Tranquility® 20 (TS) Series

SINGLE-STAGE
HORIZONTAL, VERTICAL, AND DOWNFLOW
EARTHPURE® SYSTEMS SIZES 018 - 070 [5.3 - 21.1 kW]

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What's New with ClimateMaster's Tranquility® 20?

EarthPure® Refrigerant

EarthPure® is a non-chlorine based (HFC-410A) refrigerant, that with R-407C and R-134A, is seen as the future of all refrigerants used worldwide. HFC-410A characteristics compared to R-22 are:

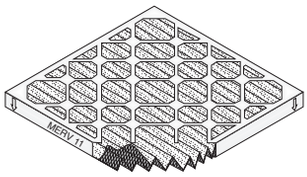
- Binary and near azeotropic mixture of 50% R-32 and 50% R-125.
- Higher efficiencies (50-60% higher operating pressures)
- Zero ozone depletion potential and low global warming potential.
- Virtually no glide. Unlike other alternative refrigerants, the two components in HFC-410A have virtually the same leak rates. Therefore, refrigerant can be added if necessary without recovering the charge.

iGate® 2—Communicating Controls

iGate® 2 technology represents the next generation in intelligent controls by using 2-way communication to provide a gateway into the system. The iGate 2 control system allows the homeowner and dealers to monitor the performance of the unit, custom tailor its operation, and diagnose any issues, all from the communicating thermostat. The iGate 2 communications hub is the new DXM2.5 intelligent controller, which analyzes the status of sensors and smart components (also 2-way communicating) to determine how best to operate your system for optimal comfort, efficiency and long-term reliability. All of this information is passed to the iGate 2 thermostat (or dealer diagnostic tool), where it can be displayed in plain English. And since communication is both ways, the iGate 2 thermostat can also be used to configure and tailor the system without touching your unit. Future accessories will enable iGate 2 communication over the internet, allowing the homeowner (and dealer if the homeowner chooses) to access the system from a PC or smart phone.

iGate2
REMOTE DIAGNOSTICS. SERVICE SIMPLIFIED.

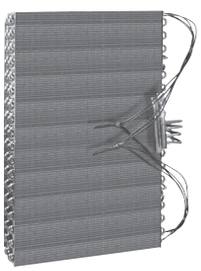
MERV 11 2" Pleated filter



All Tranquility® 20 units include a factory installed 2" filter rack/duct collar with a 2" pleated high efficiency MERV 11 air filter. The MERV (minimum efficiency reporting value per ASHRAE Standard 52.2) design features ultra low velocity (<300 fpm) for extended filter life, low pressure drop (0.13 – 0.18 in. wg.) and high particulate efficiency (size E1=41%, E2=69% and E3=87%). The pleated design and low velocity combine to allow the filter to store a large amount of dirt and result in a practical replacement life of up to 6 months.

Tin Plated Air Coil

All ClimateMaster Tranquility® 20 Series models feature either a tin-plated or all-aluminum air coil. These will provide years of protection against corrosion from airborne chemicals resulting from modern building material out gassing and most environmental chemicals found in the air. Modern building materials such as counter-tops, floor coverings, paints and other materials can "outgas" chemicals into the home's air. Some of these chemicals are suspected of contributing to corrosion in the air coils found in both traditional and geothermal heating and cooling equipment. Corrosion often results in refrigerant leaks and eventual failure of the air coil costing hundreds of dollars to replace. Studies have also shown that these air coil coatings improve moisture shedding and therefore improve a unit's moisture removal capability resulting in a more comfortable home. The Tranquility® 20 Series is your assurance of both maximum air coil life and comfort.



Copeland Scroll Compressor

There's a reason 9 out of every 10 scroll compressors installed are Copeland. With over 15 years of painstaking R & D and rigid production controls, Copeland is able to build the most reliable, efficient and quiet scroll compressors in the world.

The concept of compressing a gas by turning one involute form – or "scroll" – against another around a common axis is nearly a century old. It wasn't until the late 1980s, however that one company – Copeland – turned theory into practical reality, using sophisticated, computer-assisted design and manufacturing methods to achieve the critical tolerances required. In the years since, Copeland has become the leader in scroll compressor applications, with nine scroll manufacturing facilities on three continents and millions of units installed worldwide.

Copeland Scroll compressors employ two identical, concentric scrolls, one inserted within the other. One scroll remains stationary as the other orbits around it. This movement draws gas into the compression chamber and moves it through successively smaller "pockets" formed by the scroll's rotation, until it reaches maximum pressure at the center of the chamber. There, it's released through a discharge port in the fixed scroll. During each orbit, several pockets are compressed simultaneously, so operation is virtually continuous.

Recently, Copeland produced its 500,000th Scroll compressor with the environmentally sound refrigerant HFC-410A. Field results have shown that HFC-410A units with Copeland Scroll compressors offer nearly 30% lower failure rates versus existing R-22 units. HFC-410A units can reach the industry's highest efficiency levels. HFC-410A scrolls also offer sound advantages to other compressor technologies, typically operating several decibels quieter than comparable R-22 models. The result is unsurpassed reliability and virtually silent operation.

Other New Features

- Stylish two-tone look with textured black powder coat paint and stainless steel front access panels.
- Liftout handles for front access panels.
- Corrosion and stain resistant stainless steel drain pan with extra slope designed in.
- Factory mounted filter drier for trouble free reliability.
- Easy access low profile horizontal control box.
- Double isolated compressor for quiet and vibration free operation.
- Foil faced insulation in air handling compartment to allow easy cleaning and prevent microfiber introduction into the air stream.
- Open Service-Friendly Cabinet (i.e, all components in compressor section can be serviced from the front).

iGate® 2 Communicating Controls

iGate® 2 Information gateway to monitor, control and diagnose your system

The Tranquility® 20 is equipped with industry-first, iGate® 2 – Information Gateway – a 2-way communicating system that allows users to interact with their geothermal system in plain English AND delivers improved reliability and efficiency by precisely controlling smart variable speed components. iGate 2 makes the Tranquility Digital series the easiest geothermal products to install and service.

Monitor/Configure

Installers can configure Tranquility 30 Digital units from the thermostat, including: Air flow, loop ΔT, water-flow option configuration, unit configuration, 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 and pump.

Precise Control

The new DXM2.5 board enables intelligent, 2-way communication between the DXM2.5 board and smart components like the communicating thermostat, fan motor, and water pump. The DXM2.5 control can also directly control the modulating valve and accepts various feedback/input. The Intelligent DXM2.5 board uses information received from the smart components and sensors to precisely control operation of the variable-speed fan and variable-speed water pump (or modulating valve) to deliver higher efficiency, reliability and increased comfort.

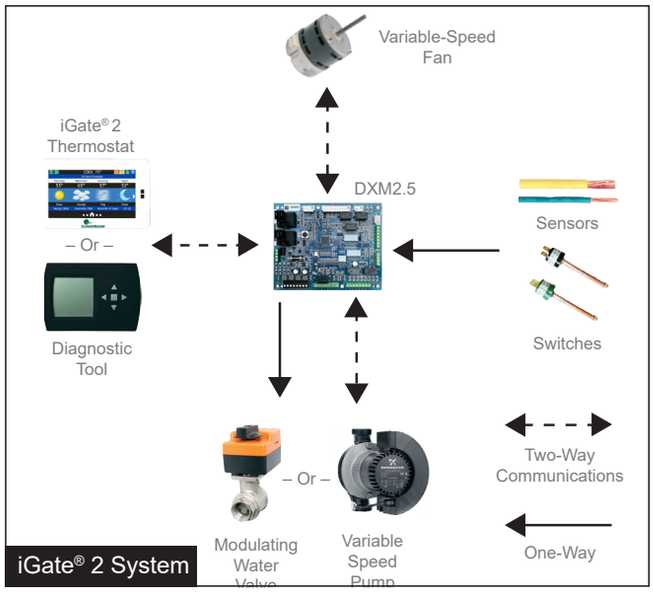
Diagnostics

iGate 2 takes diagnosing geothermal units to the next level of simplicity, by providing a dashboard of system and fault information, in plain English, on the iGate 2 thermostat/ service tool.

iGate 2 Service Warning warns the homeowner of a fault and displays dealer information (if programmed), fault descriptions, possible causes and current system status (temperature readings, fan RPM and water flow status) to provide to a dealer on the phone.

In iGate 2 Service Mode, the service personnel can access fault descriptions, possible causes and most importantly, the conditions (temp, flow, i/o conditions, configuration) at the time of the fault and at the time of the call. Manual Operation mode allows the service personnel to manually command operation for any of the thermostat outputs, blower speed, as well as pump speed or valve position from the thermostat, to help troubleshoot specific components.

With the iGate 2 communicating system, consumers and contractors have a gateway to system information never before available.



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

POSSIBLE FAULT CAUSES LOW WATER COIL TEMP
LOW WATER TEMP - HTG
LOW WATER FLOW - HTG
LOW REFRIG CHARGE - HTG
INCORRECT LT1 SETTING
BAD LT1 THERMISTOR
◀ PREVIOUS

FAULT TEMPERATURE CONDITIONS LT1 LOW WATER TEMP HEAT 1 11:11 AM 11/14	
LT1 TEMP	28.1
LT2 TEMP	97.3
HOT WATER EWT	121.5
COMP DISCHARGE	157.7
LEAVING AIR	92.7
LEAVING WATER	34.9
ENTERING WATER	42.1
CONTROL VOLTAGE	26.4
◀ PREVIOUS	

Tranquility® 20 Design Features

The Tranquility® 20 Series has abundant features and industry leading efficiency.

Application Flexibility
- Eight Capacities 018, 024, 030, 036, 042, 048, 060 and 070.
- Single-stage upflow, downflow, and horizontal right or left return.
- Extended range operation (20-120°F EWT) and flow rates as low as 1.5 gpm per ton.
- Variable speed ECM fan motor adapts to various duct systems.
- Internal electric heat unit (optional) designed for easy field installation.
- Circuit breaker protected loop and hot water generator pumps.
- Field selectable low-temperature protection setting for GWHP or GLHP.
- Standard pre-installed 2" filter frame with 2" high performance MERV 11 pleated air filter.

Operating Efficiencies
- EarthPure® HFC-410A zero ozone depletion refrigerant.
- Among the highest efficiencies in AHRI/ASHRAE/ANSI/ISO 13256-1 single stage ratings for heating COP's, cooling EER's with low water flow rates.
- 20 EER/4.2 COP.
- ECM variable speed fan for ultra high efficiencies and unsurpassed comfort.
- Wide operating temperature range and high efficiency allow shorter loops.
- Optional hot water generator with internal pump generates hot water at considerable savings.
- Rugged and highly efficient next generation Copeland scroll compressors provide the extremely high efficiencies and capacities.
- Oversized coaxial tube water-to-refrigerant heat exchangers operate at low liquid pressure drop. Convoluted copper (and optional cupro-nickel) water tube functions efficiently at low-flow rates and provides low-temperature-damage resistance.
- Oversized tin plated, rifled tube/lanced aluminum fin, air to refrigerant heat exchangers provide high efficiency at low face velocity.
- Large low RPM blowers with optional variable speed fan motors provide quiet, efficient air movement with high static capability.
- Exceeds ASHRAE 90.1 and Energy Star 3.0 efficiencies.

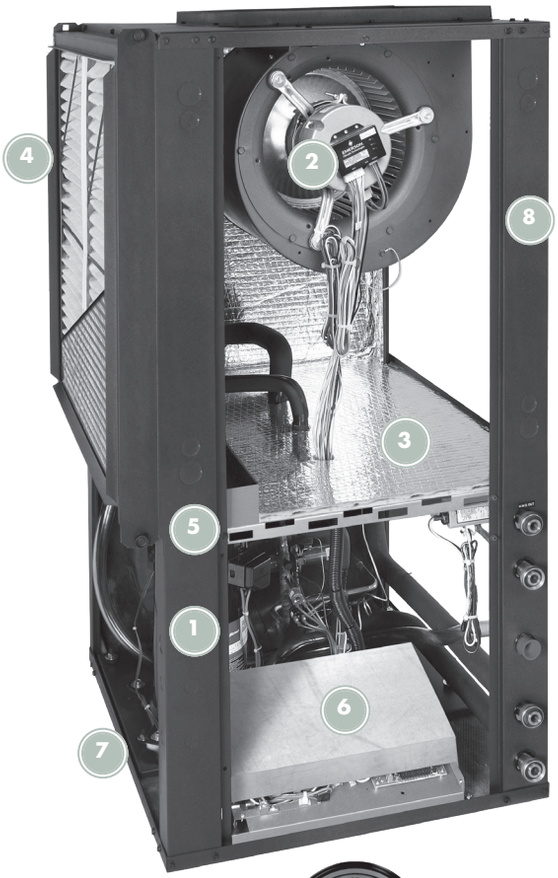
Service & Installation Advantages
- Removable panels - 3 for compressor, 2 for air handling compartment.
- Low profile control box grants easy access to all internal components.
- Factory installed liquid line filter/drier.
- Brass swivel-type water connections for quick connection and elimination of wrenches or sealants during installation.
- Bi-directional thermal expansion valve.
- The communicating DXM2.5 control board diagnostic and communicating thermostat features allow the home owner to tell the service technician what is wrong with the unit before the technician leaves the shop.
- Circuit breaker protected 75VA control transformer.
- Insulated divider and separate air handling/compressor compartments permit service testing without air bypass.
- Fan motors have quick attach wiring harness for fast removal.
- Internal dropout blower for easy servicing.
- High and low pressure service ports on refrigerant circuit.
- Accurate refrigerant sensing low-temperature protection.
- Intelligent fault retry- condensate overflow protection.
- Air coil low temperature cut-out using high accuracy thermistor.
- 24vac accessory relays.
- Exclusive UPS (Unit Performance Sentinel) feature provides early warning of inefficient operating conditions before unit shutdown actually occurs reducing the need for emergency service work, thus letting you fix problems in the early stages. Fault types are not only indicated at the control, but are stored in memory after a user reset for future service use. Fault types can be displayed at the thermostat if equipped with fault LED or display.
- Narrow cabinet design for easy movement through doorways.

Factory Quality & Industry Certifications
- All units are built on our Integrated Process Control Assembly System (IPCS). The IPCS is a unique state of the art manufacturing system that is designed to assure quality of the highest standards of any manufacturer in the water-source industry. Our IPCS system:
  - Verifies that the correct components are being assembled.
  - Automatically performs special leak tests on all joints.
  - Conducts pressure tests.
  - Performs detailed run test
  - Automatically disables packaging for a "failed" unit.
  - Creates computer database for future service analysis and diagnostics from run test results.
- Heavy gauge galvanized steel cabinets are epoxy powder coated for durable and long-lasting finish.
- All refrigerant brazing is done in a nitrogen atmosphere.
- All units are deep evacuated to less than 100 microns prior to refrigerant charging.
- All joints are both helium and halogen leak tested to insure annual leak rate of less than 1/4 ounce.
- Coaxial heat exchanger, refrigerant suction lines and all water lines are fully insulated to eliminate condensation problems in low temperature applications.
- Noise reduction features include: dual level compressor isolation; insulated compressor compartment; interior cabinet insulation using 1/2" coated glass fiber and optional variable speed fan.
- Safety features include: high pressure and loss of charge to protect the compressor; condensate overflow protection; low-temperature protection sensors to safeguard the coaxial heat exchanger and air coil; hot water high-limit and low compressor discharge temperature switch provided to shut down the hot water generator when conditions dictate. Fault lockout enables emergency heat and prevents compressor operation until thermostat or circuit breaker has been reset.
- Standard 10-year limited warranty on all parts with 5-year labor allowance; Optional additional extended 5-year limited labor allowance available.
- AHRI/ASHRAE/ANSI/ISO 13256-1 certified.
- ETL listed.
- US EPA "Energy Star" compliant.

Tranquility® 20 Design Features

Simplified Controls
- DXM2.5 solid state control module.
- Intelligent ECM for maximized airflow control.
- Dehumidification mode for higher latent cooling

Options & Accessories
- Hot water generator with internally mounted pump.
- Cupro-nickel coaxial heat exchanger.
- Electronic thermostat.
- Closed loop flow controller.
- Electronic auto-changeover thermostat with 3-stage heat, 2-stage cool and indicator LEDs.
- Hose kits.
- Additional extended 5-year limited labor allowance.
- Internal electric heat (optional) for easy field installation.

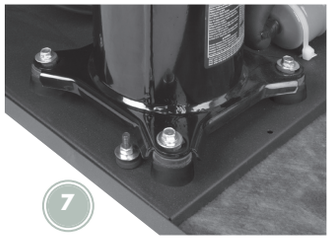


1. Copeland™ High Efficiency Scroll Compressor or High Efficiency Rotary Compressor (018)
2. Speed ECM fan motor adapts to various duct systems
3. Foil Faced Insulation In The Blower Section, Fully Insulated Compressor Section
4. Two Inch Filter Frame With High Performance MERV 11 Pleated Air Filter*
5. Stainless Steel Drain Pan For Long Life
6. Unit Performance Sentinel: Automatic Alert System Lets You Know If The System Is Not Running At Peak Performance**
7. Dual Level Compressor Isolation For Ultra Quiet Operation
8. Five Easy, Lift-out Service Access Panels With Stainless Steel Front Panels

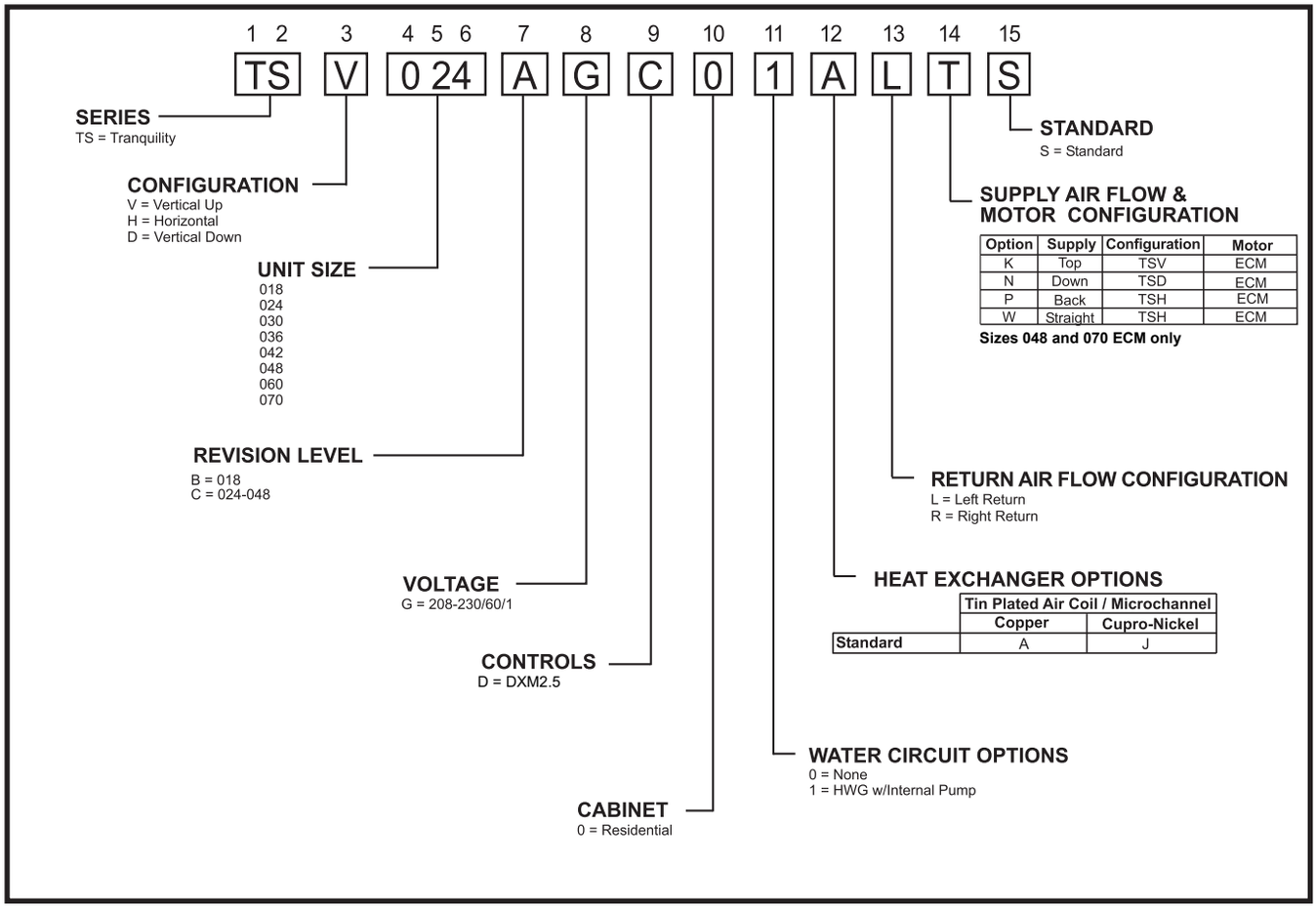
* MERV= Minimum Efficiency Reporting Value as specified by ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) standard 52.2.

** When installed with a ClimateMaster Residential Thermostat.

Features EarthPure® HFC-410A Zero Ozone Depletion Refrigerant



Unit Model Key



Option	Supply	Configuration	Motor
K	Top	TSV	ECM
N	Down	TSD	ECM
P	Back	TSH	ECM
W	Straight	TSH	ECM

Sizes 048 and 070 ECM only

	Tin Plated Air Coil / Microchannel	
	Copper	Cupro-Nickel
Standard	A	J

About AHRI/ISO/ASHRAE 13256-1

About AHRI/ISO/ASHRAE 13256-1

AHRI/ASHRAE/ISO 13256-1 (Air-Conditioning and Refrigeration Institute/American Society of Heating, Refrigerating and Air Conditioning Engineers/International Standards Organization) is a certification standard for water-source heat pumps used in the following applications:

- WLHP (Water Loop Heat Pump – Boiler/Tower)
- GWHP (Ground Water Heat Pump – Open Loop)
- GLHP (Ground Loop Heat Pump – Geothermal)

The directory at http://www.ahrinet.org/ is constantly being updated and immediately available on the Internet. All ratings are submitted by the manufacturer for certification, and must be approved by AHRI. Therefore, there is a significant difference between AHRI "certified" and AHRI "rated." Thirty percent of a manufacturer's basic models must be tested each year. AHRI selects models at random from stock for testing on the basis of its evaluation of a participant's certification data.

Units that fail one or more certified test (90% of declared performance or lower) may be declared defective. If the initial failure is a performance test, the manufacturer must obsolete all units within the same basic model group or elect to have a second sample tested. If the second unit fails a performance test, it must be obsoleted, together with all units within the same basic model group. ClimateMaster takes certification seriously. We were recently awarded a certificate for consecutive years of no AHRI failures.

Temperatures used in AHRI certification standards are S.I. (Système International – metric) based. For example, typical catalog data for cooling is shown at 80°F DB/67°F WB [26.7°C DB/19.4°C] entering air temperature, but the AHRI standard for cooling is 80.6°F DB/66.2°F WB [27°C DB/19°C], since it is based upon whole numbers in degrees Celsius. Water and air temperatures for the standard are shown below.

Test Condition Comparison Table

	WLHP	GWHP	GLHP
Cooling			
Entering Air Temperature - DB/WB °F [°C]	80.6/66.2 [27/19]	80.6/66.2 [27/19]	80.6/66.2 [27/19]
Entering Water Temperature - °F [°C]	86 [30]	59 [15]	77 [25]
Fluid Flow Rate	*	*	*
Heating			
Entering Air Temperature - DB/WB °F [°C]	68 [20]	68 [20]	68 [20]
Entering Water Temperature - °F [°C]	68 [20]	50 [10]	32 [0]
Fluid Flow Rate	*	*	*

*Flow rate is specified by the manufacturer

Data certified by AHRI include heating/cooling capacities, EER (Energy Efficiency Ratio – Btuh per Watt) and COP (Btuh per Btuh) at the various conditions shown above. Pump power correction is calculated to adjust efficiencies for pumping Watts. Within each model, only one water flow rate is specified for all three groups, and pumping Watts are calculated using the formula below. This additional power is added onto the existing power consumption.

- Pump power correction = (gpm x 0.0631) x (Press Drop x 2990)/300

Fan power is corrected to zero external static pressure using the equation below. The nominal airflow is rated at a specific external static pressure. This effectively reduces the power consumption of the unit and increases cooling capacity but decreases heating capacity.

- Fan Power Correction = (cfm x 0.472) x (esp x 249)/300

Capacities and efficiencies are calculated using the following equations:

- ISO Cooling Capacity = Cooling Capacity (Btuh) + [Fan Power Correction (Watts) x 3.412]
- ISO EER Efficiency (Btuh/W) =
  ISO Cooling Capacity (Btuh)/[Power Input (Watts) – Fan Power Correction (Watts) + Pump Power Correction (Watts)]
- ISO Heating Capacity = Heating Capacity (Btuh) – [Fan Power Correction (Watts) x 3.412]
- ISO COP Efficiency (Btuh/Btuh) =
  ISO Heating Capacity (Btuh) x 3.412/[Power Input (Watts) - Fan Power Correction (Watts) + Pump Power Correction (Watts)]

AHRI/ISO/ASHRAE/ANSI 13256-1 Performance

ASHRAE/AHRI/ISO 13256-1. English (IP) 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
TS018	ECM	19,200	16.5	23,300	5.9	22,100	26.3	18,900	4.9	20,200	19.4	14,500	3.9
TS024	ECM	23,900	17.9	30,400	6.1	26,900	26.9	23,800	5.2	25,500	20.9	19,100	4.2
TS030	ECM	28,000	17.3	35,100	5.8	30,800	26.7	28,000	4.9	29,200	19.4	22,000	4.1
TS036	ECM	33,500	18.1	39,900	5.9	35,400	24.9	32,600	4.9	34,600	20.4	25,600	4.3
TS042	ECM	39,400	19.6	45,100	6.0	44,400	29.5	35,200	5.2	40,700	21.9	27,400	4.1
TS048	ECM	48,900	17.2	57,700	5.2	53,700	23.9	45,700	4.4	50,600	18.8	36,100	3.7
TS060	ECM	63,200	17.2	73,200	5.4	68,900	24.9	58,200	4.6	64,400	18.4	46,400	3.9
TS070	ECM	71,100	15.7	82,000	4.8	78,100	23.0	65,200	4.1	73,000	17.2	53,000	3.6

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 (SI) 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		Cooling 25°C		Heating 0°C	
		Capacity kW	EER Btuh/W	Capacity kW	COP	Capacity kW	EER Btuh/W	Capacity kW	COP	Capacity kW	EER Btuh/W	Capacity kW	COP
TS018	ECM	5.65	4.8	6.85	5.9	6.50	7.7	5.56	4.9	5.94	5.7	4.43	3.9
TS024	ECM	7.00	5.2	8.91	6.1	7.88	8.4	6.98	5.2	7.47	6.1	5.60	4.2
TS030	ECM	8.21	5.1	10.29	5.8	9.03	7.8	8.21	4.9	8.56	5.7	6.45	4.1
TS036	ECM	9.82	5.3	11.69	5.9	10.38	7.3	9.55	4.9	10.14	6.0	7.50	4.3
TS042	ECM	11.55	5.7	13.22	6.0	13.01	8.6	10.32	5.2	11.93	6.4	8.03	4.1
TS048	ECM	14.33	5.1	16.91	5.2	15.74	7.0	13.39	4.4	14.83	5.5	10.58	3.7
TS060	ECM	18.52	5.0	21.45	5.4	20.19	7.3	17.06	4.6	18.87	5.4	13.60	3.9
TS070	ECM	20.84	4.6	24.03	4.8	22.89	6.9	19.11	4.1	21.40	5.0	15.53	3.6

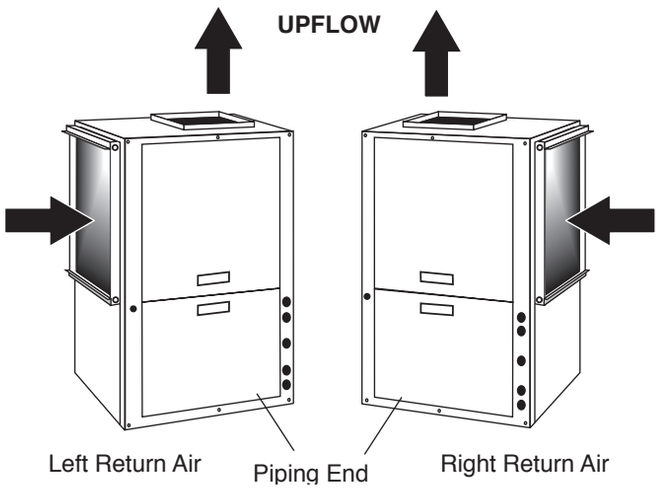
Cooling capacities based upon 27°C DB, 19°C WB entering air temperature
Heating capacities based upon 20°C DB, 15°C WB entering air temperature
All ratings based upon operation at lower voltage of dual voltage rated models

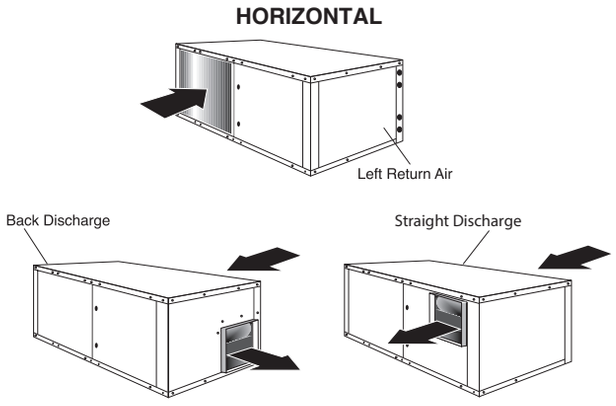
Reference Calculations & Legend

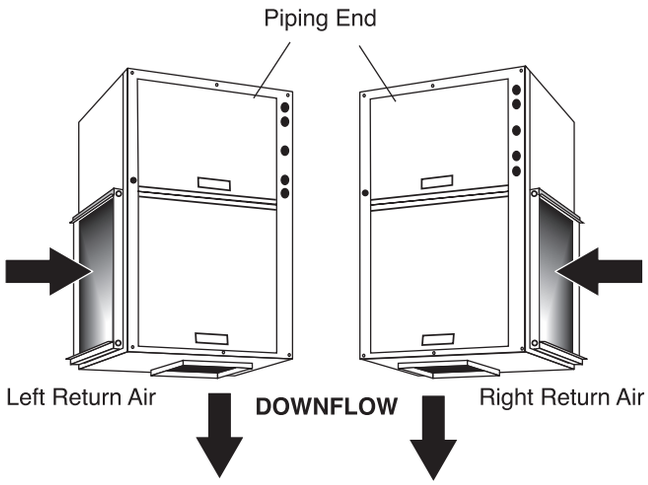
Heating	Cooling	
$LWT = EWT - \frac{HE}{GPM \times 500}$	$LWT = EWT + \frac{HR}{GPM \times 500}$	$LC = TC - SC$
$LAT = EAT + \frac{HC}{CFM \times 1.08}$	$LAT\ (DB) = EAT\ (DB) - \frac{SC}{CFM \times 1.08}$	$S/T = \frac{SC}{TC}$

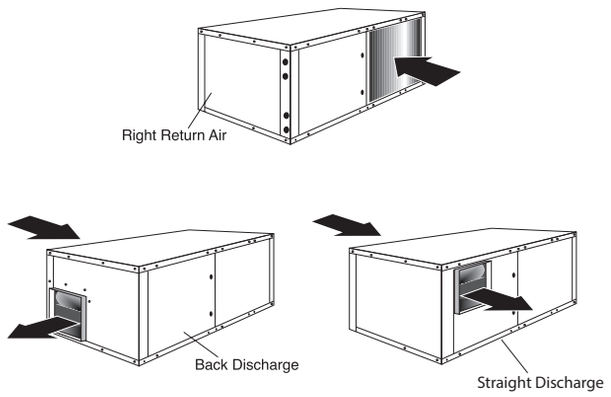
Hot Water Generator capacities (HWC) are based on potable water flow rate of 0.4 gpm per nominal equipment ton and 90°F entering potable water temperature.

CFM	=	airflow, cubic feet/minute	HE	=	total heat of extraction, Mbtuh
EWT	=	entering water temperature, °F	HWC	=	Hot Water Generator (desuperheater) capacity, Mbtuh
GPM	=	water flow in US gallons/minute	WPD	=	Water coil pressure drop (psi & ft hd)
EAT	=	entering air temperature, Fahrenheit (dry bulb/wet bulb)	EER	=	Energy Efficiency Ratio = BTU output/Watt input
HC	=	air heating capacity, Mbtuh	COP	=	Coefficient of Performance = BTU output/BTU input
TC	=	total cooling capacity, Mbtuh	LWT	=	leaving water temperature, °F
SC	=	sensible cooling capacity, Mbtuh	LAT	=	leaving air temperature, °F
KW	=	total power unit input, KiloWatts	LC	=	latent cooling capacity, Mbtuh
HR	=	total heat of rejection, Mbtuh	S/T	=	sensible to total cooling ratio









Air Flow Correction Factors

TS018 with ECM Fan Motor

Airflow	Cooling					Heating		
% of Rated	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection	Heating Capacity	Power	Heat of Extraction
75	0.9619	0.8593	0.8933	0.9455	0.9587	0.9700	1.0822	0.9410
81.25	0.9747	0.8943	0.9175	0.9564	0.9711	0.9775	1.0536	0.9579
87.50	0.9853	0.9302	0.9441	0.9691	0.9821	0.9851	1.0304	0.9733
93.75	0.9938	0.9659	0.9719	0.9837	0.9918	0.9925	1.0125	0.9874
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
106.25	1.0041	1.0313	1.0271	1.0181	1.0069	1.0074	0.9928	1.0112
112.50	1.0060	1.0584	1.0522	1.0381	1.0123	1.0148	0.9909	1.0210
118.75	1.0070	1.0815	1.0740	1.0598	1.0174	1.0222	0.9622	1.0377
125	1.0076	1.0998	1.0916	1.0834	1.0225	1.0295	0.8681	1.0712

TS024-070 with ECM Fan Motor

Airflow	Cooling					Heating		
% of Rated	Total Capacity	Sensible Capacity	S/T	Power	Heat of Rejection	Heating Capacity	Power	Heat of Extraction
72	0.925	0.850	0.919	0.951	0.950	0.957	1.124	0.942
80	0.954	0.903	0.946	0.966	0.968	0.973	1.072	0.963
88	0.974	0.941	0.966	0.977	0.982	0.984	1.037	0.979
96	0.992	0.981	0.989	0.992	0.995	0.995	1.010	0.994
100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
104	1.007	1.018	1.011	1.009	1.005	1.005	0.993	1.006
112	1.017	1.052	1.035	1.027	1.013	1.012	0.986	1.015
120	1.023	1.082	1.058	1.047	1.019	1.019	0.990	1.022

Entering Air Correction Factors

Unit Size 018

Heating			
Entering Air DB °F	Heating Capacity	Power	Heat of Extraction
45	1.0514	0.7749	1.1240
50	1.0426	0.8113	1.1032
55	1.0329	0.8525	1.0802
60	1.0224	0.8980	1.0551
65	1.0114	0.9473	1.0282
68	1.0046	0.9786	1.0115
70	1.0000	1.0000	1.0000
75	0.9883	1.0556	0.9706
80	0.9764	1.1135	0.9404

Unit Sizes 024-070

Heating			
Entering Air DB °F	Heating Capacity	Power	Heat of Extraction
45	1.032	0.777	1.089
50	1.029	0.817	1.077
55	1.025	0.859	1.062
60	1.018	0.903	1.044
65	1.010	0.950	1.024
70	1.000	1.000	1.000
75	0.988	1.052	0.974
80	0.974	1.107	0.944

Unit Size 018

Cooling											
Entering Air WB°F	Total Capacity	Sensible Cooling Capacity Multiplier - Entering DB °F								Power	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95		
50	0.7432	0.9111	*	*	*	*	*	*	*	*	0.9866	0.7901
55	0.8202	0.7709	0.8820	1.0192	*	*	*	*	*	*	0.9887	0.8527
60	0.8960		0.6702	0.8540	1.0473	*	*	*	*	*	0.9924	0.9146
65	0.9705			0.6491	0.8657	1.0809	1.1066	*	*	*	0.9975	0.9757
66.2	0.9882			0.5939	0.8152	1.0333	1.0592	1.2481	*	*	0.9990	0.9903
67	1.0000			0.5559	0.7801	1.0000	1.0261	1.2158	*	*	1.0000	1.0000
70	1.0438				0.6377	0.8645	0.8913	1.0847	1.2983	*	1.0042	1.0362
75	1.1159	Operation not recommended				0.6008	0.6289	0.8323	1.0578	1.2773	1.0123	1.0959

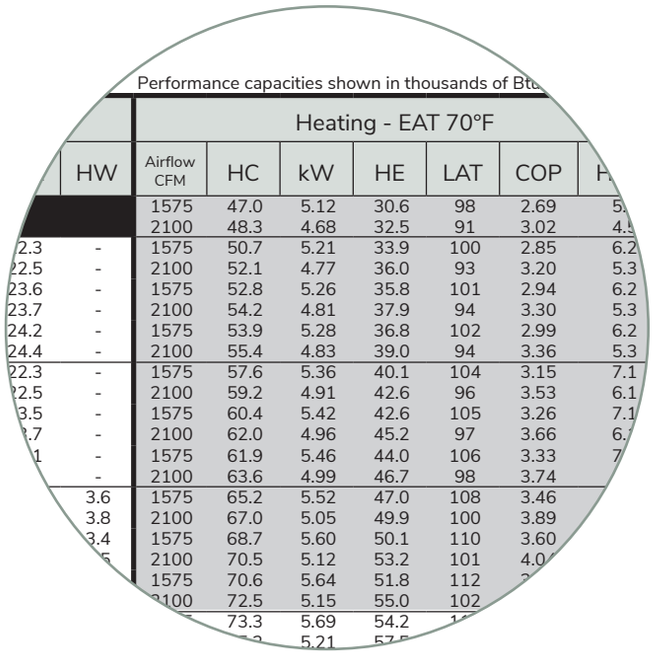
Unit Sizes 024-070

Cooling											
Entering Air WB°F	Total Capacity	Sensible Cooling Capacity Multiplier - Entering DB °F								Power	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95		
50	0.7491	0.7663	*	*	*	*	*	*	*	*	0.9894	0.8389
55	0.8265	0.5937	0.8724	1.0816	*	*	*	*	*	*	0.9927	0.8886
60	0.9040		0.6709	0.8826	1.1211	*	*	*	*	*	0.9959	0.9383
65	0.9814			0.6624	0.8850	1.0986	1.1140	*	*	*	0.9992	0.9881
66.2	1.0000			0.6065	0.8268	1.0394	1.0536	1.2294	*	*	1.0000	1.0000
67	1.0124			0.5685	0.7879	1.0000	1.0133	1.1891	1.3838	*	1.0005	1.0080
70	1.0589				0.6391	0.8521	0.8599	1.0361	1.2347	1.4461	1.0025	1.0378
75	1.1363	Operation not recommended				0.6056	0.5981	0.7783	0.9861	1.2256	1.0058	1.0875

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

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 anti-freeze should be used in systems with leaving water temperatures of 40°F 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.



Performance capacities shown in thousands of Btu

		Heating - EAT 70°F					
	HW	Airflow CFM	HC	kW	HE	LAT	COP
		1575	47.0	5.12	30.6	98	2.69
		2100	48.3	4.68	32.5	91	3.02
2.3	-	1575	50.7	5.21	33.9	100	2.85
2.5	-	2100	52.1	4.77	36.0	93	3.20
3.6	-	1575	52.8	5.26	35.8	101	2.94
3.7	-	2100	54.2	4.81	37.9	94	3.30
4.2	-	1575	53.9	5.28	36.8	102	2.99
4.4	-	2100	55.4	4.83	39.0	94	3.36
2.3	-	1575	57.6	5.36	40.1	104	3.15
2.5	-	2100	59.2	4.91	42.6	96	3.53
3.5	-	1575	60.4	5.42	42.6	105	3.26
.7	-	2100	62.0	4.96	45.2	97	3.66
.1	-	1575	61.9	5.46	44.0	106	3.33
	-	2100	63.6	4.99	46.7	98	3.74
	3.6	1575	65.2	5.52	47.0	108	3.46
	3.8	2100	67.0	5.05	49.9	100	3.89
	3.4	1575	68.7	5.60	50.1	110	3.60
	.5	2100	70.5	5.12	53.2	101	4.0
		1575	70.6	5.64	51.8	112	
		2100	72.5	5.15	55.0	102	
			73.3	5.69	54.2		
				5.21			

Example:

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

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

TD = HE/(GPM x 500)

TD = 22,500/(4.5 x 500)

TD = 10°F

LWT = EWT - TD

LWT = 50 - 10 = 40°F

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

Antifreeze Correction Table

Antifreeze Type	Antifreeze %	Cooling			WPD Corr. Fct. EWT 40°F
		EWT 40°F			
		Total Cap	Sens Cap	Power	
Propylene Glycol	15	0.968	0.968	0.990	1.210
	25	0.947	0.947	0.983	1.360
Methanol	15	0.968	0.968	0.990	1.160
	25	0.949	0.949	0.984	1.220
Ethanol	15	0.944	0.944	0.983	1.300
	25	0.917	0.917	0.974	1.360
Ethylene Glycol	15	0.980	0.980	0.994	1.120
	25	0.966	0.966	0.990	1.200

Performance Data — Tranquility® 20 Model 018 - ECM Blower

750 CFM Nominal (Rated) Airflow Cooling, 750 CFM Nominal (Rated) Airflow Heating Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	5.5	3.9	9.0	Operation not recommended							550	11.9	1.25	7.9	90.0	2.8	1.4
	5.5	3.9	9.0								750	12.3	1.16	8.4	85.1	3.1	1.5
30	2.8	0.7	1.6	550	20.3	12.4	0.75	22.8	27.3	0.6	550	13.2	1.29	9.0	92.3	3.0	1.7
	2.8	0.7	1.6	750	21.1	14.5	0.79	23.8	26.8	0.6	750	13.6	1.20	9.6	86.8	3.3	1.7
	4.1	2.1	4.9	550	20.7	12.6	0.71	23.1	29.1	0.5	550	13.7	1.31	9.5	93.1	3.1	1.8
	4.1	2.1	4.9	750	21.5	14.7	0.75	24.1	28.6	0.6	750	14.1	1.21	10.1	87.5	3.4	1.8
	5.5	3.5	8.1	550	21.3	12.9	0.70	23.6	30.5	0.5	550	14.0	1.31	9.7	93.6	3.1	1.8
	5.5	3.5	8.1	750	22.1	15.0	0.74	24.6	30.0	0.5	750	14.4	1.21	10.3	87.8	3.5	1.9
40	2.8	0.6	1.4	550	20.8	12.9	0.81	23.5	25.5	0.9	550	15.3	1.33	10.9	95.8	3.4	1.9
	2.8	0.6	1.4	750	21.6	15.0	0.86	24.5	25.1	1.0	750	15.8	1.23	11.6	89.5	3.8	2.0
	4.1	2	4.6	550	21.3	13.1	0.77	23.9	27.6	0.9	550	16.0	1.34	11.5	96.9	3.5	2.0
	4.1	2	4.6	750	22.1	15.2	0.81	24.9	27.2	0.9	750	16.5	1.24	12.3	90.3	3.9	2.1
	5.5	3.2	7.4	550	21.5	13.2	0.75	24.0	28.6	0.8	550	16.3	1.34	11.9	97.5	3.6	2.1
	5.5	3.2	7.4	750	22.4	15.3	0.79	25.1	28.1	0.8	750	16.8	1.24	12.6	90.8	4.0	2.1
50	2.8	0.5	1.2	550	21.3	13.5	0.90	24.3	23.7	1.5	550	17.5	1.35	13.0	99.5	3.8	2.2
	2.8	0.5	1.2	750	22.1	15.7	0.95	25.3	23.3	1.5	750	18.1	1.25	13.8	92.3	4.2	2.3
	4.1	1.7	3.9	550	21.5	13.5	0.84	24.3	25.5	1.3	550	18.4	1.36	13.8	100.9	4.0	2.3
	4.1	1.7	3.9	750	22.3	15.7	0.89	25.4	25.1	1.4	750	18.9	1.26	14.6	93.4	4.4	2.4
	5.5	2.8	6.5	550	21.6	13.5	0.82	24.4	26.4	1.2	550	18.8	1.36	14.2	101.7	4.0	2.4
	5.5	2.8	6.5	750	22.5	15.7	0.87	25.4	26.0	1.3	750	19.4	1.26	15.1	93.9	4.5	2.4
60	2.8	0.3	0.7	550	20.6	13.6	0.99	24.0	20.8	2.0	550	19.8	1.37	15.2	103.4	4.2	2.5
	2.8	0.3	0.7	750	21.5	15.8	1.05	25.0	20.4	2.1	750	20.4	1.27	16.1	95.2	4.7	2.6
	4.1	1.5	3.5	550	21.1	13.6	0.93	24.3	22.7	1.8	550	20.8	1.38	16.1	105.0	4.4	2.6
	4.1	1.5	3.5	750	22.0	15.9	0.99	25.3	22.3	1.9	750	21.4	1.28	17.1	96.5	4.9	2.6
	5.5	2.6	6.0	550	21.3	13.6	0.90	24.4	23.6	1.6	550	21.3	1.39	16.6	105.9	4.5	2.7
	5.5	2.6	6.0	750	22.2	15.9	0.96	25.4	23.2	1.7	750	22.0	1.28	17.6	97.1	5.0	2.7
70	2.8	0.3	0.7	550	19.6	13.4	1.11	23.4	17.7	2.7	550	22.1	1.40	17.3	107.2	4.6	2.8
	2.8	0.3	0.7	750	20.4	15.6	1.17	24.4	17.4	2.8	750	22.8	1.29	18.4	98.2	5.2	2.8
	4.1	1.4	3.2	550	20.3	13.5	1.04	23.8	19.5	2.4	550	23.2	1.42	18.3	109.0	4.8	2.9
	4.1	1.4	3.2	750	21.1	15.7	1.10	24.8	19.2	2.5	750	23.9	1.31	19.4	99.5	5.3	2.9
	5.5	2.4	5.5	550	20.6	13.6	1.00	24.0	20.5	2.1	550	23.8	1.43	18.8	110.0	4.9	3.0
	5.5	2.4	5.5	750	21.4	15.8	1.06	25.0	20.1	2.2	750	24.5	1.32	20.0	100.2	5.4	3.1
80	2.8	0.2	0.5	550	18.4	13.1	1.24	22.7	14.8	3.2	550	24.3	1.45	19.3	111.0	4.9	3.0
	2.8	0.2	0.5	750	19.2	15.2	1.31	23.6	14.6	3.3	750	25.1	1.34	20.5	101.0	5.5	3.1
	4.1	1.2	2.8	550	19.1	13.3	1.16	23.1	16.5	3.0	550	25.5	1.49	20.3	112.9	5.0	3.1
	4.1	1.2	2.8	750	19.9	15.4	1.23	24.1	16.2	3.1	750	26.3	1.38	21.5	102.4	5.6	3.2
	5.5	2.2	5.1	550	19.5	13.4	1.12	23.3	17.3	2.7	550	26.0	1.52	20.7	113.8	5.0	3.2
	5.5	2.2	5.1	750	20.3	15.5	1.19	24.3	17.0	2.9	750	26.8	1.40	22.0	103.1	5.6	3.3
85	2.8	0.2	0.5	550	17.8	12.9	1.32	22.3	13.5	3.6	550	25.4	1.49	20.2	112.7	5.0	3.1
	2.8	0.2	0.5	750	18.5	15.0	1.40	23.3	13.3	3.7	750	26.2	1.38	21.4	102.3	5.6	3.2
	4.1	1.15	2.7	550	18.5	13.1	1.24	22.7	15.1	3.3	550	26.5	1.55	21.1	114.6	5.0	3.3
	4.1	1.15	2.7	750	19.2	15.2	1.31	23.7	14.8	3.5	750	27.3	1.43	22.4	103.7	5.6	3.3
	5.5	2.1	4.9	550	18.9	13.2	1.20	22.9	15.9	3.1	550	27.0	1.59	21.5	115.5	5.0	3.4
	5.5	2.1	4.9	750	19.6	15.3	1.26	23.9	15.6	3.2	750	27.9	1.47	22.8	104.4	5.6	3.5
90	2.8	0.2	0.5	550	17.2	12.7	1.40	21.9	12.3	4.1	550	26.4	1.54	21.0	114.5	5.0	3.3
	2.8	0.2	0.5	750	17.8	14.8	1.48	22.9	12.1	4.3	750	27.2	1.42	22.4	103.6	5.6	3.4
	4.1	1.1	2.5	550	17.9	12.9	1.31	22.3	13.7	3.8	550	27.5	1.61	21.9	116.3	5.0	3.4
	4.1	1.1	2.5	750	18.6	15.0	1.38	23.3	13.4	3.9	750	28.4	1.49	23.2	105.0	5.6	3.5
	5.5	2	4.6	550	18.2	13.0	1.27	22.6	14.4	3.5	550	28.0	1.66	22.3	117.2	5.0	3.5
	5.5	2	4.6	750	19.0	15.2	1.34	23.5	14.2	3.6	750	28.9	1.53	23.6	105.7	5.5	3.6
100	2.8	0.2	0.5	550	15.9	12.3	1.58	21.3	10.1	4.5	Operation not recommended						
	2.8	0.2	0.5	750	16.5	14.3	1.67	22.2	9.9	4.6							
	4.1	1.1	2.5	550	16.6	12.5	1.48	21.6	11.2	4.3							
	4.1	1.1	2.5	750	17.2	14.6	1.56	22.6	11.0	4.4							
	5.5	1.9	4.4	550	16.9	12.6	1.43	21.8	11.8	4.2							
	5.5	1.9	4.4	750	17.6	14.7	1.51	22.8	11.6	4.3							
110	2.8	0.1	0.2	550	14.7	12.0	1.79	20.9	8.3	5.3							
	2.8	0.1	0.2	750	15.3	13.9	1.89	21.8	8.1	5.4							
	4.1	0.9	2.1	550	15.3	12.1	1.67	21.1	9.2	5.2							
	4.1	0.9	2.1	750	15.9	14.1	1.77	22.0	9.0	5.3							
	5.5	1.7	3.9	550	15.6	12.2	1.62	21.2	9.7	5.0							
	5.5	1.7	3.9	750	16.3	14.2	1.71	22.1	9.5	5.1							
120	2.8	0.1	0.2	550	13.8	11.5	2.03	20.8	6.8	6.3							
	2.8	0.1	0.2	750	14.4	13.4	2.14	21.7	6.7	6.4							
	4.1	0.8	1.8	550	14.3	11.8	1.90	20.8	7.5	6.1							
	4.1	0.8	1.8	750	14.8	13.7	2.01	21.7	7.4	6.2							
	5.5	1.6	3.7	750	15.1	13.9	1.94	21.7	7.8	5.9							
	5.5	1.6	3.7	550	14.5	11.9	1.83	20.8	7.9	6.0							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 024 - ECM Blower

950 CFM Nominal (Rated) Airflow Cooling, 950 CFM Nominal (Rated) Airflow Heating

Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	6.0	1.9	4.4	Operation not recommended							680	15.4	1.64	10.4	90.9	2.7	1.7
	6.0	1.9	4.4								950	16.1	1.46	11.1	85.7	3.2	1.5
30	3.0	0.9	2.1	680	28.1	16.5	0.87	31.8	32.5	0.8	680	17.1	1.65	12.1	93.3	3.0	2.0
	3.0	0.9	2.1	950	30.4	19.4	0.91	33.5	33.4	0.8	950	17.8	1.47	12.8	87.4	3.6	1.8
	4.5	1.2	2.7	680	27.5	15.6	0.80	30.9	34.4	0.7	680	17.9	1.65	12.9	94.4	3.2	2.1
	4.5	1.2	2.7	950	29.7	18.3	0.84	32.5	35.3	0.7	950	18.7	1.47	13.7	88.2	3.7	1.9
	6.0	1.7	4.0	680	26.9	14.9	0.77	30.2	34.9	0.6	680	18.4	1.65	13.3	95.0	3.3	2.1
	6.0	1.7	4.0	950	29.1	17.6	0.81	31.8	35.9	0.6	950	19.2	1.47	14.2	88.7	3.8	1.9
40	3.0	0.7	1.5	680	28.1	17.1	0.96	32.2	29.3	1.0	680	19.8	1.66	14.7	96.9	3.5	2.4
	3.0	0.7	1.5	950	30.4	20.2	1.01	33.9	30.1	1.1	950	20.7	1.48	15.6	90.1	4.1	2.1
	4.5	1.0	2.4	680	28.2	16.7	0.88	32.0	31.9	0.9	680	20.8	1.66	15.7	98.3	3.7	2.6
	4.5	1.0	2.4	950	30.5	19.7	0.93	33.7	32.8	0.9	950	21.7	1.48	16.7	91.2	4.3	2.3
	6.0	1.6	3.6	680	28.1	16.4	0.86	31.7	32.8	0.8	680	21.3	1.67	16.2	99.0	3.7	2.6
	6.0	1.6	3.6	950	30.4	19.3	0.90	33.4	33.7	0.8	950	22.3	1.49	17.2	91.7	4.4	2.3
50	3.0	0.5	1.2	680	27.4	17.2	1.07	31.8	25.5	1.4	680	22.5	1.67	17.3	100.6	3.9	2.8
	3.0	0.5	1.2	950	29.6	20.2	1.13	33.5	26.2	1.5	950	23.5	1.49	18.4	92.9	4.6	2.5
	4.5	0.9	2.1	680	28.0	17.2	0.99	32.2	28.3	1.1	680	23.7	1.69	18.5	102.2	4.1	2.9
	4.5	0.9	2.1	950	30.3	20.2	1.04	33.8	29.1	1.2	950	24.7	1.50	19.6	94.1	4.8	2.6
	6.0	1.5	3.3	680	28.2	17.1	0.95	32.2	29.6	1.0	680	24.3	1.69	19.1	103.1	4.2	3.0
	6.0	1.5	3.3	950	30.5	20.1	1.00	33.9	30.5	1.1	950	25.4	1.50	20.3	94.8	5.0	2.7
60	3.0	0.4	0.9	680	26.2	16.8	1.20	30.9	21.8	1.8	680	25.2	1.70	20.0	104.3	4.4	3.1
	3.0	0.4	0.9	950	28.3	19.7	1.26	32.6	22.5	1.9	950	26.4	1.51	21.2	95.7	5.1	2.8
	4.5	0.8	1.8	680	27.1	17.1	1.10	31.6	24.6	1.5	680	26.6	1.71	21.3	106.2	4.6	3.4
	4.5	0.8	1.8	950	29.3	20.1	1.16	33.3	25.3	1.6	950	27.8	1.52	22.6	97.1	5.4	3.0
	6.0	1.4	3.1	680	27.5	17.2	1.06	31.9	26.1	1.3	680	27.4	1.72	22.0	107.3	4.7	3.5
	6.0	1.4	3.1	950	29.8	20.2	1.11	33.6	26.8	1.4	950	28.6	1.53	23.4	97.9	5.5	3.1
70	3.0	0.3	0.6	680	24.6	16.1	1.33	29.8	18.5	2.3	680	28.0	1.72	22.6	108.1	4.8	3.6
	3.0	0.3	0.6	950	26.6	19.0	1.40	31.4	19.0	2.4	950	29.3	1.53	24.0	98.5	5.6	3.2
	4.5	0.7	1.7	680	25.8	16.6	1.23	30.6	21.0	1.9	680	29.6	1.74	24.2	110.3	5.0	3.8
	4.5	0.7	1.7	950	27.8	19.5	1.29	32.3	21.6	2.0	950	31.0	1.55	25.7	100.2	5.9	3.4
	6.0	1.3	2.9	680	26.3	16.8	1.18	31.0	22.3	1.8	680	30.5	1.75	25.0	111.6	5.1	3.9
	6.0	1.3	2.9	950	28.4	19.8	1.24	32.7	22.9	1.9	950	31.9	1.56	26.6	101.1	6.0	3.5
80	3.0	0.2	0.5	680	22.8	15.4	1.48	28.5	15.4	2.9	680	30.9	1.76	25.3	112.0	5.1	3.9
	3.0	0.2	0.5	950	24.7	18.1	1.56	30.0	15.8	3.0	950	32.2	1.57	26.9	101.4	6.0	3.5
	4.5	0.7	1.5	680	24.1	15.9	1.38	29.4	17.4	2.5	680	32.7	1.80	27.1	114.6	5.3	4.2
	4.5	0.7	1.5	950	26.0	18.7	1.45	30.9	17.9	2.6	950	34.2	1.60	28.8	103.3	6.3	3.7
	6.0	1.2	2.7	680	24.7	16.2	1.32	29.8	18.7	2.3	680	33.8	1.81	28.1	116.0	5.5	4.3
	6.0	1.2	2.7	950	26.7	19.0	1.39	31.4	19.2	2.4	950	35.3	1.61	29.8	104.4	6.4	3.8
85	3.0	0.2	0.4	680	21.9	14.9	1.6	27.8	14.0	3.2	680	32.3	1.79	26.7	114.0	5.3	4.1
	3.0	0.2	0.4	950	23.7	17.6	1.65	29.3	14.4	3.4	950	33.8	1.6	28.4	102.9	6.2	3.7
	4.5	0.6	1.5	680	23.1	15.5	1.46	28.7	15.9	2.8	680	34.4	1.8	28.6	116.8	5.5	4.3
	4.5	0.6	1.5	950	25.0	18.2	1.54	30.2	16.4	2.9	950	35.9	1.6	30.4	105.0	6.5	3.9
	6.0	1.1	2.6	680	23.7	15.8	1.40	29.2	17.0	2.6	680	35.5	1.8	29.6	118.3	5.6	4.4
	6.0	1.1	2.6	950	25.7	18.5	1.48	30.7	17.5	2.7	950	37.1	1.6	31.5	106.1	6.6	4.0
90	3.0	0.1	0.3	680	21.0	14.5	1.65	27.2	12.7	3.5	680	33.8	1.81	28.1	116.0	5.5	4.3
	3.0	0.1	0.3	950	22.7	17.1	1.74	28.6	13.0	3.7	950	35.3	1.61	29.8	104.4	6.4	3.8
	4.5	0.6	1.4	680	22.2	15.1	1.54	28.0	14.4	3.0	680	36.0	1.85	30.1	119.0	5.7	4.5
	4.5	0.6	1.4	950	24.0	17.7	1.62	29.5	14.8	3.2	950	37.6	1.65	31.9	106.6	6.7	4.0
	6.0	1.1	2.5	680	22.8	15.4	1.48	28.5	15.4	2.9	680	37.2	1.89	31.2	120.7	5.8	4.6
	6.0	1.1	2.5	950	24.7	18.1	1.56	30.0	15.8	3.0	950	38.9	1.68	33.1	107.9	6.8	4.1
100	3.0	0.1	0.2	680	19.2	13.8	1.84	26.0	10.4	4.2	Operation not recommended						
	3.0	0.1	0.2	950	20.7	16.2	1.94	27.3	10.7	4.4							
	4.5	0.5	1.2	680	20.3	14.2	1.72	26.7	11.8	3.7							
	4.5	0.5	1.2	950	21.9	16.7	1.81	28.1	12.1	3.9							
	6.0	1.0	2.2	680	20.9	14.5	1.66	27.1	12.5	3.5							
	6.0	1.0	2.2	950	22.6	17.1	1.75	28.5	12.9	3.7							
110	3.0	0.0	0.1	680	17.5	13.2	2.07	25.0	8.5	5.0							
	3.0	0.0	0.1	950	18.9	15.5	2.18	26.4	8.7	5.3							
	4.5	0.5	1.0	680	18.5	13.5	1.93	25.6	9.6	4.6							
	4.5	0.5	1.0	950	20.0	15.9	2.03	26.9	9.8	4.8							
	6.0	0.8	1.9	680	19.0	13.7	1.86	25.9	10.2	4.3							
	6.0	0.8	1.9	950	20.5	16.1	1.96	27.2	10.5	4.5							
120	3.0	0.0	0.0	680	16.2	12.9	2.32	24.6	7.0	6.0							
	3.0	0.0	0.0	950	17.5	15.1	2.44	25.8	7.2	6.3							
	4.5	0.3	0.8	680	16.9	13.0	2.17	24.8	7.8	5.4							
	4.5	0.3	0.8	950	18.3	15.3	2.28	26.1	8.0	5.7							
	6.0	0.6	1.5	680	17.3	13.1	2.10	25.0	8.2	5.1							
	6.0	0.6	1.5	950	18.7	15.4	2.21	26.3	8.5	5.4							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 030 - ECM Blower

1,000 CFM Nominal (Rated) Airflow Cooling, 1,100 CFM Nominal (Rated) Airflow Heating

Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	7.5	2.7	6.2	Operation not recommended							790	18.8	2.09	12.6	92.1	2.6	1.7
	7.5	2.7	6.2								1100	19.7	1.86	13.3	86.6	3.1	1.5
30	3.8	0.9	2.0	720	31.8	18.2	1.10	36.4	28.8	0.8	790	20.9	2.12	14.5	94.5	2.9	1.9
	3.8	0.9	2.0	1000	34.4	21.4	1.16	38.4	29.6	0.8	1100	21.9	1.89	15.4	88.4	3.4	1.7
	5.6	1.6	3.6	720	30.9	17.3	1.04	35.2	29.8	0.7	790	21.9	2.15	15.4	95.7	3.0	2.0
	5.6	1.6	3.6	1000	33.4	20.3	1.09	37.1	30.6	0.7	1100	22.9	1.91	16.4	89.3	3.5	1.8
	7.5	2.5	5.7	720	30.2	16.7	1.01	34.4	29.9	0.6	790	22.4	2.15	15.9	96.3	3.1	2.1
	7.5	2.5	5.7	1000	32.6	19.7	1.06	36.2	30.8	0.6	1100	23.4	1.91	16.9	89.7	3.6	1.9
40	3.8	0.8	1.8	720	32.1	18.8	1.22	37.2	26.4	1.0	790	24.2	2.18	17.6	98.4	3.3	2.2
	3.8	0.8	1.8	1000	34.7	22.1	1.28	39.1	27.1	1.1	1100	25.3	1.94	18.7	91.3	3.8	2.0
	5.6	1.5	3.4	720	32.0	18.4	1.14	36.8	28.1	0.9	790	25.4	2.19	18.7	99.7	3.4	2.5
	5.6	1.5	3.4	1000	34.6	21.7	1.20	38.7	28.9	0.9	1100	26.5	1.95	19.9	92.3	4.0	2.2
	7.5	2.3	5.3	720	31.8	18.1	1.10	36.4	28.8	0.8	790	26.0	2.20	19.3	100.5	3.5	2.6
	7.5	2.3	5.3	1000	34.4	21.3	1.16	38.3	29.6	0.8	1100	27.2	1.96	20.5	92.9	4.1	2.3
50	3.8	0.8	1.8	720	31.5	18.8	1.35	36.9	23.3	1.3	790	27.5	2.21	20.7	102.2	3.6	2.7
	3.8	0.8	1.8	1000	34.0	22.1	1.42	38.9	24.0	1.4	1100	28.7	1.97	22.0	94.2	4.3	2.4
	5.6	1.4	3.2	720	32.0	18.8	1.26	37.2	25.5	1.1	790	28.9	2.23	22.1	103.8	3.8	2.9
	5.6	1.4	3.2	1000	34.6	22.2	1.32	39.1	26.2	1.2	1100	30.2	1.98	23.4	95.4	4.5	2.6
	7.5	2.2	5.0	720	32.1	18.8	1.22	37.1	26.4	1.0	790	29.6	2.24	22.8	104.7	3.9	3.0
	7.5	2.2	5.0	1000	34.7	22.1	1.28	39.1	27.1	1.0	1100	31.0	1.99	24.2	96.1	4.6	2.7
60	3.8	0.7	1.7	720	30.2	18.4	1.48	36.1	20.4	1.7	790	30.8	2.25	23.9	106.1	4.0	3.0
	3.8	0.7	1.7	1000	32.7	21.6	1.56	38.0	20.9	1.8	1100	32.2	2.00	25.4	97.1	4.7	2.7
	5.6	1.3	3.1	720	31.1	18.7	1.39	36.7	22.4	1.4	790	32.4	2.27	25.4	107.9	4.2	3.3
	5.6	1.3	3.1	1000	33.7	22.0	1.46	38.7	23.1	1.5	1100	33.8	2.02	26.9	98.5	4.9	2.9
	7.5	2.1	4.8	720	31.5	18.8	1.34	36.9	23.5	1.3	790	33.2	2.27	26.2	108.9	4.3	3.4
	7.5	2.1	4.8	1000	34.1	22.1	1.41	38.9	24.2	1.4	1100	34.7	2.02	27.8	99.2	5.0	3.0
70	3.8	0.7	1.7	720	28.5	17.7	1.65	34.9	17.3	2.2	790	34.1	2.28	27.0	109.9	4.4	3.4
	3.8	0.7	1.7	1000	30.8	20.9	1.73	36.7	17.8	2.3	1100	35.6	2.03	28.7	100.0	5.1	3.0
	5.6	1.3	3.0	720	29.7	18.2	1.54	35.7	19.3	1.9	790	35.8	2.30	28.7	112.0	4.6	3.7
	5.6	1.3	3.0	1000	32.1	21.4	1.62	37.6	19.8	2.0	1100	37.4	2.05	30.4	101.5	5.4	3.3
	7.5	2.0	4.7	720	30.2	18.4	1.48	36.1	20.4	1.7	790	36.8	2.33	29.6	113.1	4.6	3.8
	7.5	2.0	4.7	1000	32.7	21.7	1.56	38.0	21.0	1.8	1100	38.5	2.07	31.4	102.4	5.4	3.4
80	3.8	0.7	1.7	720	26.6	16.9	1.82	33.5	14.6	2.8	790	37.3	2.33	30.1	113.8	4.7	3.8
	3.8	0.7	1.7	1000	28.7	19.9	1.91	35.2	15.0	2.9	1100	39.0	2.07	31.9	102.8	5.5	3.4
	5.6	1.3	3.0	720	27.8	17.5	1.70	34.4	16.4	2.4	790	39.3	2.37	31.9	116.0	4.9	4.0
	5.6	1.3	3.0	1000	30.1	20.6	1.79	36.2	16.8	2.5	1100	41.0	2.11	33.9	104.5	5.7	3.6
	7.5	2.0	4.6	720	28.5	17.7	1.65	34.9	17.3	2.2	790	40.3	2.39	32.9	117.3	4.9	4.2
	7.5	2.0	4.6	1000	30.8	20.9	1.73	36.7	17.8	2.3	1100	42.1	2.13	34.9	105.5	5.8	3.7
85	3.8	0.7	1.7	720	25.5	16.5	1.9	32.8	13.4	3.1	790	38.9	2.36	31.6	115.6	4.8	4.0
	3.8	0.7	1.7	1000	27.6	19.4	2.02	34.5	13.8	3.3	1100	40.7	2.1	33.5	104.3	5.7	3.6
	5.6	1.3	2.9	720	26.8	17.0	1.80	33.7	15.0	2.7	790	41.0	2.4	33.4	118.0	5.0	4.2
	5.6	1.3	2.9	1000	29.0	20.1	1.89	35.4	15.4	2.9	1100	42.8	2.1	35.5	106.0	5.9	3.8
	7.5	2.0	4.6	720	27.5	17.3	1.74	34.1	15.9	2.5	790	42.1	2.4	34.5	119.3	5.1	4.4
	7.5	2.0	4.6	1000	29.7	20.4	1.83	35.9	16.3	2.7	1100	44.0	2.2	36.6	107.0	5.9	3.9
90	3.8	0.7	1.7	720	24.5	16.1	2.02	32.1	12.2	3.4	790	40.6	2.39	33.1	117.5	5.0	4.2
	3.8	0.7	1.7	1000	26.5	18.9	2.12	33.8	12.5	3.6	1100	42.4	2.13	35.1	105.7	5.8	3.7
	5.6	1.3	2.9	720	25.8	16.6	1.89	32.9	13.6	3.0	790	42.7	2.45	35.0	120.0	5.1	4.4
	5.6	1.3	2.9	1000	27.9	19.6	1.99	34.7	14.0	3.2	1100	44.6	2.18	37.2	107.5	6.0	3.9
	7.5	2.0	4.5	720	26.4	16.9	1.84	33.4	14.4	2.9	790	43.8	2.48	36.0	121.3	5.2	4.6
	7.5	2.0	4.5	1000	28.6	19.9	1.93	35.2	14.8	3.0	1100	45.8	2.21	38.2	108.5	6.1	4.1
100	3.8	0.7	1.7	720	22.5	15.3	2.24	30.8	10.0	4.1	Operation not recommended						
	3.8	0.7	1.7	1000	24.3	18.0	2.36	32.4	10.3	4.3							
	5.6	1.3	2.9	720	23.7	15.8	2.11	31.5	11.2	3.7							
	5.6	1.3	2.9	1000	25.6	18.5	2.22	33.2	11.5	3.9							
	7.5	1.9	4.5	720	24.3	16.0	2.04	31.9	11.9	3.5							
	7.5	1.9	4.5	1000	26.3	18.8	2.15	33.6	12.2	3.7							
110	3.8	0.7	1.7	720	20.7	14.7	2.51	29.8	8.3	4.9							
	3.8	0.7	1.7	1000	22.4	17.3	2.64	31.4	8.5	5.2							
	5.6	1.2	2.8	720	21.7	15.0	2.36	30.3	9.2	4.5							
	5.6	1.2	2.8	1000	23.5	17.7	2.48	31.9	9.5	4.7							
	7.5	1.9	4.4	720	22.2	15.2	2.28	30.6	9.7	4.3							
	7.5	1.9	4.4	1000	24.1	17.9	2.40	32.2	10.0	4.5							
120	3.8	0.7	1.6	720	19.3	14.4	2.81	29.4	6.9	5.9							
	3.8	0.7	1.6	1000	20.9	17.0	2.95	31.0	7.1	6.2							
	5.6	1.2	2.8	720	20.0	14.5	2.63	29.6	7.6	5.3							
	5.6	1.2	2.8	1000	21.7	17.1	2.77	31.1	7.8	5.6							
	7.5	1.9	4.3	720	20.5	14.6	2.55	29.7	8.0	5.1							
	7.5	1.9	4.3	1000	22.1	17.2	2.68	31.3	8.3	5.4							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 036 - ECM Blower

1,200 CFM Nominal (Rated) Airflow Cooling, 1,200 CFM Nominal (Rated) Airflow Heating — Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	9.0	4.3	9.9	Operation not recommended							860	21.7	2.08	15.4	93.4	3.1	2.4
	9.0	4.3	9.9								1200	22.7	1.85	16.3	87.5	3.6	2.1
30	4.5	1.2	2.8	860	34.1	19.3	1.08	38.7	31.5	1.0	860	23.7	2.10	17.4	95.6	3.3	2.7
	4.5	1.2	2.8	1200	36.9	22.7	1.14	40.8	32.4	1.0	1200	24.8	1.87	18.4	89.1	3.9	2.4
	6.8	2.4	5.5	860	32.2	17.5	1.01	36.5	31.9	0.8	860	24.7	2.11	18.3	96.6	3.4	2.9
	6.8	2.4	5.5	1200	34.8	20.6	1.06	38.4	32.8	0.8	1200	25.8	1.88	19.4	89.9	4.0	2.6
	9.0	3.8	8.8	860	31.0	16.5	0.98	35.2	31.7	0.8	860	25.3	2.12	18.8	97.2	3.5	3.0
	9.0	3.8	8.8	1200	33.5	19.5	1.03	37.0	32.5	0.8	1200	26.4	1.89	20.0	90.4	4.1	2.7
40	4.5	1.0	2.3	860	36.0	21.5	1.22	41.1	29.6	1.2	860	27.3	2.15	20.7	99.4	3.7	3.3
	4.5	1.0	2.3	1200	39.0	25.3	1.28	43.3	30.4	1.3	1200	28.5	1.91	22.0	92.0	4.4	2.9
	6.8	2.1	4.8	860	35.1	20.3	1.13	39.9	31.0	1.0	860	28.6	2.16	21.9	100.8	3.9	3.5
	6.8	2.1	4.8	1200	37.9	23.9	1.19	41.9	31.8	1.1	1200	29.9	1.92	23.3	93.0	4.6	3.1
	9.0	3.4	7.9	860	34.4	19.6	1.09	39.0	31.4	1.0	860	29.3	2.17	22.6	101.5	4.0	3.6
	9.0	3.4	7.9	1200	37.2	23.0	1.15	41.1	32.3	1.0	1200	30.6	1.93	24.0	93.6	4.6	3.2
50	4.5	0.9	2.0	860	36.5	22.7	1.37	42.1	26.6	1.7	860	31.1	2.20	24.3	103.5	4.1	3.8
	4.5	0.9	2.0	1200	39.4	26.7	1.44	44.3	27.4	1.8	1200	32.5	1.96	25.8	95.1	4.9	3.4
	6.8	1.9	4.4	860	36.3	22.0	1.26	41.6	28.7	1.4	860	32.7	2.23	25.8	105.2	4.3	4.0
	6.8	1.9	4.4	1200	39.3	25.9	1.33	43.8	29.5	1.5	1200	34.1	1.98	27.4	96.3	5.1	3.6
	9.0	3.2	7.3	860	36.1	21.6	1.22	41.2	29.6	1.2	860	33.5	2.24	26.6	106.1	4.4	4.2
	9.0	3.2	7.3	1200	39.0	25.4	1.28	43.4	30.5	1.3	1200	35.0	1.99	28.2	97.0	5.2	3.7
60	4.5	0.8	1.8	860	35.9	23.1	1.53	42.1	23.5	2.4	860	35.0	2.26	28.0	107.7	4.5	4.4
	4.5	0.8	1.8	1200	38.9	27.2	1.61	44.3	24.1	2.5	1200	36.6	2.01	29.7	98.2	5.3	3.9
	6.8	1.8	4.1	860	36.4	22.9	1.42	42.2	25.7	1.9	860	36.8	2.29	29.7	109.6	4.7	4.6
	6.8	1.8	4.1	1200	39.3	27.0	1.49	44.4	26.4	2.0	1200	38.5	2.04	31.5	99.7	5.5	4.1
	9.0	3.0	6.9	860	36.5	22.7	1.37	42.1	26.6	1.7	860	37.8	2.32	30.6	110.7	4.8	4.7
	9.0	3.0	6.9	1200	39.4	26.7	1.44	44.4	27.4	1.8	1200	39.5	2.06	32.5	100.5	5.6	4.2
70	4.5	0.8	1.8	860	34.7	22.9	1.72	41.5	20.1	3.1	860	38.9	2.33	31.6	111.9	4.9	4.9
	4.5	0.8	1.8	1200	37.5	27.0	1.81	43.6	20.7	3.3	1200	40.6	2.07	33.5	101.3	5.8	4.4
	6.8	1.7	3.9	860	35.6	23.1	1.60	42.0	22.3	2.6	860	40.9	2.37	33.5	114.0	5.0	5.2
	6.8	1.7	3.9	1200	38.5	27.2	1.68	44.2	22.9	2.7	1200	42.7	2.11	35.5	102.9	5.9	4.6
	9.0	2.9	6.6	860	35.9	23.1	1.53	42.1	23.5	2.4	860	41.9	2.38	34.4	115.1	5.2	5.3
	9.0	2.9	6.6	1200	38.8	27.2	1.61	44.3	24.1	2.5	1200	43.8	2.12	36.6	103.8	6.1	4.7
80	4.5	0.8	1.8	860	32.9	22.3	1.92	40.3	17.1	4.0	860	42.6	2.41	35.1	115.9	5.2	5.4
	4.5	0.8	1.8	1200	35.6	26.3	2.02	42.5	17.6	4.2	1200	44.5	2.14	37.2	104.3	6.1	4.8
	6.8	1.7	3.8	860	34.1	22.8	1.79	41.1	19.1	3.4	860	44.6	2.44	37.0	118.1	5.4	5.7
	6.8	1.7	3.8	1200	36.8	26.8	1.88	43.3	19.6	3.6	1200	46.6	2.17	39.2	106.0	6.3	5.1
	9.0	2.8	6.4	860	34.6	22.9	1.72	41.4	20.1	3.1	860	45.7	2.46	37.9	119.2	5.4	5.8
	9.0	2.8	6.4	1200	37.4	27.0	1.81	43.6	20.7	3.3	1200	47.7	2.19	40.3	106.8	6.4	5.2
85	4.5	0.8	1.8	860	31.9	21.9	2.0	39.7	15.7	4.5	860	44.3	2.43	36.7	117.7	5.3	5.7
	4.5	0.8	1.8	1200	34.4	25.7	2.14	41.7	16.2	4.7	1200	46.3	2.2	38.9	105.7	6.3	5.1
	6.8	1.6	3.8	860	33.1	22.4	1.90	40.5	17.5	3.9	860	46.3	2.5	38.5	119.8	5.5	6.0
	6.8	1.6	3.8	1200	35.8	26.3	2.00	42.6	18.0	4.1	1200	48.4	2.2	40.9	107.3	6.4	5.3
	9.0	2.8	6.4	860	33.7	22.6	1.83	40.8	18.5	3.6	860	47.3	2.5	39.4	120.9	5.6	6.1
	9.0	2.8	6.4	1200	36.4	26.6	1.92	43.0	19.1	3.8	1200	49.4	2.2	41.8	108.1	6.5	5.5
90	4.5	0.8	1.8	860	30.8	21.4	2.15	39.0	14.3	4.9	860	46.0	2.46	38.2	119.5	5.5	6.0
	4.5	0.8	1.8	1200	33.3	25.2	2.26	41.0	14.7	5.2	1200	48.1	2.19	40.6	107.1	6.4	5.3
	6.8	1.6	3.8	860	32.1	22.0	2.01	39.8	16.0	4.4	860	47.9	2.51	40.0	121.6	5.6	6.2
	6.8	1.6	3.8	1200	34.7	25.9	2.11	41.9	16.5	4.6	1200	50.1	2.23	42.5	108.6	6.6	5.5
	9.0	2.7	6.3	860	32.8	22.3	1.93	40.3	17.0	4.0	860	48.9	2.53	40.9	122.6	5.7	6.4
	9.0	2.7	6.3	1200	35.4	26.2	2.03	42.4	17.5	4.2	1200	51.0	2.25	43.4	109.4	6.6	5.7
100	4.5	0.8	1.8	860	28.6	20.4	2.40	37.5	11.9	6.1	Operation not recommended						
	4.5	0.8	1.8	1200	30.9	24.0	2.52	39.5	12.3	6.4							
	6.8	1.6	3.7	860	29.9	21.0	2.24	38.4	13.3	5.4							
	6.8	1.6	3.7	1200	32.4	24.7	2.36	40.4	13.7	5.7							
	9.0	2.7	6.2	860	30.6	21.3	2.17	38.8	14.1	5.0							
	9.0	2.7	6.2	1200	33.1	25.1	2.28	40.9	14.5	5.3							
110	4.5	0.7	1.7	860	26.3	19.2	2.67	36.1	9.8	7.3							
	4.5	0.7	1.7	1200	28.4	22.6	2.81	38.0	10.1	7.7							
	6.8	1.6	3.6	860	27.6	19.9	2.51	36.9	11.0	6.7							
	6.8	1.6	3.6	1200	29.8	23.4	2.64	38.8	11.3	7.0							
	9.0	2.6	6.1	860	28.3	20.2	2.43	37.3	11.7	6.3							
	9.0	2.6	6.1	1200	30.6	23.8	2.55	39.3	12.0	6.6							
120	4.5	0.6	1.5	860	24.1	18.2	2.98	34.9	8.1	8.7							
	4.5	0.6	1.5	1200	26.1	21.4	3.13	36.8	8.3	9.2							
	6.8	1.5	3.3	860	25.3	18.8	2.81	35.5	9.0	8.0							
	6.8	1.5	3.3	1200	27.3	22.1	2.95	37.4	9.3	8.4							
	9.0	2.5	5.8	860	25.9	19.1	2.72	35.9	9.5	7.6							
	9.0	2.5	5.8	1200	28.0	22.4	2.86	37.8	9.8	8.0							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 042 - ECM Blower

1,400 CFM Nominal (Rated) Airflow Cooling, 1,400 CFM Nominal (Rated) Airflow Heating

Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	10.5	3.7	8.5	Operation not recommended							1000	24.5	2.59	16.7	92.6	2.8	3.7
	10.5	3.7	8.5								1400	25.6	2.30	17.7	86.9	3.3	3.3
30	5.3	1.0	2.3	1000	39.4	22.9	1.20	44.6	32.9	1.7	1000	27.0	2.57	19.3	95.0	3.1	3.9
	5.3	1.0	2.3	1400	42.6	27.0	1.26	47.0	33.8	1.8	1400	28.3	2.29	20.5	88.7	3.6	3.5
	7.9	2.0	4.6	1000	36.3	20.1	1.12	41.1	32.4	1.8	1000	28.1	2.56	20.4	96.1	3.2	4.0
	7.9	2.0	4.6	1400	39.3	23.6	1.18	43.3	33.3	1.9	1400	29.4	2.28	21.6	89.4	3.8	3.6
	10.5	3.4	7.9	1000	34.5	18.5	1.08	39.1	31.8	1.8	1000	28.7	2.56	21.0	96.6	3.3	4.0
	10.5	3.4	7.9	1400	37.3	21.8	1.14	41.2	32.7	1.9	1400	30.0	2.28	22.3	89.9	3.9	3.6
40	5.3	0.9	2.0	1000	42.3	26.1	1.35	48.0	31.3	1.8	1000	31.1	2.56	23.3	98.8	3.6	4.3
	5.3	0.9	2.0	1400	45.7	30.7	1.42	50.5	32.2	1.9	1400	32.5	2.28	24.8	91.5	4.2	3.8
	7.9	1.9	4.3	1000	40.9	24.4	1.26	46.3	32.6	1.7	1000	32.5	2.56	24.7	100.1	3.7	4.3
	7.9	1.9	4.3	1400	44.2	28.7	1.32	48.7	33.5	1.8	1400	34.0	2.28	26.2	92.5	4.4	3.8
	10.5	3.2	7.5	1000	39.9	23.4	1.22	45.1	32.7	1.7	1000	33.3	2.56	25.5	100.8	3.8	4.4
	10.5	3.2	7.5	1400	43.1	27.5	1.28	47.5	33.7	1.8	1400	34.8	2.28	27.0	93.0	4.5	3.9
50	5.3	0.8	1.8	1000	42.7	27.2	1.51	49.1	28.3	2.2	1000	35.4	2.57	27.5	102.8	4.0	4.6
	5.3	0.8	1.8	1400	46.2	32.0	1.59	51.6	29.1	2.3	1400	37.0	2.29	29.2	94.5	4.7	4.1
	7.9	1.7	4.0	1000	42.6	26.6	1.41	48.6	30.3	1.9	1000	37.1	2.59	29.2	104.4	4.2	4.7
	7.9	1.7	4.0	1400	46.1	31.4	1.48	51.2	31.1	2.0	1400	38.8	2.30	31.0	95.7	4.9	4.2
	10.5	3.1	7.1	1000	42.3	26.1	1.36	48.1	31.1	1.9	1000	38.1	2.60	30.1	105.3	4.3	4.7
	10.5	3.1	7.1	1400	45.7	30.7	1.43	50.6	32.0	2.0	1400	39.8	2.31	31.9	96.3	5.0	4.2
60	5.3	0.8	1.8	1000	41.7	27.1	1.69	48.6	24.7	2.7	1000	39.8	2.61	31.7	106.9	4.5	4.9
	5.3	0.8	1.8	1400	45.1	31.9	1.78	51.2	25.4	2.8	1400	41.6	2.32	33.7	97.5	5.3	4.4
	7.9	1.7	3.9	1000	42.5	27.3	1.57	49.0	27.1	2.4	1000	41.9	2.63	33.7	108.8	4.7	5.2
	7.9	1.7	3.9	1400	46.0	32.1	1.65	51.6	27.9	2.5	1400	43.8	2.34	35.8	98.9	5.5	4.6
	10.5	3.0	6.9	1000	42.7	27.2	1.52	49.1	28.1	2.2	1000	43.0	2.65	34.8	109.8	4.8	5.3
	10.5	3.0	6.9	1400	46.2	32.0	1.60	51.6	28.9	2.3	1400	45.0	2.36	36.9	99.7	5.6	4.7
70	5.3	0.8	1.7	1000	39.8	26.2	1.88	47.3	21.2	3.3	1000	44.4	2.68	36.1	111.1	4.9	5.4
	5.3	0.8	1.7	1400	43.1	30.8	1.98	49.8	21.8	3.5	1400	46.4	2.38	38.3	100.7	5.7	4.8
	7.9	1.6	3.8	1000	41.2	26.8	1.76	48.3	23.4	2.9	1000	46.8	2.72	38.3	113.3	5.0	5.6
	7.9	1.6	3.8	1400	44.5	31.6	1.85	50.8	24.0	3.1	1400	48.9	2.42	40.6	102.3	5.9	5.0
	10.5	2.9	6.7	1000	41.7	27.1	1.69	48.6	24.6	2.7	1000	48.1	2.74	39.5	114.5	5.1	5.7
	10.5	2.9	6.7	1400	45.1	31.9	1.78	51.2	25.3	2.8	1400	50.3	2.44	41.9	103.2	6.0	5.1
80	5.3	0.8	1.8	1000	37.4	24.8	2.11	45.6	17.7	4.2	1000	49.0	2.77	40.4	115.4	5.2	6.0
	5.3	0.8	1.8	1400	40.4	29.2	2.22	48.0	18.2	4.4	1400	51.3	2.46	42.8	103.9	6.1	5.3
	7.9	1.6	3.7	1000	39.0	25.7	1.97	46.7	19.8	3.6	1000	51.8	2.83	42.8	117.9	5.4	6.2
	7.9	1.6	3.7	1400	42.1	30.2	2.07	49.2	20.3	3.8	1400	54.1	2.52	45.5	105.8	6.3	5.5
	10.5	2.9	6.7	1000	39.7	26.1	1.90	47.3	20.9	3.4	1000	53.3	2.88	44.2	119.3	5.4	6.4
	10.5	2.9	6.7	1400	42.9	30.7	2.00	49.7	21.5	3.6	1400	55.7	2.56	46.9	106.8	6.4	5.7
85	5.3	0.8	1.8	1000	36.0	24.1	2.2	44.6	16.2	4.7	1000	51.4	2.83	42.5	117.6	5.3	6.2
	5.3	0.8	1.8	1400	39.0	28.3	2.35	47.0	16.7	4.9	1400	53.7	2.5	45.1	105.5	6.2	5.6
	7.9	1.6	3.7	1000	37.6	25.0	2.09	45.8	18.1	4.1	1000	54.3	2.9	45.1	120.3	5.5	6.5
	7.9	1.6	3.7	1400	40.7	29.4	2.20	48.2	18.6	4.3	1400	56.7	2.6	47.9	107.5	6.4	5.8
	10.5	2.9	6.6	1000	38.4	25.4	2.02	46.3	19.2	3.8	1000	55.9	3.0	46.5	121.7	5.5	6.7
	10.5	2.9	6.6	1400	41.6	29.9	2.12	48.8	19.7	4.1	1400	58.4	2.6	49.4	108.6	6.5	6.0
90	5.3	0.8	1.8	1000	34.7	23.3	2.36	43.7	14.7	5.1	1000	53.8	2.90	44.6	119.8	5.4	6.5
	5.3	0.8	1.8	1400	37.5	27.4	2.48	46.0	15.1	5.4	1400	56.2	2.58	47.4	107.2	6.4	5.8
	7.9	1.6	3.7	1000	36.3	24.2	2.21	44.8	16.5	4.6	1000	56.8	2.99	47.4	122.6	5.6	6.9
	7.9	1.6	3.7	1400	39.3	28.5	2.32	47.2	16.9	4.8	1400	59.4	2.66	50.3	109.3	6.5	6.1
	10.5	2.9	6.6	1000	37.1	24.7	2.13	45.4	17.4	4.3	1000	58.5	3.06	48.8	124.1	5.6	7.1
	10.5	2.9	6.6	1400	40.2	29.1	2.24	47.8	17.9	4.5	1400	61.1	2.72	51.8	110.4	6.6	6.3
100	5.3	0.8	1.8	1000	32.1	21.9	2.64	41.9	12.1	6.3	Operation not recommended						
	5.3	0.8	1.8	1400	34.7	25.8	2.78	44.2	12.5	6.6							
	7.9	1.6	3.6	1000	33.6	22.7	2.47	42.9	13.6	5.6							
	7.9	1.6	3.6	1400	36.3	26.7	2.60	45.2	14.0	5.9							
	10.5	2.8	6.5	1000	34.4	23.1	2.40	43.4	14.3	5.3							
	10.5	2.8	6.5	1400	37.1	27.2	2.52	45.7	14.7	5.6							
110	5.3	0.8	1.7	1000	29.8	20.9	2.98	40.7	10.0	7.7							
	5.3	0.8	1.7	1400	32.2	24.6	3.13	42.9	10.3	8.1							
	7.9	1.6	3.6	1000	31.0	21.4	2.79	41.3	11.1	6.9							
	7.9	1.6	3.6	1400	33.5	25.2	2.93	43.5	11.4	7.3							
	10.5	2.8	6.4	1000	31.7	21.7	2.69	41.7	11.8	6.6							
	10.5	2.8	6.4	1400	34.2	25.6	2.83	43.9	12.1	6.9							
120	5.3	0.7	1.6	1000	28.2	20.6	3.37	40.5	8.4	9.3							
	5.3	0.7	1.6	1400	30.5	24.2	3.54	42.6	8.6	9.8							
	7.9	1.5	3.5	1000	29.0	20.7	3.15	40.5	9.2	8.4							
	7.9	1.5	3.5	1400	31.3	24.3	3.31	42.6	9.5	8.8							
	10.5	2.7	6.3	1000	29.4	20.8	3.04	40.6	9.7	8.0							
	10.5	2.7	6.3	1400	31.8	24.5	3.20	42.7	9.9	8.4							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 048 - ECM Blower

1,550 CFM Nominal (Rated) Airflow Cooling, 1,650 CFM Nominal (Rated) Airflow Heating Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	12.0	4.2	9.6	Operation not recommended							1200	31.7	3.45	21.3	94.5	2.7	3.7
	12.0	4.2	9.6								1650	33.1	3.07	22.7	88.6	3.2	3.3
30	6.0	1.1	2.6	1100	47.7	26.3	1.71	54.8	27.9	1.7	1200	34.4	3.45	24.0	96.6	2.9	3.9
	6.0	1.1	2.6	1550	51.5	30.9	1.80	57.7	28.6	1.8	1650	36.0	3.07	25.5	90.2	3.4	3.5
	9.0	2.3	5.3	1100	44.3	23.4	1.57	50.8	28.2	1.8	1200	35.8	3.46	25.4	97.6	3.0	3.9
	9.0	2.3	5.3	1550	47.9	27.6	1.65	53.5	29.0	1.9	1650	37.4	3.08	26.9	91.0	3.6	3.5
	12.0	3.8	8.7	1100	42.3	21.9	1.50	48.6	28.2	1.8	1200	36.6	3.46	26.1	98.2	3.1	4.0
	12.0	3.8	8.7	1550	45.7	25.8	1.58	51.1	28.9	1.9	1650	38.2	3.08	27.7	91.4	3.6	3.6
40	6.0	0.9	2.1	1100	50.6	29.2	1.95	58.6	26.0	1.9	1200	39.1	3.50	28.5	100.2	3.3	4.2
	6.0	0.9	2.1	1550	54.7	34.4	2.05	61.7	26.7	2.0	1650	40.9	3.11	30.3	92.9	3.9	3.7
	9.0	2.1	4.8	1100	49.0	27.5	1.80	56.5	27.3	1.7	1200	40.8	3.52	30.2	101.5	3.4	4.3
	9.0	2.1	4.8	1550	53.0	32.3	1.89	59.4	28.0	1.8	1650	42.7	3.13	32.0	94.0	4.0	3.8
	12.0	3.5	8.0	1100	47.8	26.4	1.72	55.0	27.8	1.7	1200	41.8	3.53	31.1	102.3	3.5	4.4
	12.0	3.5	8.0	1550	51.7	31.0	1.81	57.9	28.6	1.8	1650	43.7	3.14	33.0	94.5	4.1	3.9
50	6.0	0.8	1.9	1100	51.3	30.6	2.18	60.1	23.5	2.3	1200	44.1	3.56	33.2	104.0	3.6	4.5
	6.0	0.8	1.9	1550	55.4	36.0	2.29	63.2	24.2	2.4	1650	46.0	3.17	35.2	95.8	4.3	4.0
	9.0	1.9	4.4	1100	51.0	29.8	2.02	59.3	25.3	2.0	1200	46.2	3.61	35.1	105.6	3.7	4.6
	9.0	1.9	4.4	1550	55.2	35.1	2.12	62.4	26.0	2.1	1650	48.2	3.21	37.3	97.1	4.4	4.1
	12.0	3.3	7.6	1100	50.6	29.2	1.94	58.6	26.1	1.9	1200	47.3	3.63	36.2	106.5	3.8	4.7
	12.0	3.3	7.6	1550	54.7	34.3	2.04	61.6	26.8	2.0	1650	49.4	3.23	38.4	97.7	4.5	4.2
60	6.0	0.8	1.8	1100	50.4	30.8	2.43	60.0	20.8	2.8	1200	49.2	3.68	37.9	107.9	3.9	4.8
	6.0	0.8	1.8	1550	54.5	36.3	2.55	63.2	21.4	2.9	1650	51.4	3.27	40.2	98.8	4.6	4.3
	9.0	1.8	4.2	1100	51.1	30.8	2.25	60.2	22.7	2.4	1200	51.6	3.73	40.1	109.8	4.1	5.1
	9.0	1.8	4.2	1550	55.3	36.2	2.37	63.4	23.3	2.5	1650	53.9	3.32	42.6	100.3	4.8	4.5
	12.0	3.1	7.3	1100	51.3	30.6	2.17	60.0	23.6	2.2	1200	52.9	3.77	41.4	110.9	4.1	5.2
	12.0	3.1	7.3	1550	55.4	36.0	2.28	63.2	24.3	2.3	1650	55.3	3.35	43.9	101.0	4.8	4.6
70	6.0	0.8	1.7	1100	48.4	30.3	2.69	58.9	18.0	3.5	1200	54.3	3.80	42.6	111.9	4.2	5.3
	6.0	0.8	1.7	1550	52.4	35.6	2.83	62.0	18.5	3.7	1650	56.8	3.38	45.3	101.9	4.9	4.7
	9.0	1.8	4.1	1100	49.9	30.7	2.50	59.8	19.9	2.9	1200	57.1	3.87	45.1	114.1	4.3	5.6
	9.0	1.8	4.1	1550	53.9	36.1	2.63	62.9	20.5	3.1	1650	59.7	3.44	47.9	103.5	5.1	5.0
	12.0	3.1	7.1	1100	50.4	30.8	2.41	60.0	21.0	2.8	1200	58.6	3.90	46.5	115.2	4.4	5.7
	12.0	3.1	7.1	1550	54.5	36.3	2.53	63.2	21.6	2.9	1650	61.2	3.47	49.4	104.4	5.2	5.1
80	6.0	0.8	1.7	1100	45.8	29.2	2.98	57.2	15.4	4.4	1200	59.5	3.92	47.3	115.9	4.4	5.8
	6.0	0.8	1.7	1550	49.6	34.3	3.13	60.2	15.8	4.6	1650	62.2	3.49	50.2	104.9	5.2	5.2
	9.0	1.7	4.0	1100	47.7	30.0	2.78	58.4	17.2	3.7	1200	62.5	4.00	50.1	118.2	4.6	6.2
	9.0	1.7	4.0	1550	51.5	35.3	2.92	61.5	17.7	3.9	1650	65.3	3.56	53.1	106.6	5.4	5.5
	12.0	3.0	7.0	1100	48.5	30.3	2.68	59.0	18.1	3.4	1200	64.1	4.05	51.5	119.5	4.6	6.3
	12.0	3.0	7.0	1550	52.5	35.6	2.82	62.1	18.6	3.6	1650	67.0	3.60	54.7	107.6	5.5	5.6
85	6.0	0.8	1.7	1100	44.3	28.5	3.1	56.3	14.2	4.9	1200	62.0	3.99	49.6	117.9	4.6	6.1
	6.0	0.8	1.7	1550	47.9	33.5	3.31	59.2	14.6	5.2	1650	64.8	3.6	52.7	106.4	5.3	5.5
	9.0	1.7	4.0	1100	46.3	29.4	2.93	57.5	15.8	4.2	1200	65.1	4.1	52.4	120.2	4.7	6.5
	9.0	1.7	4.0	1550	50.0	34.5	3.09	60.5	16.3	4.4	1650	68.0	3.6	55.6	108.2	5.5	5.8
	12.0	3.0	6.9	1100	47.2	29.7	2.83	58.1	16.7	3.9	1200	66.7	4.1	53.9	121.5	4.8	6.6
	12.0	3.0	6.9	1550	51.0	35.0	2.98	61.2	17.2	4.1	1650	69.7	3.7	57.2	109.1	5.6	5.9
90	6.0	0.8	1.8	1100	42.8	27.8	3.31	55.3	12.9	5.4	1200	64.5	4.06	51.9	119.8	4.7	6.4
	6.0	0.8	1.8	1550	46.3	32.8	3.48	58.2	13.3	5.7	1650	67.4	3.61	55.1	107.8	5.5	5.7
	9.0	1.7	4.0	1100	44.9	28.8	3.09	56.6	14.5	4.7	1200	67.7	4.15	54.8	122.2	4.8	6.7
	9.0	1.7	4.0	1550	48.5	33.8	3.25	59.6	14.9	4.9	1650	70.7	3.69	58.2	109.7	5.6	6.0
	12.0	3.0	6.9	1100	45.8	29.2	2.98	57.2	15.4	4.4	1200	69.3	4.18	56.3	123.5	4.9	7.0
	12.0	3.0	6.9	1550	49.6	34.4	3.13	60.3	15.8	4.6	1650	72.5	3.72	59.8	110.7	5.7	6.2
100	6.0	0.8	1.8	1100	39.7	26.4	3.68	53.3	10.8	6.6	Operation not recommended						
	6.0	0.8	1.8	1550	42.9	31.0	3.87	56.1	11.1	6.9							
	9.0	1.7	4.0	1100	41.7	27.3	3.43	54.5	12.1	5.8							
	9.0	1.7	4.0	1550	45.1	32.1	3.61	57.4	12.5	6.1							
	12.0	3.0	6.8	1100	42.7	27.8	3.32	55.2	12.9	5.4							
	12.0	3.0	6.8	1550	46.2	32.7	3.49	58.1	13.2	5.7							
110	6.0	0.7	1.7	1100	36.6	25.0	4.11	51.6	8.9	8.0							
	6.0	0.7	1.7	1550	39.6	29.4	4.32	54.4	9.2	8.4							
	9.0	1.7	3.9	1100	38.5	25.8	3.83	52.6	10.0	7.1							
	9.0	1.7	3.9	1550	41.6	30.4	4.03	55.4	10.3	7.5							
	12.0	2.9	6.7	1100	39.5	26.3	3.71	53.2	10.6	6.7							
	12.0	2.9	6.7	1550	42.7	30.9	3.90	56.0	10.9	7.0							
120	6.0	0.7	1.5	1100	34.0	24.0	4.60	50.6	7.4	9.5							
	6.0	0.7	1.5	1550	36.7	28.2	4.84	53.2	7.6	10.0							
	9.0	1.6	3.7	1100	35.5	24.6	4.30	51.1	8.3	8.6							
	9.0	1.6	3.7	1550	38.4	28.9	4.52	53.8	8.5	9.0							
	12.0	2.8	6.5	1100	36.4	24.9	4.15	51.5	8.8	8.1							
	12.0	2.8	6.5	1550	39.3	29.3	4.36	54.2	9.0	8.5							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 060 - ECM Blower

1,950 CFM Nominal (Rated) Airflow Cooling, 2,050 CFM Nominal (Rated) Airflow Heating

Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	15.0	7.2	16.6	Operation not recommended							1475	38.5	4.07	26.2	94.2	2.8	4.3
	15.0	7.2	16.6								2050	40.2	3.62	27.8	88.2	3.3	3.8
30	7.5	1.3	3.0	1400	68.4	43.6	2.41	78.5	28.4	1.9	1475	42.0	4.14	29.5	96.3	3.0	4.5
	7.5	1.3	3.0	1950	74.0	51.3	2.53	82.6	29.2	2.0	2050	43.9	3.68	31.3	89.8	3.5	4.0
	11.3	3.5	8.1	1400	66.0	41.7	2.26	75.5	29.2	1.7	1475	43.7	4.17	31.1	97.5	3.1	4.6
	11.3	3.5	8.1	1950	71.4	49.0	2.38	79.5	30.0	1.8	2050	45.7	3.71	33.0	90.6	3.6	4.1
	15.0	6.1	14.1	1400	64.2	40.4	2.20	73.5	29.2	1.7	1475	44.7	4.19	32.0	98.1	3.1	4.6
	15.0	6.1	14.1	1950	69.5	47.6	2.31	77.4	30.1	1.8	2050	46.7	3.73	34.0	91.1	3.7	4.1
40	7.5	0.9	2.0	1400	69.5	44.8	2.63	80.3	26.4	2.2	1475	48.2	4.25	35.3	100.3	3.3	4.8
	7.5	0.9	2.0	1950	75.1	52.8	2.77	84.6	27.1	2.3	2050	50.4	3.78	37.5	92.8	3.9	4.3
	11.3	2.9	6.7	1400	68.9	44.0	2.46	79.2	28.0	1.9	1475	50.6	4.29	37.5	101.8	3.5	4.9
	11.3	2.9	6.7	1950	74.5	51.8	2.59	83.4	28.8	2.0	2050	52.9	3.82	39.8	93.9	4.1	4.4
	15.0	5.3	12.2	1400	68.2	43.4	2.39	78.2	28.6	1.8	1475	51.9	4.33	38.7	102.6	3.5	5.1
	15.0	5.3	12.2	1950	73.7	51.0	2.51	82.3	29.4	1.9	2050	54.2	3.85	41.1	94.5	4.1	4.5
50	7.5	0.6	1.4	1400	68.6	45.0	2.89	80.3	23.7	2.8	1475	55.1	4.38	41.7	104.6	3.7	5.2
	7.5	0.6	1.4	1950	74.1	52.9	3.04	84.5	24.4	2.9	2050	57.5	3.90	44.2	96.0	4.3	4.6
	11.3	2.5	5.7	1400	69.4	45.0	2.69	80.5	25.8	2.3	1475	58.0	4.44	44.4	106.4	3.8	5.4
	11.3	2.5	5.7	1950	75.0	52.9	2.83	84.7	26.5	2.4	2050	60.6	3.95	47.2	97.4	4.5	4.8
	15.0	4.7	10.9	1400	69.5	44.8	2.61	80.2	26.7	2.2	1475	59.7	4.47	46.0	107.5	3.9	5.5
	15.0	4.7	10.9	1950	75.1	52.7	2.74	84.4	27.4	2.3	2050	62.4	3.98	48.8	98.2	4.6	4.9
60	7.5	0.5	1.1	1400	66.3	44.3	3.18	78.9	20.9	3.4	1475	62.2	4.52	48.3	109.1	4.0	5.6
	7.5	0.5	1.1	1950	71.7	52.2	3.34	83.1	21.5	3.6	2050	65.0	4.02	51.3	99.4	4.7	5.0
	11.3	2.2	5.1	1400	68.1	44.9	2.96	80.0	23.0	2.9	1475	65.8	4.60	51.6	111.3	4.2	5.8
	11.3	2.2	5.1	1950	73.6	52.8	3.11	84.2	23.7	3.1	2050	68.7	4.09	54.8	101.1	4.9	5.2
	15.0	4.3	10.0	1400	68.8	45.0	2.85	80.3	24.1	2.7	1475	67.8	4.63	53.4	112.5	4.3	6.0
	15.0	4.3	10.0	1950	74.3	53.0	3.00	84.6	24.8	2.8	2050	70.8	4.12	56.7	102.0	5.0	5.3
70	7.5	0.5	1.1	1400	63.2	43.2	3.52	76.9	18.0	4.3	1475	69.5	4.68	55.1	113.7	4.4	6.1
	7.5	0.5	1.1	1950	68.3	50.8	3.70	80.9	18.5	4.5	2050	72.7	4.16	58.5	102.8	5.1	5.4
	11.3	2.1	4.8	1400	65.5	44.1	3.26	78.4	20.1	3.6	1475	73.6	4.77	58.8	116.2	4.5	6.4
	11.3	2.1	4.8	1950	70.9	51.9	3.43	82.6	20.7	3.8	2050	76.9	4.24	62.4	104.7	5.3	5.7
	15.0	4.1	9.5	1400	66.6	44.4	3.15	79.1	21.2	3.3	1475	75.8	4.81	60.8	117.6	4.6	6.6
	15.0	4.1	9.5	1950	72.0	52.3	3.31	83.3	21.8	3.5	2050	79.2	4.28	64.6	105.8	5.4	5.9
80	7.5	0.5	1.1	1400	59.5	41.8	3.90	74.4	15.3	5.3	1475	76.8	4.83	61.7	118.2	4.7	6.6
	7.5	0.5	1.1	1950	64.4	49.1	4.10	78.3	15.7	5.6	2050	80.2	4.30	65.5	106.2	5.5	5.9
	11.3	2.0	4.6	1400	62.2	42.8	3.62	76.2	17.2	4.6	1475	81.1	4.95	65.7	120.9	4.8	7.1
	11.3	2.0	4.6	1950	67.2	50.4	3.81	80.2	17.6	4.8	2050	84.7	4.40	69.7	108.3	5.6	6.3
	15.0	4.0	9.2	1400	63.5	43.3	3.49	77.1	18.2	4.2	1475	83.4	5.01	67.8	122.4	4.9	7.3
	15.0	4.0	9.2	1950	68.6	51.0	3.67	81.1	18.7	4.4	2050	87.2	4.46	72.0	109.4	5.7	6.5
85	7.5	0.5	1.1	1400	57.6	41.0	4.1	73.2	14.1	5.9	1475	80.2	4.92	64.9	120.4	4.8	7.0
	7.5	0.5	1.1	1950	62.3	48.2	4.33	77.1	14.4	6.2	2050	83.8	4.4	68.9	107.9	5.6	6.2
	11.3	2.0	4.6	1400	60.3	42.0	3.83	74.9	15.8	5.1	1475	84.6	5.0	68.8	123.1	4.9	7.4
	11.3	2.0	4.6	1950	65.1	49.5	4.03	78.9	16.3	5.4	2050	88.4	4.5	73.1	109.9	5.8	6.6
	15.0	4.0	9.1	1400	61.6	42.6	3.69	75.8	16.8	4.7	1475	86.9	5.1	70.9	124.5	5.0	7.6
	15.0	4.0	9.1	1950	66.6	50.1	3.88	79.8	17.3	5.0	2050	90.8	4.6	75.3	111.0	5.8	6.8
90	7.5	0.5	1.2	1400	55.7	40.2	4.34	72.0	12.8	6.5	1475	83.7	5.01	68.0	122.5	4.9	7.3
	7.5	0.5	1.2	1950	60.2	47.3	4.56	75.8	13.2	6.8	2050	87.4	4.46	72.2	109.5	5.7	6.5
	11.3	2.0	4.5	1400	58.3	41.3	4.03	73.7	14.5	5.7	1475	88.1	5.15	72.0	125.3	5.0	7.8
	11.3	2.0	4.5	1950	63.1	48.6	4.24	77.5	14.9	6.0	2050	92.1	4.58	76.4	111.6	5.9	6.9
	15.0	3.9	9.1	1400	59.7	41.8	3.88	74.5	15.4	5.2	1475	90.4	5.22	74.0	126.7	5.1	8.0
	15.0	3.9	9.1	1950	64.5	49.2	4.08	78.5	15.8	5.5	2050	94.4	4.64	78.6	112.6	6.0	7.1
100	7.5	0.5	1.1	1400	51.9	38.7	4.85	69.9	10.7	7.9	Operation not recommended						
	7.5	0.5	1.1	1950	56.1	45.5	5.10	73.5	11.0	8.3							
	11.3	1.9	4.5	1400	54.4	39.7	4.51	71.2	12.1	6.9							
	11.3	1.9	4.5	1950	58.8	46.7	4.74	75.0	12.4	7.3							
	15.0	3.9	9.0	1400	55.7	40.2	4.34	72.0	12.8	6.5							
	15.0	3.9	9.0	1950	60.2	47.3	4.56	75.8	13.2	6.8							
110	7.5	0.4	0.8	1400	48.6	37.6	5.45	68.5	8.9	9.4							
	7.5	0.4	0.8	1950	52.5	44.2	5.73	72.1	9.2	9.9							
	11.3	1.8	4.2	1400	50.7	38.3	5.05	69.3	10.0	8.4							
	11.3	1.8	4.2	1950	54.8	45.0	5.31	72.9	10.3	8.8							
	15.0	3.8	8.8	1400	51.8	38.7	4.86	69.8	10.7	7.9							
	15.0	3.8	8.8	1950	56.1	45.5	5.11	73.5	11.0	8.3							
120	7.5	0.1	0.3	1400	46.1	37.2	6.15	68.3	7.5	11.3							
	7.5	0.1	0.3	1950	49.8	43.7	6.47	71.9	7.7	11.9							
	11.3	1.6	3.8	1400	47.6	37.3	5.69	68.2	8.4	10.1							
	11.3	1.6	3.8	1950	51.4	43.9	5.98	71.8	8.6	10.6							
	15.0	3.7	8.5	1400	48.5	37.6	5.48	68.4	8.8	9.5							
	15.0	3.7	8.5	1950	52.4	44.2	5.76	72.0	9.1	10.0							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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 — Tranquility® 20 Model 070 - ECM Blower

1,950 CFM Nominal (Rated) Airflow Cooling, 2,100 CFM Nominal (Rated) Airflow Heating

Performance capacities shown in thousands of Btuh

EWT °F	GPM	WPD		Cooling - EAT 80/67°F							Heating - EAT 70°F						
		PSI	FT	Airflow CFM	TC	SC	kW	HR	EER	HWC	Airflow CFM	HC	kW	HE	LAT	COP	HWC
20	18.0	9.5	22.0	Operation not recommended							1475	44.7	4.97	29.8	98.1	2.6	5.6
	18.0	9.5	22.0								2050	46.7	4.42	31.6	91.1	3.1	5.0
30	9.0	2.7	6.3	1400	77.0	44.8	2.86	88.8	26.9	3.5	1475	48.7	5.06	33.4	100.5	2.8	6.0
	9.0	2.7	6.3	1950	83.2	52.7	3.01	93.5	27.7	3.7	2050	50.9	4.50	35.5	93.0	3.3	5.3
	13.5	5.2	12.0	1400	75.9	43.6	2.67	87.1	28.4	3.5	1475	50.5	5.10	35.1	101.7	2.9	6.1
	13.5	5.2	12.0	1950	82.1	51.3	2.81	91.6	29.2	3.7	2050	52.7	4.54	37.3	93.8	3.4	5.4
	18.0	8.1	18.8	1400	75.0	42.8	2.58	85.8	29.1	3.5	1475	51.5	5.13	36.0	102.3	2.9	6.2
	18.0	8.1	18.8	1950	81.1	50.3	2.71	90.4	29.9	3.7	2050	53.8	4.56	38.2	94.3	3.5	5.5
40	9.0	2.1	4.9	1400	77.1	45.6	3.16	90.0	24.4	3.7	1475	55.5	5.23	39.7	104.8	3.1	6.5
	9.0	2.1	4.9	1950	83.4	53.6	3.32	94.7	25.1	3.9	2050	58.0	4.65	42.2	96.2	3.7	5.8
	13.5	4.4	10.1	1400	77.2	45.2	2.95	89.3	26.2	3.5	1475	57.9	5.28	41.9	106.4	3.2	6.7
	13.5	4.4	10.1	1950	83.5	53.1	3.10	94.0	26.9	3.7	2050	60.5	4.70	44.5	97.3	3.8	6.0
	18.0	7.1	16.4	1400	77.0	44.8	2.85	88.8	27.0	3.5	1475	59.2	5.32	43.1	107.2	3.3	6.9
	18.0	7.1	16.4	1950	83.2	52.7	3.00	93.4	27.7	3.7	2050	61.9	4.73	45.8	98.0	3.8	6.1
50	9.0	1.7	4.0	1400	75.8	45.4	3.47	89.7	21.8	4.3	1475	62.9	5.41	46.5	109.5	3.4	7.2
	9.0	1.7	4.0	1950	82.0	53.5	3.65	94.5	22.5	4.5	2050	65.8	4.81	49.4	99.7	4.0	6.4
	13.5	3.8	8.8	1400	76.9	45.6	3.25	90.0	23.6	3.9	1475	65.9	5.49	49.2	111.4	3.5	7.5
	13.5	3.8	8.8	1950	83.1	53.7	3.42	94.8	24.3	4.1	2050	68.9	4.88	52.2	101.1	4.1	6.7
	18.0	6.4	14.8	1400	77.1	45.6	3.15	89.9	24.5	3.7	1475	67.5	5.52	50.7	112.4	3.6	7.6
	18.0	6.4	14.8	1950	83.4	53.6	3.31	94.7	25.2	3.9	2050	70.6	4.91	53.8	101.9	4.2	6.8
60	9.0	1.6	3.6	1400	73.5	44.6	3.82	88.6	19.2	5.2	1475	70.6	5.61	53.5	114.3	3.7	8.0
	9.0	1.6	3.6	1950	79.5	52.5	4.02	93.2	19.8	5.5	2050	73.8	4.99	56.8	103.3	4.3	7.1
	13.5	3.5	8.1	1400	75.2	45.2	3.58	89.5	21.0	4.6	1475	74.1	5.70	56.6	116.5	3.8	8.4
	13.5	3.5	8.1	1950	81.3	53.2	3.76	94.2	21.6	4.8	2050	77.4	5.07	60.1	105.0	4.5	7.5
	18.0	5.9	13.7	1400	75.9	45.5	3.46	89.8	21.9	4.3	1475	75.9	5.75	58.3	117.7	3.9	8.7
	18.0	5.9	13.7	1950	82.1	53.5	3.64	94.5	22.6	4.5	2050	79.3	5.12	61.9	105.8	4.5	7.7
70	9.0	1.5	3.5	1400	70.5	43.4	4.21	86.7	16.7	6.4	1475	78.3	5.82	60.4	119.2	3.9	9.0
	9.0	1.5	3.5	1950	76.2	51.0	4.43	91.3	17.2	6.7	2050	81.8	5.18	64.1	107.0	4.6	8.0
	13.5	3.3	7.6	1400	72.6	44.3	3.94	88.0	18.5	5.5	1475	82.0	5.93	63.8	121.5	4.1	9.6
	13.5	3.3	7.6	1950	78.5	52.1	4.14	92.7	19.0	5.8	2050	85.7	5.28	67.7	108.7	4.8	8.5
	18.0	5.7	13.1	1400	73.6	44.7	3.81	88.6	19.3	5.1	1475	84.0	6.00	65.6	122.7	4.1	9.8
	18.0	5.7	13.1	1950	79.6	52.5	4.01	93.3	19.9	5.4	2050	87.8	5.34	69.6	109.7	4.8	8.7
80	9.0	1.5	3.5	1400	66.9	41.8	4.66	84.5	14.3	7.9	1475	85.6	6.06	67.0	123.8	4.1	10.1
	9.0	1.5	3.5	1950	72.3	49.2	4.90	89.0	14.8	8.3	2050	89.5	5.39	71.1	110.4	4.9	9.0
	13.5	3.2	7.5	1400	69.3	42.9	4.36	86.0	15.9	6.8	1475	89.5	6.18	70.4	126.2	4.2	10.8
	13.5	3.2	7.5	1950	74.9	50.4	4.58	90.6	16.4	7.2	2050	93.5	5.50	74.7	112.2	5.0	9.6
	18.0	5.5	12.8	1400	70.5	43.4	4.21	86.8	16.7	6.4	1475	91.4	6.26	72.1	127.4	4.3	11.1
	18.0	5.5	12.8	1950	76.2	51.0	4.43	91.3	17.2	6.7	2050	95.5	5.57	76.5	113.1	5.0	9.9
85	9.0	1.5	3.6	1400	64.9	41.0	4.9	83.4	13.3	8.8	1475	89.0	6.18	69.9	125.9	4.2	10.7
	9.0	1.5	3.6	1950	70.1	48.2	5.17	87.8	13.6	9.3	2050	93.0	5.5	74.3	112.0	5.0	9.6
	13.5	3.2	7.5	1400	67.4	42.1	4.59	84.9	14.7	7.6	1475	92.7	6.3	73.2	128.2	4.3	11.5
	13.5	3.2	7.5	1950	72.9	49.5	4.83	89.4	15.2	8.1	2050	96.8	5.6	77.7	113.7	5.1	10.2
	18.0	5.5	12.7	1400	68.7	42.6	4.44	85.6	15.5	7.1	1475	94.5	6.4	74.7	129.3	4.3	11.9
	18.0	5.5	12.7	1950	74.2	50.1	4.67	90.1	16.0	7.5	2050	98.7	5.7	79.3	114.6	5.1	10.6
90	9.0	1.6	3.6	1400	62.9	40.2	5.17	82.2	12.2	9.7	1475	92.3	6.29	72.9	128.0	4.3	11.4
	9.0	1.6	3.6	1950	68.0	47.3	5.44	86.6	12.5	10.2	2050	96.5	5.60	77.4	113.6	5.1	10.1
	13.5	3.2	7.4	1400	65.5	41.3	4.83	83.7	13.6	8.5	1475	95.9	6.45	75.9	130.2	4.4	12.1
	13.5	3.2	7.4	1950	70.8	48.5	5.08	88.2	13.9	8.9	2050	100.2	5.74	80.6	115.3	5.1	10.8
	18.0	5.5	12.6	1400	66.8	41.8	4.67	84.5	14.3	7.9	1475	97.6	6.53	77.4	131.3	4.4	12.7
	18.0	5.5	12.6	1950	72.2	49.2	4.91	89.0	14.7	8.3	2050	102.0	5.81	82.1	116.1	5.1	11.3
100	9.0	1.6	3.6	1400	58.8	38.5	5.76	80.1	10.2	11.8	Operation not recommended						
	9.0	1.6	3.6	1950	63.6	45.3	6.06	84.3	10.5	12.4							
	13.5	3.2	7.4	1400	61.4	39.6	5.37	81.4	11.4	10.4							
	13.5	3.2	7.4	1950	66.4	46.5	5.65	85.7	11.8	10.9							
	18.0	5.4	12.5	1400	62.8	40.1	5.19	82.1	12.1	9.7							
	18.0	5.4	12.5	1950	67.8	47.2	5.46	86.5	12.4	10.2							
110	9.0	1.4	3.3	1400	54.8	37.0	6.44	78.2	8.5	14.2							
	9.0	1.4	3.3	1950	59.2	43.6	6.77	82.4	8.8	14.9							
	13.5	3.1	7.1	1400	57.3	37.9	6.01	79.3	9.5	12.6							
	13.5	3.1	7.1	1950	61.9	44.6	6.32	83.5	9.8	13.3							
	18.0	5.3	12.3	1400	58.6	38.4	5.80	79.9	10.1	11.9							
	18.0	5.3	12.3	1950	63.3	45.2	6.10	84.1	10.4	12.5							
120	9.0	1.2	2.7	1400	51.0	35.9	7.24	77.1	7.1	16.9							
	9.0	1.2	2.7	1950	55.2	42.2	7.61	81.1	7.3	17.8							
	13.5	2.9	6.6	1400	53.3	36.5	6.74	77.7	7.9	15.2							
	13.5	2.9	6.6	1950	57.6	43.0	7.09	81.8	8.1	16.0							
	18.0	5.2	11.9	1400	54.5	36.9	6.50	78.1	8.4	14.3							
	18.0	5.2	11.9	1950	58.9	43.4	6.84	82.2	8.6	15.1							

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.
AHRI/ISO certified conditions are 80.6°F DB and 66.2°F WB in cooling and 68°F DB in heating.
Table does not reflect fan or pump power corrections for AHRI/ISO conditions.
All performance is based upon the lower voltage of dual voltage rated units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F 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.

Physical Data

Model	018	024	030	036	042	048	060	070
Compressor (1 Each)	Copeland Scroll							
Factory Charge HFC-410a, oz [kg]	50 [1.13]	41 [1.16]	41 [1.16]	48 [1.36]	68 [1.93]	68 [1.93]	136 [3.86]	141 [4.0]
ECM Fan Motor & Blower								
Blower Wheel Size (Dia x W), in [mm]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
PSC Fan Motor & Blower (3 Speeds)								
Blower Wheel Size (Dia x W), in [mm]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	10 x 10 [254 x 254]	10 x 10 [254 x 254]		11 x 10 [279 x 254]	
Water Connection Size								
Swivel - Residential Class	1”	1”	1”	1”	1”	1”	1”	1”
HWG Water Connection Size								
Swivel - Residential Class	1”	1”	1”	1”	1”	1”	1”	1”
Vertical Upflow/Downflow								
Air Coil Dimensions (H x W), in [mm]	24 x 20 [610 x 508]	28 x 20 [711 x 542]	28 x 20 [711 x 542]	28 x 25 [711 x 635]	32 x 25 [813 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]	36 x 25 [914 x 635]
Standard Filter - 2” [51mm] Pleated MERV11 Throwaway, in [mm]	24 x 24 [610 x 508]	28 x 24 [712 x 610]	28 x 24 [712 x 610]	28 x 30 [711 x 762]	30 x 32 [762 x 813]	30 x 32 [762 x 813]	30 x 36 [762 x 914]	30 x 36 [762 x 914]
Weight - Operating, lbs [kg]	252 [114]	266 [121]	268 [122]	327 [148]	414 [188]	416 [189]	441 [200]	443 [201]
Weight - Packaged, lbs [kg]	262 [119]	276 [125]	278 [126]	337 [153]	424 [192]	426 [193]	451 [205]	453 [206]
Horizontal								
Air Coil Dimensions (H x W), in [mm]	18 x 27 [457 x 686]	18 x 31 [457 x 787]	18 x 31 [457 x 787]	20 x 35 [508 x 889]	20 x 40 [508 x 1016]	20 x 40 [508 x 1016]	20 x 45 [508 x 1143]	20 x 45 [508 x 1143]
Standard Filter - 2” [51mm] Pleated MERV11 Throwaway, in [mm]	2 - 18 x 18 [457 x 457]	2 - 18 x 18 [457 x 457]	2 - 18 x 18 [457 x 457]	1 - 12 x 20 [305 x 508] 1 - 20 x 25 [508 x 635]	1 - 18 x 20 [457 x 508] 1 - 20 x 24 [508 x 610]	1 - 18 x 20 [457 x 508] 1 - 20 x 24 [508 x 610]	2 - 20 x 24 [508 x 610]	2 - 20 x 24 [508 x 610]
Weight - Operating, lbs [kg]	252 [114]	266 [121]	268 [122]	327 [148]	414 [188]	416 [189]	441 [200]	443 [201]
Weight - Packaged, lbs [kg]	262 [119]	276 [125]	278 [126]	337 [153]	424 [192]	426 [193]	451 [205]	453 [206]

All units have dual compressor mountings, TXV expansion devices, and 1/2” [12.7mm] & 3/4” [19.1mm] electrical knockouts.

Dimensions — Vertical Upflow Tranquility® 20 (TS) Series

Vertical Upflow Model		Overall Cabinet		
		*A Width	B Depth	C Height
018	in	22.4	25.6	44.6
	cm	56.8	65.1	123.2
024 - 030	in	22.4	25.6	48.5
	cm	56.8	65.1	123.2
036	in	25.4	30.6	50.5
	cm	64.5	77.8	128.3
042 - 048	in	25.4	30.6	54.5
	cm	64.5	77.8	138.4
060 - 070	in	25.4	30.6	58.5
	cm	64.5	77.8	148.6

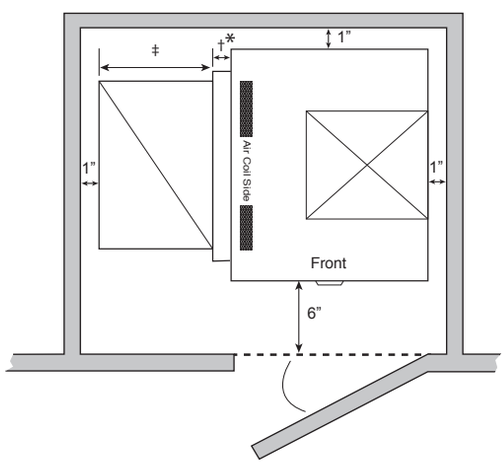
* Add 3" (7.6 cm) for the factory provided 2" air filter support.

Vertical Upflow Model		Electrical Knockouts		
		J 1/2"	K 1/2"	L 3/4"
		Low Voltage	External Pump	Power Supply
018	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
024 - 030	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
036	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
042 - 048	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
060 - 070	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9

Vertical Upflow Model		Water Connections						
		1	2	3	4	5		
		D In	E Out	F HWG IN	G HWG Out	H Condensate	Loop Water FPT	HWG FPT
018	in	2.1	10.0	13.9	16.9	7.8	1"	1"
	cm	5.2	25.4	35.2	42.9	19.8	Swivel	Swivel
024 - 030	in	2.1	10.0	13.9	16.9	19.8	1"	1"
	cm	5.2	25.4	35.2	42.9	50.3	Swivel	Swivel
036	in	3.4	10.8	15.6	18.9	21.8	1"	1"
	cm	8.6	27.5	39.7	47.9	55.4	Swivel	Swivel
042 - 048	in	3.4	10.8	15.6	18.9	21.7	1"	1"
	cm	8.6	27.5	39.7	47.9	55.1	Swivel	Swivel
060 - 070	in	3.4	10.8	15.6	18.9	18.0	1"	1"
	cm	8.6	27.5	39.7	47.9	45.7	Swivel	Swivel

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.



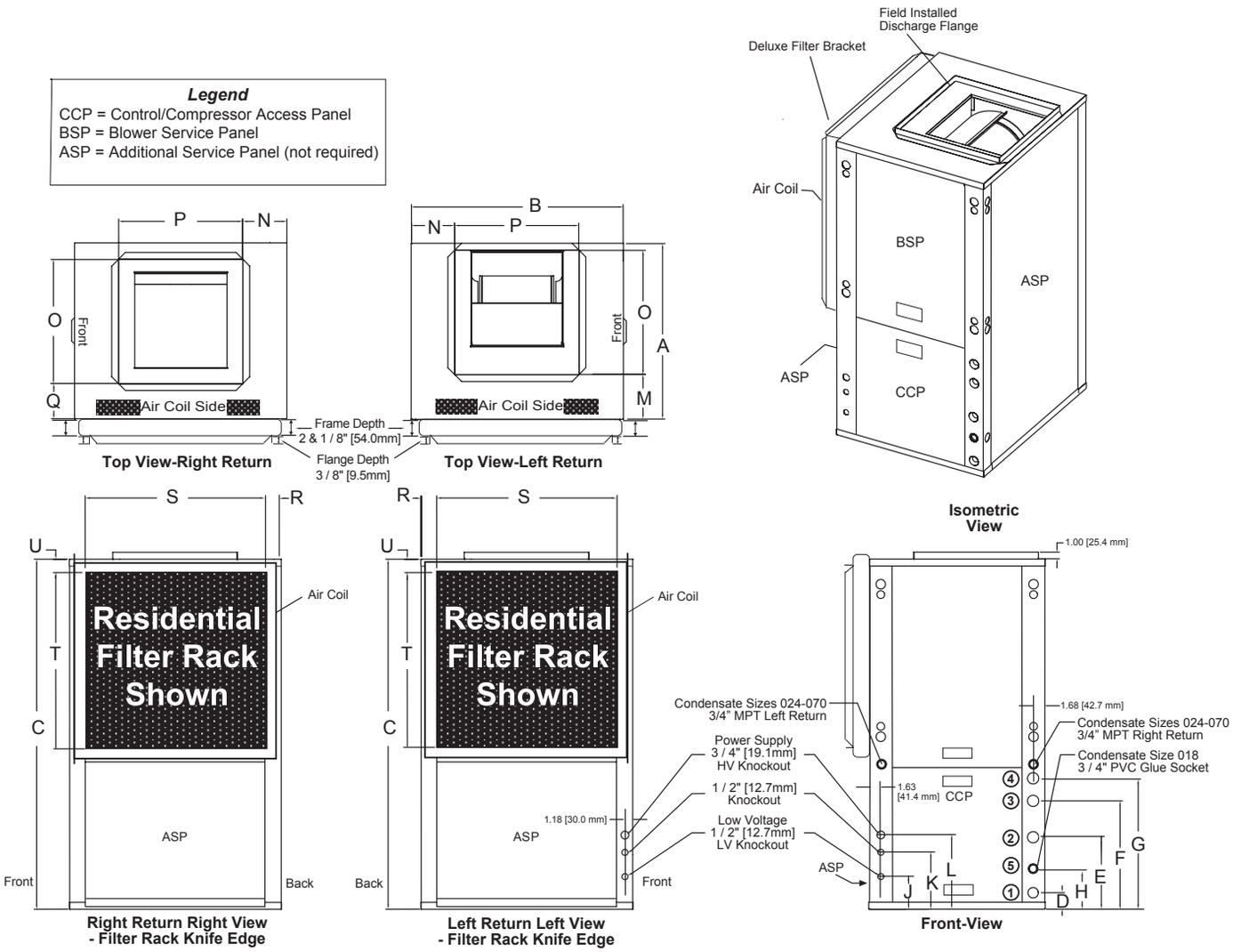
Notes:
1. Condensate is 3/4" PVC female glue socket and is switchable from front to the right side on size 018 units. All other unit sizes have a fixed 3/4" MPT connection.
2. Unit shipped with deluxe duct collar/filter rack extending from unit 3" [7.6cm] and is suitable for duct connection.
3. Discharge flange is field installed.
4. 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.
5. 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.

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

Dimensions — Vertical Upflow Tranquility® 20 (TS) Series

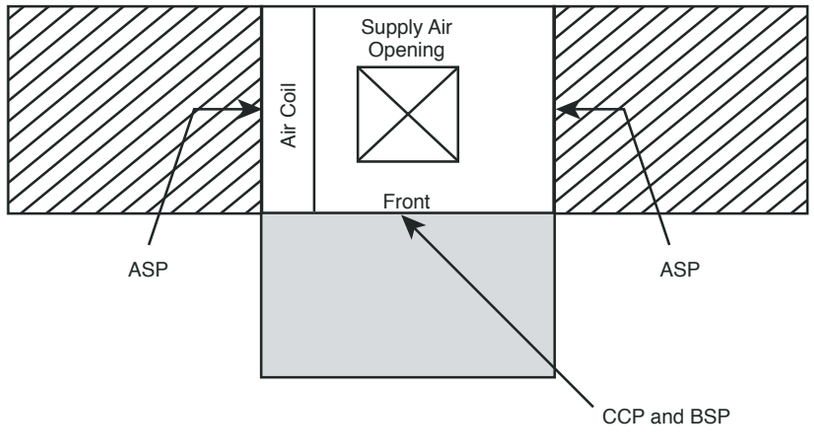
Vertical Upflow Model		Discharge Connection Duct Flange Installed (+/- 0.20 in, +/- 5.1mm)					Return Connection Standard Deluxe Filter Rack (+/- 0.20 in, +/- 5.1mm)			
		M Left Return	N	O Supply Width	P Supply Depth	Q Right Return	R	S Return Depth	T Return Height	U
018	in	7.2	5.8	14.0	14.0	4.9	1.7	22.2	22.2	1.7
	cm	18.3	14.8	35.6	35.6	12.4	4.3	56.4	66.5	4.3
024 - 030	in	7.2	5.8	14.0	14.0	4.9	1.7	22.2	26.2	1.7
	cm	18.3	14.8	35.6	35.6	12.4	4.3	56.4	66.5	4.3
036	in	6.4	6.3	18.0	18.0	5.3	1.7	27.2	26.2	1.7
	cm	16.1	16.0	45.7	45.7	13.5	4.3	69.1	66.5	4.3
042 - 048	in	6.4	6.3	18.0	18.0	5.3	1.7	27.2	30.2	1.7
	cm	16.1	16.0	45.7	45.7	13.5	4.3	69.1	76.7	4.3
060 - 070	in	6.4	6.3	18.0	18.0	5.3	1.7	27.2	34.2	1.7
	cm	16.1	16.0	45.7	45.7	13.5	4.3	69.1	86.9	4.3

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.

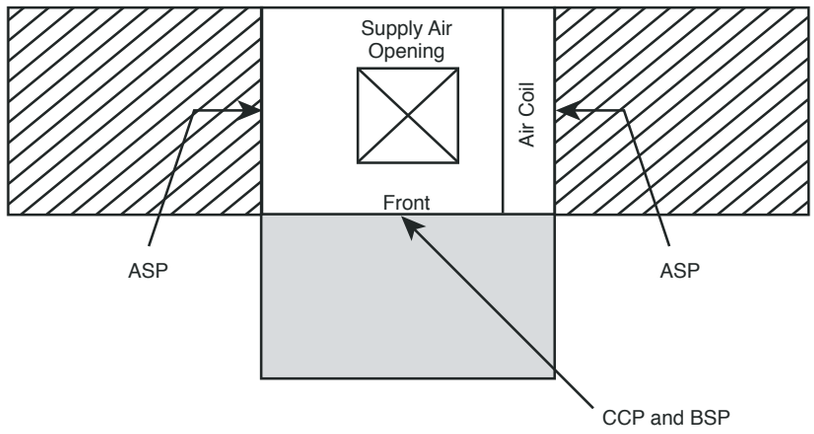


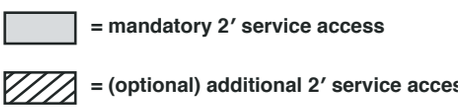
Tranquility® 20 (TS) Series Vertical Service Access

Left Return



Right Return





Notes:
1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Front & 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)

Dimensions — Vertical Downflow Tranquility® 20 (TS) Series

Vertical Downflow Model		Overall Cabinet		
		*A Width	B Depth	C Height
018	in	22.4	25.6	48.6
	cm	56.8	65.1	123.4
024 - 030	in	22.4	25.6	52.5
	cm	56.8	65.1	133.4
036	in	25.4	30.6	54.5
	cm	64.5	77.8	138.4
042 - 048	in	25.4	30.6	58.5
	cm	64.5	77.8	148.6
060 - 070	in	25.4	30.6	62.5
	cm	64.5	77.8	158.8

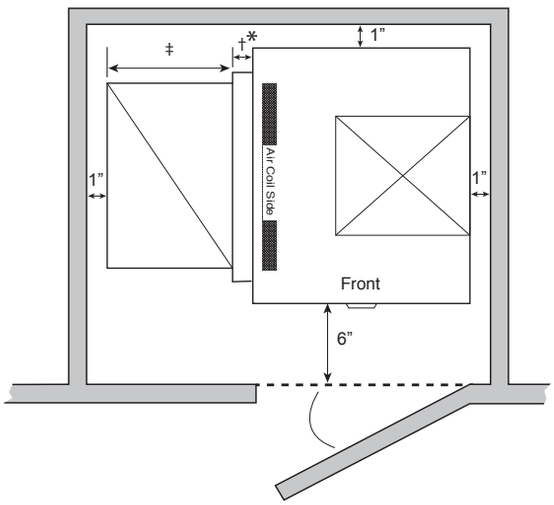
* Add 3” (7.6 cm) for the factory provided 2” air filter support.

Vertical Downflow Model		Electrical Knockouts		
		J 1/2”	K 1/2”	L 3/4”
		Low Voltage	External Pump	Power Supply
018	in	15.7	13.2	10.7
	cm	39.9	33.5	27.2
024 - 030	in	15.7	13.2	10.7
	cm	39.9	33.5	27.2
036	in	17.7	15.2	12.7
	cm	45.0	38.6	32.3
042 - 048	in	17.7	15.2	12.7
	cm	45.0	38.6	32.3
060 - 070	in	17.7	15.2	12.7
	cm	45.0	38.6	32.3

Vertical Downflow Model		Water Connections						
		1	2	3	4	5		
		D In	E Out	F HWG IN	G HWG Out	H Condensate	Loop Water FPT	HWG FPT
018	in	17.2	9.3	5.4	2.4	3.6	1”	1”
	cm	43.7	23.6	13.7	6.1	9.2	Swivel	Swivel
024 - 030	in	17.2	9.3	5.4	2.4	5.1	1”	1”
	cm	43.7	23.6	13.7	6.1	13.0	Swivel	Swivel
036	in	17.9	10.5	5.7	2.4	5.1	1”	1”
	cm	45.5	26.7	14.5	6.1	13.0	Swivel	Swivel
042 - 048	in	17.9	10.5	5.7	2.4	5.1	1”	1”
	cm	45.5	26.7	14.5	6.1	13.0	Swivel	Swivel
060 - 070	in	17.9	10.5	5.7	2.4	5.1	1”	1”
	cm	45.5	26.7	14.5	6.1	13.0	Swivel	Swivel

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

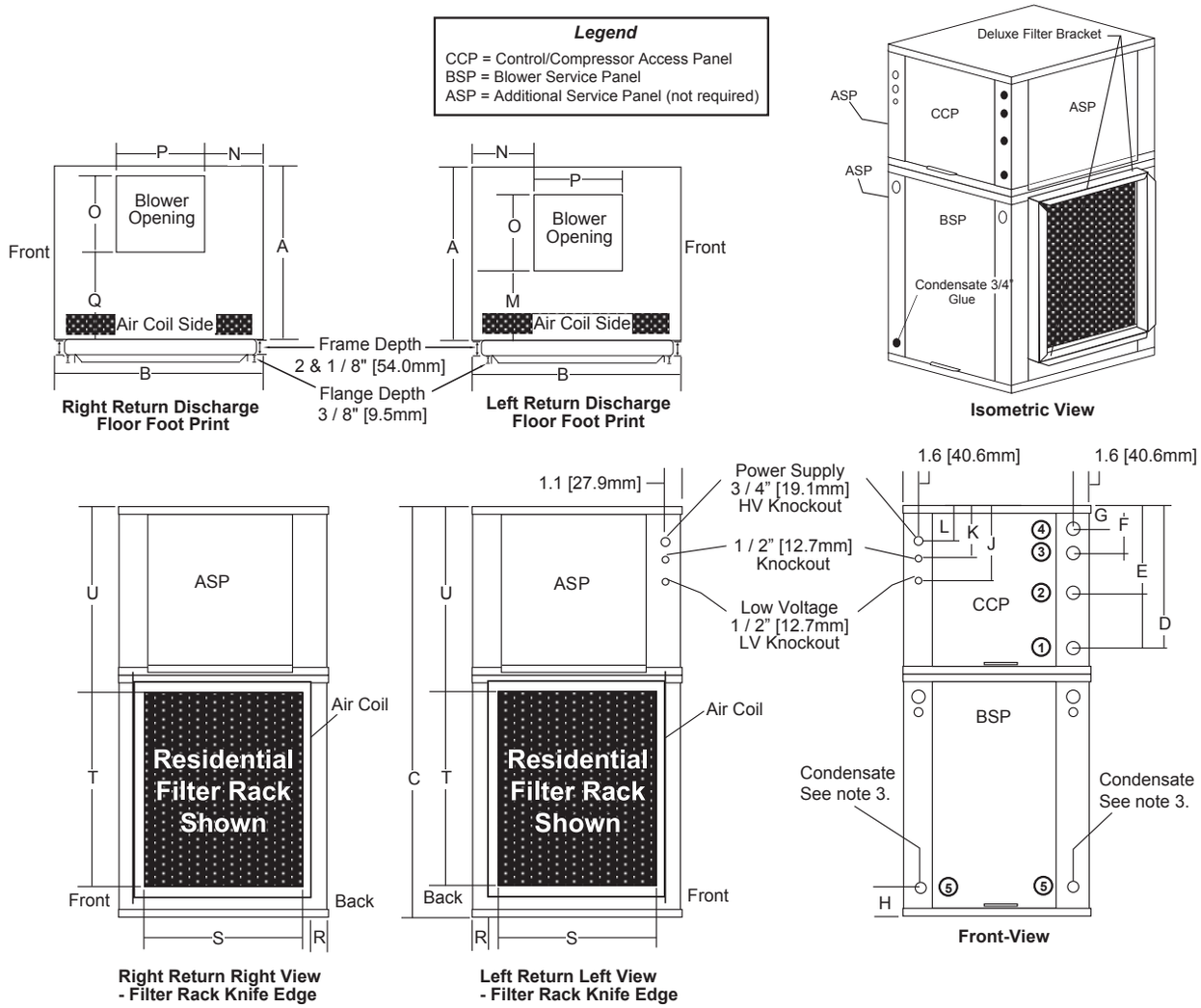
*Field installed accessories (hoses, air cleaners, etc.) and factory WSE option will require additional space. Top supply air is shown, the same clearances apply to bottom supply air units.



Condensate is a 3/4” PVC glue socket on size 018 units. All other units have a 3/4” MPT connection.
Unit shipped with deluxe duct collar/filter rack extending from unit 3” [7.6cm] and is suitable for duct connection.
Downflow unit does not have discharge flange, and is rated for zero clearance installation.

Dimensions — Vertical Downflow Tranquility® 20 (TS) Series

Vertical Downflow Model		Discharge Connection Duct Flange Installed (+/- 0.20 in, +/- 5.1mm)					Return Connection Standard Deluxe Filter Rack (+/- 0.20 in, +/- 5.1mm)			
		M Left Return	N	O Supply Width	P Supply Depth	Q Right Return	R	S Return Depth	T Return Height	U
018	in	6.7	8.4	9.9	9.1	1.5	1.7	22.2	22.2	21.9
	cm	17.1	21.4	25.3	23.0	3.9	4.3	56.4	56.4	55.6
024 - 030	in	6.7	8.4	9.9	9.1	1.5	1.7	22.2	26.2	21.9
	cm	17.1	21.4	25.3	23.0	3.9	4.3	56.4	66.5	55.6
036	in	7.4	9.0	13.1	12.9	1.6	1.7	27.2	26.2	23.9
	cm	18.7	22.9	33.3	32.7	4.1	4.3	69.1	66.5	60.7
042 - 048	in	7.4	9.0	13.1	12.9	1.6	1.7	27.2	30.2	23.9
	cm	18.7	22.9	33.3	32.7	4.1	4.3	69.1	76.7	60.7
060 - 070	in	7.4	9.0	13.1	12.9	1.6	1.7	27.2	34.2	23.9
	cm	18.7	22.9	33.3	32.7	4.1	4.3	69.1	86.9	60.7



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. Condensate connection on size 018 unit is ¾" PVC glue socket and will be located opposite the air coil side. Condensate connection on unit sizes 024 to 070 is ¾" MPT and will be located on the air coil side.
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.

Dimensions — Horizontal Tranquility® 20 (TS) Series

Horizontal Model		Overall Cabinet		
		*A Width	B Depth	C Height
018	in	22.4	62.2	19.3
	cm	56.8	158.0	48.9
024 - 030	in	22.4	62.2	19.3
	cm	56.8	158.0	48.9
036	in	25.4	71.2	21.3
	cm	64.5	180.8	54.0
042 - 048	in	25.4	76.2	21.3
	cm	64.5	193.5	54.0
060 - 070	in	25.4	81.2	21.3
	cm	64.5	206.2	54.0

* Add 3” (7.6 cm) for the factory provided 2” air filter support.

Horizontal Model		Water Connections						
		1	2	3	4	5		
		D In	E Out	F HWG IN	G HWG Out	H Conden-sate	Loop Water FPT	HWG FPT
018	in	2.1	10.0	13.9	16.9	0.6	1” Swivel	1” Swivel
	cm	5.2	25.4	35.2	42.9	1.5		
024 - 030	in	2.1	10.0	13.9	16.9	0.6	1” Swivel	1” Swivel
	cm	5.2	25.4	35.2	42.9	1.5		
036	in	3.4	10.8	15.6	18.9	0.6	1” Swivel	1” Swivel
	cm	8.6	27.5	39.7	47.9	1.5		
042 - 048	in	3.4	10.8	15.6	18.9	0.6	1” Swivel	1” Swivel
	cm	8.6	27.5	39.7	47.9	1.5		
060 - 070	in	3.4	10.8	15.6	18.9	0.6	1” Swivel	1” Swivel
	cm	8.6	27.5	39.7	47.9	1.5		

Horizontal Model		Electrical Knockouts		
		J 1/2”	K 1/2”	L 3/4”
		Low Voltage	External Pump	Power Supply
018	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
024 - 030	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
036	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
042 - 048	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9
060 - 070	in	3.6	6.1	8.6
	cm	9.2	15.6	21.9

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. Horizontal units shipped with duct collar/filter rack extending from unit 3” [7.6cm] and is suitable for duct connection.
3. Discharge flange and hanger brackets are factory installed.
4. Condensate is 3/4” MPT.
5. CCP and BSP 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.

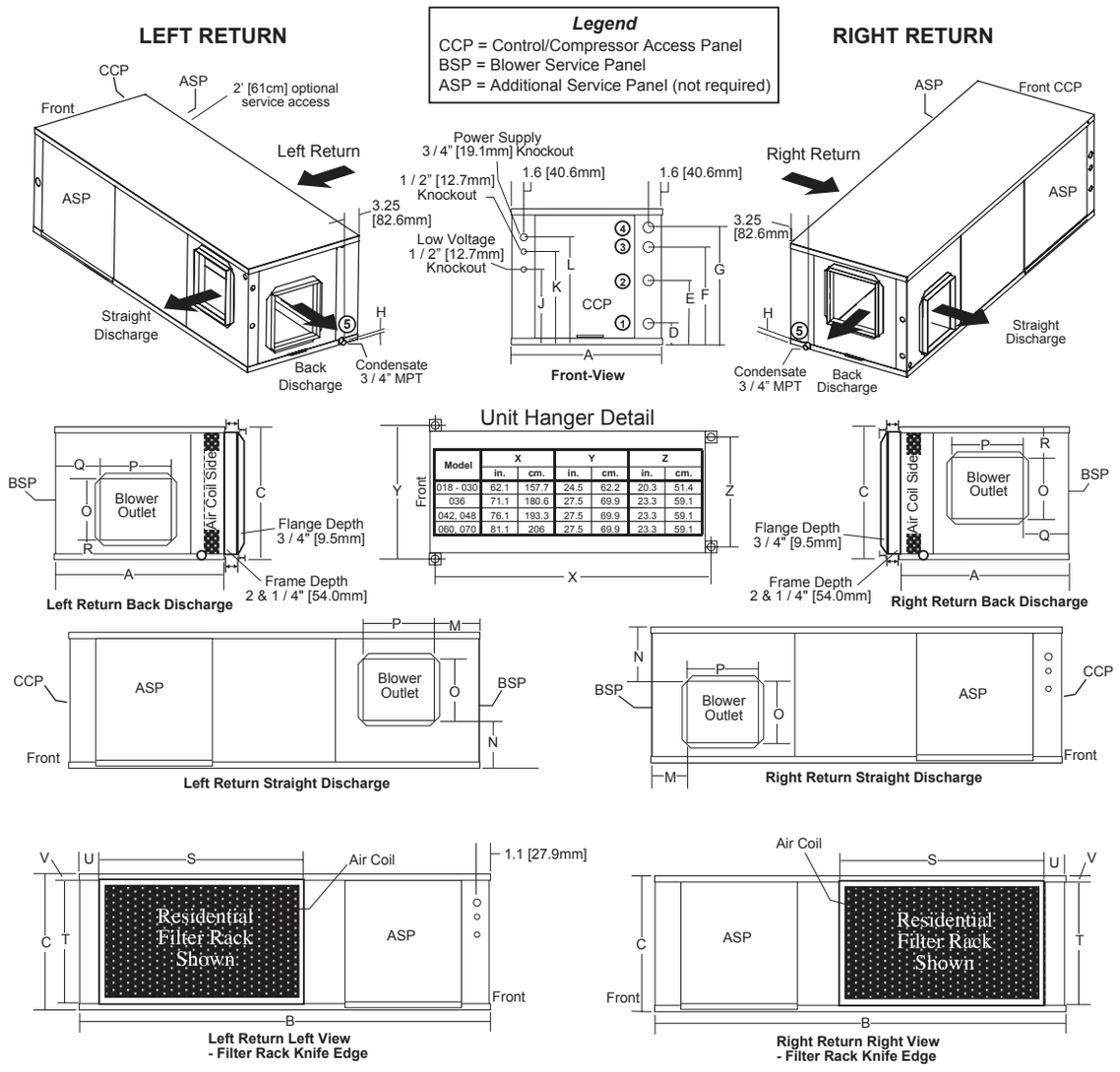
Legend:
CCP = Control/Compressor Access Panel
BSP = Blower Service Panel
ASP = Additional Service Panel (not required)

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.

Dimensions — Horizontal Tranquility® 20 (TS) Series

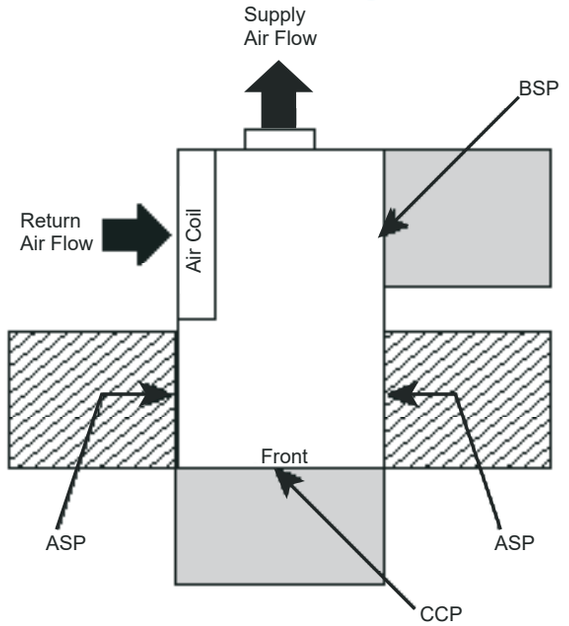
Horizontal Model		1Discharge Connection Duct Flange Installed (+/- 0.20 in, +/- 5.1mm)						Return Connection Standard Deluxe Filter Rack (+/- 0.20 in, +/- 5.1mm)			
		M	N	O Supply Height	P Supply Width	Q	R	S Return Width	T Return Height	U	V
018	in	5.0	6.8	12.5	15.5	5.0	2.1	33.8	16.2	2.3	1.7
	cm	12.7	17.3	31.8	39.4	12.7	5.3	85.8	41.0	5.8	4.3
024 - 030	in	3.6	2.0	12.5	15.5	3.6	2.0	33.8	16.2	2.3	1.7
	cm	9.3	5.1	31.8	39.4	9.2	5.2	85.8	41.0	5.8	4.3
036	in	*3.1	1.2	19.0	17.5	*3.1	1.0	34.8	18.2	3.1	1.7
	cm	7.9	3.1	48.3	44.5	7.9	2.6	88.3	46.1	7.8	4.3
042 - 048	in	3.1	1.2	19.0	17.5	3.1	1.0	39.8	18.2	3.1	1.7
	cm	7.9	3.1	48.3	44.5	7.9	2.6	101.0	46.1	7.8	4.3
060 - 070	in	3.1	1.2	19.0	17.5	3.1	1.0	44.8	18.2	3.1	1.7
	cm	7.9	3.1	48.3	44.5	7.9	2.6	113.7	46.1	7.8	4.3

*For units with modulating reheat option this dimension is 2.9" (7.4 cm).
1Discharge connection will change when using the accessory auxiliary electric heat package. Refer to the heater IOM for details.

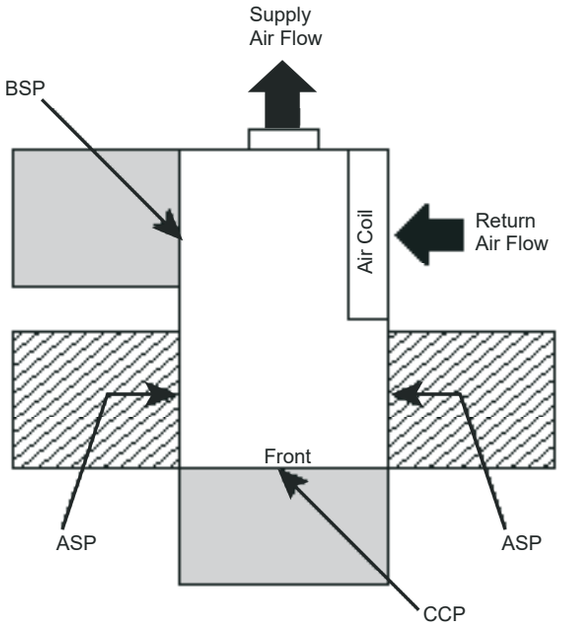


Service Access — Horizontal Tranquility® 20 (TS) Series

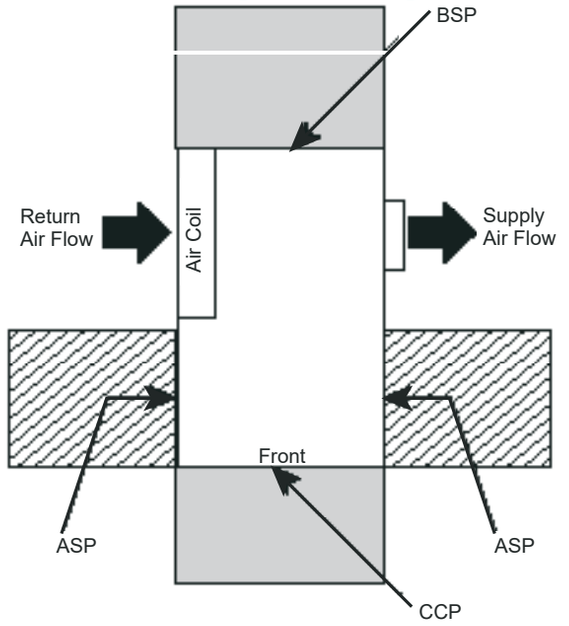
Left Return Back Discharge



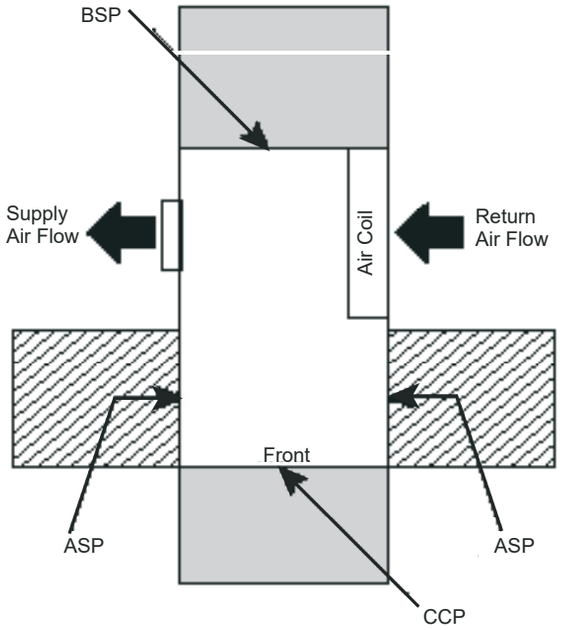
Right Return Back Discharge



Left Return Straight Discharge



Right Return Straight Discharge



Notes:

1. While clear access to all removable panels is not required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. CCP and BSP requires 2' 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.

= mandatory 2' service access

= (optional) additional 2' service access

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

Electrical Data

Standard Unit - ECM Blower

TS Commercial Electrical Table							ECM-CV			
MODEL	VOLTAGE CODE	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR			FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/ HACR
				QTY	RLA	LRA				
018	G	208-230 / 60 / 1	187.2 / 253	1	9.00	48.02	4.20	13.20	15.45	20.00
	E	265 / 60 / 1	238.5 / 291.5	1	7.10	43.00	3.40	10.50	12.28	15.00
024	G	208-230 / 60 / 1	187.2 / 253	1	13.50	58.30	4.20	17.70	21.08	30.00
	E	265 / 60 / 1	238.5 / 291.5	1	9.00	54.00	3.40	12.40	14.65	20.00
	H	208-230 / 60 / 3	187.2 / 253	1	7.10	55.40	4.20	11.30	13.08	20.00
	F*	460 / 60 / 3	414 / 506	1	3.50	28.00	3.40	6.90	7.78	15.00
030	G	208-230 / 60 / 1	187.2 / 253	1	12.80	64.00	5.90	18.70	21.90	30.00
	E	265 / 60 / 1	238.5 / 291.5	1	10.90	60.00	4.80	15.70	18.43	25.00
	H	208-230 / 60 / 3	187.2 / 253	1	8.30	58.00	5.90	14.20	16.28	20.00
	F*	460 / 60 / 3	414 / 506	1	5.10	28.00	4.80	9.90	11.18	15.00
036	G	208-230 / 60 / 1	187.2 / 253	1	16.00	77.00	4.20	20.20	24.20	40.00
	E	265 / 60 / 1	238.5 / 291.5	1	12.20	72.00	3.40	15.60	18.65	30.00
	H	208-230 / 60 / 3	187.2 / 253	1	10.00	71.00	4.20	14.20	16.70	25.00
	F*	460 / 60 / 3	414 / 506	1	4.70	38.00	3.40	8.10	9.28	15.00
042	G	208-230 / 60 / 1	187.2 / 253	1	16.70	79.00	5.90	22.60	26.78	40.00
	E	265 / 60 / 1	238.5 / 291.5	1	13.50	72.00	4.80	18.30	21.68	35.00
	H	208-230 / 60 / 3	414 / 506	1	10.40	73.00	5.90	16.30	18.90	25.00
	F*	460 / 60 / 3	238.5 / 291.5	1	5.80	38.00	4.80	10.60	12.05	15.00
048	G	208-230 / 60 / 1	187.2 / 253	1	21.80	117.00	7.50	29.30	34.75	50.00
	E	265 / 60 / 1	238.5 / 291.5	1	16.30	98.00	6.20	22.50	26.58	40.00
	H	208-230 / 60 / 3	414 / 506	1	13.70	83.10	7.50	21.20	24.63	35.00
	F*	460 / 60 / 3	238.5 / 291.5	1	6.20	41.00	6.20	12.40	13.95	20.00
060	G	208-230 / 60 / 1	187.2 / 253	1	26.40	134.00	7.50	33.90	40.50	60.00
	E	265 / 60 / 1	238.5 / 291.5	1	19.90	130.00	6.20	26.10	31.08	50.00
	H	208-230 / 60 / 3	414 / 506	1	16.00	110.00	7.50	23.50	27.50	40.00
	F*	460 / 60 / 3	238.5 / 291.5	1	7.80	52.00	6.20	14.00	15.95	20.00
070	G	208-230 / 60 / 1	187.2 / 253	1	30.80	178.00	7.50	38.30	46.00	70.00
	H	208-230 / 60 / 3	414 / 506	1	19.60	136.00	7.50	27.10	32.00	50.00
	F*	460 / 60 / 3	238.5 / 291.5	1	8.20	66.10	6.20	14.40	16.45	20.00

*460 volt units ECM-CV Require a Neutral

ECM Blower Control

The ECM fan is controlled directly by the DXM2.5 control board that converts thermostat inputs and CFM settings to signals used by the ECM motor controller. To take full advantage of the ECM motor features, a communicating multi-stage thermostat should be used (AWC99U**).

The DXM2.5 control maintains a selectable operating airflow [CFM] for each heat pump operating mode. For each operating mode there are maximum and minimum airflow limits. See the ECM Blower Performance tables for the maximum, minimum, and default operating airflows.

Airflow levels are selected using the configuration menus of a communicating thermostat (AWC99U**) or diagnostic tool (ACDU**). The configuration menus allow the installer to independently select and adjust the operating airflow for each of the operating modes. Air flow can be selected in 25 CFM increments within the minimum and maximum limits shown in the ECM Blower Performance Table. The blower operating modes include:

- First Stage Cooling (Y1 & O)
- Second Stage Cooling (Y1, Y2, & O)
- First Stage Cooling in Dehumidification Mode (Y1, O, & Dehumid)
- Second Stage Cooling in Dehumidification Mode (Y1, Y2, O, & Dehumid)
- First Stage Heating (Y1)
- Second Stage Heating (Y1 & Y2)
- Third Stage (Auxiliary) Heating (Y1, Y2, & W)
- Emergency Heating (W with no Y1 or Y2)
- Fan (G with no Y1, Y2, or W)

It is highly recommended that AWC99U** or ACDU** be used to set dehumidification mode electronically. Dehumidification can NOT be selected when using a non-communicating thermostat with a vFlow® unit with Internal Flow Controller (pump). For dehumidification settings on other units using the non-communicating stat, refer to DXM2.5 AOM (part #97B0003N15).

The ECM motor includes “soft start” and “ramp down” features. The soft start feature is a gentle increase of motor rpm at blower start up. This creates a much quieter blower start cycle.

The ramp down feature allows the blower to slowly decrease rpm to a full stop at the end of each blower cycle. This creates a much quieter end to each blower cycle and adds overall unit efficiency.

The ramp down feature is eliminated during an ESD (Emergency Shut Down) situation. When the DXM2.5 ESD input is activated, the blower and all other control outputs are immediately de-activated.

The ramp down feature (also known as the heating or cooling “Off Delay”) is field selectable by the installer. The allowable range is 0 to 255 seconds.

Airflow Configuration Screen on Communicating Thermostat

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

ECM Blower Performance Data

Airflow in CFM with wet coil and clean air filter

Size	Rated Airflow	Min CFM	Motor	Fan Speed	Value	Airflow (cfm) at External Static Pressure (in. wg)									
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
18	750	450	ECM CV	MIN	RPM	571	666	754	852	942	1012	1073	1134	1196	1254
					Power (W)	44	56	69	84	99	111	122	135	149	161
					CFM	450	450	450	450	450	450	450	450	450	450
				DEFAULT	RPM	717	787	855	920	982	1045	1113	1182	1248	1307
					Power (W)	95	110	125	142	157	175	195	216	237	258
					CFM	750	750	750	750	750	750	750	750	750	750
				MAX	RPM	739	807	873	937	997	1054	1113	1184	1248	1306
					Power (W)	105	119	136	153	170	186	205	228	250	271
					CFM	800	800	800	800	800	800	800	800	800	800
24	950	600	ECM CV	MIN	RPM	674	759	835	902	969	1035	1101	1161	1219	1273
					Power (W)	71	85	100	114	127	143	159	174	190	205
					CFM	600	600	600	600	600	600	600	600	600	600
				DEFAULT	RPM	906	945	990	1047	1102	1153	1202	1248	1292	1337
					Power (W)	180	195	209	230	251	272	291	311	331	351
					CFM	950	950	950	950	950	950	950	950	950	950
				MAX	RPM	988	1027	1069	1109	1160	1212	1260	1304	1347	1390
					Power (W)	236	253	270	288	311	336	359	382	404	428
					CFM	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
30	1000	750	ECM CV	MIN	RPM	721	797	865	930	991	1049	1105	1157	1209	1259
					Power (W)	93	108	124	140	156	173	189	205	221	237
					CFM	750	750	750	750	750	750	750	750	750	750
				DEFAULT	RPM	884	946	1007	1061	1115	1165	1214	1260	1304	1349
					Power (W)	187	209	232	252	274	295	316	338	358	380
					CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
				MAX	RPM	1091	1148	1202	1255	1305					
					Power (W)	373	405	438	471	503					
					CFM	1250	1250	1250	1250	1250					
36	1200	900	ECM CV	MIN	RPM	646	730	805	873	936	996	1083	1127	1171	1215
					Power (W)	104	128	152	176	199	223	260	281	302	324
					CFM	900	900	900	900	900	900	900	900	900	900
				DEFAULT	RPM	777	849	913	973	1028	1080	1129	1178	1223	1270
					Power (W)	199	232	263	294	323	353	383	413	444	477
					CFM	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
				MAX	RPM	906	968	1025	1077	1129					
					Power (W)	346	387	426	465	505					
					CFM	1500	1500	1500	1500	1500					
42	1400	1000	ECM CV	MIN	RPM	533	617	679	725	781	838	805	942	988	1030
					Power (W)	95	124	147	167	192	220	252	277	303	330
					CFM	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
				DEFAULT	RPM	650	722	788	844	893	937	966	996	1038	1078
					Power (W)	203	244	286	324	357	390	413	437	471	506
					CFM	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
				MAX	RPM	749	809	862	918	968	1015	1060	1099	1135	
					Power (W)	352	402	449	500	547	596	645	688	733	
					CFM	1750	1750	1750	1750	1750	1750	1750	1750	1750	
48	1600	1100	ECM CV	MIN	RPM	560	628	692	754	810	863	911	955	1007	1059
					Power (W)	125	152	179	208	234	262	289	315	347	380
					CFM	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
				DEFAULT	RPM	707	763	815	863	910	954	997	1038	1082	1122
					Power (W)	291	329	367	404	441	478	516	554	596	637
					CFM	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
				MAX	RPM	827	880	926	970	1011	1050	1086	1122	1158	1193
					Power (W)	508	561	610	658	706	754	798	845	892	939
					CFM	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

ECM Blower Performance Data

60	1950	1500	ECM CV	MIN	RPM	770	812	848	886	926	965	1006	1047		
					Power (W)	305	330	351	375	400	427	455	483		
					CFM	1500	1500	1500	1500	1500	1500	1500	1500		
				DEFAULT	RPM	937	972	581	1036	1068	1100	1130	1164	1196	1228
					Power (W)	570	600	628	659	690	720	750	783	819	857
					CFM	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
				MAX	RPM	1005	1036	1068	1096	1125					
					Power (W)	724	758	792	822	854					
					CFM	2150	2150	2150	2150	2150					
70	2050	1750	ECM CV	MIN	RPM	846	892	934	974	1013	1049	1085	1120	1158	1196
					Power (W)	417	458	499	537	577	615	654	694	737	782
					CFM	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
				DEFAULT	RPM	959	997	1035	1070	1103	1137	1170	1189		
					Power (W)	620	664	710	754	796	842	886	888		
					CFM	2050	2050	2050	2050	2050	2050	2050	2050		
				MAX	RPM	1019	1055	1089	1118						
					Power (W)	759	805	851	885						
					CFM	2250	2250	2250	2250						

Auxiliary Heat Ratings

Auxiliary Electric Heat Model	HE Models						WDG Models				kW Rating		Btuh Rating		Minimum CFM Required
	24	36	48-70	024	030-042	048-060	Auxiliary Electric Heat Model*	24	36	48-60	240V	208V	240V	208V	
AGM4ABG	■			■	■		AGM4CBG	■			3.8	2.9	13000	9900	500
AGM5ABG	■			■	■		AGM5CBG	■			4.8	3.6	16300	12300	500
AGM8ABG	■			■	■		AGM8CBG	■			7.6	5.7	25900	19400	650
AGM10ABG	■			■	■		AGM10CBG	■			9.6	7.2	32700	24600	650
AGM12ABG					■						11.4	8.6	38900	29200	750
AGL10ABG		■	■			■	AGL10CBG		■	■	9.6	7.2	32700	24600	1300
AGL15ABG		■	■			■	AGL15CBG		■	■	14.4	10.8	49100	36900	1350
AGL20ABG			■			■	AGL20CBG			■	19.2	14.4	65500	49200	1350

Black area denotes compatibility
Note: Horizontal units rated for zero clearance unit and 1" clearance for the first three feet of duct,
Vertical units rated for zero clearance for both unit and duct.

Auxiliary Heat Electrical Data

Auxiliary Electric Heat Model	Supply Circuit	Heater Amps		Minimum Circuit Amps		Maximum Fuse	
		240V	208V	240V	208V	240V	208V
AGM4A	Single	15.8	13.9	19.8	17.4	20	20
AGM5A	Single	20.0	17.3	25.0	21.6	25	25
AGM8A	Single	31.7	27.4	39.6	34.3	40	35
AGM10A	Single	40.0	34.6	50.0	43.3	50	45
AGL10A	Single	40.0	34.6	50.0	43.3	50	45
AGM12A	Single	47.5	41.3	59.4	51.6	60	60
	Dual - L1/L2	31.7	27.4	39.6	34.3	40	35
	Dual - L3/L4	15.8	13.9	19.8	17.4	20	20
AGL15A	Single	60.0	52.0	75.0	65.0	80	70
	Dual - L1/L2	40.0	34.6	50.0	43.3	50	45
	Dual - L3/L4	20.0	17.3	25.0	21.6	25	25
AGL20A	Single	80.0	69.2	100.0	86.5	100	90
	Dual - L1/L2	40.0	34.6	50.0	43.3	50	45
	Dual - L3/L4	40.0	34.6	50.0	43.3	50	45

All heaters rated single phase 208/240V 60Hz
All Fuses UL Class K general purpose
All models 12kW or larger feature internal circuit breakers

Tranquility® 20 Two-Stage (TS) Series Submittal Data

Models TSD/H/V 018 - 070 60Hz - HFC-410A

Residential

CLIMATEMASTER®

A NIBE GROUP MEMBER

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: 208/230 Volts Single Phase 60 Hz

Minimum Circuit Ampacity: _____

Maximum Overcurrent Protection: _____

Accessories & Options

Variable Speed ECM Fan Motor
An optional soft-starting, high efficiency, variable speed fan motor shall be provided with multiple fan speeds and dehumidification mode to improve comfort and efficiency.

Hot Water Generator
An optional insulated heat reclaiming desuperheater coil of vented double-wall copper construction suitable for potable water shall be provided. The coil and hot water circulating pump shall be factory mounted inside the unit. A high limit and low compressor discharge line temperature switch shall be provided to disable the pump when these conditions occur.

Cupro-Nickel Heat Exchanger
An optional corrosion resistant CuNi coaxial heat exchanger shall be factory installed in lieu of standard copper construction.

Thermostat (field installed)
A multistage auto-changeover electronic digital thermostat shall be provided. The thermostat shall offer 3 heating and 2 cooling stages with precise temperature control. An OFF-HEAT-AUTO-COOL-EMERG system switch, OFF-AUTO fan switch, and indicating LED's shall be provided. The thermostat shall read out in °F or °C. An optional remote indoor sensor and outdoor sensor shall be available on some models.

Flow Controller (field installed)
A self-contained module shall provide all fluid pumping, fill and connection requirements for ground-source closed-loop systems up to 20 GPM. The Flow Controller shall provide 1" pump isolation valves and 3-way service valves. Pump heads shall be removable from the volute for easy replacement. The Flow Controller shall be enclosed in a polystyrene case and fully insulated with urethane foam to prevent condensation.

Auxiliary Heater (field installed)
An internal, field-installed electric heater shall provide supplemental and/or emergency heating capability when used with the three stage heating thermostat. (Heater is externally mounted on horizontal units).

Hose Connection Kit (field installed)
An accessory hose kit shall provide 150psi 1" rubber hose with brass fittings equipped with service pressure/temperature ports for connection between the unit and Flow Controller.

Warranty Information

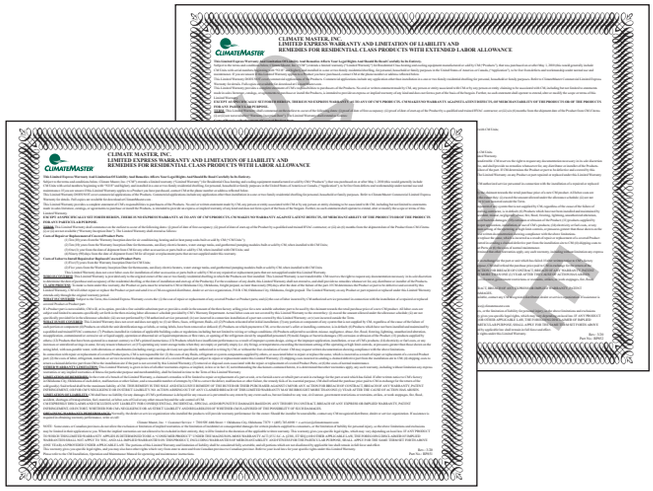
The 2010 standard warranty applies to units ordered on or after May 1, 2010. See ClimateMaster's 2010 Limited Express Residential Warranty Certificate RP851 for specific coverage and limitation.

ClimateMaster residential class heat pumps are backed by a ten-year limited warranty on all unit parts, including the following accessories when installed with ClimateMaster units: Flow Controllers, Thermostats & Electric Heaters.

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

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

To order this warranty, contact your ClimateMaster distributor. This coverage must be purchased within 90 days of unit installation. See Limited Express Extended Labor Warranty Certificate RP852 for details.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REMEDIES FOR RESIDENTIAL CLASS PRODUCTS WITH EXTENDED LABOR ALLOWANCE

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REMEDIES FOR RESIDENTIAL CLASS PRODUCTS WITH LABOR ALLOWANCE

NOTES

NOTES

Revision History

Date	Page #	Description
17 April, 23	All	Transitioned from DXM2 to DXM2.5 unit controls. Discontinued PSC fan motors and CXM unit controls. Upgraded ECM fan motor functionality.
17 Jan, 20	8	Update table
10 Sept., 19	All	Remove Climadry, DXM, TT references
17 January, 17	All	Remove 48 PSC fan
1 April, 16	4	Run test description
25 Sept., 15	All	Removed ClimaDry and ISP Options
17 July, 15	13	Updated HWC Data
26 June, 15	14	Corrected HWC Data for Cooling Mode
3 April, 14	All	Updated Condensate Drain Connection for Vertical Rev C Units
10 March, 14	All	Updated Sizes 024-070 to Rev C
10 June, 13	127	Updated Unit Wire Diagram
11 Jan., 13	134	Submittal Page Added
24 Sept., 10	124	Note Added for Electric Heat
24 Sept., 10	124	Electrical Data Updated
28 Aug., 10	155	Horizontal units supply air dimension M and Q updated
26 July, 10	Wire Diagram Pages	Wire Diagram revision: water-side high pressure switches added
14 July, 10	165	Compressor isolation upgrade from Springs to grommets
4 June, 10	155	Dim. M & Q Changed
10 June, 09	All	Removed R22 Units and Related Data

RP1002

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