Return Connection Using Return Air Opening				Unit Hanger Detail			Electrical Knockouts			
		Supply Height	Supply Width	O	P	Return Width	Return Height	S	T	U	V	W	H	Low Voltage	High Voltage	G
		M	N			Q	R							J KO 1/2"	K KO 3/4"	
MC006	H	8.9	6.6	6.0	1.3	16.1	9.0	1.2	1.0	34.1	21.3	16.9	3.6	5.9	8.9	1.1
	V	9.0	9.0	8.9	5.0	16.1	9.0	2.1	1.0				3.6	5.9	8.1	1.1
MC009	H	8.9	6.6	6.0	1.3	16.1	9.0	1.2	1.0	34.1	21.3	16.9	3.6	5.9	8.9	1.1
	V	9.0	9.0	8.9	5.0	16.1	9.0	2.1	1.0				3.6	5.9	8.1	1.1
	F	9.0	9.0	4.4	5.5	16.1	9.0	2.1	1.0				3.6	5.9	8.1	1.1
MC012	H	8.9	6.6	6.0	1.3	16.1	9.0	1.2	1.0	34.1	21.3	16.9	3.6	5.9	8.9	1.1
	V	9.0	9.0	8.9	5.0	16.1	9.0	2.1	1.0				3.6	5.9	8.1	1.1
	F	9.0	9.0	4.4	5.5	16.1	9.0	2.1	1.0				3.6	5.9	8.1	1.1
MC015	H	13.1	9.6	3.9	1.2	23.0	15.0	1.1	1.0	43.0	22.1	17.9	4.1	7.1	14.1	1.3
	V	14.0	14.0	6.6	3.8	18.4	18.2	2.3	1.0				4.1	7.1	15.1	1.3
	F	14.0	14.0	5.7	3.8	18.9	19.1	2.0	1.0				4.1	7.1	15.1	1.3
MC018	H	13.1	9.6	3.9	1.2	23.0	15.0	1.1	1.0	43.0	22.1	17.9	4.1	7.1	14.1	1.3
	V	14.0	14.0	6.6	3.8	18.4	18.2	2.3	1.0				4.1	7.1	15.1	1.3
	F	14.0	14.0	5.7	3.8	18.9	19.1	2.0	1.0				4.1	7.1	15.1	1.3
MC024	H	13.1	9.6	3.9	1.2	22.9	16.3	1.1	1.0	43.0	22.1	17.9	4.1	7.1	14.1	1.3
	V	14.0	14.0	6.6	3.7	18.4	18.3	2.3	1.0				4.1	7.1	15.1	1.3
	F	14.0	14.0	3.8	5.7	18.0	19.1	2.1	1.0				4.1	7.1	15.1	1.3
MC030	H	13.1	9.6	3.9	1.2	22.9	16.3	1.1	1.0	43.0	22.1	17.9	4.1	7.1	14.1	1.3
	V	14.0	14.0	6.6	3.7	18.4	18.3	2.3	1.0				4.1	7.1	15.1	1.3
	F	14.0	14.0	3.8	5.7	18.0	19.1	2.1	1.0				4.1	7.1	15.1	1.3
MC036	H	16.1	10.9	3.0	2.5	25.9	19.0	1.1	1.0	47.0	22.6	17.9	4.1	7.1	17.1	1.3
	V	14.0	14.0	6.6	6.0	22.9	22.2	2.3	1.0				4.1	7.1	15.8	1.3
MC042	H	16.1	10.9	3.0	2.5	25.9	19.0	1.1	1.0	47.0	22.6	17.9	4.1	7.1	17.1	1.3
	V	14.0	14.0	6.6	6.0	22.9	22.2	2.3	1.0				4.1	7.1	15.8	1.3
MC048	H	15.9	13.5	4.1	1.2	35.9	19.0	1.1	1.0	54.0	26.2	21.9	4.1	7.1	17.1	1.3
	V	18.0	16.0	8.4	5.6	26.2	26.3	2.4	1.0				4.1	7.1	16.7	1.3
MC060	H	18.1	13.3	4.2	1.1	36.9	19.0	1.1	1.0	54.0	26.2	21.9	4.1	7.1	17.1	1.3
	V	18.0	16.0	8.5	5.6	26.2	26.3	2.4	1.0				4.1	7.1	16.7	1.3
MC041	V	14.0	14.0	6.3	4.8	18.4	18.3	2.3	1.0				4.1	7.1	15.1	1.3
	F	14.0	14.0	5.7	3.8	18.0	19.1	2.1	1.0				4.1	7.1	15.1	1.3

Cabinet, Shipping, Water Connections, and Condensate Drain Pan Dimensions (cm)

Model	Cabinet Config.	Overall Cabinet			Shipping Overall Dimensions			Water Connections					Condensate Drain Pan		
		Depth/ Length	Width	Height	Depth/ Length	Width	Height	Water In		Water Out		Water In/Out	AA	BB	Condensate Drain Pan Fitting
		A	B	C	A	B	C	D	E	F	E				
MC006	H	86.6	48.5	27.9	101.6	63.8	43.2	14.5	2.5	24.6	2.5	1/2"	1.8	8.4	*3/4" MPT
	V	48.3	48.5	55.9	62.9	62.9	71.1	4.3	4.3	24.6	4.3	1/2"	29.7	3.8	*3/4" MPT
MC009	H	86.6	48.5	27.9	101.6	63.8	43.2	14.5	2.5	24.6	2.5	1/2"	1.8	8.4	*3/4" MPT
	V	48.3	48.5	55.9	62.9	62.9	71.1	4.3	4.3	24.6	4.3	1/2"	29.7	3.8	*3/4" MPT
	F	48.3	48.5	55.9	62.9	62.9	71.1	4.3	4.6	24.6	4.6	1/2"	29.7	3.8	*3/4" MPT
MC012	H	86.6	48.5	27.9	101.6	63.8	43.2	14.5	2.5	24.6	2.5	1/2"	1.8	8.4	*3/4" MPT
	V	48.3	48.5	55.9	62.9	62.9	71.1	4.3	4.3	24.6	4.3	1/2"	29.7	3.8	*3/4" MPT
	F	48.3	48.5	55.9	62.9	62.9	71.1	4.3	4.6	24.6	4.6	1/2"	29.7	3.8	*3/4" MPT
MC015	H	109.2	51.1	43.2	123.2	85.1	58.4	8.9	3.8	35.1	3.8	1/2"	2.5	8.6	*3/4" MPT
	V	54.6	54.9	101.6	69.2	69.2	116.8	9.4	3.8	24.6	3.8	1/2"	50.0	3.8	*3/4" MPT
	F	54.6	54.9	101.6	69.2	69.2	116.8	9.4	4.8	24.6	4.8	1/2"	50.0	3.8	*3/4" MPT
MC018	H	109.2	51.1	43.2	123.2	85.1	58.4	8.9	3.8	35.1	3.8	1/2"	2.5	8.6	*3/4" MPT
	V	54.6	54.9	101.6	69.2	69.2	116.8	9.4	3.8	24.6	3.8	1/2"	50.0	3.8	*3/4" MPT
	F	54.6	54.9	101.6	69.2	69.2	116.8	9.4	4.8	24.6	4.8	1/2"	50.0	3.8	*3/4" MPT
MC024	H	109.3	51.1	46.4	123.2	85.1	61.6	5.1	3.8	39.1	3.8	3/4"	8.8	2.0	*3/4" MPT
	V	54.7	54.9	101.7	69.2	69.2	116.9	9.5	3.9	24.8	3.9	3/4"	50.1	3.8	*3/4" MPT
	F	54.7	54.9	101.7	69.2	69.2	116.9	9.6	4.9	24.8	4.9	3/4"	50.1	3.8	*3/4" MPT
MC030	H	109.3	51.1	46.4	123.2	85.1	61.6	5.1	3.8	39.1	3.8	3/4"	8.8	2.0	*3/4" MPT
	V	54.7	54.9	101.7	69.2	69.2	116.9	9.5	3.9	24.8	3.9	3/4"	50.1	3.8	*3/4" MPT
	F	54.7	54.9	101.7	69.2	69.2	116.9	9.6	4.9	24.8	4.9	3/4"	50.1	3.8	*3/4" MPT
MC036	H	119.5	51.1	53.3	132.1	86.4	68.6	5.1	4.0	42.5	4.0	3/4"	8.7	2.1	*3/4" MPT
	V	66.2	54.8	114.3	80.6	69.2	129.5	9.5	3.8	24.8	3.8	3/4"	52.5	3.7	*3/4" MPT
MC042	H	119.5	51.1	53.3	132.1	86.4	68.6	5.1	4.0	42.5	4.0	3/4"	8.7	2.1	*3/4" MPT
	V	66.2	54.8	114.3	80.6	69.2	129.5	9.5	3.8	24.8	3.8	3/4"	52.5	3.7	*3/4" MPT
MC048	H	137.3	61.2	53.3	148.6	96.5	68.6	5.1	3.8	42.5	3.8	1"	8.7	2.1	*3/4" MPT
	V	74.5	64.7	128.3	91.4	78.7	143.5	9.5	5.1	28.1	5.1	1"	56.2	3.7	*3/4" MPT
MC060	H	137.3	61.2	53.3	148.6	96.5	68.6	5.1	3.8	44.1	3.8	1"	8.7	2.1	*3/4" MPT
	V	74.5	64.7	128.3	91.4	78.7	143.5	9.5	5.1	28.1	5.1	1"	56.2	3.7	*3/4" MPT
MC041	V	54.7	54.9	101.7	69.2	69.2	116.9	9.5	3.9	24.8	3.9	3/4"	50.1	3.7	*3/4" MPT
	F	54.7	54.9	101.7	69.2	69.2	116.9	9.6	4.9	24.8	4.9	3/4"	50.1	4.0	*3/4" MPT

*See PDF drawings for reference.

Discharge Connection Duct Flange, Return Connection, Hanger, and Electrical Knockout Dimensions (cm)

Model	Cabinet Config.	Discharge Connection Duct Flange Installed				Return Connection Using Return Air Opening				Unit Hanger Detail			Electrical Knockouts			
		Supply Height	Supply Width	O	P	Return Width	Return Height	S	T	U	V	W	H	Low Voltage	High Voltage	G
		M	N			Q	R							J KO 1/2"	K KO 3/4"	
MC006	H	22.6	16.8	15.2	3.3	40.9	22.9	3.0	2.5	86.6	54.1	42.9	9.1	15.0	22.6	2.8
	V	22.9	22.9	12.7	22.6	40.9	22.9	5.3	2.5				9.1	15.0	20.6	2.8
MC009	H	22.6	16.8	15.2	3.3	40.9	22.9	3.0	2.5	86.6	54.1	42.9	9.1	15.0	22.6	2.8
	V	22.9	22.9	12.7	22.6	40.9	22.9	5.3	2.5				9.1	15.0	20.6	2.8
	F	22.9	22.9	14.0	11.2	40.9	22.9	5.3	2.5				9.1	15.0	20.6	2.8
MC012	H	22.6	16.8	15.2	3.3	40.9	22.9	3.0	2.5	86.6	54.1	42.9	9.1	15.0	22.6	2.8
	V	22.9	22.9	12.7	22.6	40.9	22.9	5.3	2.5				9.1	15.0	20.6	2.8
	F	22.9	22.9	14.0	11.2	40.9	22.9	5.3	2.5				9.1	15.0	20.6	2.8
MC015	H	33.3	24.4	9.9	3.0	58.4	38.1	2.8	2.5	109.2	56.1	45.5	10.4	18.0	35.8	3.3
	V	35.6	35.6	9.7	16.8	46.7	46.2	5.8	2.5				10.4	18.0	38.4	3.3
	F	35.6	35.6	14.5	9.7	48.0	48.5	5.1	2.5				10.4	18.0	38.4	3.3
MC018	H	33.3	24.4	9.9	3.0	58.4	38.1	2.8	2.5	109.2	56.1	45.5	10.4	18.0	35.8	3.3
	V	35.6	35.6	9.7	16.8	46.7	46.2	5.8	2.5				10.4	18.0	38.4	3.3
	F	35.6	35.6	14.5	9.7	48.0	48.5	5.1	2.5				10.4	18.0	38.4	3.3
MC024	H	24.5	33.3	10.0	3.0	58.3	41.3	2.8	2.5	109.3	56.2	45.6	10.5	18.1	35.9	3.2
	V	35.6	35.5	16.8	9.5	46.8	46.4	5.9	2.5				10.5	18.1	38.4	3.2
	F	35.6	35.5	14.4	9.6	45.8	48.5	5.3	2.5				10.5	18.1	38.4	3.2
MC030	H	24.5	33.3	10.0	3.0	58.3	41.3	2.8	2.5	109.3	56.2	45.6	10.5	18.1	35.9	3.2
	V	35.6	35.5	16.8	9.5	46.8	46.4	5.9	2.5				10.5	18.1	38.4	3.2
	F	35.6	35.5	9.6	14.4	45.8	48.5	5.3	2.5				10.5	18.1	38.4	3.4
MC036	H	27.8	40.9	7.5	6.2	65.9	48.3	2.8	2.5	119.5	57.5	45.6	10.5	18.1	43.5	3.2
	V	35.6	35.5	16.8	15.3	58.2	56.4	5.9	2.5				10.5	18.1	40.1	3.2
MC042	H	27.8	40.9	7.5	6.2	65.9	48.3	2.8	2.5	119.5	57.5	45.6	10.5	18.1	43.5	3.2
	V	35.6	35.5	16.8	15.3	58.2	56.4	5.9	2.5				10.5	18.1	40.1	3.2
MC048	H	34.3	40.4	10.3	3.0	91.3	48.3	2.8	2.5	137.2	66.5	55.7	10.5	18.1	43.5	3.2
	V	45.7	40.6	21.3	14.3	66.5	66.8	6.0	2.5				10.5	18.1	42.4	3.2
MC060	H	33.9	45.9	10.6	2.8	93.8	48.3	2.8	2.5	137.2	66.5	55.7	10.5	18.1	43.5	3.2
	V	45.7	40.6	21.5	14.3	66.5	66.8	6.0	2.5				10.5	18.1	42.4	3.2
MC041	V	35.6	35.5	16.0	12.2	46.8	46.4	5.9	2.5				10.5	18.1	38.4	3.2
	F	35.6	35.5	14.4	9.6	45.8	48.5	5.3	2.5				10.5	18.1	38.4	3.2

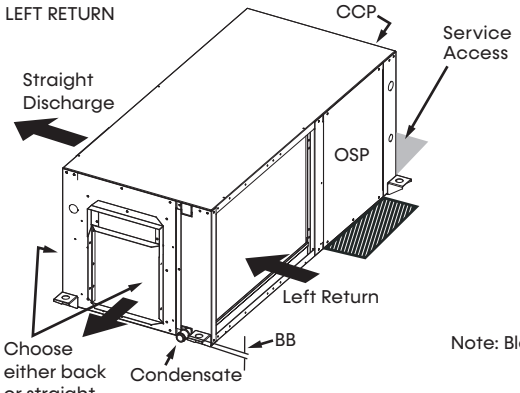
Corner Weights (lb)

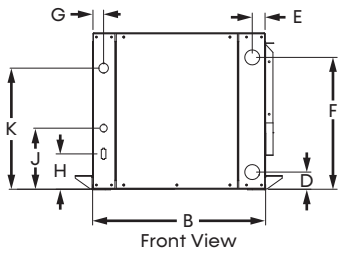
Model	Left - Front	Right - Front	Left - Back	Right/Back
MC006	37.0	24.0	23.0	19.0
MC009	38.0	24.0	23.0	20.0
MC012	42.0	26.0	25.0	21.0
MC015	53.0	36.0	34.0	30.0
MC018	55.0	37.0	35.0	31.0
MC024	62.0	40.0	39.0	33.0
MC030	67.0	41.0	40.0	34.0
MC036	75.0	47.0	44.0	37.0
MC042	81.0	50.0	48.0	39.0
MC048	98.0	60.0	58.0	47.0
MC060	94.0	59.0	56.0	69.0

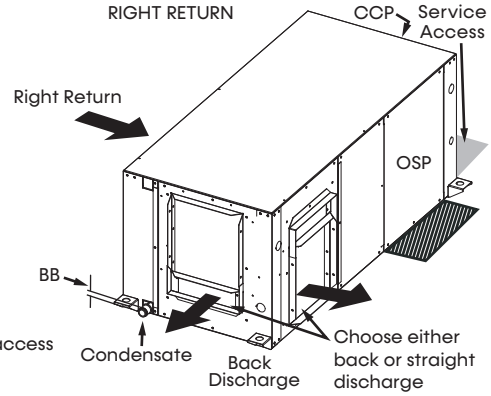
Corner Weights (kg)

Model	Left - Front	Right - Front	Left - Back	Right/Back
MC006	16.8	10.9	10.4	8.6
MC009	17.2	10.9	10.4	9.1
MC012	19.1	11.8	11.3	9.5
MC015	24.0	16.3	15.4	13.6
MC018	24.9	16.8	15.9	14.1
MC024	28.1	18.1	17.7	15.0
MC030	30.4	18.6	18.1	15.4
MC036	34.0	21.3	20.0	16.8
MC042	36.7	22.7	21.8	17.7
MC048	44.5	27.2	26.3	21.3
MC060	42.6	26.8	25.4	31.3

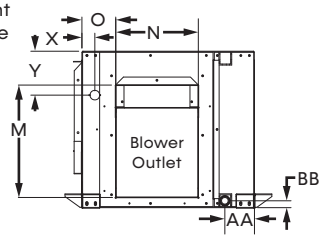
Horizontal Dimensional Data



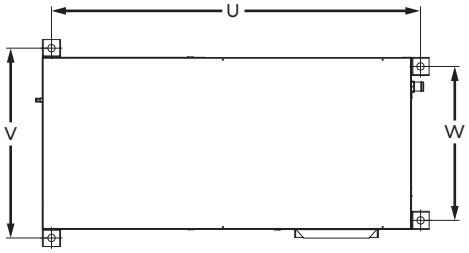


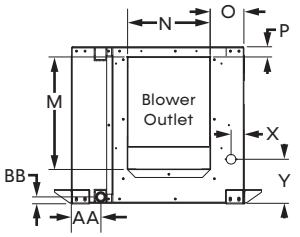


Note: Blower service panel requires 2-foot service access

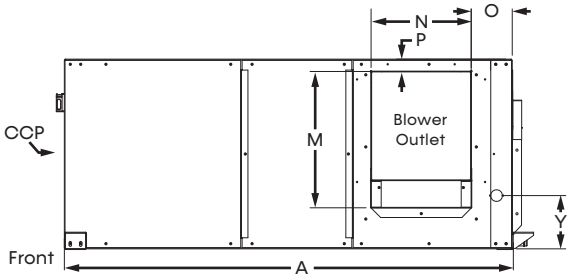


Left Return Back Discharge

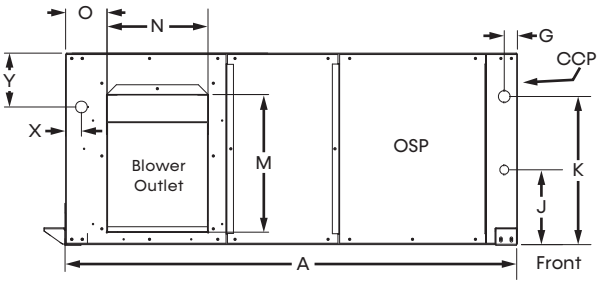




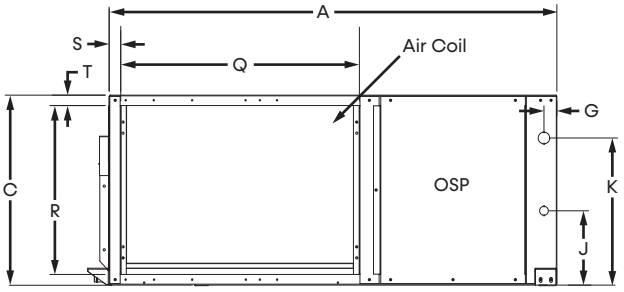
Right Return Back Discharge



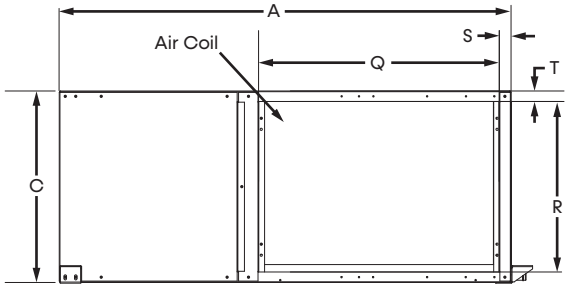
Left Return Straight Discharge



Right Return Straight Discharge



Left Return Left View
Air Coil Opening



Right Return Right View
Air Coil Opening

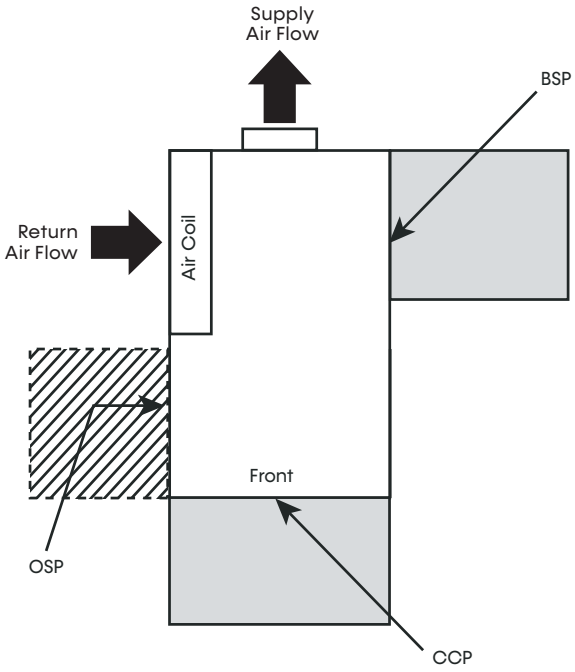
Notes:

1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units come standard with air filter rails. For duct connections, order optional filter frames. See product options decoder for details. You can convert filter rails in the field with an accessory air filter frame kit. Please see the accessory submittal for details.
3. Discharge flange and hanger brackets are factory installed.
4. Condensate is a rubber coupling that couples to 3/4-inch schedule 40/80 PVC.
5. Blower service panel requires 2-foot service access.
6. Blower service access is through back panel on straight discharge units or through panel opposite air coil on back discharge units.
7. OSP are removable panels that provide additional access to the units interior. Clear access to OSP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.

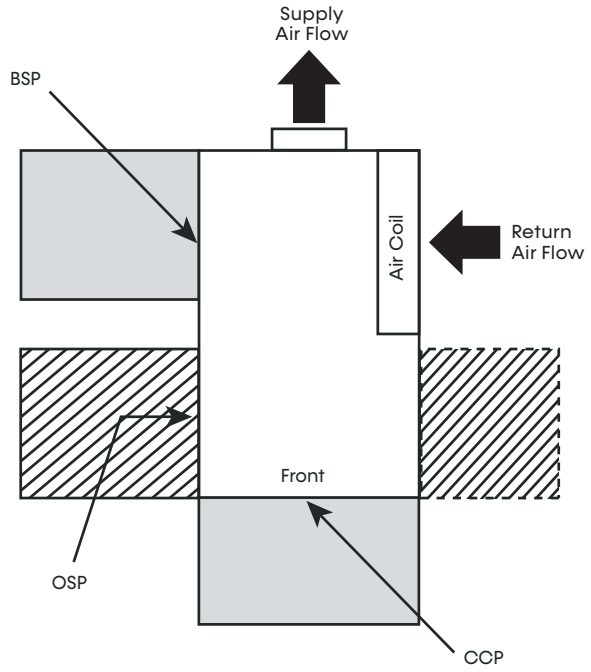
Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

Horizontal Service Access

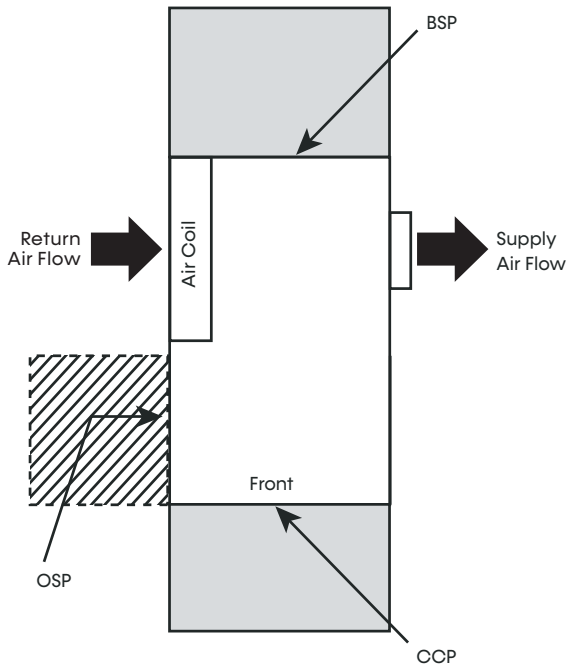
Left Return Back Discharge



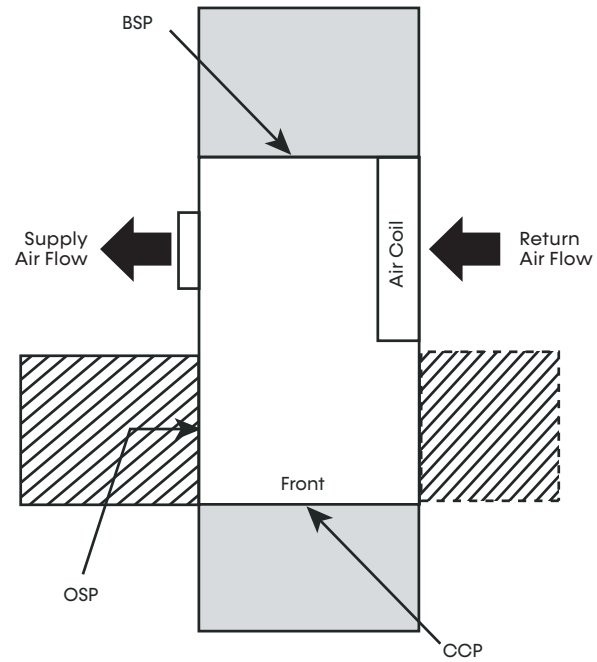
Right Return Back Discharge



Left Return Straight Discharge



Right Return Straight Discharge



= Mandatory Service Access 2-foot (61 cm)

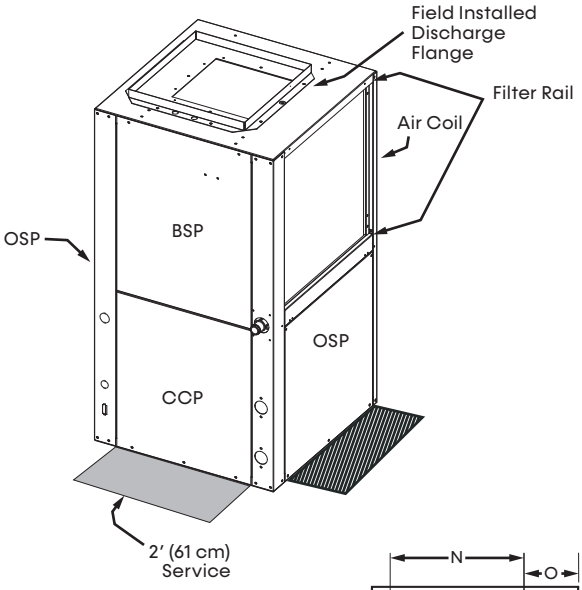
= Optional Service Access 2-foot (61 cm)

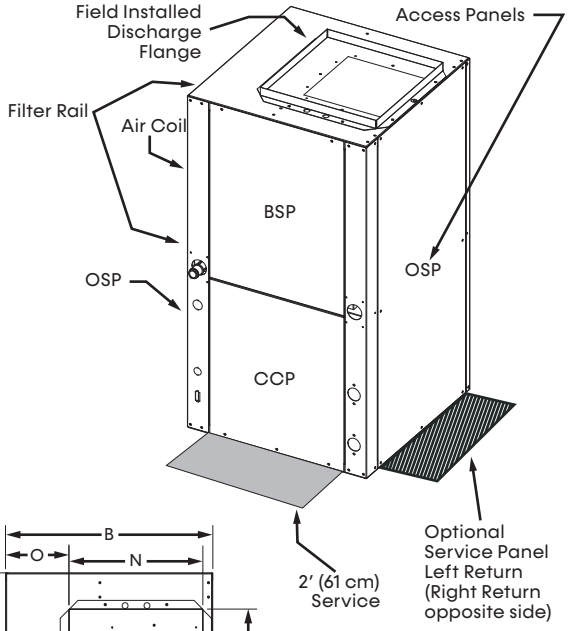
Notes:
1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. CCP and BSP requires 2 feet of service access.
3. Blower service access is through back panel on straight discharge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

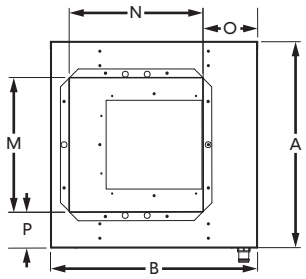
Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

Vertical Upflow Dimensional Data

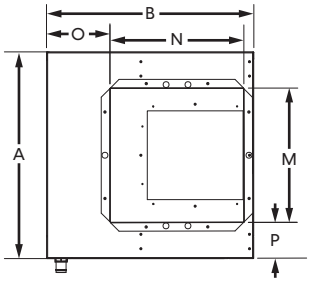
Models:
MC
006-060



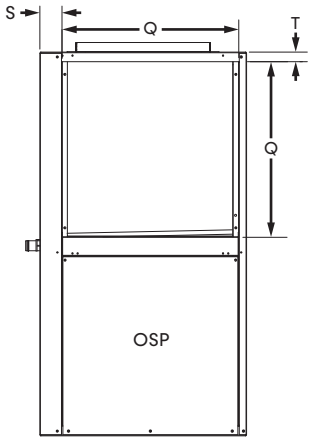




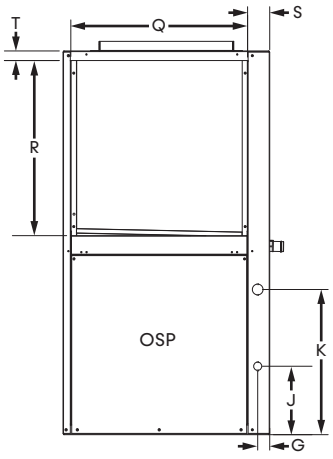
Top View Right Return



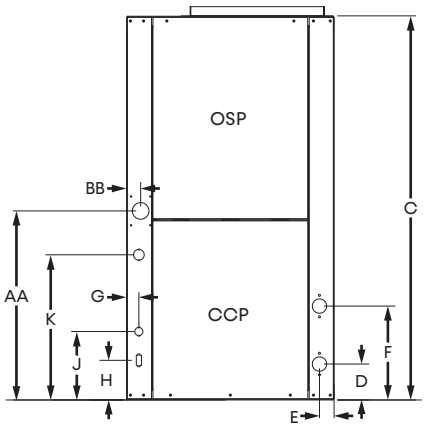
Top View Left Return



Right Return Right View
Air Coil Opening



Left Return Left View
Air Coil Opening



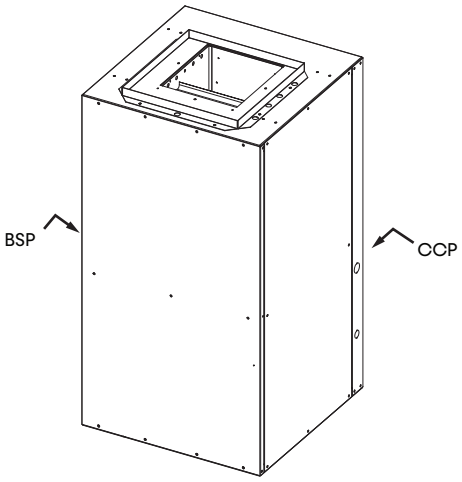
Front View

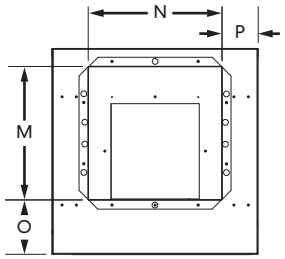
Notes:
1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Front and side access is preferred for service access. However, all components may be serviced from the front access panel if side access is not available. (Except on vertical sizes 024-030).
3. Discharge flange is field installed.
4. Condensate fitting on polymer drain pan is rubber coupling that couples to 3/4-inch schedule 40/80 PVC, S.S. drain pan is 3/4-inch MPT.
5. Units are shipped with air filter rails that are not suitable for supporting return air ductwork. An air filter frame with duct mounting collar is available as an accessory, see the Accessory Submittal set for futher information on this frame.

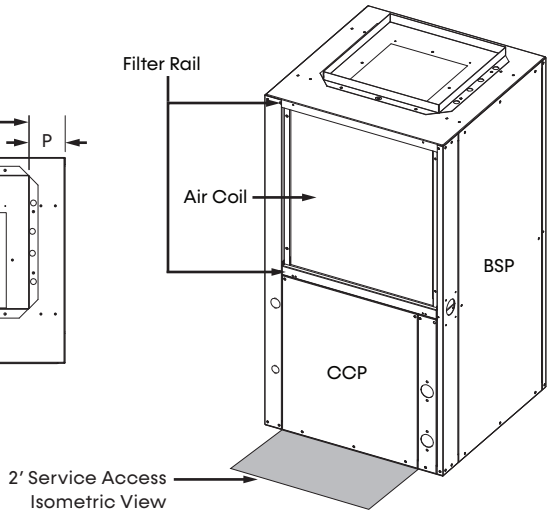
Legend:
CCP = Control/Compressor Access
BSP = Blower Service Panel
OSP = Optional Service Panel (not required)

Vertical Upflow Front Return Dimensional Data

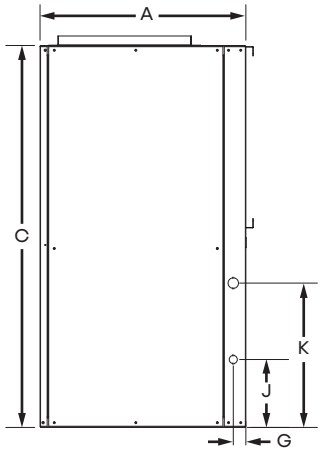
Models:
MC
006-060



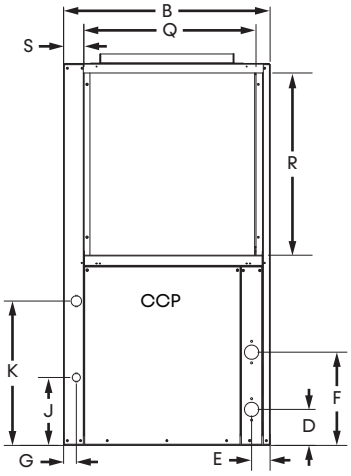




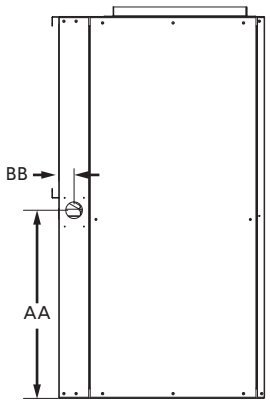
Either Left or Right panel must have 2' of accessibility for Blower Service Panel



Left View



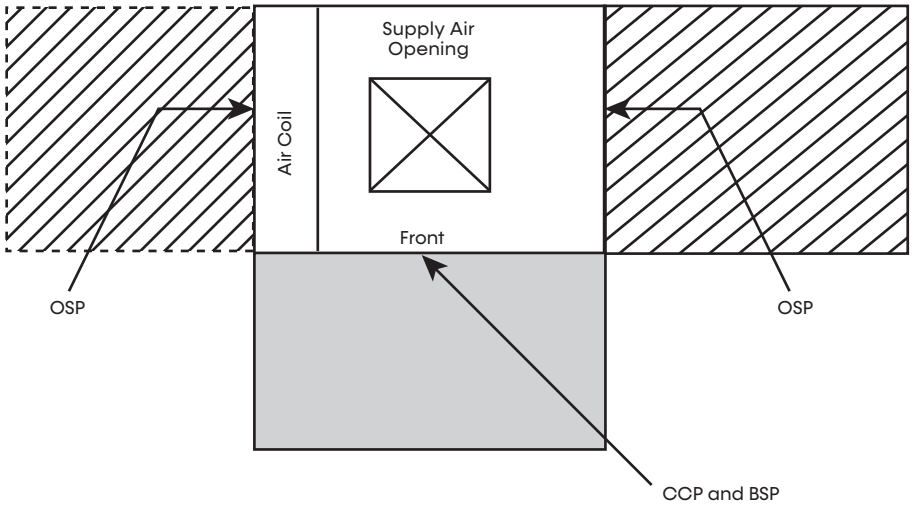
Front View



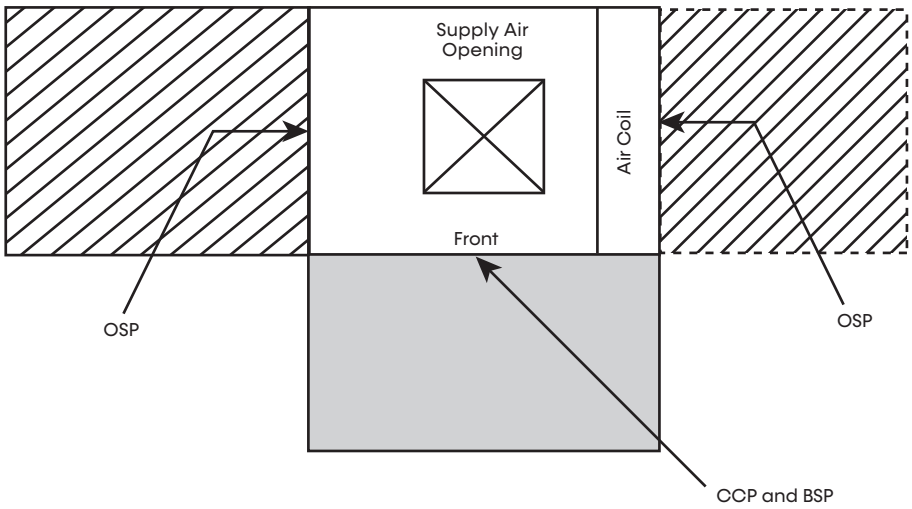
Right View

Vertical Service Access

Left Return



Right Return



Notes:

1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Front and Side access is preferred for service access.
3. OSP are removable panels that provide additional access to the units interior. Clear access to OSP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.
4. Front return units (not shown) require front access for controls/compressor and left side access for blower.

= Mandatory Service Access 2-foot (61 cm)

= Optional Service Access 2-foot (61 cm)

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

MINIMUM INSTALLATION AREA

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

Model	Charge (oz)	Configuration	Minimum Installation Area ft² (m²) [A_{min}]			
			Floor	Window	Wall	Ceiling
MC060	69	Vertical	237 (22.0)	132 (12.2)	76 (7.0)	63 (5.9)
		Horizontal	237 (22.0)	141 (13.1)	79 (7.3)	65 (3.0)

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

Minimum area and CFM requirements for the conditioned space

Model	Charge (oz)	Minimum CFM [Q_{min}]	
		TA_{min} (ft²)	Q_{min} (ft³/min)
MC060	69	3.54	117

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

Minimum area of opening for natural ventilation

Model	Charge (oz)	Anv_{min} in² (m²)
MC060	69	111.57 (0.07)

Anv_{min}	=	Minimum natural ventilation area opening

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

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

Model	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/ HACR
				QTY	RLA	LRA				
MC006	G.J.	208/230-1-60	187/252	1	3.7	17.7	0.3	4.0	4.9	15
	E.D.	265-1-60	249/291	1	2.6	10.5	0.4	3.0	3.7	15
MC009	G.J.	208/230-1-60	187/252	1	5.0	22.2	0.8	5.8	7.1	15
	E.D.	265-1-60	249/291	1	3.6	13.5	0.8	4.4	5.3	15
MC012	G.J.	208/230-1-60	187/252	1	5.6	32.5	0.8	6.4	7.8	15
	E.D.	265-1-60	249/291	1	4.2	23.0	0.8	5.0	6.1	15
MC015	G.J.	208/230-1-60	187/252	1	6.6	31.0	0.9	7.5	9.2	15
	E.D.	265-1-60	249/291	1	5.0	27.0	0.7	5.7	7.0	15
MC018	G.J.	208/230-1-60	187/252	1	7.0	35.0	0.9	7.9	9.7	15
	E.D.	265-1-60	249/291	1	6.5	40.0	0.7	7.2	8.8	15
MC024	G.J	208/230-1-60	187/252	1	11.4	64.4	1.5	12.9	15.8	25
	E.D.	265-1-60	249/291	1	10.3	60.5	1.2	11.5	14.1	20
	H.K.	208/230-3-60	187/252	1	7.7	59.9	1.5	9.2	11.1	15
	F.L.	460-3-60	432/504	1	3.8	32.4	0.8	4.6	5.5	15
MC030	G.J	208/230-1-60	187/252	1	12.7	75.6	2.7	15.4	18.6	30
	E.D.	265-1-60	249/291	1	11.5	84.0	2.9	14.4	17.3	25
	H.K.	208/230-3-60	187/252	1	9.6	67.7	2.7	12.3	14.7	20
	F.L.	460-3-60	432/504	1	4.5	38.1	1.6	6.1	7.2	15
MC036	G.J	208/230-1-60	187/252	1	14.4	86.0	2.6	17.0	20.6	35
	E.D.	265-1-60	249/291	1	10.2	55.0	2.0	12.2	14.8	25
	H.K.	208/230-3-60	187/252	1	9.0	70.0	2.6	11.6	13.9	20
	F.L.	460-3-60	432/504	1	4.1	39.0	1.2	5.3	6.3	15
MC042	G.J	208/230-1-60	187/252	1	17.3	123.0	2.7	20.0	24.3	40
	H.K.	208/230-3-60	187/252	1	12.8	102.8	2.7	15.5	18.7	30
	F.L.	460-3-60	432/504	1	5.8	48.5	1.6	7.4	8.9	15
	N.M.	575-3-60	540/630	1	5.1	41.0	1.4	6.5	7.8	15
MC048	G.J	208/230-1-60	187/252	1	22.4	126.0	3.3	25.7	31.3	50
	H.K.	208/230-3-60	187/252	1	12.8	120.4	3.3	16.1	19.3	30
	F.L.	460-3-60	432/504	1	6.0	49.4	1.7	7.7	9.2	15
	N.M.	575-3-60	540/630	1	5.8	41.0	1.4	7.2	8.7	15
MC060	G.J	208/230-1-60	187/252	1	23.7	157.0	4.8	28.5	34.4	50
	H.K.	208/230-3-60	187/252	1	16.0	156.4	4.8	20.8	24.8	40
	F.L.	460-3-60	432/504	1	7.1	69.0	2.4	9.5	11.3	15
	N.M.	575-3-60	540/630	1	6.4	48.0	1.8	8.2	9.8	15
MC041	G.J.	208/230-1-60	187/252	1	16.7	93.5	2.7	19.4	23.6	40
	H.K.	208/230-3-60	187/252	1	12.2	97.5	2.7	14.9	18.0	30
	F.L.	460-3-60	432/504	1	5.8	44.3	1.6	7.4	8.9	15
	N.M.	575-3-60	540/630	1	4.5	27.1	1.4	5.9	7.0	15

Notes:
- All fuses Class RK-5.

MC Electrical Table							CT EC				CV EC*			
Model	VOLTAGE CODE	VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/ HACR AMP	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	FUSE/ HACR AMP
				QTY	RLA	LRA								
MC006	G.J.	208/230-1-60	187/252	1	3.7	17.7	2.3	6.0	6.9	15	1.5	5.2	6.1	15
	E.D.	265-1-60	249/291	1	2.6	10.5	2.3	4.9	5.6	15	1.4	4.0	4.7	15
MC009	G.J.	208/230-1-60	187/252	1	5.0	22.2	2.3	7.3	8.6	15	1.5	6.5	7.8	15
	E.D.	265-1-60	249/291	1	3.6	13.5	2.3	5.9	6.8	15	1.4	5.0	5.9	15
MC012	G.J.	208/230-1-60	187/252	1	5.6	32.5	2.3	7.9	9.3	15	2.6	8.2	9.6	15
	E.D.	265-1-60	249/291	1	4.2	23.0	2.3	6.5	7.6	15	2.5	6.7	7.8	15
MC015	G.J.	208/230-1-60	187/252	1	6.6	31.0	2.6	9.2	10.9	15	2.6	9.2	10.9	15
	E.D.	265-1-60	249/291	1	5.0	27.0	1.9	6.9	8.2	15	2.4	7.4	8.7	15
MC018	G.J.	208/230-1-60	187/252	1	7.0	35.0	2.6	9.6	11.4	15	2.6	9.6	11.4	15
	E.D.	265-1-60	249/291	1	6.5	40.0	1.9	8.4	10.0	15	2.1	8.6	10.2	15
MC024	G.J	208/230-1-60	187/252	1	11.4	64.4	3.9	15.3	18.2	25	4.2	15.6	18.5	25
	E.D.	265-1-60	249/291	1	10.3	60.5	3.7	14.0	16.6	25	3.4	13.7	16.3	25
	H.K.	208/230-3-60	187/252	1	7.7	59.9	3.9	11.6	13.5	20	4.2	11.9	13.8	20
	F.L.	460-3-60*	432/504	1	3.8	32.4	1.2	5.0	6.0	15	3.4	7.2	8.2	15
MC030	G.J	208/230-1-60	187/252	1	12.7	75.6	3.9	16.6	19.8	30	4.2	16.9	20.1	30
	E.D.	265-1-60	249/291	1	11.5	84.0	3.7	15.2	18.1	25	3.4	14.9	17.8	25
	H.K.	208/230-3-60	187/252	1	9.6	67.7	3.9	13.5	15.9	25	4.2	13.8	16.2	25
	F.L.	460-3-60*	432/504	1	4.5	38.1	1.2	5.7	6.8	15	3.4	7.9	9.0	15
MC036	G.J	208/230-1-60	187/252	1	14.4	86.0	6.0	20.4	24.0	35	5.9	20.3	23.9	35
	E.D.	265-1-60	249/291	1	10.2	55.0	5.2	15.4	18.0	25	4.8	15.0	17.6	25
	H.K.	208/230-3-60	187/252	1	9.0	70.0	6.0	15.0	17.3	25	5.9	14.9	17.2	25
	F.L.	460-3-60*	432/504	1	4.1	39.0	1.7	5.8	6.8	15	4.8	8.9	9.9	15
MC042	G.J.	208/230-1-60	187/252	1	17.3	123.0	6.0	23.3	27.6	40	5.9	23.2	27.5	40
	H.K.	208/230-3-60	187/252	1	12.8	102.8	6.0	18.8	22.0	30	5.9	18.7	21.9	30
	F.L.	460-3-60*	432/504	1	5.8	48.5	1.7	7.5	9.0	15	4.8	10.6	12.1	15
MC048	G.J.	208/230-1-60	187/252	1	22.4	126.0	6.0	28.4	34.0	50	5.9	28.3	33.9	50
	H.K.	208/230-3-60	187/252	1	12.8	120.4	6.0	18.8	22.0	30	5.9	18.7	21.9	30
	F.L.	460-3-60*	432/504	1	6.0	49.4	1.7	7.7	9.2	15	4.8	10.8	12.3	15
MC060	G.J.	208/230-1-60	187/252	1	23.7	157.0	7.4	31.1	37.0	60	7.5	31.2	37.1	60
	H.K.	208/230-3-60	187/252	1	16.0	156.4	7.4	23.4	27.4	40	7.5	23.5	27.5	40
	F.L.	460-3-60*	432/504	1	7.1	69.0	2.3	9.4	11.2	15	6.2	13.3	15.1	20

Notes:
- All fuses Class RK-5.

***Neutral connection required! All F and L voltage (460VAC) units with a CV EC motor require a four-wire power supply with neutral. The CV EC motor is rated 265VAC and is wired between one hot leg and neutral.**

GENERAL

Furnish and install MARS MC 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 the 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 will be recorded by factory acceptance test and furnished on report card for ease of unit warranty status.**

BASIC CONSTRUCTION

Horizontal units shall have one of the following air flow arrangements: Left Inlet/Straight (Right) Discharge; Right Inlet/Straight (Left) Discharge; Left Inlet/Back Discharge; or Right Inlet/Back Discharge as shown on the plans. Units must have the ability to be field convertible from straight to back or back to straight discharge with no additional parts or unit structure modification. Horizontal units will have factory installed hanger brackets with rubber isolation grommets packaged separately.

Vertical units shall have one of the following airflow arrangements: Left Return/Top Discharge, Right Return/Top Discharge, and Front Return/Top Discharge, 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. All units (horizontal and vertical) must have a minimum of two access panels for serviceability of compressor compartment. **Units having only one access panel to compressor/heat exchangers/expansion device/refrigerant piping shall not be acceptable.**

Compressor section interior surfaces shall be lined with ½-inch (12.7 mm) thick, 1-½ lb/ft³ (24 kg/m³) acoustic type glass fiber insulation. Air handling section interior surfaces shall be lined with ½-inch (12.7 mm) thick, 1-½ lb/ft³ (24 kg/m³) **foil-faced**, glass-fiber insulation for ease of cleaning. Insulation placement shall be designed in a manner that will eliminate any exposed edges to prevent the introduction of glass fibers into the air stream. **Units without foil-faced insulation in the air handling section will not be accepted.**

The heat pumps shall be fabricated from heavy gauge galvanized steel.

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

All horizontal units to have factory installed 1-inch (25.4 mm) discharge air duct collars, 1 inch (25.4 mm) filter rails with 1-inch (25.4 mm) filters factory installed, and factory installed unit-mounting brackets. Vertical units to have field installed discharge air duct collar, shipped loose and 1-inch (25.4 mm) filter rails with 1-inch (25.4 mm) filters factory installed. **If units with these factory installed provisions are not used, the contractor is responsible for any extra costs to field install these provisions, and/or the extra costs for their sub-contractor to install these provisions.**

All units must have an insulated panel separating the fan compartment from the compressor compartment. **Units with the compressor in the air stream are not acceptable.** Units shall have factory installed 1-inch (25.4 mm) wide filter rails for filter removal from either side. Units shall have a 1-inch (25.4 mm) thick throwaway type glass fiber filter. The contractor shall purchase one spare set of filters and replace factory shipped filters on completion of startup. Filters shall be standard sizes. If units utilize non-standard filter sizes then the contractor shall provide 12 spare filters for each unit.

Cabinets shall have separate holes and knockouts for entrance of line voltage and low voltage control wiring. All factory-installed wiring passing through factory knockouts and openings shall be protected from sheet metal edges at openings by plastic ferrules. Supply and return water connections shall be copper FPT fittings. All water connections and electrical knockouts must be in the compressor compartment corner post as to not interfere with the serviceability of unit. Contractor shall be responsible for any extra costs involved in the installation of units that do not have this feature. Contractor must ensure that units can be easily removed for servicing and coordinate locations of electrical conduit and lights with the electrical contractor.

Option: 2-inch (50.8 mm) filter frame with removable access door and 2-inch (50.8 mm) Glass Fiber throwaway filters on all units.

Option: Sound attenuation package shall consist of additional sound insulation applied to the base pan, removable panels and blower housing.

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.

BLOWER AND MOTOR ASSEMBLY

Blower shall have inlet rings to allow removal of wheel and motor from one side without removing housing. Units shall have a direct-drive centrifugal fan. The fan motor shall be 3-speed (2-speed for 575V), 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 on small and medium size units (006-042) shall be isolated from the fan housing by a torsionally flexible motor mounting system with rubber type grommets to inhibit vibration induced high noise levels associated with "hard wire belly band" motor mounting. The fan motor on larger units (048 and 060) shall be isolated with flexible rubber type isolation grommets only. The fan and motor assembly must be capable of overcoming the external static pressures as shown on the schedule. Airflow/Static pressure rating of the unit shall be based on a wet coil and a clean filter in place. Ratings based on a dry coil, and/or no air filter shall NOT be acceptable.

Option: Constant Torque (CT) EC motors (sizes 006 to 060): The CT EC fan motor maximizes efficiency over its static operating range and provides airflow adjustment with 4 or 5 speed taps. The fan motor shall be isolated from the housing by rubber grommets. The motor shall be permanently lubricated and have thermal overload protection.

Option: Constant Volume (CV) EC motors (sizes 006 to 060): CV EC variable speed ball bearing type motor. The CV EC fan motor shall provide a soft low noise fan start by ramping fan up to full selected speed over a 30 second period, and slowly ramp down fan at the end of each blower cycle, maintain constant CFM, maximize motor efficiency over its static operating range, and provide airflow adjustment in multiple CFM increments. The fan motor shall be isolated from the housing by rubber grommets. The motor shall be permanently lubricated and have thermal overload protection. A special dehumidification mode shall be provided to allow lower airflows in cooling for better dehumidification. The dehumidification mode may be constant or automatic (humidistat controlled). Constant CFM EC motors without controlled ramp up and ramp down features, with constant CFM speed taps, or with no microprocessor controller are not acceptable.

REFRIGERANT CIRCUIT

All units shall contain an R-454B sealed refrigerant circuit including a high efficiency scroll or 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 (loss of charge) switch, water coil low temperature sensor, and air coil low temperature sensor. Access fittings shall be factory installed on high and low pressure refrigerant lines to facilitate field service. Activation of any safety device shall prevent compressor operation via a microprocessor lockout circuit. The lockout circuit shall be reset at the thermostat or at the contractor supplied disconnect switch. **Units that cannot be reset at the thermostat shall not be acceptable.**

The compressor shall have a dual level vibration isolation system. The compressor will be mounted on specially engineered sound-tested EPDM vibration isolation grommets or springs to a large heavy gauge compressor mounting plate, which is then isolated from the cabinet base with EPDM 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) working refrigerant 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 1000 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).

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.

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

Option: The unit will be supplied with cupro-nickel coaxial water to refrigerant heat exchanger.

Option: The Refrigerant Detection System (RDS) package shall consist of the RDS module and sensors to be strategically placed within the cabinet. In the event of a refrigerant leak, the RDS triggers an alert through the DDC control system, disables compressor operation, and the unit blower runs to disperse any concentration of leaked refrigerant in compliance with UL 60335-2-40 safety standards for flammable refrigerants (Optional for sizes 006-048).

DRAIN PAN

The drain pan shall be constructed of a polymer material that inhibits corrosion. Drain outlet shall be connected from pan using provided polymer coupling and clamps that meet UL 2043 as required for discrete products by the IMC and UMC when located in a plenum. If galvanized steel drain pan is used, it shall be fully insulated on both sides and must meet the stringent 1,000 hour salt spray test per ASTM B117. Drain outlet shall be located at pan as to allow unobstructed drainage of condensate. Drain outlet shall be connected from pan directly to a rubber coupling. **No hidden internal tubing extensions from pan outlet extending to unit casing (that can create drainage problems) will be accepted.** 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 with ¾-inch MPT plumbing connection. The stainless steel drain pan shall be fully insulated on all sides.

ELECTRICAL

A control box shall be located within the unit compressor compartment and shall contain a 50VA transformer, 24V activated, two or three-pole compressor contactor, terminal block for thermostat wiring and solid-state controller for complete unit operation. The control box on sizes 006 through 060 shall have a door to protect the internal components. The entire control box shall be capable of rotating out of the unit to allow access to the components behind the control box. Low voltage wires shall enter the box through a hole in the lower left side and high voltage wires shall enter the box through a hole in the upper left side. Reversing valve and blower motor wiring shall be routed through this electronic controller. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24V and provide heating or cooling as required by the remote thermostat/sensor.

Option: Disconnect Switch, Non-Fused, classified as motor disconnect.

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 anti-freeze).
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.

When CXM2 is connected to a handheld 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.

Option: Enhanced Solid State Control System (DXM2.5)

This control system is a communicating controller.

Control shall have the features of the CXM2 Communicating Controls along with the following expanded features:

a. Removable thermostat connector.
b. Night setback control.
c. Random start on return from night setback.
d. Override temperature control with 2-hour timer for room occupant to override setback temperature at the thermostat.
e. Dry contact night setback output for digital night setback thermostats.
f. Ability to work with heat pump or heat/cool (Y, W) type thermostats.
g. Ability to work with heat pump thermostats using O or B reversing valve control.
h. Boilerless system heat control at low loop water temperature.
i. Ability to allow up to three units to be controlled by one thermostat.
j. Relay to operate an external damper.
k. Relay to start system pump.
l. 75VA control transformer. Control transformer shall have load side short circuit and overload protection via a built-in circuit breaker.

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

When DXM2.5 is connected to a handheld service tool, the installer/service technician can; check and set CFM; check DIP switch S1, S2, and S3 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.

REMOTE SERVICE SENTINEL (CXM2/DXM2.5)

Solid-state control system shall communicate with a service tool to display (on the service tool) 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 the unit from the service tool. The control board shall provide a signal to the service tool, indicating a lockout. A detailed message shall be provided at the 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 (either CXM2 or DXM2.5) and the control board 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

MARS shall warranty equipment for a period of 12 months from start up or 18 months from shipping (which ever 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/DXM2.5 for a total of 5 years.

FIELD-INSTALLED OPTIONS

Hose Kits

All units shall be connected with hoses. The hoses shall be braided stainless steel; fire rated hoses complete with adapters. Only fire rated hoses will be accepted.

Valves

The following valves are available and will be shipped loose:

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

Hose Kit Assemblies

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

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

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

d. Supply hose having "Y" strainer with blowdown valve, and ball valve with PT port; return hose having ball valve with PT port.

THERMOSTATS

The thermostat shall be a MARS mechanical or electronic type thermostat

DDC SENSORS

MARS' 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).

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

Date	Section	Description
01/13/25	Correction Tables	Updated Cooling Corrections data
	Electrical Data	Updated data
12/20/24	Model Nomenclature, Performance Data, Blower Data, Physical Data, Dimensional Data, Electrical Data	Added size 041 content
11/22/24	All	Updated naming conventions for CXM2 and DXM2.5
	Dimensional Data	Updated dimensional data
	Blower Performance	Added a note concerning approved installation altitudes
	Performance Data	Updated Cooling EAT temperatures
09/27/2024	Created	

Due to ongoing product improvements, specifications, and dimensions are subject to change and correction without notice or incurring obligations. Determining the application and suitability for use of any product is the responsibility of the installer. Additionally, the installer is responsible for verifying dimensional data on the actual product prior to beginning any installation preparations.

Incentive and rebate programs have precise requirements as to product performance and certification. All products meet applicable regulations in effect on date of manufacture; however, certifications are not necessarily granted for the life of a product. Therefore, it is the responsibility of the applicant to determine whether a specific model qualifies for these incentive/rebate programs.

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