Tranquility® (TC_L) Compact High Capacity Series

Submittal Data

Models TC_LH072 - 120 TC_LV072 - 300 60Hz - HFC-410A

LC517

Rev.: November 6, 2024

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TC_L Compact High Capacity Series

Document page number is shown next to part number (e.g. LC517 - 3 = page 3). Since not all pages are typically used in the submittals process, the page number in the lower right corner can still be used (page _____of_____).

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TC_L Compact High Capacity Series

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THE TRANQUILITY® (TC_L) COMPACT HIGH CAPACITY SERIES

The award winning (TC_L) Compact High Capacity raises the bar for water-source heat pump efficiencies, features and application flexibility. Not only does the Tranquility TC_L exceed ASHRAE 90.1 efficiencies, but it also uses EarthPure® HFC-410A zero ozone depletion refrigerant, making it an extremely environmentally-friendly option. Tranquility TC_L is eligible for additional LEED (Leadership in Energy and Environmental Design) points because of the "green" technology design.

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

ClimateMaster's exclusive double isolation compressor mounting system makes the Tranquility TC_L one of the quietest units on the market. Compressors are mounted on specially engineered sound-tested EPDM grommets to a heavy gauge mounting plate, which is further isolated from the cabinet base with rubber grommets for maximized vibration and sound attenuation. The easy access control box and large access panels make installing and maintaining the unit easier than other water-source heat pumps currently in production.

Options such as coated air coil, DDC controls, and dual point power allow customized design solutions. Optional variable frequency fan motor controls or blower motor/sheave drive packages expand the operating range and help overcome some of the challenges associated with ductwork for retrofit installations. A cupro-nickel water-coil and sound absorbing UltraQuiet package are options that make a great unit even better.

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

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

The Tranquility TC_L Series Water-Source Heat Pumps are designed to meet the challenges of today's HVAC demands with one of the most innovative products available on the market.

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UNIT FEATURES

- Horizontal sizes 072 (6 Tons, 21.1 kW), 096 (8 Tons, 28.1 kW), 120 (10 Tons, 35.2 kW)
- Vertical sizes 072 (6 Tons, 21.1 kW), 096 (8 Tons, 28.1 kW), 120 (10 Tons, 35.2 kW), 160 (13.3 Tons, 46.9 kW), 192 (16 Tons, 56.3 kW), 240 (20 Tons, 70.3 kW), 300 (25 Tons, 87.9 kW)
- Horizontal unit configuration can be ordered with left or right return air and straight or back supply air discharge. Discharge is field convertible. Field conversion uses all existing parts including panels and belts
- Vertical configuration can be ordered with front or back return and top, front, or back discharge.
- Electric power can enter from either side of front
- Water can be connected to either side
- Copeland scroll compressors
- Dual refrigeration circuits (All Models)
- Exceeds ASHRAE 90.1 efficiencies
- Galvanized steel construction
- Insulated divider and separate compressor/air handler compartments
- TXV metering device
- Hanger brackets standard for horizontal units
- Premium duty motor that is VFD compatible
- iGate® 2 Communicating Controls Powered by CXM2
  - Multiple communication pathways,
    - Cloud-based connectivity via iGate 2 Wi-Fi communicating color touch screen thermostat for remote monitoring, access, and diagnosis. Including the new functionality for contractors/ building engineers to monitor and make mass changes on multi-unit systems
    - Connect directly to the system with use of a handheld service tool
  - Provides real-time unit operating conditions
  - Reduces start-up, commissioning, and service time by removing the need for hard tooling to take temperature measurements
  - Captures operating conditions in the event of a safety shutdown

AVAILABLE OPTIONS

- Variable Frequency Drive (VFD) fan motor controls (single zone VAV compatible, requires DXM2.5 controls)
- iGate® 2 Communicating Controls Powered by DXM2.5
  - Includes all of the features listed above for CXM2 controls including cloud-based connectivity via iGate 2 WiFi communicating color touch screen thermostat for remote monitoring, access, and diagnosis
  - Provides direct control over intelligent VFD fan motor
- Blower motor/sheave drive packages
- BACnet, Modbus and Johnson N2 compatibility options for DDC controls
- Cupro-nickel water-coil
- Sound absorbing UltraQuiet package
- Coated air coil
- Dual point power
- Waterside Economizer (WSE): requires DXM2.5 and HP thermostat with two stages of cooling.
- Extended range insulation for geothermal applications

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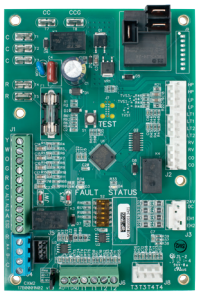
iGate® 2 Communication – Cloud connected, web-enabled information gateway to monitor, control, and diagnose your system



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

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

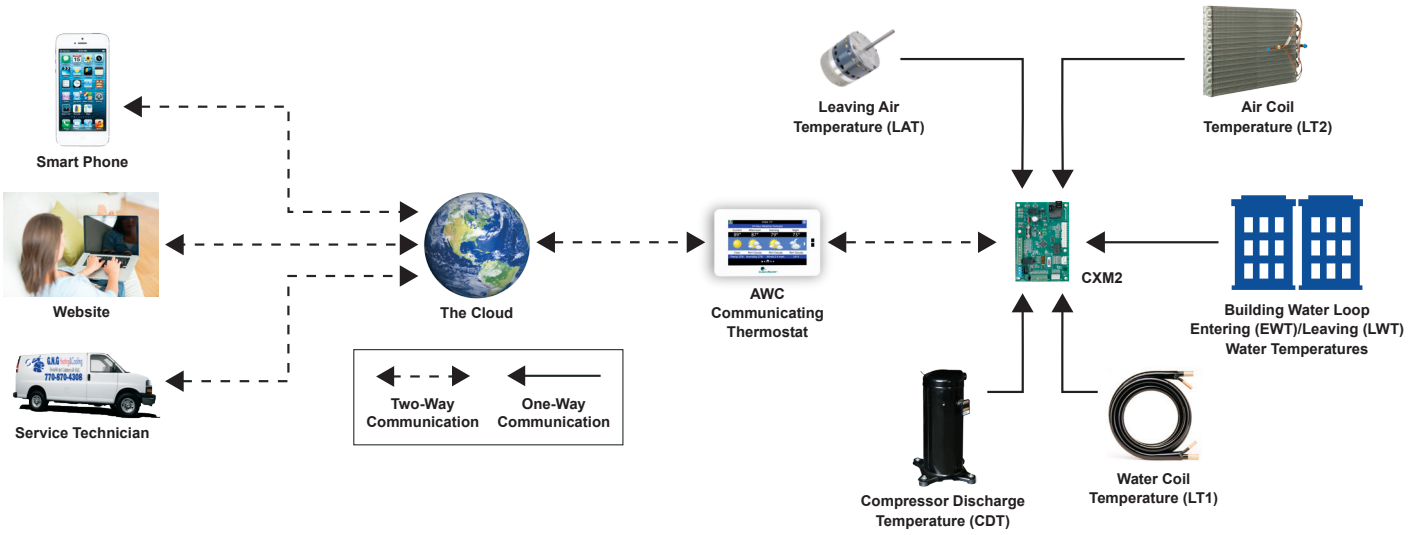
Precise Control – The new CXM2 board enables intelligent, 2-way communication between the CXM2 board and smart components like the communicating thermostat and diagnostic tool. The advanced CXM2 board uses information received from the temperature sensors to precisely control operation to deliver high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

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

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

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

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



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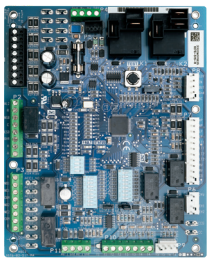

Tranquility® Compact High Capacity (TC_L) Series is equipped with industry-first, iGate® 2 communication information gateway that allows users to interact with their water-source system in easy to read clear language AND delivers improved reliability/ efficiency by precisely controlling smart components.

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

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

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

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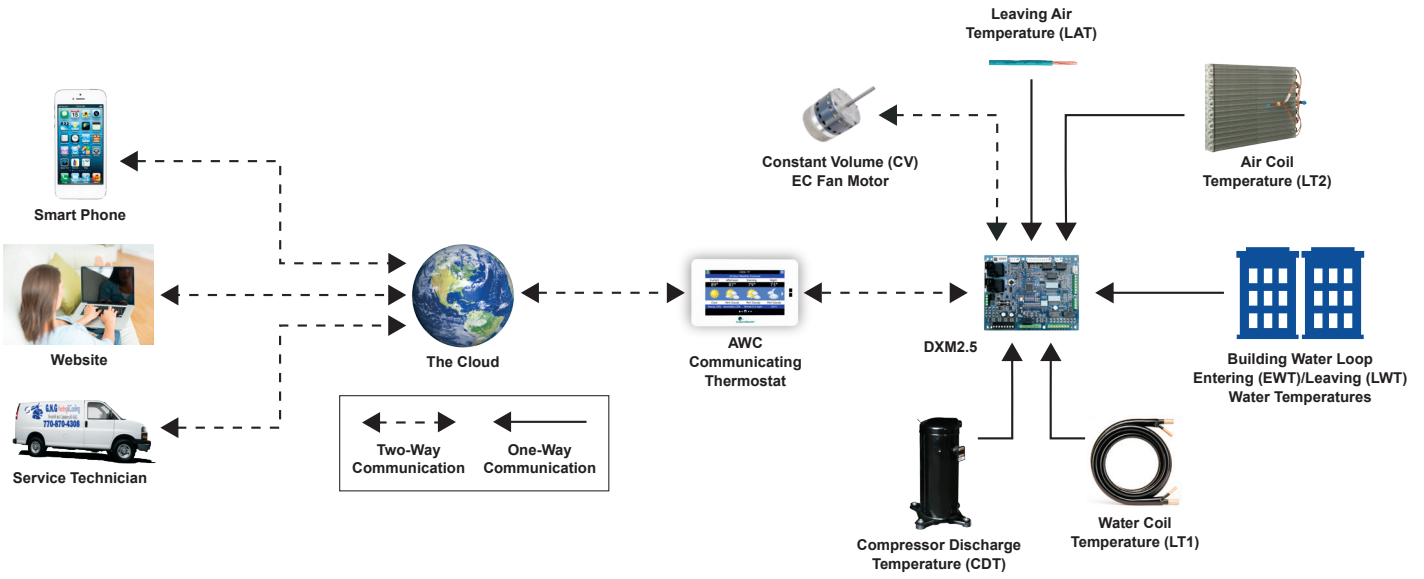

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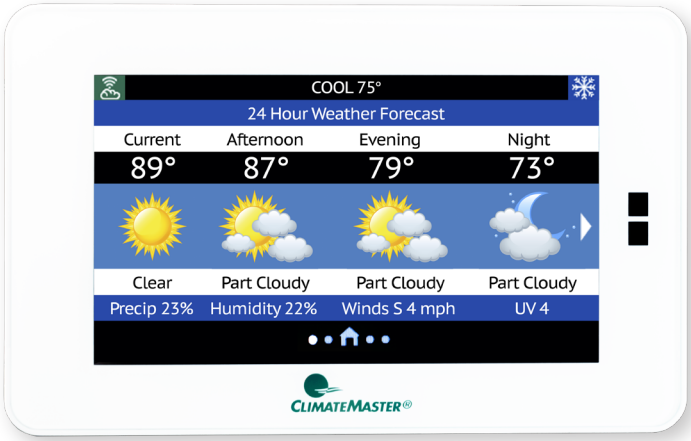


The iGate® 2 Communicating (AWC) Thermostat is innovating the future of comfort technology, one building at a time. The inspired design of the touch screen interface allows you to see real-time data for the efficiency and health of your system, with early warnings for potential system faults. The cloud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

Features with Efficiency in Mind

Touch Screen Interface
A brilliantly customizable touch screen monitor for simple control.

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

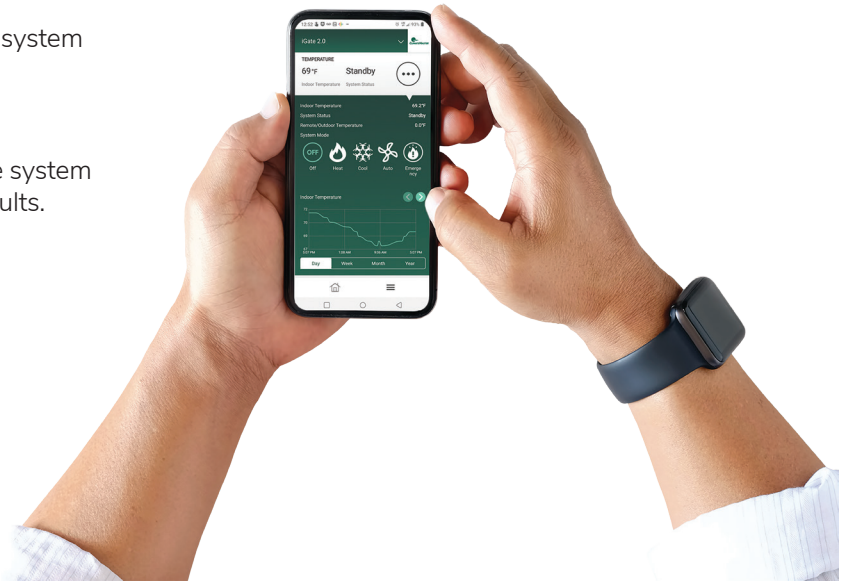
(Mobile) Remote System Control
Control temperature and schedule from anywhere in the world.

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

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

Real-Time Operations Data & System Schematics
Access simply via the myUplink Pro Account and web portal to view system diagrams with current operating temperatures.

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



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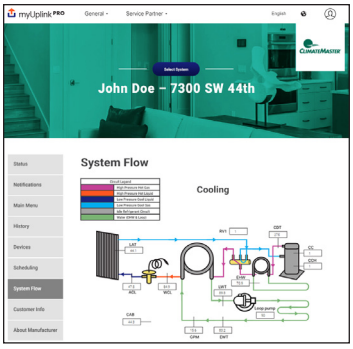
HVAC Professional | User Experience



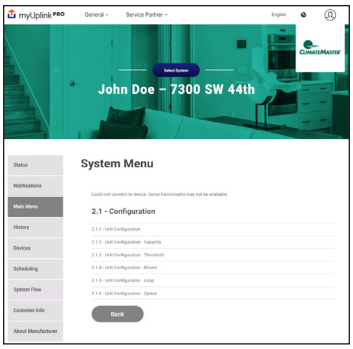
The iGate® 2 is more than just a smart thermostat for your residential or commercial customer, it's a business opportunity. Our new thermostat works with your customers' Tranquility comfort systems to provide the most efficient link between their system and your services. The customization of monitoring from the myUplink PRO web portal or phone app account allows for continuous system monitoring, analysis, repair recognition, and early warnings for potential system faults that are sent to you and your customer.

myUplink PRO

Benefits

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

Homeowner | User Experience



The iGate® 2 combines a Wi-Fi thermostat and advanced unit controls to communicate the systems operation information to the cloud. From any internet connected device or smart phone, homeowners can control and monitor their systems from anywhere in the world. iGate 2 offers homeowners peace of mind their systems are operating at peak performance with advanced operational performance issue notifications. HVAC professionals get notifications when systems are operating out of range. They can log in remotely to check system faults, review current operating conditions, and diagnosis issues remotely. This gives the HVAC technician the upper hand when showing up to perform service, saving time which in turn saves money.

myUplink

Benefits

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

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Reference Calculations

HEATING

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

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

COOLING

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

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

$$LC = TC - SC$$

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

Constant = 500 for water, 485 for antifreeze

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

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

Legend and Glossary of Abbreviations

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

Abbreviations	Descriptions
kW	Total power unit input, kilowatts
LAT	Leaving air temperature, °F
LC	Latent cooling capacity, Btuh
LOC	Loss of charge
LWT	Leaving water temperature, °F
MBtuh	1,000 Btu per hour
MPT	Male pipe thread
MWV	Motorized water valve
PSC	Permanent split capacitor
RDS	Refrigerant Detection System
SC	Sensible cooling capacity, Btuh
S/T	Sensible to total cooling ratio
TC	Total cooling capacity, Btuh
TD or delta T	Temperature differential
VFD	Variable frequency drive
WB	Wet bulb temperature, °F
WPD	Waterside pressure drop, psi or feet of head
WSE	Waterside economizer

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Step 1 Determine the actual heating and cooling loads at the desired dry bulb and wet bulb conditions.

Step 2 Obtain the following design parameters: Entering water temperature, water flow rate in GPM, air flow in CFM, water flow pressure drop and design wet and dry bulb temperatures. Air flow CFM should be between 300 and 450 CFM per ton. Unit water pressure drop should be kept as close as possible to each other to make water balancing easier. Go to the appropriate tables and find the proper indicated water flow and water temperature.

Step 3 Select a unit based on total and sensible cooling conditions. Select a unit which is closest to the actual cooling load.

Step 4 Use data from performance tables at the design water flow and water temperature. Read the total and sensible cooling capacities (Note: interpolation is permissible, extrapolation is not).

Step 5 Read the heating capacity. If it exceeds the design criteria it is acceptable. It is quite normal for Water-Source Heat Pumps to be selected on cooling capacity only since the heating output is usually greater than the cooling capacity.

Step 6 Determine the correction factors associated with the variable factors of dry bulb and wet bulb (page 14).

Corrected Total Cooling =
tabulated total cooling x wet bulb correction.

Corrected Sensible Cooling =
tabulated sensible cooling x wet/dry bulb correction.

Step 7 Determine the correction factor associated with antifreeze in system loop. If heating EWT is 50°F [10°C] or below you may have to use antifreeze. Calculate leaving water temperature per performance data selection notes (page 18). If antifreeze is required, use correction table for correcting total and sensible capacities.

Step 8 Compare the corrected capacities to the load requirements. Normally if the capacities are within 10% of the loads, the equipment is acceptable. It is better to undersize than oversize, as undersizing improves humidity control, reduces sound levels and extends the life of the equipment.

Step 9 When completed, calculate water temperature rise and assess the selection. If the units selected are not within 10% of the load calculations, then review what effect changing the GPM, water temperature and/or air flow and air temperature would have on the corrected capacities. If the desired capacity cannot be achieved, select the next larger or smaller unit and repeat the procedure. Remember, when in doubt, undersize slightly for best performance.

Example Equipment Selection For Cooling

Step 1 Load Determination:

Assume you have determined that the appropriate cooling load at the desired dry bulb 80°F [26.7°C] and wet bulb 65°F [18.3°C] conditions is as follows:

Total Cooling ..... 90,500 Btuh
Sensible Cooling ..... 73,300 Btuh
Entering Air Temp ..... 80°F Dry Bulb / 65°F Wet Bulb

Step 2 Design Conditions:

Similarly, you have also obtained the following design parameters:

Entering Water Temp (Cooling) ..... 90°F [32.2°C]
Entering Water Temp (Heating) ..... 60°F [15.6°C]
Water Flow (Based upon 10°F rise in temp.) ..... 18 GPM
Air Flow ..... 2,800 CFM

Steps 3, 4 & 5 HP Selection:

After making your preliminary selection (TC_LH096), we enter the data from tables at design water flow and water temperature and read Total Cooling, Sens. Cooling and Heat of Rej. capacities:

Total Cooling ..... 93,200 Btuh
Sensible Cooling ..... 70,390 Btuh
Heat of Rejection ..... 120,100 Btuh
Airflow ..... 3,200 CFM

Steps 6, 7 & 8 Entering Air, Airflow, and Antifreeze Corrections:

Next, we determine our correction factors.

Airflow 2800 ÷ 3200 = 88% Antifreeze - None

	Table	Ent Air	Air Flow	Corrected
Corrected Total Cooling =	93,200 x	0.977 x	0.976 x 1 =	88,871
Corrected Sens Cooling =	70,390 x	1.088 x	0.933 x 1 =	71,453
Corrected Heat of Rej. =	120,100 x	0.998 x	0.976 =	116,983

Step 9 Water Temperature Rise Calculation & Assessment:

Rise = Heat of Reject ÷ (GPM x 500)
Actual Temperature Rise 116,983 ÷ 9,000 = 13.0°F

When we compare the Corrected Total Cooling and Corrected Sensible Cooling figures with our load requirements stated in Step 1, we discover that our selection is within +/- 10% of our sensible load requirement. Furthermore, we see that our Corrected Total Cooling figure is slightly undersized as recommended, when compared to the actual indicated load.

Alternate Step 7: If your EWT for heating is 40°F [4.4°C], then system requires antifreeze. If a solution of 15% Propylene Glycol is required, then:

Corrected Total Cooling = 88,871 x 0.986 = 87,626
Corrected Sens Cooling = 71,453 x 0.986 = 70,452

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TC_L Series Nomenclature

1 2	3	4 5 6	7	8	9	10	11	12	13 14	15
TC	H	096	A	H	C	3	A	A	LS	S

MODEL TYPE
TC = TRANQUILITY® COMPACT COMMERCIAL HFC-410A

CONFIGURATION
H = HORIZONTAL
V = VERTICAL

UNIT SIZE
072
096
120
TCV ONLY: 160, 192, 240, 300

REVISION LEVEL
A = CURRENT REVISION

VOLTAGE
F = 460/60/3
H = 208/230/60/3 (FACTORY WIRED 208)
N = 575/60/3

CONTROLS
ETL Approved USA & Canada:
C = CXM2
D = DXM2.5
N = CXM2 w/MPC
P = DXM2.5 w/MPC

CABINET INSULATION / FILTER RAILS/FRAMES

			TCV			TCH	
OPTION	RANGE	ULTRA QUIET	1" FILTER FRAMES	2" FILTER FRAMES	4" FILTER FRAMES	1" FILTER RAIL	2" FILTER RAIL
1	EXTENDED RANGE	NO	YES	NO		YES	NO
A			NO	YES	NO	NO	YES
B			NO		YES	NO	
2		YES	YES	NO		YES	NO
C			NO	YES	NO	NO	YES
D			NO		YES	NO	
3	STANDARD RANGE	NO	YES	NO		YES	NO
E			NO	YES	NO	NO	YES
F			NO		YES	NO	
4		YES	YES	NO		YES	NO
G			NO	YES	NO	NO	YES
H			NO		YES	NO	

AIR FLOW OPTIONS
TCH ONLY:
LB = LEFT RETURN/BACK DISCHARGE
LS = LEFT RETURN/STRAIGHT DISCHARGE
RB = RIGHT RETURN/BACK DISCHARGE
RS = RIGHT RETURN/STRAIGHT DISCHARGE
VB = LEFT RETURN S.S. DRAIN PAN/BACK DISCHARGE
VS = LEFT RETURN S.S. DRAIN PAN/STRAIGHT DISCHARGE
WB = RIGHT RETURN S.S. DRAIN PAN/BACK DISCHARGE
WS = RIGHT RETURN S.S. DRAIN PAN/STRAIGHT DISCHARGE

TCV ONLY:
BF = BACK RETURN/FRONT DISCHARGE
BT= BACK RETURN/TOP DISCHARGE
FB = FRONT RETURN/BACK DISCHARGE
FT = FRONT RETURN/TOP DISCHARGE
YF = BACK RETURN S.S. DRAIN PAN/FRONT DISCHARGE
YT = BACK RETURN S.S. DRAIN PAN/TOP DISCHARGE
ZB = FRONT RETURN S.S. DRAIN PAN/BACK DISCHARGE
ZT = FRONT RETURN S.S. DRAIN PAN/TOP DISCHARGE

HEAT EXCHANGER OPTIONS

OPTION	COPPER WATER COIL	CUPRO-NICKEL WATER COIL	COATED AIR COIL	COATED ECON COIL	WATER SIDE ECONOMIZER
A	YES	NO	YES	N/A	NO
C			NO	N/A	
J	NO	YES	YES	N/A	
N			NO	N/A	
1	YES	NO	YES	YES	YES
2			NO	NO	
3	NO	YES	YES	YES	
4			NO	NO	

BLOWER DRIVE PACKAGE
A = STANDARD RPM & STANDARD MOTOR
B = LOW RPM & STANDARD MOTOR
C = HIGH RPM & STANDARD MOTOR
D = STANDARD RPM & LARGE MOTOR
E = HIGH RPM & LARGE MOTOR
F = VARIABLE FREQUENCE DRIVE*

*VFD Option requires DXM2.5 controls

S = STANDARD
A = DUAL POINT POWER

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

Model	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
TC_L072	69,000	13.3	92,500	5.0	78,500	19.7	75,500	4.4	71,000	14.6	58,000	3.5
TC_L096	95,000	13.7	123,000	5.0	104,500	20.0	101,000	4.4	98,000	15.2	77,000	3.6
TC_L120	119,000	13.3	160,000	4.6	134,000	19.3	132,500	4.0	122,500	14.5	103,000	3.3
TC_LV160	157,000	14.2	207,000	4.9	172,000	19.6	168,000	4.4	162,000	15.2	125,000	3.5
TC_LV192	191,500	14.3	243,000	5.1	211,000	19.5	196,500	4.5	199,000	15.8	149,000	3.7
TC_LV240	233,000	13.9	318,000	5.0	263,500	19.2	260,500	4.4	240,000	14.8	198,500	3.5
TC_LV300	300,000	13.5	395,000	4.8	341,500	18.7	321,500	4.3	310,000	14.5	240,000	3.4

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature.
Heating capacities based upon 68°F DB, 59°F WB entering air temperature.
All ratings based upon operation at lower voltage of dual voltage rated models.
All TC_L072 ratings @ 2400CFM w/20GPM. Sheave setting for AHRI is 2.5 turns open.
All TC_L096 ratings @ 3200CFM w/24GPM. Sheave setting for AHRI is 3.0 turns open.
All TC_L120 ratings @ 4000CFM w/30GPM. Sheave setting for AHRI is 3.0 turns open.

Full and Part Load 60HZ Ratings w/VFD – ASHRAE, ARI/ISO 13256-1. English (I-P) Units

Model	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
TC_L072 - Part	35,000	14.7	46,000	5.4	40,000	22.5	37,000	4.6	37,500	18.5	31,500	4.1
TC_L072 - Full	69,000	14.5	92,500	5.2	78,500	22.0	75,500	4.6	71,000	15.6	56,000	3.6
TC_L096 - Part	47,500	14.5	59,500	5.1	52,300	20.7	48,500	4.3	52,000	18.2	42,000	3.8
TC_L096 - Full	95,000	13.8	123,000	5.0	105,000	20.4	101,000	4.4	98,000	15.4	77,000	3.6
TC_L120 - Part	60,000	13.8	78,500	4.7	67,500	19.7	64,500	4.0	63,000	16.6	53,800	3.5
TC_L120 - Full	119,000	13.3	160,000	4.6	134,000	19.3	132,500	4.0	122,500	14.7	103,000	3.3
TC_LV160 - Part	78,500	14.4	98,500	4.9	86,500	19.7	84,000	4.4	83,200	17.3	70,300	3.9
TC_LV160 - Full	157,000	14.3	207,000	4.9	172,000	19.6	168,000	4.4	162,000	15.6	125,000	3.6
TC_LV192 - Part	95,800	14.5	118,500	5.1	106,500	19.7	96,500	4.5	102,700	17.3	83,000	3.9
TC_LV192 - Full	191,500	14.3	243,000	5.1	211,000	19.5	196,500	4.5	199,000	15.8	149,000	3.7
TC_LV240 - Part	117,000	14.1	157,000	5.1	132,900	19.6	128,000	4.4	127,500	17.3	111,000	3.8
TC_LV240 - Full	233,000	13.9	318,000	5.0	263,500	19.2	260,500	4.4	240,000	14.9	198,500	3.5
TC_LV300 - Part	153,000	14.2	192,300	4.9	171,000	19.2	156,500	4.3	164,000	16.9	137,400	3.8
TC_LV300 - Full	300,000	13.5	395,000	4.8	341,500	18.7	321,500	4.3	310,000	14.5	240,000	3.4

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

Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
	Cooling 30ºC		Heating 20ºC		Cooling 15ºC		Heating 10ºC		Cooling 25ºC		Heating 0ºC	
	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP
TC_L072	20.22	3.9	27.11	5.0	23.01	5.8	22.13	4.4	20.80	4.3	17.00	3.5
TC_L096	27.84	4.0	36.04	5.0	30.63	5.9	29.60	4.4	28.72	4.5	22.57	3.6
TC_L120	34.88	3.9	46.89	4.6	39.27	5.7	38.83	4.0	35.90	4.2	30.19	3.3
TC_LV160	46.01	4.2	60,668	4.9	50.41	5.7	49.24	4.4	47.48	4.5	36.64	3.5
TC_LV192	56.13	4.2	71.22	5.1	61.84	5.7	57.59	4.5	58.32	4.6	43.67	3.7
TC_LV240	68.29	4.1	93.20	5.0	77.23	5.6	76.35	4.4	70.34	4.3	58.18	3.5
TC_LV300	87.93	4.0	115.77	4.8	100.09	5.5	95.23	4.3	90.86	4.2	70.34	3.4

Cooling capacities based upon 27°C DB, 19°C WB entering air temperature.
Heating capacities based upon 20°C DB,15°C WB entering air temperature.
All ratings based upon operation at lower voltage of dual voltage rated models.
All TC_L072 ratings @ 1133 l/s w/1.26 l/s. Sheave setting for AHRI is 2.5 turns open.
All TC_L096 ratings @ 1510 l/s w/1.51 l/s. Sheave setting for AHRI is 3.0 turns open.
All TC_L120 ratings @ 1888 l/s w/1.89 l/s. Sheave setting for AHRI is 3.0 turns open.

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TC_L096

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

For operation in the shaded area when water is used in lieu of an antifreeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 42°F [5.6°C] when the JW3 jumper is not clipped (see example below). Otherwise, appropriate levels of a proper antifreeze solution should be used in systems with leaving water temperatures of 42°F [5.6°C] or below and the JW3 jumper should be clipped. This is due to the potential of the refrigerant temperature being as low as 32°F [0°C] with 40°F [4.4°C] LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.

Example:

At 50°F EWT (Entering Water Temperature) and 1.5 gpm/ton, a 8 ton unit has a HE of 72,200 Btuh.

To calculate LWT, rearrange the formula for HE as follows:

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

TD = HE / (GPM x 500)

TD = 72,200 / (12 x 500)

TD = 12°F

LWT = EWT - TD

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

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

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2,400 CFM Nominal Airflow Heating & Cooling

WATER/BRINE				Cooling - EAT 80/67°F					Heating - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	20.0	6.8	15.8	Operation not recommended					49.5	5.0	32.5	87.1	2.9
30	10.0	1.2	2.7	82.3	56.8	3.6	94.5	23.0	54.7	5.0	37.5	89.0	3.2
	15.0	3.3	7.7	81.1	55.8	3.4	92.8	23.6	56.8	5.1	39.6	89.9	3.3
	20.0	6.2	14.3	80.2	55.1	3.4	91.7	23.8	58.0	5.1	40.7	90.3	3.4
40	10.0	1.0	2.2	82.4	57.4	3.9	95.6	21.2	63.2	5.1	45.6	92.3	3.6
	15.0	3.0	7.0	82.6	57.1	3.7	95.1	22.4	66.1	5.2	48.4	93.4	3.7
	20.0	5.6	13.0	82.4	56.8	3.6	94.6	22.9	67.7	5.2	50.0	94.1	3.8
50	10.0	0.9	2.0	80.7	57.2	4.2	95.1	19.0	72.3	5.3	54.4	95.8	4.0
	15.0	2.8	6.5	81.9	57.4	4.0	95.6	20.5	76.0	5.3	57.8	97.2	4.2
	20.0	5.3	12.2	82.3	57.4	3.9	95.6	21.1	78.0	5.4	59.7	98.0	4.3
60	10.0	0.5	1.2	77.7	56.3	4.7	93.6	16.7	81.8	5.4	63.3	99.5	4.4
	15.0	2.2	5.1	79.7	56.9	4.4	94.7	18.2	86.0	5.5	67.2	101.1	4.6
	20.0	4.4	10.1	80.6	57.2	4.3	95.1	18.9	88.3	5.5	69.4	102.0	4.7
70	10.0	0.5	1.1	73.9	54.9	5.2	91.4	14.3	91.1	5.6	72.0	103.1	4.8
	15.0	2.1	4.8	76.3	55.8	4.8	92.8	15.8	95.6	5.7	76.3	104.8	4.9
	20.0	4.2	9.6	77.5	56.2	4.7	93.5	16.5	98.0	5.7	78.5	105.7	5.0
80	10.0	0.4	0.9	69.4	53.1	5.7	88.9	12.2	99.8	5.8	80.2	106.4	5.1
	15.0	1.9	4.5	72.2	54.2	5.4	90.5	13.4	104.4	5.9	84.4	108.2	5.2
	20.0	3.9	9.1	73.5	54.7	5.2	91.2	14.1	106.7	5.9	86.5	109.1	5.3
85	10.0	0.4	0.8	67.1	52.1	6.0	87.7	11.2	103.7	5.8	83.8	107.9	5.2
	15.0	1.9	4.4	69.8	53.3	5.7	89.2	12.4	108.0	5.9	87.8	109.6	5.3
	20.0	3.9	8.9	71.2	53.8	5.5	89.9	13.0	110.1	6.0	89.7	110.4	5.4
90	10.0	0.3	0.8	64.8	51.2	6.4	86.4	10.2	107.6	5.9	87.4	109.4	5.3
	15.0	1.8	4.3	67.5	52.3	6.0	87.9	11.3	111.7	6.0	91.1	111.0	5.4
	20.0	3.8	8.8	68.9	52.9	5.8	88.6	11.9	113.5	6.0	92.8	111.7	5.5
100	10.0	0.3	0.7	60.1	49.2	7.1	84.2	8.5	Operation not recommended				
	15.0	1.8	4.1	62.7	50.3	6.6	85.4	9.4					
	20.0	3.7	8.5	64.1	50.9	6.4	86.1	10.0					
110	10.0	0.2	0.6	55.8	47.5	7.9	82.7	7.1					
	15.0	1.7	3.9	58.1	48.4	7.4	83.4	7.8					
	20.0	3.6	8.3	59.4	48.9	7.2	83.9	8.3					
120	10.0	0.2	0.5	52.2	46.3	8.8	82.2	5.9					
	15.0	1.6	3.7	54.1	46.9	8.3	82.3	6.5					
	20.0	3.5	8.0	55.1	47.3	8.0	82.5	6.9					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.
Performance capacities shown in thousands of Btuh

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3,200 CFM Nominal Airflow Heating & Cooling

WATER/BRINE				Cooling - EAT 80/67°F					Heating - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	24.0	10.2	23.5	Operation not recommended					67.1	6.60	44.6	87.4	3.0
30	12.0	2.1	4.9	109.6	77.9	4.9	126.2	22.4	73.6	6.73	50.7	89.3	3.2
	18.0	5.3	12.1	109.3	77.9	4.7	125.3	23.3	76.9	6.79	53.7	90.2	3.3
	24.0	9.3	21.4	108.9	77.8	4.6	124.6	23.7	78.7	6.83	55.4	90.7	3.4
40	12.0	1.9	4.4	108.7	77.3	5.3	126.7	20.7	84.8	6.95	61.1	92.5	3.6
	18.0	4.8	11.0	109.5	77.8	5.0	126.5	21.9	89.0	7.03	65.1	93.7	3.7
	24.0	8.4	19.3	109.6	77.9	4.9	126.2	22.5	91.4	7.07	67.3	94.4	3.8
50	12.0	1.7	4.0	106.7	76.2	5.7	126.2	18.7	96.7	7.17	72.2	95.9	4.0
	18.0	4.5	10.3	108.2	77.0	5.4	126.6	20.1	101.9	7.27	77.1	97.4	4.1
	24.0	7.9	18.2	108.8	77.3	5.2	126.7	20.8	104.7	7.32	79.8	98.2	4.2
60	12.0	1.5	3.4	103.6	74.8	6.3	124.9	16.5	108.8	7.40	83.6	99.4	4.3
	18.0	3.8	8.8	105.8	75.8	5.9	125.9	18.0	114.9	7.51	89.3	101.2	4.5
	24.0	6.8	15.8	106.8	76.3	5.7	126.2	18.8	118.2	7.58	92.4	102.1	4.6
70	12.0	1.3	3.1	99.6	73.1	6.9	123.1	14.5	121.0	7.63	95.0	102.9	4.6
	18.0	3.6	8.4	102.4	74.3	6.5	124.4	15.9	127.7	7.76	101.2	104.9	4.8
	24.0	6.6	15.2	103.7	74.9	6.2	125.0	16.6	131.3	7.83	104.6	105.9	4.9
80	12.0	1.2	2.8	94.9	71.1	7.6	120.9	12.5	132.8	7.86	106.0	106.3	5.0
	18.0	3.4	7.9	98.2	72.5	7.1	122.4	13.8	139.8	8.01	112.5	108.4	5.1
	24.0	6.3	14.5	99.7	73.1	6.9	123.2	14.5	143.5	8.09	115.9	109.4	5.2
85	12.0	1.1	2.7	92.3	70.0	8.0	119.6	11.6	138.3	7.98	111.1	107.9	5.1
	18.0	3.4	7.7	95.7	71.4	7.5	121.3	12.8	145.3	8.13	117.5	109.9	5.2
	24.0	6.2	14.2	97.3	72.1	7.2	122.0	13.5	148.8	8.21	120.8	111.0	5.3
90	12.0	1.1	2.5	89.6	68.9	8.4	118.4	10.6	143.9	8.10	116.2	109.5	5.2
	18.0	3.3	7.6	93.2	70.4	7.9	120.1	11.8	150.8	8.25	122.6	111.5	5.4
	24.0	6.1	14.0	94.9	71.1	7.6	120.9	12.5	154.2	8.34	125.7	112.5	5.4
100	12.0	1.0	2.3	83.9	66.6	9.3	115.7	9.0	Operation not recommended				
	18.0	3.1	7.2	87.7	68.1	8.7	117.5	10.0					
	24.0	5.9	13.6	89.6	68.9	8.4	118.3	10.6					
110	12.0	0.9	2.0	77.8	64.0	10.4	113.1	7.5					
	18.0	3.0	6.8	81.7	65.7	9.7	114.8	8.4					
	24.0	5.7	13.1	83.7	66.5	9.4	115.6	8.9					
120	12.0	0.8	1.8	71.5	61.2	11.5	110.6	6.2					
	18.0	2.8	6.5	75.4	63.0	10.8	112.2	7.0					
	24.0	5.5	12.6	77.4	63.8	10.4	113.0	7.4					

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

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4,000 CFM Nominal Airflow Heating & Cooling

WATER/BRINE				Cooling - EAT 80/67°F					Heating - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	30.0	16.0	36.9	Operation not recommended					91.8	9.0	61.1	89.2	3.0
30	15.0	4.0	9.2	141.5	98.1	6.6	163.9	21.6	99.2	9.2	67.8	90.9	3.2
	22.5	8.6	19.9	140.4	98.2	6.3	162.0	22.2	103.3	9.3	71.6	91.9	3.3
	30.0	14.5	33.4	139.2	98.0	6.2	160.5	22.4	105.6	9.4	73.7	92.4	3.3
40	15.0	3.5	8.0	140.6	97.2	7.0	164.4	20.1	112.5	9.5	80.1	94.0	3.5
	22.0	7.7	17.8	141.5	98.0	6.7	164.2	21.3	117.8	9.6	84.9	95.2	3.6
	30.0	13.0	30.0	141.5	98.2	6.5	163.7	21.7	120.8	9.7	87.6	95.9	3.6
50	15.0	3.2	7.4	137.4	95.6	7.5	163.0	18.3	126.8	9.9	93.2	97.3	3.8
	22.5	7.2	16.6	139.9	96.8	7.1	164.1	19.7	133.3	10.0	99.2	98.8	3.9
	30.0	12.2	28.3	140.8	97.3	6.9	164.4	20.3	136.9	10.1	102.5	99.6	4.0
60	15.0	2.4	5.5	132.6	93.5	8.1	160.3	16.3	141.7	10.2	106.9	100.7	4.1
	22.5	5.8	13.4	136.2	95.0	7.7	162.4	17.7	149.3	10.4	114.0	102.5	4.2
	30.0	10.2	23.6	137.7	95.8	7.5	163.2	18.5	153.6	10.5	117.9	103.5	4.3
70	15.0	2.2	5.1	126.6	90.9	8.9	156.9	14.3	156.8	10.5	120.9	104.2	4.4
	22.5	5.5	12.7	130.9	92.8	8.3	159.4	15.7	165.6	10.7	129.0	106.2	4.5
	30.0	9.8	22.6	133.0	93.6	8.1	160.6	16.4	170.4	10.8	133.4	107.3	4.6
80	15.0	2.1	4.7	119.9	88.0	9.7	153.1	12.3	172.0	10.9	135.0	107.7	4.6
	22.5	5.2	12.0	124.6	90.0	9.1	155.7	13.7	181.6	11.1	143.8	110.0	4.8
	30.0	9.4	21.7	126.9	91.0	8.8	157.1	14.4	186.9	11.2	148.6	111.2	4.9
85	15.0	2.0	4.6	116.4	86.5	10.2	151.2	11.5	179.5	11.0	141.9	109.5	4.8
	22.5	5.1	11.9	121.1	88.5	9.6	153.8	12.7	189.4	11.3	151.0	111.7	4.9
	30.0	9.3	21.5	123.5	89.6	9.3	155.1	13.4	194.8	11.4	155.8	113.0	5.0
90	15.0	2.0	4.5	113.0	85.0	10.7	149.3	10.6	187.0	11.2	148.7	111.2	4.9
	22.5	5.1	11.7	117.7	87.0	10.0	151.8	11.8	197.2	11.5	158.1	113.5	5.0
	30.0	9.2	21.2	120.1	88.1	9.7	153.2	12.4	202.7	11.6	163.1	114.8	5.1
100	15.0	1.9	4.3	106.0	81.8	11.7	146.0	9.0	Operation not recommended				
	22.5	4.9	11.4	110.6	83.9	11.0	148.1	10.0					
	30.0	9.0	20.8	112.9	84.9	10.7	149.3	10.6					
110	15.0	1.8	4.1	99.6	78.9	12.9	143.6	7.7					
	22.5	4.8	11.1	103.7	80.8	12.1	145.0	8.6					
	30.0	8.8	20.4	105.9	81.8	11.8	145.9	9.0					
120	15.0	1.7	3.9	94.2	76.5	14.2	142.6	6.6					
	22.5	4.7	10.8	97.5	78.0	13.4	143.1	7.3					
	30.0	8.6	19.9	99.4	78.8	13.0	143.5	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.
Performance capacities shown in thousands of Btuh

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5,600 CFM Nominal Airflow Heating & Cooling

WATER / BRINE				COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	42.0	10.6	24.6	Operation not recommended					110.5	9.3	78.8	86.2	3.5
30	21.0	3.3	7.6	166.5	122.6	8.1	194.3	20.4	119.6	10.3	84.6	87.7	3.4
	31.5	6.2	14.3	160.7	118.4	7.7	187.1	20.8	124.3	10.6	88.1	88.5	3.4
	42.0	9.7	22.3	157.0	115.7	7.5	182.8	20.8	126.8	10.8	90.1	88.9	3.5
40	21.0	2.8	6.4	171.3	125.8	8.8	201.5	19.4	137.3	11.3	98.8	90.7	3.6
	31.5	5.2	12.1	168.9	124.3	8.4	197.6	20.1	143.8	11.6	104.3	91.7	3.6
	42.0	8.3	19.2	167.0	123.0	8.2	195.0	20.4	147.4	11.7	107.5	92.3	3.7
50	21.0	1.9	4.4	171.4	125.7	9.6	204.0	17.9	157.4	12.0	116.5	94.0	3.9
	31.5	4.0	9.1	171.8	126.1	9.1	202.8	18.9	165.7	12.2	124.1	95.3	4.0
	42.0	6.6	15.2	171.4	125.8	8.9	201.6	19.3	170.3	12.3	128.4	96.1	4.1
60	21.0	1.8	4.2	168.0	123.6	10.3	203.2	16.2	178.6	12.4	136.2	97.5	4.2
	31.5	3.8	8.8	170.5	125.1	9.8	204.1	17.3	188.5	12.6	145.5	99.1	4.4
	42.0	6.4	14.7	171.3	125.7	9.6	204.0	17.9	194.0	12.7	150.7	100.0	4.5
70	21.0	1.7	4.0	162.0	120.5	11.2	200.2	14.5	200.0	12.8	156.3	101.0	4.6
	31.5	3.6	8.4	166.1	122.6	10.6	202.4	15.6	211.1	13.0	166.7	102.8	4.8
	42.0	6.1	14.1	167.8	123.5	10.4	203.2	16.2	217.1	13.1	172.2	103.8	4.8
80	21.0	1.7	3.9	154.4	117.1	12.1	195.8	12.7	220.7	13.2	175.6	104.4	4.9
	31.5	3.5	8.1	159.4	119.2	11.5	198.7	13.8	232.2	13.6	185.9	106.3	5.0
	42.0	5.9	13.6	161.7	120.3	11.2	200.1	14.4	238.0	13.8	191.0	107.3	5.1
90	21.0	1.6	3.8	145.6	113.9	13.2	190.7	11.0	239.6	13.8	192.4	107.5	5.1
	31.5	3.4	7.9	151.1	115.8	12.5	193.9	12.1	250.2	14.4	201.0	109.3	5.1
	42.0	5.6	13.0	153.8	116.8	12.2	195.5	12.6	255.0	14.8	204.7	110.1	5.1
100	21.0	1.6	3.6	136.4	111.4	14.4	185.6	9.5	Operation not recommended				
	31.5	3.3	7.7	141.9	112.8	13.7	188.6	10.4					
	42.0	5.6	12.9	144.7	113.6	13.3	190.2	10.9					
110	21.0	1.5	3.5	127.2	110.0	15.8	181.2	8.0					
	31.5	3.2	7.4	132.5	110.6	15.0	183.6	8.8					
	42.0	5.5	12.7	135.2	111.1	14.6	185.0	9.3					
120	21.0	1.4	3.2	118.7	110.3	17.4	178.2	6.8					
	31.5	3.1	7.2	123.4	109.9	16.5	179.6	7.5					
	42.0	5.4	12.4	125.9	109.9	16.0	180.6	7.9					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
See performance correction tables for operating conditions other than those listed above.
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Performance capacities shown in thousands of Btuh

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6,400 CFM Nominal Airflow Heating & Cooling

WATER / BRINE				COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	48.0	14.1	32.5	Operation not recommended					128.8	11.3	90.3	86.6	3.3
30	24.0	4.4	10.1	195.9	146.9	9.7	229.0	20.2	141.7	12.0	100.6	88.5	3.4
	36.0	8.1	18.6	179.6	137.5	8.8	209.5	20.5	148.1	12.3	105.9	89.4	3.5
	48.0	12.4	28.7	169.8	131.7	8.3	198.2	20.4	151.6	12.5	109.0	89.9	3.6
40	24.0	3.8	8.8	209.3	154.3	10.9	246.4	19.2	164.0	12.9	119.8	91.7	3.7
	36.0	7.0	16.1	202.2	150.4	10.1	236.8	19.9	172.2	13.2	127.2	92.9	3.8
	48.0	10.8	25.0	196.8	147.4	9.7	230.1	20.2	176.8	13.3	131.3	93.5	3.9
50	24.0	3.3	7.6	211.4	155.5	11.8	251.7	17.9	187.6	13.6	141.2	95.1	4.0
	36.0	5.5	12.6	210.9	155.1	11.2	249.1	18.9	197.7	13.8	150.5	96.5	4.2
	48.0	8.8	20.2	209.1	154.2	10.9	246.2	19.3	203.3	14.0	155.7	97.3	4.3
60	24.0	2.8	6.5	206.6	153.5	12.7	249.9	16.3	211.9	14.1	163.6	98.6	4.4
	36.0	5.2	12.1	210.5	155.2	12.1	251.7	17.4	223.7	14.4	174.6	100.3	4.6
	48.0	8.4	19.5	211.4	155.6	11.8	251.6	18.0	230.2	14.5	180.7	101.2	4.7
70	24.0	2.7	6.2	197.8	149.5	13.5	244.0	14.6	236.1	14.6	186.2	102.1	4.7
	36.0	5.0	11.6	204.2	152.4	12.9	248.4	15.8	249.2	14.9	198.4	104.0	4.9
	48.0	8.1	18.8	206.9	153.6	12.6	250.0	16.4	256.3	15.1	204.9	105.0	5.0
80	24.0	2.6	6.1	186.9	144.3	14.5	236.3	12.9	259.6	15.1	208.0	105.5	5.0
	36.0	4.9	11.4	194.4	147.8	13.8	241.6	14.1	273.4	15.5	220.5	107.5	5.2
	48.0	8.0	18.4	198.0	149.5	13.5	244.1	14.6	280.6	15.7	226.9	108.5	5.2
90	24.0	2.5	5.9	175.4	138.9	15.6	228.6	11.2	281.8	15.8	227.9	108.7	5.2
	36.0	4.8	11.1	182.9	142.4	14.8	233.5	12.3	295.3	16.3	239.5	110.6	5.3
	48.0	7.7	17.7	186.7	144.2	14.5	236.2	12.9	302.0	16.7	245.0	111.6	5.3
100	24.0	2.5	5.7	165.0	134.2	17.0	222.9	9.7	Operation not recommended				
	36.0	4.6	10.7	171.3	137.0	16.1	226.2	10.7					
	48.0	7.5	17.4	174.9	138.7	15.7	228.3	11.2					
110	24.0	2.4	5.5	157.4	131.7	18.7	221.2	8.4					
	36.0	4.5	10.5	161.6	132.9	17.6	221.6	9.2					
	48.0	7.4	17.0	164.3	134.0	17.1	222.6	9.6					
120	24.0	2.3	5.3	155.1	133.4	21.0	226.8	7.4					
	36.0	4.3	9.9	155.7	131.7	19.5	222.3	8.0					
	48.0	7.3	16.8	157.0	131.6	18.9	221.4	8.3					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
See performance correction tables for operating conditions other than those listed above.
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Performance capacities shown in thousands of Btuh

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8,000 CFM Nominal Airflow Heating & Cooling

WATER / BRINE				COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	60.0	11.4	26.4	Operation not recommended					165.0	16.7	108.0	87.1	2.9
30	30.0	3.6	8.3	263.8	186.8	13.2	309.0	19.9	182.6	17.1	124.4	89.1	3.1
	45.0	6.7	15.5	255.5	183.3	12.8	299.0	20.0	191.0	17.2	132.2	90.1	3.3
	60.0	10.6	24.4	249.5	180.9	12.6	292.4	19.9	195.7	17.3	136.7	90.6	3.3
40	30.0	3.4	7.8	267.5	188.9	14.1	315.5	19.0	211.9	17.6	151.9	92.5	3.5
	45.0	6.3	14.5	265.9	187.7	13.5	311.9	19.7	222.9	17.8	162.3	93.7	3.7
	60.0	9.3	21.4	263.5	186.7	13.2	308.6	19.9	229.1	17.9	168.1	94.5	3.8
50	30.0	2.9	6.6	263.8	188.5	15.0	314.9	17.6	242.8	18.1	181.1	96.0	3.9
	45.0	4.8	11.1	267.1	189.0	14.3	315.9	18.6	256.5	18.3	194.0	97.6	4.1
	60.0	7.7	17.8	267.5	188.8	14.0	315.4	19.1	264.1	18.4	201.2	98.5	4.2
60	30.0	2.5	5.8	254.8	186.2	16.0	309.5	15.9	274.6	18.6	211.1	99.7	4.3
	45.0	4.7	10.7	261.5	188.0	15.3	313.7	17.1	290.7	18.9	226.3	101.6	4.5
	60.0	7.5	17.3	264.1	188.5	14.9	315.0	17.7	299.6	19.0	234.7	102.6	4.6
70	30.0	2.4	5.6	242.4	182.2	17.2	301.1	14.1	306.5	19.1	241.2	103.4	4.7
	45.0	4.5	10.4	251.2	185.1	16.4	307.1	15.3	324.7	19.5	258.2	105.5	4.9
	60.0	7.3	16.8	255.2	186.3	16.0	309.7	16.0	334.6	19.7	267.4	106.6	5.0
80	30.0	2.4	5.5	228.0	176.9	18.5	291.1	12.3	338.0	19.8	270.5	107.0	5.0
	45.0	4.4	10.2	237.7	180.5	17.6	297.8	13.5	357.5	20.2	288.6	109.3	5.2
	60.0	7.1	16.5	242.5	182.2	17.2	301.1	14.1	368.0	20.5	298.1	110.5	5.3
90	30.0	2.3	5.3	212.7	170.5	20.0	280.9	10.6	368.2	20.5	298.3	110.5	5.3
	45.0	4.3	9.9	222.5	174.7	19.0	287.4	11.7	388.3	21.1	316.4	112.8	5.4
	60.0	6.9	15.9	227.5	176.7	18.5	290.8	12.3	398.7	21.4	325.6	114.0	5.5
100	30.0	2.3	5.2	197.8	163.6	21.7	271.6	9.1	Operation not recommended				
	45.0	4.2	9.7	206.8	167.9	20.6	277.1	10.0					
	60.0	6.8	15.7	211.7	170.0	20.1	280.2	10.5					
110	30.0	2.2	5.1	184.4	157.0	23.5	264.8	7.8					
	45.0	4.1	9.5	192.1	160.8	22.4	268.5	8.6					
	60.0	6.7	15.4	196.4	162.9	21.8	270.9	9.0					
120	30.0	2.2	5.0	174.1	151.8	25.7	261.9	6.8					
	45.0	4.0	9.3	179.7	154.6	24.4	263.0	7.4					
	60.0	6.6	15.1	183.0	156.3	23.8	264.2	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
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10,000 CFM Nominal Airflow Heating & Cooling

WATER / BRINE				COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	75.0	15.7	36.3	Operation not recommended					211.4	21.4	138.3	87.5	2.9
30	37.5	5.0	11.6	342.5	241.7	17.4	401.8	19.7	230.6	21.9	155.8	89.3	3.1
	56.3	9.2	21.3	333.6	238.3	16.9	391.2	19.8	240.1	22.1	164.6	90.2	3.2
	75.0	14.3	32.9	327.1	235.6	16.7	383.9	19.6	245.4	22.3	169.5	90.7	3.2
40	37.5	4.7	10.8	345.6	242.7	18.3	408.1	18.9	264.5	22.7	187.1	92.4	3.4
	56.3	7.8	18.0	344.4	242.3	17.6	404.5	19.5	277.3	22.9	199.0	93.6	3.5
	75.0	13.1	30.2	341.9	241.5	17.3	401.0	19.7	284.5	23.1	205.7	94.3	3.6
50	37.5	3.4	7.9	340.4	240.6	19.4	406.7	17.5	301.4	23.5	221.4	95.8	3.8
	56.3	5.9	13.6	344.9	242.3	18.6	408.4	18.5	317.4	23.8	236.2	97.3	3.9
	75.0	9.6	22.3	345.7	242.7	18.2	407.9	19.0	326.4	24.0	244.5	98.2	4.0
60	37.5	2.9	6.6	329.3	236.3	20.7	400.0	15.9	339.9	24.3	257.0	99.4	4.1
	56.3	5.7	13.1	337.8	239.5	19.8	405.3	17.1	358.8	24.7	274.6	101.1	4.3
	75.0	9.3	21.5	341.1	240.8	19.3	407.1	17.7	369.2	24.9	284.2	102.1	4.3
70	37.5	2.8	6.4	314.0	230.3	22.3	389.9	14.1	378.6	25.1	292.8	103.0	4.4
	56.3	5.5	12.6	325.1	234.6	21.2	397.3	15.4	399.7	25.6	312.3	104.9	4.6
	75.0	9.0	20.8	330.2	236.6	20.6	400.6	16.0	411.2	25.9	322.7	106.0	4.6
80	37.5	2.7	6.2	296.0	223.0	24.0	378.0	12.3	416.3	26.1	327.4	106.5	4.7
	56.3	5.3	12.3	308.6	228.1	22.8	386.3	13.5	438.6	26.7	347.6	108.5	4.8
	75.0	8.8	20.4	314.7	230.5	22.2	390.4	14.2	450.2	27.0	358.1	109.6	4.9
90	37.5	2.6	5.9	276.8	214.9	26.0	365.5	10.6	451.7	27.1	359.4	109.7	4.9
	56.3	5.1	11.8	289.7	220.3	24.6	373.8	11.8	473.5	27.8	378.7	111.7	5.0
	75.0	8.5	19.6	296.2	223.1	24.0	378.1	12.3	484.3	28.2	388.1	112.7	5.0
100	37.5	2.5	5.8	257.5	206.4	28.2	353.9	9.1	Operation not recommended				
	56.3	5.0	11.6	269.8	211.8	26.8	361.2	10.1					
	75.0	8.4	19.3	276.3	214.6	26.0	365.2	10.6					
110	37.5	2.4	5.5	239.4	198.4	30.8	344.5	7.8					
	56.3	4.9	11.3	250.4	203.3	29.2	350.0	8.6					
	75.0	7.8	18.1	256.4	205.9	28.4	353.2	9.0					
120	37.5	2.2	5.2	224.0	192.0	33.7	339.0	6.6					
	56.3	4.9	11.4	233.0	195.6	31.9	341.8	7.3					
	75.0	7.3	16.9	238.0	197.8	31.0	343.9	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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 data is based on the lower voltage of dual voltage units.
Performance stated is at the rated power supply; performance may vary as the power supply varies from the rated.
Operation below 40°F EWT is based on a 15% methanol antifreeze solution.
Operation below 60°F EWT requires optional insulated water/refrigerant circuit.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.
Performance capacities shown in thousands of Btuh

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2,400 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD psi	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	20.0	6.8	15.8	Operation Not Recommended					45.8	4.37	30.9	85.6	3.1
30	10.0	1.2	2.7	84.3	58.3	3.03	94.6	27.8	52.6	4.51	37.2	88.2	3.4
	15.0	3.3	7.7	84.3	57.4	2.87	94.0	29.3	55.2	4.56	39.6	89.2	3.5
	20.0	6.2	14.3	84.1	56.8	2.80	93.6	30.0	56.6	4.59	41.0	89.8	3.6
40	10.0	1.0	2.2	83.3	58.6	3.32	94.6	25.1	62.4	4.70	46.3	92.0	3.9
	15.0	3.0	7.0	84.0	58.5	3.13	94.7	26.8	65.5	4.77	49.3	93.2	4.0
	20.0	5.6	13.0	84.2	58.3	3.04	94.6	27.7	67.3	4.80	50.9	93.9	4.1
50	10.0	0.9	2.0	81.3	57.9	3.68	93.9	22.1	71.9	4.90	55.2	95.7	4.3
	15.0	2.8	6.5	82.7	58.4	3.45	94.4	24.0	75.6	4.97	58.6	97.1	4.5
	20.0	5.3	12.2	83.2	58.6	3.34	94.6	24.9	77.6	5.01	60.5	97.9	4.5
60	10.0	0.5	1.2	78.6	56.5	4.10	92.5	19.2	81.2	5.08	63.9	99.3	4.7
	15.0	2.2	5.1	80.4	57.4	3.83	93.4	21.0	85.3	5.17	67.7	100.8	4.8
	20.0	4.4	10.1	81.2	57.8	3.70	93.8	21.9	87.5	5.21	69.7	101.7	4.9
70	10.0	0.5	1.1	75.2	54.7	4.58	90.8	16.4	90.1	5.27	72.2	102.7	5.0
	15.0	2.1	4.8	77.3	55.9	4.27	91.9	18.1	94.5	5.36	76.2	104.4	5.2
	20.0	4.2	9.6	78.3	56.4	4.13	92.4	19.0	96.8	5.41	78.3	105.3	5.2
80	10.0	0.4	0.9	71.2	52.7	5.13	88.7	13.9	98.6	5.45	80.0	105.9	5.3
	15.0	1.9	4.5	73.6	53.9	4.79	90.0	15.4	103.0	5.55	84.1	107.7	5.4
	20.0	3.9	9.1	74.8	54.5	4.63	90.6	16.2	105.3	5.61	86.2	108.5	5.5
90	10.0	0.3	0.8	66.9	50.7	5.75	86.6	11.6	106.4	5.63	87.2	108.9	5.5
	15.0	1.8	4.3	69.5	51.9	5.38	87.8	12.9	110.7	5.74	91.2	110.6	5.7
	20.0	3.8	8.8	70.8	52.5	5.20	88.5	13.6	112.9	5.80	93.2	111.5	5.7
100	10.0	0.3	0.7	62.4	48.8	6.45	84.4	9.7	Operation Not Recommended				
	15.0	1.8	4.1	65.0	49.9	6.04	85.6	10.8					
	20.0	3.7	8.5	66.3	50.4	5.84	86.3	11.4					
110	10.0	0.2	0.6	57.7	47.1	7.24	82.4	8.0					
	15.0	1.7	3.9	60.3	48.0	6.79	83.5	8.9					
	20.0	3.6	8.3	61.6	48.5	6.57	84.0	9.4					
120	10.0	0.2	0.5	53.0	45.8	8.11	80.7	6.5					
	15.0	1.6	3.7	55.6	46.5	7.63	81.6	7.3					
	20.0	3.5	8.0	56.9	46.9	7.39	82.1	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.

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1,200 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	20.0	6.8	15.8	Operation Not Recommended					21.6	2.12	14.4	84.7	3.0
30	10.0	1.2	2.7	41.8	29.9	1.31	46.3	31.9	25.9	2.19	18.4	87.9	3.5
	15.0	3.3	7.7	41.7	29.9	1.26	46.0	33.0	26.5	2.20	19.0	88.4	3.5
	20.0	6.2	14.3	41.6	29.9	1.24	45.8	33.5	26.8	2.21	19.3	88.6	3.6
40	10.0	1.0	2.2	41.7	29.6	1.47	46.8	28.4	30.8	2.29	23.0	91.7	4.0
	15.0	3.0	7.0	41.8	29.8	1.42	46.7	29.5	31.6	2.30	23.8	92.4	4.0
	20.0	5.6	13.0	41.9	29.8	1.39	46.6	30.1	32.1	2.31	24.1	92.7	4.1
50	10.0	0.9	2.0	41.1	29.1	1.65	46.7	24.9	35.8	2.38	27.7	95.6	4.4
	15.0	2.8	6.5	41.3	29.3	1.59	46.8	26.0	36.8	2.40	28.6	96.3	4.5
	20.0	5.3	12.2	41.5	29.4	1.56	46.9	26.5	37.2	2.41	29.0	96.7	4.5
60	10.0	0.5	1.2	39.9	28.5	1.86	46.2	21.4	40.7	2.48	32.2	99.3	4.8
	15.0	2.2	5.1	40.3	28.7	1.79	46.4	22.5	41.7	2.50	33.1	100.1	4.9
	20.0	4.4	10.1	40.5	28.8	1.76	46.5	23.0	42.3	2.52	33.7	100.5	4.9
70	10.0	0.5	1.1	38.2	27.7	2.09	45.4	18.3	45.3	2.58	36.5	102.9	5.1
	15.0	2.1	4.8	38.8	27.9	2.02	45.7	19.2	46.4	2.61	37.5	103.7	5.2
	20.0	4.2	9.6	39.0	28.0	1.98	45.8	19.7	47.0	2.62	38.0	104.2	5.3
80	10.0	0.4	0.9	36.3	26.8	2.36	44.3	15.4	49.6	2.69	40.5	106.2	5.4
	15.0	1.9	4.5	36.9	27.1	2.28	44.7	16.2	50.8	2.72	41.5	107.1	5.5
	20.0	3.9	9.1	37.2	27.2	2.24	44.8	16.6	51.3	2.73	42.0	107.5	5.5
90	10.0	0.3	0.8	34.1	26.0	2.66	43.1	12.8	53.5	2.79	44.0	109.2	5.6
	15.0	1.8	4.3	34.7	26.2	2.57	43.5	13.5	54.6	2.82	45.0	110.0	5.7
	20.0	3.8	8.8	35.1	26.3	2.52	43.7	13.9	55.1	2.84	45.4	110.4	5.7
100	10.0	0.3	0.7	31.6	25.1	2.99	41.8	10.6	Operation Not Recommended				
	15.0	1.8	4.1	32.3	25.3	2.89	42.2	11.2					
	20.0	3.7	8.5	32.7	25.5	2.84	42.4	11.5					
110	10.0	0.2	0.6	29.1	24.3	3.36	40.6	8.7					
	15.0	1.7	3.9	29.8	24.5	3.26	40.9	9.2					
	20.0	3.6	8.3	30.1	24.6	3.20	41.1	9.4					
120	10.0	0.2	0.5	26.5	23.4	3.77	39.4	7.0					
	15.0	1.6	3.7	27.2	23.7	3.66	39.7	7.4					
	20.0	3.5	8.0	27.6	23.8	3.60	39.9	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.

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3,200 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	24.0	10.2	23.5	Operation Not Recommended					66.3	6.53	44.0	87.1	3.0
30	12.0	2.1	4.9	113.6	83.5	4.66	129.5	24.4	73.7	6.68	50.9	89.3	3.2
	18.0	5.3	12.1	113.1	83.1	4.40	128.1	25.7	77.2	6.75	54.2	90.3	3.4
	24.0	9.3	21.4	112.4	82.7	4.28	127.0	26.3	79.1	6.79	56.0	90.8	3.4
40	12.0	1.9	4.4	112.6	83.3	5.07	130.0	22.2	85.6	6.91	62.1	92.7	3.6
	18.0	4.8	11.0	113.5	83.5	4.77	129.8	23.8	90.0	6.99	66.1	94.0	3.8
	24.0	8.4	19.3	113.6	83.5	4.63	129.4	24.5	92.3	7.04	68.4	94.7	3.8
50	12.0	1.7	4.0	110.0	82.3	5.54	128.9	19.8	97.7	7.14	73.4	96.2	4.0
	18.0	4.5	10.3	112.0	83.1	5.20	129.7	21.5	102.9	7.23	78.2	97.7	4.2
	24.0	7.9	18.2	112.7	83.3	5.04	129.9	22.4	105.7	7.29	80.9	98.5	4.3
60	12.0	1.5	3.4	106.0	80.8	6.08	126.8	17.4	109.8	7.36	84.7	99.7	4.4
	18.0	3.8	8.8	108.9	81.9	5.69	128.4	19.1	115.7	7.48	90.2	101.4	4.5
	24.0	6.8	15.8	110.2	82.4	5.51	129.0	20.0	118.9	7.54	93.1	102.3	4.6
70	12.0	1.3	3.1	101.1	78.8	6.69	123.9	15.1	121.7	7.59	95.8	103.1	4.7
	18.0	3.6	8.4	104.6	80.2	6.26	126.0	16.7	128.1	7.72	101.7	105.0	4.9
	24.0	6.6	15.2	106.2	80.9	6.05	126.9	17.6	131.5	7.79	104.9	106.0	4.9
80	12.0	1.2	2.8	95.4	76.4	7.40	120.6	12.9	133.1	7.82	106.4	106.4	5.0
	18.0	3.4	7.9	99.3	78.1	6.91	122.9	14.4	139.8	7.96	112.6	108.3	5.1
	24.0	6.3	14.5	101.2	78.9	6.68	124.0	15.2	143.3	8.04	115.8	109.4	5.2
90	12.0	1.1	2.5	89.2	73.7	8.20	117.1	10.9	143.8	8.05	116.3	109.5	5.2
	18.0	3.3	7.6	93.3	75.6	7.66	119.4	12.2	150.5	8.21	122.5	111.4	5.4
	24.0	6.1	14.0	95.4	76.4	7.40	120.6	12.9	153.9	8.30	125.6	112.4	5.4
100	12.0	1.0	2.3	82.6	70.8	9.12	113.7	9.1	Operation Not Recommended				
	18.0	3.1	7.2	86.8	72.7	8.52	115.9	10.2					
	24.0	5.9	13.6	89.0	73.7	8.23	117.0	10.8					
110	12.0	0.9	2.0	76.0	67.7	10.17	110.7	7.5					
	18.0	3.0	6.8	80.1	69.7	9.50	112.5	8.4					
	24.0	5.7	13.1	82.2	70.6	9.18	113.5	9.0					
120	12.0	0.8	1.8	69.4	64.6	11.37	108.2	6.1					
	18.0	2.8	6.5	73.4	66.5	10.62	109.6	6.9					
	24.0	5.5	12.6	75.4	67.4	10.27	110.4	7.3					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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1,600 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67 °F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	24.0	10.2	23.5	Operation Not Recommended					31.3	3.10	20.7	86.1	3.0
30	12.0	2.1	4.9	57.0	43.0	2.01	63.8	28.4	36.3	3.17	25.4	88.9	3.4
	18.0	5.3	12.1	57.1	42.8	1.95	63.7	29.3	37.1	3.18	26.3	89.4	3.4
	24.0	9.3	21.4	57.1	42.7	1.92	63.6	29.7	37.6	3.19	26.7	89.7	3.5
40	12.0	1.9	4.4	56.2	43.2	2.19	63.7	25.6	42.2	3.26	31.1	92.4	3.8
	18.0	4.8	11.0	56.6	43.2	2.12	63.8	26.6	43.3	3.28	32.1	93.0	3.9
	24.0	8.4	19.3	56.7	43.2	2.09	63.8	27.1	43.8	3.29	32.6	93.3	3.9
50	12.0	1.7	4.0	54.8	42.8	2.42	63.1	22.6	48.1	3.36	36.7	95.8	4.2
	18.0	4.5	10.3	55.4	43.0	2.34	63.3	23.7	49.4	3.39	37.8	96.5	4.3
	24.0	7.9	18.2	55.6	43.0	2.30	63.5	24.2	50.0	3.40	38.4	96.9	4.3
60	12.0	1.5	3.4	52.9	42.1	2.69	62.1	19.7	54.0	3.48	42.1	99.2	4.6
	18.0	3.8	8.8	53.6	42.4	2.59	62.5	20.7	55.4	3.50	43.4	100.0	4.6
	24.0	6.8	15.8	54.0	42.5	2.55	62.7	21.2	56.1	3.52	44.1	100.4	4.7
70	12.0	1.3	3.1	50.6	41.0	3.00	60.9	16.9	59.7	3.59	47.5	102.5	4.9
	18.0	3.6	8.4	51.4	41.4	2.89	61.3	17.8	61.3	3.63	48.9	103.4	5.0
	24.0	6.6	15.2	51.8	41.6	2.84	61.5	18.3	62.1	3.64	49.6	103.8	5.0
80	12.0	1.2	2.8	48.0	39.8	3.35	59.5	14.3	65.4	3.72	52.7	105.7	5.2
	18.0	3.4	7.9	48.9	40.2	3.23	59.9	15.2	67.0	3.76	54.2	106.7	5.2
	24.0	6.3	14.5	49.4	40.4	3.17	60.2	15.6	67.9	3.78	55.0	107.2	5.3
90	12.0	1.1	2.5	45.3	38.5	3.74	58.0	12.1	70.9	3.85	57.8	108.9	5.4
	18.0	3.3	7.6	46.2	39.0	3.61	58.5	12.8	72.7	3.89	59.4	110.0	5.5
	24.0	6.1	14.0	46.6	39.2	3.55	58.7	13.2	73.6	3.91	60.3	110.5	5.5
100	12.0	1.0	2.3	42.4	37.3	4.18	56.7	10.2	Operation Not Recommended				
	18.0	3.1	7.2	43.3	37.7	4.03	57.1	10.7					
	24.0	5.9	13.6	43.8	37.9	3.96	57.3	11.0					
110	12.0	0.9	2.0	39.6	36.1	4.66	55.5	8.5					
	18.0	3.0	6.8	40.5	36.4	4.50	55.8	9.0					
	24.0	5.7	13.1	40.9	36.6	4.43	56.0	9.2					
120	12.0	0.8	1.8	36.9	35.1	5.18	54.6	7.1					
	18.0	2.8	6.5	37.7	35.4	5.02	54.8	7.5					
	24.0	5.5	12.6	38.1	35.5	4.94	54.9	7.7					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.

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4,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	30.0	16.0	36.9	Operation Not Recommended					87.0	8.83	56.9	88.1	2.9
30	15.0	4.0	9.2	140.7	100.2	6.37	162.5	22.1	96.0	9.08	65.0	90.2	3.1
	22.5	8.6	19.9	137.6	98.5	6.07	158.3	22.7	100.5	9.19	69.1	91.2	3.2
	30.0	14.5	33.4	135.2	97.1	5.94	155.5	22.7	103.0	9.26	71.4	91.8	3.3
40	15.0	3.5	8.0	141.6	101.0	6.85	165.0	20.7	111.0	9.46	78.7	93.6	3.4
	22.5	7.7	17.8	141.4	100.7	6.50	163.6	21.8	116.6	9.60	83.9	94.9	3.6
	30.0	13.0	30.0	140.6	100.1	6.34	162.2	22.2	119.7	9.67	86.7	95.7	3.6
50	15.0	3.2	7.4	139.3	100.4	7.42	164.6	18.8	126.4	9.83	92.8	97.2	3.8
	22.5	7.2	16.6	141.3	101.0	7.00	165.2	20.2	133.2	9.99	99.1	98.8	3.9
	30.0	12.2	28.3	141.7	101.0	6.81	164.9	20.8	137.0	10.08	102.6	99.6	4.0
60	15.0	2.4	5.5	134.8	98.6	8.06	162.3	16.7	142.0	10.20	107.2	100.8	4.1
	22.5	5.8	13.4	138.2	100.0	7.59	164.1	18.2	149.9	10.38	114.5	102.6	4.2
	30.0	10.2	23.6	139.6	100.4	7.37	164.7	18.9	154.3	10.48	118.6	103.6	4.3
70	15.0	2.2	5.1	128.8	96.2	8.79	158.8	14.6	157.7	10.56	121.7	104.4	4.4
	22.5	5.5	12.7	133.1	98.0	8.27	161.4	16.1	166.6	10.77	129.9	106.5	4.5
	30.0	9.8	22.6	135.1	98.8	8.02	162.5	16.9	171.5	10.88	134.4	107.6	4.6
80	15.0	2.1	4.7	121.9	93.3	9.62	154.7	12.7	173.2	10.92	135.9	108.0	4.6
	22.5	5.2	12.0	126.7	95.3	9.04	157.5	14.0	182.9	11.16	144.8	110.2	4.8
	30.0	9.4	21.7	129.0	96.3	8.76	158.9	14.7	188.1	11.29	149.6	111.4	4.9
90	15.0	2.0	4.5	114.7	90.2	10.57	150.7	10.9	188.3	11.29	149.8	111.5	4.9
	22.5	5.1	11.7	119.5	92.3	9.92	153.4	12.0	198.5	11.56	159.1	113.8	5.0
	30.0	9.2	21.2	122.0	93.3	9.61	154.8	12.7	203.9	11.71	163.9	115.1	5.1
100	15.0	1.9	4.3	107.7	87.3	11.63	147.4	9.3	Operation Not Recommended				
	22.5	4.9	11.4	112.2	89.2	10.92	149.5	10.3					
	30.0	9.0	20.8	114.6	90.2	10.58	150.7	10.8					
110	15.0	1.8	4.1	101.6	84.9	12.85	145.4	7.9					
	22.5	4.8	11.1	105.4	86.3	12.05	146.5	8.7					
	30.0	8.8	20.4	107.5	87.2	11.67	147.3	9.2					
120	15.0	1.7	3.9	97.0	83.8	14.25	145.6	6.8					
	22.5	4.7	10.8	99.7	84.3	13.34	145.2	7.5					
	30.0	8.6	19.9	101.3	84.9	12.91	145.4	7.8					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
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2,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	30.0	16.0	36.9	Operation Not Recommended					39.1	3.93	25.7	86.1	2.9
30	15.0	4.0	9.2	67.9	50.8	2.54	76.5	26.7	45.3	4.08	31.4	88.9	3.3
	22.5	8.6	19.9	67.0	50.2	2.48	75.5	27.0	46.4	4.11	32.4	89.4	3.3
	30.0	14.5	33.4	66.5	49.9	2.45	74.9	27.1	47.0	4.13	32.9	89.7	3.3
40	15.0	3.5	8.0	69.0	51.7	2.76	78.4	25.0	53.1	4.28	38.5	92.5	3.6
	22.5	7.7	17.8	68.8	51.5	2.68	78.0	25.7	54.5	4.32	39.7	93.2	3.7
	30.0	13.0	30.0	68.7	51.4	2.64	77.7	26.0	55.2	4.34	40.4	93.5	3.7
50	15.0	3.2	7.4	68.4	51.6	3.03	78.7	22.5	61.1	4.49	45.8	96.2	4.0
	22.5	7.2	16.6	68.7	51.7	2.93	78.7	23.4	62.8	4.53	47.3	97.0	4.1
	30.0	12.2	28.3	68.9	51.7	2.88	78.7	23.9	63.6	4.55	48.1	97.4	4.1
60	15.0	2.4	5.5	66.5	50.8	3.36	77.9	19.8	69.1	4.69	53.1	99.9	4.3
	22.5	5.8	13.4	67.2	51.2	3.24	78.3	20.7	71.1	4.74	54.9	100.8	4.4
	30.0	10.2	23.6	67.6	51.3	3.18	78.4	21.2	72.1	4.77	55.8	101.3	4.4
70	15.0	2.2	5.1	63.7	49.5	3.73	76.4	17.1	77.1	4.89	60.4	103.6	4.6
	22.5	5.5	12.7	64.7	50.0	3.60	77.0	18.0	79.3	4.95	62.4	104.6	4.7
	30.0	9.8	22.6	65.2	50.2	3.53	77.3	18.5	80.4	4.98	63.4	105.1	4.7
80	15.0	2.1	4.7	60.4	47.9	4.15	74.6	14.6	84.8	5.09	67.4	107.2	4.9
	22.5	5.2	12.0	61.6	48.5	4.00	75.2	15.4	87.1	5.15	69.5	108.2	5.0
	30.0	9.4	21.7	62.1	48.8	3.93	75.5	15.8	88.3	5.17	70.6	108.8	5.0
90	15.0	2.0	4.5	57.0	46.2	4.61	72.8	12.4	92.1	5.27	74.1	110.5	5.1
	22.5	5.1	11.7	58.1	46.7	4.46	73.3	13.0	94.4	5.32	76.3	111.6	5.2
	30.0	9.2	21.2	58.7	47.0	4.38	73.7	13.4	95.6	5.35	77.4	112.2	5.2
100	15.0	1.9	4.3	53.8	44.5	5.12	71.3	10.5	Operation Not Recommended				
	22.5	4.9	11.4	54.8	45.0	4.96	71.7	11.1					
	30.0	9.0	20.8	55.3	45.3	4.87	71.9	11.3					
110	15.0	1.8	4.1	51.1	43.2	5.68	70.5	9.0					
	22.5	4.8	11.1	51.9	43.6	5.50	70.6	9.4					
	30.0	8.8	20.4	52.3	43.8	5.41	70.8	9.7					
120	15.0	1.7	3.9	49.3	42.6	6.29	70.8	7.8					
	22.5	4.7	10.8	49.8	42.7	6.09	70.6	8.2					
	30.0	8.6	19.9	50.0	42.8	6.00	70.5	8.3					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
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5,600 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	42.0	10.6	24.6	Operation Not Recommended					107.8	10.28	72.7	85.8	3.1
30	21.0	3.3	7.6	166.5	121.7	7.99	193.7	20.8	119.0	10.55	83.0	87.6	3.3
	31.5	6.2	14.3	160.4	118.9	7.55	186.1	21.3	124.1	10.67	87.7	88.5	3.4
	42.0	9.7	22.3	156.7	117.1	7.34	181.8	21.4	126.9	10.74	90.3	88.9	3.5
40	21.0	2.8	6.4	172.1	124.1	8.74	201.9	19.7	138.0	11.02	100.4	90.8	3.7
	31.5	5.2	12.1	169.2	122.9	8.27	197.4	20.5	144.7	11.19	106.6	91.9	3.8
	42.0	8.3	19.2	167.1	122.0	8.04	194.5	20.8	148.5	11.28	110.0	92.5	3.9
50	21.0	1.9	4.4	173.1	124.5	9.51	205.6	18.2	158.3	11.54	119.0	94.1	4.0
	31.5	4.0	9.1	172.9	124.5	9.01	203.7	19.2	166.7	11.75	126.6	95.5	4.2
	42.0	6.6	15.2	172.2	124.2	8.77	202.1	19.6	171.3	11.88	130.8	96.3	4.2
60	21.0	1.8	4.2	170.7	123.6	10.33	205.9	16.5	179.3	12.09	138.1	97.6	4.3
	31.5	3.8	8.8	172.6	124.3	9.79	206.0	17.6	189.0	12.35	146.9	99.2	4.5
	42.0	6.4	14.7	173.1	124.5	9.53	205.6	18.2	194.3	12.50	151.7	100.1	4.6
70	21.0	1.7	4.0	165.5	121.7	11.21	203.8	14.8	200.1	12.66	156.9	101.0	4.6
	31.5	3.6	8.4	169.1	123.0	10.63	205.4	15.9	210.7	12.96	166.5	102.8	4.8
	42.0	6.1	14.1	170.6	123.6	10.34	205.9	16.5	216.4	13.13	171.6	103.7	4.8
80	21.0	1.7	3.9	158.4	119.0	12.17	199.9	13.0	220.0	13.23	174.8	104.3	4.9
	31.5	3.5	8.1	163.2	120.8	11.54	202.6	14.1	230.8	13.56	184.5	106.1	5.0
	42.0	5.9	13.6	165.3	121.6	11.24	203.7	14.7	236.3	13.74	189.4	107.0	5.0
90	21.0	1.6	3.8	149.8	115.8	13.24	194.9	11.3	238.1	13.80	191.0	107.3	5.1
	31.5	3.4	7.9	155.3	117.9	12.55	198.2	12.4	248.1	14.14	199.9	108.9	5.1
	42.0	5.6	13.0	158.0	118.9	12.22	199.7	12.9	252.9	14.31	204.1	109.7	5.2
100	21.0	1.6	3.6	140.2	112.1	14.42	189.3	9.7	Operation Not Recommended				
	31.5	3.3	7.7	146.1	114.4	13.68	192.8	10.7					
	42.0	5.6	12.9	149.1	115.5	13.32	194.5	11.2					
110	21.0	1.5	3.5	130.0	108.1	15.74	183.7	8.3					
	31.5	3.2	7.4	136.1	110.5	14.94	187.0	9.1					
	42.0	5.5	12.7	139.1	111.7	14.54	188.8	9.6					
120	21.0	1.4	3.2	119.8	104.0	17.22	178.6	7.0					
	31.5	3.1	7.2	125.7	106.4	16.34	181.5	7.7					
	42.0	5.4	12.4	128.7	107.6	15.92	183.0	8.1					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
All performance data is based on the lower voltage of dual voltage units.
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2,800 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	42.0	10.6	24.6	Operation Not Recommended					50.5	4.85	34.0	84.7	3.1
30	21.0	3.3	7.6	85.5	63.2	3.55	97.5	24.1	57.6	5.01	40.5	87.0	3.4
	31.5	6.2	14.3	84.5	62.6	3.43	96.2	24.7	58.8	5.04	41.6	87.4	3.4
	42.0	9.7	22.3	84.0	62.3	3.37	95.5	24.9	59.4	5.05	42.2	87.6	3.4
40	21.0	2.8	6.4	87.1	64.2	3.92	100.5	22.2	67.2	5.23	49.3	90.2	3.8
	31.5	5.2	12.1	86.8	64.0	3.80	99.8	22.8	68.8	5.27	50.8	90.7	3.8
	42.0	8.3	19.2	86.6	63.8	3.75	99.3	23.1	69.6	5.29	51.6	91.0	3.9
50	21.0	1.9	4.4	86.9	64.3	4.30	101.6	20.2	77.4	5.48	58.7	93.5	4.1
	31.5	4.0	9.1	87.1	64.4	4.18	101.4	20.9	79.5	5.54	60.6	94.2	4.2
	42.0	6.6	15.2	87.2	64.4	4.12	101.2	21.2	80.5	5.56	61.5	94.6	4.2
60	21.0	1.8	4.2	85.3	63.8	4.68	101.2	18.2	88.0	5.76	68.3	97.0	4.5
	31.5	3.8	8.8	85.9	64.0	4.56	101.5	18.9	90.3	5.82	70.5	97.8	4.5
	42.0	6.4	14.7	86.2	64.1	4.49	101.5	19.2	91.5	5.85	71.6	98.2	4.6
70	21.0	1.7	4.0	82.5	62.7	5.10	99.9	16.2	98.3	6.04	77.7	100.4	4.8
	31.5	3.6	8.4	83.5	63.1	4.96	100.4	16.8	100.9	6.11	80.0	101.3	4.8
	42.0	6.1	14.1	83.9	63.3	4.89	100.6	17.1	102.2	6.15	81.2	101.7	4.9
80	21.0	1.7	3.9	78.8	61.1	5.55	97.8	14.2	108.0	6.32	86.4	103.6	5.0
	31.5	3.5	8.1	80.1	61.6	5.41	98.5	14.8	110.6	6.40	88.7	104.5	5.1
	42.0	5.9	13.6	80.6	61.9	5.33	98.8	15.1	111.8	6.44	89.9	104.9	5.1
90	21.0	1.6	3.8	74.6	59.2	6.07	95.3	12.3	116.6	6.60	94.0	106.5	5.2
	31.5	3.4	7.9	76.0	59.8	5.90	96.1	12.9	118.9	6.68	96.1	107.2	5.2
	42.0	5.6	13.0	76.6	60.1	5.82	96.5	13.2	120.0	6.72	97.0	107.6	5.2
100	21.0	1.6	3.6	70.1	57.0	6.65	92.8	10.5	Operation Not Recommended				
	31.5	3.3	7.7	71.5	57.7	6.47	93.5	11.0					
	42.0	5.6	12.9	72.2	58.0	6.38	93.9	11.3					
110	21.0	1.5	3.5	65.5	54.7	7.32	90.4	8.9					
	31.5	3.2	7.4	66.8	55.4	7.12	91.1	9.4					
	42.0	5.5	12.7	67.5	55.7	7.02	91.4	9.6					
120	21.0	1.4	3.2	61.0	52.5	8.09	88.6	7.5					
	31.5	3.1	7.2	62.2	53.1	7.86	89.1	7.9					
	42.0	5.4	12.4	62.9	53.4	7.75	89.3	8.1					

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6,400 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	48.0	14.1	32.5	Operation Not Recommended					120.8	11.74	80.7	85.4	3.0
30	24.0	4.4	10.1	202.5	146.9	9.73	235.7	20.8	134.5	11.94	93.8	87.4	3.3
	36.0	8.1	18.6	188.4	138.8	8.83	218.5	21.3	140.7	12.05	99.6	88.3	3.4
	48.0	12.4	28.7	179.8	133.7	8.38	208.4	21.5	144.3	12.12	102.9	88.8	3.5
40	24.0	3.8	8.8	213.5	153.1	10.88	250.7	19.6	158.2	12.42	115.8	90.8	3.7
	36.0	7.0	16.1	207.5	149.7	10.14	242.1	20.5	167.0	12.62	123.9	92.1	3.9
	48.0	10.8	25.0	202.8	147.1	9.75	236.0	20.8	172.0	12.74	128.5	92.8	4.0
50	24.0	3.3	7.6	214.9	154.1	11.84	255.2	18.2	184.3	13.05	139.8	94.6	4.1
	36.0	5.5	12.6	214.7	153.8	11.18	252.9	19.2	195.6	13.35	150.0	96.2	4.3
	48.0	8.8	20.2	213.3	152.9	10.84	250.3	19.7	202.0	13.51	155.8	97.1	4.4
60	24.0	2.8	6.5	210.1	151.9	12.71	253.5	16.5	211.5	13.77	164.5	98.5	4.5
	36.0	5.2	12.1	214.0	153.7	12.09	255.3	17.7	224.9	14.14	176.7	100.5	4.7
	48.0	8.4	19.5	215.0	154.1	11.78	255.2	18.3	232.3	14.35	183.4	101.5	4.7
70	24.0	2.7	6.2	201.5	147.9	13.58	247.8	14.8	238.7	14.53	189.1	102.4	4.8
	36.0	5.0	11.6	207.8	150.9	12.96	252.1	16.0	253.4	14.95	202.4	104.6	5.0
	48.0	8.1	18.8	210.5	152.1	12.66	253.7	16.6	261.3	15.17	209.6	105.7	5.0
80	24.0	2.6	6.1	190.7	142.7	14.53	240.2	13.1	264.5	15.26	212.4	106.2	5.1
	36.0	4.9	11.4	198.2	146.3	13.87	245.5	14.3	279.4	15.69	225.9	108.3	5.2
	48.0	8.0	18.4	201.8	148.0	13.55	248.1	14.9	287.0	15.90	232.8	109.4	5.3
90	24.0	2.5	5.9	178.9	137.1	15.62	232.2	11.5	287.7	15.92	233.4	109.5	5.3
	36.0	4.8	11.1	186.7	140.8	14.88	237.5	12.5	301.1	16.28	245.6	111.5	5.4
	48.0	7.7	17.7	190.7	142.7	14.53	240.2	13.1	307.3	16.43	251.2	112.4	5.5
100	24.0	2.5	5.7	167.6	131.7	16.92	225.4	9.9	Operation Not Recommended				
	36.0	4.6	10.7	174.7	135.1	16.06	229.5	10.9					
	48.0	7.5	17.4	178.6	136.9	15.66	232.0	11.4					
110	24.0	2.4	5.5	158.1	127.8	18.53	221.3	8.5					
	36.0	4.5	10.5	163.7	130.0	17.49	223.4	9.4					
	48.0	7.4	17.0	167.0	131.4	17.01	225.0	9.8					
120	24.0	2.3	5.3	152.0	126.5	20.57	222.2	7.4					
	36.0	4.3	9.9	155.2	126.8	19.26	220.9	8.1					
	48.0	7.3	16.8	157.5	127.5	18.67	221.2	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.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.

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3,200 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	48.0	14.1	32.5	Operation Not Recommended					58.5	5.48	39.8	84.9	3.1
30	24.0	4.4	10.1	98.7	74.0	3.93	112.2	25.1	67.6	5.67	48.2	87.5	3.5
	36.0	8.1	18.6	95.2	72.2	3.69	107.8	25.8	69.2	5.71	49.7	88.0	3.6
	48.0	12.4	28.7	93.3	71.2	3.57	105.5	26.2	70.0	5.72	50.5	88.2	3.6
40	24.0	3.8	8.8	106.0	77.4	4.60	121.7	23.0	79.4	5.93	59.1	90.9	3.9
	36.0	7.0	16.1	104.3	76.7	4.40	119.3	23.7	81.4	5.97	61.0	91.5	4.0
	48.0	10.8	25.0	103.2	76.2	4.30	117.9	24.0	82.5	6.00	62.0	91.8	4.0
50	24.0	3.3	7.6	107.8	78.1	5.13	125.3	21.0	91.7	6.20	70.5	94.5	4.3
	36.0	5.5	12.6	107.7	78.1	4.96	124.6	21.7	94.2	6.26	72.9	95.2	4.4
	48.0	8.8	20.2	107.4	78.0	4.87	124.0	22.1	95.6	6.29	74.1	95.6	4.5
60	24.0	2.8	6.5	105.9	77.2	5.58	124.9	19.0	104.3	6.49	82.1	98.1	4.7
	36.0	5.2	12.1	106.9	77.6	5.42	125.4	19.7	107.3	6.57	84.9	99.0	4.8
	48.0	8.4	19.5	107.3	77.8	5.35	125.5	20.1	108.8	6.61	86.3	99.4	4.8
70	24.0	2.7	6.2	101.5	75.2	6.00	122.0	16.9	116.9	6.81	93.7	101.7	5.0
	36.0	5.0	11.6	103.2	75.9	5.85	123.2	17.6	120.2	6.89	96.7	102.7	5.1
	48.0	8.1	18.8	104.0	76.3	5.78	123.8	18.0	122.0	6.94	98.3	103.2	5.2
80	24.0	2.6	6.1	95.6	72.5	6.45	117.7	14.8	129.2	7.14	104.8	105.3	5.3
	36.0	4.9	11.4	97.7	73.4	6.30	119.2	15.5	132.8	7.24	108.1	106.3	5.4
	48.0	8.0	18.4	98.7	73.9	6.22	119.9	15.9	134.6	7.30	109.7	106.9	5.4
90	24.0	2.5	5.9	89.1	69.6	6.98	112.9	12.8	140.9	7.49	115.4	108.7	5.5
	36.0	4.8	11.1	91.2	70.5	6.80	114.4	13.4	144.6	7.61	118.6	109.7	5.6
	48.0	7.7	17.7	92.3	71.0	6.71	115.2	13.7	146.4	7.67	120.3	110.3	5.6
100	24.0	2.5	5.7	82.8	66.8	7.61	108.7	10.9	Operation Not Recommended				
	36.0	4.6	10.7	84.6	67.6	7.40	109.9	11.4					
	48.0	7.5	17.4	85.6	68.0	7.30	110.5	11.7					
110	24.0	2.4	5.5	77.5	64.7	8.42	106.2	9.2					
	36.0	4.5	10.5	78.9	65.2	8.16	106.7	9.7					
	48.0	7.4	17.0	79.6	65.5	8.04	107.1	9.9					
120	24.0	2.3	5.3	74.2	64.2	9.45	106.4	7.8					
	36.0	4.3	9.9	74.9	64.2	9.12	106.0	8.2					
	48.0	7.3	16.8	75.3	64.2	8.96	106.0	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.
All performance data is based on the lower voltage of dual voltage units.
See performance correction tables for operating conditions other than those listed above.
See Performance Data Selection Notes for operation in the shaded areas.

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8,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	60.0	11.4	26.4	Operation Not Recommended					165.7	16.06	110.8	87.1	3.0
30	30.0	3.6	8.3	256.0	190.8	13.09	300.6	19.6	180.5	16.26	125.1	88.8	3.3
	45.0	6.7	15.5	243.2	191.0	12.57	286.1	19.4	188.2	16.38	132.3	89.7	3.4
	60.0	10.6	24.4	234.9	190.5	12.33	277.0	19.0	192.5	16.46	136.4	90.2	3.4
40	30.0	3.4	7.8	264.7	189.3	13.97	312.3	18.9	208.5	16.75	151.3	92.1	3.6
	45.0	6.3	14.5	260.1	190.3	13.37	305.7	19.5	219.3	16.97	161.4	93.3	3.8
	60.0	9.3	21.4	256.0	190.8	13.09	300.7	19.6	225.5	17.10	167.2	94.0	3.9
50	30.0	2.9	6.6	263.7	187.9	14.93	314.6	17.7	240.0	17.40	180.6	95.7	4.0
	45.0	4.8	11.1	265.2	188.8	14.25	313.9	18.6	254.1	17.71	193.6	97.3	4.2
	60.0	7.7	17.8	264.5	189.3	13.94	312.1	19.0	262.0	17.88	201.0	98.3	4.3
60	30.0	2.5	5.8	256.3	186.3	15.99	310.8	16.0	273.4	18.14	211.5	99.6	4.4
	45.0	4.7	10.7	262.0	187.4	15.24	314.0	17.2	290.3	18.52	227.1	101.5	4.6
	60.0	7.5	17.3	263.9	187.9	14.88	314.7	17.7	299.7	18.74	235.8	102.6	4.7
70	30.0	2.4	5.6	244.6	183.9	17.17	303.2	14.2	307.1	18.90	242.6	103.5	4.8
	45.0	4.5	10.4	253.0	185.6	16.35	308.7	15.5	326.1	19.33	260.1	105.7	4.9
	60.0	7.3	16.8	256.6	186.3	15.95	311.0	16.1	336.3	19.56	269.6	106.8	5.0
80	30.0	2.4	5.5	230.5	179.9	18.50	293.6	12.5	339.8	19.64	272.8	107.2	5.1
	45.0	4.4	10.2	240.1	182.7	17.60	300.1	13.6	359.4	20.07	291.0	109.5	5.2
	60.0	7.1	16.5	244.7	183.9	17.16	303.3	14.3	369.6	20.28	300.4	110.7	5.3
90	30.0	2.3	5.3	215.3	174.3	20.00	283.6	10.8	369.8	20.29	300.6	110.7	5.3
	45.0	4.3	9.9	225.1	178.1	19.01	290.0	11.8	388.2	20.64	317.7	112.8	5.5
	60.0	6.9	15.9	230.1	179.8	18.54	293.4	12.4	396.8	20.79	325.9	113.8	5.6
100	30.0	2.3	5.2	200.5	166.9	21.70	274.6	9.2	Operation Not Recommended				
	45.0	4.2	9.7	209.6	171.7	20.62	279.9	10.2					
	60.0	6.8	15.7	214.4	173.9	20.09	283.0	10.7					
110	30.0	2.2	5.1	187.6	158.5	23.64	268.3	7.9					
	45.0	4.1	9.5	195.1	163.7	22.44	271.6	8.7					
	60.0	6.7	15.4	199.3	166.2	21.86	273.9	9.1					
120	30.0	2.2	5.0	178.3	149.8	25.90	266.7	6.9					
	45.0	4.0	9.3	183.3	154.9	24.52	266.9	7.5					
	60.0	6.6	15.1	186.4	157.5	23.88	267.8	7.8					

Interpolation is permissible, extrapolation is not.
All entering air conditions are 80°F DB and 67°F WB in cooling, and 70°F DB in heating.
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4,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	60.0	11.4	26.4	Operation Not Recommended					76.8	7.63	50.7	85.7	2.9
30	30.0	3.6	8.3	131.7	96.3	5.42	150.2	24.3	88.7	7.94	61.7	88.5	3.3
	45.0	6.7	15.5	130.2	95.6	5.30	148.3	24.6	90.8	7.98	63.6	89.0	3.3
	60.0	10.6	24.4	129.3	95.2	5.25	147.2	24.7	92.0	8.01	64.6	89.2	3.4
40	30.0	3.4	7.8	133.6	97.1	5.81	153.4	23.0	104.0	8.25	75.9	92.0	3.7
	45.0	6.3	14.5	133.3	97.0	5.67	152.7	23.5	106.8	8.30	78.5	92.7	3.8
	60.0	9.3	21.4	133.1	96.9	5.61	152.2	23.7	108.3	8.33	79.9	93.0	3.8
50	30.0	2.9	6.6	132.4	96.5	6.25	153.8	21.2	120.1	8.53	91.0	95.7	4.1
	45.0	4.8	11.1	133.1	96.8	6.09	153.9	21.8	123.5	8.58	94.3	96.5	4.2
	60.0	7.7	17.8	133.4	97.0	6.02	153.9	22.2	125.3	8.61	96.0	96.9	4.3
60	30.0	2.5	5.8	128.9	95.0	6.75	151.9	19.1	136.5	8.79	106.5	99.5	4.6
	45.0	4.7	10.7	130.3	95.6	6.57	152.7	19.8	140.5	8.85	110.3	100.4	4.7
	60.0	7.5	17.3	131.0	95.9	6.49	153.1	20.2	142.6	8.88	112.3	100.9	4.7
70	30.0	2.4	5.6	123.7	92.6	7.32	148.6	16.9	152.8	9.04	121.9	103.3	4.9
	45.0	4.5	10.4	125.6	93.5	7.12	149.9	17.6	157.3	9.12	126.1	104.3	5.1
	60.0	7.3	16.8	126.5	93.9	7.02	150.4	18.0	159.6	9.16	128.4	104.9	5.1
80	30.0	2.4	5.5	117.3	89.7	7.97	144.5	14.7	168.6	9.32	136.8	106.9	5.3
	45.0	4.4	10.2	119.4	90.7	7.75	145.9	15.4	173.4	9.41	141.3	108.1	5.4
	60.0	7.1	16.5	120.5	91.2	7.64	146.6	15.8	175.9	9.46	143.6	108.6	5.4
90	30.0	2.3	5.3	110.3	86.4	8.70	140.0	12.7	183.6	9.63	150.8	110.4	5.6
	45.0	4.3	9.9	112.5	87.5	8.46	141.4	13.3	188.5	9.75	155.3	111.5	5.7
	60.0	6.9	15.9	113.6	88.0	8.34	142.1	13.6	191.0	9.82	157.5	112.1	5.7
100	30.0	2.3	5.2	103.2	83.1	9.54	135.8	10.8	Operation Not Recommended				
	45.0	4.2	9.7	105.4	84.1	9.28	137.0	11.4					
	60.0	6.8	15.7	106.4	84.6	9.14	137.6	11.6					
110	30.0	2.2	5.1	96.6	79.9	10.50	132.4	9.2					
	45.0	4.1	9.5	98.5	80.8	10.20	133.3	9.7					
	60.0	6.7	15.4	99.5	81.3	10.06	133.8	9.9					
120	30.0	2.2	5.0	91.0	77.4	11.59	130.5	7.9					
	45.0	4.0	9.3	92.5	78.0	11.26	130.9	8.2					
	60.0	6.6	15.1	93.3	78.4	11.09	131.1	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.
All performance data is based on the lower voltage of dual voltage units.
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10,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	75.0	15.7	36.3	Operation Not Recommended					213.4	21.40	140.4	87.7	2.9
30	37.5	5.0	11.6	332.4	237.5	17.24	391.2	19.3	231.2	21.85	156.6	89.4	3.1
	56.25	9.2	21.3	316.2	231.8	16.55	372.7	19.1	240.7	22.07	165.4	90.2	3.2
	75.0	14.3	32.9	305.7	227.6	16.23	361.1	18.8	246.2	22.20	170.5	90.7	3.3
40	37.5	4.7	10.8	343.5	240.4	18.35	406.1	18.7	266.5	22.65	189.2	92.6	3.4
	56.25	7.8	18.0	337.5	239.0	17.58	397.5	19.2	280.4	22.95	202.1	93.9	3.6
	75.0	13.1	30.2	332.2	237.4	17.23	391.0	19.3	288.3	23.12	209.4	94.6	3.7
50	37.5	3.4	7.9	342.5	239.0	19.53	409.1	17.5	306.4	23.51	226.2	96.3	3.8
	56.25	5.9	13.6	344.2	240.3	18.69	408.0	18.4	323.9	23.88	242.4	97.9	4.0
	75.0	9.6	22.3	343.2	240.4	18.29	405.7	18.8	333.6	24.10	251.4	98.8	4.1
60	37.5	2.9	6.6	333.3	235.0	20.83	404.4	16.0	347.2	24.40	264.0	100.1	4.2
	56.25	5.7	13.1	340.5	238.0	19.91	408.4	17.1	366.7	24.85	281.9	101.9	4.3
	75.0	9.3	21.5	342.8	239.1	19.46	409.2	17.6	377.0	25.10	291.4	102.8	4.4
70	37.5	2.8	6.4	318.6	229.2	22.28	394.6	14.3	385.4	25.31	299.1	103.6	4.5
	56.25	5.5	12.6	329.2	233.4	21.26	401.8	15.5	404.0	25.82	315.9	105.3	4.6
	75.0	9.0	20.8	333.8	235.2	20.77	404.7	16.1	412.9	26.09	323.8	106.1	4.6
80	37.5	2.7	6.2	300.4	222.2	23.90	381.9	12.6	426.5	26.22	337.0	107.4	4.8
	56.25	5.3	12.3	312.9	227.0	22.78	390.7	13.7	439.9	26.75	348.6	108.6	4.8
	75.0	8.8	20.4	318.9	229.4	22.24	394.8	14.3	444.3	27.01	352.1	109.0	4.8
90	37.5	2.6	5.9	280.5	214.3	25.72	368.3	10.9	489.3	27.10	396.9	113.2	5.3
	56.25	5.1	11.8	293.6	219.5	24.51	377.2	12.0	489.1	27.59	395.0	113.2	5.2
	75.0	8.5	19.6	300.2	222.1	23.91	381.8	12.6	483.8	27.80	388.9	112.7	5.1
100	37.5	2.5	5.8	260.5	206.2	27.80	355.4	9.4	Operation Not Recommended				
	56.25	5.0	11.6	273.0	211.3	26.46	363.3	10.3					
	75.0	8.4	19.3	279.6	213.9	25.81	367.6	10.8					
110	37.5	2.4	5.5	242.2	198.9	30.19	345.2	8.0					
	56.25	4.9	11.3	253.0	203.2	28.70	351.0	8.8					
	75.0	7.8	18.1	259.0	205.6	27.98	354.5	9.3					
120	37.5	2.2	5.2	227.2	193.8	32.96	339.7	6.9					
	56.25	4.9	11.4	235.5	196.5	31.27	342.2	7.5					
	75.0	7.3	16.9	240.4	198.3	30.46	344.3	7.9					

Interpolation is permissible, extrapolation is not.
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5,000 CFM Nominal Airflow Heating & Cooling

	WATER / BRINE			COOLING - EAT 80/67°F					HEATING - EAT 70°F				
EWT °F	Flow GPM	PD PSI	PD ft	TC	SC	kW	HR	EER	HC	kW	HE	LAT	COP
20	75.0	15.7	36.3	Operation Not Recommended					97.4	9.54	64.9	86.0	3.0
30	37.5	5.0	11.6	164.1	117.7	6.99	188.0	23.5	111.6	9.86	78.0	88.6	3.3
	56.25	9.2	21.3	161.4	115.4	6.81	184.6	23.7	114.2	9.91	80.4	89.1	3.4
	75.0	14.3	32.9	159.8	114.1	6.72	182.7	23.8	115.5	9.94	81.6	89.3	3.4
40	37.5	4.7	10.8	168.6	121.9	7.56	194.4	22.3	129.8	10.22	95.0	92.0	3.7
	56.25	7.8	18.0	167.7	120.9	7.36	192.8	22.8	133.1	10.28	98.0	92.6	3.8
	75.0	13.1	30.2	167.0	120.3	7.27	191.8	23.0	134.8	10.31	99.6	92.9	3.8
50	37.5	3.4	7.9	168.3	122.4	8.18	196.2	20.6	148.7	10.57	112.6	95.5	4.1
	56.25	5.9	13.6	168.9	122.6	7.96	196.0	21.2	152.6	10.65	116.3	96.2	4.2
	75.0	9.6	22.3	169.0	122.5	7.85	195.8	21.5	154.7	10.68	118.2	96.6	4.2
60	37.5	2.9	6.6	164.4	120.5	8.85	194.6	18.6	167.8	10.94	130.4	99.0	4.5
	56.25	5.7	13.1	166.1	121.4	8.61	195.5	19.3	172.3	11.03	134.7	99.8	4.6
	75.0	9.3	21.5	166.8	121.8	8.49	195.8	19.6	174.7	11.08	136.9	100.3	4.6
70	37.5	2.8	6.4	157.9	116.9	9.60	190.6	16.4	186.7	11.33	148.0	102.5	4.8
	56.25	5.5	12.6	160.3	118.3	9.34	192.2	17.2	191.7	11.45	152.7	103.4	4.9
	75.0	9.0	20.8	161.5	118.9	9.21	192.9	17.5	194.3	11.51	155.1	103.9	4.9
80	37.5	2.7	6.2	149.6	112.5	10.44	185.3	14.3	205.0	11.78	164.8	105.9	5.1
	56.25	5.3	12.3	152.5	114.0	10.15	187.1	15.0	210.3	11.92	169.6	106.9	5.2
	75.0	8.8	20.4	153.9	114.8	10.01	188.1	15.4	213.0	12.00	172.1	107.4	5.2
90	37.5	2.6	5.9	140.5	107.7	11.38	179.3	12.3	222.2	12.29	180.2	109.0	5.3
	56.25	5.1	11.8	143.5	109.2	11.07	181.2	13.0	227.5	12.48	184.9	110.0	5.3
	75.0	8.5	19.6	145.0	110.0	10.91	182.2	13.3	230.2	12.58	187.3	110.5	5.4
100	37.5	2.5	5.8	131.2	103.3	12.46	173.7	10.5	Operation Not Recommended				
	56.25	5.0	11.6	134.0	104.6	12.11	175.3	11.1					
	75.0	8.4	19.3	135.5	105.3	11.94	176.2	11.4					
110	37.5	2.4	5.5	122.5	100.0	13.68	169.1	9.0					
	56.25	4.9	11.3	125.0	100.8	13.29	170.3	9.4					
	75.0	7.8	18.1	126.3	101.3	13.10	171.0	9.6					
120	37.5	2.2	5.2	115.2	98.3	15.08	166.7	7.6					
	56.25	4.9	11.4	117.2	98.6	14.64	167.1	8.0					
	75.0	7.3	16.9	118.2	98.8	14.43	167.5	8.2					

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Airflow Correction Table

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

TC_L072-120 Entering Air Correction Table 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	0.7335	0.8825	*	*	*	*	*	*	*	*	0.9782	0.7834
55	0.8063	0.6757	0.8842	1.1119	*	*	*	*	*	*	0.9836	0.8424
60	0.8830		0.6734	0.8817	1.0918	*	*	*	*	*	0.9900	0.9301
65	0.9774			0.6682	0.8764	1.0885	1.1136	1.2949	*	*	0.9973	0.9981
66.2	0.9851			0.6177	0.8243	1.0357	1.0612	1.2452	*	*	0.9987	0.9879
67	1.0000			0.5842	0.7897	1.0000	1.0262	1.2119	*	*	1.0000	1.0000
70	1.0426				0.6609	0.8688	0.8941	1.0811	1.2916	*	1.0043	1.0420
75	1.1386					0.6517	0.6517	0.8594	1.0695	1.2838	1.0118	1.1128

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

Entering Air Correction Table

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

Wet Coil to Dry Coil Conversion Table

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

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Antifreeze Correction Table

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

Table Continued on Next Page

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Antifreeze Correction Table

Table Continued from Previous Page

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

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Blower Performance Data – TC_L072 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
1800	BHP			0.28	0.32	0.35	0.39	0.42	0.45	0.48	0.52	0.56	0.60	0.64	0.69	0.72	0.76
	Sheave/Mtr			B	B	B	A	A	A	A	A	A	C	C	C	C	C
	RPM			599	645	690	735	775	815	850	885	910	940	965	995	1015	1040
	Turns Open			3	2	1	4	3.5	2.5	2	1.5	1	5	4.5	4	3.5	3
1900	BHP			0.31	0.36	0.40	0.44	0.49	0.53	2.50	0.62	0.65	0.69	0.73	0.76	0.80	0.84
	Sheave/Mtr			B	B	A	A	A	A	A	A	C	C	C	C	C	C
	RPM			604	655	695	740	780	820	855	890	920	950	980	1005	1030	1055
	Turns Open			3	2	5	4	3	2.5	2	1.5	5.5	4.5	4	3.5	3	3
2000	BHP		0.31	0.34	0.39	0.45	0.50	0.54	0.59	0.63	0.67	0.72	0.75	0.79	0.82	0.86	0.90
	Sheave/Mtr		B	B	B	A	A	A	A	A	A	C	C	C	C	C	C
	RPM		568	615	660	705	750	785	825	860	895	930	960	990	1015	1040	1065
	Turns Open		4.5	2.5	1.5	4.5	3.5	3	2.5	1.5	1	5	4.5	4	3.5	3	2.5
2100	BHP	0.33	0.38	0.42	0.46	0.50	0.54	0.59	0.65	0.70	0.74	0.78	0.81	0.85	0.89	0.94	0.98
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	531	583	630	670	715	755	795	835	875	905	940	970	1000	1025	1055	1080
	Turns Open	4.5	3.5	2	5	4.5	3.5	2.5	2	1.5	1	5	4	4	3	2.5	2.5
2200	BHP	0.37	0.40	0.45	0.49	0.55	0.60	0.65	0.70	0.75	0.79	0.83	0.87	0.92	0.96	1.00	1.04
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	C	C	C	C	C	E	E
	RPM	552	599	645	685	730	770	810	850	885	915	950	980	1010	1040	1065	1090
	Turns Open	4	3	2	5	4	3	2.5	2	1.5	5.5	4.5	4	3.5	3	2.5	2
2300	BHP	0.42	0.47	0.51	0.56	0.60	0.65	0.70	0.75	0.80	0.84	0.89	0.94	1.00	1.05	1.10	1.16
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	C	C	C	E	E	E	E
	RPM	573	620	660	705	745	785	820	860	895	925	960	990	1020	1050	1075	1105
	Turns Open	3.5	2.5	1.5	4.5	4	3	2.5	1.5	1	5	4.5	4	3.5	3	2.5	2
2400	BHP	0.48	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.87	0.92	0.97	1.02	1.07	1.13	1.19	1.25
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	C	C	E	E	E	E	E
	RPM	604	645	690	730	765	805	845	880	910	945	975	1010	1035	1065	1095	1125
	Turns Open	3	2	5	4	3.5	2.5	2	1.5	1	5	4	3.5	3	2.5	2	1.5
2500	BHP	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.89	0.94	1.00	1.03	1.08	1.14	1.20	1.25	1.31
	Sheave/Mtr	B	B	A	A	A	A	A	A	C	E	E	E	E	E	E	E
	RPM	620	660	700	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
	Turns Open	2.5	1.5	4.5	4	3	2.5	2	1.5	5.5	4.5	4	3.5	3	2.5	2	1.5
2600	BHP	0.56	0.61	0.66	0.70	0.76	0.82	0.88	0.93	0.98	1.04	1.08	1.14	1.20	1.26	1.32	1.37
	Sheave/Mtr	B	A	A	A	A	A	A	A	C	E	E	E	E	E	E	E
	RPM	635	675	715	750	790	825	860	895	925	960	990	1020	1050	1080	1110	1135
	Turns Open	2.5	5	4.5	3.5	3	2	1.5	1	5	4.5	4	3.5	3	2.5	1.5	1.5

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

Table Continued on Next Page

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Blower Performance Data – TC_L072 Standard Unit

All Data is Wet Coil

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
2700	BHP	0.61	0.66	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.15	1.21	1.27	1.33	1.39	1.45
	Sheave/Mtr	B	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E
	RPM	655	695	730	770	805	840	875	905	940	970	1000	1030	1060	1090	1120	1145
	Turns Open	2	4.5	4	3.5	2.5	2	1.5	1	5	4.5	3.5	3	2.5	2	1.5	1
2800	BHP	0.66	0.72	0.77	0.83	0.88	0.93	0.99	1.05	1.11	1.16	1.22	1.30	1.37	1.44	1.51	1.57
	Sheave/Mtr	B	A	A	A	A	A	A	D	E	E	E	E	E	E	E	E
	RPM	670	710	750	785	815	850	885	915	950	980	1010	1040	1070	1100	1130	1155
	Turns Open	1.5	4.5	3.5	3	2.5	1.5	1.5	1	4.5	4	3.5	3	2.5	2	1.5	1
2900	BHP	0.71	0.77	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.22	1.30	1.36	1.43	1.50	1.57	1.63
	Sheave/Mtr	A	A	A	A	A	A	D	E	E	E	E	E	E	E	E	E
	RPM	685	725	765	795	830	860	895	925	955	985	1020	1045	1075	1105	1135	1160
	Turns Open	5	4	3.5	3	2	1.5	1	5	4.5	4	3.5	3	2.5	1.5	1	1
3000	BHP	0.79	0.84	0.90	0.95	1.01	1.07	1.13	1.19	1.25	1.31	1.38	1.46	1.52	1.59	1.66	
	Sheave/Mtr	A	A	A	A	A	D	D	E	E	E	E	E	E	E	E	
	RPM	710	745	780	815	850	885	915	945	975	1005	1035	1065	1090	1120	1150	
	Turns Open	4.5	4	3	2.5	2	1	1	5	4	3.5	3	2.5	2	1.5	1	

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_L096 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
2400	BHP	0.45	0.50	0.54	0.59	0.63	0.69	0.74	0.80	0.85	0.90	0.94	0.99	1.04	1.10	1.16	1.22
	Sheave/Mtr	B	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C
	RPM	578	625	665	705	745	785	820	860	895	925	960	990	1020	1050	1080	1110
	Turns Open	5	4	3	2.5	1.5	5.5	5	4	3.5	3	2.5	2	1.5	1	4	3.5
2500	BHP	0.50	0.55	0.59	0.64	0.69	0.75	0.81	0.88	0.92	0.97	1.01	1.06	1.12	1.17	1.23	1.29
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	599	645	685	725	765	800	835	875	905	940	970	1005	1035	1060	1090	1120
	Turns Open	4.5	3.5	2.5	2	6	5	4.5	4	3.5	3	2.5	2	1	4.5	3.5	3
2600	BHP	0.55	0.60	0.65	0.69	0.75	0.80	0.86	0.92	0.97	1.02	1.08	1.13	1.19	1.25	1.30	1.36
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	625	665	705	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
	Turns Open	4	3	2.5	1.5	5.5	5	4.5	3.5	3	2.5	2	1.5	1	4	3.5	3
2700	BHP	0.60	0.65	0.70	0.75	0.80	0.86	0.91	0.97	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	645	685	725	760	795	830	865	900	930	960	995	1025	1055	1085	1115	1140
	Turns Open	3.5	2.5	2	6	5.5	4.5	4	3.5	3	2.5	2	1.5	4.5	4	3.5	3
2800	BHP	0.65	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.21	1.28	1.36	1.43	1.50	1.56
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	665	705	745	780	810	845	880	910	945	975	1005	1035	1065	1095	1125	1150
	Turns Open	3	2.5	1.5	5.5	5	4.5	4	3	2.5	2	1.5	1	4	3.5	3	2.5
2900	BHP	0.71	0.76	0.82	0.87	0.92	0.98	1.03	1.09	1.16	1.22	1.29	1.36	1.43	1.50	1.57	1.63
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	685	720	760	795	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
	Turns Open	2.5	2	6	5.5	5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	2.5
3000	BHP	0.78	0.84	0.89	0.95	1.00	1.06	1.12	1.18	1.24	1.30	1.37	1.43	1.50	1.58	1.64	1.71
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1055	1085	1115	1140	1170
	Turns Open	2.5	1.5	5.5	5	4.5	4	3.5	2.5	2	1.5	1	4.5	3.5	3.5	3	2.5
3100	BHP	0.85	0.91	0.96	1.02	1.08	1.14	1.22	1.29	1.36	1.44	1.50	1.57	1.63	1.70	1.76	1.82
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	720	755	790	825	860	890	925	955	985	1015	1040	1070	1095	1125	1150	1175
	Turns Open	2	1	5.5	4.5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	2.5	2
3200	BHP	0.93	1.00	1.07	1.14	1.20	1.26	1.32	1.38	1.44	1.51	1.57	1.64	1.70	1.78	1.85	1.92
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	740	775	810	845	875	905	935	965	995	1025	1050	1080	1105	1135	1160	1185
	Turns Open	1.5	5.5	5	4.5	4	3.5	3	2	1.5	1	4.5	4	3.5	3	2.5	2

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
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Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_L096 Standard Unit

All Data is Wet Coil

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
3300	BHP	1.01	1.08	1.14	1.21	1.28	1.33	1.39	1.45	1.51	1.58	1.64	1.72	1.78	1.84	1.93	2.00
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	E
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1170	1195
	Turns Open	1	5.5	5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	3	2.5	2
3400	BHP	1.08	1.15	1.22	1.29	1.35	1.41	1.47	1.53	1.59	1.68	1.75	1.83	1.90	1.96	2.02	2.08
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	A	C	C	C	C	E	E
	RPM	765	800	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
	Turns Open	6	5	4.5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	2.5	2	2
3500	BHP	1.16	1.23	1.29	1.36	1.42	1.48	1.54	1.60	1.66	1.73	1.79	1.85	1.92	2.01	2.09	2.17
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	C	C	C	E	E	E
	RPM	780	815	845	880	910	940	970	1000	1025	1055	1080	1105	1130	1160	1185	1210
	Turns Open	5.5	5	4.5	3.5	3	2.5	2	1.5	1	4.5	4	3.5	3	2.5	2	1.5
3600	BHP	1.24	1.30	1.37	1.44	1.51	1.58	1.65	1.72	1.78	1.86	1.92	1.98	2.06	2.13	2.21	2.29
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	C	C	E	E	E	E
	RPM	795	825	860	890	920	950	980	1010	1035	1065	1090	1115	1145	1165	1190	1215
	Turns Open	5.5	4.5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	2.5	2.5	2	1.5
3700	BHP	1.34	1.40	1.46	1.53	1.61	1.68	1.75	1.82	1.90	1.97	2.06	2.13	2.21	2.28	2.36	2.44
	Sheave/Mtr	A	A	A	A	A	A	A	A	C	C	E	E	E	E	E	E
	RPM	820	850	880	910	940	970	1000	1025	1055	1080	1110	1135	1160	1180	1205	1230
	Turns Open	5	4.5	3.5	3	2.5	2	1.5	1	4.5	4	3.5	3	2.5	2	1.5	1.5
3800	BHP	1.43	1.49	1.56	1.63	1.70	1.78	1.86	1.94	2.02	2.12	2.20	2.28	2.34	2.42	2.50	2.58
	Sheave/Mtr	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E
	RPM	840	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1170	1195	1220	1245
	Turns Open	4.5	4	3.5	3	2.5	2	1.5	1	4	3.5	3	2.5	2.5	2	1.5	1
3900	BHP	1.58	1.64	1.71	1.78	1.85	1.93	2.01	2.09	2.19	2.27	2.35	2.41	2.49	2.57	2.65	
	Sheave/Mtr	A	A	A	A	A	A	D	D	E	E	E	E	E	E	E	
	RPM	865	890	920	950	980	1010	1035	1060	1090	1115	1140	1160	1185	1210	1235	
	Turns Open	4	4	3	2.5	2	1.5	1	1	4	3.5	3	2.5	2	1.5	1.5	
4000	BHP	1.68	1.75	1.83	1.92	2.00	2.08	2.16	2.26	2.34	2.42	2.50	2.56	2.64	2.72	2.80	
	Sheave/Mtr	A	A	A	A	D	D	D	E	E	E	E	E	E	E	E	
	RPM	885	910	940	970	1000	1025	1050	1080	1105	1130	1155	1175	1200	1225	1250	
	Turns Open	4	3.5	2.5	2.5	2	1	1	4	3.5	3	2.5	2	2	1.5	1	

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
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Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_L120 Standard Unit

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
3000	BHP	0.75	0.81	0.86	0.91	0.97	1.03	1.09	1.15	1.21	1.27	1.34	1.41	1.47	1.54	1.61	1.67
	Sheave/Mtr	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A
	RPM	680	720	755	790	825	860	895	925	955	985	1015	1045	1070	1100	1130	1155
	Turns Open	5	4	3.5	3	2.5	1.5	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1
3100	BHP	0.82	0.88	0.94	0.99	1.04	1.10	1.17	1.26	1.33	1.40	1.46	1.53	1.59	1.66	1.72	1.80
	Sheave/Mtr	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C
	RPM	700	735	775	805	840	875	905	940	970	1000	1025	1055	1080	1110	1135	1165
	Turns Open	4.5	4	3	2.5	2	6	5.5	4.5	4.5	3.5	3	3	2.5	2	1.5	4
3200	BHP	0.90	0.96	1.03	1.10	1.17	1.23	1.29	1.35	1.41	1.47	1.55	1.61	1.68	1.74	1.81	1.89
	Sheave/Mtr	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C
	RPM	720	755	790	825	860	890	920	950	980	1010	1040	1065	1095	1120	1145	1175
	Turns Open	4	3.5	3	2	1.5	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	3.5
3300	BHP	0.98	1.04	1.11	1.18	1.25	1.31	1.37	1.43	1.49	1.55	1.62	1.68	1.75	1.81	1.88	1.95
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	C
	RPM	740	770	805	840	875	905	935	965	995	1020	1050	1075	1105	1130	1155	1180
	Turns Open	4	3	2.5	2	6	5.5	5	4	4	3	2.5	2.5	2	1.5	1	3.5
3400	BHP	1.06	1.13	1.19	1.26	1.33	1.38	1.44	1.50	1.56	1.65	1.72	1.80	1.87	1.94	2.00	2.06
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C	C
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1165	1190
	Turns Open	3.5	3	2.5	1.5	6	5	4.5	4	3.5	3	2.5	2	1.5	1	4	3
3500	BHP	1.14	1.21	1.27	1.34	1.40	1.46	1.52	1.58	1.65	1.71	1.77	1.84	1.90	1.98	2.06	2.14
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C
	RPM	770	805	835	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1175	1200
	Turns Open	3	2.5	2	6	5.5	5	4.5	3.5	3.5	3	2.5	2	1.5	1	3.5	3
3600	BHP	1.23	1.29	1.36	1.42	1.50	1.57	1.64	1.71	1.77	1.84	1.90	1.96	2.05	2.13	2.21	2.27
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190	1210
	Turns Open	3	2.5	1.5	6	5.5	4.5	4	3.5	3	2.5	2	1.5	1.5	4	3.5	3
3700	BHP	1.32	1.38	1.44	1.51	1.58	1.65	1.73	1.81	1.88	1.96	2.03	2.10	2.18	2.26	2.34	2.42
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	810	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1225
	Turns Open	2.5	2	6	5.5	5	4.5	4	3	3	2.5	2	1.5	1	3.5	3	2.5
3800	BHP	1.41	1.47	1.54	1.61	1.68	1.75	1.82	1.91	1.99	2.07	2.17	2.25	2.31	2.39	2.47	2.55
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	830	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1160	1185	1210	1235
	Turns Open	2	1.5	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	1	3.5	3	2.5
3900	BHP	1.54	1.60	1.67	1.74	1.82	1.89	1.96	2.04	2.14	2.22	2.30	2.38	2.46	2.52	2.60	2.68
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	850	875	905	935	965	995	1020	1045	1075	1100	1125	1150	1175	1195	1220	1245
	Turns Open	2	6	5.5	5	4.5	3.5	3	2.5	2.5	2	1.5	1	3.5	3	2.5	2

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

Table Continued on Next Page

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Blower Performance Data – TC_L120 Standard Unit

All Data is Wet Coil

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4000	BHP	1.63	1.71	1.78	1.86	1.94	2.03	2.11	2.19	2.27	2.37	2.45	2.51	2.59	2.67	2.75	2.85
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	865	895	920	950	980	1010	1035	1060	1085	1115	1140	1160	1185	1210	1235	1260
	Turns Open	6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	1	3.5	3	2.5	2
4100	BHP	1.73	1.81	1.90	1.97	2.05	2.12	2.20	2.27	2.34	2.42	2.52	2.62	2.70	2.80	2.90	
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	
	RPM	885	915	945	970	1000	1025	1055	1080	1105	1130	1155	1180	1200	1225	1250	
	Turns Open	6	5.5	4.5	4	4	3	2.5	2	2	1.5	1	3.5	3	2.5	2	
4200	BHP	1.87	1.94	2.02	2.08	2.16	2.24	2.32	2.40	2.48	2.58	2.68	2.76	2.86	2.96		
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	A	C	C	C	C		
	RPM	905	935	965	990	1020	1045	1070	1095	1120	1145	1170	1190	1215	1240		
	Turns Open	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	3.5	3.5	3	2.5		
4300	BHP	2.00	2.07	2.16	2.23	2.31	2.41	2.49	2.57	2.66	2.74	2.84	2.94	3.02	3.15		
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	C	C	E	E		
	RPM	930	955	985	1010	1035	1065	1090	1115	1140	1160	1185	1210	1230	1255		
	Turns Open	5	4.5	4	3.5	3	2.5	2	1.5	1.5	4	3.5	3	2.5	2		
4400	BHP	2.14	2.22	2.32	2.40	2.48	2.56	2.65	2.74	2.82	2.92	3.00	3.10	3.18			
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	E	E	E			
	RPM	950	975	1005	1030	1055	1080	1110	1135	1155	1180	1200	1225	1245			
	Turns Open	4.5	4	3.5	3	3	2.5	2	1.5	1	4	3	3	2.5			
4500	BHP	2.30	2.38	2.46	2.54	2.62	2.72	2.80	2.88	3.00	3.08	3.16	3.26				
	Sheave/Mtr	A	A	A	A	A	A	A	A	D	E	E	E				
	RPM	970	995	1020	1045	1070	1100	1125	1145	1170	1195	1215	1240				
	Turns Open	4.5	4	3.5	3	2.5	2	1.5	1.5	1	3.5	3	2.5				
4600	BHP	2.39	2.45	2.54	2.63	2.72	2.83	2.92	3.00	3.10	3.18	3.28	3.38				
	Sheave/Mtr	A	A	A	A	A	A	A	D	D	E	E	E				
	RPM	980	1000	1025	1050	1075	1105	1130	1150	1175	1195	1220	1245				
	Turns Open	4	3.5	3.5	3	2.5	2	1.5	1	1	3.5	3	2.5				
4700	BHP	2.46	2.52	2.62	2.72	2.82	2.92	3.02	3.12	3.22	3.32	3.40	3.50				
	Sheave/Mtr	A	A	A	A	A	A	D	D	E	E	E	E				
	RPM	985	1005	1030	1055	1080	1105	1130	1155	1180	1205	1225	1250				
	Turns Open	4	3.5	3	2.5	2	1.5	1.5	1	4	3.5	2.5	2.5				
4800	BHP	2.57	2.64	2.74	2.84	2.94	3.04	3.14	3.24	3.32	3.42	3.52	3.60				
	Sheave/Mtr	A	A	A	A	A	D	D	D	E	E	E	E				
	RPM	990	1010	1035	1060	1085	1110	1135	1160	1180	1205	1230	1250				
	Turns Open	4	3.5	3	2.5	2	1.5	1	1	3.5	3	2.5	2				
4900	BHP	2.68	2.78	2.88	3.00	3.06	3.16	3.26	3.36	3.44	3.54	3.64	3.75				
	Sheave/Mtr	A	A	A	D	D	D	D	E	E	E	E	E				
	RPM	995	1020	1045	1070	1090	1115	1140	1165	1185	1210	1235	1255				
	Turns Open	3.5	3	3	2.5	1.5	1.5	1	4	3.5	3	2.5	2				
5000	BHP	2.82	2.92	3.00	3.10	3.20	3.28	3.38	3.48	3.56	3.66	3.74					
	Sheave/Mtr	A	A	D	D	D	D	D	E	E	E	E					
	RPM	1005	1030	1050	1075	1100	1120	1145	1170	1190	1215	1235					
	Turns Open	3.5	3	2.5	2	1.5	1	1	3.5	3	2.5	2					

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_LV160 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4200	BHP			0.69	0.78	0.86	0.95	1.02	1.11	1.21	1.32	1.41	1.50	1.57	1.64	1.72	1.80
	Sheave/Mtr			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			547	594	640	685	725	765	805	845	880	915	945	975	1005	1030
	Turns Open			5.5	4	3	1.5	6	5	4	3.5	2.5	2	1	3.5	3	2.5
4400	BHP			0.75	0.83	0.92	1.01	1.11	1.21	1.31	1.41	1.51	1.60	1.68	1.76	1.85	1.94
	Sheave/Mtr			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			563	609	655	695	735	775	815	855	890	925	955	985	1015	1045
	Turns Open			5	3.5	2.5	1.5	5.5	5	4	3	2.5	1.5	1	3.5	2.5	2
4600	BHP		0.75	0.85	0.95	1.03	1.11	1.19	1.30	1.40	1.50	1.60	1.70	1.78	1.89	2.00	2.10
	Sheave/Mtr		B	B	B	B	B	A	A	A	A	A	A	C	C	C	C
	RPM		526	573	625	665	705	745	785	825	860	895	930	960	995	1025	1050
	Turns Open		6	4.5	3	2.5	1	5.5	4.5	3.5	3	2.5	1.5	4	3	2.5	2
4800	BHP		0.83	0.94	1.03	1.12	1.20	1.30	1.40	1.53	1.63	1.73	1.82	1.92	2.00	2.12	2.22
	Sheave/Mtr		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		542	594	640	680	720	760	795	835	870	905	935	970	1000	1030	1055
	Turns Open		5.5	4	3	2	6	5	4.5	3.5	3	2	1	3.5	3	2	1.5
5000	BHP		0.93	1.02	1.11	1.20	1.31	1.41	1.52	1.64	1.76	1.85	1.95	2.03	2.12	2.24	2.36
	Sheave/Mtr		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		563	609	650	690	735	770	805	840	880	910	945	975	1005	1035	1065
	Turns Open		5	3.5	2.5	1.5	5.5	5	4	3.5	2.5	2	1	3.5	3	2	1.5
5200	BHP	0.93	1.02	1.10	1.20	1.29	1.39	1.50	1.61	1.72	1.83	1.94	2.06	2.15	2.26	2.38	2.50
	Sheave/Mtr	B	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM	542	583	625	665	705	745	780	815	850	885	920	955	985	1015	1045	1075
	Turns Open	5.5	4.5	3	2	1	5.5	4.5	4	3	2.5	1.5	1	3	2.5	2	1.5
5400	BHP	1.03	1.10	1.19	1.29	1.39	1.50	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62
	Sheave/Mtr	B	B	B	B	B	A	A	A	A	A	A	C	C	C	C	C
	RPM	563	599	640	680	720	760	790	825	860	895	925	960	990	1020	1050	1080
	Turns Open	5	4	3	2	1	5	4.5	3.5	3	2.5	1.5	4	3	2.5	1.5	1
5600	BHP	1.12	1.19	1.28	1.39	1.50	1.61	1.72	1.84	1.93	2.06	2.17	2.29	2.40	2.54	2.69	2.83
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	583	620	655	695	735	770	805	840	870	905	935	970	1000	1030	1060	1090
	Turns Open	4.5	3.5	2.5	1.5	5.5	5	4	3.5	2.5	2	1.5	3.5	3	2	1.5	1
5800	BHP	1.17	1.28	1.39	1.49	1.60	1.70	1.81	1.90	2.02	2.14	2.28	2.40	2.52	2.67	2.81	2.96
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	588	630	670	710	750	780	815	845	880	910	945	975	1005	1035	1065	1095
	Turns Open	4	3	2	1	5.5	4.5	4	3	2.5	2	1	3.5	2.5	2	1.5	1
6000	BHP	1.25	1.40	1.51	1.61	1.73	1.84	1.94	2.05	2.18	2.30	2.42	2.54	2.67	2.79	2.94	3.08
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	E
	RPM	604	645	685	720	760	795	825	860	895	925	955	985	1015	1040	1070	1100
	Turns Open	4	2.5	1.5	6	5	4.5	3.5	3	2	1.5	1	3	2.5	2	1.5	1

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
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Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_LV160 Standard Unit

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
6200	BHP	1.40	1.51	1.62	1.75	1.86	1.98	2.09	2.20	2.34	2.49	2.63	2.78	2.92	3.06	3.18	
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	C	E	E	
	RPM	625	660	695	735	770	805	840	875	905	935	965	995	1025	1055	1080	
	Turns Open	3.5	2.5	1.5	5.5	5	4	3.5	2.5	2	1.5	4	3	2	1.5	1	
6400	BHP	1.55	1.68	1.79	1.90	2.04	2.18	2.32	2.44	2.56	2.68	2.80	2.92	3.07	3.19	3.33	
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	E	E	E	
	RPM	640	680	715	750	785	820	855	885	915	945	975	1005	1035	1060	1090	
	Turns Open	3	2	1	5	4.5	3.5	3	2.5	1.5	1	3.5	2.5	2	1.5	1	
6600	BHP	1.73	1.84	1.94	2.06	2.20	2.34	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	C	E	E	E	E	
	RPM	665	700	730	765	800	835	865	895	925	955	985	1015	1040	1070	1095	
	Turns Open	2.5	1.5	5.5	5	4	3.5	3	2	1.5	1	3	2.5	2	1.5	1	
6800	BHP	1.87	1.98	2.08	2.20	2.34	2.48	2.62	2.74	2.86	2.96	3.08	3.24	3.38	3.55		
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	C	E	E	E	E		
	RPM	685	715	745	775	810	845	880	910	940	965	995	1025	1050	1080		
	Turns Open	2	1	5.5	4.5	4	3	2.5	2	1	4	3	2.5	2	1		
7000	BHP	2.03	2.13	2.22	2.36	2.50	2.62	2.76	2.88	3.00	3.12	3.22	3.37	3.49	3.61		
	Sheave/Mtr	B	A	A	A	A	A	A	A	D	E	E	E	E	E		
	RPM	705	730	755	790	825	855	890	920	950	980	1005	1035	1060	1085		
	Turns Open	1.5	6	5	4.5	3.5	3	2.5	1.5	1	3.5	3	2	1.5	1		

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
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Blower Performance Data – TC_LV192 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4800	BHP		0.98	1.07	1.16	1.24	1.34	1.47	1.59	1.69	1.78	1.87	1.96	2.06	2.18	2.30	2.42
	Sheave/Mtr		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		615	660	700	740	775	815	855	890	920	955	985	1015	1045	1075	1105
	Turns Open		5.5	4.5	3	2	5.5	4	3.5	3	2.5	1.5	1	5.5	5	4.5	4
5000	BHP	0.99	1.07	1.18	1.27	1.37	1.49	1.60	1.73	1.82	1.92	2.00	2.10	2.22	2.32	2.44	2.56
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	594	635	680	720	760	795	830	870	900	935	965	1000	1030	1055	1085	1115
	Turns Open	6	5	4	2.5	5.5	5	3.5	3.5	3	2	1.5	1	5	4.5	4	3.5
5200	BHP	1.09	1.18	1.28	1.36	1.48	1.59	1.70	1.82	1.93	2.02	2.14	2.24	2.36	2.48	2.60	2.72
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	620	660	700	735	775	810	845	880	915	945	980	1010	1040	1070	1100	1130
	Turns Open	5.5	4.5	3.5	2	5.5	4.5	3.5	3	2.5	2	1	5.5	5	4.5	4	3.5
5400	BHP	1.19	1.29	1.39	1.48	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62	2.74	2.87
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	640	680	720	755	790	825	860	895	925	960	990	1020	1050	1080	1110	1140
	Turns Open	5	4	2.5	6	5	4.5	3.5	3	2.5	1.5	1	5.5	5	4	3.5	3
5600	BHP	1.30	1.40	1.51	1.62	1.74	1.85	1.95	2.08	2.18	2.31	2.42	2.57	2.71	2.86	2.98	3.12
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	E
	RPM	660	700	740	775	810	845	875	910	940	975	1005	1035	1065	1095	1120	1150
	Turns Open	4.5	3.5	2	5.5	5	4	3	2.5	2	1.5	5.5	5	4.5	4	3.5	3
5800	BHP	1.41	1.52	1.63	1.73	1.84	1.95	2.06	2.18	2.32	2.44	2.57	2.72	2.86	3.00	3.15	3.27
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	C	C	C	E	E	E
	RPM	680	720	760	790	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
	Turns Open	4	3	6	5	4.5	3.5	3	2.5	1.5	1	5.5	5	4.5	4	3	3
6000	BHP	1.56	1.67	1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30	3.42
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	C	C	C	E	E	E	E
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145	1170
	Turns Open	3.5	2.5	5.5	5	4	3	2.5	2	1.5	6	5	4.5	4	3.5	3	2.5
6200	BHP	1.70	1.83	1.94	2.06	2.17	2.30	2.44	2.58	2.73	2.87	3.02	3.14	3.28	3.40	3.54	3.66
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	C	E	E	E	E	E	E
	RPM	720	760	795	830	865	895	925	955	985	1015	1045	1070	1100	1125	1155	1180
	Turns Open	3	5.5	5	4.5	3.5	3	2.5	1.5	1	5.5	5	4.5	4	3.5	3	2.5
6400	BHP	1.88	2.02	2.16	2.28	2.42	2.54	2.66	2.78	2.90	3.04	3.16	3.31	3.43	3.58	3.72	3.86
	Sheave/Mtr	B	A	A	A	A	A	A	A	C	E	E	E	E	E	E	E
	RPM	745	780	815	845	880	910	940	970	1000	1030	1055	1085	1110	1140	1165	1190
	Turns Open	2.5	5	4.5	4	3.5	2.5	2	1.5	6	5	4.5	4	3.5	3	2.5	2
6600	BHP	2.06	2.18	2.32	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	3.60	3.74	3.88	4.02
	Sheave/Mtr	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E
	RPM	765	795	830	865	895	925	955	985	1015	1040	1070	1095	1125	1150	1175	1200
	Turns Open	5.5	5	4.5	3.5	3	2.5	1.5	1	5.5	5	4.5	4	3.5	3	2.5	2

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

Table Continued on Next Page

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Blower Performance Data – TC_LV192 Standard Unit

All Data is Wet Coil

Table Continued from Previous Page

6800	BHP	2.22	2.36	2.50	2.62	2.74	2.86	3.00	3.10	3.27	3.41	3.58	3.72	3.85	3.97	4.11	4.23
	Sheave/Mtr	A	A	A	A	A	A	D	D	E	E	E	E	E	E	E	E
	RPM	780	815	850	880	910	940	970	1000	1030	1055	1085	1110	1135	1160	1190	1215
	Turns Open	5.5	4.5	4	3.5	2.5	2	1.5	1	5	4.5	4	3.5	3	2.5	2	2
7000	BHP	2.40	2.54	2.66	2.80	2.92	3.04	3.14	3.27	3.39	3.54	3.66	3.78	3.96	4.12	4.28	4.44
	Sheave/Mtr	A	A	A	A	A	D	D	E	E	E	E	E	E	E	E	E
	RPM	800	835	865	900	930	960	985	1015	1040	1070	1095	1120	1150	1175	1200	1225
	7000	5	4	3.5	3	2	1.5	1	5.5	5	4.5	4	3.5	3	2.5	2	1.5
7200	BHP	2.58	2.70	2.85	2.99	3.14	3.28	3.42	3.54	3.66	3.81	3.93	4.06	4.22	4.38	4.54	4.70
	Sheave/Mtr	A	A	A	A	D	D	E	E	E	E	E	E	E	E	E	E
	RPM	820	850	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1185	1210	1235
	Turns Open	4.5	4	3	3	2	1.5	5.5	5	4.5	4	3.5	3	2.5	2.5	2	1.5
7400	BHP	2.76	2.88	3.02	3.16	3.31	3.45	3.61	3.75	3.92	4.06	4.20	4.36	4.52	4.68	4.81	4.97
	Sheave/Mtr	A	A	D	D	D	D	E	E	E	E	E	E	E	E	E	E
	RPM	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1220	1245
	Turns Open	4	3.5	3	2.5	1.5	1	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1.5
7600	BHP	2.94	3.07	3.22	3.36	3.50	3.63	3.82	3.98	4.14	4.34	4.50	4.66	4.78	4.94		
	Sheave/Mtr	A	D	D	D	D	E	E	E	E	E	E	E	E	E		
	RPM	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1165	1185	1210		
	Turns Open	4	3	2.5	2	1	5.5	5	4.5	4	3.5	3	2.5	2	2		
7800	BHP	3.22	3.34	3.49	3.63	3.78	3.96	4.12	4.28	4.44	4.63	4.76	4.92				
	Sheave/Mtr	D	D	D	D	D	E	E	E	E	E	E	E				
	RPM	880	905	935	965	995	1025	1050	1075	1100	1130	1150	1175				
	Turns Open	3.5	3	2	1.5	1	5.5	5	4.5	4	3.5	3	2.5				
8000	BHP	3.41	3.58	3.75	3.92	4.06	4.26	4.42	4.58	4.74	4.90						
	Sheave/Mtr	D	D	D	D	E	E	E	E	E	E						
	RPM	895	925	955	985	1010	1040	1065	1090	1115	1140						
	Turns Open	3	2.5	1.5	1	5.5	5	4.5	4	3.5	3						

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
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Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – TC_LV240 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
6000	BHP				1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30
	Sheave/Mtr				B	B	B	A	A	A	A	A	A	A	A	C	C
	RPM				775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145
	Turns Open				5.5	4.5	4	6	5	4.5	3.5	3	2.5	1.5	1	3.5	3
6200	BHP			1.82	1.93	2.04	2.15	2.30	2.44	2.58	2.73	2.87	2.99	3.14	3.26	3.40	3.52
	Sheave/Mtr			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			755	790	825	860	895	925	955	985	1015	1040	1070	1095	1125	1150
	Turns Open			6	5	4.5	3.5	5.5	5	4	3.5	2.5	2	1.5	4	3.5	3
6400	BHP			2.00	2.14	2.26	2.40	2.52	2.64	2.76	2.88	3.02	3.14	3.28	3.40	3.56	3.70
	Sheave/Mtr			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			775	810	840	875	905	935	965	995	1025	1050	1080	1105	1135	1160
	Turns Open			5.5	4.5	4	3	5.5	4.5	4	3	2.5	2	1	4	3	2.5
6600	BHP		2.02	2.16	2.30	2.42	2.56	2.68	2.80	2.92	3.05	3.17	3.29	3.43	3.55	3.71	3.85
	Sheave/Mtr		B	B	B	B	A	A	A	A	A	A	A	A	C	C	C
	RPM		755	790	825	855	890	920	950	980	1010	1035	1060	1090	1115	1145	1170
	Turns Open		6	5.5	4.5	3.5	6	5	4	3.5	3	2	1.5	1	3.5	3	2.5
6800	BHP		2.18	2.32	2.46	2.58	2.70	2.84	2.94	3.06	3.21	3.35	3.52	3.66	3.82	3.94	4.06
	Sheave/Mtr		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		770	805	840	870	900	935	960	990	1020	1045	1075	1100	1130	1155	1180
	Turns Open		5.5	5	4	3	5.5	4.5	4	3	2.5	2	1	4	3.5	2.5	2
7000	BHP	2.22	2.34	2.48	2.62	2.74	2.86	2.98	3.10	3.22	3.34	3.49	3.61	3.73	3.90	4.06	4.22
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	755	785	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190
	Turns Open	6	5.5	4.5	3.5	6	5	4.5	3.5	3	2.5	1.5	1	3.5	3	2.5	2
7200	BHP	2.38	2.52	2.64	2.78	2.92	3.06	3.21	3.35	3.47	3.62	3.74	3.88	4.00	4.16	4.32	4.48
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	770	805	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
	Turns Open	5.5	5	4	3.5	5.5	4.5	4	3	2.5	2	1.5	4	3.5	3	2	1.5
7400	BHP	2.56	2.68	2.82	2.95	3.09	3.24	3.38	3.53	3.67	3.84	3.98	4.12	4.26	4.42	4.58	4.74
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1135	1160	1185	1210
	Turns Open	5	4.5	3.5	6	5	4.5	3.5	3	2.5	1.5	1	3.5	3	2.5	2	1.5
7600	BHP	2.74	2.86	2.98	3.12	3.26	3.41	3.55	3.70	3.89	4.05	4.21	4.40	4.53	4.69	4.85	5.01
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	E
	RPM	810	840	870	900	930	960	990	1015	1045	1070	1095	1125	1145	1170	1195	1220
	Turns Open	4.5	4	3.5	5.5	4.5	4	3	2.5	2	1.5	4	3.5	3	2.5	2	1.5

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

Table Continued on Next Page

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Blower Performance Data – TC_LV240 Standard Unit

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
7800	BHP	2.98	3.13	3.25	3.39	3.54	3.68	3.83	3.99	4.15	4.34	4.50	4.66	4.82	4.95	5.11	5.27
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	C	C	C	C	C	E	E
	RPM	830	860	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1180	1205	1230
	Turns Open	4	3.5	6	5	4.5	3.5	3	2.5	1.5	0	3.5	3	2.5	2	1.5	1
8000	BHP	3.18	3.30	3.44	3.61	3.78	3.94	4.10	4.29	4.45	4.61	4.77	4.93	5.09	5.25	5.38	5.54
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	C	C	C	E	E	E	E
	RPM	850	875	900	930	960	990	1015	1045	1070	1095	1120	1145	1170	1195	1215	1240
	Turns Open	4	3.5	5.5	4.5	4	3.5	2.5	2	1.5	4	3.5	3	2.5	2	1.5	1
8200	BHP	3.35	3.48	3.65	3.79	3.96	4.13	4.27	4.44	4.58	4.72	4.88	5.08	5.24	5.44	5.64	
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	C	C	E	E	E	E	
	RPM	865	890	920	945	975	1005	1030	1060	1085	1110	1135	1160	1180	1205	1230	
	7000	3.5	5.5	5	4.5	3.5	3	2.5	1.5	1	3.5	3	2.5	2	1.5	1	
8400	BHP	3.62	3.74	3.89	4.03	4.18	4.33	4.49	4.65	4.81	4.97	5.16	5.36	5.56	5.72	5.92	
	Sheave/Mtr	A	A	A	A	A	A	A	A	C	C	E	E	E	E	E	
	RPM	880	905	935	965	995	1020	1045	1070	1095	1120	1145	1170	1195	1215	1240	
	Turns Open	6	5.5	4.5	4	3	2.5	2	1.5	4	3.5	3	2.5	2	1.5	1	
8600	BHP	3.81	3.98	4.12	4.29	4.46	4.62	4.78	4.94	5.10	5.28	5.48	5.64	5.84	6.04	6.20	
	Sheave/Mtr	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	
	RPM	895	925	950	980	1010	1035	1060	1085	1110	1135	1160	1180	1205	1230	1250	
	Turns Open	5.5	5	4	3.5	3	2	1.5	1	3.5	3	2.5	2	1.5	1.5	1	
8800	BHP	4.06	4.22	4.41	4.57	4.73	4.92	5.08	5.24	5.40	5.60	5.76	5.96	6.16	6.32		
	Sheave/Mtr	A	A	A	A	A	A	D	E	E	E	E	E	E	E		
	RPM	915	940	970	995	1020	1050	1075	1100	1125	1150	1170	1195	1220	1240		
	Turns Open	5	4.5	3.5	3	2.5	1.5	1	4	3	3	2.5	2	1.5	1		
9000	BHP	4.38	4.54	4.70	4.86	5.02	5.18	5.34	5.50	5.68	5.88	6.08	6.24	6.44	6.60		
	Sheave/Mtr	A	A	A	A	D	D	D	E	E	E	E	E	E	E		
	RPM	935	960	985	1010	1035	1060	1085	1110	1135	1160	1185	1205	1230	1250		
	Turns Open	4.5	4	3.5	3	2	1.5	1	3.5	3	2.5	2	1.5	1	1		
9200	BHP	4.65	4.76	4.90	5.08	5.26	5.44	5.62	5.80	6.00	6.16	6.36	6.56	6.72			
	Sheave/Mtr	A	A	A	D	D	D	E	E	E	E	E	E	E			
	RPM	955	975	1000	1025	1050	1075	1100	1125	1150	1170	1195	1220	1240			
	Turns Open	4	3.5	3	2.5	1.5	1	4	3.5	2.5	2.5	2	1.5	1			
9400	BHP	4.83	4.94	5.12	5.32	5.52	5.72	5.92	6.12	6.32	6.48	6.68	6.88				
	Sheave/Mtr	A	A	D	D	D	D	E	E	E	E	E	E				
	RPM	970	990	1015	1040	1065	1090	1115	1140	1165	1185	1210	1235				
	Turns Open	3.5	3.5	2.5	2	1.5	1	3.5	3	2.5	2	1.5	1				
9600	BHP	5.10	5.24	5.44	5.64	5.84	6.04	6.24	6.40	6.60	6.80	6.96	7.16				
	Sheave/Mtr	D	D	D	D	D	E	E	E	E	E	E	E				
	RPM	985	1005	1030	1055	1080	1105	1130	1150	1175	1200	1220	1245				
	Turns Open	3.5	3	2	1.5	1	4	3.5	3	2.5	2	1.5	1				

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
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Blower Performance Data – TC_LV300 Standard Unit

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
7500	BHP	2.69	2.84	2.96	3.11	3.27	3.45	3.60	3.78	3.96	4.08	4.23	4.38	4.53	4.69	4.86	5.03
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	890	925	955	990	1020	1050	1075	1105	1135	1155	1180	1205	1230	1255	1275	1295
	Turns Open	4.5	3.5	2.5	2	5.5	5	4.5	3.5	3	3	2	1.5	1	3.5	3	2.5
7800	BHP	2.87	3.04	3.18	3.36	3.54	3.72	3.87	4.05	4.20	4.35	4.50	4.65	4.80	4.97	5.14	5.30
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	910	945	975	1010	1040	1070	1095	1125	1150	1175	1200	1225	1250	1270	1290	1310
	Turns Open	4	3	2	5.5	5	4.5	4	3	2.5	2.5	1.5	1	4	3	2.5	2.5
8100	BHP	3.10	3.26	3.42	3.60	3.78	3.96	4.14	4.34	4.52	4.70	4.88	5.06	5.21	5.35	5.53	5.68
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	935	965	995	1025	1055	1085	1115	1145	1170	1195	1220	1245	1265	1285	1310	1330
	Turns Open	3.5	2.5	1.5	5.5	5	4	3.5	3	2.5	2	1.5	4	3.5	3	2.5	2
8400	BHP	3.36	3.52	3.74	3.92	4.14	4.36	4.57	4.75	4.93	5.11	5.29	5.47	5.62	5.80	5.94	6.12
	Sheave/Mtr	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	955	985	1020	1045	1075	1105	1135	1160	1185	1210	1235	1260	1280	1305	1325	1350
	Turns Open	3	2	5.5	5	4.5	3.5	3	2.5	2	1.5	1	3.5	3	2.5	2	1.5
8700	BHP	3.60	3.79	4.00	4.22	4.43	4.65	4.83	5.01	5.19	5.37	5.55	5.76	5.97	6.14	6.35	6.56
	Sheave/Mtr	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	975	1005	1035	1065	1095	1125	1150	1175	1200	1225	1250	1275	1300	1320	1345	1370
	Turns Open	2.5	6	5	4.5	4	3	3	2	1.5	1	3.5	3	2.5	2	1.5	1
9000	BHP	3.90	4.12	4.30	4.51	4.73	4.91	5.09	5.30	5.48	5.66	5.89	6.08	6.32	6.56	6.76	
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
	RPM	1000	1030	1055	1085	1115	1140	1165	1195	1220	1245	1270	1290	1315	1340	1360	
	Turns Open	6	5.5	4.5	4	3.5	3	2.5	1.5	1	3.5	3	2.5	2	1.5	1.5	
9300	BHP	4.34	4.56	4.74	4.96	5.14	5.35	5.53	5.71	5.89	6.08	6.29	6.50	6.67	6.88	7.05	
	Sheave/Mtr	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
	RPM	1020	1050	1075	1105	1130	1160	1185	1210	1235	1260	1285	1310	1330	1355	1375	
	Turns Open	5.5	5	4.5	3.5	3	2.5	2	1.5	1	3	3	2.5	2	1.5	1	
9600	BHP	4.64	4.85	5.03	5.25	5.46	5.67	5.88	6.13	6.34	6.52	6.66	6.84	7.02	7.16		
	Sheave/Mtr	A	A	A	A	A	A	A	A	C	C	C	C	C	C		
	RPM	1040	1070	1095	1125	1150	1175	1200	1230	1255	1280	1300	1325	1350	1370		
	Turns Open	5	4.5	4	3.5	3	2	1.5	1	3.5	3	2.5	2	1.5	1		

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

Table Continued on Next Page

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Blower Performance Data – TC_LV300 Standard Unit

All Data is Wet Coil

Table Continued from Previous Page

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
9900	BHP	4.93	5.15	5.33	5.53	5.78	5.99	6.20	6.41	6.62	6.83	7.04	7.21	7.42			
	Sheave/Mtr	A	A	A	A	A	A	A	C	C	C	C	C	C			
	RPM	1060	1090	1115	1140	1170	1195	1220	1245	1270	1295	1320	1340	1365			
	Turns Open	4.5	4	3.5	3	2.5	1.5	1.5	3.5	3	2.5	2	2	1.5			
10200	BHP	5.36	5.57	5.77	5.95	6.17	6.35	6.53	6.74	6.94	7.18	7.42	7.61				
	Sheave/Mtr	A	A	A	A	A	A	C	C	C	C	C	E				
	RPM	1085	1110	1135	1160	1190	1215	1240	1265	1285	1310	1335	1355				
	Turns Open	4	3.5	3	2.5	2	1.5	4	3	3	2.5	2	1.5				
10500	BHP	5.52	5.75	5.99	6.23	6.47	6.71	6.95	7.19	7.43	7.62	7.86	8.10				
	Sheave/Mtr	A	A	A	A	A	A	C	C	C	E	E	E				
	RPM	1100	1130	1155	1180	1205	1230	1255	1280	1305	1325	1350	1375				
	Turns Open	4	3	2.5	2	1.5	1	3.5	3	2.5	2	1.5	1				
10800	BHP	6.00	6.24	6.48	6.72	6.96	7.20	7.39	7.63	7.87	8.11	8.30					
	Sheave/Mtr	A	A	A	A	A	C	C	E	E	E	E					
	RPM	1125	1150	1175	1200	1225	1250	1270	1295	1320	1345	1365					
	7000	3.5	3	5	1.5	1	3.5	3.5	2.5	2	1.5	1.5					

A = Standard Static/Standard Motor, B = Low Static/Standard Motor, C = High Static/Standard Motor, D = Standard Static/Large Motor, E = High Static/Large Motor
Unit factory shipped with standard static sheave and drive at 2.5 turns open. Other speed require field selection.
For applications requiring higher static pressure, contact your local representative.
Performance data does not include drive losses and is based on seal level conditions.
Do not operate in black regions. All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

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Blower Performance Data – 072 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
1800	BHP			0.28	0.32	0.35	0.39	0.42	0.45	0.48	0.52	0.56	0.60	0.64	0.69	0.72	0.76
	Torque Setting			B	B	B	A	A	A	A	A	A	C	C	C	C	C
	RPM			599	645	690	735	775	815	850	885	910	940	965	995	1015	1040
1900	BHP			0.31	0.36	0.40	0.44	0.49	0.53	2.50	0.62	0.65	0.69	0.73	0.76	0.80	0.84
	Torque Setting			B	B	A	A	A	A	A	A	C	C	C	C	C	C
	RPM			604	655	695	740	780	820	855	890	920	950	980	1005	1030	1055
2000	BHP		0.31	0.34	0.39	0.45	0.50	0.54	0.59	0.63	0.67	0.72	0.75	0.79	0.82	0.86	0.90
	Torque Setting		B	B	B	A	A	A	A	A	A	C	C	C	C	C	C
	RPM		568	615	660	705	750	785	825	860	895	930	960	990	1015	1040	1065
2100	BHP	0.33	0.38	0.42	0.46	0.50	0.54	0.59	0.65	0.70	0.74	0.78	0.81	0.85	0.89	0.94	0.98
	Torque Setting	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	531	583	630	670	715	755	795	835	875	905	940	970	1000	1025	1055	1080
2200	BHP	0.37	0.40	0.45	0.49	0.55	0.60	0.65	0.70	0.75	0.79	0.83	0.87	0.92	0.96	1.00	1.04
	Torque Setting	B	B	B	A	A	A	A	A	A	C	C	C	C	C	E	E
	RPM	552	599	645	685	730	770	810	850	885	915	950	980	1010	1040	1065	1090
2300	BHP	0.42	0.47	0.51	0.56	0.60	0.65	0.70	0.75	0.80	0.84	0.89	0.94	1.00	1.05	1.10	1.16
	Torque Setting	B	B	B	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	573	620	660	705	745	785	820	860	895	925	960	990	1020	1050	1075	1105
2400	BHP	0.48	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.87	0.92	0.97	1.02	1.07	1.13	1.19	1.25
	Torque Setting	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	604	645	690	730	765	805	845	880	910	945	975	1010	1035	1065	1095	1125
2500	BHP	0.52	0.57	0.61	0.66	0.72	0.78	0.83	0.89	0.94	1.00	1.03	1.08	1.14	1.20	1.25	1.31
	Torque Setting	B	B	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	620	660	700	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
2600	BHP	0.56	0.61	0.66	0.70	0.76	0.82	0.88	0.93	0.98	1.04	1.08	1.14	1.20	1.26	1.32	1.37
	Torque Setting	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	635	675	715	750	790	825	860	895	925	960	990	1020	1050	1080	1110	1135
2700	BHP	0.61	0.66	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.15	1.21	1.27	1.33	1.39	1.45
	Torque Setting	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	655	695	730	770	805	840	875	905	940	970	1000	1030	1060	1090	1120	1145
2800	BHP	0.66	0.72	0.77	0.83	0.88	0.93	0.99	1.05	1.11	1.16	1.22	1.30	1.37	1.44	1.51	1.57
	Torque Setting	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	670	710	750	785	815	850	885	915	950	980	1010	1040	1070	1100	1130	1155
2900	BHP	0.71	0.77	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.22	1.30	1.36	1.43	1.50	1.57	
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	
	RPM	685	725	765	795	830	860	895	925	955	985	1020	1045	1075	1105	1135	
3000	BHP	0.79	0.84	0.90	0.95	1.01	1.07	1.13	1.19	1.25	1.31	1.38	1.46	1.52	1.59		
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C	C		
	RPM	710	745	780	815	850	885	915	945	975	1005	1035	1065	1090	1120		

Note 1 = Motor Sheave set to 1-turn open from factory.
Note 2 = Factory torque setting is A. Can be adjusted in the field to any torque setting listed in drive table through ACDU01 Service Tool.
Note 3 = The unit can also control the blower through LAT control. Must be set in field with ACDU01 Service Tool.
Note 4 = Advanced control panel can be purchased as an accessory.

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Blower Performance Data – 096 VFD

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SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
2400	BHP	0.45	0.50	0.54	0.59	0.63	0.69	0.74	0.80	0.85	0.90	0.94	0.99	1.04	1.10	1.16	1.22
	Torque Setting	B	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C
	RPM	578	625	665	705	745	785	820	860	895	925	960	990	1020	1050	1080	1110
2500	BHP	0.50	0.55	0.59	0.64	0.69	0.75	0.81	0.88	0.92	0.97	1.01	1.06	1.12	1.17	1.23	1.29
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	599	645	685	725	765	800	835	875	905	940	970	1005	1035	1060	1090	1120
2600	BHP	0.55	0.60	0.65	0.69	0.75	0.80	0.86	0.92	0.97	1.02	1.08	1.13	1.19	1.25	1.30	1.36
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	625	665	705	740	780	815	850	885	920	950	985	1015	1045	1075	1100	1130
2700	BHP	0.60	0.65	0.70	0.75	0.80	0.86	0.91	0.97	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	645	685	725	760	795	830	865	900	930	960	995	1025	1055	1085	1115	1140
2800	BHP	0.65	0.71	0.76	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.21	1.28	1.36	1.43	1.50	1.56
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	665	705	745	780	810	845	880	910	945	975	1005	1035	1065	1095	1125	1150
2900	BHP	0.71	0.76	0.82	0.87	0.92	0.98	1.03	1.09	1.16	1.22	1.29	1.36	1.43	1.50	1.57	1.63
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	685	720	760	795	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
3000	BHP	0.78	0.84	0.89	0.95	1.00	1.06	1.12	1.18	1.24	1.30	1.37	1.43	1.50	1.58	1.64	1.71
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1055	1085	1115	1140	1170
3100	BHP	0.85	0.91	0.96	1.02	1.08	1.14	1.22	1.29	1.36	1.44	1.50	1.57	1.63	1.70	1.76	1.82
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	720	755	790	825	860	890	925	955	985	1015	1040	1070	1095	1125	1150	1175
3200	BHP	0.93	1.00	1.07	1.14	1.20	1.26	1.32	1.38	1.44	1.51	1.57	1.64	1.70	1.78	1.85	1.92
	Torque Setting	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	740	775	810	845	875	905	935	965	995	1025	1050	1080	1105	1135	1160	1185
3300	BHP	1.01	1.08	1.14	1.21	1.28	1.33	1.39	1.45	1.51	1.58	1.64	1.72	1.78	1.84	1.93	2.00
	Torque Setting	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1170	1195
3400	BHP	1.08	1.15	1.22	1.29	1.35	1.41	1.47	1.53	1.59	1.68	1.75	1.83	1.90	1.96	2.02	2.08
	Torque Setting	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	765	800	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
3500	BHP	1.16	1.23	1.29	1.36	1.42	1.48	1.54	1.60	1.66	1.73	1.79	1.85	1.92	2.01	2.09	2.17
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	780	815	845	880	910	940	970	1000	1025	1055	1080	1105	1130	1160	1185	1210

Note 1 = Motor Sheave set to 1-turn open from factory.
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Table Continued on Next Page

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Blower Performance Data – 096 VFD

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Table Continued from Previous Page

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
3600	BHP	1.24	1.30	1.37	1.44	1.51	1.58	1.65	1.72	1.78	1.86	1.92	1.98	2.06	2.13	2.21	2.29
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	795	825	860	890	920	950	980	1010	1035	1065	1090	1115	1145	1165	1190	1215
3700	BHP	1.34	1.40	1.46	1.53	1.61	1.68	1.75	1.82	1.90	1.97	2.06	2.13	2.21	2.28	2.36	2.44
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	820	850	880	910	940	970	1000	1025	1055	1080	1110	1135	1160	1180	1205	1230
3800	BHP	1.43	1.49	1.56	1.63	1.70	1.78	1.86	1.94	2.02	2.12	2.20	2.28	2.34	2.42	2.50	2.58
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	840	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1170	1195	1220	1245
3900	BHP	1.58	1.64	1.71	1.78	1.85	1.93	2.01	2.09	2.19	2.27	2.35	2.41	2.49	2.57	2.65	
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	
	RPM	865	890	920	950	980	1010	1035	1060	1090	1115	1140	1160	1185	1210	1235	
4000	BHP	1.68	1.75	1.83	1.92	2.00	2.08	2.16	2.26	2.34	2.42	2.50	2.56	2.64	2.72	2.80	
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	
	RPM	885	910	940	970	1000	1025	1050	1080	1105	1130	1155	1175	1200	1225	1250	

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Blower Performance Data – 120 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
3000	BHP	0.75	0.81	0.86	0.91	0.97	1.03	1.09	1.15	1.21	1.27	1.34	1.41	1.47	1.54	1.61	1.67
	Torque Setting	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A
	RPM	680	720	755	790	825	860	895	925	955	985	1015	1045	1070	1100	1130	1155
3100	BHP	0.82	0.88	0.94	0.99	1.04	1.10	1.17	1.26	1.33	1.40	1.46	1.53	1.59	1.66	1.72	1.80
	Torque Setting	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C
	RPM	700	735	775	805	840	875	905	940	970	1000	1025	1055	1080	1110	1135	1165
3200	BHP	0.90	0.96	1.03	1.10	1.17	1.23	1.29	1.35	1.41	1.47	1.55	1.61	1.68	1.74	1.81	1.89
	Torque Setting	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C
	RPM	720	755	790	825	860	890	920	950	980	1010	1040	1065	1095	1120	1145	1175
3300	BHP	0.98	1.04	1.11	1.18	1.25	1.31	1.37	1.43	1.49	1.55	1.62	1.68	1.75	1.81	1.88	1.95
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	C
	RPM	740	770	805	840	875	905	935	965	995	1020	1050	1075	1105	1130	1155	1180
3400	BHP	1.06	1.13	1.19	1.26	1.33	1.38	1.44	1.50	1.56	1.65	1.72	1.80	1.87	1.94	2.00	2.06
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	A	A	C	C
	RPM	755	790	820	855	890	915	945	975	1005	1035	1060	1090	1115	1140	1165	1190
3500	BHP	1.14	1.21	1.27	1.34	1.40	1.46	1.52	1.58	1.65	1.71	1.77	1.84	1.90	1.98	2.06	2.14
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C
	RPM	770	805	835	870	900	930	960	990	1020	1045	1070	1100	1125	1150	1175	1200
3600	BHP	1.23	1.29	1.36	1.42	1.50	1.57	1.64	1.71	1.77	1.84	1.90	1.96	2.05	2.13	2.21	2.27
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190	1210
3700	BHP	1.32	1.38	1.44	1.51	1.58	1.65	1.73	1.81	1.88	1.96	2.03	2.10	2.18	2.26	2.34	2.42
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	810	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1225
3800	BHP	1.41	1.47	1.54	1.61	1.68	1.75	1.82	1.91	1.99	2.07	2.17	2.25	2.31	2.39	2.47	2.55
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	830	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1160	1185	1210	1235
3900	BHP	1.54	1.60	1.67	1.74	1.82	1.89	1.96	2.04	2.14	2.22	2.30	2.38	2.46	2.52	2.60	2.68
	Torque Setting	B	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	850	875	905	935	965	995	1020	1045	1075	1100	1125	1150	1175	1195	1220	1245
4000	BHP	1.63	1.71	1.78	1.86	1.94	2.03	2.11	2.19	2.27	2.37	2.45	2.51	2.59	2.67	2.75	2.85
	Torque Setting	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	865	895	920	950	980	1010	1035	1060	1085	1115	1140	1160	1185	1210	1235	1260

Note 1 = Motor Sheave set to 1-turn open from factory.
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Note 4 = Advanced control panel can be purchased as an accessory.

Table Continued on Next Page

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Table Continued from Previous Page

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4100	BHP	1.73	1.81	1.90	1.97	2.05	2.12	2.20	2.27	2.34	2.42	2.52	2.62	2.70	2.80	2.90	
	Torque Setting	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	
	RPM	885	915	945	970	1000	1025	1055	1080	1105	1130	1155	1180	1200	1225	1250	
4200	BHP	1.87	1.94	2.02	2.08	2.16	2.24	2.32	2.40	2.48	2.58	2.68	2.76	2.86	2.96		
	Torque Setting	A	A	A	A	A	A	A	A	A	A	C	C	C	C		
	RPM	905	935	965	990	1020	1045	1070	1095	1120	1145	1170	1190	1215	1240		
4300	BHP	2.00	2.07	2.16	2.23	2.31	2.41	2.49	2.57	2.66	2.74	2.84	2.94	3.02	3.15		
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	E	E		
	RPM	930	955	985	1010	1035	1065	1090	1115	1140	1160	1185	1210	1230	1255		
4400	BHP	2.14	2.22	2.32	2.40	2.48	2.56	2.65	2.74	2.82	2.92	3.00	3.10	3.18			
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	C			
	RPM	950	975	1005	1030	1055	1080	1110	1135	1155	1180	1200	1225	1245			
4500	BHP	2.30	2.38	2.46	2.54	2.62	2.72	2.80	2.88	3.00	3.08	3.16	3.26				
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C				
	RPM	970	995	1020	1045	1070	1100	1125	1145	1170	1195	1215	1240				
4600	BHP	2.39	2.45	2.54	2.63	2.72	2.83	2.92	3.00	3.10	3.18	3.28	3.38				
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C				
	RPM	980	1000	1025	1050	1075	1105	1130	1150	1175	1195	1220	1245				
4700	BHP	2.46	2.52	2.62	2.72	2.82	2.92	3.02	3.12	3.22	3.32	3.40	3.50				
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C				
	RPM	985	1005	1030	1055	1080	1105	1130	1155	1180	1205	1225	1250				
4800	BHP	2.57	2.64	2.74	2.84	2.94	3.04	3.14	3.24	3.32	3.42	3.52	3.60				
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C				
	RPM	990	1010	1035	1060	1085	1110	1135	1160	1180	1205	1230	1250				
4900	BHP	2.68	2.78	2.88	3.00	3.06	3.16	3.26	3.36	3.44	3.54	3.64	3.75				
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C				
	RPM	995	1020	1045	1070	1090	1115	1140	1165	1185	1210	1235	1255				
5000	BHP	2.82	2.92	3.00	3.10	3.20	3.28	3.38	3.48	3.56	3.66	3.74					
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C					
	RPM	1005	1030	1050	1075	1100	1120	1145	1170	1190	1215	1235					

Note 1 = Motor Sheave set to 1-turn open from factory.
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Blower Performance Data – 160 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4200	BHP			0.69	0.78	0.86	0.95	1.02	1.11	1.21	1.32	1.41	1.50	1.57	1.64	1.72	1.80
4200	Torque Setting			B	B	B	B	A	A	A	A	A	A	A	C	C	C
4200	RPM			547	594	640	685	725	765	805	845	880	915	945	975	1005	1030
4400	BHP			0.75	0.83	0.92	1.01	1.11	1.21	1.31	1.41	1.51	1.60	1.68	1.76	1.85	1.94
4400	Torque Setting			B	B	B	B	A	A	A	A	A	A	A	C	C	C
4400	RPM			563	609	655	695	735	775	815	855	890	925	955	985	1015	1045
4600	BHP		0.75	0.85	0.95	1.03	1.11	1.19	1.30	1.40	1.50	1.60	1.70	1.78	1.89	2.00	2.10
4600	Torque Setting		B	B	B	B	B	A	A	A	A	A	A	C	C	C	C
4600	RPM		526	573	625	665	705	745	785	825	860	895	930	960	995	1025	1050
4800	BHP		0.83	0.94	1.03	1.12	1.20	1.30	1.40	1.53	1.63	1.73	1.82	1.92	2.00	2.12	2.22
4800	Torque Setting		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
4800	RPM		542	594	640	680	720	760	795	835	870	905	935	970	1000	1030	1055
5000	BHP		0.93	1.02	1.11	1.20	1.31	1.41	1.52	1.64	1.76	1.85	1.95	2.03	2.12	2.24	2.36
5000	Torque Setting		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
5000	RPM		563	609	650	690	735	770	805	840	880	910	945	975	1005	1035	1065
5200	BHP	0.93	1.02	1.10	1.20	1.29	1.39	1.50	1.61	1.72	1.83	1.94	2.06	2.15	2.26	2.38	2.50
5200	Torque Setting	B	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
5200	RPM	542	583	625	665	705	745	780	815	850	885	920	955	985	1015	1045	1075
5400	BHP	1.03	1.10	1.19	1.29	1.39	1.50	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62
5400	Torque Setting	B	B	B	B	B	A	A	A	A	A	A	C	C	C	C	C
5400	RPM	563	599	640	680	720	760	790	825	860	895	925	960	990	1020	1050	1080
5600	BHP	1.12	1.19	1.28	1.39	1.50	1.61	1.72	1.84	1.93	2.06	2.17	2.29	2.40	2.54	2.69	2.83
5600	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
5600	RPM	583	620	655	695	735	770	805	840	870	905	935	970	1000	1030	1060	1090
5800	BHP	1.17	1.28	1.39	1.49	1.60	1.70	1.81	1.90	2.02	2.14	2.28	2.40	2.52	2.67	2.81	2.96
5800	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
5800	RPM	588	630	670	710	750	780	815	845	880	910	945	975	1005	1035	1065	1095
6000	BHP	1.25	1.40	1.51	1.61	1.73	1.84	1.94	2.05	2.18	2.30	2.42	2.54	2.67	2.79	2.94	3.08
6000	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
6000	RPM	604	645	685	720	760	795	825	860	895	925	955	985	1015	1040	1070	1100
6200	BHP	1.40	1.51	1.62	1.75	1.86	1.98	2.09	2.20	2.34	2.49	2.63	2.78	2.92	3.06	3.18	
6200	Torque Setting	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	
6200	RPM	625	660	695	735	770	805	840	875	905	935	965	995	1025	1055	1080	
6400	BHP	1.55	1.68	1.79	1.90	2.04	2.18	2.32	2.44	2.56	2.68	2.80	2.92	3.07	3.19	3.33	
6400	Torque Setting	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	
6400	RPM	640	680	715	750	785	820	855	885	915	945	975	1005	1035	1060	1090	
6600	BHP	1.73	1.84	1.94	2.06	2.20	2.34	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	
6600	Torque Setting	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C	
6600	RPM	665	700	730	765	800	835	865	895	925	955	985	1015	1040	1070	1095	
6800	BHP	1.87	1.98	2.08	2.20	2.34	2.48	2.62	2.74	2.86	2.96	3.08	3.24	3.38	3.55		
6800	Torque Setting	B	B	A	A	A	A	A	A	A	C	C	C	C	C		
6800	RPM	685	715	745	775	810	845	880	910	940	965	995	1025	1050	1080		
7000	BHP	2.03	2.13	2.22	2.36	2.50	2.62	2.76	2.88	3.00	3.12	3.22	3.37	3.49	3.61		
7000	Torque Setting	B	A	A	A	A	A	A	A	A	C	C	C	C	C		
7000	RPM	705	730	755	790	825	855	890	920	950	980	1005	1035	1060	1085		

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Blower Performance Data – 192 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
4800	BHP		0.98	1.07	1.16	1.24	1.34	1.47	1.59	1.69	1.78	1.87	1.96	2.06	2.18	2.30	2.42
	Torque Setting		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		615	660	700	740	775	815	855	890	920	955	985	1015	1045	1075	1105
5000	BHP	0.99	1.07	1.18	1.27	1.37	1.49	1.60	1.73	1.82	1.92	2.00	2.10	2.22	2.32	2.44	2.56
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	594	635	680	720	760	795	830	870	900	935	965	1000	1030	1055	1085	1115
5200	BHP	1.09	1.18	1.28	1.36	1.48	1.59	1.70	1.82	1.93	2.02	2.14	2.24	2.36	2.48	2.60	2.72
	Sheave/Mtr	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	620	660	700	735	775	810	845	880	915	945	980	1010	1040	1070	1100	1130
5400	BHP	1.19	1.29	1.39	1.48	1.59	1.70	1.80	1.92	2.03	2.16	2.26	2.38	2.50	2.62	2.74	2.87
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	640	680	720	755	790	825	860	895	925	960	990	1020	1050	1080	1110	1140
5600	BHP	1.30	1.40	1.51	1.62	1.74	1.85	1.95	2.08	2.18	2.31	2.42	2.57	2.71	2.86	2.98	3.12
	Sheave/Mtr	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	660	700	740	775	810	845	875	910	940	975	1005	1035	1065	1095	1120	1150
5800	BHP	1.41	1.52	1.63	1.73	1.84	1.95	2.06	2.18	2.32	2.44	2.57	2.72	2.86	3.00	3.15	3.27
	Torque Setting	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	680	720	760	790	825	860	890	920	955	985	1015	1045	1075	1105	1135	1160
6000	BHP	1.56	1.67	1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30	3.42
	Torque Setting	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	700	740	775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145	1170
6200	BHP	1.70	1.83	1.94	2.06	2.17	2.30	2.44	2.58	2.73	2.87	3.02	3.14	3.28	3.40	3.54	3.66
	Torque Setting	B	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	720	760	795	830	865	895	925	955	985	1015	1045	1070	1100	1125	1155	1180
6400	BHP	1.88	2.02	2.16	2.28	2.42	2.54	2.66	2.78	2.90	3.04	3.16	3.31	3.43	3.58	3.72	3.86
	Torque Setting	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	745	780	815	845	880	910	940	970	1000	1030	1055	1085	1110	1140	1165	1190
6600	BHP	2.06	2.18	2.32	2.46	2.58	2.70	2.82	2.94	3.07	3.19	3.34	3.46	3.60	3.74	3.88	4.02
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	765	795	830	865	895	925	955	985	1015	1040	1070	1095	1125	1150	1175	1200
6800	BHP	2.22	2.36	2.50	2.62	2.74	2.86	3.00	3.10	3.27	3.41	3.58	3.72	3.85	3.97	4.11	4.23
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C
	RPM	780	815	850	880	910	940	970	1000	1030	1055	1085	1110	1135	1160	1190	1215
7000	BHP	2.40	2.54	2.66	2.80	2.92	3.04	3.14	3.27	3.39	3.54	3.66	3.78	3.96	4.12	4.28	4.44
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C
	RPM	800	835	865	900	930	960	985	1015	1040	1070	1095	1120	1150	1175	1200	1225

Note 1 = Motor Sheave set to 1-turn open from factory.
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Table Continued on Next Page

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Blower Performance Data – 192 VFD

All Data is Wet Coil

Table Continued from Previous Page

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
7200	BHP	2.58	2.70	2.85	2.99	3.14	3.28	3.42	3.54	3.66	3.81	3.93	4.06	4.22	4.38	4.54	4.70
	Torque Setting	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C
	RPM	820	850	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1185	1210	1235
7400	BHP	2.76	2.88	3.02	3.16	3.31	3.45	3.61	3.75	3.92	4.06	4.20	4.36	4.52	4.68	4.81	4.97
	Torque Setting	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C
	RPM	840	870	900	930	960	990	1020	1045	1075	1100	1125	1150	1175	1200	1220	1245
7600	BHP	2.94	3.07	3.22	3.36	3.50	3.63	3.82	3.98	4.14	4.34	4.50	4.66	4.78	4.94		
	Torque Setting	A	D	D	D	D	C	C	C	C	C	C	C	C	C		
	RPM	860	890	920	950	980	1005	1035	1060	1085	1115	1140	1165	1185	1210		
7800	BHP	3.22	3.34	3.49	3.63	3.78	3.96	4.12	4.28	4.44	4.63	4.76	4.92				
	Torque Setting	A	A	A	A	A	C	C	C	C	C	C	C				
	RPM	880	905	935	965	995	1025	1050	1075	1100	1130	1150	1175				
8000	BHP	3.41	3.58	3.75	3.92	4.06	4.26	4.42	4.58	4.74	4.90						
	Torque Setting	A	A	A	A	C	C	C	C	C	C						
	RPM	895	925	955	985	1010	1040	1065	1090	1115	1140						

Note 1 = Motor Sheave set to 1-turn open from factory.
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Blower Performance Data – 240 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
6000	BHP				1.78	1.89	2.00	2.12	2.24	2.36	2.48	2.60	2.74	2.89	3.01	3.15	3.30
	Torque Setting				B	B	B	A	A	A	A	A	A	A	A	C	C
	RPM				775	810	845	880	910	940	970	1000	1030	1060	1085	1115	1145
6200	BHP			1.82	1.93	2.04	2.15	2.30	2.44	2.58	2.73	2.87	2.99	3.14	3.26	3.40	3.52
	Torque Setting			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			755	790	825	860	895	925	955	985	1015	1040	1070	1095	1125	1150
6400	BHP			2.00	2.14	2.26	2.40	2.52	2.64	2.76	2.88	3.02	3.14	3.28	3.40	3.56	3.70
	Torque Setting			B	B	B	B	A	A	A	A	A	A	A	C	C	C
	RPM			775	810	840	875	905	935	965	995	1025	1050	1080	1105	1135	1160
6600	BHP		2.02	2.16	2.30	2.42	2.56	2.68	2.80	2.92	3.05	3.17	3.29	3.43	3.55	3.71	3.85
	Torque Setting		B	B	B	B	A	A	A	A	A	A	A	A	C	C	C
	RPM		755	790	825	855	890	920	950	980	1010	1035	1060	1090	1115	1145	1170
6800	BHP		2.18	2.32	2.46	2.58	2.70	2.84	2.94	3.06	3.21	3.35	3.52	3.66	3.82	3.94	4.06
	Torque Setting		B	B	B	B	A	A	A	A	A	A	A	C	C	C	C
	RPM		770	805	840	870	900	935	960	990	1020	1045	1075	1100	1130	1155	1180
7000	BHP	2.22	2.34	2.48	2.62	2.74	2.86	2.98	3.10	3.22	3.34	3.49	3.61	3.73	3.90	4.06	4.22
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	755	785	820	855	885	915	945	975	1005	1030	1060	1085	1110	1140	1165	1190
7200	BHP	2.38	2.52	2.64	2.78	2.92	3.06	3.21	3.35	3.47	3.62	3.74	3.88	4.00	4.16	4.32	4.48
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	770	805	835	870	900	930	960	990	1015	1045	1070	1100	1125	1150	1175	1200
7400	BHP	2.56	2.68	2.82	2.95	3.09	3.24	3.38	3.53	3.67	3.84	3.98	4.12	4.26	4.42	4.58	4.74
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	790	820	855	885	915	945	975	1005	1030	1060	1085	1110	1135	1160	1185	1210
7600	BHP	2.74	2.86	2.98	3.12	3.26	3.41	3.55	3.70	3.89	4.05	4.21	4.40	4.53	4.69	4.85	5.01
	Torque Setting	B	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	810	840	870	900	930	960	990	1015	1045	1070	1095	1125	1145	1170	1195	1220
7800	BHP	2.98	3.13	3.25	3.39	3.54	3.68	3.83	3.99	4.15	4.34	4.50	4.66	4.82	4.95	5.11	5.27
	Torque Setting	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	830	860	885	915	945	975	1005	1030	1055	1085	1110	1135	1160	1180	1205	1230
8000	BHP	3.18	3.30	3.44	3.61	3.78	3.94	4.10	4.29	4.45	4.61	4.77	4.93	5.09	5.25	5.38	5.54
	Torque Setting	B	B	A	A	A	A	A	A	A	C	C	C	C	C	C	C
	RPM	850	875	900	930	960	990	1015	1045	1070	1095	1120	1145	1170	1195	1215	1240
8200	BHP	3.35	3.48	3.65	3.79	3.96	4.13	4.27	4.44	4.58	4.72	4.88	5.08	5.24	5.44	5.64	
	Torque Setting	B	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
	RPM	865	890	920	945	975	1005	1030	1060	1085	1110	1135	1160	1180	1205	1230	

Note 1 = Motor Sheave set to 1-turn open from factory.
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Table Continued on Next Page

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Blower Performance Data – 240 VFD

All Data is Wet Coil

Table Continued from Previous Page

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
8400	BHP	3.62	3.74	3.89	4.03	4.18	4.33	4.49	4.65	4.81	4.97	5.16	5.36	5.56	5.72	5.92	
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	
	RPM	880	905	935	965	995	1020	1045	1070	1095	1120	1145	1170	1195	1215	1240	
8600	BHP	3.81	3.98	4.12	4.29	4.46	4.62	4.78	4.94	5.10	5.28	5.48	5.64	5.84	6.04	6.20	
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	
	RPM	895	925	950	980	1010	1035	1060	1085	1110	1135	1160	1180	1205	1230	1250	
8800	BHP	4.06	4.22	4.41	4.57	4.73	4.92	5.08	5.24	5.40	5.60	5.76	5.96	6.16	6.32		
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C	C		
	RPM	915	940	970	995	1020	1050	1075	1100	1125	1150	1170	1195	1220	1240		
9000	BHP	4.38	4.54	4.70	4.86	5.02	5.18	5.34	5.50	5.68	5.88	6.08	6.24				
	Sheave/Mtr	A	A	A	A	A	A	A	C	C	C	C	C				
	RPM	935	960	985	1010	1035	1060	1085	1110	1135	1160	1185	1205				
	Turns Open	4.5	4	3.5	3	2	1.5	1	3.5	3	2.5	2	1.5				
9200	BHP	4.65	4.76	4.90	5.08	5.26	5.44	5.62	5.80	6.00	6.16						
	Torque Setting	A	A	A	A	A	A	C	C	C	C						
	RPM	955	975	1000	1025	1050	1075	1100	1125	1150	1170						
9400	BHP	4.83	4.94	5.12	5.32	5.52	5.72	5.92	6.12	6.32	6.48						
	Torque Setting	A	A	A	A	A	A	C	C	C	C						
	RPM	970	990	1015	1040	1065	1090	1115	1140	1165	1185						
9600	BHP	5.10	5.24	5.44	5.64	5.84	6.04	6.24	6.40								
	Torque Setting	A	A	A	A	A	C	C	C								
	RPM	985	1005	1030	1055	1080	1105	1130	1150								

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Blower Performance Data – 300 VFD

All Data is Wet Coil

SCFM	ESP	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50
7500	BHP	2.69	2.84	2.96	3.11	3.27	3.45	3.60	3.78	3.96	4.08	4.23	4.38	4.53	4.69	4.86	5.03
	Torque Setting	B	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C
	RPM	890	925	955	990	1020	1050	1075	1105	1135	1155	1180	1205	1230	1255	1275	1295
7800	BHP	2.87	3.04	3.18	3.36	3.54	3.72	3.87	4.05	4.20	4.35	4.50	4.65	4.80	4.97	5.14	5.30
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C
	RPM	910	945	975	1010	1040	1070	1095	1125	1150	1175	1200	1225	1250	1270	1290	1310
8100	BHP	3.10	3.26	3.42	3.60	3.78	3.96	4.14	4.34	4.52	4.70	4.88	5.06	5.21	5.35	5.53	5.68
	Torque Setting	B	B	B	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	935	965	995	1025	1055	1085	1115	1145	1170	1195	1220	1245	1265	1285	1310	1330
8400	BHP	3.36	3.52	3.74	3.92	4.14	4.36	4.57	4.75	4.93	5.11	5.29	5.47	5.62	5.80	5.94	6.12
	Torque Setting	B	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C
	RPM	955	985	1020	1045	1075	1105	1135	1160	1185	1210	1235	1260	1280	1305	1325	1350
8700	BHP	3.60	3.79	4.00	4.22	4.43	4.65	4.83	5.01	5.19	5.37	5.55	5.76	5.97	6.14	6.35	6.56
	Torque Setting	B	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C
	RPM	975	1005	1035	1065	1095	1125	1150	1175	1200	1225	1250	1275	1300	1320	1345	1370
9000	BHP	3.90	4.12	4.30	4.51	4.73	4.91	5.09	5.30	5.48	5.66	5.89	6.08	6.32	6.56	6.76	
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
	RPM	1000	1030	1055	1085	1115	1140	1165	1195	1220	1245	1270	1290	1315	1340	1360	
9300	BHP	4.34	4.56	4.74	4.96	5.14	5.35	5.53	5.71	5.89	6.08	6.29	6.50	6.67	6.88	7.05	
	Torque Setting	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
	RPM	1020	1050	1075	1105	1130	1160	1185	1210	1235	1260	1285	1310	1330	1355	1375	
9600	BHP	4.64	4.85	5.03	5.25	5.46	5.67	5.88	6.13	6.34	6.52	6.66	6.84	7.02	7.16		
	Torque Setting	A	A	A	A	A	A	A	A	C	C	C	C	C	C		
	RPM	1040	1070	1095	1125	1150	1175	1200	1230	1255	1280	1300	1325	1350	1370		
9900	BHP	4.93	5.15	5.33	5.53	5.78	5.99	6.20	6.41	6.62	6.83	7.04	7.21	7.42			
	Torque Setting	A	A	A	A	A	A	A	C	C	C	C	C	C			
	RPM	1060	1090	1115	1140	1170	1195	1220	1245	1270	1295	1320	1340	1365			
10200	BHP	5.36	5.57	5.77	5.95	6.17	6.35	6.53	6.74	6.94	7.18						
	Torque Setting	A	A	A	A	A	A	C	C	C	C						
	RPM	1085	1110	1135	1160	1190	1215	1240	1265	1285	1310						
10500	BHP	5.52	5.75	5.99	6.23	6.47	6.71	6.95	7.19								
	Torque Setting	A	A	A	A	A	A	C	C								
	RPM	1100	1130	1155	1180	1205	1230	1255	1280								
10800	BHP	6.00	6.24	6.48	6.72	6.96	7.20	7.39	7.63								
	Torque Setting	A	A	A	A	A	C	C	C								
	RPM	1125	1150	1175	1200	1225	1250	1270	1295								

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Waterside Economizer (WSE) Data

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

Model	Water Side			Airside		Capacity	
	FLOW (gpm)	PD (psi)	PD (ft)	CFM	PD (in. wg.)	TC	SC
TC_LH072	20	5.3	12.2	2400	0.1	34400	29200
TC_LH096	24	14.0	32.2	3200	0.1	46400	38400
TC_LH120	30	12.0	27.7	4000	0.1	47500	39300
TC_LV072	20	7.5	17.4	2400	0.1	32300	24300
TC_LV096	24	6.9	15.9	3200	0.1	45200	42300
TC_LV120	30	5.3	12.1	4000	0.1	47300	44000
TC_LV160	42	4.7	10.9	5600	0.1	89500	76200
TC_LV192	48	6.2	14.2	6400	0.1	92200	77000
TC_LV240	60	15.1	34.9	8000	0.11	198800	174000
TC_LV300	75	17.8	41.1	10000	0.19	208200	177700

TC_LH 072, 2400 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	20	5.3	12.2	34400	29200	49
45	15	3.2	7.4	31900	28100	49
45	10	1.6	3.7	28200	26100	51
50	20	5.3	12.2	27200	25700	53
50	15	3.2	7.4	25700	24600	54
50	10	1.6	3.7	23300	23100	55
55	20	5.3	12.2	22000	22000	57
55	15	3.2	7.4	21000	21000	58
55	10	1.6	3.7	19400	19400	59
60	20	5.3	12.2	18300	18300	62
60	15	3.2	7.4	17700	17700	62
60	10	1.6	3.7	16800	16800	63

TC_LH 096, 3200 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	24	14.0	32.2	46400	38400	49
45	18	7.9	18.1	43700	36700	50
45	12	3.5	8.1	39400	34200	51
50	24	14.0	32.2	36500	33000	53
50	18	7.9	18.1	34400	31500	54
50	12	3.5	8.1	31400	29500	55
55	24	14.0	32.2	30700	28000	58
55	18	7.9	18.1	29100	26800	58
55	12	3.5	8.1	26900	25200	59
60	24	14.0	32.2	25100	23200	62
60	18	7.9	18.1	24300	22100	63
60	12	3.5	8.1	22900	20400	63

TC_LH 120, 4000 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	30	12.0	27.7	47500	39300	48
45	22.5	6.8	15.7	45800	38000	49
45	15	3.2	7.4	41800	35600	50
50	30	12.0	27.7	37800	33900	53
50	22.5	6.8	15.7	36100	32600	53
50	15	3.2	7.4	33000	30800	55
55	30	12.0	27.7	31600	28800	57
55	22.5	6.8	15.7	30200	27700	58
55	15	3.2	7.4	28300	26100	59
60	30	12.0	27.7	25600	23800	62
60	22.5	6.8	15.7	24900	23000	62
60	15	3.2	7.4	23800	21400	63

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Waterside Economizer (WSE) Data

TC_LV 072, 2400 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	24	6.9	15.9	45200	42300	49
45	18	3.9	9.0	41900	39700	50
45	12	1.7	4.0	37500	36100	51
50	24	6.9	15.9	36400	36400	53
50	18	3.9	9.0	33900	33900	54
50	12	1.7	4.0	31000	31000	55
55	24	6.9	15.9	30400	30400	58
55	18	3.9	9.0	28500	28500	58
55	12	1.7	4.0	25800	25800	59
60	24	6.9	15.9	25000	25000	62
60	18	3.9	9.0	23600	23600	63
60	12	1.7	4.0	21600	21600	63

TC_LV 096, 3200 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	24	6.9	15.9	45200	42300	49
45	18	3.9	9.0	41900	39700	50
45	12	1.7	4.0	37500	36100	51
50	24	6.9	15.9	36400	36400	53
50	18	3.9	9.0	33900	33900	54
50	12	1.7	4.0	31000	31000	55
55	24	6.9	15.9	30400	30400	58
55	18	3.9	9.0	28500	28500	58
55	12	1.7	4.0	25800	25800	59
60	24	6.9	15.9	25000	25000	62
60	18	3.9	9.0	23600	23600	63
60	12	1.7	4.0	21600	21600	63

TC_LV 120, 4000 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	30	5.3	12.1	47300	44000	48
45	22.5	3.0	6.9	44400	41600	49
45	15	1.4	3.2	39900	38100	50
50	30	5.3	12.1	38500	38300	53
50	22.5	3.0	6.9	35800	35800	53
50	15	1.4	3.2	32500	32500	54
55	30	5.3	12.1	31400	31400	57
55	22.5	3.0	6.9	29900	29900	58
55	15	1.4	3.2	27400	27400	59
60	30	5.3	12.1	25800	25800	62
60	22.5	3.0	6.9	24600	24600	62
60	15	1.4	3.2	22800	22800	63

TC_LV 160, 5600 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	24	6.9	15.9	45200	42300	49
45	18	3.9	9.0	41900	39700	50
45	12	1.7	4.0	37500	36100	51
50	24	6.9	15.9	36400	36400	53
50	18	3.9	9.0	33900	33900	54
50	12	1.7	4.0	31000	31000	55
55	24	6.9	15.9	30400	30400	58
55	18	3.9	9.0	28500	28500	58
55	12	1.7	4.0	25800	25800	59
60	24	6.9	15.9	25000	25000	62
60	18	3.9	9.0	23600	23600	63
60	12	1.7	4.0	21600	21600	63

TC_LV 192, 6400 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	48	6.2	14.2	92200	77000	49
45	36	3.5	8.0	85800	74600	50
45	24	1.5	3.6	75700	69100	51
50	48	6.2	14.2	72700	67100	53
50	36	3.5	8.0	69100	64900	54
50	24	1.5	3.6	63300	60800	55
55	48	6.2	14.2	58900	57100	57
55	36	3.5	8.0	56300	54900	58
55	24	1.5	3.6	52300	51400	59
60	48	6.2	14.2	48000	46300	62
60	36	3.5	8.0	46400	44500	62
60	24	1.5	3.6	43600	41600	63

TC_LV 240, 8000 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW (gpm)	PD (psi)	PD (ft)	TC	SC	LWT
45	60	15.1	34.9	198800	174000	52
45	45	8.5	19.6	183500	165900	54
45	30	3.8	8.7	162200	153300	55
50	60	15.1	34.9	164800	153800	59
50	45	8.5	19.6	153300	145600	61
50	30	3.8	8.7	138000	133900	62
55	60	15.1	34.9	133200	130600	59
55	45	8.5	19.6	126700	123500	61
55	30	3.8	8.7	116700	113600	62
60	60	15.1	34.9	109400	105000	64
60	45	8.5	19.6	104700	99900	65
60	30	3.8	8.7	96800	91800	66

Interpolation is permissible, extrapolation is not. All entering air conditions are 80°F DB and 67°F WB.
See performance correction tables for operating conditions other than those listed above.

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Waterside Economizer (WSE) Data

TC_LV 300, 10000 CFM Nominal Airflow

EWT °F	Waterside			Capacity		
	FLOW GPM	PD PSI	PD ft	TC	SC	LWT
45	75	17.8	41.1	208200	177700	51
45	56.25	10.6	24.6	195200	171700	52
45	37.5	5.0	11.6	174200	161300	54
50	75	17.8	41.1	172500	158700	54
50	56.25	10.6	24.6	162200	151800	56
50	37.5	5.0	11.6	146400	140700	57
55	75	17.8	41.1	136200	135100	58
55	56.25	10.6	24.6	131800	128800	59
55	37.5	5.0	11.6	122300	119400	61
60	75	17.8	41.1	111000	107200	63
60	56.25	10.6	24.6	108400	103900	64
60	37.5	5.0	11.6	101200	96300	65

Interpolation is permissible, extrapolation is not. All entering air conditions are 80°F DB and 67°F WB.
See performance correction tables for operating conditions other than those listed above.

Model	Econ - On	Econ -Off
	CV	
072	34	27
096	61	49
120	61	49
160	109	87
192	109	87
240	109	87
300	109	87

Airside PD

Model	Coil	AirSide PD Adder (in. wg) at CFM/TON				
		300	350	400	450	500
TC_LH072	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LH096	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.12	0.14
TC_LH120	Dry	0.1	0.1	0.1	0.11	0.13
	Wet	0.1	0.12	0.14	0.17	0.19
TC_LV072	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LV096	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LV120	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LV160	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LV192	Dry	0.1	0.1	0.1	0.1	0.1
	Wet	0.1	0.1	0.1	0.1	0.1
TC_LV240	Dry	0.1	0.16	0.12	0.15	0.19
	Wet	0.12	0.16	0.19	0.23	0.26
TC_LV300	Dry	0.1	0.14	0.19		
	Wet	0.19	0.21	0.26		

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Waterside Economizer (WSE) Correction Tables

Entering Air Correction Tables

All TC_LH

Ent Air WB °F	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50	0.801	*	*	*	*	*	*	*	*	*
55	0.801	*	*	*	*	*	*	*	*	*
60	0.801	0.513	0.695	*	*	*	*	*	*	*
65	0.963		0.660	0.843	1.028	1.048	*	*	*	*
66.2	0.986		0.585	0.797	1.011	1.030	*	*	*	*
67	1.000		0.535	0.767	1.000	1.019	1.174	*	*	*
70	1.042			0.652	0.894	0.914	1.123	1.321	*	*
75	1.170				0.714	0.751	1.039	1.230	1.421	*

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

TC_LV072

Ent Air WB °F	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50	0.801	*	*	*	*	*	*	*	*	*
55	0.801	*	*	*	*	*	*	*	*	*
60	0.801	0.513	0.695	*	*	*	*	*	*	*
65	0.963		0.660	0.843	1.028	1.048	*	*	*	*
66.2	0.986		0.585	0.797	1.011	1.030	*	*	*	*
67	1.000		0.535	0.767	1.000	1.019	1.174	*	*	*
70	1.042			0.652	0.894	0.914	1.123	1.321	*	*
75	1.170				0.714	0.751	1.039	1.230	1.421	*

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

TC_LV096-300

Ent Air WB °F	Total Clg Cap	Sens Clg Cap Multipliers - Entering DB °F								
		65	70	75	80	80.6	85	90	95	100
50	0.801	*	*	*	*	*	*	*	*	*
55	0.801	*	*	*	*	*	*	*	*	*
60	0.801	0.513	0.695	*	*	*	*	*	*	*
65	0.963		0.660	0.843	1.028	1.048	*	*	*	*
66.2	0.986		0.585	0.797	1.011	1.030	*	*	*	*
67	1.000		0.535	0.767	1.000	1.019	1.174	*	*	*
70	1.042			0.652	0.894	0.914	1.123	1.321	*	*
75	1.170				0.714	0.751	1.039	1.230	1.421	*

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

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Waterside Economizer (WSE) Correction Tables

Airflow Correction Tables

TC_LH

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75	0.860	0.969
81.25	0.895	0.975
87.5	0.930	0.985
93.75	0.965	0.998
100	1.000	1.000
106.25	1.035	1.007
112.5	1.070	1.010
118.75	1.105	1.019
125	1.140	1.020

TC_LV

Airflow	Cooling Corrections	
% Normal Capacity	Sensible Capacity	Sens/Total Ratio
75	0.856	0.967
81.25	0.892	0.970
87.5	0.928	0.984
93.75	0.964	0.992
100	1.000	1.000
106.25	1.035	1.007
112.5	1.070	1.013
118.75	1.105	1.018
125	1.139	1.024

Note: TC_LV300 cannot exceed 100%

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Model	072	096	120
Compressor Quantity	Scroll		
Number of Circuits (Compressors)	2		
Factory Charge HFC-410a (oz) [kg] per circuit	60 [1.70]	76 [2.15]	80 [2.27]
Blower Motor			
Blower Motor Quantity	1		
Standard Motor (hp) [kW]	1 [0.75]	2 [1.49]	3 [2.24]
* Large Motor (hp) [kW]	2 [1.49]	3 [2.24]	5 [3.73]
Blower			
No. of Blowers	1		
Blower Wheel Size D x W (in) [cm]	12 x 12 [30.48 x 30.48]		
Water Connection Size			
FPT (in) [mm]	1-1/4" [31.8]		1-1/2" [38.1]
Coax Volume			
Volume (US Gallons) [liters]	1.62 [6.13]	1.81 [6.85]	2.40 [9.08]
Condensate Connection Size			
FPT (in) [mm]	3/4" [19.1]		
Air Coil Data			
Air Coil Dimensions H x W (in) [cm]	20 x 54 [50.8 x 137.2]	20 x 64 [50.8 x 162.6]	
Air Coil Total Face Area (ft^2) [m^2]	7.5 [0.70]	8.9 [0.83]	
Air Coil Tube Size (in) [cm]	3/8" [0.953]		
Air Coil Fin Spacing (fpi) [fins per cm]	14 [5.5]		
Air Coil Number of Rows	3		
Miscellaneous Data			
Filter Standard - 1" [25.4mm] Throwaway (qty) (in) [cm]	(QTY.4) 16 x 20 [40.64 x 50.80]		
Weight - Operating (lbs) [kg]	586 [265.8]	644 [292.1]	698 [316.6]
Weight - Packaged (lbs) [kg]	626 [283.9]	684 [310.3]	738 [334.8]

* Unit with "F" Blower Drive Package is always Large Motor.
All units have grommet compressor mountings, and 1/2-inch & 1-3/4-inch electrical knockouts.

Unit Maximum Water Working Pressure	Max Pressure (psi) [kPa]
Base Unit	500 [3447]

Unit with WSE Option

TC_LH Series	072	096	120
Water Coil Dimensions (in) [cm]	20 x 54 [50.8 x 137.2]	20 x 60 [50.8 x 152.4]	
Internal Water Coil Volume (Gal) [L]	5.6 [21.6]	6.2 [23.5]	6.8 [25.7]
Weight - Operating (lbs.) [Kg]	838 [380]	921 [418]	998 [453]
Weight - Packaged (lbs.) [Kg]	900 [408]	978 [444]	1058 [480]

TC_LH072-120 Corner Weights

	TC_LH072	TC_LH096	TC_LH120
Weight - Operating (lbs) [kg]	586 [265.8]	644 [292.1]	698 [316.6]
Weight - Packaged (lbs) [kg]	626 [283.9]	684 [310.3]	738 [334.8]
Weight - Corner - Control box/ Compressor side (lbs) [kg]	235 [106.6]	254 [115.2]	271 [122.9]
Weight - Corner - Compressor side (lbs) [kg]	101 [45.8]	120 [54.4]	137 [62.1]
Weight - Corner - Blower side (lbs) [kg]	180 [81.6]	190 [86.2]	200 [90.7]
Weight - Corner - Air Coil side (lbs) [kg]	70 [31.8]	80 [36.3]	90 [40.8]

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TC_LH072-120 Dimensional Data

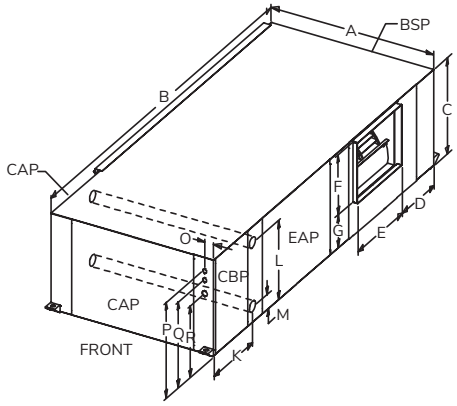
ALL CONFIGURATIONS REQUIRE SERVICE ACCESS AREA DESCRIBED IN NOTES 5 AND 6.

Notes:

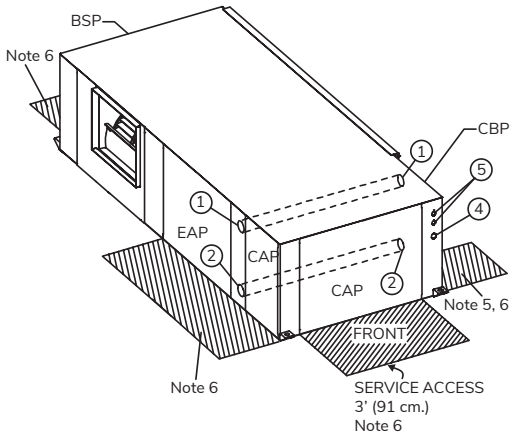
All dimensions in table are inches (cm).

1. Service access is required for all removable panels and installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Water inlet and water outlet connections are available on either side (left or right) of the unit. Qty (2x) MPT Plugs are shipped loose in a plastic bag tied to the water leg in front of the unit. Installer must plug water inlet/outlet side not being connected to.
3. Condensate drain is ¾-inch FPT and is located on cabinet end opposite the compressor.
4. Electrical access is available on either side (left or right) of the front.
5. Electric box is on right side. It can be field converted to left side. Conversion should only be attempted by qualified service technician. If electric box relocated to opposite side, and water connected to opposite side, then this access is not required.
6. Units require 3-foot (90.1 cm) clearance for water connections, CAP, CBP, EAP, and BSP service access.
7. Overall cabinet width dimensions does not include filter rail and duct flange.
8. Units are shipped with air filter rails that are not suitable for supporting return air ductwork. An air filter frame with duct mounting collar is available as an accessory.

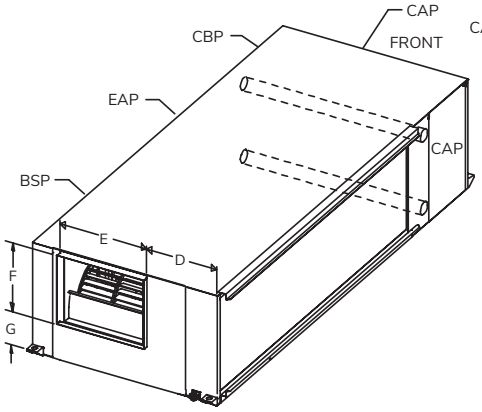
LEFT RETURN STRAIGHT DISCHARGE



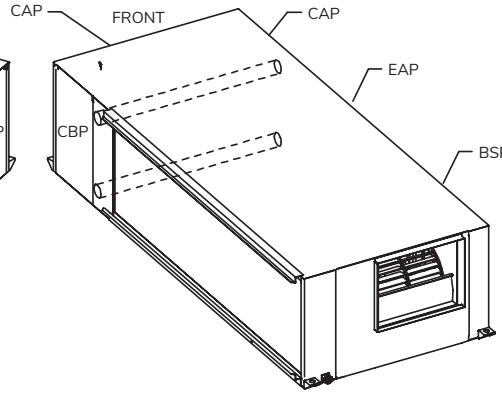
RIGHT RETURN STRAIGHT DISCHARGE



LEFT RETURN END DISCHARGE



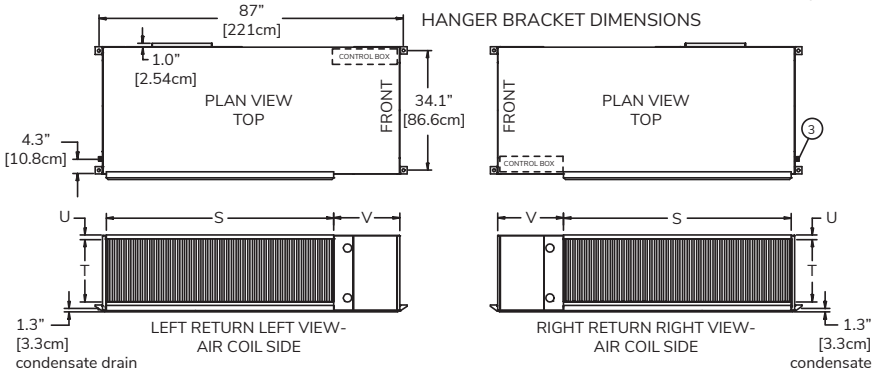
RIGHT RETURN END DISCHARGE



LEGEND	TCH072-096	TCH120
① Water Inlet	1-1/4" FPT [3.2 cm]	1-1/2" FPT [3.8 cm]
② Water Outlet	1-1/4" FPT [3.2 cm]	1-1/2" FPT [3.8 cm]
③ Condensate Drain	3/4" FPT [1.9 cm]	
④ High Voltage Access	1-1/8" FPT [2.9 cm]	
⑤ Low Voltage Access	7/8" FPT [2.2 cm]	

BSP - Blower Service Panel
CAP - Control Access Panel
CSP - Compressor Access Panel
MSP - Motor Service Panel
NRP - Non Removable Panel
UPA - Upper Pulley Access

HANGER BRACKET DIMENSIONS



TC_LH072-120 Dimensional Data

Model		Overall Cabinet			Discharge Connections Duct Flange				Water Connections			Electrical Knockouts				Return Air Connections Using Return Air Opening					
		A Width	B Depth	C Height	D	E Supply Depth	F Supply Width	G Supply Height	K	L Water Outlet	M Water Inlet	O	P	Q	R	S Return Depth		T Return Height	U	V	
																072	096, 120			072	096, 120
072-120	in.	36.3	84.9	21.6	14.0	17.0	13.5	7.8	15.0	18.3	4.0	2.0	18.8	16.8	13.8	55	65	18.0	1.0	28.9	18.9
	cm.	92.2	215.6	54.9	35.6	43.2	34.3	19.8	38.1	46.4	10.2	5.1	47.8	42.7	35.1	139.7	165.1	45.7	2.5	73.4	48

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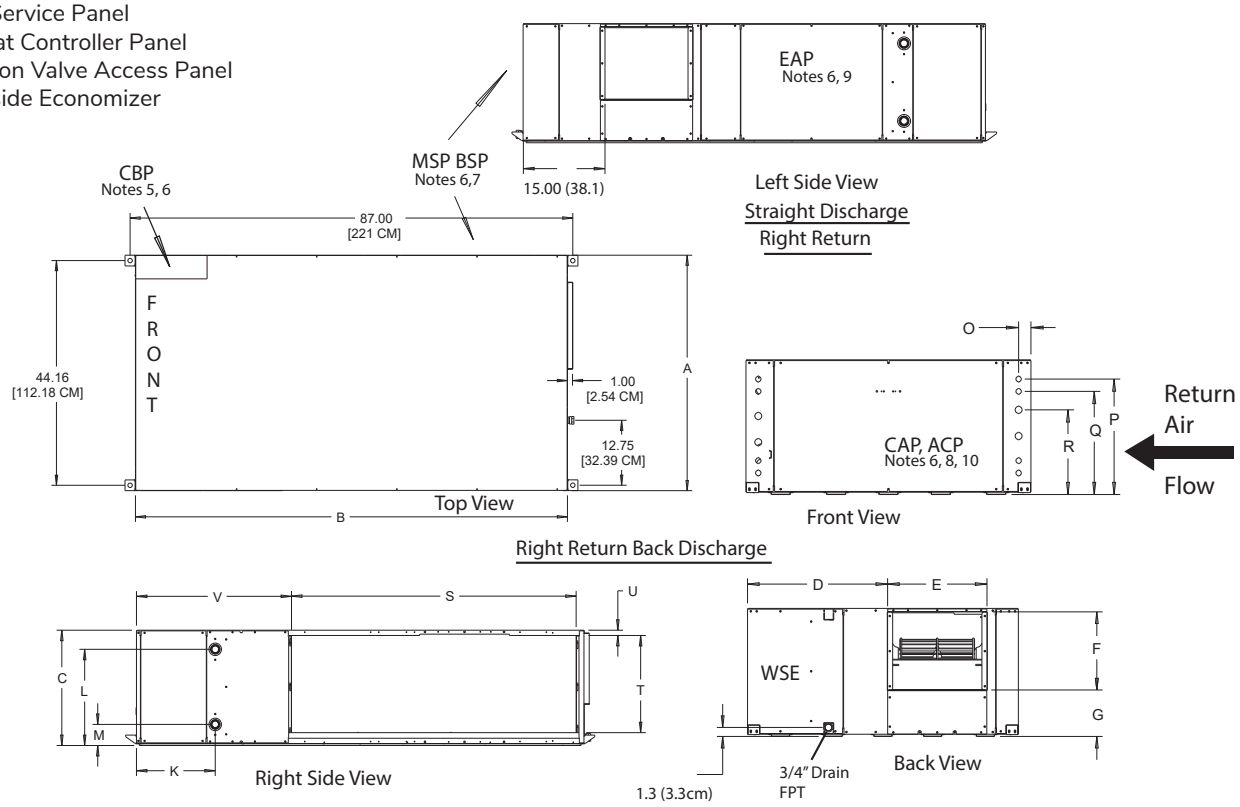
TC_LH072-120 with WSE Dimensional Data

Legend:

BSP = Blower Service Panel
CAP = Compressor Access Panel
CBP = Control Box Panel
MSP = Motor Service Panel
ACP = Aquastat Controller Panel
EAP = Expansion Valve Access Panel
WSE = Waterside Economizer



Notes:

1. Service access is required for all removable panels and installer should take care to comply with all building codes allowing adequate clearance for future field service.
2. Units are shipped with air filter rails that are not suitable for supporting return air ductwork. An air filter frame with duct mounting collar is available as an accessory.
3. Discharge flange and hanger brackets are factory installed
4. Condensate drain is ¾ inch. FPT and is located on cabinet end opposite the compressor.
5. Unit control box is on side opposite return air (not convertible).
6. Units require 3-foot (91 cm) clearance for water connections, CAP, CBP, EAP, MSP, ACP, and BSP service panels.
7. Blower service access is through back panel on straight discharge units or through panel opposite air coil on back discharge units.
8. Factory supplied controller (aquastat) is inside unit completely wired. To field adjust temperature setting, remove ACP panel and push button.
9. Expansion valve access panel is opposite return air side.
10. WSE coil air bleed access is through CAP.

TC_LH072-120 with WSE

Model		Overall Cabinet			Discharge Connections Duct Flange				Water Connections			Electrical Knockouts				Return Air Connections Using Return Air Opening					
		A	B	C	D	E	F	G	K	L	M	O	P	Q	R	S		T	U	V	
		Width	Depth	Height		Supply Depth	Supply Width	Supply Height		Water Outlet	Water Inlet					Return Depth		Return Height			
																072	096, 120			072	096, 120
072-120	in.	46.3	84.9	21.6	23.9	17.0	13.5	7.8	15.0	18.3	4.0	2.0	18.8	16.8	13.8	55.0	61	18.0	1.0	28.9	22.9
	cm.	117.6	215.6	54.9	60.9	43.2	34.3	19.8	38.1	46.4	10.2	5.1	47.8	42.7	35.1	139.7	154.9	45.7	2.5	73.4	58.2

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TC_LV Physical Data

Model	072	096	120	160	192	240	300
Compressor	Scroll						
Number of Circuits (Compressors)	2						
Factory Charge HFC-410a - (oz) [kg] per circuit	60 [1.70]	76 [2.15]	80 [2.27]	112 [3.18]	136 [3.86]	196 [5.56]	224 [6.35]
Blower Motor							
Blower Motor Quantity	1						
Standard Motor (hp) [kw]	1 [.75]	2 [1.49]	3 [2.23]	3 [2.24]	3 [2.24]	5 [3.73]	7.5 [5.60]
*Optional Large Motor (hp) [kw]	2 [1.49]	3 [2.24]	5 [3.73]	5 [3.73]	5 [3.73]	7.5 [5.59]	10 [7.46]
Blower							
No. of Blowers	1			2			3
Blower Wheel Size D x W (in) [cm]	12 x 12 [30.48 x 30.48]						
Water Connection Size							
FPT (in) [mm]	1-1/4" [31.8]		1-1/2" [38.1]	2" [50.8]			2-1/2" [63.5]
Coax Volume							
Volume (US Gallons) [liters]	1.62 [6.13]	1.81 [6.85]	2.40 [9.08]	3.62 [13.70]	4.83 [18.28]	4.90 [18.55]	7.39 [27.98]
Condensate Connection Size							
FPT (in) [mm]	1" [25.4]						
Air Coil Data							
Air Coil Dimensions H x W (in) [cm]	32 x 34 [81.28 x 86.36]	36 x 36 [91.44 x 91.44]		36 x 76 [91.44 x 193.04]			
Air Coil Total Face Area (ft^2) [m^2]	7.6 [0.71]	9.0 [0.84]		19 [1.77]			
Air Coil Tube Size (in) [cm]	3/8" [0.953]						
Air Coil Fin Spacing (fpi) [fins per cm]	14 [5.5]						12 [4.72]
Air Coil Number of Rows	3			2	3		4
Miscellaneous Data							
Filter Standard - 1" [25.4mm] Throwaway (qty) (in) [cm]	(QTY. 2) 20 x 30 [50.80 x 76.2] (QTY. 2) 10 x 20 [25.4 x 40.64]			(QTY. 4) 20 x 25 [50.80 x 63.5] (QTY. 2) 20 x 30 [50.80 x 76.2]			
Weight - Operating (lbs) [kg]	586 [265.8]	644 [292.1]	698 [316.6]	1069 [484.9]	1164 [528.0]	1184 [537.1]	1297 [588.3]
Weight - Packaged (lbs) [kg]	626 [283.9]	684 [310.3]	738 [334.8]	1149 [521.2]	1244 [564.3]	1264 [573.3]	1377 [624.6]

*Unit with "F" Blower Drive Package is always Large Motor.

Unit with WSE Option

TC_LV Series	072	096	120	160	192	240	300
Water Coil Dimensions (in x cm)	32 x 34 [81.28 x 86.36]	35 x 36 [88.9 x 91.4]		35 x 76 [88.9 x 193]			
Internal Water Coil Volume (Gal) [L]	5.9 [22.3]	6.6 [25]	7.2 [27.3]	13.3 [50.3]	14.5 [54.9]	23.9 [90.5]	26.4 [99.9]
Weight - Operating (lbs.) [Kg]	762 [346]	837 [378]	907 [411]	1529 [694]	1665 [755]	1693 [768]	1855 [841]
Weight - Packaged (lbs.) [Kg]	814 [369]	889 [403]	962 [436]	1643 [745]	1779 [807]	1808 [820]	1974 [895]

Unit Maximum Water Working Pressure	Maximum Pressure PSIG [kPa]
Base Unit	500 [3445]
WSE Option	300 [2068]

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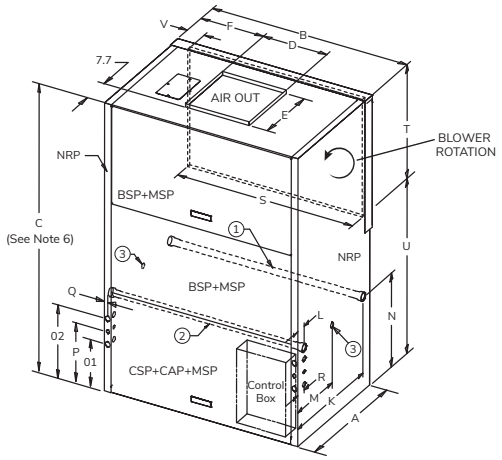
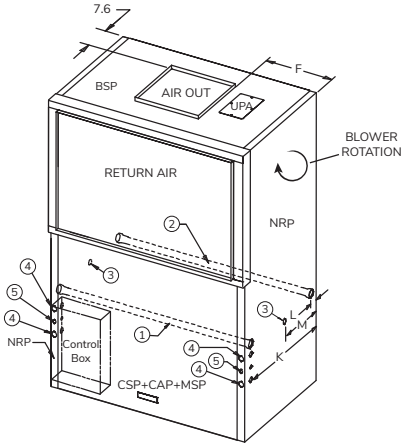
TC_LV072-120 Dimensional Data

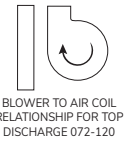
ALL CONFIGURATIONS REQUIRE SERVICE ACCESS AREA DESCRIBED IN NOTES 7, 8, and 9



REAR RETURN TOP DISCHARGE (RR/TD)



FRONT RETURN TOP DISCHARGE (FR/TD)



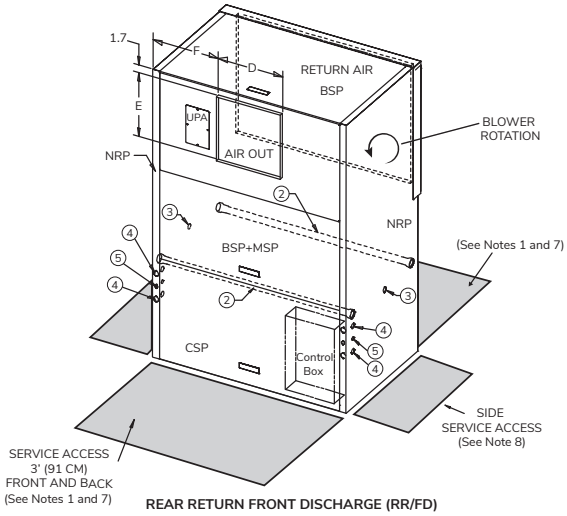
BLOWER TO AIR COIL RELATIONSHIP FOR TOP DISCHARGE 072-120

LEGEND	TCV072-096	TCV120
① Water Inlet (See Note 2)	1-1/4" FPT [3.2 cm]	1-1/2" FPT [3.8 cm]
② Water Outlet (See Note 2)	1-1/4" FPT [3.2 cm]	1-1/2" FPT [3.8 cm]
③ Condensate Drain (See Note 3)	1" FPT [2.5 cm]	
④ High Voltage Access (See Note 4)	1-3/8" FPT [3.5 cm]	
⑤ Low Voltage Access (See Note 4)	7/8" FPT [2.2 cm]	
BSP - Blower Service Panel CAP - Control Access Panel CSP - Compressor Access Panel MSP - Motor Service Panel NRP - Non Removable Panel UPA - Upper Pulley Access		

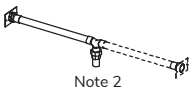
Notes:

All dimensions in table are inches (cm)

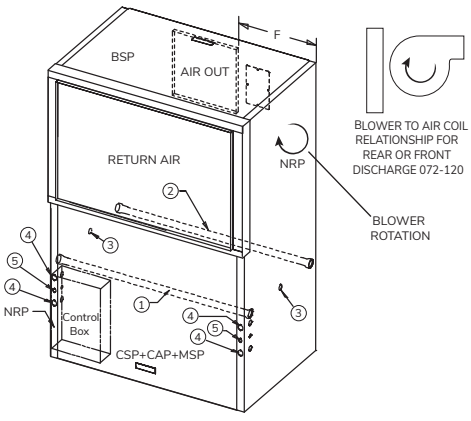
1. While access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Water inlet and water outlet connections are factory shipped on the left side. Union allows field conversion to right side.
3. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection will be tied inside the unit. Installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
4. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
5. Overall width - Add 3.12 inches (8 cm) for 1-inch (2.5 cm) or 2-inch (5 cm) Filter Frame; or 5.12 inches (13 cm) for 4-inch (10.2 cm) and for front or rear supply add additional 1.06 inch (2.7 cm) for supply duct collar.
6. Overall cabinet height dimension does not include duct flange for top discharge configuration.
7. Units require 3-foot (91 cm) clearance, CAP, CSP, MSP, and BSP service access.
8. Side service access must be 2 feet (61 cm) on any side that connections are made.
9. Filter removal is from right or left side of filter frame, allow 2-foot (61 cm) access for servicing.



REAR RETURN FRONT DISCHARGE (RR/FD)



ALL CONFIGURATIONS



BLOWER TO AIR COIL RELATIONSHIP FOR REAR OR FRONT DISCHARGE 072-120

FRONT RETURN REAR DISCHARGE (FR/RD)

Model		Overall Cabinet			Discharge Connection Duct Flange			Water Connections				Electric Knockouts					Return Air Connections Using Return Air Opening			
		A Depth	B Width	C Height	D Supply Width	E Supply Depth	F	K 1 Water Inlet	L 2 Water Outlet	M 3 Conden-sate	N	O1	O2	P	Q	R	S Return Depth	T Return Height	U	V
072-120	in.	29.0	41.0	69.8	17.5	14.8	11.9	22.0	7.3	14.5	21.3	8.0	15.0	11.3	1.0	1.5	36.3	29.4	30.6	2.7
	cm.	73.7	104.1	177.2	44.5	37.5	30.2	55.9	18.4	36.8	54.0	20.3	38.1	28.6	2.5	3.8	96.2	74.7	77.8	6.9

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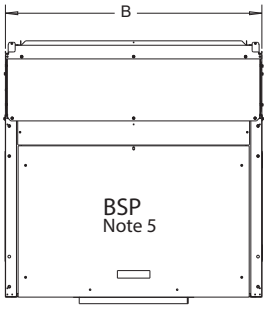
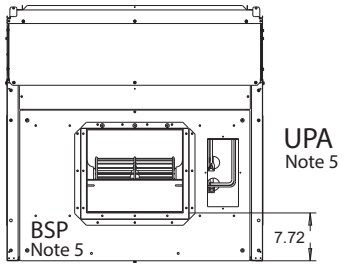
TC_LV072-120 with WSE Dimensional Data



Top View

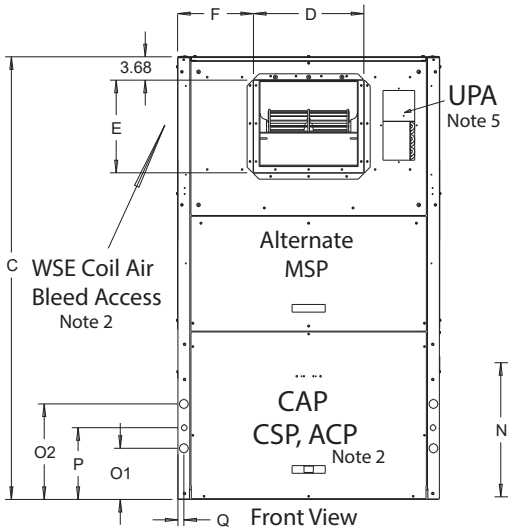
Rear Return Front Discharge

Legend:
BSP = Blower Service Panel
CSP = Compressor Service Panel
CAP = Control Access Panel
MSP = Motor Service Panel
UPA = Upper Pulley Access
ACP = Aquastat Controller Panel
WSE = Waterside Economizer



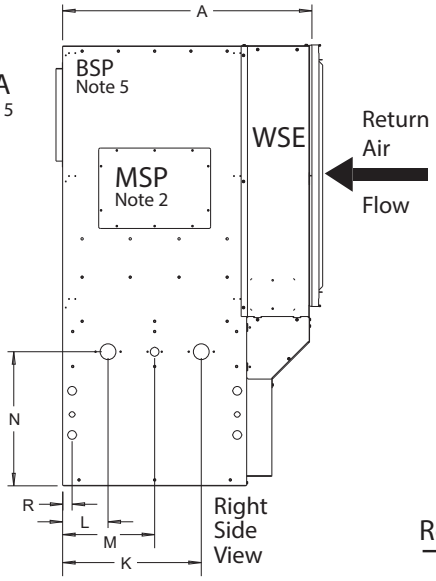
Top View

Rear Return Top Discharge



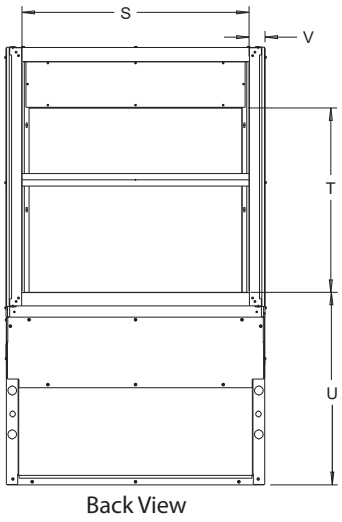
Front View

Rear Return Front Discharge



Right Side View

Return Air Flow



Back View

Rear Return Front Discharge

Notes:

1. While clear access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3-foot (91 cm) clearance for water connections, WSE coil air bleed, CAP, CSP, BSP, ACP, UPA, and MSP.
3. Factory supplied controller (aquastat) is inside unit completely wired. To field adjust temperature setting remove ACP panel and push button.
4. Condensate drain is internally trapped, externally vented.
5. For top discharge units, UPA is on top and BSP is on front. For front discharge units, UPA is on front and BSP is on top. Allow 3 feet above unit for service.

Model		Overall Cabinet			Discharge Connection Duct Flange			Water Connections				Electric Knockouts					Return Air Connections Using Return Air Opening			
		A Depth	B Width	C Height	D Supply Width	E Supply Depth	F	K 1 Water Inlet	L 2 Water Outlet	M 3 Conden-sate	N	O1	O2	P	Q	R	S Return Depth	T Return Height	U	V
072-120	in.	39.5	41.0	69.8	17.5	14.8	11.9	22.0	7.3	14.5	21.3	8.0	15.0	11.3	1.0	1.5	36.3	29.4	30.6	2.7
	cm.	100.3	104.1	177.2	44.5	37.5	30.2	55.9	18.4	36.8	54.0	20.3	38.1	28.6	2.5	3.8	96.2	74.7	77.8	6.9

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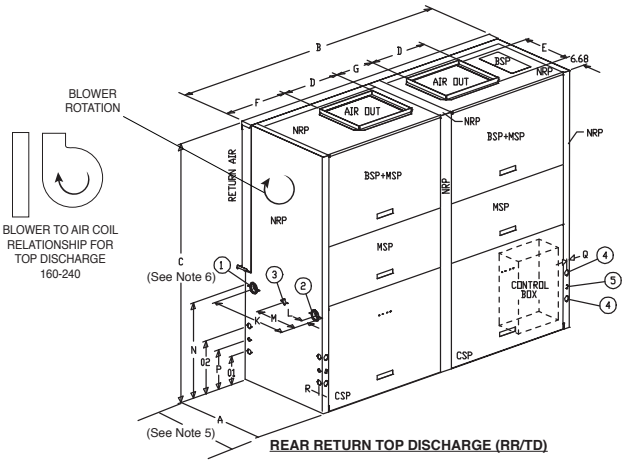
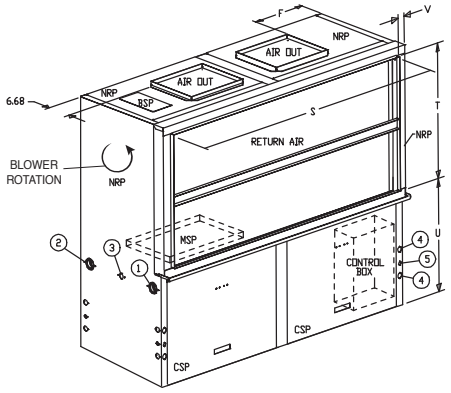
TC_LV160-240 Dimensional Data

ALL CONFIGURATIONS REQUIRE SERVICE ACCESS AREA DESCRIBED IN NOTES 7, 8, and 9



REAR RETURN TOP DISCHARGE (RR/TD)



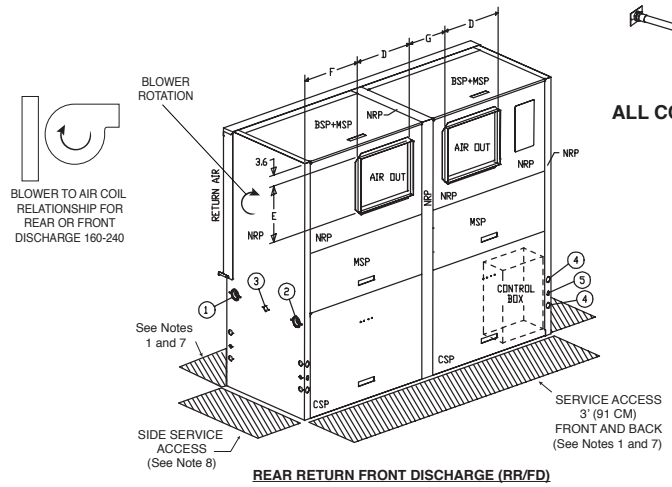
FRONT RETURN TOP DISCHARGE (FR/TD)

LEGEND	TCV160-240
① Water Inlet (See Note 2)	2" FPT [5.1 cm]
② Water Outlet (See Note 2)	2" FPT [5.1 cm]
③ Condensate Drain (See Note 3)	1" FPT [2.5 cm]
④ High Voltage Access (See Note 4)	1-3/8" FPT [3.5 cm]
⑤ Low Voltage Access (See Note 4)	7/8" FPT [2.2 cm]
BSP - Blower Service Panel	
CAP - Control Access Panel	
CSP - Compressor Access Panel	
MSP - Motor Service Panel	
NRP - Non Removable Panel	
UPA - Upper Pulley Access	

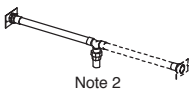
Notes:

All dimensions in table are inches (cm)

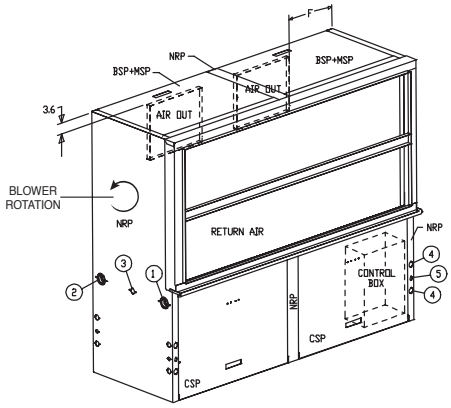
1. While access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Water inlet and water outlet connections are factory shipped on the left side. Union allows field conversion to right side.
3. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection will be tied inside the unit. Installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
4. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
5. Overall width - Add 3.12 inches (8 cm) for 1-inch (2.5 cm) or 2-inch (5 cm) Filter Frame; or 5.12 inches (13 cm) for 4-inch (10.2 cm) and for front or rear supply add additional 1.06 inch (2.7 cm) for supply duct collar.
6. Overall cabinet height dimension does not include duct flange for top discharge configuration.
7. Units require 3-foot (91 cm) clearance, CAP, CSP, MSP, and BSP service access.
8. Side service access must be 2 feet (61 cm) on any side that connections are made.
9. Filter removal is from right or left side of filter frame, allow 2-foot (61 cm) access for servicing.



REAR RETURN FRONT DISCHARGE (RR/FD)



ALL CONFIGURATIONS



FRONT RETURN REAR DISCHARGE (FR/RD)

Model		Overall Cabinet			Discharge Connection Duct Flange				Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	G	K	L	M	N	O1	O2	P	Q	R	S	T	U	V
		Depth	Width	Height	Supply Width	Supply Depth	Supply Width	Supply Depth	Water Inlet	Water Outlet	Conden-sate							Return Depth	Return Height		
160-240	in.	29.0	82.0	69.8	17.5	14.8	17.9	11.5	26.1	3.1	14.5	25.8	8.0	15.0	11.3	1.0	1.5	77.0	35.8	31.7	2.6
	cm.	73.7	208.3	177.2	44.5	37.5	45.4	29.3	66.3	7.9	36.8	65.5	20.3	38.1	28.6	2.5	3.8	195.6	90.8	80.5	6.7

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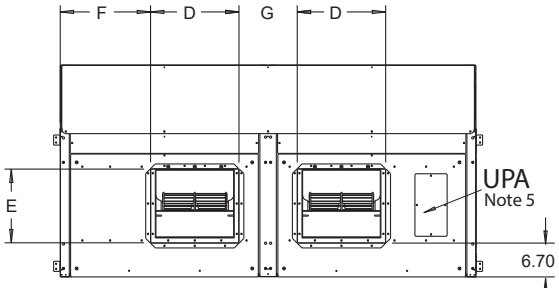
TC_LV160-240 with WSE Dimensional Data

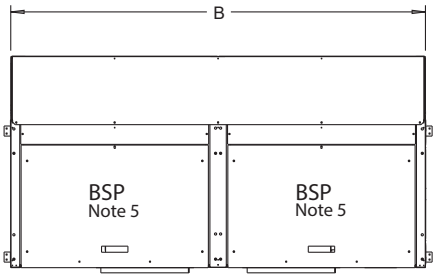


Top View

Rear Return Top Discharge

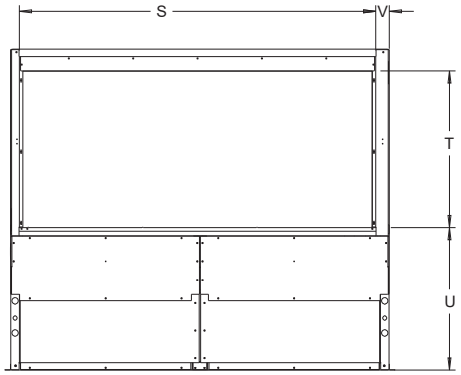
Legend

BSP = Blower Service Panel
CSP = Compressor Service Panel
CAP = Control Access Panel
MSP = Motor Service Panel
UPA = Upper Pulley Access
ACP = Aquastat Controller Panel
WSE = Waterside Economizer



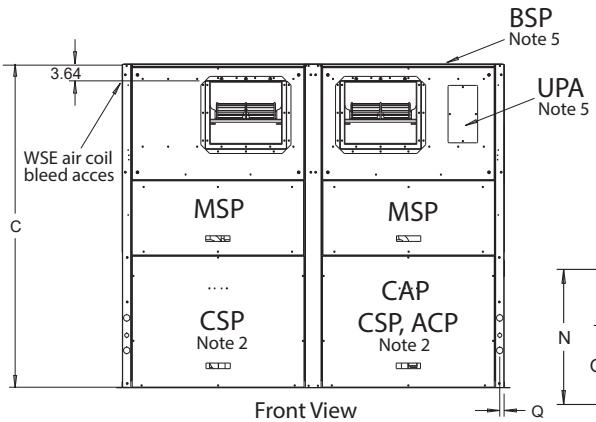
Top View

Rear Return Front Discharge



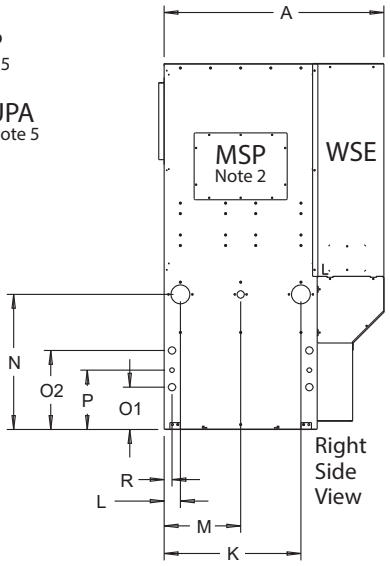
Back View

Rear Return Front Discharge



Front View

Rear Return Front Discharge



Notes:

1. While clear access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3-foot (91 cm) clearance for water connections, WSE coil air bleed, CAP, CSP, BSP, ACP, UPA, and MSP.
3. Factory supplied controller (aquastat) is inside unit completely wired. To field adjust temperature setting remove ACP panel and push button.
4. Condensate drain is internally trapped, externally vented.
5. For top discharge units, UPA is on top and BSP is on front. For front discharge units, UPA is on front and BSP is on top. Allow 3 feet above unit for service.

Model		Overall Cabinet			Discharge Connection Duct Flange				Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	G	K	L	M	N	O1	O2	P	Q	R	S	T	U	V
		Depth	Width	Height	Supply Width	Supply Depth	Supply Width	Supply Depth	Water Inlet	Water Outlet	Conden-sate							Return Depth	Return Height		
160-240	in.	42.0	82.0	69.8	17.5	14.8	17.9	11.5	26.1	3.1	14.5	25.8	8.0	15.0	11.3	1.0	1.5	77.0	35.8	31.7	2.6
	cm.	106.4	208.3	177.2	44.5	37.5	45.4	29.3	66.3	7.9	36.8	65.5	20.3	38.1	28.6	2.5	3.8	195.6	90.8	80.5	6.7

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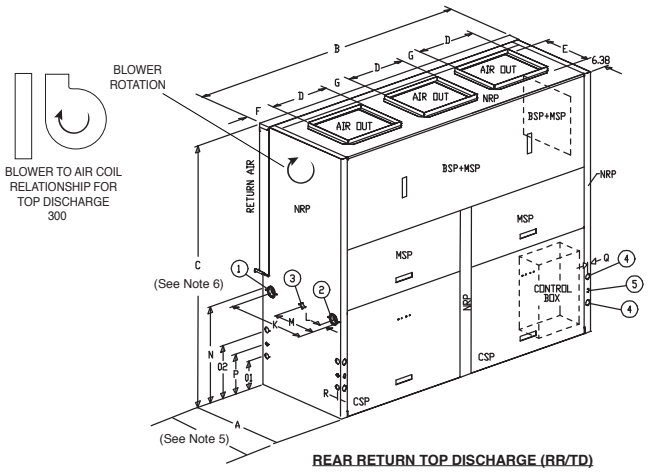
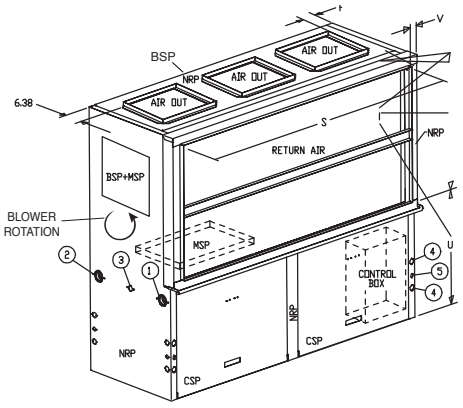
TC_LV300 Dimensional Data

ALL CONFIGURATIONS REQUIRE SERVICE ACCESS AREA DESCRIBED IN NOTES 7, 8, and 9



REAR RETURN TOP DISCHARGE (RR/TD)



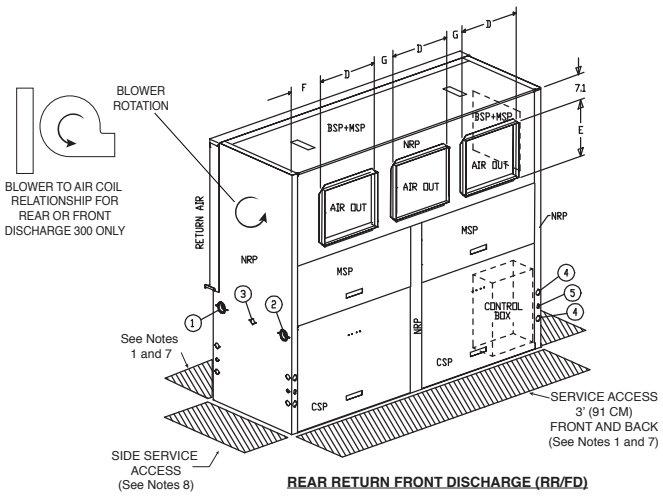
FRONT RETURN TOP DISCHARGE (FR/TD)

LEGEND	TCV300
① Water Inlet (See Note 2)	2-1/2" FPT [6.4 cm]
② Water Outlet (See Note 2)	2-1/2" FPT [6.4 cm]
③ Condensate Drain (See Note 3)	1" FPT [2.5 cm]
④ High Voltage Access (See Note 4)	1-3/8" FPT [3.5 cm]
⑤ Low Voltage Access (See Note 4)	7/8" FPT [2.2 cm]
BSP - Blower Service Panel	
CAP - Control Access Panel	
CSP - Compressor Access Panel	
MSP - Motor Service Panel	
NRP - Non Removable Panel	
UPA - Upper Pulley Access	

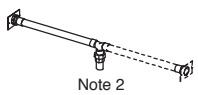
Notes:

All dimensions in table are inches (cm)

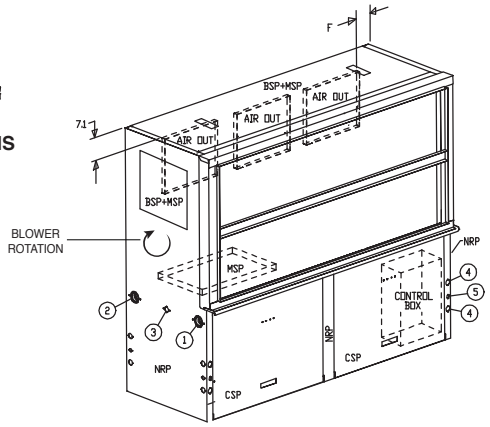
1. While access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Water inlet and water outlet connections are factory shipped on the left side. Union allows field conversion to right side.
3. Condensate drain is available on either side (left or right) of unit. Drain hose and drain connection will be tied inside the unit. Installer will untie the drain hose, form trap, and connect to the condensate drain hole of installer's choice.
4. Electrical access is available on either side (left or right) of unit and is also available in the front on the left or right side of the unit.
5. Overall width - Add 3.12 inches (8 cm) for 1-inch (2.5 cm) or 2-inch (5 cm) Filter Frame; or 5.12 inches (13 cm) for 4-inch (10.2 cm) and for front or rear supply add additional 1.06 inch (2.7 cm) for supply duct collar.
6. Overall cabinet height dimension does not include duct flange for top discharge configuration.
7. Units require 3-foot (91 cm) clearance, CAP, CSP, MSP, and BSP service access.
8. Side service access must be 2 feet (61 cm) on any side that connections are made.
9. Filter removal is from right or left side of filter frame, allow 2-foot (61 cm) access for servicing.



REAR RETURN FRONT DISCHARGE (RR/FD)



ALL CONFIGURATIONS



FRONT RETURN REAR DISCHARGE (FR/RD)

Model		Overall Cabinet			Discharge Connection Duct Flange				Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A Depth	B Width	C Height	D Supply Width	E Supply Depth	F Supply Width	G Supply Depth	K Water Inlet	L Water Outlet	M Conden-sate	N	O1	O2	P	Q	R	S Return Depth	T Return Height	U	V
300	in.	29.0	82.0	69.8	17.5	14.8	6.3	8.6	25.7	3.1	14.5	25.8	8.0	15.0	11.3	1.0	1.5	77.0	35.8	31.7	2.6
	cm.	73.7	208.3	177.2	44.5	37.5	16.0	21.8	65.3	7.9	36.8	65.5	20.3	38.1	28.6	2.5	3.8	195.6	90.9	80.5	6.7

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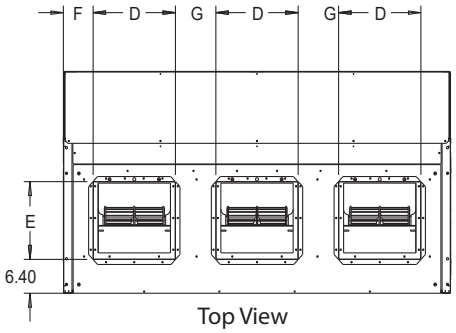
TC_LV300 with WSE Dimensional Data

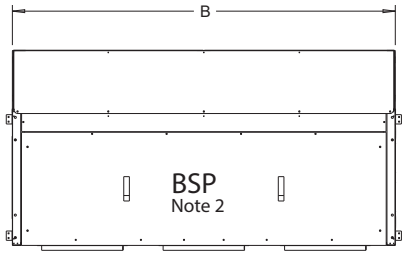


Top View

Rear Return Top Discharge

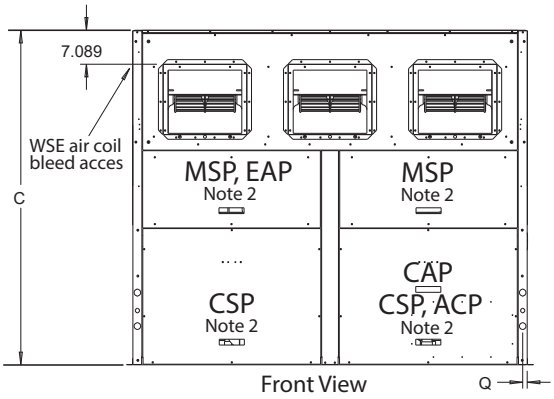
Legend

BSP = Blower Service Panel
CSP = Compressor Service Panel
CAP = Control Access Panel
MSP = Motor Service Panel
ACP = Aquastat Controller Panel
WSE = Waterside Economizer
EAP = Expansion Valve Access Panel



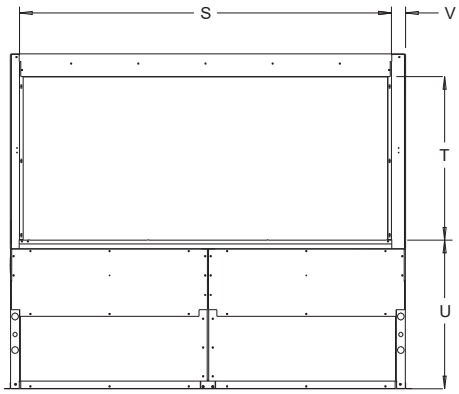
Top View

Rear Return Front Discharge



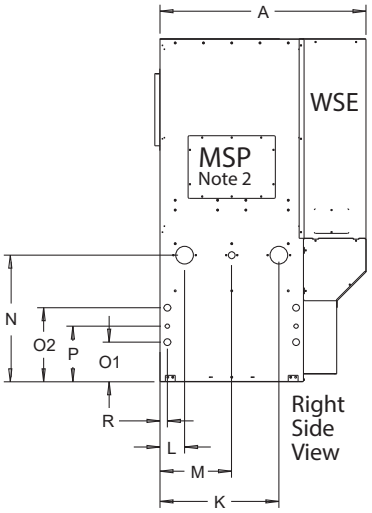
Front View

Rear Return Front Discharge



Back View

Rear Return Front Discharge



Notes:

1. While clear access to all removable panels may not be required, installer should take care to comply with all building codes and allow adequate clearance for future field service.
2. Units require 3-foot (91 cm) clearance for water connections, WSE coil air bleed, CAP, CSP, BSP, ACP, UPA, and MSP.
3. Factory supplied controller (aquastat) is inside unit completely wired. To field adjust temperature setting remove ACP panel and push button.
4. Condensate drain is internally trapped, externally vented.
5. For top discharge units, UPA is on top and BSP is on front. For front discharge units, UPA is on front and BSP is on top. Allow 3 feet above unit for service.

Model		Overall Cabinet			Discharge Connection Duct Flange				Water Connections				Electrical Knockouts					Return Air Connections Using Return Air Opening			
		A	B	C	D	E	F	G	K	L	M	N	O1	O2	P	Q	R	S	T	U	V
		Depth	Width	Height	Supply Width	Supply Depth	Supply Width	Supply Depth	Water Inlet	Water Outlet	Conden-sate							Return Depth	Return Height		
300	in.	42.0	82.0	69.8	17.5	14.8	6.3	8.6	25.7	3.1	14.5	25.8	8.0	15.0	11.3	1.0	1.5	77.0	35.8	31.7	2.6
	cm.	106.4	208.3	177.2	44.5	37.5	16.0	21.8	65.3	7.9	36.8	65.5	20.3	38.1	28.6	2.5	3.8	195.6	90.9	80.5	6.7

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Standard Construction

Model	Mode	Ducted Discharge - Standard Construction							Free Inlet & Case Radiated - Standard Construction						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
TC_L072	Fan Only	74	66	70	63	63	63	54	77	69	71	67	62	57	46
	Cooling: Part Load	75	67	71	63	63	63	55	78	69	71	68	63	57	46
	Cooling: Full Load	76	68	72	64	64	64	55	80	70	72	68	63	58	47
	Heating: Part Load	75	67	71	63	63	63	54	78	69	71	68	63	57	46
	Heating: Full Load	76	68	72	64	64	64	54	80	70	72	68	63	58	47
TC_L096	Fan Only	78	73	76	72	71	71	60	79	73	74	70	65	62	52
	Cooling: Part Load	79	73	76	72	71	71	60	80	73	74	71	66	63	52
	Cooling: Full Load	80	74	77	73	72	72	61	81	74	75	71	66	63	53
	Heating: Part Load	79	73	76	72	71	71	60	80	73	74	71	66	63	52
	Heating: Full Load	80	74	77	73	72	72	61	81	74	75	71	66	63	53
TC_L120	Fan Only	78	75	77	77	74	74	66	79	75	74	72	68	66	58
	Cooling: Part Load	79	76	78	78	75	75	66	80	76	74	73	70	67	60
	Cooling: Full Load	80	77	79	79	76	76	67	81	77	75	74	71	68	61
	Heating: Part Load	79	76	78	78	75	75	66	80	76	74	73	70	67	60
	Heating: Full Load	80	77	79	79	76	76	67	81	77	75	74	71	68	61
TC_L160	Fan Only	78	76	79	76	76	75	68	79	78	75	74	73	73	66
	Cooling: Part Load	78	76	79	76	76	75	69	79	78	75	74	73	73	66
	Cooling: Full Load	79	76	79	76	76	75	69	80	78	75	74	73	73	66
	Heating: Part Load	78	76	79	77	76	75	68	80	78	75	75	73	73	66
	Heating: Full Load	78	76	79	77	76	75	68	80	78	75	74	73	73	66
TC_L192	Fan Only	77	77	80	76	76	74	67	81	77	75	74	74	74	66
	Cooling: Part Load	77	77	80	76	76	75	68	82	78	75	74	73	73	66
	Cooling: Full Load	78	78	80	76	76	75	68	83	78	75	74	76	75	68
	Heating: Part Load	77	78	80	76	76	75	68	82	77	74	73	72	72	64
	Heating: Full Load	78	78	80	77	76	75	68	83	77	74	73	72	72	65
TC_L240	Fan Only	80	82	82	82	80	80	74	84	82	77	78	77	76	70
	Cooling: Part Load	80	82	82	82	81	80	75	84	82	78	78	77	77	70
	Cooling: Full Load	81	82	82	82	81	80	75	85	82	78	79	78	77	71
	Heating: Part Load	80	82	82	82	80	80	74	85	82	78	78	77	77	70
	Heating: Full Load	81	82	82	82	80	80	74	85	82	78	78	77	77	70
TC_L300	Fan Only	84	77	76	76	72	69	63	87	82	77	76	74	73	65
	Cooling: Part Load	84	78	76	76	72	69	64	88	82	77	76	74	73	67
	Cooling: Full Load	85	79	77	77	73	70	64	88	82	77	77	74	73	67
	Heating: Part Load	84	79	76	76	72	69	63	87	83	77	76	75	73	66
	Heating: Full Load	85	79	77	77	72	69	64	88	83	77	76	75	74	67

Tested in accordance with ARI 260
Octave Band Sound Power Level, (dB re 1pW)

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UltraQuiet package

Model	Mode	Ducted Discharge - UltraQuiet package						
		Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000
TC_L072	Fan Only	73	64	67	58	60	60	50
	Cooling: Part Load	74	65	68	58	60	60	51
	Cooling: Full Load	75	66	69	59	61	61	51
	Heating: Part Load	74	65	68	58	60	60	50
	Heating: Full Load	75	66	69	59	61	61	51
TC_L096	Fan Only	77	72	75	71	70	70	59
	Cooling: Part Load	78	72	75	71	70	70	59
	Cooling: Full Load	79	73	76	72	71	71	60
	Heating: Part Load	78	72	75	71	70	70	59
	Heating: Full Load	79	73	76	72	71	71	60
TC_L120	Fan Only	77	74	76	76	73	73	65
	Cooling: Part Load	78	75	77	77	74	74	65
	Cooling: Full Load	79	76	78	78	75	75	66
	Heating: Part Load	78	75	77	77	74	74	65
	Heating: Full Load	79	76	78	78	75	75	66
TC_L160	Fan Only	77	75	77	75	75	73	67
	Cooling: Part Load	77	75	78	75	75	73	68
	Cooling: Full Load	78	75	78	75	75	74	68
	Heating: Part Load	77	75	78	75	75	74	67
	Heating: Full Load	77	75	78	76	75	74	67
TC_L192	Fan Only	76	76	79	75	75	73	66
	Cooling: Part Load	76	76	79	75	75	73	67
	Cooling: Full Load	77	76	79	75	75	74	67
	Heating: Part Load	76	76	79	75	75	74	67
	Heating: Full Load	77	76	79	75	75	73	67
TC_L240	Fan Only	79	80	81	81	79	80	73
	Cooling: Part Load	79	81	81	81	80	79	74
	Cooling: Full Load	80	81	81	81	79	80	73
	Heating: Part Load	79	81	81	81	79	79	73
	Heating: Full Load	80	81	81	81	79	78	73
TC_L300	Fan Only	83	76	75	75	71	68	62
	Cooling: Part Load	83	77	75	75	71	68	63
	Cooling: Full Load	84	78	76	76	72	69	63
	Heating: Part Load	83	78	75	75	71	68	62
	Heating: Full Load	84	78	75	76	71	68	63

Free Inlet & Case Radiated - UltraQuiet package						
Octave Band Frequency, Hz						
125	250	500	1000	2000	4000	8000
76	68	70	66	61	56	44
77	68	70	67	62	56	44
79	69	71	67	62	57	45
77	68	70	67	62	56	44
79	69	71	67	62	57	45
78	72	73	69	64	61	51
79	72	73	70	65	62	51
80	73	74	70	65	62	52
79	72	73	70	65	62	51
80	73	74	70	65	62	52
78	74	73	71	67	65	57
79	75	73	72	69	66	59
80	76	74	73	70	67	60
79	76	73	72	69	66	59
80	77	74	73	70	67	60
78	77	74	73	72	72	65
78	77	74	73	72	72	65
79	77	74	73	72	72	65
79	77	74	74	72	72	65
79	77	74	73	72	72	65
79	76	74	73	73	72	65
81	77	74	72	72	72	64
82	77	74	72	75	73	67
81	76	73	71	71	70	63
82	76	72	71	71	71	63
83	81	76	77	76	75	69
83	81	76	77	76	75	69
84	81	77	78	77	76	69
83	81	76	77	76	75	69
84	81	77	77	76	76	69
86	81	76	75	73	72	64
86	81	76	75	73	72	65
87	81	76	76	73	72	66
86	82	76	75	73	72	65
86	82	76	75	74	72	66

Tested in accordance with ARI 260
Octave Band Sound Power Level, (dB re 1pW)

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TC_L Electrical Data – Standard

Model #	Voltage Code	Voltage	Min/Max Voltage	Blower Option	Compressor			Fan	Total	Min Circuit Amp	SCCR kA rms symetrical	SCCR Volts Maximum	Max
					QTY	RLA	LRA	Motor FLA	FLA/ Rated Current				Fuse/ HACR
TC_L072	H	208/230/60/3	197/254	A, B, C	2	10.4	73.0	3.2	24.0	26.6	5	600	35
	H	208/230/60/3	197/254	D, E	2	10.4	73.0	6.0	26.8	29.4	5	600	35
	F	460/60/3	414/506	A, B, C	2	5.8	38.0	1.6	13.2	14.7	5	600	20
	F	460/60/3	414/506	D, E	2	5.8	38.0	2.9	14.5	16.0	5	600	20
	N	575/60/3	518/633	A, B, C	2	3.8	36.5	1.2	8.8	9.8	5	600	15
	N	575/60/3	518/633	D, E	2	3.8	36.5	2.4	10.0	11.0	5	600	15
TC_L096	H	208/230/60/3	197/254	A, B, C	2	13.7	83.1	6.0	33.4	36.8	5	600	50
	H	208/230/60/3	197/254	D, E	2	13.7	83.1	8.5	35.9	39.3	5	600	50
	F	460/60/3	414/506	A, B, C	2	6.2	41.0	2.9	15.3	16.9	5	600	20
	F	460/60/3	414/506	D, E	2	6.2	41.0	4.1	16.5	18.1	5	600	20
	N	575/60/3	518/633	A, B, C	2	4.8	33.0	2.4	12.0	13.2	5	600	15
	N	575/60/3	518/633	D, E	2	4.8	33.0	3.2	12.8	14.0	5	600	15
TC_L120	H	208/230/60/3	197/254	A, B, C	2	15.6	110.0	8.5	39.7	43.6	5	600	50
	H	208/230/60/3	197/254	D, E	2	15.6	110.0	13.8	45.0	48.9	5	600	60
	F	460/60/3	414/506	A, B, C	2	7.8	52.0	4.1	19.7	21.7	5	600	25
	F	460/60/3	414/506	D, E	2	7.8	52.0	6.5	22.1	24.1	5	600	30
	N	575/60/3	518/633	A, B, C	2	5.8	38.9	3.2	14.8	16.3	5	600	20
	N	575/60/3	518/633	D, E	2	5.8	38.9	5.2	16.8	18.3	5	600	20
TC_LV160	H	208/230/60/3	197/254	A, B, C	2	23.2	164.0	8.5	54.9	60.7	5	600	80
	H	208/230/60/3	197/254	D, E	2	23.2	164.0	13.8	60.2	66.0	5	600	80
	F	460/60/3	414/506	A, B, C	2	11.2	75.0	4.1	26.5	29.3	5	600	40
	F	460/60/3	414/506	D, E	2	11.2	75.0	6.5	28.9	31.7	5	600	40
	N	575/60/3	518/633	A, B, C	2	7.9	54.0	3.2	19.0	21.0	5	600	25
	N	575/60/3	518/633	D, E	2	7.9	54.0	5.2	21.0	23.0	5	600	30
TC_LV192	H	208/230/60/3	197/254	A, B, C	2	25.0	164.0	8.5	58.5	64.8	5	600	80
	H	208/230/60/3	197/254	D, E	2	25.0	164.0	13.8	63.8	70.1	5	600	90
	F	460/60/3	414/506	A, B, C	2	12.2	100.0	4.1	28.5	31.6	5	600	40
	F	460/60/3	414/506	D, E	2	12.2	100.0	6.5	30.9	34.0	5	600	45
	N	575/60/3	518/633	A, B, C	2	9.0	78.0	3.2	21.2	23.5	5	600	30
	N	575/60/3	518/633	D, E	2	9.0	78.0	5.2	23.2	25.5	5	600	30
TC_LV240	H	208/230/60/3	197/254	A, B, C	2	30.1	225.0	13.8	74.0	81.5	5	600	110
	H	208/230/60/3	197/254	D, E	2	30.1	225.0	21.0	81.2	88.7	5	600	110
	F	460/60/3	414/506	A, B, C	2	16.7	114.0	6.5	39.9	44.1	5	600	60
	F	460/60/3	414/506	D, E	2	16.7	114.0	9.9	43.3	47.5	5	600	60
	N	575/60/3	518/633	A, B, C	2	12.2	80.0	5.2	29.6	32.7	5	600	40
	N	575/60/3	518/633	D, E	2	12.2	80.0	8.0	32.4	35.5	5	600	45
TC_LV300	H	208/230/60/3	197/254	A, B, C	2	48.1	245.0	21.0	117.2	129.2	5	600	150
	H	208/230/60/3	197/254	E	2	48.1	245.0	26.0	122.2	134.2	5	600	150
	F	460/60/3	414/506	A, B, C	2	18.6	125.0	9.9	47.1	51.8	5	600	70
	F	460/60/3	414/506	E	2	18.6	125.0	12.5	49.7	54.4	5	600	70
	N	575/60/3	518/633	A, B, C	2	14.7	100.0	8.0	37.4	41.1	5	600	50
	N	575/60/3	518/633	E	2	14.7	100.0	10.2	39.6	43.3	5	600	50

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TC_L Electrical Data – Dual Point Power

Model #	Voltage Code	Voltage	Min/ Max Voltage	Blower Option	Compressor Power Supply								Emergency Power Supply				
					QTY	RLA	LRA	Comp FLA/ Rated Current	Comp MCA	SCCR kA rms symetrical	SCCR Volts Maximum	Comp Max Fuse/ HACR	Fan FLA/ Rated Current	Fan MCA	SCCR kA rms symetrical	SCCR Volts Maximum	Fan Max Fuse/ HACR
TC_L072	H	208/230/60/3	197/254	A, B, C	2	10.4	73.0	20.8	23.4	5	600	30	3.2	4.0	5	600	15
	H	208/230/60/3	197/254	D, E	2	10.4	73.0	20.8	23.4	5	600	30	6.0	7.5	5	600	15
	F	460/60/3	414/506	A, B, C	2	5.8	38.0	11.6	13.1	5	600	15	1.6	2.0	5	600	15
	F	460/60/3	414/506	D, E	2	5.8	38.0	11.6	13.1	5	600	15	2.9	3.6	5	600	15
	N	575/60/3	518/633	A, B, C	2	3.8	36.5	7.6	8.6	5	600	15	1.2	1.5	5	600	15
	N	575/60/3	518/633	D, E	2	3.8	36.5	7.6	8.6	5	600	15	2.4	3.0	5	600	15
TC_L096	H	208/230/60/3	197/254	A, B, C	2	13.7	83.1	27.4	30.8	5	600	40	6.0	7.5	5	600	15
	H	208/230/60/3	197/254	D, E	2	13.7	83.1	27.4	30.8	5	600	40	8.5	10.6	5	600	15
	F	460/60/3	414/506	A, B, C	2	6.2	41.0	12.4	14.0	5	600	20	2.9	3.6	5	600	15
	F	460/60/3	414/506	D, E	2	6.2	41.0	12.4	14.0	5	600	20	4.1	5.1	5	600	15
	N	575/60/3	518/633	A, B, C	2	4.8	33.0	9.6	10.8	5	600	15	2.4	3.0	5	600	15
	N	575/60/3	518/633	D, E	2	4.8	33.0	9.6	10.8	5	600	15	3.2	4.0	5	600	15
TC_L120	H	208/230/60/3	197/254	A, B, C	2	15.6	110.0	31.2	35.1	5	600	50	8.5	10.6	5	600	15
	H	208/230/60/3	197/254	D, E	2	15.6	110.0	31.2	35.1	5	600	50	13.8	17.3	5	600	30
	F	460/60/3	414/506	A, B, C	2	7.8	52.0	15.6	17.6	5	600	25	4.1	5.1	5	600	15
	F	460/60/3	414/506	D, E	2	7.8	52.0	15.6	17.6	5	600	25	6.5	8.1	5	600	15
	N	575/60/3	518/633	A, B, C	2	5.8	38.9	11.6	13.1	5	600	15	3.2	4.0	5	600	15
	N	575/60/3	518/633	D, E	2	5.8	38.9	11.6	13.1	5	600	15	5.2	6.5	5	600	15
TC_LV160	H	208/230/60/3	197/254	A, B, C	2	23.2	164.0	46.4	52.2	5	600	70	8.5	10.6	5	600	15
	H	208/230/60/3	197/254	D, E	2	23.2	164.0	46.4	52.2	5	600	70	13.8	17.3	5	600	30
	F	460/60/3	414/506	A, B, C	2	11.2	75.0	22.4	25.2	5	600	35	4.1	5.1	5	600	15
	F	460/60/3	414/506	D, E	2	11.2	75.0	22.4	25.2	5	600	35	6.5	8.1	5	600	15
	N	575/60/3	518/633	A, B, C	2	7.9	54.0	15.8	17.8	5	600	25	3.2	4.0	5	600	15
	N	575/60/3	518/633	D, E	2	7.9	54.0	15.8	17.8	5	600	25	5.2	6.5	5	600	15
TC_LV192	H	208/230/60/3	197/254	A, B, C	2	25.0	164.0	50.0	56.3	5	600	80	8.5	10.6	5	600	15
	H	208/230/60/3	197/254	D, E	2	25.0	164.0	50.0	56.3	5	600	80	13.8	17.3	5	600	30
	F	460/60/3	414/506	A, B, C	2	12.2	100.0	24.4	27.5	5	600	35	4.1	5.1	5	600	15
	F	460/60/3	414/506	D, E	2	12.2	100.0	24.4	27.5	5	600	35	6.5	8.1	5	600	15
	N	575/60/3	518/633	A, B, C	2	9.0	78.0	18.0	20.3	5	600	25	3.2	4.0	5	600	15
	N	575/60/3	518/633	D, E	2	9.0	78.0	18.0	20.3	5	600	25	5.2	6.5	5	600	15
TC_LV240	H	208/230/60/3	197/254	A, B, C	2	30.1	225.0	60.2	67.7	5	600	90	13.8	17.3	5	600	30
	H	208/230/60/3	197/254	D, E	2	30.1	225.0	60.2	67.7	5	600	90	21.0	26.3	5	600	45
	F	460/60/3	414/506	A, B, C	2	16.7	114.0	33.4	37.6	5	600	50	6.5	8.1	5	600	15
	F	460/60/3	414/506	D, E	2	16.7	114.0	33.4	37.6	5	600	50	9.9	12.4	5	600	20
	N	575/60/3	518/633	A, B, C	2	12.2	80.0	24.4	27.5	5	600	35	5.2	6.5	5	600	15
	N	575/60/3	518/633	D, E	2	12.2	80.0	24.4	27.5	5	600	35	8.0	10.0	5	600	15
TC_LV300	H	208/230/60/3	197/254	A, B, C	2	48.1	245.0	96.2	108.2	5	600	150	21.0	26.3	5	600	45
	H	208/230/60/3	197/254	E	2	48.1	245.0	96.2	108.2	5	600	150	26.0	32.5	5	600	50
	F	460/60/3	414/506	A, B, C	2	18.6	125.0	37.2	41.9	5	600	60	9.9	12.4	5	600	20
	F	460/60/3	414/506	E	2	18.6	125.0	37.2	41.9	5	600	60	12.5	15.6	5	600	25
	N	575/60/3	518/633	A, B, C	2	14.7	100.0	29.4	33.1	5	600	45	8.0	10.0	5	600	15
	N	575/60/3	518/633	E	2	14.7	100.0	29.4	33.1	5	600	45	10.2	12.8	5	600	20

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TC_L Electrical Data – Standard and Dual Point Power VFD

TC_L Electrical Data – Standard VFD

Model #	Voltage Code	Voltage	Min/Max Voltage	Blower Option	Compressor			VFD FLA	Total FLA/ Rated Current	Min Circuit Amp	SCCR kA rms symetrical	SCCR Volts Maximum	Max Fuse/ HACR
					QTY	RLA	LRA						
TC_L072	H	208-3-60	197/254	F	2	10.4	73.0	13.2	34.0	37.3	5	600	50
	F	460-3-60	414/506	F	2	5.8	38.0	6.9	18.5	20.2	5	600	25
TC_L096	H	208-3-60	197/254	F	2	13.7	83.1	23.9	51.3	57.3	5	600	80
	F	460-3-60	414/506	F	2	6.2	41.0	9.6	22.0	24.4	5	600	30
TC_L120	H	208-3-60	197/254	F	2	15.6	110.0	27.3	58.5	65.3	5	600	90
	F	460-3-60	414/506	F	2	7.8	52.0	13.6	29.2	32.6	5	600	45
TC_LV160	H	208-3-60	197/254	F	2	23.2	164.0	27.3	73.7	80.5	5	600	100
	F	460-3-60	414/506	F	2	11.2	75.0	13.6	36.0	39.4	5	600	50
TC_LV192	H	208-3-60	197/254	F	2	25.0	164.0	27.3	77.3	84.1	5	600	110
	F	460-3-60	414/506	F	2	12.2	100.0	13.6	38.0	41.4	5	600	50
TC_LV240	H	208-3-60	197/254	F	2	30.1	225.0	45.0	105.2	116.5	5	600	150
	F	460-3-60	414/506	F	2	16.7	114.0	18.8	52.2	56.9	5	600	70
TC_LV300	H	208-3-60	197/254	F	2	48.1	245.0	55.0	151.2	165.0	5	600	200
	F	460-3-60	414/506	F	2	18.6	125.0	22.1	59.3	64.8	5	600	80

TC_L Electrical Data – Dual Point Power VFD

Model #	Voltage Code	Voltage	Min/Max Voltage	Blower Option	Compressor Power Supply								Emergency Power Supply				
					QTY	RLA	LRA	Comp FLA/ Rated Current	Comp MCA	SCCR kA rms symetrical	SCCR Volts Maximum	Comp Max Fuse/ HACR	VFD FLA/ Rated Current	Fan MCA	SCCR kA rms symetrical	SCCR Volts Maximum	Fan Max Fuse/ HACR
TC_L 072	H	208-3-60	197/254	F	2	10.4	73.0	20.8	23.4	5	600	30	13.2	16.5	5	600	25
	F	460-3-60	414/506	F	2	5.8	38.0	11.6	13.1	5	600	15	6.9	8.6	5	600	15
TC_L 096	H	208-3-60	197/254	F	2	13.7	83.1	27.4	30.8	5	600	40	23.9	29.9	5	600	50
	F	460-3-60	414/506	F	2	6.2	41.0	12.4	14.0	5	600	20	9.6	12.0	5	600	20
TC_L 120	H	208-3-60	197/254	F	2	15.6	110.0	31.2	35.1	5	600	50	27.3	34.1	5	600	60
	F	460-3-60	414/506	F	2	7.8	52.0	15.6	17.6	5	600	25	13.6	17.0	5	600	30
TC_L V160	H	208-3-60	197/254	F	2	23.2	164.0	46.4	52.2	5	600	70	27.3	34.1	5	600	60
	F	460-3-60	414/506	F	2	11.2	75.0	22.4	25.2	5	600	35	13.6	17.0	5	600	30
TC_L V192	H	208-3-60	197/254	F	2	25.0	164.0	50.0	56.3	5	600	80	27.3	34.1	5	600	60
	F	460-3-60	414/506	F	2	12.2	100.0	24.4	27.5	5	600	35	13.6	17.0	5	600	30
TC_L V240	H	208-3-60	197/254	F	2	30.1	225.0	60.2	67.7	5	600	90	45.0	56.3	5	600	100
	F	460-3-60	414/506	F	2	16.7	114.0	33.4	37.6	5	600	50	18.8	23.5	5	600	40
TC_L V300	H	208-3-60	197/254	F	2	48.1	245.0	96.2	108.2	5	600	150	55.0	68.8	5	600	100
	F	460-3-60	414/506	F	2	18.6	125.0	37.2	41.9	5	600	60	22.1	27.6	5	600	45

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Blower Motor Variable Frequency Drive (VFD) Controls (Optional)

VFD BLOWER DESCRIPTION

Variable Frequency Drives are controllers that vary electrical frequency and voltage to the fan motor. Electrical frequency is directly related to a fan motors speed (RPM's). The faster the frequency, the faster the motor will go and vice versa. VFD's allow the fan motor to ramp speed (CFM) up or down to match the load of the space they are satisfying. This allows the TC_Large product to deliver variable capacity, optimizing system efficiency and saving owners money.

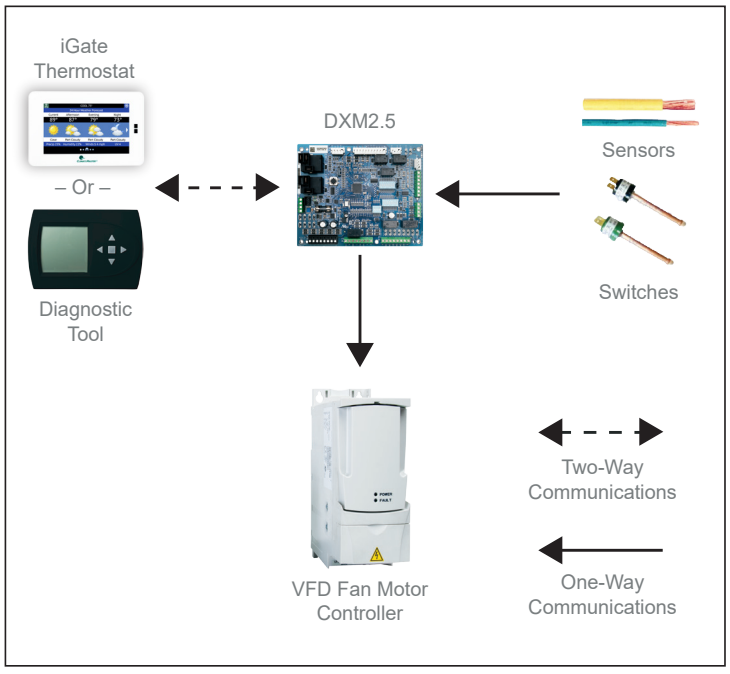
VFD controllers come factory installed and tested to provide supply fan motor speed modulation. VFDs on the supply fan, are quieter, more efficient, and are eligible for utility rebates. These products are commonly used in single zone variable air volume (VAV) applications. When applied to single zone VAV applications the system modulates the indoor fan and stages compressors as space temperature changes, for increased part-load efficiency and more precise temperature control with fan speed varying down to 37.5% of maximum air flow. The VFD controls are paired with our intelligent DXM2.5 controls to provide superior service and functionality.

VFD BLOWER SEQUENCE OF OPERATION

The VFD blower option comes factory programmed with DXM2.5 controls. The DXM2.5 controls the VFD blower controller using a 0–10VDC control signal, and comes factory programed for Leaving Air Temperature (LAT) control mode. The actual operating range for the VFD when the blower should be active will be 3.7–10VDC associated to the operating speeds of 37–100%. When the VFD is off, the output should be set to 0VDC. For each unit size, there will be a maximum and minimum operating speed that the VFD can be operated at for any mode, defined in VFD operational Table 1.1.

The VFD blower may be operated in LAT or discrete speed control modes.

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



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Blower Motor Variable Frequency Drive (VFD) Controls (Optional)

LAT CONTROL VFD OPERATION

The DXM2.5 will come factory configured for LAT control operation. The VFD speed will be controlled by the DXM2.5 to maintain the factory default LAT set point, 55° F for cooling and 105° F for heating. LAT can be adjusted in the field. See VFD Operational Table 1.1 for full details.

When a compressor demand is recognized, the VFD output will be set to the most recent operating speed of the VFD in the current operating mode (heating or cooling). If there is no value stored from a previous heating or cooling cycle, the VFD speed will initially set at 75% or 8.0VDC. After the VFD speed is initially set, the VFD control signal will not be adjusted until after 90 seconds of compressor operation, and then will be periodically checked and adjusted every 10 seconds if needed to maintain the LAT.

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

The VFD control voltage is increased or decreased incrementally based on the magnitude of the differential between the current LAT and the target LAT defined in VFD Operational Table 1.2.

DISCRETE SPEED VFD OPERATION

When the DXM2.5 is configured for discrete speed VFD operation, the VFD speed will be set to the selected operating speed (A, B or C) for full load heating or cooling. Full load operation is defined as second stage or higher heating or cooling.

When the DXM2.5 is configured for discrete speed VFD operation, the VFD operating speed may be increased or decreased by 10%, if the appropriate speed adjustment flag is set in the VFD configuration flags. If the increase and decrease flags are both set, there will be no adjustment from the normal value.

When operating in first stage heating or cooling, the VFD speed will be set to the percentage of the selected full load operating speed (A, B or C, plus or minus adjustment) listed for each unit size as defined in VFD Operational Table 1.3.

VFD Operational Table 1.1

HP Family	Unit Size	Minimum Heat LAT	Maximum Heat LAT	Default Heat LAT	Minimum Cool LAT	Maximum Cool LAT	Default Cool LAT
TC_L	072	85°	125°	105°	45°	65°	55°
	096	85°	125°	105°	45°	65°	55°
	120	85°	125°	105°	45°	65°	55°
	144	85°	125°	105°	45°	65°	55°
	160	85°	125°	105°	45°	65°	55°
	192	85°	125°	105°	45°	65°	55°
	240	85°	125°	105°	45°	65°	55°
	300	85°	125°	105°	45°	65°	55°

VFD Operational Table 1.2

LAT differential |Actual – Target|	VFD adjust (VDC)
ΔT ≤ 1.0°F	0.0
1.0 < ΔT ≤ 2.0°F	0.1
2.0 < ΔT ≤ 3.0°F	0.2
3.0 < ΔT ≤ 5.0°F	0.3
ΔT > 5.0°F	0.4

VFD Operational Table 1.3

HP Family	Unit Size	Minimum VFD Speed	Maximum VFD Speed	VFD Fixed Speed A	VFD Fixed Speed B	VFD Fixed Speed C	Part Load Multiplier	Default Fan Speed
TC_L	072	3.7	10.0	7.4	6.2	9.0	71%	5.2
	096	3.8	10.0	7.0	6.0	9.0	75%	5.0
	120	4.2	10.0	8.0	7.0	9.0	70%	6.0
	144	4.0	8.8	6.4	7.2	8.0	72%	6.4
	160	4.1	10.0	7.9	6.4	9.0	76%	5.4
	192	4.4	10.0	8.0	7.0	9.0	73%	6.0
	240	4.2	10.0	8.0	7.0	9.0	70%	6.0
	300	5.0	10.0	8.0	8.0	9.5	71%	7.0

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TC_L Series Wiring Diagram Matrix

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

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

Unit Controller	Options	Voltage		
		460/60/3	208-230/60/3	575/60/3
CXM2	None	96B0127N56		
DXM2.5	None	96B0127N51		
	WSE	96B0127N52		
	VFD	96B0127N53		
Auxiliary WD for MPC Controls		96B0149N11		

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Tranquility® (TC_L) Compact High Capacity Series 60Hz
Engineering Specifications – Page 1

General:

Furnish and install ClimateMaster Tranquility® (TC_L) Compact High Capacity Series, as indicated on the plans. Equipment shall be completely assembled, piped and internally wired. Capacities and characteristics as listed in the schedule and the specifications that follow.

Units shall be supplied completely factory built capable of operating over an entering water temperature range from 20° to 120°F (-6.7° to 48.9°C) as standard. Equivalent units from other manufacturers may be proposed provided approval to bid is given 10 days prior to bid closing. All equipment listed in this section must be rated and certified in accordance with Air-Conditioning, Heating and Refrigeration Institute/International Standards Organization (AHRI/ISO 13256-1). All equipment must be tested, investigated, and determined to comply with the requirements of the standards for Heating and Cooling Equipment UL-1995 for the United States and CAN/CSA-C22.2 NO.236 for Canada, by Intertek Testing Laboratories (ETL). The units shall have AHRI/ISO and ETL-US-C labels.

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

Basic Construction:

Horizontal units shall have one of the following air flow arrangements: Left Return/Back Discharge, Left Return/Straight Discharge, Right Return/Back Discharge, Right Return/Straight Discharge as shown on the plans. Units can be field converted without requiring new panels or belts. **Units that cannot be field converted shall not be acceptable.**

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

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

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

Units shall be fabricated from heavy gauge galvanized steel with powder coat finish on front access panels.

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

Horizontal units to have discharge air duct collar, 1-inch (25.4 mm) or 2-inch (50.8 mm) filter rails with filters factory installed, and factory installed hanger brackets. Vertical units to have discharge air duct collar shipped loose, and 1-inch (25.4 mm), 2-inch (50.8 mm), or 4-inch (101.6 mm) full filter frame with filters factory installed **If units with these factory installed provisions are not used, the contractor is responsible for any extra costs to field install these provisions, and/or the extra costs for his sub-contractor to install these provisions.**

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

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

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

Option: Dual-point power.

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

Fan and Motor Assembly:

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

Option: Various blower drive packages for selectable static pressure/airflow.

Option: Variable Frequency Drives (VFD). VFD controls shall be factory mounted, installed and programmed. VFD have the capability to reduce airflow down to 37.5%. Products not containing factory mounted VFD controls shall not be acceptable.

Refrigerant Circuit:

All units shall contain an EarthPure® (HFC-410A) sealed refrigerant circuit including a high efficiency scroll compressor designed for heat pump operation, a thermostatic expansion valve for refrigerant metering, an enhanced corrugated aluminum lanced fin and rifled copper tube refrigerant to air heat exchanger, reversing valve, coaxial (tube in tube) refrigerant to water heat exchanger, and safety controls including a high pressure switch, low pressure switch (loss of charge), water coil low temperature sensor, and air coil low temperature sensor. Access fittings shall be factory installed on high and low pressure refrigerant lines to facilitate field service. Activation of any safety device shall prevent compressor operation via a microprocessor lockout circuit. The lockout circuit shall be reset at the thermostat or at the contractor supplied disconnect switch. **Units that cannot be reset at the thermostat shall not be acceptable.**

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

Refrigerant to air heat exchangers shall utilize enhanced corrugated lanced aluminum fins and rifled copper tube construction rated to withstand 625 PSIG (4309 kPa) refrigerant working pressure. Refrigerant to water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 625 PSIG (4309 kPa) working refrigerant pressure and 500 PSIG (3445 kPa) working water pressure. The refrigerant to water heat exchanger shall be "electro-coated" with a low cure cathodic epoxy material a minimum of 0.4 mils thick (0.4 – 1.5 mils range) on all surfaces. The black colored coating shall provide a minimum of 1,000 hours salt spray protection per ASTM B117-97 on all external steel and copper tubing. The material shall be formulated without the inclusion of any heavy metals and shall exhibit a pencil hardness of 2H (ASTM D3363-92A), crosshatch adhesion of 4B-5B (ASTM D3359-95), and impact resistance of 160 in-lbs (184 kg-cm) direct (ASTM D2794-93).

The unit water circuit is protected by two high pressure switches set at 300 PSI [2067 kPa]. Switches will reset automatically when pressure is reduced. ***Units that do not have auto-reset water high pressure switches are not acceptable.***

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

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

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

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

Option: The unit shall be supplied with Waterside Economizer (WSE). The WSE will consist of hydronic coil, 3 way valve, and aquastat. Aquastat will be adjustable type and factory set at 45°F (7.2°C). Units with WSE will require heat pump thermostat with 2 stages of cooling. (DXM2.5 Required.)

Drain Pan:

The drain pan shall be constructed of galvanized steel and have a powder coat paint application to further inhibit corrosion. This corrosion protection system shall meet the stringent 1,000 hour salt spray test per ASTM B117. If plastic type material is used, it must be HDPE (High Density Polyethylene) to avoid thermal cycling shock stress failure over the lifetime of the unit. Drain pan shall be fully insulated. Drain outlet shall be located at pan as to allow unobstructed drainage of condensate. Drain outlet for horizontal units shall be connected from pan directly to ¾-inch FPT fitting. For vertical units drain pan hose assembly can be connected to either side, drain outlet to be 1-inch FPT fitting. The unit as standard will be supplied with solid-state electronic condensate overflow protection. **Mechanical float switches will NOT be accepted.**

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

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Electrical:

A control box shall be located within the unit compressor compartment and shall contain a 75VA transformer with load side circuit breaker protection, 24-volt activated, 2 or 3 pole compressor contactor, terminal block for thermostat wiring and solid-state controller for complete unit operation. Reversing valve and fan motor wiring shall be routed through this electronic controller. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24-volt and provide heating or cooling as required by the remote thermostat/sensor. Two compressor units shall have a solid-state time delay relay and random start to prevent both compressors from starting simultaneously.

Enhanced Solid State Control System (CXM2):

Units shall have a solid-state control system. **Units utilizing electro-mechanical control shall not be acceptable.** The control system microprocessor board shall be specifically designed to protect against building electrical system noise contamination, EMI, and RFI interference. The control system shall interface with a heat pump type thermostat. The control system shall have the following features:

a. Anti-short cycle time delay on compressor operation.
b. Random start on power up mode.
c. Low voltage protection.
d. High voltage protection.
e. Unit shutdown on high or low refrigerant pressures.
f. Unit shutdown on low water temperature.
g. Condensate overflow electronic protection.
h. Option to reset unit at thermostat or disconnect.
i. Automatic intelligent reset. Unit shall automatically reset the unit 5 minutes after trip if the fault has cleared. If a fault occurs 3 times sequentially without thermostat meeting temperature, then lockout requiring manual reset will occur.
j. Ability to defeat time delays for servicing.
k. The low-pressure switch shall not be monitored for the first 120 seconds after a compressor start command to prevent nuisance safety trips.
l. 24V output to cycle a motorized water valve or other device with compressor contactor.
m. Unit Performance Sentinel (UPS). The UPS warns when the heat pump is running inefficiently.
n. Water coil low temperature sensing (selectable for water or anti-freeze).
o. Air coil low temperature sensing.
p. Minimized reversing valve operation (Unit control logic shall only switch the reversing valve when cooling is demanded for the first time. The reversing valve shall be held in this position until the first call for heating, ensuring quiet operation and increased valve life).
q. Emergency shutdown contacts.
r. Entering and leaving water temperature sensing.
s. Leaving air temperature sensing.
t. Compressor discharge temperature sensing.

NOTE: Units not providing the 8 safety protections of anti-short cycle, low voltage, high voltage, high refrigerant pressure, low pressure (loss of charge), air coil low temperature cut-out, water coil low temperature cut-out, and condensate overflow protections will not be accepted.

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When CXM2 is connected to AWC99U01 thermostat or handheld service tool, the installer/service technician can; check DIP switch S2 settings; run operation modes manually; check all physical inputs from thermostat and refrigerant pressure switches status, (Y1, Y2, W, O, G, H, ESD, NSB, OR, HP switch, and LOC switch); current or at time of fault the following temperatures - water coil (LT1), air coil (LT2), compressor discharge, leaving air, leaving water, entering water and control voltage; record last five faults, list possible reasons, and clear faults. When the AWC99U01 communicating thermostat is used this same functionality can be viewed and adjusted remotely in the web portal or mobile app. **Systems not providing remote access, diagnosis, and adjustment functionality will not be accepted.**

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

This control system is a communicating controller.

Control shall have the above-mentioned features of the CXM2 control system along with the following expanded features:

a. Removable thermostat connector.
b. Night setback control.
c. Random start on return from night setback.
d. Override temperature control with 2-hour timer for room occupant to override setback temperature at the thermostat.
e. Dry contact night setback output for digital night setback thermostats.
f. Ability to work with heat pump or heat/cool (Y, W) type thermostats.
g. Ability to work with heat pump thermostats using O or B reversing valve control.
h. Boilerless system heat control at low loop water temperature.
i. Ability to allow up to 3 units to be controlled by one thermostat.
j. Relay to operate an external damper.
k. Relay to start system pump.
l. 75VA control transformer. Control transformer shall have load side short circuit and overload protection via a built-in circuit breaker.

NOTE: Units not providing the 8 safety protections of anti-short cycle, low voltage, high voltage, high refrigerant pressure, low pressure (loss of charge), air coil low temperature cut-out, water coil low temperature cut-out, and condensate overflow protection for both drain pans will not be accepted.

When DXM2.5 is connected to AWC99U01 communicating thermostat or handheld service tool, the installer/service technician can; check and set CFM; check DIP switch S1, S2, and S3 settings; run operation modes manually; check all physical inputs from thermostat and refrigerant pressure switches status, (Y1, Y2, W, O, G, H, ESD, NSB, OR, HP switch, and LOC switch); current or at time of fault the following temperatures - water coil (LT1), air coil (LT2), compressor discharge, leaving air, leaving water, entering water and control voltage; record last five faults, list possible reasons, and clear faults. When the AWC99U01 communicating thermostat is used this same functionality can be viewed and adjusted remotely with the only portal or mobile app. **Systems not providing remote access, diagnosis, and adjustment functionality will not be accepted.**

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

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

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Remote Service Sentinel (CXM2/DXM2.5):

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

Option: MPC (Multiple Protocol Control) Interface System

Units shall have all the features listed above (either CXM2 or DXM2.5) and the control board will be supplied with a Multiple Protocol interface board. Available protocols are BACnet MS/TP, Modbus, or Johnson Controls N2. The choice of protocol shall be field selectable/changeable via the use of a simple selector switch. Protocol selection shall not require any additional programming or special external hardware or software tools. This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. The following points must be available at a central or remote computer location:

a. Space temperature
b. Leaving water temperature
c. Discharge air temperature
d. Command of space temperature setpoint
e. Cooling status
f. Heating status
g. Low temperature sensor alarm
h. Low pressure sensor alarm
i. High pressure switch alarm
j. Condensate overflow alarm
k. Hi/low voltage alarm
l. Fan “ON/AUTO” position of space thermostat as specified above
m. Unoccupied/occupied command
n. Cooling command
o. Heating command
p. Fan “ON/AUTO” command
q. Fault reset command
r. Itemized fault code revealing reason for specific shutdown fault (any one of 7)

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

Warranty:

ClimateMaster shall warranty equipment for a period of 12 months from start up or 18 months from shipping (which ever occurs first).

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

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

Option: Extended 4-year control board warranty covers the CXM2/DXM2 control board for a total of 5 years.

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FIELD INSTALLED OPTIONS

Hose Kits:

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

Valves:

The following valves are available and will be shipped loose:

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

Hose Kit Assemblies:

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

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

Thermostats:

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

a. Thermostat (Communicating) (AWC99U01)
An electronic communicating web-enabled touchscreen thermostat shall be provided. The thermostat shall offer three stages of heating and two stages of cooling with precise temperature control and have a four-wire connection to the unit. The thermostat shall be capable of manual or automatic change-over operation and shall operate in standard or programmable mode. An integrated humidity control feature shall be included to control a humidifier and/or a dehumidifier. The thermostat shall include a utility demand reduction feature to be initiated by an independent time program or an external input.

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

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

b. Multi-stage Digital Automatic Changeover (ATA22U01)
Thermostat shall be multi-stage (2H/2C), manual or automatic changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have an LCD display with temperature, setpoint(s), mode, and status indication. The temperature indication shall be selectable for °F or °C. The thermostat shall provide permanent memory of

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setpoint(s) without batteries. A fault LED shall be provided to indicate specific fault condition(s). Thermostat shall provide temperature display offset for custom applications. Thermostat shall allow unit to provide better dehumidification with optional DXM2.5 controller by automatically using lower fan speed on stage 1 cooling (higher latent cooling) as main cooling mode, and automatically shifting to high speed fan on stage 2 cooling.

c. Multi-stage Manual Changeover Programmable 5/2 Day (ATP21U01)
Thermostat shall be 5 day/2 day programmable (with up to 4 setpoints per day), multi-stage (2H/1C), manual changeover with HEAT-OFF-COOL-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have an LCD display with temperature, setpoint(s), mode, and status indication. The temperature indication shall be selectable for ºF or ºC. The thermostat shall provide permanent memory of setpoint(s) without batteries. Thermostat shall provide convenient override feature to temporarily change setpoint.

d. Multi-stage Automatic or Manual Changeover Programmable 7 Day (ATP32U03C)
Thermostat shall be 7 day programmable (with up to 4 setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have a blue backlit dot matrix LCD display with temperature, setpoints, mode, and status indication. The temperature indication shall be selectable for ºF or ºC. Time display shall be selectable for 12 or 24-hour clock. Fault identification shall be provided (when used with ClimateMaster CXM2 or DXM2.5 controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

e. Multi-stage Automatic or Manual Changeover Programmable 7 Day with Humidity Control (ATP32U04C)
Thermostat shall be 7-day programmable (with up to 4 setpoints per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Separate dehumidification and humidification setpoints shall be configurable for discreet outputs to a dehumidification option and/or an external humidifier. Installer configuration mode shall allow thermostat dehumidification mode to operate with ClimaDry reheat or with ECM fan dehumidification mode via settings changes. Thermostat shall have a blue backlit dot matrix LCD display with temperature, relative humidity, setpoints, mode, and status indication. The temperature indication shall be selectable for ºF or ºC. Time display shall be selectable for 12 or 24-hour clock. Fault identification shall be provided (when used with ClimateMaster CXM2 or DXM2.5 controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of setpoints without batteries. Thermostat shall provide heating setpoint range limit, cooling setpoint range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

DDC Sensors:

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

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

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SUBMITTAL DATA - I-P UNITS

Unit Designation: _____

Job Name: _____

Architect: _____

Engineer: _____

Contractor: _____

PERFORMANCE DATA

Cooling Capacity: _____ Btuh

EER: _____

Heating Capacity: _____ Btuh

COP: _____

Ambient Air Temp: _____ °F

Entering Water Temp (Clg): _____ °F

Entering Air Temp (Clg): _____ °F

Entering Water Temp (Htg): _____ °F

Entering Air Temp (Htg): _____ °F

Airflow: _____ CFM

Fan Speed or Motor/RPM/Turns: _____

Operating Weight: _____ (lb)

ELECTRICAL DATA

Power Supply: _____ Volts

_____ Phase _____ Hz

Minimum Circuit Ampacity: _____

Maximum Overcurrent Protection: _____

SUBMITTAL DATA - S-I UNITS

Unit Designation: _____

Job Name: _____

Architect: _____

Engineer: _____

Contractor: _____

PERFORMANCE DATA

Cooling Capacity: _____ kW

EER: _____

Heating Capacity: _____ kW

COP: _____

Ambient Air Temp: _____ °C

Entering Water Temp (Clg): _____ °C

Entering Air Temp (Clg): _____ °C

Entering Water Temp (Htg): _____ °C

Entering Air Temp (Htg): _____ °C

Airflow: _____ l/s

Fan Speed or Motor/RPM/Turns: _____

Operating Weight: _____ (kg)

ELECTRICAL DATA

Power Supply: _____ Volts

_____ Phase _____ Hz

Minimum Circuit Ampacity: _____

Maximum Overcurrent Protection: _____

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Revision History

Date:	Item:	Action:
11/06/24	Page 83	Updated Standard with VFD and Dual Point Power with VFD electrical data
07/29/24	Page 72	Updated filter sizes.
12/21/23	Page 13	Updated S-I unit headers.
11/6/23	Page 62	Updated Filter Accessory Values
01/24/23	All	Transitioned from CXM to CXM2 and DXM2 to DXM2.5 unit controls. Introduced Wi-Fi cloud connected color touch screen communicating thermostat
07/28/22	Page 65, 67	Changed the “Depth” Dimension
03/1/22	Page 4	Changed WSE Verbiage from DXM2 DXM
09/30/21	Page 72	Updated Standard VFD table for TC_L072, Max Fuse/HACR Voltage Code F
09/29/21	ALL	Removed LON Controls
02/09/21	Page 60	Correct “T” and “U” dimensional values
01/22/21	Pages 6, 33, 70-71=2	Updated Legend/Glossary of Abbreviations, Updated Antifreeze Correction Table, Updated SCCR Columns of Electrical Data
05/20/20	Format - All Pages	Update
10/24/19	Pages 72-73	Reformatted layout of VFD Operations
09/18/19	Pages 88-97	Update Engineering Specs with DXM2
	Pages 18-31	Updated columns to one decimal place
	Page 8	New Decoder
	Page 4	Updated Available Options area
08/12/19	All	Added VFD fan motor controls and DXM2 options
04/26/19	All	Misc. edits, add sound data
03/05/19	Page 35	Update Dimension on S and V
05/3/18	Pages 55-56	Text update
05/16/17	Pages 38, 41-43	Update 'A' dimensions
05/2717	All	Updated demensional and wiiring diagram pages
01/13/17	All	Updated TCV filter frame description
11/1/16	Document Design Update	Updated
06/22/16	All	Update Cabinet Description and Photo
04/5/16	Page 31	Update standard motor HP for 096
03/8/16	Page 42	Edit Engineering specs

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