

Tranquility® 16 (TR) Versatile Series

Submittal Data

Models TRH/V 006-060, 60Hz - HFC-410A



LC516

Rev.: January 24, 2023



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TR Series



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THE TRANQUILITY® 16 (TR) VERSATILE SERIES

The Tranquility® 16 (TR) Versatile Series raises the bar for water-source heat pump features and application flexibility. Not only does the Tranquility TR exceed ASHRAE 90.1 efficiencies, but it also uses EarthPure® HFC-410A zero ozone depletion refrigerant, making it an extremely environmentally-friendly option. Tranquility TR is eligible for LEED (Leadership in Energy and Environmental Design) points because of the “green” technology design. The Tranquility TR stands out as having the most comprehensive set of product options contained in a compact footprint making it the value leader in water source heat pump products.

Available in sizes from 1/2 ton (1.76 kW) through 5 tons (17.6 kW) with multiple cabinet options (vertical upflow and horizontal) the Tranquility TR offers flexibility for most any installation. The Tranquility TR 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 (rotary for size 018 and below), microprocessor controls, galvanized steel cabinet, polymer drain pan and sound absorbing air handler insulation are just some of the features of the Tranquility TR.

ClimateMaster’s exclusive double isolation compressor mounting system makes the Tranquility TR 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 rubber grommets for maximized vibration and 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 in production.

Options such as the tin-plated air coil, DDC controls, hybrid hydronic heating, and high efficiency MERV rated air filters allows for customized design solutions. Optional high static fan motors expand the operating range and help overcome some of the challenges associated with ductwork in retrofit installations. Cupro-nickel water-coils and ClimateMaster’s industry leading sound attenuation UltraQuiet package are options that make a great unit even better.

iGate® 2 technology provides technicians an interface into the operation of the system in real time without the need for hard tooling. On board advanced controls communicate the key operating system temperatures enabling technicians to start-up, commission, and service the equipment remotely by smart phone or website via the cloud. Communication can also be done at the unit via a communicating thermostat or handheld service tool. Not only does iGate 2 monitor current performance, it also allows the functionality to make system adjustments and captures operating conditions at time of fault. All this information is displayed in an easy to read format maximizing the usability of the experience.

ClimateMaster’s patented ClimaDry® II Dehumidification option is an innovative means of providing modulating reheat without the complication of refrigeration controls. ClimaDry II is hot gas generated reheat, which utilizes one of the biggest advantages of a Water-Source Heat Pump (WSHP), the transfer of energy through the water piping system. ClimaDry II simply diverts condenser water through a water-to-air coil that is placed after the evaporator coil. ClimaDry II is the simplified leading reheat solution for commercial buildings.

Hybrid hydronic heating combines the benefits of water source heat pumps and hydronic fan coils into one system. In cooling mode the system performs as normal using a compressor and refrigerant coil. In the heating mode the system uses a second hydronic coil for heating. By design, the system reduces compressor cycling, consumes less power at the unit in heating mode, and does not require a reversing valve to be used. Hybrid systems are an ideal fit for applications where hot water is provided as a domestic utility or can be generated high efficiently.

The Tranquility 16 Versatile TR 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 (1/2 ton, 1.76 kW) through 060 (5 tons, 17.6 kW)
- Environmentally-friendly EarthPure® (HFC-410A) zero ozone depletion refrigerant
- Exceeds ASHRAE 90.1 efficiencies
- Coaxial heat exchanger
- Galvanized steel 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 (2 speed for 575 volt)
- Unit Performance Sentinel performance monitoring system
- Eight Safeties Standard
- Non-corrosive polymer drain pan
- iGate® 2 Communicating Controls Powered by CXM2
 - Multiple communication pathways,
 - o Cloud-based connectivity via iGate 2 Wi-Fi communicating color touch screen thermostat for remote monitoring, access, and diagnosis. Including the new functionality for contractors/building engineers to monitor and make mass changes on multi-unit systems
 - o Connect directly to the system with use of a handheld service tool
 - Provides real-time unit operating conditions
 - Reduces start-up, commissioning, and service time by removing the need for hard tooling to take temperature measurements
 - Captures operating conditions in the event of a safety shutdown

OPTIONS

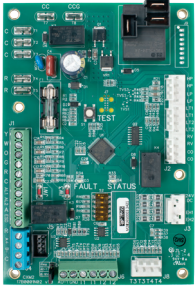
- iGate® 2 Communicating Controls Powered by DXM2.5
 - Includes all of the features listed above for CXM2 controls including cloud-based connectivity via iGate 2 WiFi communicating color touch screen thermostat for remote monitoring, access, and diagnosis
 - Provides direct control over intelligent Constant Volume (CV) ECM fan motor
 - Controls ClimaDry® II hydronic modulating reheat
 - Allows operation of domestic Hot Water Generator (HWG)
- Hybrid hydronic heating
- High efficient ECM fan motors
 - Intelligent Constant Volume (CV) ECM motors for ultimate airflow control
 - Entry level Constant Torque (CT) ECM motors that provide efficiency at a value
- High Static PCS fan motors
- BACnet, Modbus and Johnson N2 compatibility options for DDC controls
- Corrosive resistant cupro-nickel water heat exchanger
- UltraQuiet sound attenuation package
- Tin-plated air coils for added protection from formicary corrosion
- Hot water generator for domestic hot water generation
- Internally mounted water pump for single pipe systems
- Auto flow regulators that limit water flow to the unit preventing system over pumping
- Two-way motorized water valves that prevent water flow through the unit when it is not in operation increasing system pumping efficiency
- ClimaDry® II modulating reheat
- Easy to clean rust prohibitive stainless steel drain pans
- Unit integrated power disconnect
- Extended range insulation for geothermal applications

ACCESSORIES

- Wi-Fi communicating color touch screen thermostat
- Wide variety of thermostat options to meet your application needs
- Various length braided hose kits with optional water valves, PT plugs, blowdown valve, flow limiting, and strainer options
- Externally mounted manual and motorized water valves
- 1" Merv 8 filter
- 2" Merv 8 or 13 filters
- Architecturally pleasing wall sensors for connection to DDC (MPC) controls
- Electric emergency duct heaters

iGate® 2 Communicating Controls Powered by CXM2

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



Tranquility® 16 (TR) Versatile Series is equipped with industry-first, iGate® 2 communication information gateway that allows users to interact with their water-source system in easy to read clear language.

Monitor/Configure – Installers can configure from the myUplink PRO website, mobile app, iGate 2

Communicating (AWC) Thermostat, or diagnostic tool, including: Unit family, size, accessory configuration, and demand reduction (optional, to limit unit operation during peak times). Users can look up the current system status: temperature sensor readings and operational status of the blower.

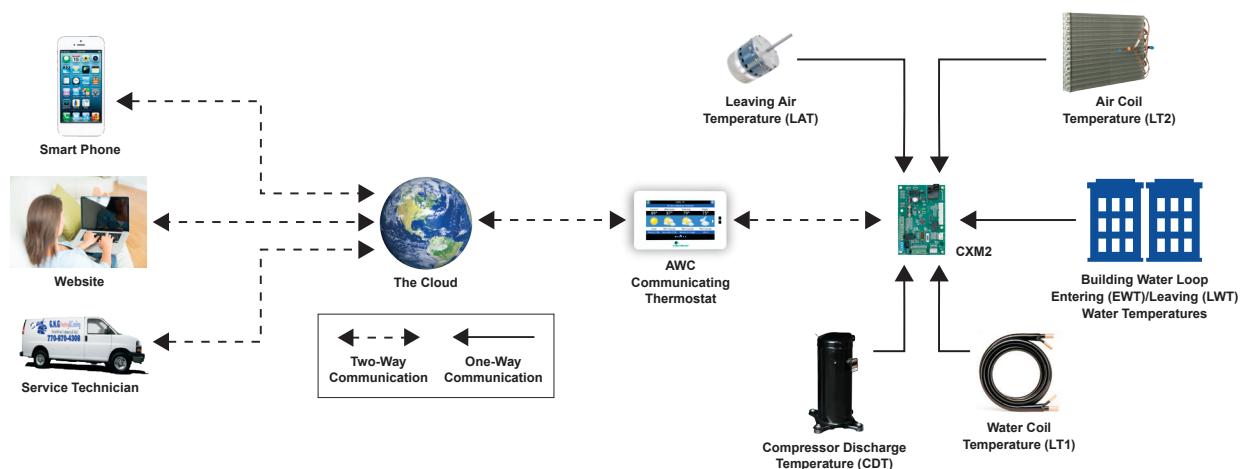
Precise Control – The new CXM2 board enables intelligent, 2-way communication between the CXM2 board and smart components like the communicating thermostat and diagnostic tool. The advanced CXM2 board uses information received from the temperature sensors to precisely control operation to deliver high efficiency, reliability and increased comfort.

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

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

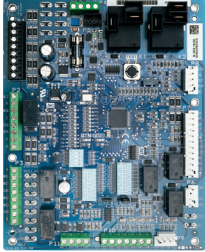
In iGate 2 Service Mode, the service personnel can access fault description, possible causes and most importantly, the conditions (temp, flow, i/o conditions, configuration) at the time of the fault. Manual Operation mode allows the service personnel to manually command operation for any of the thermostat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

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



iGate® 2 Communicating Controls Powered by DXM2.5

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



Tranquility® 16 (TR) Versatile Series is equipped with industry-first, iGate® 2 communication information gateway that allows users to interact with their water-source system in easy to read clear language AND delivers improved reliability/efficiency by precisely controlling smart components.

Monitor/Configure – Installers can configure from the myUplink PRO website, mobile app, iGate 2 Communicating AWC Thermostat, or diagnostic tool, including: Airflow, unit family, size, accessory configuration, and demand reduction (optional, to limit unit operation during peak times). Users can look up the current system status: temperature sensor readings and operational status of the blower.

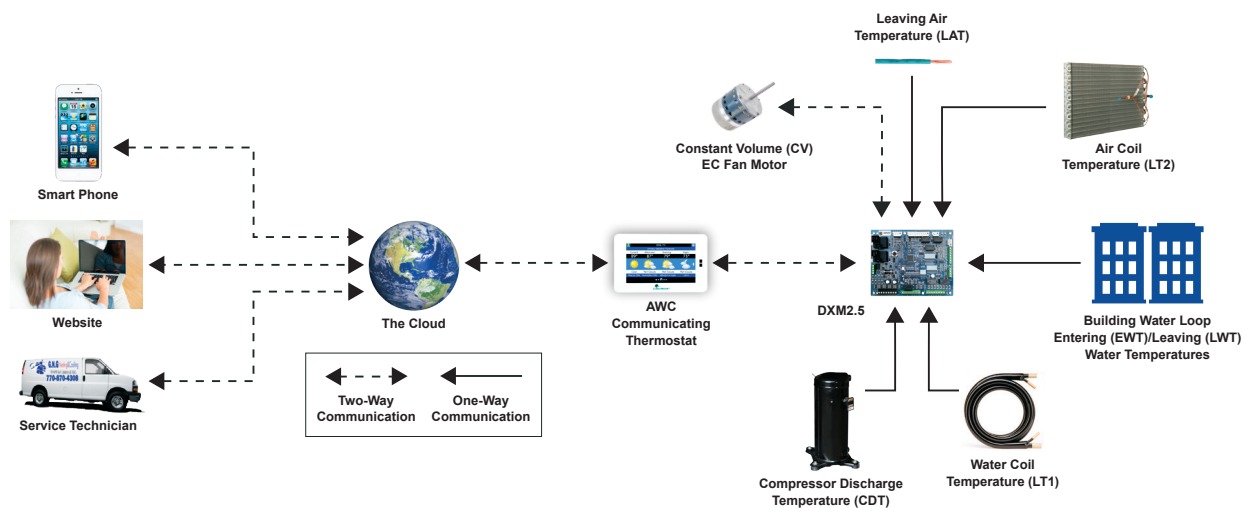
Precise Control – The new DXM2.5 board enables intelligent, 2-way communication between the DXM2.5 board and smart components like the communicating thermostat/diagnostic tool and constant volume (CV) EC fan motor. The advanced DXM2.5 board uses information received from the smart components and temperature sensors to precisely control operation of the variable speed CV EC fan to deliver higher efficiency, reliability and increased comfort.

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

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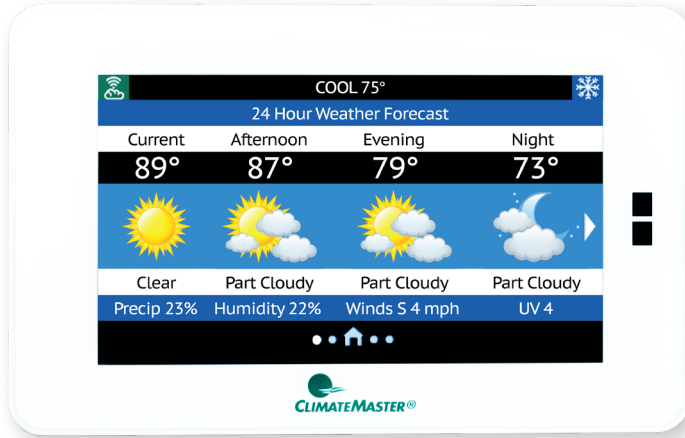
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With an iGate 2 communicating system, users and contractors have a web-enabled gateway to system information never before available and exclusive to ClimateMaster products.



iGate® 2 Communicating (AWC) Thermostat

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



The iGate® 2 Communicating (AWC) Thermostat is innovating the future of comfort technology, one building at a time. The inspired design of the touch screen interface allows you to see real-time data for the efficiency and health of your system, with early warnings for potential system faults. The cloud based information gateway allows technicians to remotely diagnose system issues before occupants even know there is a problem. Control and monitor the system in your home or business from anywhere in the world with an easy to use app on your phone.

Features with Efficiency in Mind



Touch Screen Interface

A brilliantly customizable touch screen monitor for simple control.



Seamless Integration

Between your iGate® 2 Communicating (AWC) Thermostat and Tranquility comfort system.



(Mobile) Remote System Control

Control temperature and schedule from anywhere in the world.



Early Fault Warnings

Alerts you and your contractor of potential system faults in the future.



Remote Diagnostics

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



Real-Time Operations Data & System Schematics

Access simply via the myUplink Pro Account and web portal to view system diagrams with current operating temperatures.

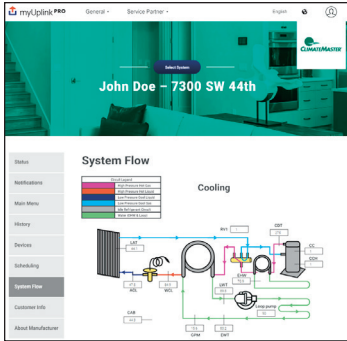


Revenue Stream

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



HVAC Professional | User Experience



The iGate® 2 is more than just a smart thermostat for your residential or commercial customer, it's a business opportunity. Our new thermostat works with your customers' Tranquility comfort systems to provide the most efficient link between their system and

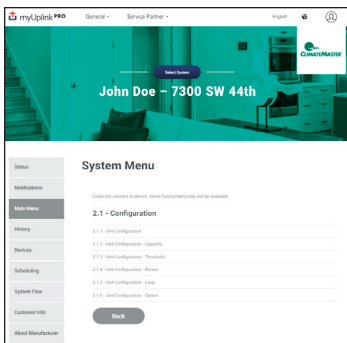
your services. The customization of monitoring from the myUplink PRO web portal or phone app account allows for continuous system monitoring, analysis, repair recognition, and early warnings for potential system faults that are sent to you and your customer.



Benefits

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

Homeowner | User Experience



The iGate® 2 combines a Wi-Fi thermostat and advanced unit controls to communicate the systems operation information to the cloud. From any internet connected device or smart phone, homeowners can control and monitor their systems from anywhere in the

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



Benefits

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

Constant Volume (CV) ECM

The Intelligent Constant Volume (CV) ECM blower motor provides unmatched functionality that saves installing and service technicians time while also providing increased comfort levels to occupants.

CV ECM's are programed to maintain a constant CFM across a wide range of external static pressures (ESP). This functionality differs from traditional PSC or even Constant Torque (CT) ECM's. With traditional PSC and CT ECM fan motors, as ESP is increased CFM is reduced. To increase or decrease the speed of the fan motor requires a fan motor switch or a technician to wire into a different motor tap. CT ECM's provide increased efficiency over PSC motors but with no additional functionality. With a CV ECM, as changes in ESP occur the fan motor will adjust its speed to deliver the desired CFM (within its operating range). This ensures the system is delivering the airflow and capacity it was designed for.

A major benefit of the CV ECM over other fan motor types its ability to adjust airflow remotely through the iGate® 2 web portal/mobile app or directly at the unit with a communicating diagnostic service tool or thermostat. Airflow levels can be adjusted in increments of 25 CFM from the units minimum and maximum CFM range (see CV ECM configuration table for details). This functionality allows technicians to dial in airflow during start-up and commissioning via an easy to use service tool. During operation occupants may have a desire for airflow adjustments. Reducing CFM can reduce airflow sound levels and increase cooling dehumidification (latent capacity). Technicians can easily make these adjustments without making wiring changes reducing service time with minimal disruption to the occupants.

The fan motor operating modes include:

- First Stage Cooling (Y1 & O)
- Second Stage Cooling (Y1, Y2, & O)
- First Stage Heating (Y1)
- Second Stage Heating (Y1 & Y2)
- Fan (G with no Y1, Y2, or W)

The CV ECM motor includes **“soft start”** and **“ramp down”** features. The soft start feature gently increases the motors rpm at blower start up resulting quieter blower start cycles. Likewise, the ramp down feature allows the blower to slowly decrease rpm to a full stop resulting in a quieter end to each blower cycle. The ramp down feature (also known as the heating or cooling “Off Delay”) also has the functionality to be field selected by the technician in the allowable range of 0 to 255 seconds.



Airflow Configuration Screen on Mobile App

Constant Torque (CT) ECM

The Constant Torque (CT) ECM blower motor

combines high efficient airflow movement with simplistic operation.

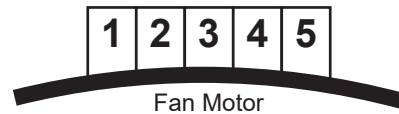
The CT ECM is designed to maintain a fixed RPM. The delivered unit airflow will depend on the total static applied on the system (ductwork, grilles, etc.). This is similar to the operation of a PSC motor and differs from the CV ECM motor which will adjust RPM to deliver a constant CFM. Also, like a traditional PSC blower motor, the CT ECM blower motor has 4-5 Speed Taps depending on unit size (see blower tables for details). The blower comes factory wired into two speed taps. To adjust speeds in the field a technician manually changes the electrical connection either at the fan motor or connecting wire harness (varies by size).

The blower offers a “soft start” feature. Soft start gently increases the blower motors rpm resulting in quieter operation during start up cycles. The blower does not include a “ramp down” feature like the CV ECM motor. When the fan call is removed the blower will immediately shut down. If the ramp down feature is required please select a CV ECM blower.

The CT ECM blower is not a communicating component and does not contain the high functionality like the CV ECM blower does. It offers an entry level ECM option for applications seeking high efficiency with simplistic functionality. Constant Volume (CV) and Constant Torque (CT) styles of ECM blower motors are both equally efficient in their operation. The difference between the two motors is in their operational functionality.



Speed Taps 1-5



Selection Procedure

Reference Calculations

HEATING	
$LWT = EWT - \frac{HE}{GPM \times Constant}$	
$LAT = EAT + \frac{HC}{CFM \times 1.08}$	

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

Constant = 500 for water, 485 for antifreeze

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

Airflow	Water Flow	Est 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
CDT	Compressor discharge temperature
CFM	Airflow, cubic feet per minute
COP	Coefficient of performance = BTUH output/BTUH input
CT ECM	Electronic commutated constant torque fan motor
CV ECM	Electronic commutated constant volume fan motor
DB	Dry bulb temperature, °F
EAT	Entering air temperature
EER	Energy efficient ratio = BTUH output/Watt input
ESP	External static pressure, inches w.g.
EWT	Entering water temperature
FPT	Female pipe thread
GPM	Water flow in U.S., gallons per minute
HC	Air heating capacity, BTUH
HE	Total heat of extraction, BTUH
HR	Total heat of rejection, BTUH
HWC	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
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

Selection Procedure

- Step 1** Determine the actual heating and cooling loads at the desired dry bulb and wet bulb conditions.
- Step 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.
- Step 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.
- Step 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).
- Step 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.
- Step 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.
- Step 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.
- Step 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	24,500 BTUH
Sensible Cooling.....	21,800 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	750 CFM

Steps 3, 4 & 5 HP Selection:

After making our preliminary selection (TR024), we enter the tables at design water flow and water temperature and read Total Cooling, Sens. Cooling and Heat of Rej. capacities:

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

Steps 6 & 7 Entering Air and Airflow Corrections:

Next, we determine our correction factors.

	<u>Table</u>	<u>Ent Air</u>	<u>Airflow</u>	<u>Corrected</u>
Corrected Total Cooling =	23,400	x 0.9681	x 0.9947	= 22,533
Corrected Sens Cooling =	17,500	x 1.1213	x 1.0222	= 20,058
Corrected Heat of Reject =	30,200	x 0.9747	x 0.9668	= 28,459

Step 8 Water Temperature Rise Calculation and Assessment:

Actual Temperature Rise.....	9.5°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.

TR Series Nomenclature

MODEL TYPE
TR = TRANQUILITY® HIGH EFFICIENCY 410A

CONFIGURATION
H = HORIZONTAL
V = VERTICAL

UNIT SIZE
006 - E,G
009 - E,G
012 - E,G
015 - E,G
018 - E,G
024 - E,G,H,F
030 - E,G,H,F
036 - E,G,H,F
042 - G,H,F,N
048 - G,H,F,N
060 - G,H,F,N

REVISION LEVEL
A = CURRENT REVISION

VOLTAGE
G = 208-230/60/1
E = 265/60/1
H = 208-230/60/3
F = 460/60/3
N = 575/60/3

CONTROLS
C = CXM2
D = DXM2.5
N = CXM2 w/MPC
P = DXM2.5 w/MPC

w/DISCONNECT {
A = CXM2
B = DXM2.5
R = CXM2 w/MPC
S = DXM2.5 w/MPC

SUPPLY AIR OPTIONS

Option	Supply	Configuration	Motor
T	Top	TRV	PSC
B	Back	TRH	PSC
S	Straight	TRH	PSC
V	Top	TRV	PSC Hi Static
Y	Back	TRH	PSC Hi Static
Z	Straight	TRH	PSC Hi Static
K	Top	TRV	CV ECM
P	Back	TRH	CV ECM
W	Straight	TRH	CV ECM
1	Top	TRV	CT ECM
2	Back	TRH	CT ECM
3	Straight	TRH	CT ECM

DXM2.5 Controls Required for CV ECM Fan Motors

RETURN AIR OPTIONS
P = LEFT RETURN
C = RIGHT RETURN
S = LEFT RETURN, STAINLESS STEEL DRAIN PAN
T = RIGHT RETURN, STAINLESS STEEL DRAIN PAN

HEAT EXCHANGER OPTIONS

	Non Coated Air Coil		Tin-plated Air Coil	
	Copper	Cupro-nickel	Copper	Cupro-nickel
Standard	C	N	A	J
Motorized Valve	T	S	U	W
ClimaDry® II	E	P	D	F
Hydronic Heat	H	Y	B	R

DXM2.5 CONTROLS REQUIRED FOR CLIMADRY OPTION
HYDRONIC HEAT ONLY OFFERED IN HORIZONTAL CONFIGURATION

WATER CIRCUIT OPTIONS
0 = None
2 = HWG (Coil Only)
5 = Internal Secondary Pump
6 = HWG (Coil Only) w/Auto Flow Regulator 2.5 GPM/Ton
7 = HWG (Coil Only) w/Auto Flow Regulator 3.0 GPM/Ton
8 = Auto Flow Regulator 2.5 GPM/Ton
9 = Auto Flow Regulator 3.0 GPM/Ton

CABINET INSULATION

OPTION	RANGE	ULTRA QUIET	1" FILTER RAIL	2" FILTER RAIL	1" FILTER FRAME	2" FILTER FRAME
1	EXTENDED RANGE	YES			NO	
A		NO		NO		YES
J		NO	YES		NO	
K		NO		YES		NO
2		YES			NO	
C		NO				YES
L		NO	YES		NO	
M		NO		YES		NO
3		YES			NO	
E		NO		NO		YES
N	NO	YES		NO		
P	NO			YES	NO	
4	STANDARD RANGE	YES			NO	
G		NO		NO		YES
R		NO	YES		NO	
S		NO		YES		NO

Note: Above model nomenclature is a general reference. Not all configurations are available on all models. Consult selection software for detailed information.

ClimaDry® II Option Notes:

- Unit must have DXM2.5 control option. 460 volt unit units require a four wire power supply with neutral.
- ClimaDry® II may not be combined with motorized water valve, internal secondary circulating pump, or automatic flow regulator options.
- Unit minimum entering air temperature while in the dehumidification, cooling, or continuous fan modes is **65°F DB/55°F WB**. Operation below this minimum may result in nuisance faults.
- A thermostat with dehumidification mode or thermostat and separate humidistat/dehumidistat is required for activation and control of ClimaDry II.
- 575 volt units are not eligible for ClimaDry II.
- Units with ClimaDry II must have a stainless steel drain pan.
- ClimaDry II is only available on sizes 24 and above.

Performance Data – ASHRAE/AHRI/ISO 13256-1

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

Model	Fan Motor	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Cooling 77°F		Heating 32°F	
		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
TR-006	PSC	5,800	13.2	7,500	4.7	7,000	21.1	6,300	4.0	6,200	15.4	4,900	3.1
	ECM	5,800	14.0	7,500	4.8	7,000	24.0	6,300	4.2	6,200	16.7	4,900	3.5
TR-009	PSC	8,600	13.4	11,600	4.3	10,000	21.1	9,700	3.9	9,100	15.7	7,800	3.4
	ECM	8,600	14.2	11,600	4.4	10,000	23.4	9,700	4.0	9,100	16.8	7,800	3.5
TR-012	PSC	11,100	12.5	14,700	4.3	13,500	19.2	12,100	3.7	12,000	14.3	10,000	3.2
	ECM	11,100	13.0	14,700	4.4	13,500	20.0	12,100	3.8	12,000	14.6	10,000	3.3
TR-015	PSC	14,300	14.5	17,100	5.0	16,500	24.0	14,100	4.3	14,800	17.0	11,000	3.5
	ECM	14,300	15.5	17,100	5.3	16,500	25.0	14,100	4.5	14,800	18.0	11,000	3.6
TR-018	PSC	18,700	14.0	21,800	5.0	21,500	22.0	17,800	4.2	19,500	16.1	14,100	3.4
	ECM	18,700	15.0	21,800	5.2	21,500	23.6	17,800	4.5	19,500	17.1	14,100	3.7
TR-024	PSC	23,600	13.0	27,500	4.6	27,000	20.5	23,500	4.1	24,500	15.0	18,600	3.3
	ECM	23,600	13.5	27,500	4.8	27,000	21.5	23,500	4.3	24,500	16.0	18,600	3.5
TR-030	PSC	28,600	13.0	37,000	4.7	32,000	19.6	30,500	4.1	29,500	14.7	24,000	3.4
	ECM	28,600	13.6	37,000	4.9	32,000	21.6	30,500	4.3	29,500	16.0	24,000	3.6
TR-036	PSC	34,500	13.2	45,200	4.4	38,700	20.0	37,000	3.9	35,300	14.5	28,700	3.3
	ECM	34,500	14.0	45,200	4.5	38,700	21.0	37,000	4.0	35,300	15.5	28,700	3.4
TR-042	PSC	41,000	13.2	52,700	4.3	46,400	19.6	42,400	3.8	42,500	14.5	33,900	3.2
	ECM	41,000	14.9	52,700	4.5	46,400	21.0	42,400	4.0	42,500	16.0	33,900	3.4
TR-048	PSC	48,000	13.3	53,600	4.7	54,200	20.5	45,300	4.1	50,400	14.7	36,500	3.4
	ECM	48,000	14.0	53,600	4.8	54,200	21.0	45,300	4.3	50,400	16.2	36,500	3.6
TR-060	PSC	59,500	13.0	72,000	4.3	66,500	18.7	61,000	3.9	61,500	14.5	49,200	3.3
	ECM	59,500	14.6	72,000	4.4	66,500	20.5	61,000	4.0	61,500	16.5	49,200	3.4

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
 All ratings based upon operation at lower voltage of dual voltage rated models

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

Model	Fan Motor	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
TR-006	PSC	1.70	3.9	2.20	4.7	2.05	6.2	1.84	4.0	1.82	4.5	1.43	3.1
	ECM	1.70	4.1	2.20	4.8	2.05	7.0	1.84	4.2	1.82	4.9	1.43	3.5
TR-009	PSC	2.52	3.9	3.40	4.3	2.93	6.2	2.84	3.9	2.66	4.6	2.28	3.4
	ECM	2.52	4.2	3.40	4.4	2.93	6.9	2.84	4.0	2.66	4.9	2.28	3.5
TR-012	PSC	3.25	3.7	4.30	4.3	3.95	5.6	3.54	3.7	3.51	4.2	2.93	3.2
	ECM	3.25	3.8	4.30	4.4	3.95	5.9	3.54	3.8	3.51	4.3	2.93	3.3
TR-015	PSC	4.19	4.2	5.01	5.0	4.84	7.0	4.13	4.3	4.34	5.0	3.22	3.5
	ECM	4.19	4.5	5.01	5.3	4.84	7.3	4.13	4.5	4.34	5.3	3.22	3.6
TR-018	PSC	5.48	4.1	6.38	5.0	6.30	6.4	5.21	4.2	5.71	4.7	4.13	3.4
	ECM	5.48	4.4	6.38	5.2	6.30	6.9	5.21	4.5	5.71	5.0	4.13	3.7
TR-024	PSC	6.91	3.8	8.05	4.6	7.91	6.0	6.88	4.1	7.17	4.4	5.45	3.3
	ECM	6.91	4.0	8.05	4.8	7.91	6.3	6.88	4.3	7.17	4.7	5.45	3.5
TR-030	PSC	8.37	3.8	10.83	4.7	9.37	5.7	8.93	4.1	8.64	4.3	7.03	3.4
	ECM	8.37	4.0	10.83	4.9	9.37	6.3	8.93	4.3	8.64	4.7	7.03	3.6
TR-036	PSC	10.11	3.9	13.25	4.4	11.34	5.9	11.05	3.9	10.35	4.2	8.41	3.3
	ECM	10.11	4.1	13.25	4.5	11.34	6.2	11.05	4.0	10.35	4.5	8.41	3.4
TR-042	PSC	12.02	3.9	15.44	4.3	13.60	5.7	12.43	3.8	12.46	4.2	9.94	3.2
	ECM	12.02	4.4	15.44	4.5	13.60	6.2	12.43	4.0	12.46	4.5	9.94	3.4
TR-048	PSC	14.05	3.9	15.69	4.7	15.87	6.0	13.26	4.1	14.76	4.3	10.69	3.4
	ECM	14.05	4.1	15.69	4.8	15.87	6.1	13.26	4.3	14.76	4.7	10.69	3.6
TR-060	PSC	17.42	3.8	21.08	4.3	19.47	5.5	17.86	3.9	18.01	4.2	14.41	3.3
	ECM	17.42	4.3	21.08	4.4	19.47	6.0	17.86	4.0	18.01	4.8	14.41	3.4

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
 All ratings based upon operation at lower voltage of dual voltage rated models

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Performance Data – Selection Notes

For operation in the shaded area when water is used in lieu of an antifreeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 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.

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:

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

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

$$TD = 22,500 / (1.5 \times 500)$$

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

$$LWT = EWT - TD$$

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

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

Heating - EAT 70°F						
	Airflow CFM	HC	kW	HE	LAT	COP
	710	11.6	1.05	8.2	85.1	3.25
	825	11.7	1.02	8.4	83.2	3.38
38.3	710	13.6	1.09	10.1	87.8	3.66
38.3	825	13.8	1.06	10.3	85.5	3.81
39.2	710	14.2	1.09	10.7	88.5	3.81
39.2	825	14.4	1.06	10.9	86.1	3.97
39.8	710	14.4	1.09	10.9	88.8	3.86
39.8	825	14.6	1.06	11.1	86.3	4.02
35.3	710	16.1	1.15	12.3	90.9	4.08
35.3	825	16.2	1.12	12.6	88.2	4.25
37.9	710	16.7	1.15	13.0	91.8	4.25
37.9	825	16.9	1.12	13.3	89.0	4.42
38.3	710	16.9	1.16	13.2	92.1	4.30
38.3	825	17.1	1.12	13.5	89.2	4.47
30.7	710	18.3	1.18	14.5	93.9	4.56
30.7	825	18.5	1.14	14.8	90.8	4.75
34.4	710	19.1	1.18	15.2	94.8	4.73
34.4	825	19.3	1.15	15.5	91.6	4.93
34.4	710	19.3	1.18	15.4	95.1	4.78
34.4	825	19.5	1.15	15.7	91.9	4.98
34.4	710	20.4	1.21	16.5	96.6	4.92
34.4	825	20.6	1.18	16.8	93.2	5.12
34.4	710	21.2	1.22	17.3	97.7	5.02
34.4	825	21.4	1.19	17.6	94.3	5.22

Performance Data – TR H/V 006 (PSC Blower)

225 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	1.50	1.9	4.4	Operation Not Recommended					4.1	0.43	2.7	84.6	2.8
30	0.75	0.5	1.2	7.7	5.3	0.26	8.6	30.2	4.8	0.44	3.4	87.9	3.2
	1.13	0.8	1.8	7.7	5.4	0.25	8.5	31.4	5.0	0.44	3.5	88.5	3.4
	1.50	1.3	3.0	7.8	5.4	0.24	8.6	33.2	5.1	0.45	3.6	88.8	3.4
40	0.75	0.4	0.9	7.5	5.3	0.30	8.5	25.4	5.8	0.46	4.3	91.8	3.7
	1.13	0.6	1.4	7.6	5.3	0.29	8.6	26.7	6.0	0.46	4.5	92.5	3.9
	1.50	1.0	2.3	7.7	5.3	0.28	8.6	28.0	6.1	0.46	4.6	92.9	3.9
50	0.75	0.3	0.7	7.3	5.1	0.34	8.4	21.8	6.7	0.47	5.2	95.7	4.2
	1.13	0.5	1.2	7.4	5.2	0.33	8.5	22.8	6.9	0.48	5.4	96.5	4.3
	1.50	0.9	2.1	7.4	5.2	0.32	8.5	23.5	7.1	0.48	5.5	97.0	4.4
60	0.75	0.3	0.7	6.9	5.0	0.38	8.2	18.4	7.6	0.49	6.0	99.3	4.6
	1.13	0.5	1.2	7.1	5.0	0.37	8.3	19.5	7.9	0.49	6.3	100.3	4.8
	1.50	0.8	1.8	7.1	5.0	0.36	8.3	20.0	8.0	0.49	6.4	100.7	4.8
70	0.75	0.2	0.5	6.5	4.8	0.43	8.0	15.3	8.5	0.50	6.8	102.7	5.0
	1.13	0.4	0.9	6.7	4.8	0.41	8.1	16.5	8.7	0.50	7.0	103.6	5.2
	1.50	0.7	1.6	6.8	4.9	0.40	8.1	17.2	8.8	0.50	7.1	104.1	5.2
80	0.75	0.2	0.5	6.1	4.6	0.47	7.7	13.1	9.2	0.51	7.5	105.6	5.3
	1.13	0.4	0.9	6.2	4.6	0.45	7.7	13.9	9.4	0.51	7.7	106.5	5.5
	1.50	0.6	1.4	6.3	4.7	0.45	7.8	14.2	9.5	0.52	7.8	106.9	5.4
85	0.75	0.2	0.5	5.8	4.5	0.49	7.5	11.8	9.5	0.51	7.8	106.8	5.4
	1.13	0.4	0.8	6.0	4.5	0.47	7.6	12.7	9.7	0.52	8.0	107.6	5.5
	1.50	0.6	1.4	6.1	4.6	0.47	7.7	12.9	9.8	0.52	8.0	107.9	5.5
90	0.75	0.2	0.5	5.5	4.3	0.52	7.3	10.7	9.7	0.52	8.0	108.0	5.5
	1.13	0.3	0.7	5.7	4.4	0.50	7.4	11.5	9.9	0.53	8.2	108.6	5.5
	1.50	0.6	1.4	5.8	4.4	0.50	7.5	11.7	10.0	0.53	8.2	108.9	5.6
100	0.75	0.2	0.5	5.0	4.1	0.57	6.9	8.8	Operation Not Recommended				
	1.13	0.3	0.7	5.2	4.2	0.56	7.1	9.4					
	1.50	0.5	1.2	5.3	4.2	0.55	7.2	9.7					
110	0.75	0.2	0.5	4.4	3.8	0.63	6.5	7.0					
	1.13	0.3	0.7	4.6	3.9	0.61	6.7	7.6					
	1.50	0.5	1.2	4.7	3.9	0.61	6.8	7.8					
120	0.75	0.1	0.2	3.8	3.5	0.69	6.1	5.5					
	1.13	0.3	0.7	4.0	3.6	0.68	6.3	5.9					
	1.50	0.5	1.2	4.1	3.6	0.67	6.4	6.2					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 006 (ECM Blower)

225 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	1.50	1.9	4.4	Operation Not Recommended					4.1	0.41	2.7	84.6	2.9
30	0.75	0.5	1.2	7.7	5.3	0.24	8.5	31.8	4.8	0.42	3.4	87.9	3.4
	1.13	0.8	1.8	7.7	5.4	0.23	8.5	34.0	5.0	0.42	3.5	88.5	3.4
	1.50	1.3	3.0	7.8	5.4	0.22	8.5	35.1	5.1	0.43	3.6	88.8	3.5
40	0.75	0.4	0.9	7.5	5.3	0.28	8.5	26.9	5.8	0.44	4.3	91.8	3.9
	1.13	0.6	1.4	7.6	5.3	0.27	8.5	28.6	6.0	0.44	4.5	92.5	4.0
	1.50	1.0	2.3	7.7	5.3	0.26	8.5	29.6	6.1	0.44	4.6	92.9	4.0
50	0.75	0.3	0.7	7.3	5.1	0.32	8.4	22.7	6.7	0.45	5.2	95.7	4.4
	1.13	0.5	1.2	7.4	5.2	0.31	8.4	24.2	6.9	0.46	5.4	96.5	4.5
	1.50	0.9	2.1	7.4	5.2	0.30	8.5	25.0	7.1	0.46	5.5	97.0	4.5
60	0.75	0.3	0.7	6.9	5.0	0.36	8.2	19.2	7.6	0.47	6.0	99.3	4.8
	1.13	0.5	1.2	7.1	5.0	0.35	8.3	20.4	7.9	0.47	6.3	100.3	4.9
	1.50	0.8	1.8	7.1	5.0	0.34	8.3	21.1	8.0	0.47	6.4	100.7	5.0
70	0.75	0.2	0.5	6.5	4.8	0.41	7.9	16.1	8.5	0.48	6.8	102.7	5.2
	1.13	0.4	0.9	6.7	4.8	0.39	8.0	17.2	8.7	0.48	7.0	103.6	5.3
	1.50	0.7	1.6	6.8	4.9	0.38	8.1	17.7	8.8	0.48	7.1	104.1	5.3
80	0.75	0.2	0.5	6.1	4.6	0.45	7.6	13.4	9.2	0.49	7.5	105.6	5.5
	1.13	0.4	0.9	6.2	4.6	0.43	7.7	14.3	9.4	0.49	7.7	106.5	5.6
	1.50	0.6	1.4	6.3	4.7	0.43	7.8	14.8	9.5	0.50	7.8	106.9	5.6
85	0.75	0.2	0.5	5.8	4.5	0.48	7.5	12.3	9.5	0.50	7.8	106.8	5.6
	1.13	0.4	0.8	6.0	4.5	0.46	7.6	13.1	9.7	0.50	8.0	107.6	5.7
	1.50	0.6	1.4	6.1	4.6	0.46	7.6	13.5	9.8	0.51	8.0	107.9	5.7
90	0.75	0.2	0.5	5.5	4.3	0.50	7.3	11.1	9.7	0.50	8.0	108.0	5.7
	1.13	0.3	0.7	5.7	4.4	0.48	7.4	11.8	9.9	0.51	8.2	108.6	5.7
	1.50	0.6	1.4	5.8	4.4	0.48	7.4	12.2	10.0	0.51	8.2	108.9	5.7
100	0.75	0.2	0.5	5.0	4.1	0.55	6.9	9.0	Operation Not Recommended				
	1.13	0.3	0.7	5.2	4.2	0.54	7.0	9.6					
	1.50	0.5	1.2	5.3	4.2	0.53	7.1	10.0					
110	0.75	0.2	0.5	4.4	3.8	0.61	6.5	7.2					
	1.13	0.3	0.7	4.6	3.9	0.59	6.6	7.7					
	1.50	0.5	1.2	4.7	3.9	0.59	6.7	8.0					
120	0.75	0.1	0.2	3.8	3.5	0.67	6.1	5.7					
	1.13	0.3	0.7	4.0	3.6	0.66	6.2	6.1					
	1.50	0.5	1.2	4.1	3.6	0.65	6.3	6.3					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 009 (PSC Blower)

325 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	2.25	7.8	18.0	Operation Not Recommended					6.6	0.71	4.2	86.6	2.7
30	1.13	2.1	4.7	10.9	7.5	0.39	12.3	27.7	7.3	0.74	4.9	88.8	2.9
	1.69	4.3	9.9	10.9	7.4	0.37	12.2	29.9	7.6	0.74	5.1	89.5	3.0
	2.25	7.0	16.2	10.9	7.4	0.35	12.1	31.0	7.7	0.75	5.2	89.9	3.0
40	1.13	1.5	3.6	10.8	7.5	0.45	12.3	24.0	8.4	0.77	5.9	91.8	3.2
	1.69	3.1	7.3	10.9	7.5	0.42	12.3	25.9	8.7	0.77	6.1	92.7	3.3
	2.25	5.2	12.1	10.9	7.5	0.41	12.3	26.9	8.8	0.78	6.3	93.1	3.3
50	1.13	1.5	3.5	10.5	7.3	0.51	12.2	20.6	9.5	0.80	6.9	94.9	3.5
	1.69	3.1	7.1	10.6	7.4	0.48	12.3	22.3	9.8	0.81	7.2	95.9	3.5
	2.25	5.1	11.8	10.7	7.4	0.46	12.3	23.2	10.0	0.81	7.3	96.4	3.6
60	1.13	1.5	3.4	10.0	7.1	0.57	12.0	17.7	10.5	0.83	7.8	98.0	3.7
	1.69	3.0	6.9	10.3	7.2	0.54	12.1	19.2	10.9	0.84	8.2	99.1	3.8
	2.25	5.0	11.4	10.4	7.3	0.52	12.2	20.0	11.1	0.85	8.4	99.7	3.8
70	1.13	1.4	3.3	9.5	6.8	0.63	11.7	15.0	11.6	0.86	8.8	100.9	4.0
	1.69	2.9	6.7	9.8	6.9	0.60	11.9	16.3	12.0	0.88	9.1	102.1	4.0
	2.25	4.8	11.1	9.9	7.0	0.58	11.9	17.0	12.2	0.88	9.3	102.7	4.1
80	1.13	1.4	3.2	8.9	6.4	0.70	11.3	12.7	12.6	0.90	9.6	103.8	4.1
	1.69	2.8	6.5	9.2	6.6	0.67	11.5	13.8	13.0	0.92	10.0	105.0	4.1
	2.25	4.7	10.8	9.4	6.7	0.65	11.6	14.4	13.2	0.93	10.2	105.6	4.2
85	1.13	1.3	3.1	8.6	6.3	0.74	11.1	11.6	13.1	0.92	10.0	105.1	4.2
	1.69	2.8	6.5	8.9	6.4	0.70	11.3	12.6	13.5	0.95	10.4	106.3	4.2
	2.25	4.6	10.6	9.1	6.5	0.69	11.4	13.2	13.7	0.96	10.6	106.9	4.2
90	1.13	1.3	3.1	8.2	6.1	0.77	10.9	10.6	13.5	0.94	10.4	106.4	4.2
	1.69	2.8	6.4	8.6	6.3	0.74	11.1	11.6	13.9	0.97	10.7	107.6	4.2
	2.25	4.6	10.5	8.7	6.3	0.72	11.2	12.1	14.1	0.98	10.9	108.2	4.2
100	1.13	1.3	3.0	7.4	5.8	0.85	10.3	8.8	Operation Not Recommended				
	1.69	2.7	6.2	7.8	5.9	0.82	10.6	9.6					
	2.25	4.5	10.3	8.0	6.0	0.80	10.7	10.0					
110	1.13	1.3	2.9	6.6	5.4	0.93	9.8	7.1					
	1.69	2.6	6.1	7.0	5.5	0.90	10.0	7.8					
	2.25	4.4	10.1	7.2	5.6	0.88	10.1	8.2					
120	1.13	1.2	2.8	5.7	5.0	1.01	9.1	5.6					
	1.69	2.6	5.9	6.1	5.1	0.98	9.4	6.2					
	2.25	4.3	10.0	6.3	5.2	0.96	9.5	6.5					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 009 (ECM Blower)

325 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	2.25	7.8	18.0	Operation Not Recommended					6.6	0.68	4.2	86.6	2.8
30	1.13	2.1	4.7	10.9	7.5	0.36	12.2	30.0	7.3	0.71	4.9	88.8	3.0
	1.69	4.3	9.9	10.9	7.4	0.34	12.1	32.5	7.6	0.71	5.1	89.5	3.1
	2.25	7.0	16.2	10.9	7.4	0.32	12.0	33.9	7.7	0.72	5.2	89.9	3.1
40	1.13	1.5	3.6	10.8	7.5	0.42	12.2	25.7	8.4	0.74	5.9	91.8	3.3
	1.69	3.1	7.3	10.9	7.5	0.39	12.2	27.9	8.7	0.74	6.1	92.7	3.4
	2.25	5.2	12.1	10.9	7.5	0.38	12.2	29.1	8.8	0.75	6.3	93.1	3.5
50	1.13	1.5	3.5	10.5	7.3	0.48	12.1	21.9	9.5	0.77	6.9	94.9	3.6
	1.69	3.1	7.1	10.6	7.4	0.45	12.2	23.8	9.8	0.78	7.2	95.9	3.7
	2.25	5.1	11.8	10.7	7.4	0.43	12.2	24.9	10.0	0.78	7.3	96.4	3.8
60	1.13	1.5	3.4	10.0	7.1	0.54	11.9	18.7	10.5	0.80	7.8	98.0	3.9
	1.69	3.0	6.9	10.3	7.2	0.51	12.0	20.3	10.9	0.81	8.2	99.1	4.0
	2.25	5.0	11.4	10.4	7.3	0.49	12.1	21.2	11.1	0.82	8.4	99.7	4.0
70	1.13	1.4	3.3	9.5	6.8	0.60	11.6	15.8	11.6	0.83	8.8	100.9	4.1
	1.69	2.9	6.7	9.8	6.9	0.57	11.8	17.2	12.0	0.85	9.1	102.1	4.2
	2.25	4.8	11.1	9.9	7.0	0.55	11.8	17.9	12.2	0.85	9.3	102.7	4.2
80	1.13	1.4	3.2	8.9	6.4	0.67	11.2	13.3	12.6	0.87	9.6	103.8	4.2
	1.69	2.8	6.5	9.2	6.6	0.64	11.4	14.5	13.0	0.89	10.0	105.0	4.3
	2.25	4.7	10.8	9.4	6.7	0.62	11.5	15.1	13.2	0.90	10.2	105.6	4.3
85	1.13	1.3	3.1	8.6	6.3	0.71	11.0	12.2	13.1	0.89	10.0	105.1	4.3
	1.69	2.8	6.5	8.9	6.4	0.67	11.2	13.3	13.5	0.92	10.4	106.3	4.4
	2.25	4.6	10.6	9.1	6.5	0.66	11.3	13.9	13.7	0.93	10.6	106.9	4.4
90	1.13	1.3	3.1	8.2	6.1	0.74	10.8	11.0	13.5	0.91	10.4	106.4	4.3
	1.69	2.8	6.4	8.6	6.3	0.71	11.0	12.1	13.9	0.94	10.7	107.6	4.4
	2.25	4.6	10.5	8.7	6.3	0.69	11.1	12.6	14.1	0.95	10.9	108.2	4.4
100	1.13	1.3	3.0	7.4	5.8	0.82	10.2	9.1	Operation Not Recommended				
	1.69	2.7	6.2	7.8	5.9	0.79	10.5	9.9					
	2.25	4.5	10.3	8.0	6.0	0.77	10.6	10.4					
110	1.13	1.3	2.9	6.6	5.4	0.90	9.7	7.3					
	1.69	2.6	6.1	7.0	5.5	0.87	9.9	8.1					
	2.25	4.4	10.1	7.2	5.6	0.85	10.0	8.4					
120	1.13	1.2	2.8	5.7	5.0	0.98	9.0	5.8					
	1.69	2.6	5.9	6.1	5.1	0.95	9.3	6.4					
	2.25	4.3	10.0	6.3	5.2	0.93	9.4	6.7					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 012 (PSC Blower)

375 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	3.00	8.5	19.6	Operation Not Recommended					Operation Not Recommended				
30	1.50	1.9	4.4	14.8	9.3	0.57	16.8	25.8	9.5	0.90	6.40	91.9	3.1
	2.25	3.6	8.3	14.9	9.3	0.53	16.7	27.9	9.9	0.91	6.80	92.8	3.2
	3.00	6.7	15.5	14.9	9.3	0.52	16.6	28.8	10.1	0.92	7.00	93.3	3.2
40	1.50	1.4	3.2	14.5	9.2	0.63	16.7	22.9	10.8	0.93	7.60	95.0	3.4
	2.25	3.0	6.9	14.8	9.3	0.59	16.8	25.1	11.3	0.94	8.10	96.2	3.5
	3.00	5.7	13.2	14.8	9.3	0.57	16.8	26.2	11.6	0.95	8.30	96.8	3.6
50	1.50	1.1	2.5	14.1	8.9	0.70	16.5	20.1	12.2	0.97	8.90	98.2	3.7
	2.25	2.6	6.0	14.4	9.1	0.65	16.7	22.2	12.8	0.98	9.50	99.6	3.8
	3.00	5.0	11.6	14.6	9.2	0.63	16.7	23.3	13.1	0.99	9.80	100.4	3.9
60	1.50	0.9	2.1	13.5	8.6	0.77	16.1	17.4	13.6	1.00	10.2	101.5	4.0
	2.25	2.3	5.3	13.9	8.8	0.72	16.4	19.3	14.3	1.02	10.8	103.1	4.1
	3.00	4.5	10.4	14.1	8.9	0.69	16.5	20.4	14.7	1.03	11.2	104.0	4.2
70	1.50	0.8	1.8	12.7	8.3	0.85	15.6	14.9	15.0	1.04	11.5	104.8	4.2
	2.25	2.1	4.9	13.1	8.4	0.80	15.8	16.3	15.8	1.06	12.2	106.5	4.4
	3.00	4.1	9.5	13.3	8.5	0.78	15.9	17.0	16.2	1.07	12.5	107.5	4.4
80	1.50	0.7	1.6	11.9	7.9	0.94	15.1	12.7	16.4	1.08	12.7	108.0	4.5
	2.25	1.9	4.4	12.3	8.0	0.88	15.3	13.9	17.2	1.10	13.4	109.8	4.6
	3.00	3.8	8.8	12.5	8.1	0.86	15.4	14.5	17.6	1.11	13.8	110.7	4.6
85	1.50	0.6	1.4	11.4	7.7	0.98	14.7	11.7	17.0	1.10	13.3	109.4	4.6
	2.25	1.8	4.2	11.9	7.9	0.93	15.0	12.8	17.8	1.10	14.0	111.2	4.6
	3.00	3.7	8.5	12.1	7.9	0.90	15.1	13.4	18.2	1.10	14.3	112.1	4.7
90	1.50	0.6	1.4	10.9	7.5	1.03	14.4	10.7	17.7	1.12	13.9	110.9	4.6
	2.25	1.8	4.2	11.4	7.7	0.97	14.7	11.7	18.4	1.15	14.5	112.6	4.7
	3.00	3.6	8.3	11.6	7.7	0.95	14.8	12.3	18.8	1.16	14.8	113.5	4.7
100	1.50	0.5	1.2	9.9	7.2	1.12	13.8	8.9	Operation Not Recommended				
	2.25	1.7	3.9	10.5	7.3	1.06	14.1	9.8					
	3.00	3.3	7.6	10.8	7.5	1.04	14.3	10.4					
110	1.50	0.5	1.2	8.9	6.8	1.22	13.1	7.3					
	2.25	1.6	3.7	9.4	7.0	1.16	13.4	8.1					
	3.00	3.2	7.4	9.8	7.1	1.14	13.7	8.6					
120	1.50	0.4	0.9	7.8	6.4	1.32	12.3	5.9					
	2.25	1.5	3.5	8.3	6.6	1.27	12.7	6.6					
	3.00	3.0	6.9	8.7	6.7	1.24	12.9	7.0					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 012 (ECM Blower)

375 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	3.00	8.5	19.6	Operation Not Recommended					8.7	0.85	5.7	90.2	3.0
30	1.50	1.9	4.4	14.8	9.3	0.54	16.6	27.4	9.5	0.87	6.4	91.9	3.2
	2.25	3.6	8.3	14.9	9.3	0.50	16.6	29.8	9.9	0.88	6.8	92.8	3.3
	3.00	6.7	15.5	14.9	9.3	0.49	16.6	30.4	10.1	0.89	7.0	93.3	3.3
40	1.50	1.4	3.2	14.5	9.2	0.60	16.5	24.2	10.8	0.90	7.6	95.0	3.5
	2.25	3.0	6.9	14.8	9.3	0.56	16.7	26.4	11.3	0.91	8.1	96.2	3.6
	3.00	5.7	13.2	14.8	9.3	0.54	16.6	27.4	11.6	0.92	8.3	96.8	3.7
50	1.50	1.1	2.5	14.1	8.9	0.67	16.4	21.0	12.2	0.94	8.9	98.2	3.8
	2.25	2.6	6.0	14.4	9.1	0.62	16.5	23.2	12.8	0.95	9.5	99.6	3.9
	3.00	5.0	11.6	14.6	9.2	0.60	16.6	24.3	13.1	0.96	9.8	100.4	4.0
60	1.50	0.9	2.1	13.5	8.6	0.74	16.0	18.2	13.6	0.97	10.2	101.5	4.1
	2.25	2.3	5.3	13.9	8.8	0.69	16.3	20.1	14.3	0.99	10.8	103.1	4.2
	3.00	4.5	10.4	14.1	8.9	0.66	16.4	21.4	14.7	1.00	11.2	104.0	4.3
70	1.50	0.8	1.8	12.7	8.3	0.82	15.5	15.5	15.0	1.01	11.5	104.8	4.4
	2.25	2.1	4.9	13.1	8.4	0.77	15.7	17.0	15.8	1.03	12.2	106.5	4.5
	3.00	4.1	9.5	13.3	8.5	0.75	15.9	17.7	16.2	1.04	12.5	107.5	4.6
80	1.50	0.7	1.6	11.9	7.9	0.91	15.0	13.1	16.4	1.05	12.7	108.0	4.6
	2.25	1.9	4.4	12.3	8.0	0.85	15.2	14.5	17.2	1.07	13.4	109.8	4.7
	3.00	3.8	8.8	12.5	8.1	0.83	15.3	15.1	17.6	1.08	13.8	110.7	4.8
85	1.50	0.6	1.4	11.4	7.7	0.95	14.6	12.0	17.1	1.07	13.3	109.5	4.7
	2.25	1.8	4.2	11.9	7.9	0.90	15.0	13.2	17.8	1.10	14.0	111.2	4.8
	3.00	3.7	8.5	12.1	7.9	0.87	15.1	13.9	18.2	1.11	14.3	112.1	4.9
90	1.50	0.6	1.4	10.9	7.5	1.00	14.3	10.9	17.7	1.09	13.9	110.9	4.8
	2.25	1.8	4.2	11.4	7.7	0.94	14.6	12.1	18.4	1.12	14.5	112.6	4.8
	3.00	3.6	8.3	11.6	7.7	0.92	14.7	12.6	18.8	1.13	14.8	113.5	4.9
100	1.50	0.5	1.2	9.9	7.2	1.09	13.6	9.1	Operation Not Recommended				
	2.25	1.7	3.9	10.5	7.3	1.03	14.0	10.2					
	3.00	3.3	7.6	10.8	7.5	1.01	14.2	10.7					
110	1.50	0.5	1.2	8.9	6.8	1.19	13.0	7.5					
	2.25	1.6	3.7	9.4	7.0	1.13	13.3	8.3					
	3.00	3.2	7.4	9.8	7.1	1.11	13.6	8.8					
120	1.50	0.4	0.9	7.8	6.4	1.29	12.2	6.0					
	2.25	1.5	3.5	8.3	6.6	1.24	12.5	6.7					
	3.00	3.0	6.9	8.7	6.7	1.21	12.8	7.2					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 015 (PSC Blower)

525 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	3.75	4.4	10.2	Operation Not Recommended					9.2	0.96	6.1	84.2	2.9
30	1.88	0.5	1.3	16.7	12.3	0.68	19.0	24.3	10.1	0.98	6.9	85.7	3.1
	2.81	1.3	3.1	16.7	12.2	0.61	18.8	27.2	10.6	0.99	7.3	86.6	3.2
	3.75	2.3	5.4	16.7	12.0	0.58	18.6	28.6	10.8	0.99	7.5	87.0	3.3
40	1.88	0.5	1.2	16.3	12.1	0.77	18.9	21.1	11.5	1.01	8.2	88.3	3.5
	2.81	1.3	2.9	16.6	12.3	0.70	19.0	23.9	12.1	1.02	8.8	89.3	3.6
	3.75	2.1	4.9	16.7	12.3	0.66	19.0	25.3	12.5	1.03	9.1	89.9	3.7
50	1.88	0.5	1.1	15.7	11.8	0.86	18.7	18.2	13.0	1.04	9.6	91.0	3.8
	2.81	1.2	2.7	16.2	12.1	0.78	18.9	20.7	13.7	1.05	10.3	92.2	4.0
	3.75	2.0	4.6	16.4	12.2	0.74	19.0	22.1	14.1	1.06	10.6	92.9	4.1
60	1.88	0.5	1.0	15.0	11.4	0.96	18.3	15.6	14.6	1.07	11.1	93.6	4.1
	2.81	1.1	2.5	15.6	11.8	0.88	18.6	17.8	15.4	1.08	11.8	95.1	4.3
	3.75	1.9	4.3	15.9	11.9	0.84	18.8	19.0	15.8	1.09	12.2	95.8	4.4
70	1.88	0.4	1.0	14.1	10.9	1.07	17.8	13.3	16.1	1.09	12.5	96.3	4.5
	2.81	1.0	2.3	14.8	11.3	0.98	18.2	15.1	17.0	1.11	13.3	97.9	4.7
	3.75	1.7	4.0	15.2	11.5	0.94	18.4	16.2	17.5	1.12	13.8	98.8	4.8
80	1.88	0.4	0.9	13.2	10.5	1.17	17.2	11.2	17.6	1.12	13.9	99.0	4.8
	2.81	0.9	2.1	13.9	10.9	1.09	17.7	12.8	18.6	1.13	14.8	100.7	5.0
	3.75	1.6	3.7	14.3	11.0	1.04	17.9	13.7	19.1	1.14	15.4	101.6	5.1
85	1.88	0.4	0.8	12.7	10.3	1.23	16.9	10.3	18.3	1.13	14.6	100.3	4.9
	2.81	0.9	2.0	13.5	10.6	1.14	17.3	11.8	19.3	1.14	15.6	102.0	5.1
	3.75	1.5	3.6	13.8	10.8	1.10	17.6	12.6	19.9	1.15	16.1	103.0	5.2
90	1.88	0.4	0.8	12.2	10.1	1.28	16.6	9.5	19.1	1.14	15.3	101.6	5.1
	2.81	0.9	2.0	13.0	10.4	1.20	17.0	10.8	20.1	1.16	16.3	103.4	5.3
	3.75	1.5	3.4	13.4	10.6	1.15	17.3	11.6	20.7	1.16	16.8	104.4	5.4
100	1.88	0.3	0.8	11.2	9.7	1.40	16.0	8.0	Operation Not Recommended				
	2.81	0.8	1.9	11.9	9.9	1.31	16.4	9.1					
	3.75	1.4	3.2	12.3	10.1	1.27	16.6	9.7					
110	1.88	0.3	0.8	10.2	9.4	1.51	15.4	6.7					
	2.81	0.8	1.7	10.9	9.6	1.43	15.8	7.6					
	3.75	1.3	3.0	11.3	9.7	1.39	16.0	8.1					
120	1.88	0.3	0.7	9.3	9.2	1.63	14.8	5.7					
	2.81	0.7	1.6	9.9	9.3	1.55	15.2	6.4					
	3.75	1.2	2.9	10.2	9.4	1.51	15.4	6.8					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 015 (ECM Blower)

525 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	3.75	4.4	10.2	Operation Not Recommended					9.2	0.92	6.1	84.2	2.9
30	1.88	0.5	1.3	16.7	12.3	0.65	18.9	25.8	10.1	0.94	6.9	85.7	3.1
	2.81	1.3	3.1	16.7	12.2	0.58	18.7	29.0	10.6	0.95	7.3	86.6	3.2
	3.75	2.3	5.4	16.7	12.0	0.54	18.5	30.6	10.8	0.96	7.5	87.0	3.3
40	1.88	0.5	1.2	16.3	12.1	0.73	18.8	22.2	11.5	0.97	8.2	88.3	3.5
	2.81	1.3	2.9	16.6	12.3	0.66	18.9	25.3	12.1	0.98	8.8	89.3	3.6
	3.75	2.1	4.9	16.7	12.3	0.62	18.8	26.9	12.5	0.99	9.1	89.9	3.7
50	1.88	0.5	1.1	15.7	11.8	0.83	18.5	19.0	13.0	1.00	9.6	91.0	3.8
	2.81	1.2	2.7	16.2	12.1	0.75	18.8	21.8	13.7	1.02	10.3	92.2	4.0
	3.75	2.0	4.6	16.4	12.2	0.71	18.8	23.3	14.1	1.02	10.6	92.9	4.1
60	1.88	0.5	1.0	15.0	11.4	0.92	18.1	16.2	14.6	1.03	11.1	93.6	4.1
	2.81	1.1	2.5	15.6	11.8	0.84	18.5	18.6	15.4	1.04	11.8	95.1	4.3
	3.75	1.9	4.3	15.9	11.9	0.80	18.6	19.9	15.8	1.05	12.2	95.8	4.4
70	1.88	0.4	1.0	14.1	10.9	1.03	17.6	13.7	16.1	1.06	12.5	96.3	4.5
	2.81	1.0	2.3	14.8	11.3	0.94	18.1	15.8	17.0	1.07	13.3	97.9	4.7
	3.75	1.7	4.0	15.2	11.5	0.90	18.3	16.9	17.5	1.08	13.8	98.8	4.8
80	1.88	0.4	0.9	13.2	10.5	1.13	17.0	11.6	17.6	1.08	13.9	99.0	4.8
	2.81	0.9	2.1	13.9	10.9	1.05	17.5	13.3	18.6	1.10	14.8	100.7	5.0
	3.75	1.6	3.7	14.3	11.0	1.00	17.7	14.3	19.1	1.10	15.4	101.6	5.1
85	1.88	0.4	0.8	12.7	10.3	1.19	16.7	10.7	18.3	1.09	14.6	100.3	4.9
	2.81	0.9	2.0	13.5	10.6	1.10	17.2	12.2	19.3	1.11	15.6	102.0	5.1
	3.75	1.5	3.6	13.8	10.8	1.06	17.5	13.1	19.9	1.12	16.1	103.0	5.2
90	1.88	0.4	0.8	12.2	10.1	1.24	16.4	9.8	19.1	1.10	15.3	101.6	5.1
	2.81	0.9	2.0	13.0	10.4	1.16	16.9	11.2	20.1	1.12	16.3	103.4	5.3
	3.75	1.5	3.4	13.4	10.6	1.11	17.2	12.0	20.7	1.13	16.8	104.4	5.4
100	1.88	0.3	0.8	11.2	9.7	1.36	15.8	8.2	Operation Not Recommended				
	2.81	0.8	1.9	11.9	9.9	1.27	16.3	9.4					
	3.75	1.4	3.2	12.3	10.1	1.23	16.5	10.0					
110	1.88	0.3	0.8	10.2	9.4	1.47	15.2	6.9					
	2.81	0.8	1.7	10.9	9.6	1.39	15.6	7.8					
	3.75	1.3	3.0	11.3	9.7	1.35	15.9	8.4					
120	1.88	0.3	0.7	9.3	9.2	1.59	14.7	5.8					
	2.81	0.7	1.6	9.9	9.3	1.51	15.1	6.6					
	3.75	1.2	2.9	10.2	9.4	1.47	15.3	7.0					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 018 (PSC Blower)

600 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	2.25	Operation Not Recommended							Operation Not Recommended				
	3.38	Operation Not Recommended							Operation Not Recommended				
	4.50	9.2	21.3						12.6	1.21	8.6	87.3	3.0
30	2.25	2.7	6.2	21.8	14.8	0.84	24.7	26.0	13.6	1.23	9.5	88.9	3.2
	3.38	5.0	11.5	21.6	14.6	0.79	24.3	27.2	14.1	1.24	10.0	89.7	3.3
	4.50	7.3	16.8	21.4	14.4	0.77	24.0	27.9	14.4	1.25	10.3	90.1	3.4
40	2.25	2.0	4.7	21.7	15.0	0.94	24.9	23.2	15.3	1.27	11.1	91.6	3.5
	3.38	3.9	9.1	21.8	14.9	0.88	24.8	24.9	16.0	1.28	11.8	92.6	3.7
	4.50	6.3	14.5	21.8	14.8	0.85	24.7	25.8	16.4	1.29	12.1	93.2	3.7
50	2.25	1.8	4.1	21.2	14.9	1.05	24.8	20.2	17.2	1.30	12.9	94.5	3.9
	3.38	3.4	7.9	21.6	15.0	0.97	24.9	22.3	18.0	1.32	13.6	95.7	4.0
	4.50	5.5	12.7	21.7	15.0	0.94	24.9	23.2	18.4	1.33	14.0	96.3	4.1
60	2.25	1.6	3.6	20.3	14.5	1.17	24.3	17.4	19.1	1.34	14.6	97.3	4.2
	3.38	3.0	7.0	21.0	14.8	1.08	24.7	19.5	19.9	1.35	15.4	98.7	4.3
	4.50	4.9	11.3	21.3	14.9	1.04	24.8	20.5	20.4	1.36	15.9	99.4	4.4
70	2.25	1.4	3.2	19.3	14.1	1.29	23.7	14.9	20.9	1.37	16.4	100.2	4.5
	3.38	2.8	6.4	20.1	14.5	1.19	24.2	16.9	21.8	1.38	17.2	101.5	4.6
	4.50	4.5	10.3	20.5	14.6	1.15	24.4	17.8	22.2	1.39	17.6	102.2	4.7
80	2.25	1.3	3.0	18.1	13.6	1.43	23.0	12.7	22.6	1.39	18.0	102.8	4.8
	3.38	2.6	6.0	19.1	14.0	1.31	23.6	14.5	23.4	1.40	18.8	104.1	4.9
	4.50	4.2	9.7	19.4	14.2	1.27	23.8	15.3	23.9	1.41	19.2	104.8	5.0
85	2.25	1.3	3.0	17.5	13.3	1.49	22.6	11.8	23.4	1.40	18.7	104.0	4.9
	3.38	2.6	5.9	18.5	13.8	1.38	23.2	13.4	24.2	1.41	19.5	105.2	5.0
	4.50	4.2	9.6	18.9	13.9	1.34	23.4	14.1	24.6	1.42	19.9	105.9	5.1
90	2.25	1.3	3.0	16.9	13.1	1.56	22.2	10.8	24.1	1.41	19.4	105.1	5.0
	3.38	2.6	5.9	17.9	13.5	1.45	22.8	12.4	24.9	1.42	20.1	106.3	5.1
	4.50	4.2	9.6	18.3	13.7	1.40	23.1	13.0	25.2	1.43	20.5	106.8	5.2
100	2.25	1.1	2.6	15.7	12.5	1.71	21.5	9.2	Operation Not Recommended				
	3.38	2.4	5.4	16.7	12.9	1.59	22.1	10.5					
	4.50	3.8	8.7	17.0	13.1	1.55	22.3	11.0					
110	2.25	1.2	2.7	14.6	12.1	1.86	20.9	7.8					
	3.38	2.5	5.7	15.4	12.4	1.74	21.4	8.9					
	4.50	3.8	8.8	15.8	12.6	1.70	21.6	9.3					
120	2.25	1.2	2.9	13.6	11.8	2.02	20.5	6.7					
	3.38	2.7	6.1	14.3	12.0	1.90	20.8	7.5					
	4.50	4.0	9.3	14.6	12.1	1.85	21.0	7.9					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 018 (ECM Blower)

600 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	2.25	Operation Not Recommended							Operation Not Recommended				
	3.38	Operation Not Recommended							Operation Not Recommended				
	4.50	9.2	21.3						12.6	1.17	8.6	87.3	3.2
30	2.25	2.7	6.2	21.8	14.8	0.80	24.5	27.2	13.6	1.2	9.5	88.9	3.3
	3.38	5.0	11.5	21.6	14.6	0.76	24.2	28.5	14.1	1.2	10.0	89.7	3.4
	4.50	7.3	16.8	21.4	14.4	0.73	23.9	29.3	14.4	1.2	10.3	90.1	3.5
40	2.25	2.0	4.7	21.7	15.0	0.90	24.8	24.1	15.3	1.2	11.1	91.6	3.7
	3.38	3.9	9.1	21.8	14.9	0.84	24.7	26.0	16.0	1.2	11.8	92.6	3.8
	4.50	6.3	14.5	21.8	14.8	0.81	24.6	27.0	16.4	1.2	12.1	93.2	3.8
50	2.25	1.8	4.1	21.2	14.9	1.01	24.6	21.0	17.2	1.3	12.9	94.5	4.0
	3.38	3.4	7.9	21.6	15.0	0.93	24.8	23.1	18.0	1.3	13.6	95.7	4.1
	4.50	5.5	12.7	21.7	15.0	0.90	24.8	24.2	18.4	1.3	14.0	96.3	4.2
60	2.25	1.6	3.6	20.3	14.5	1.13	24.2	18.0	19.1	1.30	14.6	97.3	4.3
	3.38	3.0	7.0	21.0	14.8	1.04	24.5	20.2	19.9	1.31	15.4	98.7	4.5
	4.50	4.9	11.3	21.3	14.9	1.00	24.7	21.2	20.4	1.32	15.9	99.4	4.5
70	2.25	1.4	3.2	19.3	14.1	1.26	23.6	15.3	20.9	1.33	16.4	100.2	4.6
	3.38	2.8	6.4	20.1	14.5	1.15	24.1	17.5	21.8	1.34	17.2	101.5	4.8
	4.50	4.5	10.3	20.5	14.6	1.11	24.3	18.4	22.2	1.35	17.6	102.2	4.8
80	2.25	1.3	3.0	18.1	13.6	1.39	22.8	13.0	22.6	1.35	18.0	102.8	4.9
	3.38	2.6	6.0	19.1	14.0	1.28	23.4	14.9	23.4	1.36	18.8	104.1	5.0
	4.50	4.2	9.7	19.4	14.2	1.24	23.7	15.7	23.9	1.37	19.2	104.8	5.1
85	2.25	1.3	3.0	17.5	13.3	1.45	22.5	12.1	23.4	1.36	18.7	104.0	5.0
	3.38	2.6	5.9	18.5	13.8	1.34	23.1	13.8	24.2	1.37	19.5	105.2	5.2
	4.50	4.2	9.6	18.9	13.9	1.30	23.3	14.5	24.6	1.38	19.9	105.9	5.2
90	2.25	1.3	3.0	16.9	13.1	1.52	22.1	11.1	24.1	1.37	19.4	105.1	5.1
	3.38	2.6	5.9	17.9	13.5	1.41	22.7	12.7	24.9	1.38	20.1	106.3	5.3
	4.50	4.2	9.6	18.3	13.7	1.37	23.0	13.4	25.2	1.39	20.5	106.8	5.3
100	2.25	1.1	2.6	15.7	12.5	1.67	21.4	9.4	Operation Not Recommended				
	3.38	2.4	5.4	16.7	12.9	1.55	22.0	10.7					
	4.50	3.8	8.7	17.0	13.1	1.51	22.2	11.3					
110	2.25	1.2	2.7	14.6	12.1	1.83	20.8	8.0					
	3.38	2.5	5.7	15.4	12.4	1.70	21.3	9.1					
	4.50	3.8	8.8	15.8	12.6	1.66	21.5	9.5					
120	2.25	1.2	2.9	13.6	11.8	1.98	20.4	6.9					
	3.38	2.7	6.1	14.3	12.0	1.86	20.7	7.7					
	4.50	4.0	9.3	14.6	12.1	1.82	20.8	8.1					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 024 (PSC Blower)

825 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	4.50	8.5	19.6	Operation Not Recommended					15.5	1.91	9.5	92.0	2.4
	6.00	8.5	19.6						15.9	1.71	10.1	87.0	2.7
30	3.00	2.2	5.1	28.9	19.7	1.16	32.8	24.8	17.6	1.74	11.8	89.0	3.0
	4.50	4.0	9.2	29.4	19.8	1.09	33.1	26.9	18.4	1.75	12.5	90.0	3.1
	6.00	7.2	16.6	29.6	19.8	1.06	33.2	28.0	18.8	1.76	12.9	91.0	3.1
40	3.00	1.9	4.4	28.0	19.4	1.28	32.4	21.9	20.4	1.78	14.4	92.0	3.4
	4.50	3.6	8.3	28.7	19.6	1.19	32.7	24.0	21.3	1.79	15.3	93.0	3.5
	6.00	6.4	14.8	28.9	19.7	1.16	32.8	25.1	21.9	1.80	15.7	94.0	3.6
50	3.00	1.7	3.9	27.3	19.1	1.42	32.1	19.3	23.2	1.82	17.0	95.0	3.7
	4.50	3.2	7.4	27.8	19.3	1.32	32.2	21.1	24.3	1.84	18.0	96.0	3.9
	6.00	5.9	13.6	28.1	19.4	1.27	32.4	22.1	24.9	1.85	18.6	97.0	3.9
60	3.00	1.5	3.5	26.3	18.8	1.58	31.7	16.7	25.9	1.87	19.6	98.0	4.1
	4.50	3.0	6.9	26.8	18.9	1.46	31.7	18.3	27.2	1.89	20.7	100.0	4.2
	6.00	5.5	12.7	27.1	19.0	1.41	31.9	19.3	27.9	1.90	21.4	100.0	4.3
70	3.00	1.4	3.2	25.1	18.3	1.77	31.1	14.2	28.6	1.91	22.1	101.0	4.4
	4.50	2.8	6.5	25.6	18.4	1.63	31.2	15.7	29.9	1.94	23.3	103.0	4.5
	6.00	5.2	12.0	26.0	18.6	1.57	31.4	16.6	30.6	1.95	24.0	103.0	4.6
80	3.00	1.3	3.0	23.8	17.8	1.99	30.6	12.0	31.1	1.96	24.4	104.0	4.7
	4.50	2.6	6.0	24.4	17.9	1.84	30.7	13.3	32.5	1.99	25.7	105.0	4.8
	6.00	4.9	11.3	24.8	18.1	1.77	30.8	14.1	33.1	2.00	26.3	106.0	4.9
85	3.00	1.3	3.0	23.1	17.5	2.12	30.4	11.0	32.3	1.98	25.5	105.0	4.8
	4.50	2.6	6.0	23.7	17.6	1.95	30.4	12.2	33.5	2.01	26.7	107.0	4.9
	6.00	4.8	11.1	24.1	17.8	1.88	30.5	12.9	34.2	2.02	27.2	107.0	5.0
90	3.00	1.2	2.8	22.4	17.3	2.25	30.1	10.0	33.4	2.01	26.5	106.0	4.9
	4.50	2.5	5.8	23.1	17.4	2.07	30.1	11.1	34.6	2.03	27.6	108.0	5.0
	6.00	4.7	10.9	23.4	17.5	1.99	30.2	11.8	35.2	2.05	28.2	108.0	5.0
100	3.00	1.2	2.8	21.0	16.8	2.54	29.7	8.3	Operation Not Recommended				
	4.50	2.4	5.5	21.6	16.9	2.34	29.7	9.2					
	6.00	4.5	10.4	22.0	17.0	2.25	29.7	9.8					
110	3.00	1.1	2.5	19.5	16.3	2.88	29.4	6.8					
	4.50	2.3	5.3	20.1	16.3	2.66	29.2	7.6					
	6.00	4.3	9.9	20.5	16.4	2.55	29.3	8.0					
120	3.00	1.0	2.3	17.8	15.7	3.26	29.0	5.5					
	4.50	2.2	5.1	18.6	15.8	3.01	28.9	6.2					
	6.00	4.2	9.7	19.1	16.0	2.89	29.0	6.6					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 024 (ECM Blower)

825 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	4.50	8.5	19.6	Operation Not Recommended					15.9	1.87	9.5	92.0	2.5
	6.00	8.5	19.6						15.8	1.67	10.1	87.0	2.8
30	3.00	2.2	5.1	28.9	19.7	1.12	32.7	25.8	17.6	1.70	11.8	89.0	3.0
	4.50	4.0	9.2	29.4	19.8	1.05	33.0	28.0	18.3	1.71	12.5	90.0	3.1
	6.00	7.2	16.6	29.6	19.8	1.02	33.1	29.0	18.8	1.72	12.9	90.0	3.2
40	3.00	1.9	4.4	28.0	19.4	1.24	32.2	22.6	20.3	1.74	14.4	92.0	3.4
	4.50	3.6	8.3	28.7	19.6	1.15	32.6	24.9	21.3	1.75	15.3	93.0	3.6
	6.00	6.4	14.8	28.9	19.7	1.12	32.7	25.8	21.7	1.76	15.7	94.0	3.6
50	3.00	1.7	3.9	27.3	19.1	1.38	32.0	19.8	23.1	1.78	17.0	95.0	3.8
	4.50	3.2	7.4	27.8	19.3	1.28	32.2	21.7	24.1	1.80	18.0	96.0	3.9
	6.00	5.9	13.6	28.1	19.4	1.23	32.3	22.8	24.8	1.81	18.6	97.0	4.0
60	3.00	1.5	3.5	26.3	18.8	1.54	31.6	17.1	25.8	1.83	19.6	98.0	4.1
	4.50	3.0	6.9	26.8	18.9	1.42	31.6	18.9	27.0	1.85	20.7	99.0	4.3
	6.00	5.5	12.7	27.1	19.0	1.37	31.8	19.8	27.8	1.86	21.4	100.0	4.4
70	3.00	1.4	3.2	25.1	18.3	1.73	31.0	14.5	28.5	1.87	22.1	101.0	4.5
	4.50	2.8	6.5	25.6	18.4	1.59	31.0	16.1	29.8	1.90	23.3	102.0	4.6
	6.00	5.2	12.0	26.0	18.6	1.53	31.2	17.0	30.5	1.91	24.0	103.0	4.7
80	3.00	1.3	3.0	23.8	17.8	1.95	30.5	12.2	31.0	1.92	24.4	104.0	4.7
	4.50	2.6	6.0	24.4	17.9	1.80	30.5	13.5	32.4	1.95	25.7	105.0	4.9
	6.00	4.9	11.3	24.8	18.1	1.73	30.7	14.3	33.0	1.96	26.3	106.0	4.9
85	3.00	1.3	3.0	23.1	17.5	2.08	30.2	11.1	32.1	1.94	25.5	105.0	4.8
	4.50	2.6	6.0	23.7	17.6	1.91	30.2	12.4	33.4	1.97	26.7	107.0	5.0
	6.00	4.8	11.1	24.1	17.8	1.84	30.4	13.1	34.0	1.98	27.2	108.0	5.0
90	3.00	1.2	2.8	22.4	17.3	2.21	29.9	10.1	33.2	1.97	26.5	107.0	4.9
	4.50	2.5	5.8	23.1	17.4	2.03	30.0	11.4	34.4	1.99	27.6	108.0	5.1
	6.00	4.7	10.9	23.4	17.5	1.95	30.1	12.0	35.1	2.01	28.2	109.0	5.1
100	3.00	1.2	2.8	21.0	16.8	2.50	29.5	8.4	Operation Not Recommended				
	4.50	2.4	5.5	21.6	16.9	2.30	29.5	9.4					
	6.00	4.5	10.4	22.0	17.0	2.21	29.5	9.9					
110	3.00	1.1	2.5	19.5	16.3	2.84	29.2	6.9					
	4.50	2.3	5.3	20.1	16.3	2.62	29.0	7.7					
	6.00	4.3	9.9	20.5	16.4	2.51	29.1	8.2					
120	3.00	1.0	2.3	17.8	15.7	3.22	28.8	5.5					
	4.50	2.2	5.1	18.6	15.8	2.97	28.7	6.3					
	6.00	4.2	9.7	19.1	16.0	2.85	28.8	6.7					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 030 (PSC Blower)

1,000 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	5.63	5.0	11.6	Operation Not Recommended					20.0	2.31	12.6	95.0	2.5
	7.50	5.0	11.6						20.4	2.08	13.4	89.0	2.9
30	3.75	1.3	3.0	34.7	22.9	1.44	39.5	24.0	22.1	2.13	14.9	90.0	3.0
	5.63	2.3	5.3	34.9	22.8	1.36	39.5	25.7	23.0	2.15	15.7	91.0	3.1
	7.50	4.2	9.7	35.0	22.7	1.32	39.4	26.5	23.5	2.16	16.2	92.0	3.2
40	3.75	1.0	2.3	34.0	22.8	1.57	39.3	21.6	25.3	2.20	17.8	93.0	3.4
	5.63	2.0	4.6	34.5	22.9	1.48	39.5	23.3	26.4	2.23	18.8	94.0	3.5
	7.50	3.7	8.5	35.1	23.2	1.44	39.9	24.4	26.9	2.24	19.4	95.0	3.5
50	3.75	0.9	2.1	32.9	22.5	1.72	38.8	19.2	28.5	2.26	20.8	96.0	3.7
	5.63	1.8	4.2	33.7	22.8	1.61	39.1	20.9	29.8	2.29	22.0	98.0	3.8
	7.50	3.4	7.9	34.0	22.9	1.57	39.3	21.7	30.5	2.30	22.7	98.0	3.9
60	3.75	0.8	1.8	31.7	21.9	1.89	38.1	16.8	31.8	2.32	23.9	99.0	4.0
	5.63	1.7	3.9	32.4	22.2	1.77	38.4	18.3	33.3	2.34	25.3	101.0	4.2
	7.50	3.1	7.2	32.7	22.3	1.71	38.5	19.1	34.1	2.36	26.0	102.0	4.2
70	3.75	0.7	1.6	30.2	21.2	2.08	37.3	14.5	35.1	2.37	26.9	102.0	4.3
	5.63	1.5	3.5	31.2	21.7	1.95	37.8	16.0	36.7	2.40	28.5	104.0	4.5
	7.50	2.9	6.7	31.7	21.9	1.89	38.1	16.8	37.6	2.42	29.3	105.0	4.6
80	3.75	0.7	1.6	28.8	20.7	2.30	36.7	12.5	38.2	2.43	29.9	105.0	4.6
	5.63	1.4	3.2	29.6	21.0	2.16	37.0	13.7	40.0	2.47	31.5	107.0	4.7
	7.50	2.7	6.2	30.2	21.2	2.08	37.3	14.5	41.2	2.50	32.6	108.0	4.8
85	3.75	0.6	1.4	27.8	20.1	2.43	36.1	11.5	39.8	2.50	31.3	107.0	4.7
	5.63	1.4	3.2	28.8	20.6	2.27	36.5	12.7	41.5	2.50	32.9	108.0	4.8
	7.50	2.7	6.2	29.3	20.8	2.20	36.8	13.4	42.6	2.50	33.9	109.0	4.9
90	3.75	0.6	1.4	26.8	19.6	2.56	35.5	10.5	41.3	2.51	32.7	108.0	4.8
	5.63	1.4	3.2	27.9	20.1	2.39	36.1	11.7	43.0	2.56	34.3	110.0	4.9
	7.50	2.6	6.0	28.5	20.4	2.31	36.4	12.3	44.0	2.59	35.1	111.0	5.0
100	3.75	0.6	1.4	24.9	18.8	2.85	34.7	8.7	Operation Not Recommended				
	5.63	1.3	3.0	26.1	19.3	2.67	35.2	9.8					
	7.50	2.5	5.8	26.7	19.6	2.58	35.5	10.3					
110	3.75	0.5	1.2	23.5	18.2	3.19	34.4	7.4					
	5.63	1.2	2.8	24.2	18.4	2.98	34.4	8.1					
	7.50	2.4	5.5	24.8	18.7	2.88	34.6	8.6					
120	3.75	0.5	1.2	21.2	17.2	3.58	33.5	5.9					
	5.63	1.2	2.8	22.3	17.6	3.34	33.8	6.7					
	7.50	2.3	5.3	22.9	17.8	3.23	33.9	7.1					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 030 (ECM Blower)

1,000 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	5.63	5.0	11.6	Operation Not Recommended					20.3	2.25	12.6	92.0	2.6
	7.50	5.0	11.6						20.3	2.02	13.4	87.0	2.9
30	3.75	1.3	3.0	34.7	22.9	1.44	39.5	24.0	22.0	2.07	14.9	89.0	3.1
	5.63	2.3	5.3	34.9	22.8	1.36	39.5	25.7	22.8	2.09	15.7	90.0	3.2
	7.50	4.2	9.7	35.0	22.7	1.32	39.4	26.5	23.4	2.10	16.2	90.0	3.3
40	3.75	1.0	2.3	34.0	22.8	1.57	39.3	21.6	25.1	2.14	17.8	92.0	3.4
	5.63	2.0	4.6	34.5	22.9	1.48	39.5	23.3	26.2	2.17	18.8	93.0	3.5
	7.50	3.7	8.5	35.1	23.2	1.44	39.9	24.4	26.8	2.18	19.4	94.0	3.6
50	3.75	0.9	2.1	32.9	22.5	1.72	38.8	19.2	28.3	2.20	20.8	95.0	3.8
	5.63	1.8	4.2	33.7	22.8	1.61	39.1	20.9	29.6	2.23	22.0	96.0	3.9
	7.50	3.4	7.9	34.0	22.9	1.57	39.3	21.7	30.3	2.24	22.7	97.0	4.0
60	3.75	0.8	1.8	31.7	21.9	1.89	38.1	16.8	31.6	2.26	23.9	98.0	4.1
	5.63	1.7	3.9	32.4	22.2	1.77	38.4	18.3	33.1	2.28	25.3	99.0	4.2
	7.50	3.1	7.2	32.7	22.3	1.71	38.5	19.1	33.9	2.30	26.0	100.0	4.3
70	3.75	0.7	1.6	30.2	21.2	2.08	37.3	14.5	34.8	2.31	26.9	101.0	4.4
	5.63	1.5	3.5	31.2	21.7	1.95	37.8	16.0	36.5	2.34	28.5	102.0	4.6
	7.50	2.9	6.7	31.7	21.9	1.89	38.1	16.8	37.4	2.36	29.3	103.0	4.6
80	3.75	0.7	1.6	28.8	20.7	2.30	36.7	12.5	38.0	2.37	29.9	104.0	4.7
	5.63	1.4	3.2	29.6	21.0	2.16	37.0	13.7	39.7	2.41	31.5	105.0	4.8
	7.50	2.7	6.2	30.2	21.2	2.08	37.3	14.5	40.9	2.44	32.6	106.0	4.9
85	3.75	0.6	1.4	27.8	20.1	2.43	36.1	11.5	39.6	2.44	31.3	105.0	4.8
	5.63	1.4	3.2	28.8	20.6	2.27	36.5	12.7	41.2	2.44	32.9	107.0	4.9
	7.50	2.7	6.2	29.3	20.8	2.20	36.8	13.4	42.2	2.44	33.9	108.0	5.1
90	3.75	0.6	1.4	26.8	19.6	2.56	35.5	10.5	41.1	2.45	32.7	107.0	4.9
	5.63	1.4	3.2	27.9	20.1	2.39	36.1	11.7	42.8	2.50	34.3	108.0	5.0
	7.50	2.6	6.0	28.5	20.4	2.31	36.4	12.3	43.7	2.53	35.1	109.0	5.1
100	3.75	0.6	1.4	24.9	18.8	2.85	34.7	8.7	Operation Not Recommended				
	5.63	1.3	3.0	26.1	19.3	2.67	35.2	9.8					
	7.50	2.5	5.8	26.7	19.6	2.58	35.5	10.3					
110	3.75	0.5	1.2	23.5	18.2	3.19	34.4	7.4					
	5.63	1.2	2.8	24.2	18.4	2.98	34.4	8.1					
	7.50	2.4	5.5	24.8	18.7	2.88	34.6	8.6					
120	3.75	0.5	1.2	21.2	17.2	3.58	33.5	5.9					
	5.63	1.2	2.8	22.3	17.6	3.34	33.8	6.7					
	7.50	2.3	5.3	22.9	17.8	3.23	33.9	7.1					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 036 (PSC Blower)

1,150 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	6.75	6.4	14.8	Operation Not Recommended					22.6	2.67	14.1	94.0	2.5
	9.00	6.4	14.8						23.2	2.39	15.1	89.0	2.8
30	4.50	1.8	4.2	41.5	27.4	1.74	47.4	23.8	26.2	2.51	17.7	91.0	3.1
	6.75	3.1	7.2	41.7	27.5	1.69	47.4	24.7	27.5	2.56	18.8	92.0	3.2
	9.00	5.4	12.5	41.7	27.5	1.67	47.3	25.0	28.2	2.59	19.4	93.0	3.2
40	4.50	1.6	3.7	40.8	27.2	1.87	47.1	21.8	30.8	2.68	21.7	95.0	3.4
	6.75	2.7	6.2	41.4	27.4	1.78	47.4	23.3	32.4	2.74	23.1	96.0	3.5
	9.00	4.8	11.1	41.6	27.4	1.74	47.4	23.9	33.2	2.77	23.8	97.0	3.5
50	4.50	1.4	3.2	39.5	26.7	2.06	46.5	19.2	35.4	2.84	25.7	98.0	3.7
	6.75	2.4	5.5	40.4	27.0	1.92	47.0	21.0	37.2	2.90	27.3	100.0	3.8
	9.00	4.4	10.2	40.8	27.2	1.87	47.2	21.9	38.2	2.93	28.2	101.0	3.8
60	4.50	1.3	3.0	37.6	25.9	2.29	45.4	16.4	39.8	2.99	29.7	102.0	3.9
	6.75	2.3	5.3	39.1	26.5	2.13	46.3	18.4	41.9	3.05	31.5	104.0	4.0
	9.00	4.0	9.2	39.6	26.7	2.05	46.5	19.3	43.0	3.09	32.5	105.0	4.1
70	4.50	1.2	2.8	36.0	25.5	2.56	44.7	14.0	44.1	3.12	33.5	106.0	4.2
	6.75	2.1	4.9	37.3	25.9	2.38	45.4	15.7	46.3	3.19	35.4	107.0	4.3
	9.00	3.8	8.8	37.9	26.1	2.29	45.7	16.6	47.5	3.22	36.5	108.0	4.3
80	4.50	1.1	2.5	33.8	24.7	2.88	43.7	11.8	48.2	3.24	37.1	109.0	4.4
	6.75	2.0	4.6	35.3	25.2	2.67	44.4	13.2	50.4	3.30	39.1	111.0	4.5
	9.00	3.6	8.3	35.9	25.5	2.57	44.7	14.0	51.5	3.34	40.1	111.0	4.5
85	4.50	1.0	2.3	32.8	24.4	3.05	43.3	10.8	50.0	3.29	38.8	110.0	4.5
	6.75	1.9	4.4	34.1	24.8	2.84	43.8	12.1	52.2	3.35	40.7	112.0	4.6
	9.00	3.5	8.1	34.7	25.0	2.73	44.1	12.8	53.2	3.38	41.7	113.0	4.6
90	4.50	1.0	2.3	31.8	24.0	3.23	42.8	9.8	51.9	3.34	40.4	112.0	4.5
	6.75	1.9	4.4	33.0	24.4	3.00	43.3	11.0	54.0	3.40	42.3	113.0	4.7
	9.00	3.4	7.9	33.5	24.5	2.89	43.4	11.6	55.0	3.43	43.2	114.0	4.7
100	4.50	0.9	2.1	29.5	23.1	3.62	41.9	8.2	Operation Not Recommended				
	6.75	1.8	4.2	30.7	23.5	3.37	42.2	9.1					
	9.00	3.3	7.6	31.3	23.7	3.25	42.5	9.6					
110	4.50	0.9	2.1	27.3	22.4	4.04	41.1	6.8					
	6.75	1.7	3.9	28.4	22.6	3.78	41.3	7.5					
	9.00	3.1	7.2	28.8	22.7	3.65	41.3	7.9					
120	4.50	0.9	2.1	25.1	21.4	4.49	40.4	5.6					
	6.75	1.6	3.7	26.1	21.8	4.21	40.6	6.2					
	9.00	3.0	6.9	26.5	21.8	4.08	40.5	6.5					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 036 (ECM Blower)

1,150 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	6.75	6.4	14.8	Operation Not Recommended					20.0	2.31	12.6	95.0	2.5
	9.00	6.4	14.8						20.4	2.08	13.4	89.0	2.9
30	4.50	1.8	4.2	41.5	27.4	1.70	47.3	24.4	26.1	2.47	17.7	89.0	3.1
	6.75	3.1	7.2	41.7	27.5	1.65	47.3	25.2	27.4	2.52	18.8	90.0	3.2
	9.00	5.4	12.5	41.7	27.5	1.63	47.3	25.5	28.1	2.55	19.4	90.0	3.2
40	4.50	1.6	3.7	40.8	27.2	1.83	47.1	22.3	30.7	2.64	21.7	92.0	3.4
	6.75	2.7	6.2	41.4	27.4	1.74	47.3	23.8	32.3	2.70	23.1	93.0	3.5
	9.00	4.8	11.1	41.6	27.4	1.70	47.4	24.4	33.1	2.73	23.8	94.0	3.6
50	4.50	1.4	3.2	39.5	26.7	2.02	46.4	19.5	35.3	2.80	25.7	95.0	3.7
	6.75	2.4	5.5	40.4	27.0	1.88	46.8	21.5	37.1	2.86	27.3	96.0	3.8
	9.00	4.4	10.2	40.8	27.2	1.83	47.1	22.3	38.1	2.89	28.2	97.0	3.9
60	4.50	1.3	3.0	37.6	25.9	2.25	45.3	16.7	39.8	2.95	29.7	98.0	3.9
	6.75	2.3	5.3	39.1	26.5	2.09	46.2	18.7	41.8	3.01	31.5	99.0	4.1
	9.00	4.0	9.2	39.6	26.7	2.01	46.5	19.7	42.9	3.05	32.5	100.0	4.1
70	4.50	1.2	2.8	36.0	25.5	2.52	44.6	14.3	44.0	3.08	33.5	101.0	4.2
	6.75	2.1	4.9	37.3	25.9	2.34	45.3	15.9	46.2	3.15	35.4	102.0	4.3
	9.00	3.8	8.8	37.9	26.1	2.25	45.6	16.8	47.4	3.18	36.5	103.0	4.4
80	4.50	1.1	2.5	33.8	24.7	2.84	43.5	11.9	48.0	3.20	37.1	104.0	4.4
	6.75	2.0	4.6	35.3	25.2	2.63	44.3	13.4	50.2	3.26	39.1	105.0	4.5
	9.00	3.6	8.3	35.9	25.5	2.53	44.5	14.2	51.4	3.30	40.1	106.0	4.6
85	4.50	1.0	2.3	32.8	24.4	3.01	43.1	10.9	49.9	3.25	38.8	105.0	4.5
	6.75	1.9	4.4	34.1	24.8	2.80	43.7	12.2	52.0	3.31	40.7	107.0	4.6
	9.00	3.5	8.1	34.7	25.0	2.69	43.9	12.9	53.1	3.34	41.7	108.0	4.7
90	4.50	1.0	2.3	31.8	24.0	3.19	42.7	10.0	51.7	3.30	40.4	107.0	4.6
	6.75	1.9	4.4	33.0	24.4	2.96	43.1	11.1	53.8	3.36	42.3	108.0	4.7
	9.00	3.4	7.9	33.5	24.5	2.85	43.2	11.7	54.8	3.39	43.2	109.0	4.7
100	4.50	0.9	2.1	29.5	23.1	3.58	41.7	8.2	Operation Not Recommended				
	6.75	1.8	4.2	30.7	23.5	3.33	42.1	9.2					
	9.00	3.3	7.6	31.3	23.7	3.21	42.3	9.7					
110	4.50	0.9	2.1	27.3	22.4	4.00	41.0	6.8					
	6.75	1.7	3.9	28.4	22.6	3.74	41.2	7.6					
	9.00	3.1	7.2	28.8	22.7	3.61	41.1	8.0					
120	4.50	0.9	2.1	25.1	21.4	4.45	40.3	5.6					
	6.75	1.6	3.7	26.1	21.8	4.17	40.3	6.3					
	9.00	3.0	6.9	26.5	21.8	4.04	40.3	6.6					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 042 (PSC Blower)

1,400 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	7.88	9.2	21.3	Operation Not Recommended					28.8	3.37	18.1	95.0	2.5
	10.50	9.2	21.3						29.5	3.03	19.3	90.0	2.9
30	5.25	2.3	5.3	49.3	34.7	1.95	55.9	25.4	32.4	3.10	21.9	91.0	3.1
	7.88	4.3	9.9	50.4	35.2	1.83	56.6	27.5	33.7	3.14	23.1	92.0	3.2
	10.50	7.9	18.2	50.9	35.5	1.78	57.0	28.6	34.5	3.16	23.8	93.0	3.2
40	5.25	2.0	4.6	47.8	33.9	2.13	55.0	22.4	37.0	3.23	26.1	94.0	3.4
	7.88	3.9	9.0	48.9	34.4	2.00	55.6	24.5	38.7	3.27	27.6	96.0	3.5
	10.50	7.1	16.4	49.4	34.7	1.94	56.0	25.5	39.6	3.30	28.4	96.0	3.5
50	5.25	1.8	4.2	46.2	33.1	2.35	54.2	19.6	41.8	3.36	30.4	98.0	3.7
	7.88	3.5	8.1	47.3	33.6	2.20	54.8	21.5	43.8	3.41	32.2	99.0	3.8
	10.50	6.5	15.0	47.9	33.9	2.12	55.1	22.5	44.9	3.44	33.2	100.0	3.8
60	5.25	1.6	3.7	44.9	32.6	2.61	53.8	17.2	46.7	3.49	34.8	101.0	3.9
	7.88	3.3	7.6	45.7	32.8	2.43	53.9	18.8	49.0	3.56	36.9	102.0	4.0
	10.50	6.1	14.1	46.2	33.1	2.35	54.2	19.7	50.2	3.59	38.0	103.0	4.1
70	5.25	1.5	3.5	43.0	31.8	2.91	52.9	14.8	51.5	3.63	39.2	104.0	4.2
	7.88	3.1	7.2	43.9	32.0	2.71	53.1	16.2	54.1	3.70	41.5	106.0	4.3
	10.50	5.7	13.2	44.5	32.3	2.61	53.4	17.1	55.4	3.73	42.7	107.0	4.4
80	5.25	1.4	3.2	41.1	31.0	3.26	52.2	12.6	56.3	3.76	43.4	107.0	4.4
	7.88	2.9	6.7	42.1	31.3	3.03	52.4	13.9	59.0	3.83	45.9	109.0	4.5
	10.50	5.4	12.5	42.7	31.5	2.92	52.6	14.6	60.4	3.87	47.2	110.0	4.6
85	5.25	1.3	3.0	40.0	30.7	3.46	51.8	11.6	58.6	3.82	45.5	109.0	4.5
	7.88	2.8	6.5	41.1	30.9	3.21	52.0	12.9	61.3	3.89	48.0	111.0	4.6
	10.50	5.3	12.2	41.7	31.2	3.09	52.3	13.6	62.7	3.93	49.3	111.0	4.7
90	5.25	1.3	3.0	39.0	30.3	3.65	51.5	10.7	60.8	3.88	47.6	110.0	4.6
	7.88	2.8	6.5	40.1	30.6	3.39	51.6	11.8	63.6	3.96	50.1	112.0	4.7
	10.50	5.2	12.0	40.7	30.8	3.27	51.9	12.5	65.1	3.99	51.4	113.0	4.8
100	5.25	1.2	2.8	36.7	29.6	4.10	50.7	8.9	Operation Not Recommended				
	7.88	2.7	6.2	37.9	29.9	3.81	50.9	9.9					
	10.50	5.0	11.6	38.6	30.1	3.67	51.1	10.5					
110	5.25	1.2	2.8	34.2	28.9	4.60	49.9	7.4					
	7.88	2.6	6.0	35.5	29.1	4.28	50.1	8.3					
	10.50	4.8	11.1	36.2	29.4	4.12	50.4	8.8					
120	5.25	1.1	2.5	31.4	28.0	5.15	49.1	6.1					
	7.88	2.5	5.8	32.8	28.3	4.80	49.3	6.8					
	10.50	4.7	10.9	33.7	28.6	4.63	49.5	7.3					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 042 (ECM Blower)

1,400 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	7.88	9.2	21.3	Operation Not Recommended					Operation Not Recommended				
	10.50	9.2	21.3										
30	5.25	2.3	5.3	49.3	34.7	1.79	55.4	27.5	31.9	2.94	21.9	89.0	3.2
	7.88	4.3	9.9	50.4	35.2	1.67	56.1	30.2	33.3	2.98	23.1	90.0	3.3
	10.50	7.9	18.2	50.9	35.5	1.62	56.4	31.4	34.0	3.00	23.8	90.0	3.3
40	5.25	2.0	4.6	47.8	33.9	1.97	54.5	24.3	36.6	3.07	26.1	92.0	3.5
	7.88	3.9	9.0	48.9	34.4	1.84	55.2	26.6	38.2	3.11	27.6	93.0	3.6
	10.50	7.1	16.4	49.4	34.7	1.78	55.5	27.8	39.1	3.14	28.4	94.0	3.7
50	5.25	1.8	4.2	46.2	33.1	2.19	53.7	21.1	41.3	3.20	30.4	95.0	3.8
	7.88	3.5	8.1	47.3	33.6	2.04	54.3	23.2	43.3	3.25	32.2	96.0	3.9
	10.50	6.5	15.0	47.9	33.9	1.96	54.6	24.4	44.4	3.28	33.2	97.0	4.0
60	5.25	1.6	3.7	44.9	32.6	2.45	53.3	18.3	46.2	3.33	34.8	98.0	4.1
	7.88	3.3	7.6	45.7	32.8	2.27	53.4	20.1	48.5	3.40	36.9	99.0	4.2
	10.50	6.1	14.1	46.2	33.1	2.19	53.7	21.1	49.7	3.43	38.0	100.0	4.2
70	5.25	1.5	3.5	43.0	31.8	2.75	52.4	15.6	51.0	3.47	39.2	101.0	4.3
	7.88	3.1	7.2	43.9	32.0	2.55	52.6	17.2	53.6	3.54	41.5	102.0	4.4
	10.50	5.7	13.2	44.5	32.3	2.45	52.9	18.2	54.9	3.57	42.7	103.0	4.5
80	5.25	1.4	3.2	41.1	31.0	3.10	51.7	13.3	55.7	3.60	43.4	104.0	4.5
	7.88	2.9	6.7	42.1	31.3	2.87	51.9	14.7	58.4	3.67	45.9	105.0	4.7
	10.50	5.4	12.5	42.7	31.5	2.76	52.1	15.5	59.9	3.71	47.2	106.0	4.7
85	5.25	1.3	3.0	40.0	30.7	3.30	51.3	12.1	58.0	3.66	45.5	105.0	4.6
	7.88	2.8	6.5	41.1	30.9	3.05	51.5	13.5	60.7	3.73	48.0	107.0	4.8
	10.50	5.3	12.2	41.7	31.2	2.93	51.7	14.2	62.2	3.77	49.3	108.0	4.8
90	5.25	1.3	3.0	39.0	30.3	3.49	50.9	11.2	60.3	3.72	47.6	107.0	4.8
	7.88	2.8	6.5	40.1	30.6	3.23	51.1	12.4	63.1	3.80	50.1	108.0	4.9
	10.50	5.2	12.0	40.7	30.8	3.11	51.3	13.1	64.5	3.83	51.4	109.0	4.9
100	5.25	1.2	2.8	36.7	29.6	3.94	50.1	9.3	Operation Not Recommended				
	7.88	2.7	6.2	37.9	29.9	3.65	50.4	10.4					
	10.50	5.0	11.6	38.6	30.1	3.51	50.6	11.0					
110	5.25	1.2	2.8	34.2	28.9	4.44	49.4	7.7					
	7.88	2.6	6.0	35.5	29.1	4.12	49.6	8.6					
	10.50	4.8	11.1	36.2	29.4	3.96	49.7	9.1					
120	5.25	1.1	2.5	31.4	28.0	4.99	48.4	6.3					
	7.88	2.5	5.8	32.8	28.3	4.64	48.6	7.1					
	10.50	4.7	10.9	33.7	28.6	4.47	49.0	7.5					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 048 (PSC Blower)

1,550 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	9.00	6.8	15.7	Operation Not Recommended					30.9	3.54	19.6	94.0	2.6
	12.00	6.8	15.7						31.6	3.18	20.9	88.0	2.9
30	6.00	1.8	4.2	58.8	39.0	2.34	66.7	25.1	34.7	3.24	23.8	90.0	3.1
	9.00	3.4	7.9	59.8	39.1	2.20	67.2	27.2	35.3	3.26	24.2	90.0	3.2
	12.00	6.2	14.3	60.3	39.1	2.14	67.5	28.2	36.0	3.27	24.9	91.0	3.2
40	6.00	1.6	3.7	57.1	38.5	2.57	65.8	22.2	38.8	3.33	27.5	92.0	3.4
	9.00	3.1	7.2	58.3	38.9	2.40	66.4	24.3	40.5	3.36	29.1	93.0	3.5
	12.00	5.8	13.4	58.9	39.0	2.32	66.8	25.4	41.7	3.37	30.2	94.0	3.6
50	6.00	1.5	3.5	55.1	37.7	2.83	64.7	19.4	44.7	3.42	33.0	96.0	3.8
	9.00	3.0	6.9	56.5	38.3	2.64	65.5	21.4	46.0	3.46	34.3	97.0	3.9
	12.00	5.5	12.7	57.2	38.5	2.55	65.8	22.5	47.1	3.48	35.3	97.0	4.0
60	6.00	1.4	3.2	52.8	36.8	3.15	63.5	16.8	49.3	3.51	37.4	99.0	4.1
	9.00	2.8	6.5	54.5	37.5	2.92	64.4	18.6	51.8	3.56	39.6	100.0	4.3
	12.00	5.3	12.2	55.2	37.8	2.81	64.8	19.6	53.1	3.58	40.9	101.0	4.3
70	6.00	1.3	3.0	50.3	35.7	3.52	62.3	14.3	54.8	3.61	42.4	102.0	4.4
	9.00	2.7	6.2	52.1	36.4	3.25	63.2	16.0	57.5	3.67	45.0	103.0	4.6
	12.00	5.1	11.8	53.0	36.8	3.13	63.6	16.9	59.0	3.70	46.4	104.0	4.7
80	6.00	1.3	3.0	47.6	34.5	3.94	61.0	12.1	60.2	3.72	47.5	105.0	4.7
	9.00	2.6	6.0	49.5	35.3	3.64	61.9	13.6	63.2	3.78	50.2	107.0	4.9
	12.00	4.9	11.3	50.4	35.7	3.50	62.4	14.4	64.8	3.82	51.7	107.0	5.0
85	6.00	1.2	2.8	46.1	33.8	4.19	60.4	11.1	62.8	3.78	49.9	106.0	4.9
	9.00	2.6	6.0	48.1	34.7	3.87	61.3	12.5	65.9	3.84	52.7	108.0	5.0
	12.00	4.9	11.3	49.0	35.1	3.72	61.7	13.2	67.5	3.88	54.1	109.0	5.1
90	6.00	1.2	2.8	44.6	33.2	4.43	59.8	10.1	65.5	3.83	52.3	108.0	5.0
	9.00	2.6	6.0	46.6	34.1	4.10	60.6	11.4	68.6	3.91	55.1	110.0	5.1
	12.00	4.8	11.1	47.6	34.5	3.94	61.1	12.1	70.2	3.95	56.6	111.0	5.2
100	6.00	1.2	2.8	41.4	31.9	4.99	58.5	8.3	Operation Not Recommended				
	9.00	2.5	5.8	43.5	32.7	4.62	59.3	9.4					
	12.00	4.7	10.9	44.6	33.2	4.44	59.7	10.0					
110	6.00	1.1	2.5	38.0	30.4	5.62	57.3	6.8					
	9.00	2.4	5.5	40.2	31.4	5.21	58.0	7.7					
	12.00	4.6	10.6	41.3	31.8	5.01	58.5	8.2					
120	6.00	1.1	2.5	34.4	28.9	6.34	56.1	5.4					
	9.00	2.4	5.5	36.7	29.9	5.88	56.8	6.2					
	12.00	4.5	10.4	37.8	30.3	5.66	57.2	6.7					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 048 (ECM Blower)

1,550 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	9.00	6.8	15.7	Operation Not Recommended					31.4	3.45	19.6	92.0	2.7
	12.00	6.8	15.7						31.5	3.09	20.9	87.0	3.0
30	6.00	1.8	4.2	58.8	39.0	2.25	66.5	26.1	34.6	3.15	23.8	89.0	3.2
	9.00	3.4	7.9	59.8	39.1	2.11	67.0	28.3	35.0	3.17	24.2	90.0	3.2
	12.00	6.2	14.3	60.3	39.1	2.05	67.3	29.4	35.8	3.18	24.9	90.0	3.3
40	6.00	1.6	3.7	57.1	38.5	2.48	65.6	23.0	38.6	3.24	27.5	92.0	3.5
	9.00	3.1	7.2	58.3	38.9	2.31	66.2	25.2	40.3	3.27	29.1	93.0	3.6
	12.00	5.8	13.4	58.9	39.0	2.23	66.5	26.4	41.4	3.28	30.2	94.0	3.7
50	6.00	1.5	3.5	55.1	37.7	2.74	64.5	20.1	44.4	3.33	33.0	95.0	3.9
	9.00	3.0	6.9	56.5	38.3	2.55	65.2	22.1	45.8	3.37	34.3	96.0	4.0
	12.00	5.5	12.7	57.2	38.5	2.46	65.6	23.2	46.9	3.39	35.3	97.0	4.0
60	6.00	1.4	3.2	52.8	36.8	3.06	63.3	17.2	49.1	3.42	37.4	98.0	4.2
	9.00	2.8	6.5	54.5	37.5	2.83	64.2	19.2	51.5	3.47	39.6	99.0	4.3
	12.00	5.3	12.2	55.2	37.8	2.72	64.5	20.3	52.8	3.49	40.9	100.0	4.4
70	6.00	1.3	3.0	50.3	35.7	3.43	62.0	14.6	54.4	3.52	42.4	101.0	4.5
	9.00	2.7	6.2	52.1	36.4	3.16	62.9	16.5	57.2	3.58	45.0	102.0	4.7
	12.00	5.1	11.8	53.0	36.8	3.04	63.4	17.4	58.7	3.61	46.4	103.0	4.8
80	6.00	1.3	3.0	47.6	34.5	3.85	60.8	12.3	59.9	3.63	47.5	104.0	4.8
	9.00	2.6	6.0	49.5	35.3	3.55	61.6	13.9	62.8	3.69	50.2	105.0	5.0
	12.00	4.9	11.3	50.4	35.7	3.41	62.1	14.8	64.4	3.73	51.7	106.0	5.1
85	6.00	1.2	2.8	46.1	33.8	4.10	60.1	11.2	62.5	3.69	49.9	105.0	5.0
	9.00	2.6	6.0	48.1	34.7	3.78	61.0	12.7	65.5	3.75	52.7	107.0	5.1
	12.00	4.9	11.3	49.0	35.1	3.63	61.4	13.5	67.0	3.79	54.1	108.0	5.2
90	6.00	1.2	2.8	44.6	33.2	4.34	59.4	10.3	65.1	3.74	52.3	107.0	5.1
	9.00	2.6	6.0	46.6	34.1	4.01	60.3	11.6	68.1	3.82	55.1	108.0	5.2
	12.00	4.8	11.1	47.6	34.5	3.85	60.8	12.3	69.8	3.86	56.6	109.0	5.3
100	6.00	1.2	2.8	41.4	31.9	4.90	58.1	8.4	Operation Not Recommended				
	9.00	2.5	5.8	43.5	32.7	4.53	59.0	9.6					
	12.00	4.7	10.9	44.6	33.2	4.35	59.5	10.2					
110	6.00	1.1	2.5	38.0	30.4	5.53	56.9	6.9					
	9.00	2.4	5.5	40.2	31.4	5.12	57.7	7.8					
	12.00	4.6	10.6	41.3	31.8	4.92	58.1	8.4					
120	6.00	1.1	2.5	34.4	28.9	6.25	55.7	5.5					
	9.00	2.4	5.5	36.7	29.9	5.79	56.5	6.3					
	12.00	4.5	10.4	37.8	30.3	5.57	56.8	6.8					

Interpolation is permissible; extrapolation is not.

All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.

Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.

Operation below 60°F 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 Data – TR H/V 060 (PSC Blower)

1,950 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	15.00	14.0	32.3	Operation Not Recommended					42.6	4.48	27.5	90.0	2.8
30	7.50	3.4	7.9	71.0	47.0	3.12	81.6	22.8	46.6	4.56	31.1	92.0	3.0
	11.25	6.8	15.7	71.8	47.0	2.99	82.0	24.0	48.6	4.61	33.0	93.0	3.1
	15.00	12.6	29.1	72.1	46.8	2.94	82.1	24.6	49.7	4.64	34.0	94.0	3.1
40	7.50	3.1	7.2	69.3	46.5	3.34	80.6	20.8	53.5	4.73	37.5	95.0	3.3
	11.25	6.3	14.6	70.6	47.0	3.18	81.3	22.2	56.1	4.80	39.8	97.0	3.4
	15.00	11.8	27.3	71.1	47.0	3.10	81.6	22.9	57.5	4.83	41.1	97.0	3.5
50	7.50	2.8	6.5	67.3	45.6	3.61	79.6	18.7	60.9	4.92	44.2	99.0	3.6
	11.25	5.9	13.6	68.7	46.3	3.41	80.3	20.1	64.1	5.01	47.1	100.0	3.8
	15.00	11.1	25.6	69.4	46.6	3.32	80.7	20.9	65.9	5.05	48.7	101.0	3.8
60	7.50	2.6	6.0	65.0	44.5	3.93	78.4	16.5	68.5	5.12	51.0	103.0	3.9
	11.25	5.6	12.9	66.3	45.1	3.70	78.9	17.9	72.1	5.22	54.4	104.0	4.1
	15.00	10.7	24.7	66.8	45.3	3.59	79.0	18.6	74.1	5.28	56.2	105.0	4.1
70	7.50	2.4	5.5	62.0	43.0	4.32	76.7	14.3	75.9	5.33	57.8	106.0	4.2
	11.25	5.4	12.5	63.6	43.7	4.05	77.4	15.7	79.9	5.44	61.4	108.0	4.3
	15.00	10.3	23.8	64.2	43.9	3.92	77.5	16.3	82.0	5.50	63.2	109.0	4.4
80	7.50	2.3	5.3	58.8	41.5	4.78	75.1	12.3	83.0	5.52	64.2	109.0	4.4
	11.25	5.2	12.0	60.4	42.2	4.47	75.7	13.5	87.0	5.63	67.7	111.0	4.5
	15.00	9.9	22.9	61.1	42.4	4.32	75.8	14.1	89.0	5.69	69.5	112.0	4.6
85	7.50	2.3	5.3	57.0	40.8	5.04	74.2	11.4	86.2	5.60	67.0	111.0	4.5
	11.25	5.1	11.8	58.7	41.4	4.71	74.8	12.5	89.9	5.70	70.4	113.0	4.6
	15.00	9.8	22.6	59.5	41.6	4.55	75.0	13.1	91.8	5.80	72.0	114.0	4.7
90	7.50	2.2	5.1	55.3	40.1	5.30	73.4	10.4	89.3	5.70	69.9	112.0	4.6
	11.25	5.0	11.6	57.1	40.7	4.95	74.0	11.5	92.9	5.80	73.1	114.0	4.7
	15.00	9.6	22.2	57.8	40.9	4.78	74.1	12.1	94.5	5.84	74.5	115.0	4.7
100	7.50	2.1	4.9	51.7	38.9	5.90	71.9	8.8	Operation Not Recommended				
	11.25	4.9	11.3	53.5	39.3	5.51	72.3	9.7					
	15.00	9.4	21.7	54.2	39.4	5.32	72.4	10.2					
110	7.50	2.0	4.6	48.5	38.2	6.59	71.0	7.4					
	11.25	4.8	11.1	49.8	38.1	6.15	70.8	8.1					
	15.00	9.2	21.3	50.6	38.2	5.94	71.0	8.5					
120	7.50	2.0	4.6	44.7	37.5	7.36	70.0	6.1					
	11.25	4.7	10.9	46.0	37.1	6.88	69.6	6.7					
	15.00	9.0	20.8	46.8	37.0	6.64	69.5	7.0					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H/V 060 (ECM Blower)

1,950 CFM Airflow

Performance capacities shown in thousands of Btuh

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
20	15.00	14.0	32.3	Operation Not Recommended					42.0	4.2	27.5	87.0	2.9
30	7.50	3.4	7.9	71.0	47.0	2.9	80.8	24.7	45.8	4.3	31.1	89.0	3.1
	11.25	6.8	15.7	71.8	47.0	2.7	81.2	26.2	47.9	4.4	33.0	90.0	3.2
	15.00	12.6	29.1	72.1	46.8	2.7	81.3	26.7	49.0	4.4	34.0	90.0	3.3
40	7.50	3.1	7.2	69.3	46.5	3.1	79.9	22.4	52.8	4.5	37.5	92.0	3.5
	11.25	6.3	14.6	70.6	47.0	2.9	80.6	24.1	55.3	4.6	39.8	93.0	3.6
	15.00	11.8	27.3	71.1	47.0	2.9	80.8	24.9	56.7	4.6	41.1	94.0	3.6
50	7.50	2.8	6.5	67.3	45.6	3.4	78.8	20.0	60.2	4.7	44.2	95.0	3.8
	11.25	5.9	13.6	68.7	46.3	3.2	79.5	21.7	63.4	4.8	47.1	96.0	3.9
	15.00	11.1	25.6	69.4	46.6	3.1	79.9	22.6	65.1	4.8	48.7	97.0	4.0
60	7.50	2.6	6.0	65.0	44.5	3.7	77.6	17.6	67.6	4.9	51.0	98.0	4.1
	11.25	5.6	12.9	66.3	45.1	3.5	78.1	19.2	71.4	5.0	54.4	99.0	4.2
	15.00	10.7	24.7	66.8	45.3	3.3	78.2	20.0	73.4	5.0	56.2	100.0	4.3
70	7.50	2.4	5.5	62.0	43.0	4.1	75.9	15.2	75.2	5.1	57.8	101.0	4.3
	11.25	5.4	12.5	63.6	43.7	3.8	76.6	16.7	79.1	5.2	61.4	102.0	4.5
	15.00	10.3	23.8	64.2	43.9	3.7	76.7	17.5	81.1	5.3	63.2	103.0	4.5
80	7.50	2.3	5.3	58.8	41.5	4.5	74.3	13.0	82.2	5.3	64.2	104.0	4.6
	11.25	5.2	12.0	60.4	42.2	4.2	74.8	14.3	86.1	5.4	67.7	105.0	4.7
	15.00	9.9	22.9	61.1	42.4	4.1	75.0	15.0	88.1	5.4	69.5	106.0	4.7
85	7.50	2.3	5.3	57.0	40.8	4.8	73.4	11.9	85.3	5.4	67.0	105.0	4.7
	11.25	5.1	11.8	58.7	41.4	4.5	73.9	13.1	89.0	5.5	70.4	107.0	4.8
	15.00	9.8	22.6	59.5	41.6	4.3	74.2	13.8	91.0	5.6	72.0	108.0	4.8
90	7.50	2.2	5.1	55.3	40.1	5.1	72.5	10.9	88.5	5.5	69.9	107.0	4.8
	11.25	5.0	11.6	57.1	40.7	4.7	73.2	12.1	92.1	5.6	73.1	108.0	4.9
	15.00	9.6	22.2	57.8	40.9	4.5	73.3	12.7	93.6	5.6	74.5	109.0	4.9
100	7.50	2.1	4.9	51.7	38.9	5.7	71.0	9.1	Operation Not Recommended				
	11.25	4.9	11.3	53.5	39.3	5.3	71.5	10.2					
	15.00	9.4	21.7	54.2	39.4	5.1	71.5	10.7					
110	7.50	2.0	4.6	48.5	38.2	6.3	70.2	7.6					
	11.25	4.8	11.1	49.8	38.1	5.9	69.9	8.4					
	15.00	9.2	21.3	50.6	38.2	5.7	70.0	8.9					
120	7.50	2.0	4.6	44.7	37.5	7.1	69.0	6.3					
	11.25	4.7	10.9	46.0	37.1	6.6	68.6	6.9					
	15.00	9.0	20.8	46.8	37.0	6.4	68.6	7.3					

Interpolation is permissible; extrapolation is not.
 All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
 Table does not reflect fan or pump power corrections for AHR/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 EWT is based upon a 15% methanol antifreeze solution.
 Operation below 60°F 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 Data – TR H 006 Hybrid

225 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	0.75	1.0	2.3	3100	0.91	82	12	8	82
	1.13	2.0	4.6	3500	1.03	84	14	6	84
	1.50	4.0	9.2	3700	1.08	85	15	5	85
95	0.75	1.0	2.3	3900	1.14	85	15	10	85
	1.13	2.0	4.6	4400	1.29	88	18	7	88
	1.50	2.0	4.6	4700	1.38	89	19	6	89
100	0.75	1.0	2.3	4700	1.38	89	19	12	88
	1.13	2.0	4.6	5300	1.55	91	21	9	91
	1.50	2.0	4.6	5600	1.64	93	23	7	93
105	0.75	1.0	2.3	5500	1.61	92	22	14	91
	1.13	2.0	4.6	6200	1.82	95	25	11	94
	1.50	2.0	4.6	6600	1.93	96	26	8	97
110	0.75	1.0	2.3	6300	1.85	95	25	17	93
	1.13	2.0	4.6	7100	2.08	99	29	12	98
	1.50	2.0	4.6	7600	2.23	100	30	10	100
115	0.75	1.0	2.3	7200	2.11	99	29	19	96
	1.13	1.0	2.3	8100	2.37	102	32	14	101
	1.50	2.0	4.6	8500	2.49	104	34	11	104
120	0.75	1.0	2.3	8000	2.34	102	32	21	99
	1.13	1.0	2.3	9000	2.64	106	36	16	104
	1.50	2.0	4.6	9500	2.78	108	38	12	108

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 009 Hybrid

325 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	1.13	2.0	4.6	4400	1.29	82	12	7	83
	1.69	3.0	6.9	4900	1.44	83	13	5	85
	2.25	5.0	11.5	5200	1.52	84	14	4	86
95	1.13	2.0	4.6	5600	1.64	85	15	9	86
	1.69	3.0	6.9	6200	1.82	87	17	7	88
	2.25	5.0	11.5	6500	1.90	88	18	5	90
100	1.13	2.0	4.6	6700	1.96	88	18	12	88
	1.69	3.0	6.9	7400	2.17	90	20	8	92
	2.25	5.0	11.5	7800	2.29	92	22	7	93
105	1.13	2.0	4.6	7800	2.29	92	22	14	91
	1.69	3.0	6.9	8700	2.55	94	24	10	95
	2.25	5.0	11.5	9100	2.67	95	25	8	97
110	1.13	2.0	4.6	9000	2.64	95	25	16	94
	1.69	3.0	6.9	9900	2.90	98	28	11	99
	2.25	5.0	11.5	10500	3.08	99	29	9	101
115	1.13	1.0	2.3	10100	2.96	98	28	18	97
	1.69	3.0	6.9	11200	3.28	101	31	13	102
	2.25	5.0	11.5	11800	3.46	103	33	10	105
120	1.13	1.0	2.3	11300	3.31	101	31	20	100
	1.69	3.0	6.9	12500	3.66	105	35	14	106
	2.25	5.0	11.5	13100	3.84	107	37	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 012 Hybrid

400 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	1.50	2.0	4.6	5400	1.58	82	12	7	83
	2.25	5.0	11.5	6000	1.76	83	13	5	85
	3.00	8.0	18.5	6200	1.82	84	14	4	86
95	1.50	2.0	4.6	6800	1.99	85	15	9	86
	2.25	5.0	11.5	7500	2.20	87	17	6	89
	3.00	8.0	18.5	7800	2.29	87	17	5	90
100	1.50	2.0	4.6	8200	2.40	88	18	11	89
	2.25	5.0	11.5	9000	2.64	90	20	8	92
	3.00	8.0	18.5	9400	2.75	91	21	6	94
105	1.50	2.0	4.6	9600	2.81	91	21	12	93
	2.25	5.0	11.5	10500	3.08	94	24	9	96
	3.00	8.0	18.5	11000	3.22	95	25	7	98
110	1.50	2.0	4.6	11000	3.22	95	25	14	96
	2.25	5.0	11.5	12000	3.52	97	27	10	100
	3.00	8.0	18.5	12600	3.69	98	28	8	102
115	1.50	2.0	4.6	12400	3.63	98	28	16	99
	2.25	5.0	11.5	13600	3.99	101	31	12	103
	3.00	8.0	18.5	14200	4.16	102	32	9	106
120	1.50	2.0	4.6	13800	4.04	101	31	18	102
	2.25	5.0	11.5	15100	4.43	104	34	13	107
	3.00	8.0	18.5	15800	4.63	106	36	10	110

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 015 Hybrid

525 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	1.88	1.0	2.3	6900	2.02	82	12	7	83
	2.81	1.0	2.3	8000	2.34	84	14	5	85
	3.75	2.0	4.6	8700	2.55	85	15	4	86
95	1.88	1.0	2.3	8600	2.52	85	15	9	86
	2.81	1.0	2.3	10100	2.96	87	17	7	88
	3.75	2.0	4.6	10900	3.19	89	19	5	90
100	1.88	1.0	2.3	10400	3.05	88	18	11	89
	2.81	1.0	2.3	12100	3.55	91	21	8	92
	3.75	2.0	4.6	13200	3.87	93	23	7	93
105	1.88	1.0	2.3	12200	3.58	91	21	13	92
	2.81	1.0	2.3	14200	4.16	94	24	10	95
	3.75	2.0	4.6	15400	4.51	96	26	8	97
110	1.88	1.0	2.3	14100	4.13	94	24	15	95
	2.81	1.0	2.3	16300	4.78	98	28	11	99
	3.75	2.0	4.6	17600	5.16	100	30	9	101
115	1.88	1.0	2.3	15900	4.66	97	27	17	98
	2.81	1.0	2.3	18300	5.36	101	31	13	102
	3.75	2.0	4.6	19900	5.83	104	34	10	105
120	1.88	1.0	2.3	17700	5.19	100	30	19	101
	2.81	1.0	2.3	20400	5.98	105	35	14	106
	3.75	2.0	4.6	22100	6.48	108	38	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 018 Hybrid

600 CFM Airflow 70°F EAT DB

EWT (°F)	WPD			Heating					
	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	2.25	1.0	2.3	7900	2.32	82	12	7	83
	3.38	2.0	4.6	9200	2.70	84	14	5	85
	4.50	3.0	6.9	10000	2.93	85	15	4	86
95	2.25	1.0	2.3	10000	2.93	85	15	8	87
	3.38	2.0	4.6	11600	3.40	87	17	6	89
	4.50	3.0	6.9	12600	3.69	89	19	5	90
100	2.25	1.0	2.3	12000	3.52	88	18	10	90
	3.38	2.0	4.6	13900	4.07	91	21	8	92
	4.50	3.0	6.9	15100	4.43	93	23	6	94
105	2.25	1.0	2.3	14100	4.13	91	21	12	93
	3.38	2.0	4.6	16300	4.78	94	24	9	96
	4.50	3.0	6.9	17700	5.19	96	26	7	98
110	2.25	1.0	2.3	16200	4.75	94	24	14	96
	3.38	2.0	4.6	18600	5.45	98	28	11	99
	4.50	3.0	6.9	20200	5.92	100	30	9	101
115	2.25	1.0	2.3	18300	5.36	97	27	16	99
	3.38	2.0	4.6	21000	6.15	102	32	12	103
	4.50	3.0	6.9	22800	6.68	104	34	10	105
120	2.25	1.0	2.3	20400	5.98	101	31	18	102
	3.38	2.0	4.6	23400	6.86	105	35	13	107
	4.50	3.0	6.9	25400	7.44	108	38	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 024 Hybrid

800 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	3.00	1.0	2.3	11200	3.28	82	12	7	83
	4.50	2.0	4.6	12700	3.72	84	14	5	85
	6.00	3.0	6.9	13400	3.93	85	15	4	86
95	3.00	1.0	2.3	14100	4.13	86	16	9	86
	4.50	2.0	4.6	15900	4.66	88	18	7	88
	6.00	3.0	6.9	16800	4.92	89	19	5	90
100	3.00	1.0	2.3	17000	4.98	89	19	11	89
	4.50	2.0	4.6	19200	5.63	91	21	8	92
	6.00	3.0	6.9	20200	5.92	93	23	6	94
105	3.00	1.0	2.3	20000	5.86	92	22	13	92
	4.50	2.0	4.6	22400	6.56	95	25	10	95
	6.00	3.0	6.9	23600	6.92	96	26	7	98
110	3.00	1.0	2.3	23000	6.74	96	26	15	95
	4.50	2.0	4.6	25700	7.53	99	29	11	99
	6.00	3.0	6.9	27000	7.91	100	30	9	101
115	3.00	1.0	2.3	26000	7.62	99	29	17	98
	4.50	2.0	4.6	29000	8.50	103	33	13	102
	6.00	3.0	6.9	30500	8.94	104	34	10	105
120	3.00	1.0	2.3	29000	8.50	103	33	19	101
	4.50	2.0	4.6	32300	9.47	106	36	14	106
	6.00	3.0	6.9	34000	9.96	108	38	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 030 Hybrid

1,000 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	3.75	2.0	4.6	13700	4.02	82	12	7	83
	5.63	3.0	6.9	15300	4.48	83	13	5	85
	7.50	4.0	9.2	16100	4.72	84	14	4	86
95	3.75	2.0	4.6	17300	5.07	85	15	9	86
	5.63	3.0	6.9	19200	5.63	87	17	6	89
	7.50	4.0	9.2	20200	5.92	88	18	5	90
100	3.75	2.0	4.6	20800	6.10	89	19	11	89
	5.63	3.0	6.9	23100	6.77	91	21	8	92
	7.50	4.0	9.2	24300	7.12	92	22	6	94
105	3.75	2.0	4.6	24400	7.15	92	22	13	92
	5.63	3.0	6.9	27100	7.94	94	24	9	96
	7.50	4.0	9.2	28400	8.32	95	25	7	98
110	3.75	2.0	4.6	28000	8.21	95	25	15	95
	5.63	3.0	6.9	31000	9.09	98	28	11	99
	7.50	4.0	9.2	32500	9.52	99	29	8	102
115	3.75	2.0	4.6	31600	9.26	98	28	17	98
	5.63	3.0	6.9	35000	10.26	101	31	12	103
	7.50	4.0	9.2	36700	10.76	103	33	9	106
120	3.75	2.0	4.6	35200	10.32	102	32	19	101
	5.63	3.0	6.9	39000	11.43	105	35	13	107
	7.50	4.0	9.2	40800	11.96	107	37	10	110

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 036 Hybrid

1,150 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	4.50	1.0	2.3	17500	5.13	83	13	7	83
	6.75	2.0	4.6	19700	5.77	85	15	5	85
	9.00	3.0	6.9	20700	6.07	86	16	4	86
95	4.50	1.0	2.3	22000	6.45	87	17	9	86
	6.75	2.0	4.6	24700	7.24	89	19	7	88
	9.00	3.0	6.9	26000	7.62	90	20	5	90
100	4.50	1.0	2.3	26500	7.77	91	21	11	89
	6.75	2.0	4.6	29700	8.70	93	23	8	92
	9.00	3.0	6.9	31300	9.17	94	24	7	93
105	4.50	1.0	2.3	31100	9.11	94	24	13	92
	6.75	2.0	4.6	34700	10.17	97	27	10	95
	9.00	3.0	6.9	36600	10.73	99	29	8	97
110	4.50	1.0	2.3	35700	10.46	98	28	16	94
	6.75	2.0	4.6	39800	11.66	101	31	11	99
	9.00	3.0	6.9	41900	12.28	103	33	9	101
115	4.50	1.0	2.3	40300	11.81	101	31	18	97
	6.75	2.0	4.6	44800	13.13	105	35	13	102
	9.00	3.0	6.9	47200	13.83	107	37	10	105
120	4.50	1.0	2.3	44800	13.13	105	35	20	100
	6.75	2.0	4.6	49900	14.62	109	39	14	106
	9.00	3.0	6.9	52500	15.39	111	41	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 042 Hybrid

1,400 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	5.25	1.0	2.3	20600	6.04	83	13	7	83
	7.88	2.0	4.6	23100	6.77	85	15	5	85
	10.50	4.0	9.2	24400	7.15	85	15	4	86
95	5.25	1.0	2.3	25900	7.59	86	16	9	86
	7.88	2.0	4.6	29000	8.50	88	18	7	88
	10.50	4.0	9.2	30500	8.94	89	19	5	90
100	5.25	1.0	2.3	31200	9.14	90	20	11	89
	7.88	2.0	4.6	34900	10.23	92	22	8	92
	10.50	4.0	9.2	36700	10.76	93	23	7	93
105	5.25	1.0	2.3	36500	10.70	93	23	14	91
	7.88	2.0	4.6	40800	11.96	96	26	10	95
	10.50	4.0	9.2	43000	12.60	98	28	8	97
110	5.25	1.0	2.3	41900	12.28	97	27	16	94
	7.88	2.0	4.6	46700	13.69	100	30	11	99
	10.50	4.0	9.2	49200	14.42	102	32	9	101
115	5.25	1.0	2.3	47200	13.83	100	30	18	97
	7.88	2.0	4.6	52700	15.44	104	34	13	102
	10.50	4.0	9.2	55500	16.27	106	36	10	105
120	5.25	1.0	2.3	52600	15.42	104	34	20	100
	7.88	2.0	4.6	58700	17.20	108	38	15	105
	10.50	4.0	9.2	61700	18.08	110	40	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 048 Hybrid

1,500 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	6.00	2.0	4.6	23100	6.77	84	14	7	83
	9.00	3.0	6.9	25400	7.44	85	15	5	85
	12.00	5.0	11.5	26400	7.74	86	16	4	86
95	6.00	2.0	4.6	29000	8.50	87	17	9	86
	9.00	3.0	6.9	31800	9.32	89	19	7	88
	12.00	5.0	11.5	33000	9.67	90	20	5	90
100	6.00	2.0	4.6	34900	10.23	91	21	11	89
	9.00	3.0	6.9	38200	11.20	93	23	8	92
	12.00	5.0	11.5	39700	11.63	94	24	6	94
105	6.00	2.0	4.6	40800	11.96	94	24	13	92
	9.00	3.0	6.9	44700	13.10	97	27	9	96
	12.00	5.0	11.5	46400	13.60	98	28	7	98
110	6.00	2.0	4.6	46700	13.69	98	28	15	95
	9.00	3.0	6.9	51100	14.98	101	31	11	99
	12.00	5.0	11.5	53100	15.56	102	32	8	102
115	6.00	2.0	4.6	52600	15.42	102	32	17	98
	9.00	3.0	6.9	57600	16.88	105	35	12	103
	12.00	5.0	11.5	59800	17.53	106	36	10	105
120	6.00	2.0	4.6	58600	17.17	105	35	19	101
	9.00	3.0	6.9	64100	18.79	109	39	14	106
	12.00	5.0	11.5	66500	19.49	110	40	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Performance Data – TR H 060 Hybrid

1,950 CFM Airflow 70°F EAT DB

WPD				Heating					
EWT (°F)	FLOW GPM	PSI	FT	Capacity (BTUH)	kW	LAT (°F)	DT Air (°F)	DT water (°F)	T water out (°F)
90	7.50	2.0	4.6	28900	8.47	83	13	7	83
	11.25	5.0	11.5	31600	9.26	84	14	5	85
	15.00	8.0	18.5	32800	9.61	85	15	4	86
95	7.50	2.0	4.6	36200	10.61	86	16	9	86
	11.25	5.0	11.5	39600	11.61	88	18	7	88
	15.00	8.0	18.5	41100	12.05	89	19	5	90
100	7.50	2.0	4.6	43600	12.78	90	20	11	89
	11.25	5.0	11.5	47600	13.95	92	22	8	92
	15.00	8.0	18.5	49400	14.48	93	23	6	94
105	7.50	2.0	4.6	51000	14.95	93	23	13	92
	11.25	5.0	11.5	55700	16.32	96	26	9	96
	15.00	8.0	18.5	57700	16.91	96	26	7	98
110	7.50	2.0	4.6	58400	17.12	97	27	15	95
	11.25	5.0	11.5	63800	18.70	99	29	11	99
	15.00	8.0	18.5	66100	19.37	100	30	8	102
115	7.50	2.0	4.6	65800	19.28	100	30	17	98
	11.25	5.0	11.5	71800	21.04	103	33	12	103
	15.00	8.0	18.5	74500	21.83	104	34	10	105
120	7.50	2.0	4.6	73200	21.45	104	34	19	101
	11.25	5.0	11.5	80000	23.45	107	37	14	106
	15.00	8.0	18.5	82800	24.27	108	38	11	109

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Correction Tables – Entering Air Temperature

Cooling Corrections											
Ent Air WB °F	Total Clg Capacity	Sens Clg Cap Multipliers - Entering DB °F								Power	Heat of Rejection
		65	70	75	80	80.6	85	90	95		
50	0.78	0.98	*	*	*	*	*	*	*	1.00	0.82
55	0.83	0.90	1.06	*	*	*	*	*	*	1.00	0.87
60	0.90	0.75	0.92	1.11	*	*	*	*	*	1.00	0.92
65	0.97		0.68	0.90	1.12	1.15	1.34	*	*	1.00	0.97
66.2	0.99		0.61	0.84	1.07	1.10	1.29	*	*	1.00	0.99
67	1.00		0.55	0.78	1.00	1.03	1.22	1.43	*	1.00	1.00
70	1.05			0.64	0.89	0.91	1.11	1.31	1.49	1.00	1.04
75	1.14				0.61	0.64	0.86	1.07	1.24	1.00	1.11

* 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.

For ClimaDry® II equipped units the minimum entering air temperature when cooling is 70°F DB / 61°F WB. Operation below this minimum may result in nuisance faults.

Heating Corrections			
Ent Air DB °F	Heating Capacity	Power	Heat of Extraction
45	1.05	0.78	1.13
50	1.03	0.82	1.10
55	1.02	0.87	1.06
60	1.01	0.92	1.04
65	1.00	0.97	1.01
68	1.00	1.00	1.00
70	1.00	1.02	0.99
75	0.99	1.08	0.97
80	0.99	1.14	0.94

Airflow Correction Table

Airflow	Heating			Cooling				
	% of Rated	Heating Capacity	Heating Power	Heat of Extraction	Total Capacity	Sensible Capacity	Sens/Tot Ratio	Power
75	0.98	1.11	0.94	0.96	0.88	0.92	0.96	0.96
81.25	0.98	1.08	0.96	0.97	0.91	0.94	0.97	0.97
87.5	0.99	1.05	0.97	0.98	0.94	0.95	0.98	0.98
93.75	0.99	1.02	0.99	0.99	0.97	0.97	0.99	0.99
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
106.25	1.01	0.98	1.01	1.01	1.04	1.04	1.01	1.01
112.5	1.01	0.97	1.02	1.01	1.10	1.09	1.03	1.01
118.75	1.01	0.96	1.03	1.01	1.18	1.17	1.04	1.02
125	1.02	0.95	1.04	1.01	1.28	1.27	1.05	1.02

Antifreeze Correction Table

EWT	Antifreeze Type	Antifreeze %	Cooling			Heating		WPD
			Total Cap	Sensible Cap	Watts	Total Cap	Watts	
90	Water	0%	1	1	1	1	1	1
	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	1.37
		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	1.04
		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	1.01	0.969	0.99	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	0.95	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%	0.99	0.99	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%	0.97	0.97	1.02	0.939	0.981	1.31
		45%	0.966	0.966	1.023	0.93	0.978	1.353
	50%	0.961	0.961	1.026	0.92	0.975	1.398	
	Propylene Glycol	5%	0.995	0.995	1.003	0.99	0.997	1.065
		10%	0.99	0.99	1.006	0.98	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	0.95	0.984	1.267
		35%	0.972	0.972	1.018	0.944	0.982	1.312
		40%	0.969	0.969	1.02	0.938	0.98	1.356
		45%	0.965	0.965	1.023	0.929	0.977	1.402
	50%	0.96	0.96	1.026	0.919	0.974	1.45	

Table Continued on Next Page

Antifreeze Correction Table

Table Continued from Previous Page

EWT	Antifreeze Type	Antifreeze %	Cooling			Heating		WPD
			Total Cap	Sensible Cap	Watts	Total Cap	Watts	
30	Water	0%	1	1	1	1	1	1
	Ethanol	5%	0.991	0.991	1.006	0.981	0.994	1.14
		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	0.97	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%	0.94	0.94	1.041	0.88	0.962	1.58
	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	1.04
		10%	0.993	0.993	1.004	0.986	0.996	1.075
		15%	0.99	0.99	1.006	0.98	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	0.99	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	0.98	1.371
	50%	0.966	0.966	1.023	0.93	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	0.99	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	1.36
	50%	0.955	0.955	1.03	0.91	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	1.13
		15%	0.985	0.985	1.01	0.968	0.99	1.206
		20%	0.98	0.98	1.013	0.958	0.987	1.27
		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	

Correction Tables – Water Pressure Drop Adder for Options

Motorized Water Valve Option Corrections

Model	Cv	MOPD	WPD Adders		
			GPM	PSI	FT
006	4.9	150	0.8	0.03	0.06
	4.9	150	1.1	0.05	0.12
	4.9	150	1.5	0.09	0.22
009	4.9	150	1.1	0.05	0.12
	4.9	150	1.7	0.12	0.28
	4.9	150	2.2	0.2	0.47
012	4.9	150	1.5	0.09	0.22
	4.9	150	2.3	0.22	0.51
	4.9	150	3	0.37	0.87
015	4.9	150	1.8	0.13	0.31
	4.9	150	2.6	0.28	0.65
	4.9	150	3.5	0.51	1.18
018	4.9	150	2.3	0.22	0.51
	4.9	150	3.4	0.48	1.11
	4.9	150	4.5	0.84	1.95
024	4.9	150	3	0.37	0.87
	4.9	150	4.5	0.84	1.95
	4.9	150	6	1.5	3.46
030	10.3	150	3.8	0.14	0.31
	10.3	150	5.5	0.29	0.66
	10.3	150	7.5	0.53	1.22
036	10.3	150	4.5	0.19	0.44
	10.3	150	6.8	0.44	1.01
	10.3	150	9	0.76	1.76
042	10.3	150	5.3	0.26	0.61
	10.3	150	7.9	0.59	1.36
	10.3	150	10.5	1.04	2.4
048	10.3	150	6	0.34	0.78
	10.3	150	9	0.76	1.76
	10.3	150	12	1.36	3.14
060	10.3	150	7.5	0.53	1.22
	10.3	150	11.3	1.2	2.78
	10.3	150	15	2.12	4.9

ClimaDry® II Option Corrections - (When Operating in Non-ClimaDry II Mode)

Model	WPD Adders		
	GPM	PSI	FT
024	3.0	0.881	2.036
	4.5	1.983	4.581
030	3.8	0.622	1.437
	5.6	1.351	3.121
036	4.5	0.872	2.015
	6.8	1.992	4.602
042	5.3	1.210	2.796
	7.9	2.689	6.212
048	6.0	1.551	3.583
	9.0	3.490	8.062
060	7.5	1.491	3.445
	11.3	3.385	7.820

Correction Tables – Hybrid Units

Entering Air Correction Table

Ent Air DB F	Htg Cap
45	1.70
50	1.56
55	1.42
60	1.28
65	1.14
68	1.05
70	1.0
75	0.86
80	0.72

Airflow Correction Table

% of Nominal (rated) CFM	Htg Cap
75	0.83
81.25	0.87
87.5	0.92
93.75	0.96
100	1.00
106.25	1.04
112.5	1.08
118.75	1.11
125	1.15

Blower Performance Data – TR006

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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				
225	150	PSC	Low	CFM	210	190	160										
			Medium	CFM	260	240	210									190	
			High	CFM	310	290	270									230	180
225	150	Constant Torque ECM	1	RPM	944	1028	1114	1206	1297								
				Power (W)	22	24	25	28	30								
				CFM	225	207	187	169	150								
			2	RPM				1201	1280	1362	1441	1523	1608	1694			
				Power (W)				34	37	39	42	44	48	51			
				CFM				233	217	201	185	173	164	150			
			3	RPM				1324	1400	1476	1551	1628	1709	1786			
				Power (W)				43	45	48	51	54	58	61			
				CFM				241	227	212	200	188	179	168			
			4	RPM								1516	1588	1658	1730	1799	
				Power (W)								55	58	61	65	67	
				CFM								240	227	216	205	193	
225	150	Constant Volume ECM	Minimum CFM	RPM	763	933	1078	1201	1314	1417	1519	1615	1712				
				Power (W)	16	21	27	40	36	41	46	52	59				
				CFM	150	150	150	150	150	150	150	150	150				
			Default CFM	RPM	983	1102	1211	1319	1419	1516	1610	1708	1783	1817			
				Power (W)	29	35	41	47	53	60	67	76	81	77			
				CFM	225	225	225	225	225	225	225	225	225	225			
			Maximum CFM	RPM	1053	1162	1265	1366	1462	1553	1648	1733	1802	1817			
				Power (W)	35	41	47	53	60	67	76	84	88	78			
				CFM	250	250	250	250	250	250	250	250	250	250			

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

Blower Performance Data – TR009

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
325	225	PSC	Low	CFM	340	322	300	260								
			Medium	CFM	390	360	320	290							260	
			High	CFM	410	380	350	320							280	
325	225	Constant Torque ECM	1	RPM	1137	1203	1266	1344	1413							
				Power (W)	40	42	44	47	49							
				CFM	294	278	259	245	230							
			2	RPM	1361	1413	1464	1503	1577	1640	1700	1751	1803	1831		
				Power (W)	67	70	73	74	79	82	85	88	90	85		
				CFM	370	357	343	326	318	302	291	278	265	235		
			3	RPM				1538	1589	1642	1695	1749	1812	1829	1847	
				Power (W)				86	88	91	95	98	101	96	90	
				CFM				370	358	346	334	322	307	280	247	
			4	RPM							1835	1853	1869	1875		
				Power (W)							120	113	107	102		
				CFM							340	309	276	234		
325	225	Constant Volume ECM	Minimum CFM	RPM	929	1083	1210	1324	1432	1529	1595	1723	1792			
				Power (W)	25	32	39	45	53	60	66	78	83			
				CFM	225	225	225	225	225	225	225	225	225			
			Default CFM	RPM	1209	1326	1430	1535	1635	1732	1792	1801	1811			
				Power (W)	49	58	67	77	88	100	105	95	88			
				CFM	325	325	325	325	325	325	325	325	325			
			Maximum CFM	RPM	1691	1753	1765	1769	1778	1784	1793	1803	1813			
				Power (W)	126	134	131	125	119	118	105	98	90			
				CFM	375	375	375	375	375	375	375	375	375			

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

Blower Performance Data – TR012

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
380	300	PSC	Low	CFM	360	350	320	310							
			Medium	CFM	420	400	380	360							340
			High	CFM	470	450	430	400							380
380	300	Constant Torque ECM	1	RPM	1338	1385	1436	1491	1551						
				Power (W)	64	66	69	71	75						
				CFM	358	345	332	319	305						
			2	RPM	1477	1517	1561	1612	1660	1711	1769	1819			
				Power (W)	86	88	91	94	97	100	103	104			
				CFM	400	388	377	365	354	342	328	309			
			3	RPM	1632	1672	1709	1747	1785	1820	1835	1856			
				Power (W)	116	119	122	124	126	126	121	114			
				CFM	449	437	427	414	401	385	359	327			
			4	RPM	1698	1729	1765	1798	1821	1836	1842	1843			
				Power (W)	131	133	135	137	135	130	123	110			
				CFM	467	456	444	433	414	390	361	318			
380	300	Constant Volume ECM	Minimum CFM	RPM	1258	1368	1464	1555	1635	1718	1793	1830			
				Power (W)	55	64	73	81	90	99	107	106			
				CFM	300	300	300	300	300	300	300	300			
			Default CFM	RPM	1598	1672	1743	1813	1831	1845	1859	1875			
				Power (W)	105	115	125	135	132	127	123	118			
				CFM	380	380	380	380	380	380	380	380			
			Maximum CFM	RPM	1798	1823	1834	1844	1858	1872	1886	1901	1920		
				Power (W)	147	149	146	143	139	134	130	126	120		
				CFM	415	415	415	415	415	415	415	415	415		

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

Blower Performance Data – TR015

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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								
525	375	PSC	Low	CFM	503	490	479	439													
			Medium	CFM	595	575	562	510	451												
			High	CFM				581	510	386											
525	375	PSC - High Static	Low	CFM	462	456	443	425	385												
			Medium	CFM	546	539	531	513	481	414											
			High	CFM						547	426										
525	375	Constant Torque ECM	1	RPM	655	614	701	770	851	937											
				Power (W)	67	55	62	68	75	82											
				CFM	648	588	542	493	441	378											
			2	RPM	655	720	799	863	946	1021	1078										
				Power (W)	67	74	81	87	95	102	108										
				CFM	648	608	557	514	460	402	354										
			3	RPM	687	744	822	883	950	1032	1098	1150									
				Power (W)	79	86	94	101	107	117	124	130									
				CFM	695	659	611	570	526	475	422	377									
			4	RPM	716	771	844	906	965	1037	1110	1170	1219								
				Power (W)	92	98	107	114	121	129	138	145	151								
				CFM	737	705	661	622	582	534	482	438	396								
			5	RPM	763	790	851	924	978	1039	1113	1175	1233	1281							
				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	Constant Volume ECM	Minimum CFM	RPM		617	741	848	945	1028	1103	1171									
				Power (W)		36	52	68	84	99	114	129									
				CFM		375	375	375	375	375	375	375									
			Default CFM	RPM		661	767	859	944	1028	1107	1179	1247								
				Power (W)		55	74	90	108	127	147	166	186								
				CFM		525	525	525	525	525	525	525	525								
			Maximum CFM	RPM	586	695	795	882	963	1038	1111	1180	1248	1312							
				Power (W)	54	73	93	112	132	152	173	194	216	238							
				CFM	625	625	625	625	625	625	625	625	625	625							

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

Blower Performance Data – TR018

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
600	450	PSC	Low	CFM	524	509	493	451							
			Medium	CFM	611	588	564	514							
			High	CFM	704	668	643	617							504
600	450	PSC - High Static	Low	CFM	461										
			Medium	CFM	553							543	533	506	468
			High	CFM	670							661	645	628	587
600	450	Constant Torque ECM	1	RPM	693	763	837	882							
				Power (W)	73	78	85	90							
				CFM	600	558	518	491							
			2	RPM	745	801	873	904	966	1031	1098				
				Power (W)	92	99	107	109	116	123	131				
				CFM	676	641	599	570	536	498	452				
			3	RPM	782	831	890	958	992	1048	1106	1171	1223		
				Power (W)	112	118	126	135	140	147	155	163	170		
				CFM	741	713	677	640	619	586	554	512	471		
			4	RPM	833	875	924	986	1046	1072	1124	1177	1236	1290	
				Power (W)	138	144	152	161	170	174	181	190	199	207	
				CFM	802	780	751	714	680	662	633	603	567	529	
			5	RPM	895	924	968	1016	1078	1133	1151	1199	1249	1302	
				Power (W)	170	175	182	190	201	210	214	222	231	240	
				CFM	854	848	820	791	754	724	711	683	655	625	
600	450	Constant Volume ECM	Minimum CFM	RPM					1096	1179	1275	1361			
				Power (W)					111	132	157	180			
				CFM					450	450	450	450			
			Default CFM	RPM	847	918	971	1095	1208	1297	1360	1418	1467		
				Power (W)	85	101	113	145	178	206	228	248	266		
				CFM	600	600	600	600	600	600	600	600	600		
			Maximum CFM	RPM	1036	1080	1131	1172	1213	1317	1406	1494			
				Power (W)	157	171	186	200	214	251	286	323			
				CFM	750	750	750	750	750	750	750	750			

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

Blower Performance Data – TR024

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
850	600	PSC	Low	CFM	760	741	722	694	665	618						
			Medium	CFM	941	912	874	836	789	732						665
			High	CFM					950	884						827
850	600	PSC - High Static	Low	CFM								979	931	884	827	751
			Medium	CFM			988	922				846	713			
			High	CFM							979	903	798	665		
800	600	Constant Torque ECM	1	RPM	817	865					915	973				
				Power (W)	116	122	128	135								
				CFM	755	728	695	653								
			2	RPM	877	920	966	1012	1070	1142	1198					
				Power (W)	146	152	159	166	174	185	193					
				CFM	836	810	782	750	708	657	616					
			3	RPM	938	974	1017	1057	1102	1158	1227	1283	1323	1355		
				Power (W)	181	187	194	201	209	218	230	239	246	252		
				CFM	910	887	861	834	804	762	714	674	642	619		
			4	RPM	1015	1048	1084	1121	1159	1199	1244	1309	1369	1412		
				Power (W)	232	240	247	254	262	270	278	291	303	312		
				CFM	996	975	952	929	904	876	845	798	755	725		
			5	RPM					1219	1255	1293	1331	1384	1446		
				Power (W)							323	331	340	348	361	374
				CFM											999	975
800	600	Constant Volume ECM	Minimum CFM	RPM	706	788	867	941	1013	1080					1143	1203
				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	RPM	882	943	1002	1059	1114	1168	1220	1271	1319	1366		
				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	RPM	1077	1122	1162	1200	1233	1263	1288	1310	1329	1343		
				Power (W)	284	300	315	332	351	364	379	396	412	428		
				CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR030

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
1000	750	PSC	Low	CFM	1017	979	931	884	827	751						
			Medium	CFM	1140	1093	1036	988	922	846						
			High	CFM				1102	1045	979						903
Low	CFM	979	941	912				865	798							
1000	750	PSC - High Static	Medium	CFM				1074	979					884	779	
			High	CFM										1102	988	874
			1000	750	Constant Torque ECM	1	RPM				880	925	994	1049	1101	
Power (W)	158	165					176	184	192							
CFM	904	873					832	796	763							
2	RPM	956				998	1038	1105	1156	1203	1248	1295	1344			
	Power (W)	211				219	227	240	250	258	267	276	285			
	CFM	1020				992	965	927	894	864	835	805	771			
3	RPM	1034				1072	1110	1145	1209	1250	1303	1346	1387	1422		
	Power (W)	280				289	298	306	321	330	342	351	361	368		
	CFM	1139				1113	1089	1064	1027	999	966	937	910	879		
4	RPM	1095				1130	1166	1201	1237	1299	1337	1387	1428	1465		
	Power (W)	336				346	355	364	374	389	399	413	423	430		
	CFM	1216				1193	1168	1146	1123	1086	1062	1028	1002	975		
5	RPM					1268	1301	1333	1394	1426	1473	1491				
	Power (W)					452	462	471	490	499	508	478				
	CFM					1250	1229	1208	1173	1151	1112	1036				
1000	750	Constant Volume ECM	Minimum CFM	RPM	872	928	990	1046	1096	1143	1192	1238	1282	1327		
				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	RPM	1131	1177	1218	1252	1295	1337	1381	1415				
				Power (W)	251	274	296	315	337	362	387	407				
				CFM	1000	1000	1000	1000	1000	1000	1000	1000				
			Maximum CFM	RPM	1260	1299	1334	1373	1403							
				Power (W)	388	410	431	453	471							
				CFM	1150	1150	1150	1150	1150							

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR036

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
1150	900	PSC	Low	CFM	970	960	951	941	902							
			Medium	CFM	1106	1096	1086	1067	1009						912	
			High	CFM	1436	1387	1329	1280	1174						1077	931
1150	900	PSC - High Static	Low	CFM	980	970	960	931	902							
			Medium	CFM	1300	1280	1261	1222	1193						1116	1038
			High	CFM				1484	1426						1358	1251
1150	900	Constant Torque ECM	1	RPM				842	891	945						
				Power (W)				166	175	184						
				CFM	974	941	904									
			2	RPM	936	983	1028	1075	1125	1167	1203	1241				
				Power (W)	241	251	261	272	282	292	299	307				
				CFM	1132	1103	1074	1041	1005	973	944	916				
			3	RPM	988	1032	1076	1117	1160	1205	1246	1282	1315	1354		
				Power (W)	294	304	316	326	337	349	359	367	375	385		
				CFM	1271	1242	1214	1185	1153	1118	1083	1056	1029	999		
4	RPM	1056	1090	1130	1170	1208	1250	1292	1332	1370	1403					
	Power (W)	376	387	399	409	421	433	446	457	468	478					
	CFM	1403	1377	1351	1324	1295	1268	1233	1201	1169	1143					
5	RPM			1193	1228	1265	1295	1323	1358	1392	1419					
	Power (W)			499	510	523	524	521	519	516	514					
	CFM			1485	1460	1434	1396	1347	1295	1240	1194					
1150	900	Constant Volume ECM	Minimum CFM	RPM	682	788	898	976	1043	1107	1170	1230	1297	1371		
				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	RPM	830	895	961	1054	1145	1209	1267	1321	1371	1419		
				Power (W)	205	232	261	303	349	382	415	446	475	505		
				CFM	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150		
			Maximum CFM	RPM	1042	1040	1095	1149	1199	1273	1355	1420	1459	1493		
				Power (W)	406	403	438	474	511	564	629	680	692	691		
				CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500		

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR042

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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								
1400	1050	PSC	Low	CFM	1074	1064															
			Medium	CFM	1368	1321												1273	1207	1131	1064
			High	CFM	1501	1444												1378	1302	1226	1131
1400	1050	PSC - High Static	Low	CFM																	
			Medium	CFM												1302	1283	1254	1235	1188	1121
			High	CFM														1473	1444	1397	1378
1400	1050	Constant Torque ECM	1	RPM	916	957	1004	1065													
				Power (W)	238	248	259	272													
				CFM	1186	1152	1113	1056													
			2	RPM	1013	1050	1084	1128	1179	1227	1279	1317	1356	1400							
				Power (W)	331	369	352	365	381	396	411	423	437	446							
				CFM	1345	1317	1283	1251	1215	1181	1150	1124	1094	1050							
			3	RPM	1108	1142	1178	1207	1247	1293	1336	1382	1426	1462							
				Power (W)	448	461	474	486	501	518	534	551	568	581							
				CFM	1507	1482	1455	1427	1396	1365	1331	1296	1276	1246							
			4	RPM	1200	1231	1263	1292	1321	1356	1397	1440	1479	1505							
				Power (W)	582	595	609	622	635	651	669	688	706	681							
				CFM	1641	1623	1601	1577	1548	1519	1488	1455	1423	1355							
			5	RPM			1317	1372	1392	1412	1436	1469	1500	1504							
				Power (W)			756	775	776	774	772	768	765	679							
				CFM			1743	1717	1688	1645	1596	1541	1490	1352							
1400	1050	Constant Volume ECM	Minimum CFM	RPM	786	855	920	985	1059	1125	1186	1240	1292	1346							
				Power (W)	154	177	200	224	252	280	306	331	355	383							
				CFM	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050							
			Default CFM	RPM	997	1042	1094	1145	1193	1241	1292	1345	1400	1451							
				Power (W)	334	359	390	421	453	484	517	555	595	636							
				CFM	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400							
			Maximum CFM	RPM	1224	1245	1282	1305	1327												
				Power (W)	658	674	703	700	697												
				CFM	1750	1750	1750	1750	1750												

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR048

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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				
1600	1200	PSC	Low	CFM	1644	1606	1568	1492	1378	1264							
			Medium	CFM	1805	1767	1682	1625	1520	1340							
			High	CFM		1881	1815	1710	1596	1416						1216	1216
1600	1200	PSC - High Static	Low	CFM	1748	1720	1691	1644	1587	1520	1435	1311					
			Medium	CFM	1938	1891	1843	1796	1739	1691	1625	1539				1416	1254
			High	CFM				1957	1910	1862	1786	1701				1577	1435
1500	1200	Constant Torque ECM	1	RPM	767	811	848	886	935								
				Power (W)	225	237	247	257	270								
				CFM	1397	1349	1304	1259	1202								
			2	RPM	826	869	905	940	979	1026	1073						
				Power (W)	287	300	312	322	334	349	363						
				CFM	1527	1484	1441	1398	1351	1294	1240						
			3	RPM	881	925	960	993	1027	1064	1108	1150	1214				
				Power (W)	358	374	387	398	410	423	439	454	473				
				CFM	1660	1619	1577	1537	1494	1452	1399	1349	1254				
			4	RPM	959	997	1034	1064	1093	1124	1157	1195	1206				
				Power (W)	474	491	507	521	533	546	560	576	511				
				CFM	1837	1795	1760	1722	1685	1647	1608	1560	1382				
			5	RPM			1078	1113	1145	1174	1200	1213	1200				
				Power (W)			649	667	684	698	714	695	588				
				CFM			1993	1956	1919	1886	1854	1784	1588				
1500	1200	Constant Volume ECM	Minimum CFM	RPM	703	766	827	886	943	998	1051	1102	1150	1196			
				Power (W)	174	205	237	269	302	336	371	407	444	482			
				CFM	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200		
			Default CFM	RPM	833	884	932	986	1043	1089	1137	1191	1242	1293			
				Power (W)	287	329	369	412	455	495	536	578	620	662			
				CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500			1500
			Maximum CFM	RPM	993	1038	1082	1129	1178	1220	1264	1311	1357	1402			
				Power (W)	562	616	669	724	781	832	885	940	994	1048			
				CFM	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			1900

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR060

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
1950	1500	PSC	Low	CFM	1803	1774	1744	1695	1637	1568						
			Medium	CFM	1999	1950	1901	1852	1793	1744					1676	1588
			High	CFM		1881	1815	1710	1596	1416					1216	1216
1950	1500	PSC - High Static	Low	CFM	1882	1872	1852	1842	1813	1793	1764	1715	1666	1588		
			Medium	CFM	2107	2097	2038	1999	1980	1940	1891	1842	1460	1715		
			High	CFM	2342	2323	2293	2254	2195	2156	2087	2019	1940	1852		
1950	1500	Constant Torque ECM	1	RPM	768	797	830	863								
				Power (W)	342	354	366	380								
				CFM	1685	1640	1593	1545								
			2	RPM	836	867	895	922	955	989	1020	1048	1081			
				Power (W)	460	476	489	501	518	533	548	561	577			
				CFM	1879	1833	1795	1754	1705	1657	1608	1563	1514			
			3	RPM	923	953	974	1000	1025	1052	1079	1109	1137			
				Power (W)	648	666	678	694	708	724	740	757	773			
				CFM	2113	2069	2039	1998	1963	1925	1885	1840	1795			
			4	RPM	972	994	1020	1041	1066	1090	1114	1144	1170			
				Power (W)	771	785	803	817	832	848	864	883	900			
				CFM	2235	2198	2163	2130	2094	2061	2019	1977	1939			
			5	RPM	1003	1025	1050	1074	1099	1122	1147	1166	1194	1209		
				Power (W)	866	881	899	916	934	951	970	977	973	969		
				CFM	2322	2290	2253	2219	2188	2152	2120	2083	2013	1940		
1950	1500	Constant Volume ECM	Minimum CFM	RPM	705	773	836	894	949	998	1044	1085	1121	1153		
				Power (W)	246	301	354	405	453	500	544	587	627	665		
				CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500		
			Default CFM	RPM	852	899	949	992	1031	1085	1136	1179	1225	1272		
				Power (W)	501	562	629	683	731	804	871	926	986	1047		
				CFM	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950		
			Maximum CFM	RPM	995	1020	1044	1069	1094							
				Power (W)	885	896	901	916	937							
				CFM	2200	2200	2200	2200	2200							

See ECM control section for details on setting airflow.
 Airflow is controlled within 5% up to the Max ESP shown with wet coil.
 Do not select Dehumidification mode if HP CFM is on setting 1.
 ClimaDry is factory wired to operate in stage 2 airflow.
 Black areas denote ESP where operation is not recommended.
 PSC: Units factory shipped on medium speed. Other speeds require field selection.
 CT ECM: Units factory shipped on Speed Tap 2 for Fan-Only and Speed Tap 3 for Heating/Cooling.
 All airflow is rated and shown above at the lower voltage if unit is dual voltage rated, e.g. 208V for 208-230V units.
 Only two speed fan (H & M) available on 575V units.
 Performance stated is at the rated power supply. Performance may vary as the power supply varies from the rated.
 All data is shown wet coil with clean 1" filter.
 All data is ran at 80 °F DB and 67 °F WB.
 CFM Tolerance is 7%.
 RPM/Watt Tolerance 10%.

All TR units with optional CV ECM fan motor automatically adjusts for the reheat coil. The small additional pressure drop of the reheat coil causes the CV ECM motor to slightly increase RPM to overcome the added pressure drop, and maintain selected CFM up to the maximum ESP.

Blower Performance Data – TR024 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
850	600	PSC	Low	CFM	742	724	698	670	630						
			Medium	CFM	896	862	826	784	735	676					
			High	CFM			917	865	811	737	670				
850	600	PSC - High Static	Low	CFM	948	909	865	814	752	686					
			Medium	CFM			946	891	820	724					
			High	CFM				934	867	785	684				
800	600	Constant Torque ECM	1	CFM	730	699	662								
			2	CFM	806	780	750	713	666	626					
			3	CFM	877	854	828	798	761	718	680	649	625		
			4	CFM	960	939	916	893	866	834	793	755	727		
			5	CFM				980	959	935	905	869			
800	600	Constant Volume ECM	Minimum CFM	CFM	600	600	600	600	600	600	600	600	600		
			Default CFM	CFM	800	800	800	800	800	800	800	800	800	800	
			Maximum CFM	CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR030 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1000	750	PSC	Low	CFM	948	868	865	814	752						
			Medium	CFM	1029	993	946	891							
			High	CFM	1073	1033	988	934	867						
1000	750	PSC - High Static	Low	CFM	926	892	847								
			Medium	CFM		1047	991	925	853						
			High	CFM			1056	996	923	844					
1000	750	Constant Torque ECM	1	CFM	860	825	792								
			2	CFM	972	942	911	882	856	829	800				
			3	CFM	1076	1052	1023	1000	974	948	923	896			
			4	CFM	1142	1123	1096	1074	1051	1025	1002	981			
			5	CFM	1228	1210	1185	1163	1143	1115	1072				
1000	750	Constant Volume ECM	Minimum CFM	CFM	750	750	750	750	750	750	750	750	750	750	
			Default CFM	CFM	1000	1000	1000	1000	1000	1000	1000				
			Maximum CFM	CFM	1150	1150	1150	1150							

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR036 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1150	900	PSC	Low	CFM	964	955	945	919							
			Medium	CFM	1099	1089	1073	1030	952						
			High	CFM	1378.83	1327	1283	1193	1105	988					
1150	900	PSC - High Static	Low	CFM	974	964	943	915							
			Medium	CFM	1281	1263	1228	1198	1136	1064					
			High	CFM			1462	1412	1349	1261	1161	1006			
1150	900	Constant Torque ECM	1	CFM	955	920									
			2	CFM	1111	1083	1053	1019	986	956	928				
			3	CFM	1246	1218	1190	1160	1128	1094	1065				
			4	CFM	1374	1349	1323	1296	1274	1244	1211	1179			
			5	CFM		1475	1452	1425	1388	1343	1297	1247	1202		
1150	900	Constant Torque ECM	Minimum CFM	CFM	900	900	900	900	900						
			Default CFM	CFM	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	
			Maximum CFM	CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500		

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR042 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1400	1050	PSC	Low	CFM	1067										
			Medium	CFM	1320	1277	1217	1149	1085						
			High	CFM	1427.92	1369	1303	1236	1153						
1400	1050	PSC - High Static	Low	CFM											
			Medium	CFM	1284	1257	1237	1197	1138						
			High	CFM	1458	1417	1387	1350	1282	1196					
1400	1050	Constant Torque ECM	1	CFM	1160	1124	1075								
			2	CFM	1317	1285	1254	1220	1188	1157	1131	1103	1065		
			3	CFM	1471	1447	1420	1391	1362	1330	1297	1277	1249		
			4	CFM	1600	1579	1554	1528	1502	1475	1446	1409			
			5	CFM		1697	1668	1633	1595	1552	1510	1441			
1400	1050	Constant Volume ECM	Minimum CFM	CFM			1050	1050	1050						
			Default CFM	CFM	1400	1400	1400	1400	1400	1400	1400	1400	1400		
			Maximum CFM	CFM	1750	1750									

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR048 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1600	1200	PSC	Low	CFM	1622	1585	1529	1438	1329						
			Medium	CFM	1775	1709	1648	1568	1434						
			High	CFM		1825	1739	1641	1505	1329	1216				
1600	1200	PSC - High Static	Low	CFM	1728	1701	1662	1612	1551	1478	1379				
			Medium	CFM	1892	1848	1804	1753	1706	1651	1578	1479	1345		
			High	CFM			1948	1908	1866	1800	1726	1627	1505		
1500	1200	Constant Torque ECM	1	CFM	1376	1329	1285	1235							
			2	CFM	1505	1464	1422	1377	1326	1271					
			3	CFM	1636	1595	1555	1515	1473	1427	1377	1308			
			4	CFM	1803	1768	1733	1697	1662	1624	1581	1472			
			5	CFM		1948	1917	1888	1857	1797	1658				
1500	1200	Constant Torque ECM	Minimum CFM	CFM				1200	1200	1200	1200	1200	1200	1200	
			Default CFM	CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	
			Maximum CFM	CFM	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR060 with ClimaDry® II

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1950	1500	PSC	Low	CFM	1780	1752	1711	1659	1598						
			Medium	CFM	1941	1901	1857	1804	1756	1699	1624				
			High	CFM		1824.71	1739	1641	1505	1329	1216				
1950	1500	PSC - High Static	Low	CFM	1873	1854	1843	1818	1797	1771	1729	1683	1621		
			Medium	CFM	2059	2019	1992	1969	1933	1892	1847	1602	1587		
			High	CFM	2265	2225	2185	2151	2099	2046	1990	1928			
1950	1500	Constant Torque ECM	1	CFM	1658	1613	1567								
			2	CFM	1839	1802	1764	1720	1675	1629	1583	1537			
			3	CFM	2050	2019	1986	1955	1921	1887	1851	1809			
			4	CFM	2159	2131	2100	2071	2037	2001	1966				
			5	CFM	2235	2207	2179	2150	2123	2091	2042	1987			
1950	1500	Constant Torque ECM	Minimum CFM	CFM			1500	1500	1500	1500	1500	1500			
			Default CFM	CFM	1950	1950	1950	1950	1950	1950	1950	1950	1950		
			Maximum CFM	CFM	2200	2200	2200	2200							

Interpolation is permissible; extrapolation is not.

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.

See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 006

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
225	150	Constant Torque ECM	1	RPM	1019	1081	1165	1240	1322						
				Power (W)	30	33	35	37	40						
				CFM	228	211	190	168	158						
			2	RPM			1265	1336	1418	1475	1545	1616	1686		
				Power (W)			45	48	50	53	55	58	60		
				CFM			241	228	211	191	179	167	159		
			3	RPM					1381	1454	1522	1583	1646	1715	1782
				Power (W)					57	60	61	64	66	68	70
				CFM					247	235	220	202	190	180	169
			4	RPM							1559	1624	1683	1741	1806
				Power (W)							71	74	76	78	80
				CFM							244	232	220	210	195
225	150	Constant Volume ECM	Minimum CFM	RPM	926	1027	1124	1231	1343	1434	1531	1638	1740	1841	
				Power (W)	20	25	30	35	40	45	50	55	60	65	
				CFM	150	150	150	150	150	150	150	150	150	150	
			Default CFM	RPM	1029	1137	1248	1353	1456	1569	1680	1785	1893	2001	
				Power (W)	40	45	50	55	60	65	70	75	80	85	
				CFM	225	225	225	225	225	225	225	225	225	225	
			Maximum CFM	RPM	1084	1185	1285	1386	1487	1587	1687	1788	1888	1989	
				Power (W)	33	41	50	56	60	71	80	86	93	101	
				CFM	250	250	250	250	250	250	250	250	250	250	

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 009

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
325	225	Constant Torque ECM	1	RPM	1199	1256	1310	1373	1452						
				Power (W)	50	53	55	57	60						
				CFM	283	269	255	243	229						
			2	RPM	1325	1374	1431	1477	1541	1605	1670	1730	1783		
				Power (W)	60	63	65	67	70	71	74	76	78		
				CFM	332	314	298	286	276	263	251	239	228		
			3	RPM	1461	1505	1553	1600	1645	1699	1746	1804	1823	1843	
				Power (W)	80	83	85	88	90	93	95	98	100	103	
				CFM	374	358	348	338	328	321	302	287	256	223	
			4	RPM						1819	1834	1822	1827	1849	
				Power (W)						130	120	110	100	90	
				CFM						372	353	300	265	231	
325	225	Constant Volume ECM	Minimum CFM	RPM	976	1080	1182	1290	1401	1499	1601	1709	1814	1918	
				Power (W)	33	41	50	56	60	71	80	86	93	101	
				CFM	225	225	225	225	225	225	225	225	225	225	225
			Default CFM	RPM			1684	1714	1753	1754	1765	1795			
				Power (W)			110	109	110	104	100	99			
				CFM			325	325	325	325	325	325			
			Maximum CFM	RPM					1757	1766	1774	1783			
				Power (W)					120	108	100	98			
				CFM					375	375	375	375			

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 012

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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	
400	300	Constant Torque ECM	1	RPM	1402	1449	1492	1539	1597					
				Power (W)	70	73	75	78	80					
				CFM	348	335	325	311	299					
			2	RPM	1524	1570	1604	1649	1690	1737	1794			
				Power (W)	90	93	97	100	103	107	110			
				CFM	377	374	365	354	345	335	317			
			3	RPM	1727	1765	1790	1794	1796	1802	1807			
				Power (W)	130	128	124	121	120	115	110			
				CFM	435	427	416	397	376	351	320			
			4	RPM	1760	1780	1784	1786	1796	1798	1816			
				Power (W)	140	137	132	130	122	117	110			
				CFM	445	432	416	391	376	354	324			
400	300	Constant Volume ECM	Minimum CFM	RPM	1318	1404	1487	1576	1667	1748	1831	1920	2006	2092
				Power (W)	50	60	70	80	90	100	110	120	130	140
				CFM	300	300	300	300	300	300	300	300	300	300
			Default CFM	RPM	1648	1716	1787	1852	1913	1988	2059	2124	2192	2260
				Power (W)	97	109	120	134	150	159	170	184	197	209
				CFM	400	400	400	400	400	400	400	400	400	400
			Maximum CFM	RPM	2023	2028	2032	2038	2045	2048	2052	2058	2063	2068
				Power (W)	200	195	190	185	180	175	170	165	160	155
				CFM	450	450	450	450	450	450	450	450	450	450

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 015

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
525	375	Constant Torque ECM	1	RPM		838	902	974	1055	1126						
				Power (W)		83	90	96	103	110						
				CFM		589	549	505	452	393						
			2	RPM			935	996	1070	1146	1210	1266				
				Power (W)			107	110	118	126	132	137				
				CFM			618	561	517	460	411	371				
			3	RPM					1016	1081	1150	1233	1291	1338		
				Power (W)					125	132	141	149	155	159		
				CFM					615	576	529	471	428	386		
			4	RPM								1163	1241	1316	1365	1413
				Power (W)								160	169	177	184	189
				CFM								602	557	493	454	417
			5	RPM									1252	1317	1391	1438
				Power (W)									191	198	208	215
				CFM									626	577	519	480
525	375	Constant Volume ECM	Minimum CFM	RPM	723	793	813	934	1004	1074	1161					
				Power (W)	27	44	62	80	97	115	133					
				CFM	375	375	375	375	375	375	375					
			Default CFM	RPM	756	830	872	976	1049	1123	1207	1269	1343			
				Power (W)	53	76	99	121	143	166	189	211	234			
				CFM	525	525	525	525	525	525	525	525	525			
			Maximum CFM	RPM	777	851	924	1000	1078	1149	1221	1298	1372	1446		
				Power (W)	84	107	131	154	176	200	224	247	270	293		
				CFM	625	625	625	625	625	625	625	625	625	625		

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 018

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
600	450	Constant Torque ECM	1	RPM	774	842	914	1002	1101							
				Power (W)	87	93	100	110	120							
				CFM	659	634	600	557	505							
			2	RPM	823	873	942	1017	1100	1209	1267	1318				
				Power (W)	104	110	118	127	136	149	155	161				
				CFM	707	691	658	622	580	515	464	426				
			3	RPM	866	905	975	1038	1111	1191	1299	1354	1397			
				Power (W)	124	129	138	146	156	166	180	188	192			
				CFM	754	749	715	685	648	608	542	496	456			
			4	RPM				1070	1133	1201	1277	1378	1443	1487		
				Power (W)				174	184	194	205	220	230	236		
				CFM				756	726	691	653	597	543	507		
			5	RPM							1288	1359	1442	1532		
				Power (W)							236	248	262	276		
				CFM							737	702	659	593		
600	450	Constant Volume ECM	Minimum CFM	RPM	682	772	860	950	1041	1128	1216	1306	1395	1484		
				Power (W)	46	69	93	115	136	161	185	207	230	253		
				CFM	450	450	450	450	450	450	450	450	450	450		
			Default CFM	RPM	752	829	904	982	1062	1136	1211	1289	1366	1442		
				Power (W)	75	99	122	145	167	191	215	238	261	284		
				CFM	600	600	600	600	600	600	600	600	600	600		
			Maximum CFM	RPM	831	902	967	1042	1123	1183	1248	1323	1394	1464		
				Power (W)	123	150	177	205	234	260	287	315	342	370		
				CFM	750	750	750	750	750	750	750	750	750	750		

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 024

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
800	600	Constant Torque ECM	1	RPM	816	871	928	988	1045	1119					
				Power (W)	125	133	141	149	157	168					
				CFM	787	756	723	686	649	604					
			2	RPM	875	925	974	1030	1084	1137	1196	1271	1315		
				Power (W)	160	168	177	186	195	204	214	227	235		
				CFM	876	848	819	787	753	720	684	634	603		
			3	RPM	934	979	1026	1070	1124	1174	1224	1275	1339		
				Power (W)	200	209	218	226	237	247	257	267	280	293	
				CFM	962	936	909	883	851	820	789	755	715	676	
			4	RPM			1083	1127	1167	1218	1263	1309	1355	1405	
				Power (W)			270	280	289	301	311	322	333	345	
				CFM			1004	980	954	925	896	867	838	807	
			5	RPM							1314	1357	1399	1444	
				Power (W)							380	391	403	416	
				CFM							1004	977	950	923	
800	600	Constant Volume ECM	Minimum CFM	RPM	766	833	899	967	1037	1101	1167	1235	1302	1369	
				Power (W)	80	99	118	136	154	174	193	211	229	248	
				CFM	600	600	600	600	600	600	600	600	600	600	
			Default CFM	RPM	890	950	1006	1071	1141	1192	1247	1312	1372	1433	
				Power (W)	148	172	194	218	244	265	287	312	335	359	
				CFM	800	800	800	800	800	800	800	800	800	800	
			Maximum CFM	RPM	1034	1088	1144	1195	1244	1302	1358	1409	1463	1516	
				Power (W)	256	285	316	343	368	401	432	459	488	517	
				CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 030

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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		
1000	750	Constant Torque ECM	1	RPM	886	927	965	994	1040	1071	1101				
				Power (W)	205	214	222	229	239	246	252				
				CFM	916	886	857	837	799	772	749				
			2	RPM	969	1009	1045	1077	1109	1139	1168	1214	1234	1267	
				Power (W)	277	287	297	306	314	322	330	342	348	357	
				CFM	1030	1004	977	951	929	907	883	838	828	807	
			3	RPM	1058	1097	1131	1162	1192	1221	1249	1281	1322	1330	
				Power (W)	369	382	393	404	414	423	432	443	456	460	
				CFM	1147	1123	1098	1075	1052	1030	1012	986	947	949	
			4	RPM		1180	1213	1243	1272	1300	1326	1352	1377	1400	
				Power (W)		494	507	518	530	541	551	561	571	580	
				CFM		1244	1219	1198	1176	1152	1134	1116	1098	1082	
			5	RPM									1434	1458	1477
				Power (W)									711	722	723
				CFM									1246	1228	1200
1000	750	Constant Volume ECM	Minimum CFM	RPM	841	892	942	994	1048	1096	1146	1198	1249	1300	
				Power (W)	160	184	208	232	256	280	304	328	352	375	
				CFM	750	750	750	750	750	750	750	750	750	750	
			Default CFM	RPM	1027	1070	1112	1156	1202	1243	1285	1330	1373	1416	
				Power (W)	324	354	383	413	443	472	502	532	561	591	
				CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
			Maximum CFM	RPM	1211	1245	1271	1312	1361	1379	1405				
				Power (W)	604	626	635	671	720	716	725				
				CFM	1250	1250	1250	1250	1250	1250	1250				

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 036

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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							
1150	900	Constant Torque ECM	1	RPM	791	831	872	912	954											
				Power (W)	180	189	198	206	215											
				CFM	1032	1003	970	938	903											
			2	RPM	838	875	912	950	990	1033	1071									
				Power (W)	218	227	236	246	255	265	275									
				CFM	1116	1089	1062	1031	997	963	930									
			3	RPM	902	937	971	1006	1041	1076	1111	1150	1193	1249						
				Power (W)	280	290	300	310	320	330	340	351	364	380						
				CFM	1229	1206	1180	1153	1125	1095	1068	1036	1001	944						
			4	RPM	993	1026	1057	1088	1119	1152	1184	1214	1247	1283						
				Power (W)	391	402	414	425	436	448	459	470	482	496						
				CFM	1398	1374	1354	1329	1304	1278	1252	1226	1201	1172						
			5	RPM	1046	1079	1107	1139	1170	1186	1226	1258	1287	1318						
				Power (W)	474	487	498	511	530	527	544	557	570	584						
				CFM	1503	1480	1458	1438	1428	1388	1361	1338	1313	1290						
1150	900	Constant Volume ECM	Minimum CFM	RPM	728	784	838	895	953	1006	1060	1117								
				Power (W)	126	148	171	193	215	238	261	284								
				CFM	900	900	900	900	900	900	900	900								
			Default CFM	RPM	883	931	976	1026	1077	1120	1166	1215	1263	1310						
				Power (W)	253	283	311	341	372	400	429	459	489	518						
				CFM	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150						
			Maximum CFM	RPM	1023	1065	1107	1150	1194											
				Power (W)	446	485	524	563	601											
				CFM	1500	1500	1500	1500	1500											

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 042

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
1400	1050	Constant Torque ECM	1	RPM	883	918	954	992	1030							
				Power (W)	248	257	266	277	287							
				CFM	1189	1156	1126	1089	1053							
			2	RPM	970	1001	1033	1065	1097	1130	1168	1207	1245			
				Power (W)	338	349	359	370	380	391	403	417	429			
				CFM	1348	1320	1290	1259	1227	1195	1163	1124	1087			
			3	RPM	1068	1098	1126	1153	1182	1211	1240	1271	1302	1340		
				Power (W)	465	479	490	502	513	525	537	550	562	578		
				CFM	1513	1485	1460	1432	1405	1375	1349	1319	1287	1254		
			4	RPM	1160	1185	1213	1237	1262	1289	1314	1340	1367	1395		
				Power (W)	611	625	638	649	661	675	688	700	714	728		
				CFM	1679	1655	1628	1604	1577	1553	1529	1503	1476	1450		
			5	RPM			1271	1292	1309	1327	1346	1364	1385	1405		
				Power (W)			753	761	759	757	756	754	753	751		
				CFM			1736	1709	1672	1634	1595	1558	1514	1472		
1400	1050	Constant Volume ECM	Minimum CFM	RPM	816	870	921	976	1034							
				Power (W)	176	204	232	260	288							
				CFM	1050	1050	1050	1050	1050							
			Default CFM	RPM	986	1032	1077	1125	1173	1217	1262	1309	1356	1402		
				Power (W)	360	397	434	471	508	545	582	619	656	693		
				CFM	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400		
			Maximum CFM	RPM			1265	1284								
				Power (W)			778	776								
				CFM			1750	1750								

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 048

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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	
1500	1200	Constant Torque ECM	1	RPM	731	770	807	840						
				Power (W)	251	263	275	285						
				CFM	1396	1328	1262	1206						
			2	RPM	798	833	867	900	931	963	1000			
				Power (W)	340	354	366	378	389	401	415			
				CFM	1576	1517	1449	1393	1343	1291	1235			
			3	RPM	864	902	935	965	995	1024	1054	1085	1121	1183
				Power (W)	458	476	491	505	519	533	547	561	578	608
				CFM	1767	1715	1655	1599	1546	1497	1449	1400	1345	1259
			4	RPM	927	956	986	1016	1044	1084	1112	1138	1166	1194
				Power (W)	598	615	632	649	666	682	698	713	729	747
				CFM	1980	1928	1877	1824	1772	1697	1651	1609	1565	1521
			5	RPM					1103	1129	1155	1181	1207	1232
				Power (W)					831	848	866	885	904	921
				CFM					1963	1916	1872	1830	1791	1755
1500	1200	Constant Volume ECM	Minimum CFM	RPM	724	774	824	875	928	977	1026	1078	1129	1179
				Power (W)	192	231	272	310	348	389	429	468	508	547
				CFM	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
			Default CFM	RPM	883	925	965	1008	1052	1091	1131	1174	1216	1257
				Power (W)	408	453	498	544	589	634	679	725	770	815
				CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
			Maximum CFM	RPM	993	1031	1068	1109	1151	1187	1224	1264	1303	1342
				Power (W)	625	678	730	786	843	893	945	1000	1054	1108
				CFM	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

Blower Performance Data – TR Hybrid 060

Rated CFM	Min CFM	Motor Type	Motor Speed Setting	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			
1950	1500	Constant Torque ECM	1	RPM	856	886	916	946	978							
				Power (W)	448	462	476	490	505							
				CFM	1739	1693	1646	1595	1546							
			2	RPM	943	969	997	1026	1054	1081	1110	1140	1170	1199		
				Power (W)	622	637	654	670	687	702	719	736	753	770		
				CFM	1954	1915	1872	1828	1780	1736	1692	1648	1604	1562		
			3	RPM	1029	1053	1079	1106	1133	1159	1185	1210	1230	1250		
				Power (W)	833	850	868	887	906	925	943	960	957	953		
				CFM	2166	2126	2087	2045	2000	1954	1914	1872	1814	1755		
			4	RPM	1049	1073	1099	1125	1149	1169	1189	1208	1228	1248		
				Power (W)	897	915	934	952	963	959	955	952	948	946		
				CFM	2224	2186	2145	2107	2055	1988	1926	1864	1804	1745		
			5	RPM												
				Power (W)												
				CFM												
1950	1500	Constant Volume ECM	Minimum CFM	RPM	814	862	908	956	1006	1051	1097	1145	1192	1240		
				Power (W)	324	376	428	479	530	582	634	685	736	788		
				CFM	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500		
			Default CFM	RPM	1046	1072	1093	1123	1158	1175	1196					
				Power (W)	854	872	874	908	956	943	945					
				CFM	1950	1950	1950	1950	1950	1950	1950					
			Maximum CFM	RPM	1078	1097	1116									
				Power (W)	955	950	946									
				CFM	2200	2200	2200									

Interpolation is permissible; extrapolation is not.
 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.
 See performance correction tables for operating conditions other than those listed above.

ClimaDry® II – General Information

ClimaDry® II Modulating Reheat Option

ClimateMaster's patented ClimaDry® II Dehumidification option is an innovative means of providing modulating reheat without the complication of refrigeration controls. ClimaDry II is hot gas generated reheat, which utilizes one of the biggest advantages of a Water-Source Heat Pump (WSHP), the transfer of energy through the water piping system. ClimaDry II simply diverts condenser water through a water-to-air coil that is placed after the evaporator coil. If condenser water is not warm enough, the internal "run-around" loop increases the water temperature with each pass through the condenser coil (see Figure 1, below).

ClimaDry® II Benefits

ClimaDry II is like no other reheat option on the market. Proportional reheat is controlled to the desired leaving air temperature set point (factory set point of 69°F, 20.5°C), no matter what the water loop temperature is. Since dehumidification operation will occur under less than full load cooling conditions a good percentage of the time, it is important to have a reheat function that provides 100% reheat in the spring and fall when the water loop is cool. Supply air temperature is field adjustable to +/- 3°F [+/- 1.7°C] for even greater flexibility with the optional potentiometer. It is recommended that the ClimaDry II supply air temperature be set to match the space cooling setpoint so that ClimaDry II does not impact room temperature. Competitors without ClimaDry II typically use an on/off (non-modulating) refrigeration based reheat circuit, typically referred to as "Hot gas reheat" (HGR). HGR needs higher condensing temperatures to work well, typically

85°F [29°C] entering water temperature (EWT). With HGR, cooler water temperatures produce cooler supply air temperatures, which could over cool the space, requiring additional space heating from another source or a special auto-change-over relay to allow the unit to switch back and forth between reheat and heating. Rarely does HGR provide 100% reheat, like ClimaDry II. ClimaDry II has a simple and easy to troubleshoot refrigerant circuit. No switching valves or hard to diagnose leaky check valves are utilized. No unusual refrigerant pressures occur during the reheat mode. The ClimaDry II refrigerant circuit is like every other ClimateMaster unit (without reheat), so everything the technician already knows applies to troubleshooting the ClimaDry II refrigeration circuit. Plus, the water loop portion of the ClimaDry II option is easy to understand and diagnose.

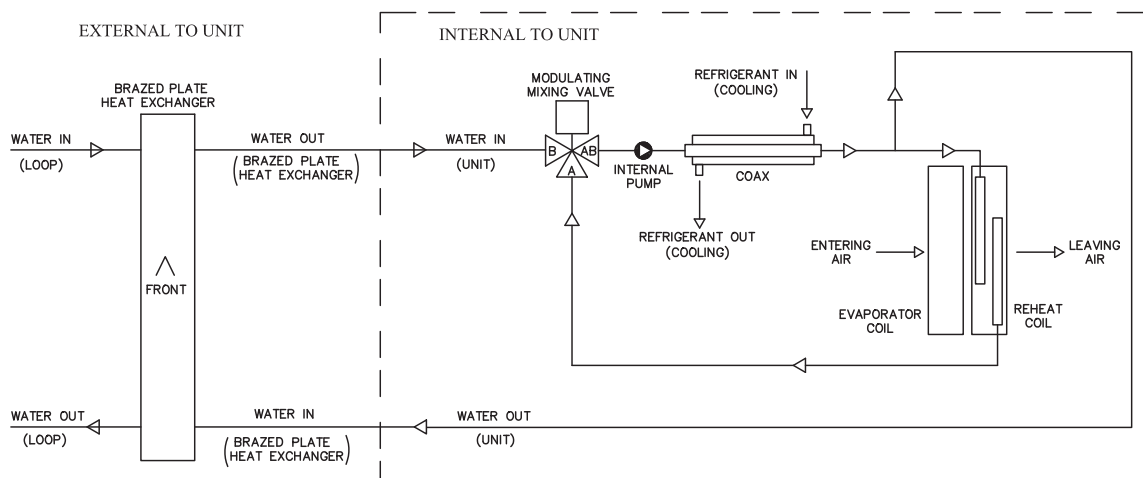
ClimaDry® II Applications

ClimaDry II can be applied to a number of common applications, such as:

- Classrooms
- Condominiums
- Apartments
- Computer rooms
- Spaces with high latent loads like auditoriums, theaters, convention centers, etc.
- Most applications where humidity is a problem

(Note: ClimaDry II is not for use in high fraction outdoor air applications or in applications with corrosive atmospheres, such as pool rooms.)

Figure 1: ClimaDry® II Schematic



NOTE:
Braze plate heat exchanger is used when connecting to a loop with no antifreeze.

ClimaDry® II – General Information, Cont'd.

With the ClimaDry II option, return air from the space is cooled by the air-to-refrigerant (evaporator) coil, and then reheated by the water-to-air (reheat) coil to dehumidify the air, but maintain the constant space temperature (thus operating as a dehumidifier).

The moisture removal capability of the heat pump is determined by the unit's latent capacity rating. Latent capacity equals Total capacity minus Sensible capacity. Using unit performance data from submittals (<http://www.climatemaster.com>) select the correct model, use your maximum entering water temperature (EWT) and flow rate to select TC and SC. For example, at 80°F [26.7°C] EWT and 6.8 GPM, the moisture removal capability (latent capacity) of a ClimateMaster TR036 is 10.1 Mbtuh [3.0kW] as shown below.

Dividing the latent capacity by 1,069 BTU/LB of water vapor at 80°F DB and 67°F WB [26.7°C DB and 19.4°C WB] moist air enthalpy, converts the amount of moisture removal to pounds per hour (multiply pounds per hour by 0.4536 to obtain kg/hr). Calculations are shown in Figure 2.

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

Figure 2: Example TR036 ECM Performance

$$LC = TC - SC = 35.3 - 25.2 = 10.1 \text{ Mbtuh}$$

$$10,100 \text{ Btuh} \div 1069 = 9.4 \text{ lbs/hr}$$

EWT °F	WPD			Cooling - EAT 80/67°F					Heating - EAT 70°F				
	FLOW GPM	PSI	FT	TC	SC	Power kW	HR	EER	HC	Power kW	HE	LAT	COP
70	4.50	1.2	2.8	36.0	25.5	2.52	44.6	14.3	44.0	3.08	33.5	101.0	4.2
	6.75	2.1	4.9	37.3	25.9	2.84	45.3	15.9	46.2	3.15	35.4	102.0	4.3
	9.00	3.8	8.8	37.9	26.1	2.25	45.6	16.8	47.4	3.18	36.5	103.0	4.4
80	4.50	1.1	2.5	33.8	24.7	2.84	43.5	11.9	48.0	3.20	37.1	104.0	4.4
	6.75	2.0	4.6	35.3	25.2	2.63	44.3	13.4	50.2	3.26	39.1	105.0	4.5
	9.00	3.6	8.3	35.9	25.5	2.53	44.5	14.2	51.4	3.30	40.1	106.0	4.6
85	4.50	1.0	2.3	32.8	24.4	3.01	43.1	10.9	49.9	3.25	38.8	105.0	4.5
	6.75	1.9	4.4	34.1	24.8	2.80	43.7	12.2	52.0	3.31	40.7	107.0	4.6
	9.00	3.5	8.1	34.7	25.0	2.69	43.9	12.9	53.1	3.34	41.7	108.0	4.7
90	4.50	1.0	2.3	31.8	24.0	3.19	42.7	10.0	51.7	3.30	40.4	107.0	4.6
	6.75	1.9	4.4	33.0	24.4	2.96	43.1	11.1	53.8	3.36	42.3	108.0	4.7
	9.00	3.4	7.9	33.5	24.5	2.85	43.2	11.7	54.8	3.39	43.2	109.0	4.7

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

ClimaDry® II – Sequence of Operation

ClimaDry® II Sequence of Operation

A heat pump equipped with ClimaDry® II can operate in three modes; cooling, cooling with reheat (dehumidification), and heating. The cooling/heating modes are like any other ClimateMaster® WSHP. The reversing valve (“O” signal) is energized in cooling, along with the compressor contactor(s) and blower relay. In the heating mode the reversing valve is de-energized. Almost any thermostat will activate the heat pump in heating or cooling modes. The DXM2.5 microprocessor board, which is required with the ClimaDry II option, will accept either heat pump (Y,O) thermostats or non-heat pump (Y,W) thermostats.

The reheat mode requires either a separate humidistat/dehumidistat or a thermostat that has an integrated dehumidification function for activation. The DXM2.5 board is configured to work with either a humidistat or dehumidistat input to terminal “H” (DIP switch settings for the DXM2.5 board are shown below in table 2). Upon receiving an “H” input, the DXM2.5 board will activate the cooling mode and engage reheat. Tables 1 and 2 show the relationship between thermostat input signals and unit operation.

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

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

Fan Only: A (G) call from the thermostat to the (G) terminal of the DXM2.5 control board will bring the unit on in fan only mode.

1st Stage Cooling: A simultaneous call from (G), (Y1), and (O) to the (G), (Y1), (O/W2) terminals of the DXM2.5 control board will bring the unit on in 1st Stage Cooling.

2nd Stage Cooling: A simultaneous call from (G), (Y1), (Y2), and (O) to the (G), (Y1), (Y2), and (O/W2) terminals of the DXM2.5 control board will bring the unit on in 2nd Stage Cooling. When the call is satisfied at the thermostat the unit will continue to run in 1st Stage Cooling until the 1st Stage Cooling call is removed or satisfied, shutting down the unit.

Table 1: Humidistat/Dehumidistat Logic and DXM2.5 (2.1, 2.2., 2.3) DIP settings

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

Table 2: ClimaDry® II Operating Modes

Mode	Input					Output				
	O	G	Y1	Y2 ³	H	RV	Fan	1 st stg H/C	2 nd stg H/C ³	Reheat
No Demand	ON/OFF	OFF	OFF	OFF	OFF	ON/OFF	OFF	OFF	OFF	OFF
Fan Only	ON/OFF	ON	OFF	OFF	OFF	ON/OFF	ON	OFF	OFF	OFF
Cooling 1st Stage	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF
Cooling 2nd Stage	ON	ON	ON	ON	OFF	ON	ON	ON	ON	OFF
Cooling & Dehumidistat ¹	ON	ON	ON	ON/OFF	ON	ON	ON	ON	ON/OFF	OFF
Dehumidistat Only	ON/OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Heating 1st Stage	OFF	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
Heating 2nd Stage	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF
Heating & Dehumidistat ²	OFF	ON	ON	ON/OFF	ON	OFF	ON	ON	ON/OFF	OFF

¹Cooling input takes priority over dehumidify input.

²DXM2.5 is programmed to ignore the H demand when the unit is in heating mode.

³N/A for single stage units; Full load operation for dual capacity units.

⁴ON/OFF = Either ON or OFF.

ClimaDry® II – Sequence of Operation, Cont'd.

1st Stage Heating: A simultaneous call from (G) and (Y1) to the (G) and (Y1) terminals of the DXM2.5 control board will bring the unit on in 1st Stage Heating.

2nd Stage Heating: A simultaneous call from (G), (Y1), and (Y2) to the (G), (Y1), and (Y2) terminals of the DXM2.5 control board will bring the unit on in 2nd Stage Heating. When the call is satisfied at the thermostat the unit will continue to run in 1st Stage Heating until the call is removed or satisfied, shutting down the unit.

Reheat Mode: A call from the Humidistat/Dehumidistat to the (H) terminal of the DXM2.5 control board will bring the unit on in Reheat Mode if there is no call for cooling at the thermostat. When the Humidistat/Dehumidification call is removed or satisfied the unit will shut down. **NOTE: Cooling always overrides Reheat Mode.** In the Cooling mode, the unit cools and dehumidifies. If the cooling thermostat is satisfied but there is still a call for dehumidification, the unit will continue to operate in Reheat Mode.

NOTE: Care must be taken when using a humidistat to operate ClimaDry II. When the DIP switch on the DXM2.5 controller is set for 'humidistat' it reverses the control logic so that an "open" control circuit initiates a ClimaDry II run cycle. If a humidistat is not connected, or if a manual switch on the humidistat is set to "off", ClimaDry II will see the open circuit and call for dehumidification.

ClimaDry® II Component Functions

The ClimaDry II option consists of the following components:

- Intelligent DXM2.5 Controller
- Motorized Modulating Water Valve
- Supply Air Sensor
- Loop Pump
- Hydronic Coil
- Low Pressure Switch

The DXM2.5 Controller operates on 24 VAC power supply and automatically adjusts the water valve based upon the Supply Air Sensor. The Supply Air Sensor senses supply air temperature at the blower inlet providing the input signal necessary for the DXM2.5 control to drive the motorized modulating water valve during the reheat mode of operation.

The Motorized Modulating Water Valve is a proportional actuator/three-way valve combination used to divert the condenser water from the coax to the hydronic reheat coil during the reheat mode of operation. The proportional controller signals the valve based on the supply air temperature sensor.

The Loop Pump circulates condenser water through the hydronic reheat coil during the reheat mode of operation. In this application, the loop pump is only energized during the reheat mode of operation. The Hydronic Coil is utilized during the reheat mode of operation to reheat the air to the setpoint of the DXM2.5 controller. Condenser water is diverted by the motorized modulating water valve and pumped through the hydronic coil by the loop pump in proportion to the control setpoint. The amount of reheating is dependent on the setpoint and how far from setpoint the supply air temperature is. The factory setpoint is 69°F [20.5°C], generally considered "neutral" air.

ClimaDry® II Application Considerations

The reheat coil adds a small amount of resistance to the air stream. In some cases the high static option may be required for applications with higher static ductwork. Consult the submittal data or the Installation/Operation/Maintenance (IOM) manual for the specific heat pump to review blower tables.

Unlike most hot gas reheat options, the ClimaDry II option will operate over a wide range of EWTs. Special flow regulation (water regulating valve) is not required for low EWT conditions.

Units with the ClimaDry II option shall have an antifreeze solution to protect the coil in low ambient conditions. ASHRAE minimums for the region shall be considered during the calculation of the antifreeze solution.

In applications where antifreeze is not specified, a secondary heat exchanger can be used to isolate the unit from the water loop, thus requiring less antifreeze to be used with the a Secondary brazed plate heat exchanger. Figure 1 shows the heat exchanger connections.

Water-source heat pumps with ClimaDry II should not be used as make-up air units. These applications should use equipment specifically designed for make-up air.

Physical Data

TR Series	006	009	012	015	018	024	030	036	042	048	060
Compressor (1 each)	Rotary					Scroll					
Factory Charge HFC-410A - (oz.)	19	20	23	35	43	40	48	50	70	74	82
ECM Fan Motor & Blower											
Blower Wheel Size (Dia x w)	6x5	6x5	6x5	9x7	9x7	9x7	9x7	9x8	9x8	10x10	11x10
PSC Fan Motor & Blower											
Fan Motor Type/Speeds	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3
Blower Wheel Size (Dia x W)	5x5	5x5	6x5	8x7	8x7	9x7	9x7	9x8	9x8	10x10	11x10
Water Connection Size											
Source FPT	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	1"	1"
Optional HWG FPT	1/2"										
Coax Volume (gallons)	0.123	0.143	0.167	0.286	0.45	0.286	0.323	0.323	0.89	0.738	0.939
Vertical											
Air Coil Dimensions (H x W)	10x15	10x15	10x15	20x17.25	20x17.25	20x17.25	20x17.25	24x21.75	24x21.76	28x25	28x25
Filter Standard - 1" Throwaway	10x18	10x18	10x18	20x20	20x20	20x20	20x20	24x24	24x24	28x28	28x28
Weight - Operating (lbs.)	110	112	121	163	168	184	192	213	228	283	298
Weight - Packaged (lbs.)	115	117	126	168	173	189	197	219	234	290	305
Horizontal											
Air Coil Dimensions (H x W)	10x15	10x15	10x15	16x22	16x22	16x22	16x22	20x25	20x25	20x35	20x35
Filter Standard - 1" Throwaway	10x18	10x18	10x18	16x25	16x25	18x25	18x25	20x28 or 2-20x14	20x28 or 2-20x14	1-20x24, 1-20x14	1-20x24, 1-20x14
Weight - Operating (lbs.)	110	112	121	163	168	184	192	213	228	283	298
Weight - Packaged (lbs.)	115	117	126	168	173	189	197	219	234	290	305

Notes: All units have TXV expansion device and 1/2" & 3/4" electrical knockouts.
 575 volt fan motors are two speed.
 FPT=Female Pipe Thread
 Condensate Drain Connection is rubber coupling that couples to 3/4" schedule 40/80 PVC.
 For ClimaDry® II option add 30 lbs (13.6 kg).

Unit Maximum Water Working Pressure	
Options	Max Pressure PSIG [kPa]
Base Unit	500 [3447]
Internal Secondary Pump (ISP)	145 [999]
Internal Motorized Water Valve (MWV)	300 [2,068]
Internal Auto Flow Valve	300 [2,068]
ClimaDry® II	145 [999]

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

Hybrid Physical Data

TR Series	006	009	012	015	018	024	030	036	042	048	060	
Compressor (1 each)	Rotary					Scroll						
Factory Charge R410A - (oz.)	17	20	23	35	43	43	48	50	70	74	82	
CV ECM Fan Motor & Blower												
Fan Motor - Hybrid (hp) [W]	1/8	1/8	1/4	1/3	1/3	1/2	3/4	3/4	3/4	1	1	
Blower Wheel Size - Hybrid (Dia x W)	6x5	6x5	6x5	9x7	9x7	9x7	10X8T	10X8A	10X8A	12X10T	12X10T	
CT ECM Fan Motor & Blower												
Fan Motor - Hybrid (hp) [W]	1/4	1/4	1/4	1/3	1/3	1/2	3/4	3/4	3/4	1	1	
Blower Wheel Size - Hybrid (Dia x W)	6x5	6x5	6x5	9x7	9x7	9x7	10X8T	10X8A	10X8A	12X10T	12X10T	
Water Connection Size												
FPT - All Other	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	1"	1"	
Horizontal												
Air Coil Dimensions (H x W)	10x15	10x15	10x15	16x22	16x22	16x22	16x22	20x25	20x25	20x35	20x35	
Filter Standard - 1" Throwaway	10x18	10x18	10x18	16x25	16x25	18x25	18x25	20x28 or 2-20x14	20x28 or 2-20x14	1-20x24, 1-20x14	1-20x24, 1-20x14	
Weight - Operating - Hybrid (lbs.)	154	156	165	215	221	253	261	309	324	373	405	
Weight - Packaged - Hybrid (lbs.)	159	161	170	220	226	258	266	314	329	378	410	

Notes: All units have TXV expansion device and 1/2" & 3/4" electrical knockouts.
 FPT=Female Pipe Thread
 Condensate Drain Connection is 3/4" MPT.

Unit Maximum Water Working Pressure	
Options	Max Pressure PSIG [kPa]
Base Unit	300 [2068]
Internal Secondary Pump (ISP)	145 [999]
Internal Auto Flow Valve	300 [2,068]

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

TR: Horizontal – Dimensional Data

Horizontal Model		Overall Cabinet		
		A Width	B Length	C Height
006 - 012	in	22.5	40.3	11.1
	cm	57.2	102.4	28.2
015 - 018	in	22.4	48.3	17.0
	cm	56.9	122.7	43.2
024 - 030	in	22.4	48.3	18.3
	cm	56.9	122.7	46.5
036 - 042	in	22.4	53.1	21.0
	cm	56.9	134.9	53.3
048 - 060	in	25.4	68.0	21.0
	cm	64.5	172.7	53.3

Horizontal Model		Electrical Knockouts	
		J 1/2"	K 3/4"
		Low Voltage	Power Supply
006 - 012	in	6.6	8.9
	cm	16.8	22.6
015 - 060	in	7.0	10.0
	cm	18.8	25.4

Horizontal Model		Water Connections										
		①		②		③		④		⑤		Loop In/Out FPT
		Loop In D	Loop In E	Loop Out F	Loop Out E	AA	BB	HWG In 1/2" FPT		HWG Out 1/2" FPT		
						DD	EE	FF	EE			
006 - 012	in	3.8	1.4	8.6	1.4	3.3	0.7	Not Available				1/2"
	cm	9.7	3.6	21.8	3.6	8.4	1.8					
015 - 018	in	3.7	1.4	9.7	1.4	3.3	0.7	11.7	1.4	14.9	1.4	1/2"
	cm	9.4	3.6	24.6	3.6	8.4	1.8	29.7	3.6	37.8	3.6	
024 - 030	in	3.7	1.4	9.7	1.4	3.3	0.7	12.4	1.4	15.7	1.4	3/4"
	cm	9.4	3.6	24.6	3.6	8.4	1.8	31.5	3.6	39.9	3.6	
036 - 042	in	3.7	1.4	12.7	1.4	3.3	0.7	15.2	1.4	18.4	1.4	3/4"
	cm	9.4	3.6	32.3	3.6	8.4	1.8	38.6	3.6	46.7	3.6	
048 - 060	in	3.7	1.4	12.7	1.4	3.3	0.7	15.2	1.4	18.4	1.4	1"
	cm	9.4	3.6	32.3	3.6	8.4	1.8	38.6	3.6	46.7	3.6	

Horizontal Model		Discharge Connection Duct Flange Installed (+/- 0.10 in, +/- 2.5mm)					Return Connection Using Return Air Opening				
		L	M Supply Height	N Supply Width	O	P	Q Return Width	R Return Height	S	T	
006 - 012	in	0.8	8.9	6.7	7.4	1.3	16.1	9.3	1.1	1.0	
	cm	1.9	22.6	17.0	18.8	3.3	40.9	23.6	2.8	2.5	
015 - 018	in	1.2	13.1	9.7	3.9	3.2	22.9	15.0	1.1	1.0	
	cm	3.0	33.3	24.6	9.9	8.1	58.2	38.1	2.8	2.5	
024 - 030	in	1.2	13.1	9.7	3.9	4.0	22.9	16.3	0.8	1.0	
	cm	3.0	33.3	24.6	9.9	10.2	58.2	41.4	2.0	2.5	
036 - 042	in	2.4	16.1	11.0	2.9	2.7	26.1	19.0	1.1	1.0	
	cm	6.1	40.9	27.9	7.4	6.9	66.3	48.3	2.8	2.5	
048 - 060	in	1.2	16.1	13.6	4.0	4.0	35.0	19.0	1.1	1.0	
	cm	3.0	40.9	34.5	10.2	10.2	88.9	48.3	2.8	2.5	

TRH	Unit Hanger Detail inches (cm)		
	U	V	W
006	40.3(102.4)	24.6(62.5)	20.3(51.6)
009			
012			
015	48.4(122.9)	24.6(62.5)	20.3(51.6)
018			
024			
030			
036	53.3(135.4)	24.6(62.5)	20.3(51.6)
042			
048			
060	68.0(172.7)	27.6(70.1)	23.2(59.2)

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TR: Horizontal Hybrid – Dimensional Data

Horizontal Model		Electrical Knockouts		
		H 1/2"	J 1/2"	K 3/4"
		Low Voltage	Low Voltage	Power Supply
006-012	in	2.9	6.6	8.9
	cm	7.4	16.8	22.6
015-060	in	4.0	7.0	10.0
	cm	10.2	18.8	25.4

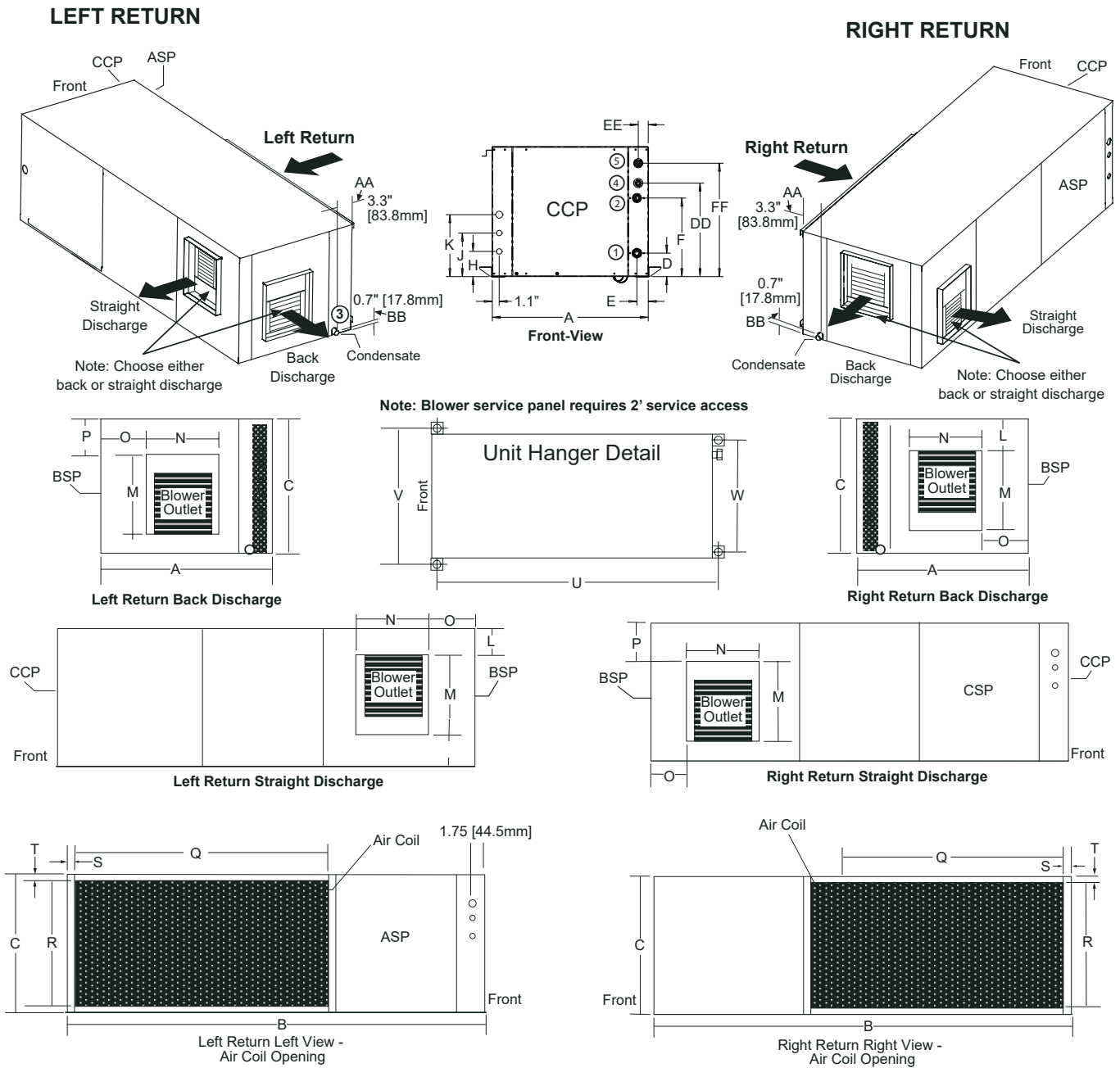
Horizontal Model - Hybrid		Overall Cabinet		
		A	B	C
		Width	Length	Height
006 - 012	in	25.4	43.1	11.5
	cm	64.5	109.5	29.2
015 - 030	in	25.4	50.3	17.5
	cm	64.5	127.9	44.5
036 - 042	in	25.4	56.1	21.3
	cm	64.5	142.5	54.1
048 - 060	in	28.4	70.9	21.3
	cm	72.1	180	54.1

Horizontal Model		Water Connections						Loop In/Out FPT
		①		②		③		
		Loop in D	Loop in E	Loop Out F	Loop Out E	AA	BB	
006 - 012	in	3.8	1.5	8.6	1.5	4.9	0.7	1/2"
	cm	9.7	3.8	21.8	3.8	12.5	1.8	
015 - 018	in	3.7	1.9	9.7	1.9	9.9	0.7	1/2"
	cm	9.4	4.8	24.6	4.8	25.2	1.8	
024 - 030	in	3.7	1.9	9.7	1.9	5.9	0.7	3/4"
	cm	9.4	4.8	24.6	4.8	15	1.8	
036 - 042	in	3.7	1.8	10.7	1.8	5.9	0.7	3/4"
	cm	9.4	4.6	27.2	4.6	15	1.8	
048 - 060	in	3.7	1.8	10.8	1.8	5.9	0.7	1"
	cm	9.4	4.6	27.4	4.6	15	1.8	

TRH Hybrid	Unit Hanger Detail inches (cm)		
	U	V	W
006	43.3(110.0)	28.0(71.1)	23.3(59.62)
009			
012			
015	50.5(128.3)	27.6(70.1)	23.3(59.2)
018			
024			
030	56.3(143.0)	27.6(70.1)	23.3(59.2)
036			
042			
048	71.0(180.3)	30.4(77.2)	26.3(66.8)
060			

Horizontal Model		Discharge Connection Duct Flange Installed (+/- 0.10 in, +/- 2.5mm)				Return Connection Using Return Air Opening				
		L	M Supply Height	N Supply Width	O	P	Q Return Width	R Return Height	S	T
006 - 012	in	1.3	8.9	6.7	7.4	1.3	16.1	9.5	1.1	1.0
	cm	3.3	22.6	17.0	18.8	3.3	40.9	24.1	2.8	2.5
015 - 018	in	1.2	13.1	9.7	3.9	3.2	22.9	15.5	0.8	1.0
	cm	3.0	33.3	24.6	9.9	8.1	58.2	39.4	2.0	2.5
024 - 030	in	1.2	13.1	9.7	3.9	4.0	22.9	16.3	0.8	1.0
	cm	3.0	33.3	24.6	9.9	10.2	58.2	41.4	2.0	2.5
036 - 042	in	2.4	16.1	11.0	3.3	2.7	26.1	19.3	0.8	1.0
	cm	6.1	40.9	27.9	8.4	6.9	66.3	49.0	2.0	2.5
048 - 060	in	1.2	18.1	13.6	3.5	2.0	36.0	19.3	0.9	1.0
	cm	3.0	46.0	34.5	8.9	5.1	91.4	49.0	2.3	2.5

TR: Horizontal – Dimensional Drawing



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, optional filter frames should be ordered. See product options decoder for details. Filter rails can be converted in the field with an accessory air filter frame kit. Please see the accessory submittal for details.
3. Discharge flange and hanger brackets are factory installed.
4. Condensate is rubber coupling that couples to 3/4" schedule 40/80 PVC.
5. Blower service panel requires 2' service access.
6. Blower service access is through back panel on straight discharge units or through panel opposite air coil on back discharge units.
7. Water connections for optional hot water generator are 1/2" FPT.

Legend:

CCP = Control/Compressor Access Panel
 BSP = Blower Service Panel
 *ASP = Additional Service Panel (not required)

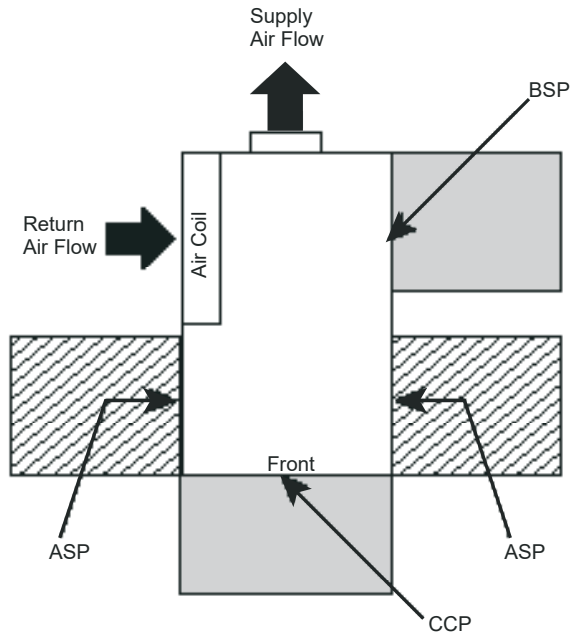
Note:

***ASP are removable panels that provide additional access to the units interior. Clear access to ASP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.**

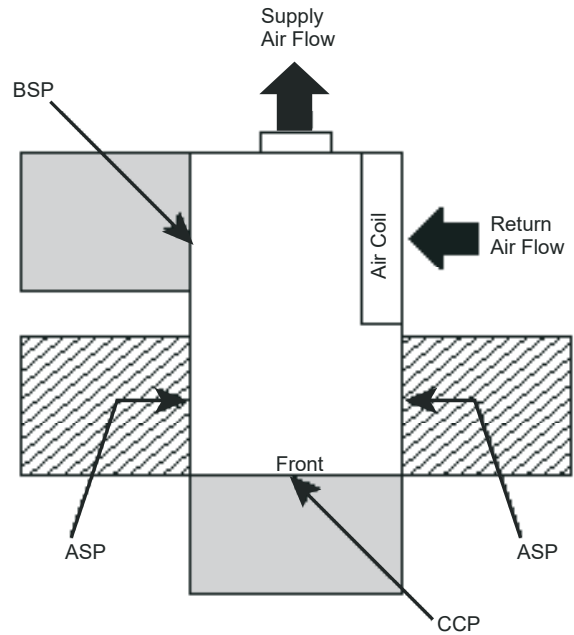
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TR: Horizontal Service Access

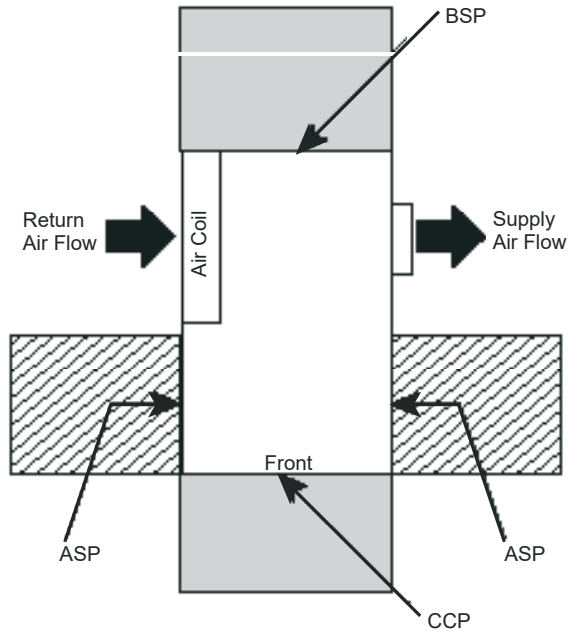
Left Return Back Discharge



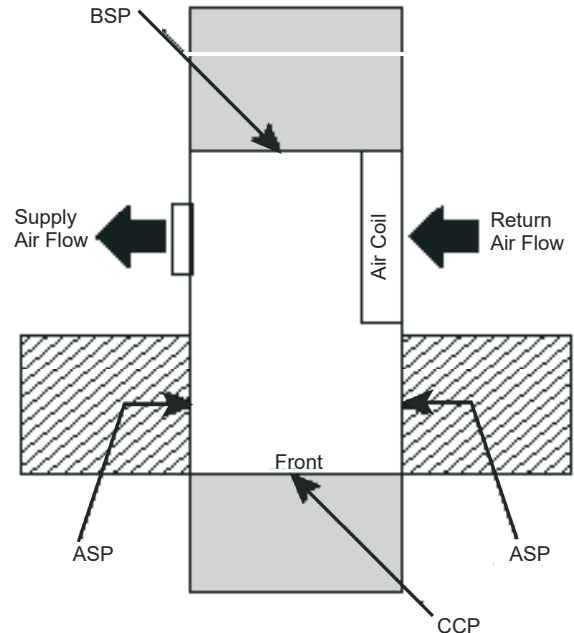
Right Return Back Discharge




Left Return Straight Discharge



Right Return Straight Discharge



 = mandatory 2' service access

 = (optional) additional 2' service access

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' 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. ASP are removable panels that provide additional access to the units interior. Clear access to ASP 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 Panel
 BSP = Blower Service Panel
 ASP = Additional Service Panel (not required)

TR: Vertical Upflow – Dimensional Data

Vertical Upflow Model		Overall Cabinet		
		A Width	B Depth	C Height
006 - 012	in	22.5	21.3	22.0
	cm	57.2	54.1	55.9
015 - 030	in	22.4	22.4	40.0
	cm	56.9	56.9	101.6
036 - 042	in	22.4	25.4	45.0
	cm	56.9	64.5	114.3
048 - 060	in	25.4	29.1	50.5
	cm	64.5	73.9	128.3

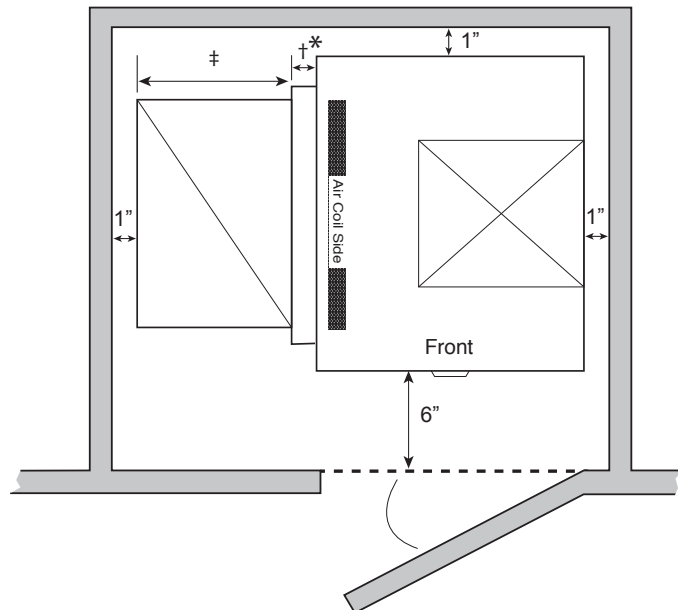
Vertical Model		Electrical Knockouts	
		K 1/2"	L 3/4"
		Low Voltage	Power Supply
006 - 012	in	5.9	8.1
	cm	15.0	20.6
015 - 060	in	7.0	10.0
	cm	17.8	25.4

Vertical Upflow Model		Water Connections - Standard Units										
		①		②		③		④		⑤		Loop In/Out FPT
		Loop In D	Loop In E	Loop Out F	Loop Out E	H	I	HWG In 1/2" FPT		HWG In 1/2" FPT		
006 - 012	in	3.8	1.4	8.7	1.4	11.7	1.4	Not Available				1/2"
	cm	9.7	3.6	22.1	3.6	29.7	3.6					
015 - 018	in	3.7	1.4	9.7	1.4	19.7	1.4	13.2	1.4	15.7	1.4	1/2"
	cm	9.4	3.6	24.6	3.6	50.0	3.6	35.5	3.6	39.9	3.6	
024 - 030	in	3.7	1.4	9.7	1.4	19.7	1.4	13.2	1.4	15.7	1.4	3/4"
	cm	9.4	3.6	24.6	3.6	50.0	3.6	33.5	3.6	39.9	3.6	
036 - 042	in	3.8	1.4	9.8	1.4	20.6	1.4	13.5	1.4	16.0	1.4	3/4"
	cm	9.7	3.6	24.9	3.6	52.3	3.6	34.3	3.6	40.6	3.6	
048 - 060	in	3.7	1.4	9.8	1.4	22.1	1.4	16.0	1.4	18.5	1.4	1"
	cm	9.4	3.6	24.9	3.6	56.0	3.6	40.6	3.6	47.0	3.6	

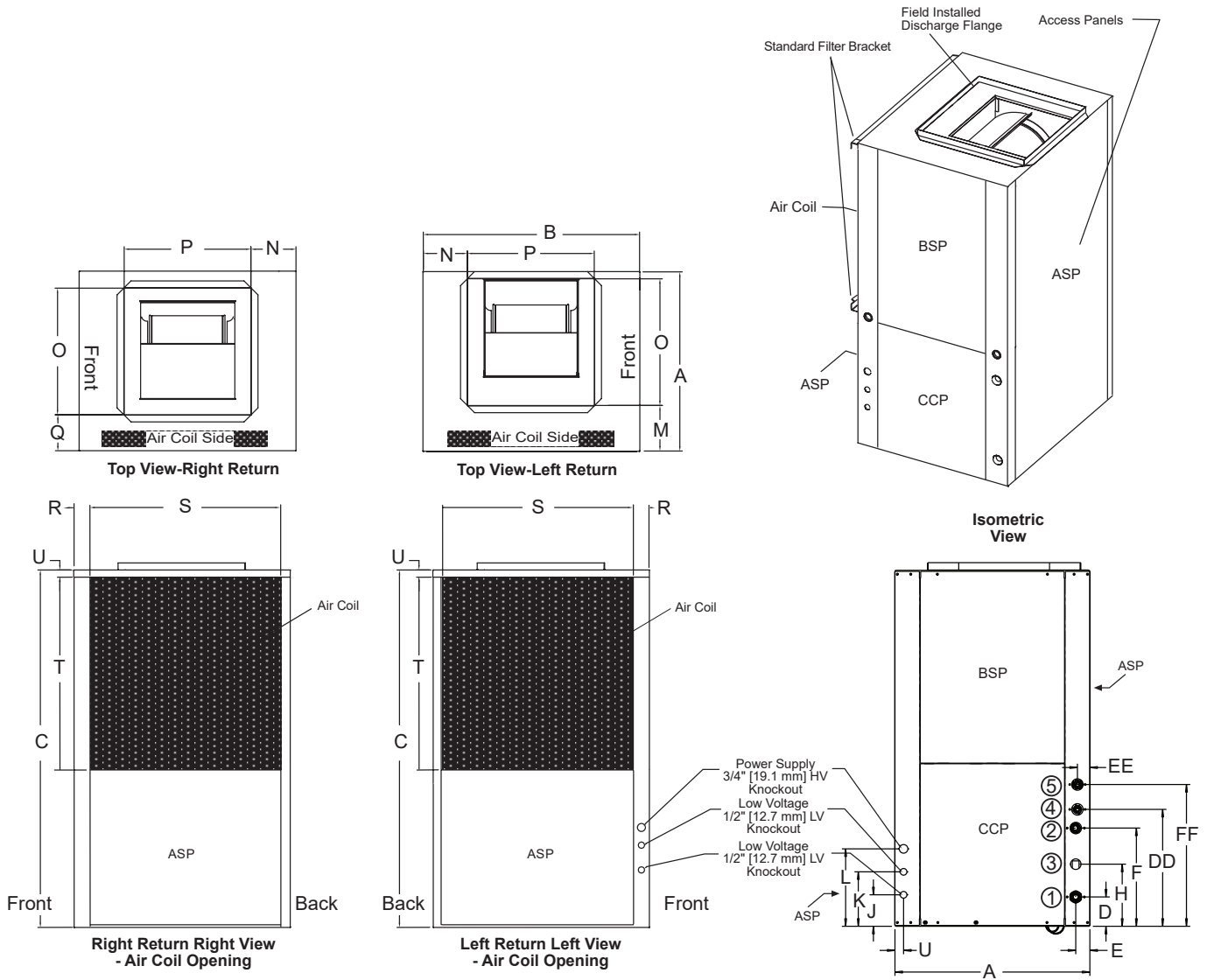
Vertical Model		Discharge Connection Duct Flange Installed (+/- 0.10 in, +/- 2.5mm)					Return Connection Using Return Air Opening				
		M	N	O Supply Width	P Supply Depth	Q	R	S Return Depth	T Return Height	U	
006 - 012	in	6.2	6.2	9.0	9.0	5.3	2.4	16.0	10.2	1.0	
	cm	15.7	15.7	22.9	22.9	13.5	6.1	40.6	25.9	2.5	
015 - 030	in	7.2	4.2	14.0	14.0	6.7	2.2	18.4	20.3	1.1	
	cm	18.3	10.7	35.6	35.6	17.0	5.6	46.7	51.6	2.8	
036 - 042	in	7.2	6.0	14.0	14.0	6.5	2.1	22.9	24.3	1.1	
	cm	18.3	15.2	35.6	35.6	16.5	5.3	58.2	61.7	2.8	
048 - 060	in	8.2	5.7	16.0	18.0	7.3	2.1	26.2	28.3	1.1	
	cm	20.8	14.5	40.6	45.7	18.5	5.3	66.5	71.9	2.8	

Recommended Minimum Installation Clearances for Vertical Units*	
1"	Back of unit
	Side opposite return air
6"	Front if hard piped
Return Air Side	
1"	Ducted return
	- ‡ *Add for duct width - † Add 2" for 1" filter frame/rail or 3" for 2" filter frame/rail
	Free (open) return - calculate required dimension for a maximum velocity of 600 fpm

*Field installed accessories (hoses, air cleaners, etc.) and factory WSE option will require additional space. Top supply air is shown, the same clearances apply to bottom supply air units.



TR: Vertical Upflow – Dimensional Data, Cont'd.



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 & Side access is preferred for service access. However, all components may be serviced from the front access panel if side access is not available.
3. Discharge flange is field installed.
4. Condensate is rubber coupling that couples to 3/4" schedule 40/80 PVC.
5. Water connections for optional hot water generator are 1/2" FPT.
6. Units come standard with air filter rails. For duct connections, optional filter frames should be ordered. See product options decoder for details. Filter rails can be converted in the field with an accessory air filter frame kit. Please see the accessory submittal for details.

Legend:

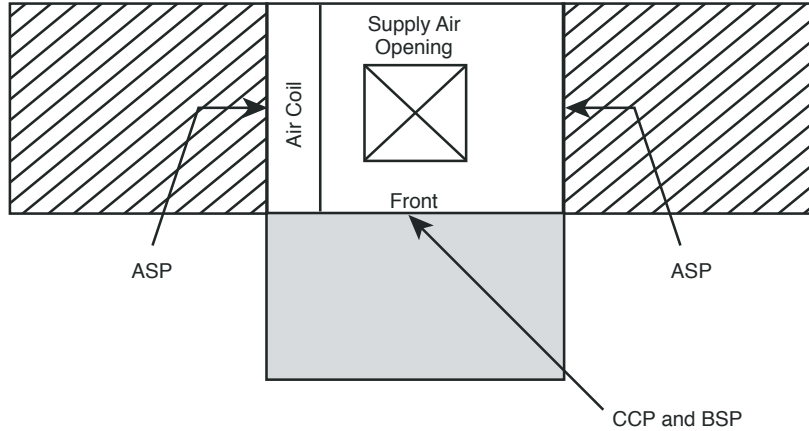
CCP = Control/Compressor Access Panel
 BSP = Blower Service Panel
 *ASP = Additional Service Panel (not required)

Note:

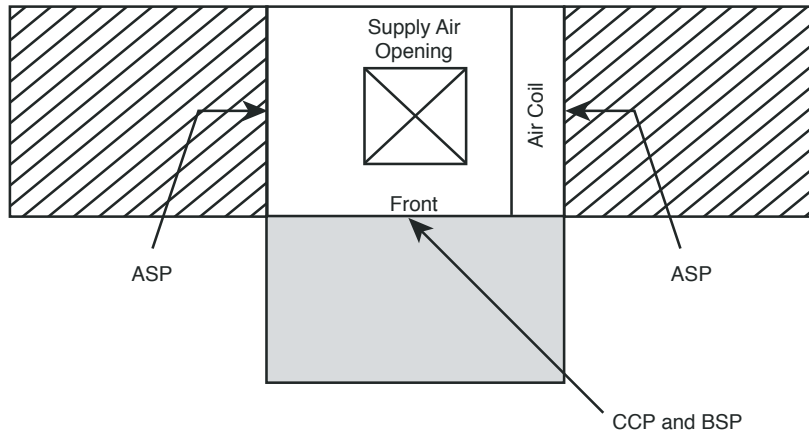
*ASP are removable panels that provide additional access to the units interior. Clear access to ASP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.

Vertical Units

Left Return



Right Return



 = mandatory 2' service access

 = (optional) additional 2' service access

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 & Side access is preferred for service access. However, all components may be serviced from the front access panel if side access is not available.
3. ASP are removable panels that provide additional access to the units interior. Clear access to ASP panels is not required and they are not to be used in place of the mandatory CCP and BSP panels.
4. Top supply air is shown, the same clearances apply to bottom supply air units.

Legend:

CCP = Control/Compressor Access Panel
 BSP = Blower Service Panel
 ASP = Additional Service Panel (not required)

Corner Weights for TRH Series Units

Model		Total	Left-Front	Right-Front	Left-Back	Right-Back
TRH006	Lbs	110	40	20	25	25
	kg	50	18	9	11	11
TRH009	Lbs	112	41	21	25	25
	kg	51	19	10	11	11
TRH012	Lbs	121	45	22	27	27
	kg	55	20	10	12	12
TRH015	Lbs	163	54	44	33	33
	kg	74	24	20	15	15
TRH018	Lbs	168	55	45	34	34
	kg	76	25	20	15	15
TRH024	Lbs	184	61	50	37	37
	kg	83	28	23	17	17
TRH030	Lbs	192	63	52	38	38
	kg	87	29	24	17	17
TRH036	Lbs	213	70	58	43	43
	kg	97	32	26	20	20
TRH042	Lbs	228	75	62	46	46
	kg	103	34	28	21	21
TRH048	Lbs	283	93	76	57	57
	kg	128	42	34	26	26
TRH060	Lbs	298	98	80	60	60
	kg	135	44	36	27	27

*Front is control box end.

Hybrid Model		Total	Left-Front	Right-Front	Left-Back	Right-Back
TRH006	Lbs	154	56	28	35	35
	kg	69.9	25.4	12.7	15.9	15.9
TRH009	Lbs	156	57	29	35	35
	kg	70.8	25.9	13.2	15.9	15.9
TRH012	Lbs	165	61	30	37	37
	kg	74.8	27.7	13.6	16.8	16.8
TRH015	Lbs	215	72	59	44	44
	kg	97.5	32.7	26.8	20	20
TRH018	Lbs	221	72	59	45	45
	kg	100.2	32.7	26.8	20.4	20.4
TRH024	Lbs	253	83	68	51	51
	kg	114.8	37.6	30.8	23.1	23.1
TRH030	Lbs	261	86	71	52	52
	kg	118.4	39	32.2	23.6	23.6
TRH036	Lbs	309	101	84	62	62
	kg	140.2	45.8	38.1	28.1	28.1
TRH042	Lbs	324	106	88	65	65
	kg	147	48.1	39.9	29.5	29.5
TRH048	Lbs	373	123	100	75	75
	kg	169.2	55.8	45.4	34	34
TRH060	Lbs	405	132	109	82	82
	kg	183.7	59.9	49.4	37.2	37.2

*Front is control box end, weight in lbs. (kg)

Electrical Data: Standard Unit – PSC Blower

TR Commercial Electrical Table							STANDARD PSC				HI STATIC PSC			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA								
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	0.3	2.9	3.6	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	0.4	3.0	3.6	15A				
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	0.8	4.5	5.5	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	0.8	4.2	5.1	15A				
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	0.8	6.4	7.8	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	0.8	5.0	6.1	15A				
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	0.9	6.5	7.9	15A	0.9	6.5	7.9	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	0.7	5.7	7.0	15A	0.7	5.7	7.0	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	0.9	8.3	10.2	15A	0.9	8.3	10.2	15A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	0.7	6.7	8.2	15A	0.7	6.7	8.2	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	1.5	14.3	17.5	30A	2.7	15.5	18.7	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	1.2	10.8	13.2	20A	2.9	12.5	14.9	20A
	F	460 / 60 / 3	414 / 506	1	3.6	28	1.4	5.0	5.9	15A	1.6	5.2	6.1	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	1.5	9.2	11.1	15A	2.7	10.4	12.3	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	2.7	16.8	20.3	30A	2.7	16.8	20.3	30A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	2.9	14.1	16.9	25A	2.9	14.1	16.9	25A
	F	460 / 60 / 3	414 / 506	1	4.2	28	1.6	5.8	6.9	15A	1.6	5.8	6.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	2.7	11.6	13.8	20A	2.7	11.6	13.8	20A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	2.7	19.4	23.6	40A	2.7	19.4	23.6	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	2.0	15.5	18.9	30A	2.9	16.4	19.8	30A
	F	460 / 60 / 3	414 / 506	1	5.8	38	1.2	7.0	8.5	15A	1.6	7.4	8.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	2.7	13.1	15.7	25A	2.7	13.1	15.7	25A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	2.7	20.6	25.1	40A	2.7	20.6	25.1	40A
	F	460 / 60 / 3	414 / 506	1	6.0	44	1.6	7.6	9.1	15A	1.6	7.6	9.1	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	2.7	16.2	19.6	30A	2.7	16.2	19.6	30A
	N	575 / 60 / 3	517.5 / 632.5	1	4.9	34	1.4	6.3	7.5	15A	1.4	6.3	7.5	15A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	3.3	25.1	30.6	50A	4.8	26.6	32.1	50A
	F	460 / 60 / 3	414 / 506	1	6.2	41	1.7	7.9	9.5	15A	2.4	8.6	10.2	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	3.3	17.0	20.4	30A	4.8	18.5	21.9	35A
	N	575 / 60 / 3	517.5 / 632.5	1	4.8	33	1.4	6.2	7.4	15A	1.8	6.6	7.8	15A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	4.8	31.1	37.7	60A	5.7	32.0	38.6	60A
	F	460 / 60 / 3	414 / 506	1	7.8	52	2.4	10.2	12.2	15A	2.5	10.3	12.3	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	4.8	20.4	24.3	40A	5.7	21.3	25.2	40A
	N	575 / 60 / 3	517.5 / 632.5	1	5.8	38.9	1.8	7.6	9.1	15A	1.9	7.7	9.2	15A

460 volt units require a neutral connection. All "F" voltage units with Constant Volume (CV) ECM require a four wire power supply with neutral. Motors are 265 volt and are wired between one hot leg and neutral.
All fuses Class RK-5

Electrical Data: Standard Unit – ECM Blower

TR Commercial Electrical Table							CV ECM**				CT ECM			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA								
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	1.5	4.1	4.8	15A	2.3	4.9	5.6	15A
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	1.4	4.0	4.7	15A	2.3	4.9	5.6	15A
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	1.5	5.2	6.1	15A	2.3	6.0	6.9	15A
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	1.4	4.8	5.7	15A	2.3	5.7	6.6	15A
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	2.6	8.2	9.6	15A	2.3	7.9	9.3	15A
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	2.5	6.7	7.8	15A	2.3	6.5	7.6	15A
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	2.6	8.2	9.6	15A	2.6	8.2	9.6	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	2.4	7.4	8.7	15A	1.9	6.9	8.2	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	2.6	10.0	11.9	15A	2.6	10.0	11.9	15A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	2.4	8.4	9.9	15A	1.9	7.9	9.4	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	3.9	16.7	19.9	30A	3.9	16.7	19.9	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	3.2	12.8	15.2	20A	3.2	12.8	15.2	20A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	3.2	6.8	7.7	15A	1.1	4.7	5.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	3.9	11.6	13.5	20A	3.9	11.6	13.5	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	3.9	18.0	21.5	35A	3.9	18.0	21.5	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	3.2	14.4	17.2	25A	3.2	14.4	17.2	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	3.2	7.4	8.5	15A	1.1	5.3	6.4	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	3.9	12.8	15.0	20A	3.9	12.8	15.0	20A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	6.0	22.7	26.9	40A	6.0	22.7	26.9	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	4.8	18.3	21.7	35A	3.9	17.4	20.8	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	4.8	10.6	12.1	15A	1.5	7.3	8.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	6.0	16.4	19.0	25A	6.0	16.4	19.0	25A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	6.0	23.9	28.4	45A	6.0	23.9	28.4	45A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	4.8	10.8	12.3	15A	1.5	7.5	9.0	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	6.0	19.5	22.9	35A	6.0	19.5	22.9	35A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	7.5	29.3	34.8	50A	7.5	29.3	34.8	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	6.2	12.4	14.0	15A	2.1	8.3	9.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	7.5	21.2	24.6	35A	7.5	21.2	24.6	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	7.5	33.8	40.4	60A	7.5	33.8	40.4	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	6.0	13.8	15.8	20A	2.1	9.9	11.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	7.5	23.1	27.0	40A	7.5	23.1	27.0	40A

** 460 volt units with Internal Secondary Pump and/or CV ECM Require a Neutral

Electrical Data: Standard Unit with Internal Secondary Pump – PSC Blower

TR Commercial Electrical Table W/ ISP								STANDARD PSC				HI STATIC PSC			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			PUMP FLA	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA									
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	0.4	0.3	3.3	4.0	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	0.7	0.4	3.7	4.3	15A				
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	0.4	0.8	4.9	5.9	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	0.7	0.8	4.9	5.8	15A				
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	0.8	0.8	7.2	8.6	15A				
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	0.7	0.8	5.7	6.8	15A				
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	0.8	0.9	7.3	8.7	15A	0.9	7.3	8.7	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	0.7	0.7	6.4	7.7	15A	0.7	6.4	7.7	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	0.8	0.9	9.1	11.0	15A	0.9	9.1	11.0	15A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	0.7	0.7	7.4	8.9	15A	0.7	7.4	8.9	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	0.8	1.5	15.1	18.3	30A	2.7	16.3	19.5	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	0.7	1.2	11.5	13.9	20A	2.9	13.2	15.6	25A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	0.7	1.4	5.7	6.6	15A	1.6	5.9	6.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	0.8	1.5	10.0	11.9	15A	2.7	11.2	13.1	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	0.8	2.7	17.6	21.1	35A	2.7	17.6	21.1	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	0.7	2.9	14.8	17.6	25A	2.9	14.8	17.6	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	0.7	1.6	6.5	7.6	15A	1.6	6.5	7.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	0.8	2.7	12.4	14.6	20A	2.7	12.4	14.6	20A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	0.8	2.7	20.2	24.4	40A	2.7	20.2	24.4	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	0.7	2.0	16.2	19.6	30A	2.9	17.1	20.5	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	0.7	1.2	7.7	9.2	15A	1.6	8.1	9.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	0.8	2.7	13.9	16.5	25A	2.7	13.9	16.5	25A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	0.8	2.7	21.4	25.9	40A	2.7	21.4	25.9	40A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	0.7	1.6	8.3	9.8	15A	1.6	8.3	9.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	0.8	2.7	17.0	20.4	30A	2.7	17.0	20.4	30A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	1.1	3.3	26.2	31.7	50A	4.8	27.7	33.2	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	1.3	1.7	9.2	10.8	15A	2.4	9.9	11.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	1.1	3.3	18.1	21.5	35A	4.8	19.6	23.0	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	1.1	4.8	32.2	38.8	60A	5.7	33.1	39.7	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	1.3	2.4	11.5	13.5	20A	2.5	11.6	13.6	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	1.1	4.8	21.5	25.4	40A	5.7	22.4	26.3	40A

** 460 volt units require a neutral for the Internal Secondary Pump

Electrical Data: Standard Unit with Internal Secondary Pump – ECM Blower

TR Commercial Electrical Table W/ ISP								CV ECM**				CT ECM			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			PUMP FLA	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA									
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	0.4	1.5	4.5	5.2	15A	2.3	5.3	6.0	15A
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	0.7	1.4	4.7	5.4	15A	2.3	5.6	6.3	15A
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	0.4	1.5	5.6	6.5	15A	2.3	6.4	7.3	15A
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	0.7	1.4	5.5	6.4	15A	2.3	6.4	7.3	15A
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	0.8	2.6	9.0	10.4	15A	2.3	8.7	10.1	15A
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	0.7	2.5	7.4	8.5	15A	2.3	7.2	8.3	15A
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	0.8	2.6	9.0	10.4	15A	2.6	9.0	10.4	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	0.7	2.4	8.1	9.4	15A	1.9	7.6	8.9	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	0.8	2.6	10.8	12.7	20A	2.6	10.8	12.7	20A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	0.7	2.1	8.8	10.3	15A	1.9	8.6	10.1	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	0.8	3.9	17.5	20.7	30A	3.9	17.5	20.7	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	0.7	3.2	13.5	15.9	25A	3.2	13.5	15.9	25A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	0.7	3.2	7.5	8.4	15A	1.1	5.4	6.3	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	0.8	3.9	12.4	14.3	20A	3.9	12.4	14.3	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	0.8	3.9	18.8	22.3	35A	3.9	18.8	22.3	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	0.7	3.2	15.1	17.9	25A	3.2	15.1	17.9	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	0.7	3.2	8.1	9.2	15A	1.1	6.0	7.1	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	0.8	3.9	13.6	15.8	20A	3.9	13.6	15.8	25A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	0.8	6.0	23.5	27.7	40A	6.0	23.5	27.7	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	0.7	4.8	19.0	22.4	35A	3.9	18.1	21.5	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	0.7	4.8	11.3	12.8	15A	1.5	8.0	9.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	0.8	6.0	17.2	19.8	25A	6.0	17.2	19.8	30A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	0.8	6.0	24.7	29.2	45A	6.0	24.7	29.2	45A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	0.7	4.8	11.5	13.0	15A	1.5	8.2	9.7	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	0.8	6.0	20.3	23.7	35A	6.0	20.3	23.7	35A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	1.1	7.5	30.4	35.9	50A	7.5	30.4	35.9	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	1.3	6.2	13.7	15.3	20A	2.1	9.6	11.2	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	1.1	7.5	22.3	25.7	35A	7.5	22.3	25.7	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	1.1	7.5	34.9	41.5	60A	7.5	34.9	41.5	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	1.3	6.0	15.1	17.1	20A	2.1	11.2	13.2	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	1.1	7.5	24.2	28.1	40A	7.5	24.2	28.1	40A

** 460 volt units with Internal Secondary Pump and/or CV ECM Require a Neutral

Electrical Data: ClimaDry® II – PSC Blower

TR Condenser Water Reheat Commercial Electrical Table								STANDARD PSC				HI STATIC PSC			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			PUMP FLA	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA									
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	0.8	1.5	15.1	18.3	30A	2.7	16.3	19.5	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	0.7	1.2	11.5	13.9	20A	2.9	13.2	15.6	25A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	0.7	1.4	5.7	6.6	15A	1.6	5.9	6.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	0.8	1.5	10.0	11.9	15A	2.7	11.2	13.1	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	0.8	2.7	17.6	21.1	35A	2.7	17.6	21.1	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	0.7	2.9	14.8	17.6	25A	2.9	14.8	17.6	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	0.7	1.6	6.5	7.6	15A	1.6	6.5	7.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	0.8	2.7	12.4	14.6	20A	2.7	12.4	14.6	20A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	0.8	2.7	20.2	24.4	40A	2.7	20.2	24.4	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	0.7	2.0	16.2	19.6	30A	2.9	17.1	20.5	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	0.7	1.2	7.7	9.2	15A	1.6	8.1	9.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	0.8	2.7	13.9	16.5	25A	2.7	13.9	16.5	25A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	0.8	2.7	21.4	25.9	40A	2.7	21.4	25.9	40A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	0.7	1.6	8.3	9.8	15A	1.6	8.3	9.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	0.8	2.7	17.0	20.4	30A	2.7	17.0	20.4	30A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	1.1	3.3	26.2	31.7	50A	4.8	27.7	33.2	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	1.3	1.7	9.2	10.8	15A	2.4	9.9	11.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	1.1	3.3	18.1	21.5	35A	4.8	19.6	23.0	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	1.1	4.8	32.2	38.8	60A	5.7	33.1	39.7	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	1.3	2.4	11.5	13.5	20A	2.5	11.6	13.6	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	1.1	4.8	21.5	25.4	40A	5.7	22.4	26.3	40A

** 460 volt units with ClimaDry® II Require a Neutral

Electrical Data: ClimaDry® II – ECM Blower

TR Condenser Water Reheat Commercial Electrical Table								CV ECM**				CT ECM			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			PUMP FLA	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA									
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	0.8	3.9	17.5	20.7	30A	3.9	17.5	20.7	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	0.7	3.2	13.5	15.9	25A	3.2	13.5	15.9	25A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	0.7	3.2	7.5	8.4	15A	1.1	5.4	6.3	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	0.8	3.9	12.4	14.3	20A	3.9	12.4	14.3	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	0.8	3.9	18.8	22.3	35A	3.9	18.8	22.3	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	0.7	3.2	15.1	17.9	25A	3.2	15.1	17.9	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	0.7	3.2	8.1	9.2	15A	1.1	6.0	7.1	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	0.8	3.9	13.6	15.8	20A	3.9	13.6	15.8	25A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	0.8	6.0	23.5	27.7	40A	6.0	23.5	27.7	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	0.7	4.8	19.0	22.4	35A	3.9	18.1	21.5	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	0.7	4.8	11.3	12.8	15A	1.5	8.0	9.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	0.8	6.0	17.2	19.8	25A	6.0	17.2	19.8	30A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	0.8	6.0	24.7	29.2	45A	6.0	24.7	29.2	45A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	0.7	4.8	11.5	13.0	15A	1.5	8.2	9.7	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	0.8	6.0	20.3	23.7	35A	6.0	20.3	23.7	35A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	1.1	7.5	30.4	35.9	50A	7.5	30.4	35.9	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	1.3	6.2	13.7	15.3	20A	2.1	9.6	11.2	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	1.1	7.5	22.3	25.7	35A	7.5	22.3	25.7	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	1.1	7.5	34.9	41.5	60A	7.5	34.9	41.5	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	1.3	6.0	15.1	17.1	20A	2.1	11.2	13.2	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	1.1	7.5	24.2	28.1	40A	7.5	24.2	28.1	40A

** 460 volt units with ClimaDry® II and/or CV ECM Require a Neutral

Electrical Data: Hybrid Unit – ECM Blower

TR Hydronic Heat Commercial Electrical Table							CV ECM**				CT ECM			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA								
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	1.5	4.1	4.8	15A	2.3	4.9	5.6	15A
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	1.4	4.0	4.7	15A	2.3	4.9	5.6	15A
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	1.5	5.2	6.1	15A	2.3	6.0	6.9	15A
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	1.4	4.8	5.7	15A	2.3	5.7	6.6	15A
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	2.6	8.2	9.6	15A	2.3	7.9	9.3	15A
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	2.5	6.7	7.8	15A	2.3	6.5	7.6	15A
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	2.6	8.2	9.6	15A	2.6	8.2	9.6	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	2.4	7.4	8.7	15A	1.9	6.9	8.2	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	2.6	10.0	11.9	15A	2.6	10.0	11.9	15A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	2.4	8.4	9.9	15A	1.9	7.9	9.4	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	3.9	16.7	19.9	30A	3.9	16.7	19.9	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	3.2	12.8	15.2	20A	3.2	12.8	15.2	20A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	3.2	6.8	7.7	15A	1.1	4.7	5.6	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	3.9	11.6	13.5	20A	3.9	11.6	13.5	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	6.0	20.1	23.6	35A	6.0	20.1	23.6	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	4.7	15.9	18.7	25A	3.9	15.1	17.9	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	4.8	9.0	10.1	15A	1.5	5.7	6.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	6.0	14.9	17.1	25A	6.0	14.9	17.1	25A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	6.0	22.7	26.9	40A	6.0	22.7	26.9	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	4.8	18.3	21.7	35A	3.9	17.4	20.8	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	4.8	10.6	12.1	15A	1.5	7.3	8.8	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	6.0	16.4	19.0	25A	6.0	16.4	19.0	25A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	6.0	23.9	28.4	45A	6.0	23.9	28.4	45A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	4.8	10.8	12.3	15A	1.5	7.5	9.0	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	6.0	19.5	22.9	35A	6.0	19.5	22.9	35A
048	G	208-230 / 60 / 1	187.2 / 253	1	4.9	34	7.5	12.4	34.8	50A	7.5	12.4	34.8	50A
	F**	460 / 60 / 3	414 / 506	1	21.8	117	6.2	28.0	14.0	15A	2.1	23.9	9.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	6.2	41	7.5	13.7	24.6	35A	7.5	12.7	24.6	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	13.7	83.1	7.5	21.2	40.4	60A	7.5	21.2	40.4	60A
	F**	460 / 60 / 3	414 / 506	1	4.8	33	6.0	10.8	15.8	20A	2.1	6.9	11.9	15A
	H	208-230 / 60 / 3	187.2 / 253	1	26.3	134	7.5	33.8	27.0	40A	7.5	33.8	27.0	40A

** 460 volt units with CV ECM Require a Neutral

Electrical Data: Hybrid Unit with Internal Secondary Pump – ECM Blower

TR Hydronic Heat Commercial Electrical Table W/ ISP								CV ECM**				CT ECM			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			PUMP FLA	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR	FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
				QTY	RLA	LRA									
006	G	208-230 / 60 / 1	187.2 / 253	1	2.6	17.7	0.4	1.5	4.1	5.2	15A	2.3	4.9	6.0	15A
	E	265 / 60 / 1	238.5 / 291.5	1	2.6	13.5	0.7	1.4	4.0	5.4	15A	2.3	4.9	6.3	15A
009	G	208-230 / 60 / 1	187.2 / 253	1	3.7	22	0.4	1.5	5.2	6.5	15A	2.3	6.0	7.3	15A
	E	265 / 60 / 1	238.5 / 291.5	1	3.4	17.5	0.7	1.4	4.8	6.4	15A	2.3	5.7	7.3	15A
012	G	208-230 / 60 / 1	187.2 / 253	1	5.6	32.5	0.8	2.6	8.2	10.4	15A	2.3	7.9	10.1	15A
	E	265 / 60 / 1	238.5 / 291.5	1	4.2	31.5	0.7	2.5	6.7	8.5	15A	2.3	6.5	8.3	15A
015	G	208-230 / 60 / 1	187.2 / 253	1	5.6	29	0.8	2.6	8.2	10.4	15A	2.6	8.2	10.4	15A
	E	265 / 60 / 1	238.5 / 291.5	1	5.0	28	0.7	2.4	7.4	9.4	15A	1.9	6.9	8.9	15A
018	G	208-230 / 60 / 1	187.2 / 253	1	7.4	33	0.8	2.6	10.0	12.7	20A	2.6	10.0	12.7	20A
	E	265 / 60 / 1	238.5 / 291.5	1	6.0	28	0.7	2.4	8.4	10.6	15A	1.9	7.9	10.1	15A
024	G	208-230 / 60 / 1	187.2 / 253	1	12.8	58.3	0.8	3.9	16.7	20.7	30A	3.9	16.7	20.7	30A
	E	265 / 60 / 1	238.5 / 291.5	1	9.6	54	0.7	3.2	12.8	15.9	25A	3.2	12.8	15.9	25A
	F**	460 / 60 / 3	414 / 506	1	3.6	28	0.7	3.2	6.8	8.4	15A	1.1	4.7	6.3	15A
	H	208-230 / 60 / 3	187.2 / 253	1	7.7	55.4	0.8	3.9	11.6	14.3	20A	3.9	11.6	14.3	20A
030	G	208-230 / 60 / 1	187.2 / 253	1	14.1	73	0.8	6.0	20.1	24.4	35A	6.0	20.1	24.4	35A
	E	265 / 60 / 1	238.5 / 291.5	1	11.2	60	0.7	4.7	15.9	19.4	30A	3.9	15.1	18.6	25A
	F**	460 / 60 / 3	414 / 506	1	4.2	28	0.7	4.8	9.0	10.8	15A	1.5	5.7	7.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	8.9	58	0.8	6.0	14.9	17.9	25A	6.0	14.9	17.9	25A
036	G	208-230 / 60 / 1	187.2 / 253	1	16.7	79	0.8	6.0	22.7	27.7	40A	6.0	22.7	27.7	40A
	E	265 / 60 / 1	238.5 / 291.5	1	13.5	72	0.7	4.8	18.3	22.4	35A	3.9	17.4	21.5	30A
	F**	460 / 60 / 3	414 / 506	1	5.8	38	0.7	4.8	10.6	12.8	15A	1.5	7.3	9.5	15A
	H	208-230 / 60 / 3	187.2 / 253	1	10.4	73	0.8	6.0	16.4	19.8	25A	6.0	16.4	19.8	30A
042	G	208-230 / 60 / 1	187.2 / 253	1	17.9	112	0.8	6.0	23.9	29.2	45A	6.0	23.9	29.2	45A
	F**	460 / 60 / 3	414 / 506	1	6.0	44	0.7	4.8	10.8	13.0	15A	1.5	7.5	9.7	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.5	88	0.8	6.0	19.5	23.7	35A	6.0	19.5	23.7	35A
048	G	208-230 / 60 / 1	187.2 / 253	1	21.8	117	1.1	7.5	29.3	35.9	50A	7.5	29.3	35.9	50A
	F**	460 / 60 / 3	414 / 506	1	6.2	41	1.3	6.2	12.4	15.3	20A	2.1	8.3	11.2	15A
	H	208-230 / 60 / 3	187.2 / 253	1	13.7	83.1	1.1	7.5	21.2	25.7	35A	7.5	21.2	25.7	35A
060	G	208-230 / 60 / 1	187.2 / 253	1	26.3	134	1.1	7.5	33.8	41.5	60A	7.5	33.8	41.5	60A
	F**	460 / 60 / 3	414 / 506	1	7.8	52	1.3	6.0	13.8	17.1	20A	2.1	9.9	13.2	20A
	H	208-230 / 60 / 3	187.2 / 253	1	15.6	110	1.1	7.5	23.1	28.1	40A	7.5	23.1	28.1	40A

** 460 volt units with Internal Secondary Pump and/or CV ECM Require a Neutral

TR Series Wiring Diagram Matrix

All current diagrams can be located online at climatemaster.com. Click 'Commercial Professional'.

1. Click 'Products' in the main navigation
2. Select 'Small Packaged Units'
3. Select the TR product series
4. Click the Wire Diagrams tab in the middle of the page
5. Select your voltage and controls

Unit Controller	Fan Motor	Hydronic Coil	208v/1		265v/1		208v/3	460v/3	575v/3
			006-012	015-060	006-012	015-060	024-060	024-060	042-060
CXM2	PSC	None	96B0514N11				96B0514N21	96B0514N31	
	CT ECM	None	96B0514N12				96B0514N22	96B0514N32	
		Hybrid	96B0516N12				96B0516N22	96B0516N32	
DXM2.5	PSC	None	96B0521N11				96B0521N21	96B0521N31	
		Reheat		96B0524N11		96B0524N11	96B0524N21	96B0524N31	
	CT ECM	None	96B0527N11				96B0527N21	96B0527N31	
		Hybrid	96B0532N11				96B0532N21	96B0532N31	
		Reheat		96B0528N11		96B0528N11	96B0528N21	96B0528N31	
	CV ECM	None	96B0523N01	96B0523N11	96B0523N01	96B0523N11	96B0523N21	96B0523N31	
		Hybrid	96B0530N01	96B0530N11	96B0530N01	96B0530N11	96B0530N21	96B0530N31	
		Reheat		96B0525N11		96B0525N11	96B0525N21	96B0525N31	
	Auxiliary WD for MPC Controls			96B0147N14					
Control Box Layout			96B0500N00						

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General:

Furnish and install ClimateMaster Tranquility® “TR” 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 43.3°C) as standard. Equivalent units from other manufacturers may be proposed provided approval to bid is given 10 days prior to bid closing. All equipment listed in this section must be rated and certified in accordance with Air-Conditioning, Heating and Refrigeration Institute / International Standards Organization (AHRI / ISO 13256-1). All equipment must be tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL-1995 for the United States and CAN/CSA-C22.2 NO.236 for Canada, by Intertek Testing Laboratories (ETL). The units shall have AHRI / ISO and ETL-US-C labels.

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

Basic Construction:

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 air flow arrangements: Left Return/Top Discharge, Right 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 three access panels for serviceability of compressor compartment. **Units having only one or two access panels to compressor/heat exchangers/expansion device/refrigerant piping shall not be acceptable.**

Compressor section interior surfaces shall be lined with 1/2 inch (12.7mm) thick, 1-1/2 lb/ft³ (24 kg/m³) acoustic type glass fiber insulation. Air handling section interior surfaces shall be lined with 1/2 in (12.7mm) thick, 1-1/2 lb/ft³ (24 kg/m³) foil-faced 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.**

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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 start-up. 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: The unit will be supplied with optional field or factory installed 2 inch air filter rails (typically used for free return installation) or 1 inch or 2 inch air filter frames with filter access door and return air duct flanges (typically used for ducted return installation).
A corresponding 1 inch or 2 inch throwaway type glass filter will ship with the factory installed filter rails or frame.

Option: UltraQuiet package shall consist of additional sound insulation applied to the base pan, removable panels and blower housing. A discharge muffler is included on sizes 015 through 060.

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.

Fan 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 & 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: High static motors (sizes 015 - 060)

Option: Constant torque ECM motors (sizes 006 to 060): ECM variable speed ball bearing type motor. The ECM fan maximizes motor 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 CFM ECM motors (sizes 006 to 060): ECM variable speed ball bearing type motor. The ECM 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

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adjustment in 25 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 ECM 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 EarthPure® (HFC-410A) 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.**

Hermetic compressors shall be internally sprung. 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 heavy gauge compressor mounting plate, which is then isolated from the cabinet base with rubber 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 (4309 kPa) refrigerant working pressure. Refrigerant to water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 625 PSIG (4309 kPa) working refrigerant pressure and 500 PSIG (3445kPa) 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).

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

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

Option: The unit will be supplied with internally mounted secondary pump for primary/secondary applications, including one-pipe systems.

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

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

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Option: Unit shall include ClimaDry® II reheat option. Only modulating reheat that will adjust capacity based upon supply air temperature to provide "neutral" (72°F, 22.2°C) constant air temperature will be accepted. "Neutral" supply air temperature shall be provided regardless of entering loop water temperature (above 55°F, 12.8°C) or refrigerant condensing pressures. Control of reheat must be accomplished via a humidistat or dehumidistat contact closure. Refrigerant circuit must be AHRI certified. Approved equal manufacturers may provide pre-engineered integrated modulating hot gas reheat within the unit cabinet, or the installing contractor in conjunction with the "approved equal" unit manufacturer can provide for approval (during the submittal phase) an engineered system consisting of: a duct mounted hot water coil, small circulating pump, modulating control valve, and associated piping using the discharge condenser water off of the unit as the heating medium. All design costs and costs of field installed items including additional power wiring to the pump, and control wiring to and from pump and control valve to unit shall be borne by mechanical contractor. Refrigerant circuits that are not AHRI certified when the reheat option is applied will not be accepted. (See ClimaDry® II submittal for application details and unit availability.

Option: The unit shall be supplied with a hot water generator (desuperheater).

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.

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 all 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" 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, 24 volt activated, 2 or 3 pole compressor contactor, terminal block for thermostat wiring and solid-state controller for complete unit operation. The control box on sizes 015 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 fan motor wiring shall be routed through this electronic controller. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24 Volt and provide heating or cooling as required by the remote thermostat or sensor.

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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 3 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 8 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 AWC99U01 thermostat or 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. When the AWC99U01 communicating thermostat is used this same functionality can be viewed and adjusted remotely in the web portal or mobile app. **Systems not providing remote access, diagnosis, and adjustment functionality will not be accepted.**

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

This control system is a communicating controller.

Control shall have the above-mentioned features of the CXM2 control system 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 3 units to be controlled by one thermostat.
- j. Relay to operate an external damper.
- k. Relay to start system pump.
- l. 75 VA control transformer. Control transformer shall have load side short circuit and overload protection via a built-in circuit breaker.

NOTE: Units not providing the 8 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 AWC99U01 communicating thermostat or 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. When the AWC99U01 communicating thermostat is used this same functionality can be viewed and adjusted remotely with the only portal or mobile app. **Systems not providing remote access, diagnosis, and adjustment functionality will not be accepted.**

Digital Night Setback with Pump Restart (DXM2.5 w/ ATP32U03C/04C, AWC99U01):

The unit will be provided with a Digital Night Setback feature using an accessory relay on the DXM2.5 controller with an ATP32U03C/04C or AWC99U01 thermostat and an external, field-provided time clock. The external time clock will initiate and terminate the night setback period. The thermostat will have a night setback override feature with a programmable override time period. An additional accessory relay on the unit DXM2.5 controller will energize the building loop pump control for the duration of the override period. **(Note: This feature requires additional low voltage wiring. Consult Application Drawings for details.)**

Remote Service Sentinel (CXM2/DXM2.5):

Solid state control system shall communicate with applicable thermostats to display (at the thermostat) the unit status, fault status, and specific fault condition, as well as retrieve previously stored fault that caused unit shutdown. The Remote Service Sentinel allows building maintenance personnel or service personnel to diagnose unit from the wall thermostat. The control board shall provide a signal to the thermostat, indicating a lockout. A detailed message shall be provided at the communicating thermostat or 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.**

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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 7).

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

Warranty:

ClimateMaster shall warranty equipment for a period of 12 months from 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 control board 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.

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Valves:

The following valves are available and will be shipped loose:

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

Hose Kit Assemblies:

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

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

Thermostats:

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

a. Thermostat (Communicating) (AWC99U01)

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

The thermostat shall provide access to via the web portal or mobile application to include temperature adjustment, schedule adjustment including occupied/unoccupied, entering water temperature, leaving water temperature, water coil temperature, air coil temperature, leaving air temperature, and compressor discharge temperature. A graphical system layout to be provided with real-time operating mode information of the temperature sensors for easy diagnostics.

The thermostat shall display system faults with probable cause and troubleshooting guidance. The system shall provide in clear language last five faults, time of faults, operating temps at time of fault, and possible reasons for the fault. The thermostat shall provide access for immediate manual control of all outputs via the web portal/mobile application for rapid troubleshooting.

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

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

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

Thermostat shall be 5 day/2 day programmable (with up to 4 setpoints per day), multi-stage (2H/1C), manual changeover with HEAT-OFF-COOL-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have an LCD display with temperature, setpoint(s), mode, and status indication. The temperature indication shall be selectable for °F or °C. The thermostat shall provide permanent memory of setpoint(s) without batteries. Thermostat shall provide convenient override feature to temporarily change setpoint.

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

Thermostat shall be 7 day programmable (with up to 4 setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have a blue backlit dot matrix LCD display with temperature, setpoints, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12 or 24 hour clock. Fault identification shall be provided (when used with ClimateMaster CXM2 or DXM2.5 controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

e. Multistage Automatic or Manual Changeover Programmable 7 Day with Humidity Control (ATP32U04C)

Thermostat shall be 7 day programmable (with up to 4 setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Separate dehumidification and humidification setpoints shall be configurable for discreet outputs to a dehumidification option and/or an external humidifier. Installer configuration mode shall allow thermostat dehumidification mode to operate with ClimaDry® II reheat or with ECM fan dehumidification mode via settings changes. Thermostat shall have a blue backlit dot matrix LCD display with temperature, relative humidity, setpoints, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12 or 24 hour clock. Fault identification shall be provided (when used with ClimateMaster CXM2 or DXM2.5 controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

f. CM100 - Multi-stage Automatic or Manual Changeover digital thermostat (ATA32V01)

Multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have a green backlit LED display with temperature, setpoints, mode, and status indication via a green (cooling) or red(heating) LED. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12 or 24 hour clock. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring. Thermostat navigation shall be accomplished via four buttons (Mode/fan/down/up) with menu-driven selections for ease of use and programming.

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g. CM300 – Multi-stage, Automatic or Manual Changeover, 7-day Programmable with Wi-Fi and Humidity Control (AVB32V02C)

Residential version shall be 7 day programmable with up to 4 setpoints per day. Commercial version shall be 7 day programmable with 4 occupied/unoccupied periods per day with up to 4-hour override. Multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings, Wi-Fi, pre-occupancy purge fan option, night time control of display backlight, bi-color LED indicates a heating or cooling demand, keypad lock, title 24 compliant, openADR2.0b certified with Skyport web portal. Compatible with condensate overflow warning systems – lockout compressor with message on.

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

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

DDC Sensors:

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

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

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

Performance Sheet

SUBMITTAL DATA - I-P UNITS

Unit Designation: _____

Job Name: _____

Architect: _____

Engineer: _____

Contractor: _____

PERFORMANCE DATA

Cooling Capacity: _____ Btuh

EER: _____

Heating Capacity: _____ Btuh

COP: _____

Ambient Air Temp: _____ °F

Entering Water Temp (Clg): _____ °F

Entering Air Temp (Clg): _____ °F

Entering Water Temp (Htg): _____ °F

Entering Air Temp (Htg): _____ °F

Airflow: _____ CFM

Fan Speed or Motor/RPM/Turns: _____

Operating Weight: _____ (lb)

ELECTRICAL DATA

Power Supply: _____ Volts

_____ Phase _____ Hz

Minimum Circuit Ampacity: _____

Maximum Overcurrent Protection: _____

SUBMITTAL DATA - S-I UNITS

Unit Designation: _____

Job Name: _____

Architect: _____

Engineer: _____

Contractor: _____

PERFORMANCE DATA

Cooling Capacity: _____ kW

EER: _____

Heating Capacity: _____ kW

COP: _____

Ambient Air Temp: _____ °C

Entering Water Temp (Clg): _____ °C

Entering Air Temp (Clg): _____ °C

Entering Water Temp (Htg): _____ °C

Entering Air Temp (Htg): _____ °C

Airflow: _____ l/s

Fan Speed or Motor/RPM/Turns: _____

Operating Weight: _____ (kg)

ELECTRICAL DATA

Power Supply: _____ Volts

_____ Phase _____ Hz

Minimum Circuit Ampacity: _____

Maximum Overcurrent Protection: _____

Notes:

Revision History

Date:	Item:	Action:
01/24/23	All	Introduced new CXM2 controls, updated to new DXM2.5 controls, introduced Wi-Fi cloud connected color touch screen communicating thermostat
6/10/22	Page 8	Added page to describe the CT ECM blower motor functionality
1/6/22	Page 10	Added note to ClimaDry specifying size availability
11/02/21	Page 103	Updated CT ECM specification verbiage
9/29/21	All	Removed LON option, discontinued
8/25/21	Engineering Specs	Added drain pan insulation text
7/8/21	All	Introduced Polymer Drain Pans. Discontinued Painted Galvanized Pans.
11/18/20	Pg. 10	Updated ASHRAE Performance Data
11/09/20	Pgs. 103-112	Updated Engineering Specs
7/8/20	Pgs. 20, 21, 104	Updated Performance Data Tables for size 018, updated Engineering Specs
5/26/20	ALL	Updated from DXM to DXM2, Removed "II" from ClimaDry", new Engineering Specs
4/24/20	Performance & Blower Data Tables	Updated
3/9/20	Update Page 9	Updated ASHRAE Tables
2/17/20	Page 9	Update tables from "TC" to "TR"
2/14/20	Pages 84-91	Updated Electrical Data Tables
11/7/19	Insert ClimaDry II pages	Replaced
10/01/19	Edit texts in graphs	Added
10/01/19	pg 106	Added
10/01/19	Pg 6 and 74	Removed pages
7/11/19	DXM2	Updated
7/11/19	Performance data - 006, 009 PSC	Updated
7/11/19	Constant Torque ECM	Added
7/11/19	Hydronic Heating	Added
11/27/18	Electrical service disconnect	Added
10/6/17	Page 51	Edit size 015 'E' FLA, MCA
06/14/17	Page 38	Update drawing
11/4/16	Page 8	Update 018 awhp rating
11/1/16	Document Design Updated	Updated
10/6/16	Pages 14,18,22,24,26,33,72	Updated Airflow, Heat of Rejection,ECM option text
7/1/16	Pages 20,22,24,26,28	Updated Nominal Airflow
6/22/16	All	Update Filter Rails and front access panels
5/26/16	Pages: 4,59-70,73	Misc. edits
04/8/16	page 8	update performance data TR-009 COP
03/04/16	Pages 36,37,71	Updated ECM control and run test text
10/26/15	Page 24	updated heating data
07/31/15	Engineering Specifications and Unit Features	Updated, ECM Options Text, Edited Compressors Mount Text
03/03/15	Page 16	Updated 018 ECM Performance Data
02/02/15	All	Updated Rated Airflows ECM
01/21/15	All	Added ECM, Service Access, Misc.
10/07/14	Engineering Specifications	Updated
09/30/14	Edit Text - Page 57	Updated
05/29/14	Physical Data Table	Removed Fan Motor (hp)
05/12/14	Physical Data Table	Updated Ref. Charge 024 and Unit Maximum Working Water Pressure
07/18/13	EAT Minimum Limit ClimaDry®	Updated
02/05/13	Electrical Data Tables	Miscellaneous Edits
09/27/12	EAT Limits Recommended Minimum Installation Clearances for Vertical Units *	Updates to Text - ClimaDry® Option Added

Revision History

Date:	Item:	Action:
08/23/12	Unit Hanger Detail	Updated
05/22/12	ClimaDry WPD Table Size 015, 018 w/ClimaDry	Updated, Removed
02/20/12	Engineering Specifications	Updated
02/02/12	ClimaDry® II Option Information	Merge Data From ClimaDry® II Submittal
09/19/11	Size 024	Added "H" and "F" Voltage
08/09/11	Unit Maximum Working Water Pressure	Updated to Reflect New Safeties
08/03/11	Engineering Specifications	Added Digital Night Setback with Pump Restart (DXM w/ AT-P32U03/04)
06/17/11	Coated Air Coil Option	Added
04/07/11	Engineering Specification NOTICE	Updated
02/11/11	Performance Data Selection Notes	Added
01/03/11	Format All Pages	Updated
10/27/10	Blower Performance Data	Updated
10/22/10	Engineering Specifications	Updated
10/22/10	ClimaDry® Data, Horizontal Unit Diagram	Added/Updated
	Page 8	Updated size 006
10/05/10	Horizontal Dimensional Data	Updated
09/28/10	Engineering Specifications	Updated
09/28/10	Physical Data Table	Added Condensate Drain Connection Note
09/01/10	012 E Voltage Airflow Correction Table	Added/Corrected
07/26/10	Wiring Diagrams	Updated
07/26/10	Compressor Mounting Information and Graphics Engineering Specifications	Updated to Reflect Spring/Grommet Change
06/11/10	Format - All Pages	Updated
06/11/10	Engineering Specifications	Updated
04/8/10	Less ClimaDry® Misc.	Updated
04/8/10	Engineering Specifications Misc.	Updated
03/29/10	Dimensions, electrical, text Misc.	Updated
02/12/10	Dimensions, electrical, text Misc.	Updated
09/01/09	First Published	



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