

50TC
Cooling Only/Electric Heat
Packaged Rooftop
15 to 27.5 Nominal Tons



Product Data



C12590

(Unit shown with economizer and power exhaust.)



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The 15 to 27.5 ton WeatherMaker Carrier rooftop unit (RTU) was designed by customers for customers. With a newly designed cabinet that integrates “no-strip” screw collars, handled access panels, and more, we’ve made your unit easy to install, easy to maintain and easy to use and reliable.

Easy to install:

These WeatherMaker units are designed for dedicated factory supplied vertical or horizontal air flow duct configurations. No special field kits are required. Designed to fit on pre-installed curbs by other another manufacturer, these units also fit on past designed Carrier installed curbs with a new certified and authorized adapter curb. This cabinet design also integrates a large control box that gives you room to work and room to mount Carrier accessory controls.

Easy to maintain:

Easy access handles by Carrier provide quick and easy access to all major, normally serviced components. Our “no-strip” screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit’s metal. Take accurate pressure readings by reading condenser pressure with panels in place as compressors are strategically located to eliminate any air bypass.

Easy to use:

The newly designed, central terminal board by Carrier puts all your connections and troubleshooting points in one convenient place, standard. Most low voltage connections are made to the same board and make it easy to find what you’re looking for and easy to access it. Carrier rooftops have high and low pressure switches, a filter drier, and 2-in (51mm) filters standard.

Reliable:

Each unit comes with precision sized and tested scroll compressor that is internally protected from over temperature and pressures. In addition, each refrigerant circuit is further protected with a high pressure and low pressure switch as well as containing a liquid line filter drier. Each unit is factory tested prior to shipment to help ensure units operation once properly installed.

FEATURES AND BENEFITS

- 2-stage cooling capacity with independent circuits and control.
- Round tube/plate fin (RTPF) available on all sizes or NOVATION all aluminum condenser (outdoor) coils available on 17-28 sizes only. Special coil-coating also available for coastal and industrial environments
- EER's up to 11.0.
- IEER's up to 11.8 with single speed indoor fan motor and up to 12.9 with 2-speed/VFD indoor fan motor
- Dedicated vertical and horizontal air flow duct configuration models. No field kits required.
- Utility connections through the side or bottom. Bottom connections are also in an enclosed environment to help prevent water entry. Field supplied couplings are required.
- Standardized components and control box layout. Standardized components and controls make stocking parts and service easier.
- Scroll compressors on all units. This makes service, stocking parts, replacement, and trouble-shooting easier.
- Proven Acutrol refrigerant metering system.
- Easy-adjust, belt-drive motor available. Motor assembly also contains a fan belt break protection system on all models and reliable pillow block bearing system that allows lubrication thru front of the unit.
- Capable of thru-the-base electrical routing.
- Full range of electric heaters and single point electric kits – pre-engineered and approved for field installation.
- Single-point electrical connection.
- Sloped, composite drain pan sheds water; and won't rust.
- Standardized controls and control box layout. Standardized components and controls make stocking parts and service easier.
- Clean, large, easy to use control box.
- Color-coded wiring.
- Large, laminated wiring and power wiring drawings which are affixed to unit make troubleshooting easy.
- Single, central terminal board for test and wiring connections.
- Fast-access, handled, panels for easy access on normally accessed service panels.
- “No-strip” screw system guides screws into the panel and captures them tightly without stripping the screw, the panel, or the unit.
- Mechanical cooling (115°F to 30°F / 46°C to -1°C) standard on all models. Low ambient controller allows operation down to -20°F / -29°C.
- 2-in (51mm) disposable filters on all units, with 4-in (102mm) filter track - field installed.
- Refrigerant filter-drier on each circuit.
- High and low pressure switches. Added reliability with high pressure switch and low pressure switch.
- Many factory-installed options ranging from air management economizers, 2 position dampers, manual outdoor air dampers, plus convenience outlets, disconnect switch and smoke detectors.
- Factory-installed Humidi-MiZer® adaptive dehumidification system. Available on 17-28 sizes with RTPF condenser coil models only.
- Standard Parts Warranty: 10 year aluminized heat exchanger, 5 year compressor, 3 year NOVATION™ condenser coil, 1 year others.
- Optional Staged Air Volume (SAV) system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed between cooling stages. Available on 2-stage cooling models 17-30 with electromechanical controls or RTU Open.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5	0	T	C	-	D	2	4	A	1	G	6	-	0	A	0	A	0

Product Type

50 = Elect Heat Pkg. Rooftop

Model Series

TC = Standard Efficiency

Heat Size

- = No heat

Refrigerant System Options

D = 2 stage Cooling

E = 2 stg cooling w/Al/Cu cond. coil and with
Humidi-MiZer (17–28 sizes w/RTPF)

Cooling Tons

17 = 15 ton

20 = 17.5 ton

24 = 20 ton

28 = 25 ton

30 = 27.5 ton

Sensor Options

A = None

B = RA Smoke Detector

C = SA Smoke Detector

D = RA + SA Smoke Detector

E = CO₂ Sensor

F = RA Smoke Detector + CO₂

G = SA Smoke Detector + CO₂

H = RA + SA Smoke Detector + CO₂

Indoor Fan Options

1 = Standard Static Option

2 = Medium Static Option

3 = High Static Option

C = High Static Option w/Hi-Effy Motor (16 only)

5 = Standard Static Option, Horizontal

6 = Medium Static Option, Horizontal

7 = High Static Option, Horizontal

F = Med Static Effy Motor/Horizontal Supply, Return Air Flow

G = High Static, High Effy Motor/Horiz Supply, Return Air Flow

Packaging

0 = Standard

3 = CA Seismic Compliant

Electrical Options

A = None

C = Non-fused disconnect

G = 2-speed indoor fan (VFD) controller

J = 2-spd contr (VFD) & non-fused disc.

Service Options

0 = None

1 = Un-powered Convenience Outlet

2 = Powered Convenience Outlet

3 = Hinged Panels

4 = Hinged Panels, un-powered C.O.

5 = Hinged Panels, powered C.O.

Intake / Exhaust Options

A = None

B = Temperature Economizer w/Barometric Relief

F = Enthalpy Economizer w/Barometric Relief

K = 2 position Damper

U = Temp Ultra Low Leak Economizer w/Baro Relief

V = Temp Ultra Low Leak Econo w/PE (vertical)

W = Enthalpy Ultra Low Leak Econo w/Baro Relief

X = Enthalpy Ultra Low Leak Econo w/PE (vertical)

Base Unit Controls

0 = Base Electromechanical Controls

1 = PremierLink Controller

2 = RTU Open Multi-Protocol Controller

6 = Electromechanical with 2 speed fan and W7220 Econo controller

Design Revision

= Factory Design Revision

Voltage

1 = 575/3/60

5 = 208–230/3/60

6 = 460/3/60

Coil Options
Novation Coils Only (Outdoor–Indoor–Hail Guard)

G = Al/Al – Al/Cu

H = Al/Al – Cu/Cu

J = Al/Al – E-coat Al/Cu

K = Al/Al E-coat – Al/Cu

L = Al/Al E-coat – E-coat Al/Cu

T = Al/Al – Al/Cu, Louvered Hail Guard

U = Al/Al – Cu/Cu, Louvered Hail Guard

V = Al/Al – E-coat Al/Cu, Louvered Hail Guard

Round Tube Plate Fin (RTPF) (Outdoor–Indoor–Hail Guard)

A = Al/Cu – Al/Cu

B = Pre-coat Al/Cu – Al/Cu

C = E-coat Al/Cu – Al/Cu

D = E-coat AL/Cu – E-coat AL/Cu

E = Cu/Cu – Al/Cu

F = Cu/Cu – Cu/Cu

G = Cu/Cu – Cu/Cu

M = Al/Cu – Al/Cu – Louvered Hail Guard

N = Pre-Coat Al/Cu – Al/Cu – Louvered Hail Guard

Not all possible options can be displayed above – see price pages or contact your Carrier Expert for more details.

Table 1 – FACTORY-INSTALLED OPTIONS AND FIELD-INSTALLED ACCESSORIES

CATEGORY	ITEM	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Cabinet	Dedicated Vertical Air Flow Duct Configuration	X	
	Dedicated Horizontal Air Flow Duct Configuration	X	
	California Seismic Compliant Labeling (17–28 sizes only)	X	
Coil Options	Cu/Cu (indoor) coils	X	
	E-coated indoor & outdoor coils	X	
Humidity Control	Humidi-MiZer Adapt. Dehumidification System (17–28 RTPF)	X	
Condenser Protection	Condenser coil hail guard (louvered design)	X	X
Controls	Thermostats, temperature sensors, and subbases		X
	PremierLink™ DDC communicating controller	X	X
	RTU Open protocol controller	X	
	Smoke detector (supply and/or return air)	X	X
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
Economizers & Outdoor Air Dampers	EconoMi\$er IV (for electro-mechanical controlled RTUs)	X	X
	EconoMi\$er2 (for DDC controlled RTUs)	X	X
	Motorized 2 position outdoor-air damper	X	X
	Manual outdoor-air damper (25%)	X	X
	Barometric relief ¹	X	X
	Barometric hood (Horizontal economizer)	X	X
	Power exhaust-centrifugal blower	X	X
	Ultra Low Leak EconoMi\$er X (for 2-speed SAV system only, 17 to 30 sizes with 2 stages of cooling), vertical supply and return air only.	X	X
Economizer Sensors & IAQ Devices	Single dry bulb temperature sensors ²	X	X
	Differential dry bulb temperature sensors ²		X
	Single enthalpy sensors ²	X	X
	Differential enthalpy sensors ²		X
	CO ₂ sensor (wall, duct, or unit mounted) ³	X	X
Electric Heat	Electric Resistance Heaters		X
	Single Point Kit		X
Indoor Motor & Drive	Multiple motor and drive packages	X	
	Staged Air Vol (SAV) system w/VFD controller (2-stage cool only with electrical mechanical and RTU Open controls)	X	
	Display Kit for SAV system with VFD		X
Low Ambient Control	Winter start kit ³		X
	Motormaster head pressure controller ³		X
Power Options	Convenience outlet (powered)	X	
	Convenience outlet (unpowered)	X	
	Non-fused disconnect ⁴	X	
Roof Curbs	Roof curb 14-in (356mm)		X
	Roof curb 24-in (610mm)		X
	Adapter Curb (Adapts to Models – DP/DR/HJ/TM/TJ) ⁵ (17–24)		X

NOTES:

1. Included with economizer.
2. Sensors for optimizing economizer.
3. See application data for assistance.
4. Non-fused disconnect switch cannot be used when MOCP electrical rating exceeds 70 amps at 460/575 volt and 150 amps at 208/230 volt. Carrier RTUBuilder selects this automatically.
5. Not for 48TJE028-028 models using 48DP900041, 48DP900051 or 48DP900061 roofcurbs.

FACTORY OPTIONS AND/OR ACCESSORIES

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO₂ sensors, Economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. There are also models for electromechanical as well as direct digital controllers. Additional sensors are available as accessories to optimize the economizers.

Economizers include gravity controlled, barometric relief equalizes building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. If further control of exhaust air is required, a dual centrifugal fan power exhaust system is also available.

CO₂ Sensor

Improves productivity and saves money by working with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO₂ sensor detects their presence through increasing CO₂ levels, and opens the economizer appropriately.

When the occupants leave, the CO₂ levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called Demand Control Ventilation (DCV) reduces the overall load on the rooftop, saving money.

Smoke Detectors

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Louvered Hail Guards

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Convenience Outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

Non-Fused Disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop.

Power Exhaust with Barometric Relief

Superior internal building pressure control. This field-installed accessory or factory-installed option may eliminate the need for costly, external pressure control fans.

PremierLink™, DDC Controller

This CCN controller regulates your rooftop's performance to tighter tolerances and expanded limits, as well as facilitates zoning systems and digital accessories. It also unites your Carrier HVAC equipment together on one, coherent CCN network. The PremierLink can be factory-installed, or easily field-installed.

RTU Open Protocol Controller

Connect the rooftop to an existing BAS without needing complicated translators or adapter modules using the RTU Open controller. This new controller speaks the 4 most common building automation system languages (Bacnet, Modbus, N2, and Lonworks). Use this controller when you have an existing BAS.

Time Guard II Control Circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with PremierLink®, RTU Open, or authorized commercial thermostats.

Filter or Fan Status Switches

Use these differential pressure switches to detect a filter clog or indoor fan motor failure. When used in conjunction with a compatible unit controller/thermostat, the switches will activate an alarm to warn the appropriate personnel.

Motorized 2-Position Damper

The new Carrier 2-position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear-driven technology, the 2-position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% versions.

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

Optional Humidi-MiZer Adaptive Dehumidification System

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory installed option that can be ordered with any WeatherMaker 50TC17-28 rooftop unit.

This system expands the envelope of operation of Carrier's WeatherMaker rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has the industry's only dual dehumidification mode setting. The Humidi-MiZer system includes two new modes of operation.

The WeatherMaker 50TC17-28 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Subcooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

Staged Air Volume (SAV) Indoor Fan Speed System

Carrier's Staged Air Volume (SAV) system saves energy and installation time by utilizing a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed in sequence with the units cooling operation. Per ASHRAE 90.1 2010 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 2/3rd of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit established (100%). During the heating mode the VFD will allow total design cfm (100%) operation and during the ventilation mode the VFD will allow operation to 2/3rd of total cfm.

Compared to single speed indoor fan motor systems, Carrier's SAV system can save substantial energy, 25%+*, versus single speed indoor fan motor systems.

The VFD used in Carrier's SAV system has soft start capabilities to slowly ramp up the speeds, thus eliminating any high inrush air volume during initial start-up. It also has internal over current protection for the fan motor and a field installed display kit that allows adjustment and in depth diagnostics of the VFD.

This SAV system is available on models with 2-stage cooling operation with electrical mechanical or RTU Open, Multi Protocol controls. Both space sensor and conventional thermostats controls can be used to provide accurate control in any application.

The SAV system is very flexible for initial fan performance set up and adjustment. The standard factory shipped VFD is pre-programmed to automatically stage the fan speed between the first and second stage of cooling. The unit fan performance static pressure and cfm can be easily adjusted using the traditional means of pulley adjustments. The other means to adjust the unit static and cfm performance is to utilize the field installed Display Kit and adjust the frequency and voltage in the VFD to required performance requirements. In either case, once set up, the VFD will automatically adjust the speed between the cooling stage operations.

*Data based on .10 (\$/kWh) in an office application utilizing Carrier's HAP 4.6 simulation software program

Motormaster Head Pressure Controller

The Motormaster motor controller is a low ambient, head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling not when economizer usage is either not appropriate or desired. The Motormaster will either cycle the outdoor-fan motors or operate them at reduced speed to maintain the unit operation, depending on the model.

Winter Start Kit

The winter start kit by Carrier extends the low ambient limit of your rooftop to 25°F (-4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Alternate Motors and Drives

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your Carrier expert has a factory installed combination to meet your application. A wide selection of motors and pulleys (drives) are available, factory installed, to handle nearly any application.

Thru-the-Base Connections

Thru-the-base provisions/connection points are available as standard with every unit. When bottom connections are required, field furnished couplings are required.

FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

Electric Heaters / Single Point Kit

Carrier offers a full-line of field-installed accessory heaters and single point kits when required. The heaters are very easy to use, install and are all pre-engineered and certified.

Barometric Hood

For Horizontal Economizer applications where relief damper is installed in duct work. This kit provides the needed protection.

California OSHPD Seismic Certification Label (17-28 sizes)

Units meet the seismic requirements of the International Code Council Evaluation Service (ICC-ES) document AC156 (Acceptance Criteria for Seismic Qualification by Shake-Table Testing of Nonstructural Components and Systems) and per International Building Code (IBC 2009) at an SDS (g) value of 2.00 z/h=1.0, Ip=1.5 and certified by independent structural engineers. A certification label is applied to the unit that meets the CA OSHPD Special Seismic Certification pre-approval labeling requirements on the external chassis of the unit.

Table 2 – AHRI COOLING RATING TABLE 2-STAGE COOLING

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH SINGLE SPEED INDOOR MOTOR	IEER WITH 2-SPEED INDOOR MOTOR
17	2	15	192	17.5	11.0	11.8	12.9
20	2	17.5	207	18.8	11.0	11.8	12.9
24	2	20	242	24.2	10.0	10.8	11.9
28	2	25	280	28.0	10.0	10.6	11.7
30	2	27.5	330	31.7	10.4	10.6	11.7

LEGEND

- AHRI – Air Conditioning, Heating and Refrigeration Institute
 ASHRAE – American Society of Heating, Refrigerating and Air Conditioning, Inc.
 EER – Energy Efficiency Ratio
 IEER – Integrated Energy Efficiency Ratio



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification of individual products, go to www.ahridirectory.org.



NOTES

1. Rated and certified under AHRI Standard 340/360, as appropriate.
2. Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F db outdoor air temp.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 50TC units comply with ASHRAE 90.1 Energy Standard for minimum EER and IEER requirements.
4. Where appropriate, 50TC units comply with US Energy Policy Act. Refer to state and local codes or visit the following website: <http://bcap-energy.org> to determine if compliance with this standard pertains to your state, territory, or municipality.

Table 3 – MINIMUM - MAXIMUM AIRFLOWS (CFM) COOLING AND ELECTRIC HEAT

MODEL SIZE	NOMINAL kW	ELECTRIC HEATERS		COOLING			
		MINIMUM	MAXIMUM	Minimum Single Speed Fan Motor	Minimum 2-speed Fan Motor (at high speed)	Minimum 2-speed Fan Motor (at low speed)	Maximum
17	25	4500	7500	4500	4500	2970	7500
	50						
	75						
20	25	5200	9000	5250	5250	3465	9000
	50						
	75						
24	25	6000	10000	6000	6000	3960	10000
	50						
	75						
28	25	7000	12500	7500	8450	5577	12500
	50						
	75						
30	25	8500	15000	8250	8250	5445	13750
	50						
	75						

Table 4 – SOUND PERFORMANCE TABLE

MODEL SIZE	COOLING STAGES	OUTDOOR SOUND (dB)									
		A-Wtg.	ARI 370 Rating	63	125	250	500	1000	2000	4000	8000
17	2	84.1	84	92.2	83.9	80.4	81.8	78.7	76.5	72.2	65.4
20	2	84.1	84	92.2	83.9	80.4	81.8	78.7	76.5	72.2	65.4
24	2	86.5	87	95.6	87.5	84.2	84.2	81.7	77.9	73.2	66.3
28	2	85.9	86	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3
30	2	85.9	86	97.1	88.3	84.4	83.3	80.7	77.4	73.4	67.3

LEGEND

dB – Decibel



NOTES:

1. Outdoor sound data is measured in accordance with AHRI standard 270-2008.

2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure accounts for specific environmental factors which do not match individual applications. Sound power values are independent of the environment and therefore more accurate.

3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of an "average" human ear. A-weighted measurements for Carrier units are taken in accordance with 270-2008.

Table 5 – PHYSICAL DATA
Novation - All Aluminum Coil Design

(COOLING)

15-27.5 TONS

	50TC*17	50TC*20	50TC*24	50TC*28	
Refrigeration System					
# Circuits / # Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	
R-410a charge A/B (lbs)	9.5/12.0	9.5/12.0	14.4/12.5	12.5/13.0	
Metering device	Acutrol	Acutrol	Acutrol	Acutrol	
High-press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	
Low-press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117	54 / 117	
Compressor Capacity Staging (%)	50 / 100	50 / 100	50 / 100	50 / 100	
Evap. Coil					
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
Tube Diameter	3/8-in	3/8-in	3/8-in	3/8-in	
Rows / FPI	4 / 15	4 / 15	4 / 15	4 / 15	
Total face area (ft ²)	19.56	19.56	22.00	23.11	
Condensate drain conn. size	3/4-in	3/4-in	3/4-in	3/4-in	
Evap. fan and motor					
VERTICAL					
Standard Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 2.2 514–680 56 2 / Centrifugal 15 x 15	1 / Belt 3.3 622–822 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 690–863 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 717–911 56 2 / Centrifugal 15 x 15
Medium Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 3.3 679–863 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 713–879 56 2 / Centrifugal 15 x 15	1 / Belt 6.5 835–1021 184T 2 / Centrifugal 15 x 15	1 / Belt 6.5 913–1116 184T 2 / Centrifugal 15 x 15
High Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 4.9 826–1009 56 2 / Centrifugal 15 x 15	1 / Belt 6.5 882–1078 184T 2 / Centrifugal 15 x 15	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 15 x 15	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 15 x 15

Table 5 PHYSICAL DATA (cont.)
Novation - All Aluminum Coil Design

(COOLING)

15-27.5 TONS

	50TC*17	50TC*20	50TC*24	50TC*28
HORIZONTAL				
Standard Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 2.2 514–680 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 3.3 622–822 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 4.9 690–863 56 2 / Centrifugal 18 x 15 & 15 X 11
Medium Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 3.3 614–780 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 4.9 713–879 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 6.5 835–1021 184T 2 / Centrifugal 18 x 15 & 15 X 11
High Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 4.9 746–912 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 6.5 882–1078 184T 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 18 x 15 & 15 X 11
Cond. Coil (Circuit A)	Coil type Coil Length (in) Coil Height (in) Total face area (ft ²)	Novation 70 44 21.4	Novation 70 44 21.4	Novation 82 44 25.1
Cond. Coil (Circuit B)	Coil type Coil Length (in) Coil Height (in) Total face area (ft ²)	Novation 70 44 21.4	Novation 70 44 21.4	Novation 57 44 17.4
Cond. fan / motor	Qty / Motor drive type Motor HP / RPM Fan diameter (in)	3 / direct 1/4 / 1100 22	3 / direct 1/4 / 1100 22	4 / direct 1/4 / 1100 22
Filters	RA Filter # / size (in) OA inlet screen # / size (in)	6 / 20 x 25 x 2 4 / 16 x 25 x 1	6 / 20 x 25 x 2 4 / 16 x 25 x 1	6 / 20 x 25 x 2 4 / 16 x 25 x 1
				9 / 16 x 25 x 2 4 / 16 x 25 x 1

Table 5 PHYSICAL DATA (cont.)
RTPF (Round Tube/Plate Fin Coil Design)

(COOLING)

15-27.5 TONS

	50TC*17	50TC*20	50TC*24	50TC*28	50TC*D30
Refrigeration System					
# Circuits / # Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
R-410a charge A/B (lbs)	16.3/17.5	9.5/12.0	20.6/14.7	19.8/20.4	27.0/ 28.5
Humidi-MiZer R-410a charge A/B (lbs)	25.9/25.7	25.9/25.7	27.9/20.5	27.9/28.9	n/a
Metering device	Acutrol	Acutrol	Acutrol	Acutrol	Acutrol
High-press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	630 / 505
Low-press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117	54 / 117	54 / 117
Humidi-MiZer Low-press. Trip / Reset (psig)	27 / 44	27 / 44	27 / 44	27 / 44	n/a
Compressor Capacity Staging (%)	50 / 100	50 / 100	50 / 100	50 / 100	50 / 100
Evap. Coil					
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Tube Diameter	3/8-in	3/8-in	3/8-in	3/8-in	3/8-in
Rows / FPI	4 / 15	4 / 15	4 / 15	4 / 15	4 / 15
Total face area (ft ²)	22.00	22.00	22.00	23.11	26
Condensate drain conn. size	3/4-in	3/4-in	3/4-in	3/4-in	3/4-in
Humidi-MiZer Coil					
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	n/a
Tube Diameter	3/8-in	3/8-in	3/8-in	3/8-in	n/a
Rows / FPI	1 / 17	1 / 17	1 / 17	1 / 17	n/a
Total face area (ft ²)	22.00	22.00	22.00	23.11	n/a
Evap. fan and motor VERTICAL					
Standard Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 2.2 514–680 56 2 / Centrifugal 15 x 15	1 / Belt 3.3 622–822 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 690–863 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 717–911 56 2 / Centrifugal 15 x 15
Medium Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 3.3 679–863 56 2 / Centrifugal 15 x 15	1 / Belt 4.9 713–879 56 2 / Centrifugal 15 x 15	1 / Belt 6.5 835–1021 184T 2 / Centrifugal 15 x 15	1 / Belt 6.5 913–1116 184T 2 / Centrifugal 15 x 15
High Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 4.9 826–1009 56 2 / Centrifugal 15 x 15	1 / Belt 6.5 882–1078 56 2 / Centrifugal 15 x 15	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 15 x 15	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 15 x 15

Table 5 PHYSICAL DATA (cont.)
RTPF (Round Tube/Plate Fin Coil Design)

(COOLING)

15-27.5 TONS

	50TC*17	50TC*20	50TC*24	50TC*28	50TC*30
Evap. fan and motor HORIZONTAL					
Standard Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 2.2 514–680 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 3.3 622–822 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 4.9 690–863 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 4.9 647–791 56 2 / Centrifugal 18 x 15 / 15 X 11
Medium Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 3.3 614–780 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 4.9 713–879 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 6.5 835–1021 184T 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 6.5 755–923 184T 2 / Centrifugal 18 x 15 / 15 X 11
High Static	Motor Qty / Drive type Max BHP RPM range Motor frame size Fan Qty / Type Fan Diameter (in)	1 / Belt 4.9 746–912 56 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 6.5 882–1078 184T 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 8.7 941–1176 213T 2 / Centrifugal 18 x 15 & 15 X 11	1 / Belt 8.7 827–1010 213T 2 / Centrifugal 18 x 15 / 15 X 11
Cond. Coil (Circuit A)					
	Coil type Coil Length (in) Coil Height (in) Total face area (ft ²)	RTPF 70 44 21.4	RTPF 70 44 21.4	RTPF 82 44 25.1	RTPF 75 52 27.1
Cond. Coil (Circuit B)					
	Coil type Coil Length (in) Coil Height (in) Total face area (ft ²)	RTPF 70 44 21.4	RTPF 70 44 21.4	RTPF 57 44 17.4	RTPF 75 52 27.1
Cond. fan / motor					
	Qty / Motor drive type Motor HP / RPM Fan diameter (in)	3 / direct 1/4 / 1100 22	3 / direct 1/4 / 1100 22	4 / direct 1/4 / 1100 22	4 / direct 1/4 / 1100 22
Filters					
	RA Filter # / size (in) OA inlet screen # / size (in)	6 / 20 x 25 x 2 4 / 16 x 25 x 1	6 / 20 x 25 x 2 4 / 16 x 25 x 1	6 / 20 x 25 x 2 4 / 16 x 25 x 1	9 / 16 x 25 x 2 4 / 16 x 25 x 1
					9 / 16 x 25 x 2 4 / 16 x 25 x 1

DIMENSIONS

	CONNECTION SIZES
A	1 3/8" DIA [35] FIELD POWER SUPPLY KNOCKOUT
B	3" DIA [76] FIELD POWER SUPPLY KNOCKOUT
C	3 5/8" DIA [92] FIELD POWER SUPPLY KNOCKOUT
D	7/8" DIA [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN

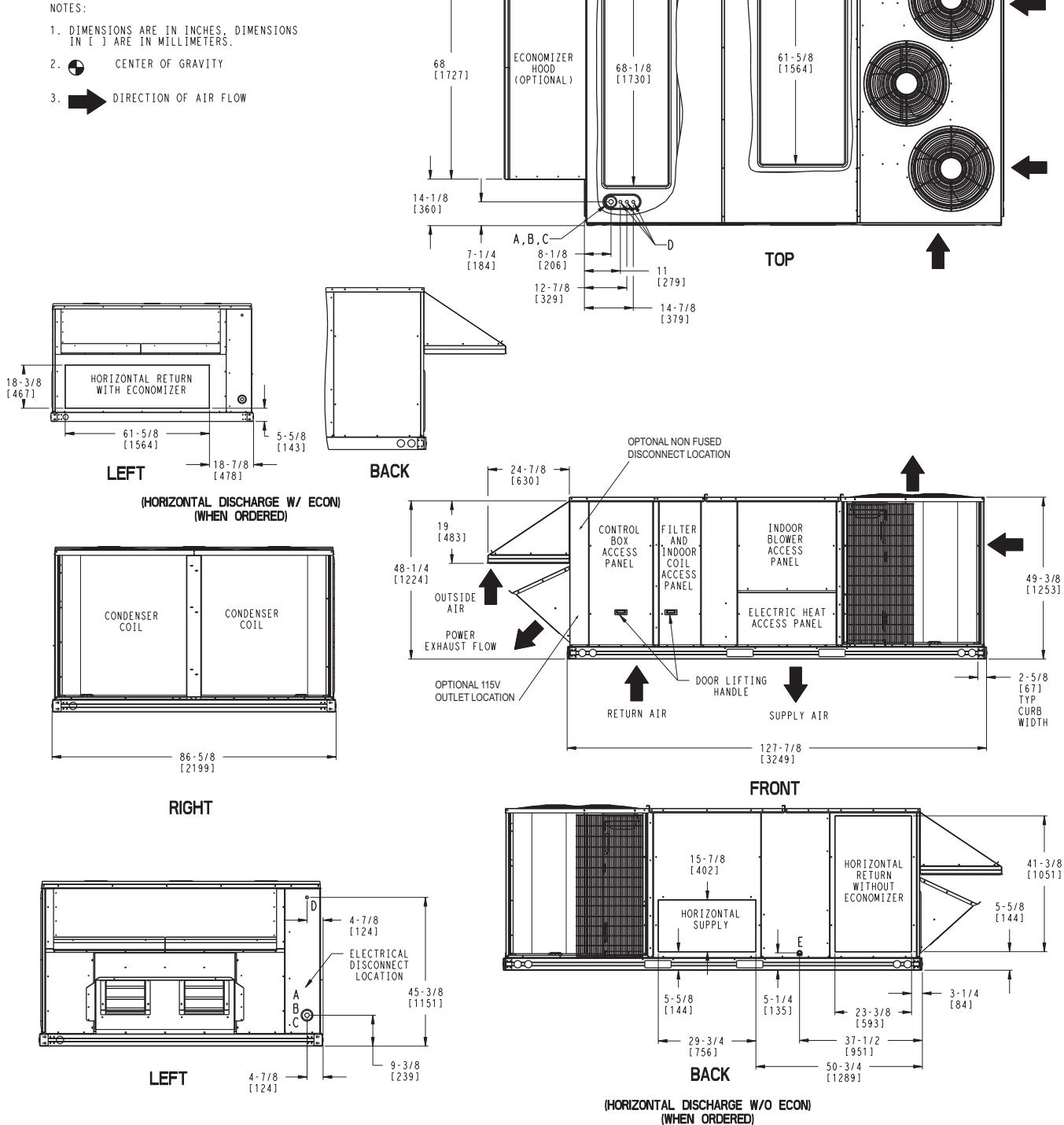


Fig. 1 - Dimensions 50TC-D17-20

C10940

DIMENSIONS (cont.)

Novation - All Aluminum Coil Design

UNIT	MAX UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC17	2033	922	403	183	412	187	446	202	436	198	44 3/4 [1137]	64 17/32 [1638]	16 1/2 [419]
50TC20	2048	929	407	185	416	189	450	204	440	200	44 3/4 [1137]	64 17/32 [1638]	16 1/2 [419]

RTPF - Round Tube/Plate Fin Coil Design

UNIT	MAX UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC17	2228	1011	415	188	492	223	488	221	412	187	42 29/32 [1090]	69 1/4 [1759]	16 1/2 [419]
50TC20	2243	1017	419	190	496	225	493	224	415	188	42 29/32 [1090]	69 1/4 [1759]	16 1/2 [419]

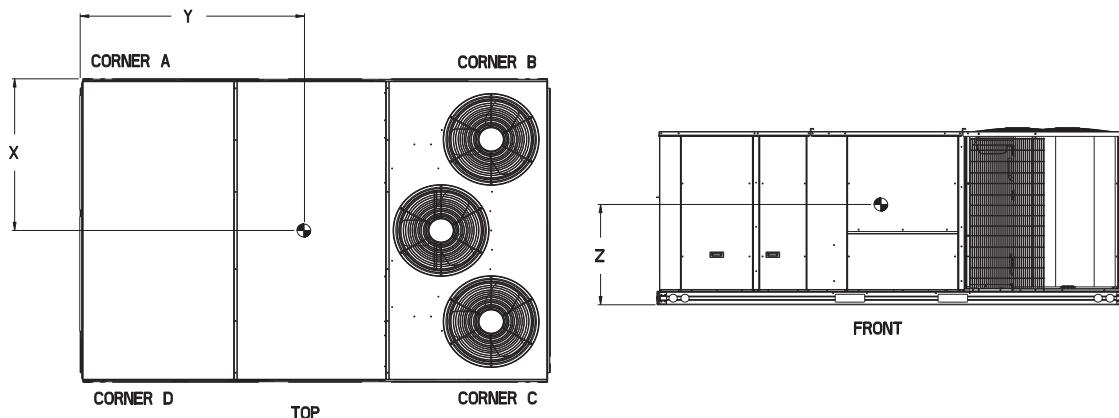


Fig. 2 - Dimensions 50TC-D17-20

C11164

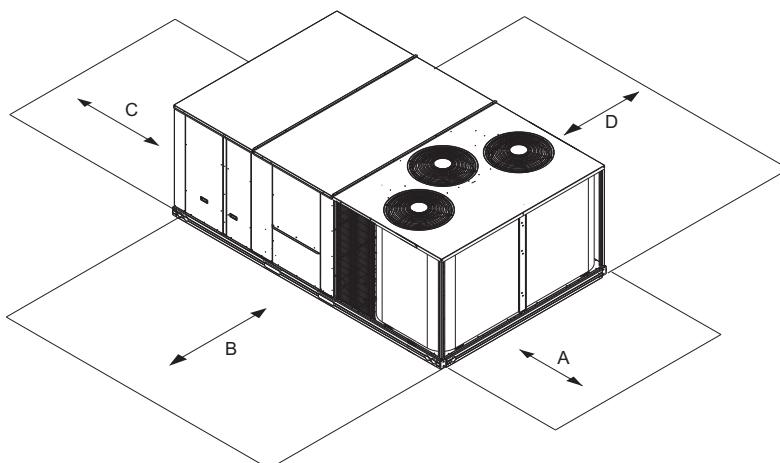


Fig. 3 - Service Clearance

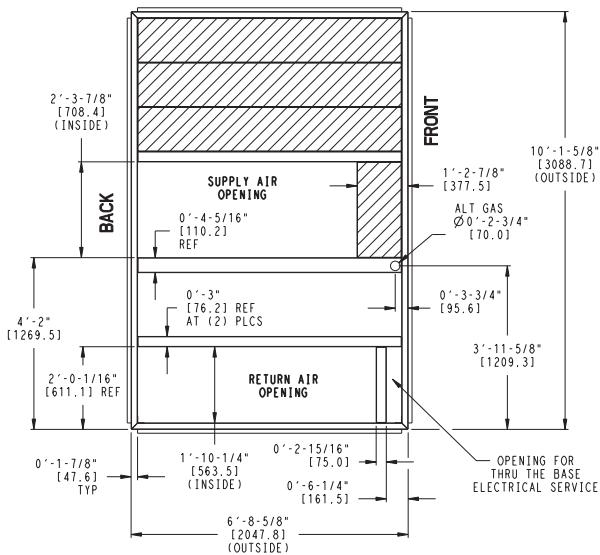
C11343

LOC	DIMENSION	CONDITION
A	36-in	Recommended clearance for airflow and service.
B	42-in	Recommended clearance for airflow and service.
C	18-in	1. No CO. 2. No Economizer. 3. No field installed disconnect on economizer hood side (Factory-installed disconnect installed).
	36-in	1. CO installed. 2. Vertical surface behind servicer is electrically non-conductive (e.g., wood, fiberglass).
	42-in	1. CO installed. 2. Vertical surface behind servicer is electrically conductive (e.g., metal, masonry)
	96-in	1. Economizer and/or Power Exhaust installed.
D	42-in	Recommended clearance for service.

NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

DIMENSIONS (cont.)

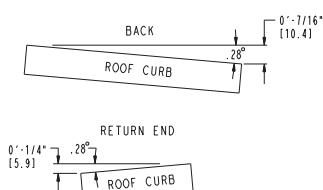
UNIT SIZE	"A"	ROOF CURB ACCESSORY
17.20	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB045A00 CRRFCURB046A00



NOTES:

- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
- 2 DIMENSIONS IN [] ARE IN MILLIMETERS.
- 3 ROOF CURB GALVANIZED STEEL.
- 4 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
- 5 SERVICE CLEARANCE 4 ft ON EACH SIDE

➡ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES

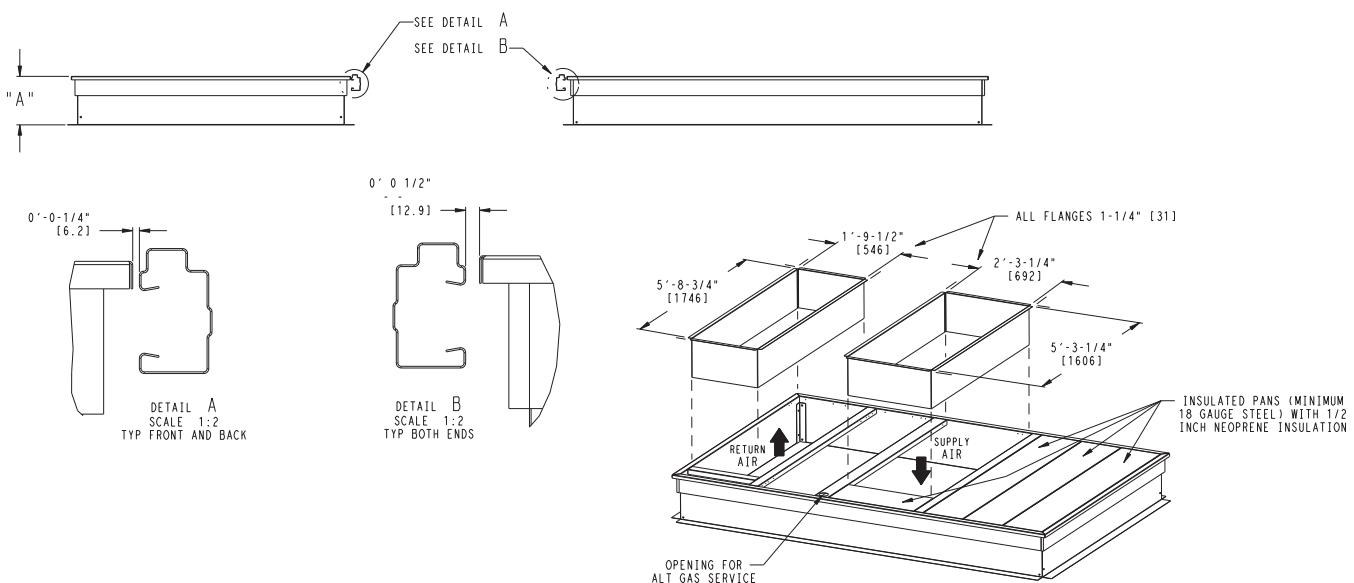
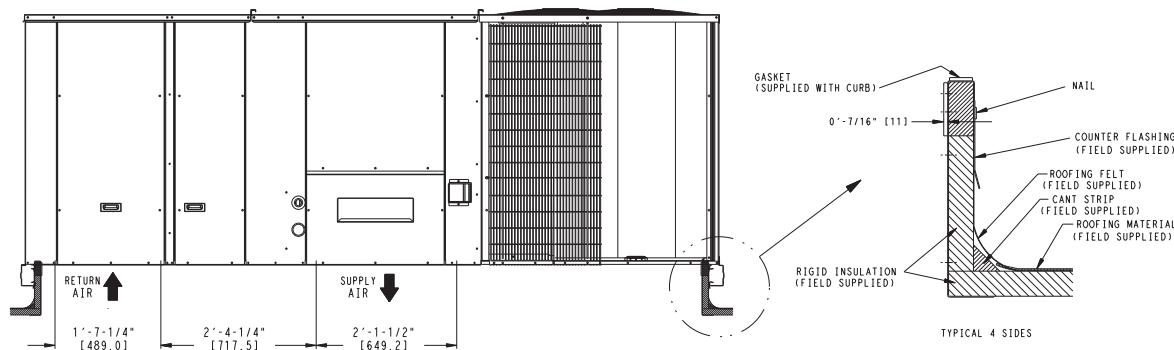


Fig. 4 - Curb Dimensions 50TC*D17-20

C09052

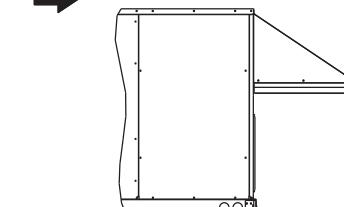
DIMENSIONS (cont.)

	CONNECTION SIZES	
A	1 3/8" DIA [35]	FIELD POWER SUPPLY KNOCKOUT
B	3" DIA [76]	FIELD POWER SUPPLY KNOCKOUT
C	3 5/8" DIA [92]	FIELD POWER SUPPLY KNOCKOUT
D	7/8" DIA [22]	FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT	CONDENSATE DRAIN

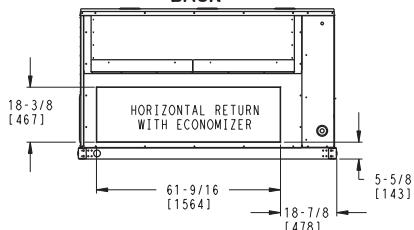
UNIT	G	H
24 SIZE	41-3/8 [1051]	49-3/8 [1253]
28 SIZE	49-3/8 [1253]	57-3/8 [1456]

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [] ARE IN MILLIMETERS.
2.  CENTER OF GRAVITY
3.  DIRECTION OF AIR FLOW

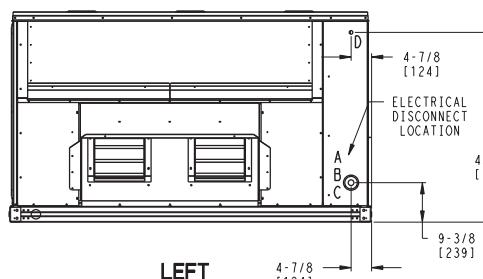
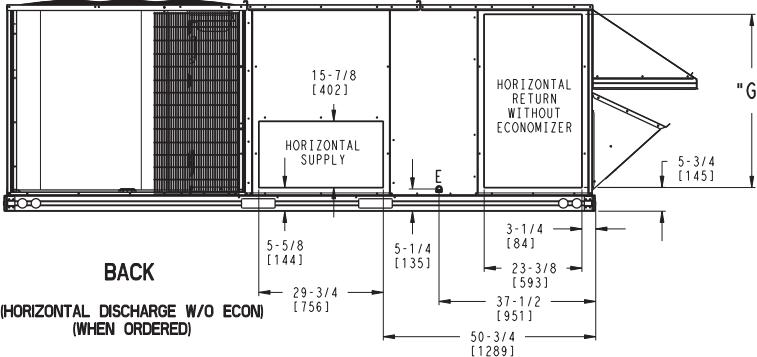
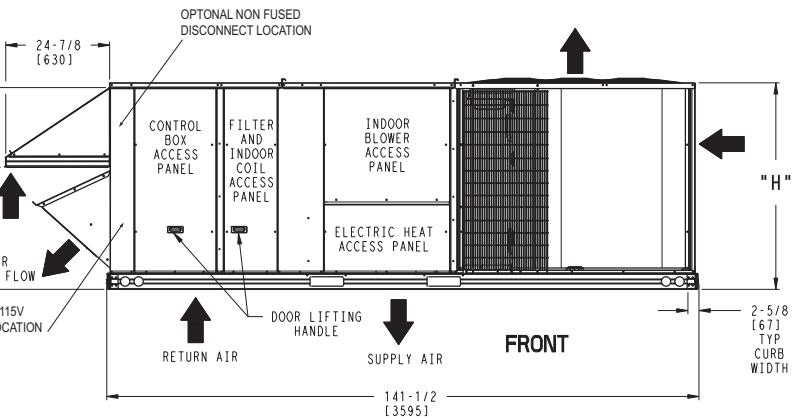


BACK

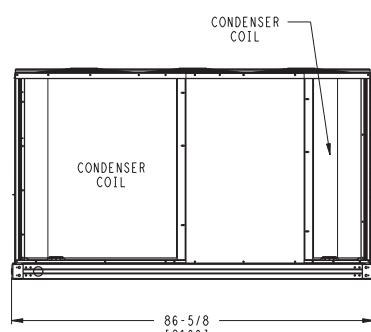


LEFT

(HORIZONTAL DISCHARGE W/ ECON)
(WHEN ORDERED)



LEFT



RIGHT

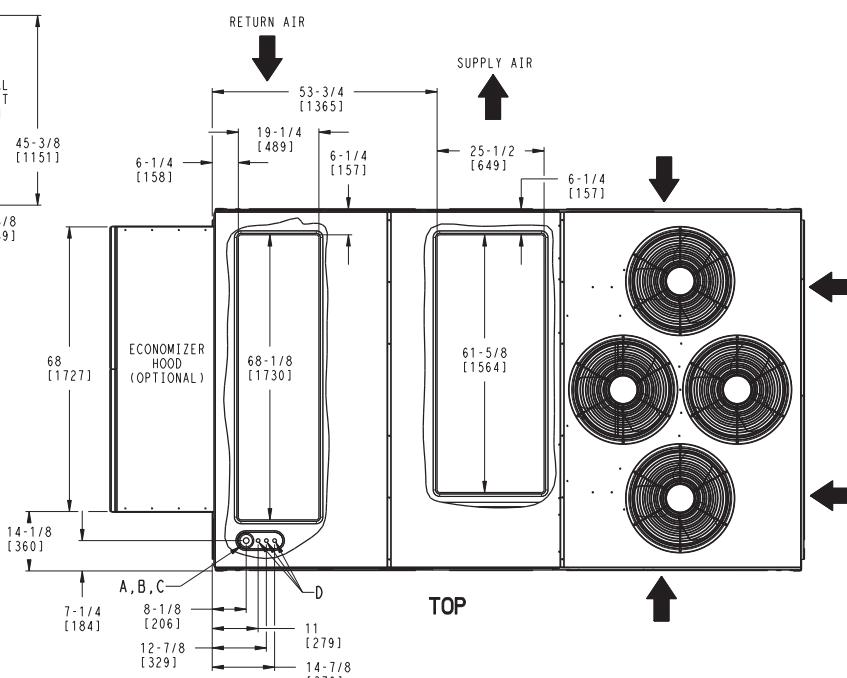


Fig. 5 - Dimensions 50TC-D24-28

C10941

DIMENSIONS (cont.)

Novation-All Aluminum Coil Design

UNIT	MAX UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC24	2198	997	359	163	506	230	583	264	414	188	46 5/32 [1173]	82 5/8 [2098]	16 1/2 [419]
50TC28	2327	1056	384	174	541	245	624	283	443	201	46 5/32 [1173]	82 5/8 [2098]	19 [483]

RTPF-Round Tube/Plate Fin Coil Design

UNIT	MAX UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC24	2277	1033	532	241	522	237	456	207	464	210	40 5/32 [1020]	70 [1778]	16 1/2 [419]
50TC28	2525	1145	545	247	539	245	504	229	510	231	41 21/32 [1058]	70 1/4 [1784]	19 [483]

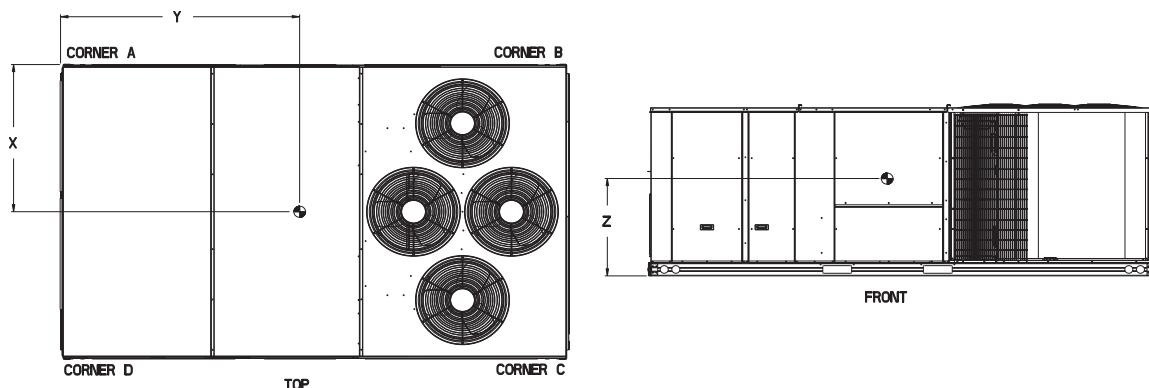


Fig. 6 - Dimensions 50TC-D24-28

C11165

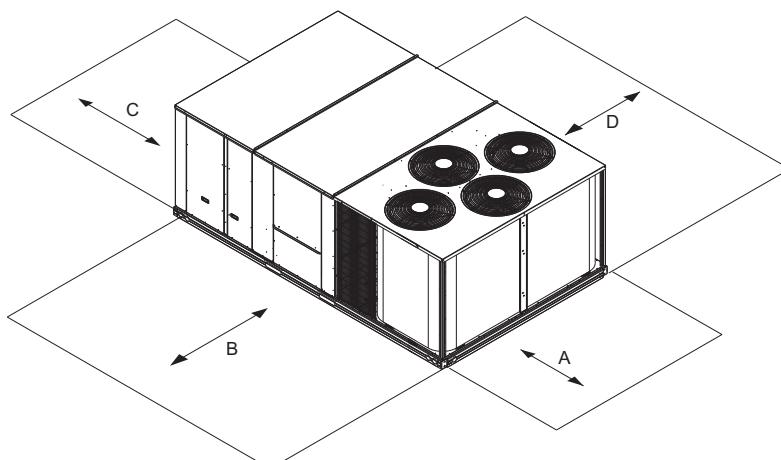


Fig. 7 - Service Clearance

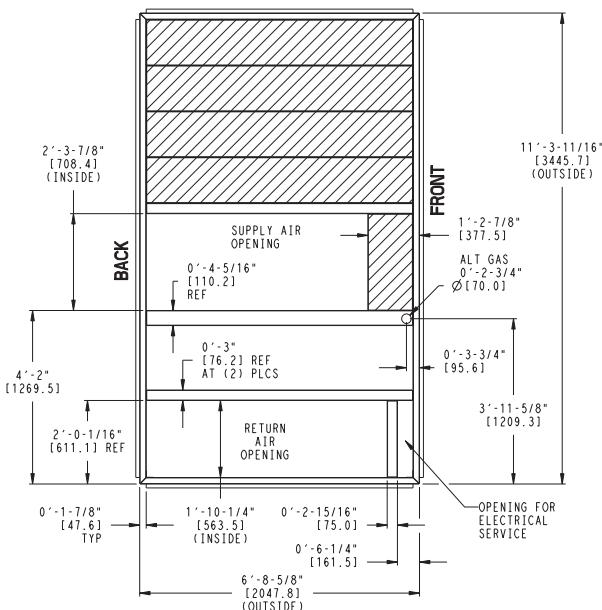
C11342

LOC	DIMENSION	CONDITION
A	36-in	Recommended clearance for airflow and service.
B	42-in	Recommended clearance for airflow and service.
C	18-in	1. No CO. 2. No Economizer. 3. No field installed disconnect on economizer hood side (Factory-installed disconnect installed).
	36-in	1. CO installed. 2. Vertical surface behind servicer is electrically non-conductive (e.g., wood, fiberglass).
	42-in	1. CO installed. 2. Vertical surface behind servicer is electrically conductive (e.g., metal, masonry)
	96-in	1. Economizer and/or Power Exhaust installed.
D	42-in	Recommended clearance for service.

NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

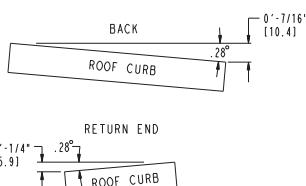
DIMENSIONS (cont.)

UNIT SIZE	"A"	ROOF CURB ACCESSORY
24.28	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB047A00 CRRFCURB048A00

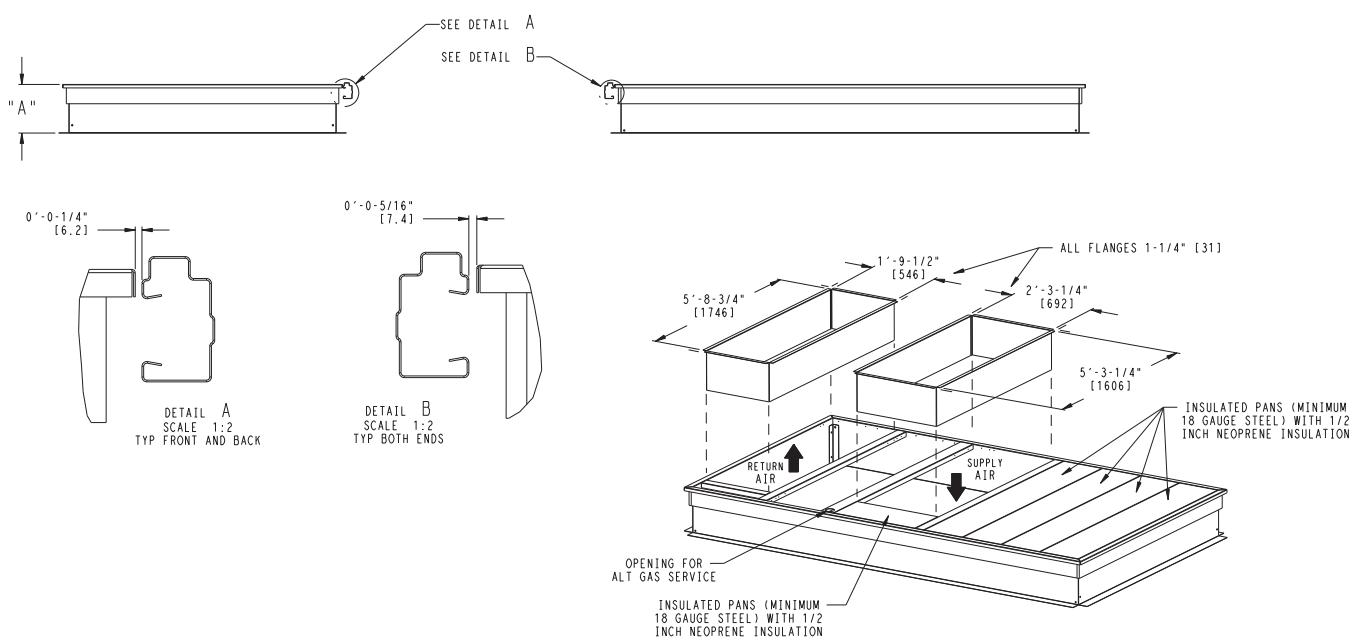
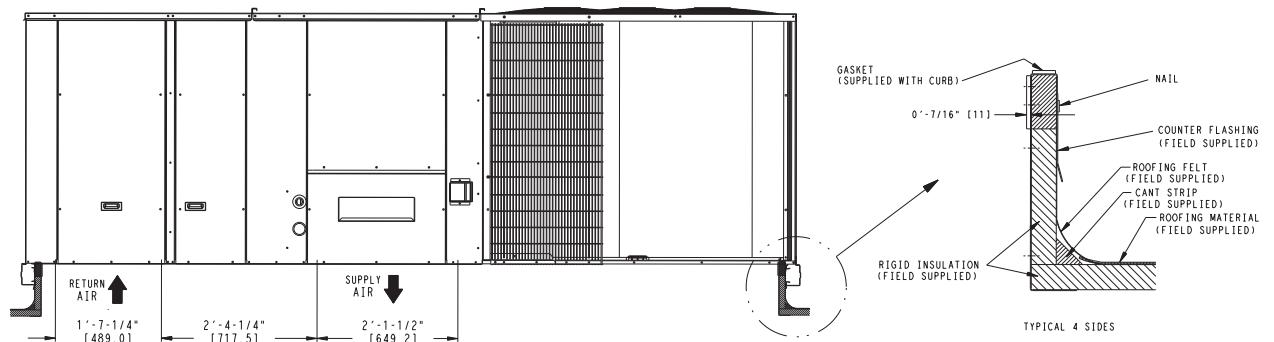


NOTES:

- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
- 2 DIMENSIONS IN [] ARE IN MILLIMETERS.
- 3 ROOF CURB GALVANIZED STEEL.
- 4 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
- 5 SERVICE CLEARANCE 4 ft ON EACH SIDE



MAX CURB LEVELING TOLERANCES



C09100

Fig. 8 - Curb Dimensions

DIMENSIONS (cont.)

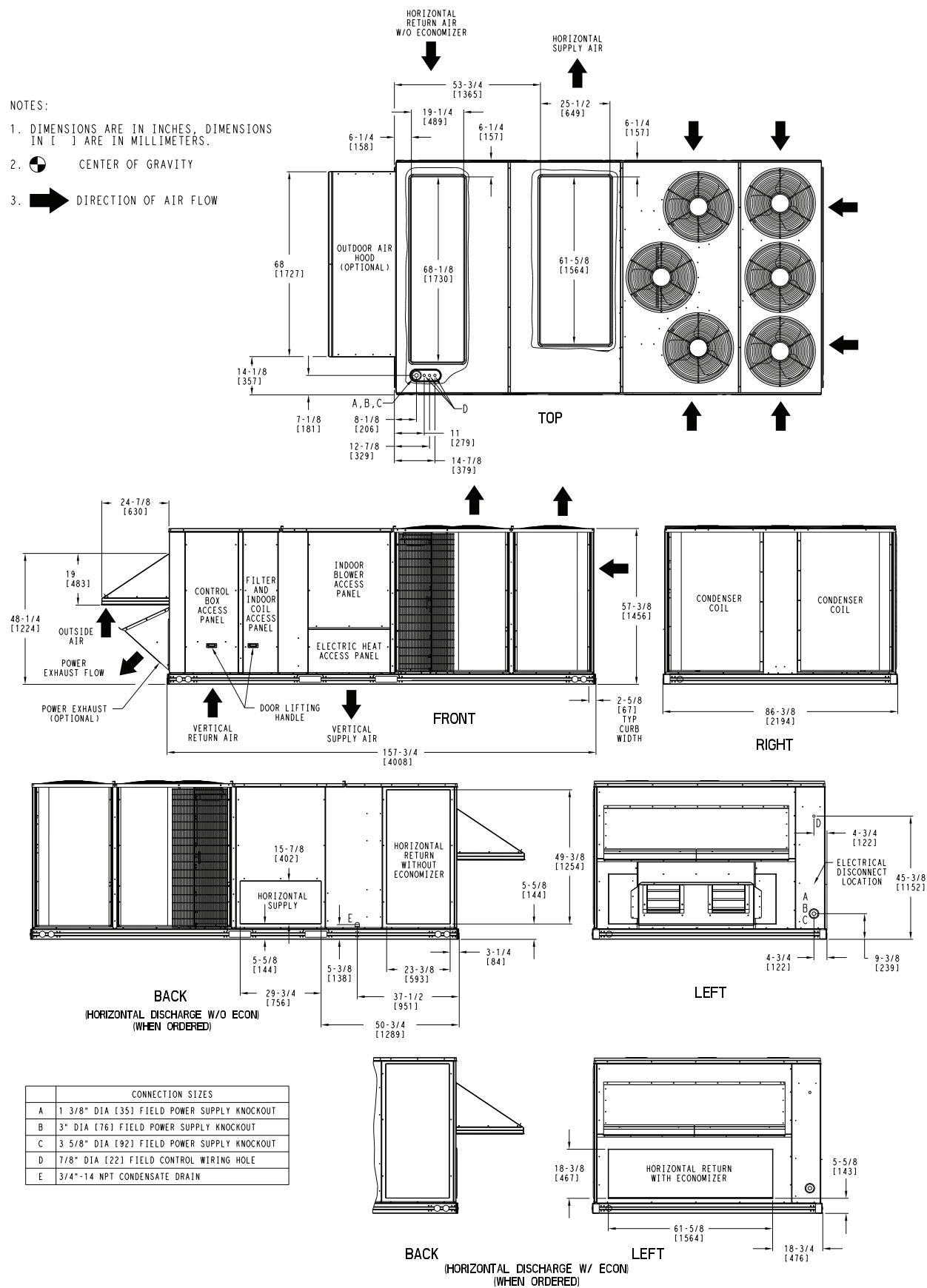


Fig. 9 - Dimensions 50TC*D30

C11225

DIMENSIONS (cont.)

UNIT	STD UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50TC30	2513	1142	664	302	566	257	591	269	693	315	44 [1118]	72 1/2 [1842]	19 [483]

* STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

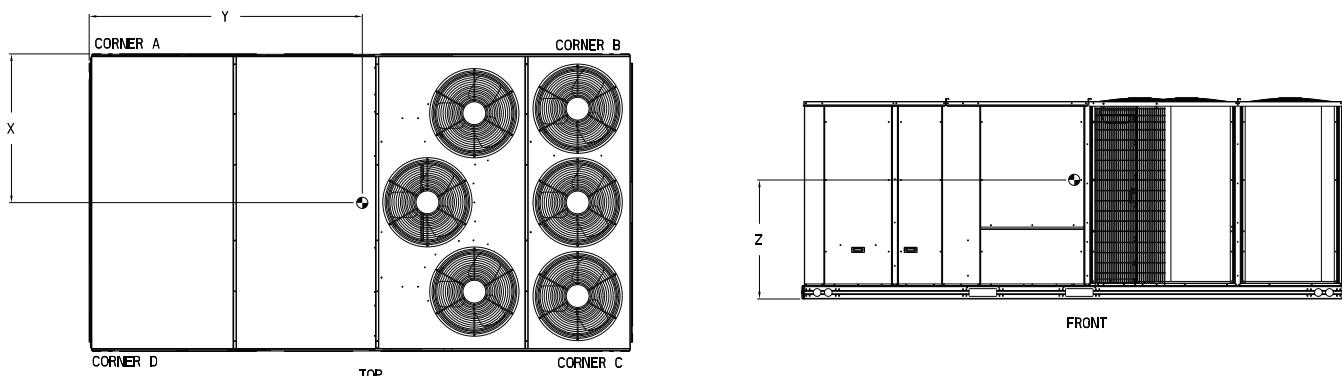
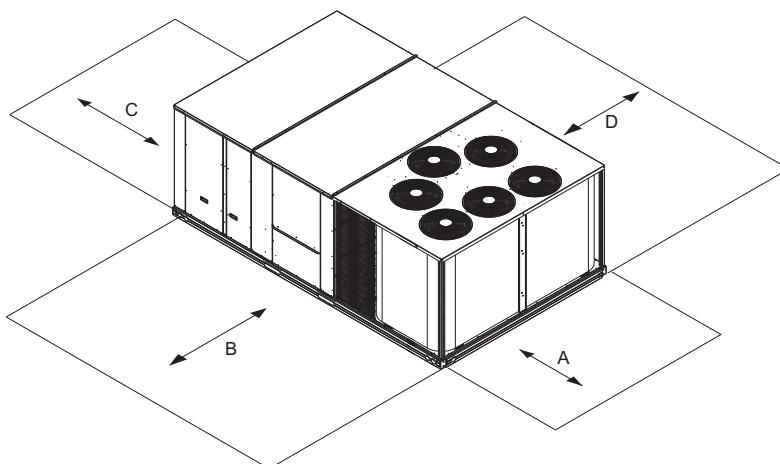


Fig. 10 - 50TC*D30

C11226A



C11344

LOC	DIMENSION	CONDITION
A	36-in	Recommended clearance for airflow and service.
B	42-in	Recommended clearance for airflow and service.
C	18-in	1. No CO. 2. No Economizer. 3. No field installed disconnect on economizer hood side (Factory-installed disconnect installed).
	36-in	1. CO installed. 2. Vertical surface behind servicer is electrically non-conductive (e.g., wood, fiberglass).
	42-in	1. CO installed. 2. Vertical surface behind servicer is electrically conductive (e.g., metal, masonry)
	96-in	1. Economizer and/or Power Exhaust installed.
D	42-in	Recommended clearance for service.

NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

DIMENSIONS (cont.)

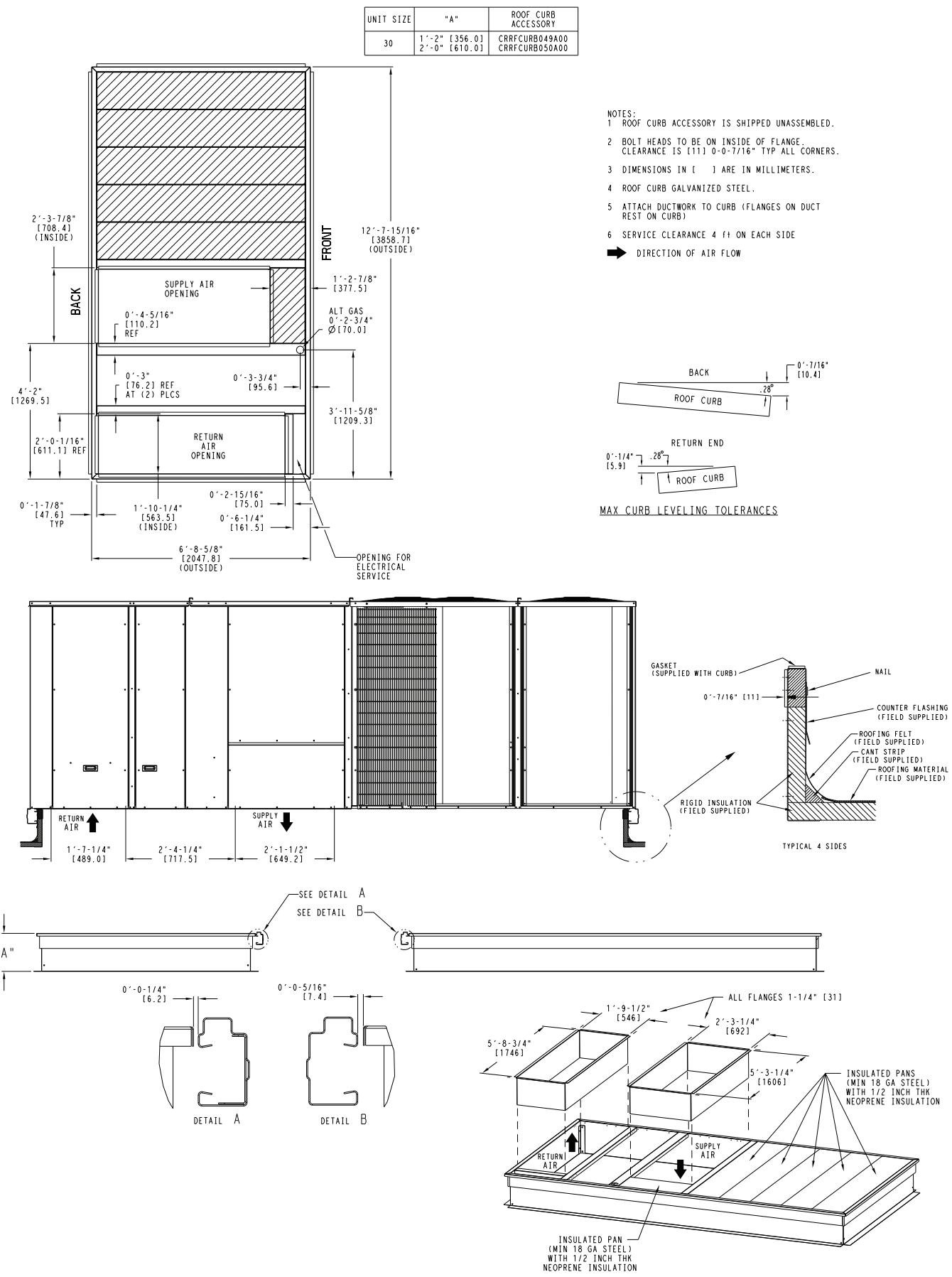


Fig. 11 - Curb Dimensions

OPTIONS AND ACCESSORIES WEIGHT ADDERS

BASE UNIT WITH OPTIONS AND ACCESSORIES (Weight Adders)	MAX WEIGHT ADDER									
	50TC*17		50TC*20		50TC*24		50TC*28		50TC*30	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer ¹	83	38	83	38	83	38	92	42	n/a	n/a
Base Unit Operating Weight	1907	865	1922	872	2072	940	2197	997	2640	1197
Power Exhaust	125	57	125	57	125	57	125	57	125	57
EconoMi\$er (IV, X, or 2)	170	77	170	77	170	77	195	88	195	88
Copper Tube/Fin Evaporator Coil	110	50	110	50	135	61	161	73	173	78
Low Gas Heat	85	39	85	39	85	39	85	39	85	39
Medium Gas Heat	90	41	90	41	90	41	90	41	90	41
High Gas Heat	113	51	113	51	113	51	113	51	113	51
Flue Discharge Deflector	7	3	7	3	7	3	7	3	7	3
Roof Curb 14-in (356mm)	240	109	240	109	240	109	240	109	255	116
Roof Curb 24-in (610mm)	340	154	340	154	340	154	340	154	355	161
Louvered Hail Guard	60	27	60	27	120	54	135	61	150	68
CO ₂ sensor	5	2	5	2	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2	5	2
Fan/Filter Status Switch	2	1	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7
Powered Convenience Outlet	35	16	35	16	35	16	35	16	35	16
Non-Powered Convenience Outlet	5	2	5	2	5	2	5	2	5	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1
Two Position Motorized Damper	50	23	50	23	50	23	65	29	65	29
Manual Damper	35	16	35	16	35	16	40	18	40	18
Field Filter Track 4-in (102mm)	12	5	12	5	12	5	12	5	12	5
MotorMaster Controller	35	16	35	16	35	16	35	16	35	16
Medium Static Motor/Drive	5	2	6	3	6	3	6	3	10	5
High Static Motor/Drive	11	5	12	5	16	7	16	7	20	9
Barometric Relief Hood (Horizontal)	25	11	25	11	25	11	25	11	25	11
SAV System with VFD	20	9	20	9	20	9	20	9	20	9

¹ For Humidi-MiZer add MotorMaster Controller.

APPLICATION/SELECTION DATA

Min operating ambient temp (cooling):

In mechanical cooling mode, your Carrier rooftop can safely operate down to an outdoor ambient temperature of 30°F (-1°C). It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air, economizers, and/or accessory low ambient kits.

Max operating ambient temp (cooling):

The maximum operating ambient temperature for cooling mode is 115°F (46°C). While cooling operation above 115°F (46°C) may be possible, it could cause either a reduction in performance, reliability, or a protective action by the unit's internal safety devices.

Min and max airflow (cooling mode):

To maintain safe and reliable operation of your rooftop, operate within the cooling airflow limits. Operating above the max may cause blow-off, undesired airflow noise, or airflow related problems with the rooftop unit. Operating below the min may cause problems with coil freeze-up.

Airflow:

All units are draw-through in cooling mode.

Outdoor air application strategies:

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match application changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local Carrier representative for assistance.

Motor limits, break horsepower (BHP):

Due to Carrier's internal unit design, air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in Table 5, can be used with the utmost confidence. There is no need for extra safety factors, as Carrier's motors are designed and rigorously tested to use the entire, listed BHP range without either nuisance tripping or premature motor failure.

Sizing a rooftop

Bigger isn't necessarily better. While an air conditioner needs to have enough capacity to meet the load, it doesn't need excess capacity. In fact, having excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location, adding "safety factors" to the calculated load, and rounding up to the next largest unit, are all signs of oversizing air conditioners. Oversizing can cause short-cycling, and short cycling leads to poor humidity control, reduced efficiency, higher utility bills, drastic indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, wise contractors and engineers "right-size" or even slightly undersize air conditioners. Correctly sizing an air conditioner controls humidity better; promotes efficiency; reduces utility bills; extends equipment life, and maintains even, comfortable temperatures.

Low ambient applications

When equipped with a Carrier economizer, your rooftop unit can cool your space by bringing in fresh, cool outside air. In fact, when so equipped, accessory low-ambient kit may not be necessary. In low ambient conditions, unless the outdoor air is excessively humid or contaminated, economizer-based "free cooling" is the preferred less costly and energy conscious method.

In low ambient applications where outside air might not be desired (such as contaminated or excessively humid outdoor environments), your Carrier rooftop can operate to ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster low ambient controller.

Winter start

Carrier's winter start kit extends the low ambient limit of your rooftop to 25°F (-4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Application/Selection Option

Selection software by Carrier saves time by performing many of the steps above. Contact your Carrier sales representative for assistance.

Table 6 – COOLING CAPACITIES

2-STAGE COOLING

15 TONS

50TC-D17			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
4500 CFM	EAT (wb)	58	TC	159.6	159.1	163.4	148.7	148.4	155.2	136.1	137.1	146.0	122.4	127.2	136.2
		SHC	132.6	149.6	163.4	127.0	143.9	155.2	120.7	137.1	146.0	113.9	127.2	136.2	
		62	TC	173.9	173.6	173.3	163.1	162.6	162.2	150.5	150.2	149.9	136.8	136.2	136.9
		SHC	119.4	136.8	153.9	114.1	131.5	148.6	108.2	125.7	142.6	101.9	119.2	135.8	
		67	TC	193.4	193.0	192.5	182.5	182.1	181.7	169.9	169.5	169.1	156.0	155.5	155.2
		SHC	102.3	119.7	137.0	97.3	114.8	132.3	91.7	109.4	126.9	85.7	103.5	121.1	
		72	TC	213.7	213.2	212.6	203.5	203.0	202.5	191.0	190.5	189.9	177.1	176.6	176.1
		SHC	84.0	101.7	119.2	79.7	97.4	115.0	74.6	92.4	109.9	69.1	86.9	104.6	
		76	TC	–	227.8	228.5	–	219.6	219.1	–	207.9	207.4	–	194.1	193.5
		SHC	–	89.9	103.7	–	82.5	100.2	–	78.1	95.8	–	73.0	97.2	
5250 CFM	EAT (wb)	58	TC	168.7	168.5	176.4	157.0	158.2	167.7	143.9	148.2	158.0	129.5	137.5	147.4
		SHC	161.3	163.9	176.4	138.9	157.2	167.7	132.4	148.2	158.0	125.4	137.5	147.4	
		62	TC	184.2	183.8	183.2	172.3	171.8	171.5	159.1	158.5	159.3	144.4	143.8	147.8
		SHC	129.4	149.6	168.9	123.9	144.0	163.5	117.9	137.9	156.4	111.4	131.3	147.8	
		67	TC	204.7	204.0	203.5	193.1	192.6	192.2	179.7	179.2	178.7	164.8	164.3	163.6
		SHC	109.3	129.5	149.6	104.3	124.7	144.9	98.6	119.1	139.4	92.5	113.1	133.3	
6000 CFM	EAT (wb)	72	TC	224.6	224.1	223.6	214.4	213.7	213.1	202.0	201.4	200.7	187.0	186.4	185.8
		SHC	87.5	107.9	128.2	83.4	103.9	124.3	78.6	99.2	119.6	72.9	93.6	114.1	
		76	TC	–	239.1	239.6	–	230.6	230.1	–	218.4	217.7	–	204.4	203.7
		SHC	–	92.6	110.2	–	86.4	107.0	–	82.0	102.6	–	77.1	97.8	
		58	TC	176.9	178.5	188.9	164.3	168.9	179.6	150.3	158.4	169.1	136.1	146.9	157.7
6750 CFM	EAT (wb)	SHC	157.4	178.5	188.9	151.1	168.9	179.6	144.3	158.4	169.1	136.1	146.9	157.7	
		62	TC	193.2	192.7	192.2	180.4	179.7	180.7	166.2	165.6	170.1	150.5	150.0	158.1
		SHC	140.2	162.8	184.2	134.4	156.9	177.8	128.1	150.6	168.9	121.3	143.5	158.1	
		67	TC	214.4	213.7	213.0	202.1	201.6	201.0	187.7	187.1	186.4	171.8	171.1	170.4
		SHC	117.3	140.3	163.0	112.1	135.3	158.2	106.2	129.4	152.2	99.8	123.1	145.9	
7500 CFM	EAT (wb)	72	TC	234.9	234.6	234.2	224.0	223.3	222.5	210.9	210.1	209.3	194.9	194.1	193.4
		SHC	92.7	115.9	139.1	88.4	111.8	134.8	83.4	106.8	130.0	77.5	101.0	124.3	
		76	TC	–	250.7	250.9	–	240.9	240.1	–	227.5	226.7	–	212.7	211.8
		SHC	–	95.7	118.9	–	92.1	115.3	–	87.4	110.8	–	82.4	105.8	
		58	TC	182.5	187.4	198.5	169.3	177.4	188.7	156.0	166.4	177.8	142.9	154.4	165.9
7500 CFM	EAT (wb)	SHC	167.5	187.4	198.5	161.2	177.4	188.7	153.0	166.4	177.8	142.9	154.4	165.9	
		62	TC	199.3	198.7	199.6	186.0	185.2	188.9	171.2	170.5	208.4	154.7	155.5	166.2
		SHC	148.6	173.7	196.6	142.8	167.6	188.9	136.4	161.1	208.4	115.2	152.6	166.2	
		67	TC	220.4	219.6	218.8	208.2	207.4	206.6	193.2	192.5	191.7	176.8	176.1	175.2
		SHC	122.6	148.2	173.6	117.6	143.4	168.7	111.6	137.6	162.9	97.2	131.3	156.3	
7500 CFM	EAT (wb)	72	TC	241.2	240.5	240.2	229.8	228.9	228.1	216.3	215.4	214.6	200.2	199.4	198.6
		SHC	95.1	120.9	146.6	90.8	116.8	142.6	85.8	111.9	137.8	80.0	106.2	118.0	
		76	TC	–	257.2	256.7	–	246.6	245.9	–	233.0	232.1	–	217.6	216.7
		SHC	–	98.4	124.2	–	94.8	120.7	–	90.2	116.3	–	85.1	111.3	
		58	TC	187.3	195.3	206.8	174.4	184.9	196.8	161.5	173.5	185.5	148.9	161.1	173.2
7500 CFM	EAT (wb)	SHC	177.5	195.3	206.8	169.9	184.9	196.8	161.5	173.5	185.5	148.9	161.1	173.2	
		62	TC	204.3	203.5	207.1	190.6	189.9	197.1	175.1	175.4	185.7	158.4	161.2	173.5
		SHC	156.5	183.9	207.1	150.7	177.9	197.1	144.1	170.2	185.7	137.1	161.2	173.5	
		67	TC	225.2	224.4	223.4	213.1	212.2	211.3	197.8	197.0	196.2	180.8	179.9	179.1
		SHC	127.5	155.8	183.5	122.8	151.2	178.9	116.8	145.5	173.1	110.3	139.0	166.3	
7500 CFM	EAT (wb)	72	TC	246.1	245.5	244.9	234.5	233.6	232.8	220.6	219.7	218.6	204.7	203.7	202.7
		SHC	97.1	125.6	153.8	92.9	121.6	150.1	87.9	116.8	145.3	82.3	111.2	139.9	
		76	TC	–	262.3	261.6	–	251.3	250.5	–	237.3	236.3	–	221.6	220.6
		SHC	–	100.9	129.2	–	97.3	125.8	–	92.8	121.5	–	87.7	116.6	

* See Minimum – Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

LEGEND:

- Do not operate
- Cfm Cubic feet per minute (supply air)
- EAT(db) Entering air temperature (dry bulb)
- EAT(wb) Entering air temperature (wet bulb)
- SHC Sensible heat capacity
- TC Total capacity

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

15 TONS

50TC017 (15 TONS) – UNIT WITH HUMIDI-MIZER IN SUBCOOLING MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		4,500			6,000			7,500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	208.5	190.6	172.6	229.2	208.6	188.1	247.8	224.9	202.0
	SHC	94.0	114.5	135.0	104.5	125.2	145.9	113.0	133.8	154.6
	kW	13.42	13.05	12.70	13.60	13.21	12.80	13.82	13.36	13.15
85	TC	198.3	180.7	163.0	214.9	194.8	174.6	229.8	207.4	185.1
	SHC	74.1	99.6	125.1	85.2	110.9	136.7	94.1	120.0	145.9
	kW	14.79	14.42	14.10	14.97	14.58	14.20	15.19	14.73	14.51
95	TC	188.2	170.8	153.4	200.6	180.9	161.1	211.9	190.0	168.1
	SHC	54.4	84.8	115.3	65.9	96.7	127.5	75.1	106.2	137.2
	kW	16.23	15.86	15.50	16.41	16.02	15.60	16.63	16.17	15.95
105	TC	178.1	160.9	143.8	186.4	167.0	147.7	193.9	172.5	151.2
	SHC	34.6	70.0	105.4	46.5	82.4	118.2	56.1	92.3	128.5
	kW	17.47	17.10	16.80	17.65	17.26	16.90	17.87	17.41	17.25
115	TC	167.9	151.1	134.2	172.1	153.2	134.2	175.9	155.1	134.5
	SHC	14.8	55.2	95.6	27.2	68.1	109.0	37.1	78.5	119.8
	kW	18.87	18.50	18.20	19.05	18.66	18.30	19.27	18.81	18.55

50TC017 (15 TONS) – UNIT WITH HUMIDI-MIZER IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative)			(56% Relative)			(60% Relative)		
		Air Entering Evaporator – Cfm								
		4,500	6,000	7,500	4,500	6,000	7,500	4,500	6,000	7,500
80	TC	80.10	85.50	91.30	82.70	90.90	97.10	86.00	95.40	100.50
	SHC	12.70	22.30	34.20	5.10	12.10	21.20	-2.10	4.20	10.50
	kW	12.44	12.67	12.78	12.55	12.88	13.10	12.65	13.02	13.12
75	TC	82.30	87.60	93.40	84.70	93.00	99.20	88.10	97.30	102.50
	SHC	14.30	24.20	36.00	6.70	13.70	23.10	-0.50	5.80	12.60
	kW	12.38	12.62	12.73	12.50	12.83	13.05	12.62	12.98	13.07
70	TC	84.40	89.60	94.70	87.00	95.10	101.30	90.30	99.50	104.60
	SHC	16.10	25.70	37.30	8.20	15.80	24.50	1.10	7.50	13.70
	kW	12.34	12.58	12.69	12.47	12.78	13.03	12.59	12.93	13.02
60	TC	88.50	93.90	99.80	91.20	99.40	105.50	94.40	103.70	108.90
	SHC	19.40	29.20	40.70	11.50	18.60	27.80	4.60	10.50	16.90
	kW	12.28	12.52	12.63	12.41	12.73	12.97	12.53	12.84	12.94
50	TC	92.80	98.10	104.80	95.40	103.60	110.50	98.80	108.00	113.90
	SHC	22.70	32.20	43.80	14.80	22.10	31.30	7.70	13.90	20.50
	kW	12.21	12.45	12.56	12.34	12.68	12.91	12.46	12.75	12.85
40	TC	97.10	102.50	108.50	99.60	108.00	114.30	103.00	112.40	117.70
	SHC	26.00	35.40	46.90	17.90	25.30	34.40	10.80	17.10	23.80
	kW	12.14	12.38	12.49	12.27	12.60	12.84	12.40	12.70	12.80

LEGEND

- Edb – Entering Dry-Bulb
 Ewb – Entering Wet-Bulb
 kW – Compressor Motor Power Input
 ldb – Leaving Dry-Bulb
 lwb – Leaving Wet-Bulb
 SHC – Sensible Heat Capacity (1000 Btuh) Gross
 TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The following formulas may be used:

$$t_{lwb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

17.5 TONS

50TC*D20			AMBIENT TEMPERATURE												
			85			95			105			115			
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
5250 CFM	EAT (wb)	58	TC	180.4	185.6	196.3	167.7	176.1	186.9	154.7	165.3	176.6	142.2	153.6	164.9
		SHC	166.5	185.6	196.3	160.6	176.1	186.9	152.7	165.3	176.6	142.2	153.6	164.9	
		62	TC	196.2	195.5	196.9	183.6	182.9	187.2	169.3	168.7	176.9	153.4	154.1	165.2
		SHC	146.8	172.1	194.7	141.4	166.6	187.2	135.4	160.5	176.9	128.6	152.5	165.2	
		67	TC	216.7	215.9	215.2	204.9	204.1	203.1	190.6	189.7	189.0	174.8	174.0	173.3
		SHC	120.0	146.1	171.8	115.4	141.5	167.1	109.8	136.1	161.7	103.8	130.2	155.6	
6125 CFM	EAT (wb)	72	TC	237.4	236.8	236.0	226.0	225.1	224.2	212.8	211.9	211.0	197.3	196.4	195.5
		SHC	92.0	118.3	144.3	87.8	114.3	140.4	83.0	109.6	135.8	77.6	104.2	130.6	
		76	TC	—	252.9	253.0	—	242.5	241.6	—	229.1	228.2	—	214.1	213.1
		SHC	—	95.1	121.4	—	91.7	118.0	—	87.3	113.8	—	82.5	107.1	
		58	TC	188.8	198.5	209.3	176.5	188.2	200.2	164.5	176.7	189.0	151.9	164.2	176.7
		SHC	180.4	198.5	209.3	174.4	188.2	200.2	164.5	176.7	189.0	151.9	164.2	176.7	
7000 CFM	EAT (wb)	62	TC	205.2	204.6	209.6	191.8	191.5	200.4	176.6	177.6	189.2	159.9	164.2	176.9
		SHC	159.9	188.7	209.6	154.2	183.0	200.4	147.9	174.8	189.2	141.0	164.2	176.9	
		67	TC	225.5	224.5	223.5	213.5	212.5	211.7	199.1	198.3	197.4	182.3	181.4	180.9
		SHC	128.3	158.4	187.8	123.8	154.1	183.5	118.4	148.9	178.1	112.2	142.7	171.6	
		72	TC	245.6	245.3	244.6	234.7	233.6	232.6	220.9	219.9	218.8	205.5	204.4	203.4
		SHC	95.4	125.9	155.7	91.7	122.2	152.4	86.9	117.7	148.1	81.7	112.5	143.1	
7875 CFM	EAT (wb)	76	TC	—	262.0	261.2	—	250.7	250.1	—	237.3	236.2	—	221.6	220.6
		SHC	—	99.5	129.4	—	95.9	126.2	—	91.8	122.4	—	87.0	117.8	
		58	TC	197.4	209.8	221.3	186.1	199.1	211.7	173.8	186.9	200.1	160.3	173.5	186.9
		SHC	196.8	209.8	221.3	186.1	199.1	211.7	173.8	186.9	200.1	160.3	173.5	186.9	
		62	TC	212.7	212.4	221.5	198.4	199.8	212.0	182.3	186.9	200.3	164.7	173.8	187.1
		SHC	173.4	205.1	221.5	167.4	197.4	212.0	160.8	186.8	200.3	153.4	173.8	187.1	
8750 CFM	EAT (wb)	67	TC	233.7	232.5	231.4	220.8	219.8	218.9	205.6	204.5	204.1	187.8	186.8	188.0
		SHC	138.0	172.0	205.0	133.4	167.6	200.4	127.8	162.0	194.4	121.3	155.6	185.6	
		72	TC	254.3	253.3	252.8	242.7	241.5	240.3	228.0	226.8	225.7	211.8	210.6	209.3
		SHC	101.3	135.4	169.2	97.3	131.8	165.9	92.3	127.2	161.5	86.9	121.8	156.3	
		76	TC	—	270.7	269.9	—	259.0	258.1	—	245.0	243.6	—	228.5	227.1
		SHC	—	106.1	140.0	—	102.4	136.5	—	98.2	132.7	—	93.2	127.9	
58	EAT (wb)	58	TC	205.0	217.2	229.1	193.4	206.9	219.3	180.6	194.3	207.9	166.6	180.5	194.5
		SHC	205.0	217.2	229.1	193.4	206.9	219.3	180.6	194.3	207.9	166.6	180.5	194.5	
		62	TC	216.7	217.4	229.4	202.5	207.1	219.6	185.9	194.5	208.4	168.4	180.7	194.7
		SHC	183.9	217.4	229.4	178.2	207.1	219.6	171.5	194.5	208.4	141.2	180.7	194.7	
		67	TC	237.8	236.7	235.7	224.7	223.5	223.0	209.5	208.3	209.2	191.5	190.3	195.0
		SHC	144.6	182.4	219.3	140.3	178.2	213.7	134.9	172.7	205.9	113.6	166.2	195.0	
72	EAT (wb)	72	TC	258.6	257.5	256.5	246.8	245.7	244.3	231.8	230.5	229.2	215.3	213.9	212.5
		SHC	103.9	141.8	179.2	100.0	138.3	176.1	95.1	133.9	172.1	89.7	128.6	142.0	
		76	TC	—	275.4	274.2	—	262.7	261.8	—	248.7	247.6	—	231.9	230.5
		SHC	—	109.5	147.0	—	105.7	143.6	—	101.5	139.9	—	96.6	135.4	
		58	TC	211.3	223.6	235.9	199.7	213.4	225.7	186.4	200.7	214.3	172.1	186.5	200.9
		SHC	211.3	223.6	235.9	199.7	213.4	225.7	186.4	200.7	214.3	172.1	186.5	200.9	
62	EAT (wb)	62	TC	220.0	223.7	236.3	206.0	213.6	226.1	189.3	200.9	214.5	172.2	186.7	201.2
		SHC	194.0	223.7	236.3	188.5	213.6	226.1	181.3	200.9	214.5	172.2	186.7	201.2	
		67	TC	241.1	240.1	239.7	227.9	226.6	226.9	212.7	211.4	214.9	194.4	193.0	201.4
		SHC	151.0	192.1	230.2	146.9	188.3	225.2	141.6	182.9	214.8	135.3	176.3	201.4	
		72	TC	262.2	261.0	259.7	250.0	248.8	247.7	235.0	233.5	232.1	218.1	216.6	215.2
		SHC	106.5	148.1	189.0	102.5	144.5	186.0	97.8	140.4	182.1	92.4	135.3	177.1	
76	EAT (wb)	76	TC	—	278.9	277.4	—	266.0	264.8	—	251.5	250.6	—	234.7	233.0
		SHC	—	112.7	153.7	—	108.9	150.4	—	104.7	146.7	—	100.0	142.4	

* See Minimum – Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

LEGEND:

- Do not operate
- Cfm Cubic feet per minute (supply air)
- EAT(db) Entering air temperature (dry bulb)
- EAT(wb) Entering air temperature (wet bulb)
- SHC Sensible heat capacity
- TC Total capacity

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

17.5 TONS

50TC020 (17.5 TONS) – UNIT WITH HUMIDI-MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		5,250			7,000			8,750		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	218.7	199.6	180.5	241.4	219.4	197.4	261.7	237.2	212.7
	SHC	99.9	123.9	147.8	112.7	136.9	161.1	122.9	147.3	171.7
	kW	11.81	11.56	11.20	13.81	13.48	13.16	14.82	14.58	14.16
85	TC	206.6	187.9	169.1	224.9	203.4	181.9	241.3	217.3	193.4
	SHC	78.9	108.4	137.9	92.2	122.1	152.0	103.0	133.1	163.3
	kW	13.18	12.53	12.53	15.18	14.85	14.52	16.21	15.85	15.54
95	TC	194.7	176.2	157.8	208.4	187.4	166.4	220.8	197.4	174.1
	SHC	57.8	92.9	128.0	71.7	107.3	142.9	83.0	118.9	154.9
	kW	14.56	14.21	13.88	16.56	16.21	15.87	17.56	17.22	16.01
105	TC	182.7	164.5	146.4	191.9	171.4	150.8	200.3	177.6	154.8
	SHC	36.8	77.4	118.1	51.3	92.5	133.8	63.0	104.7	146.4
	kW	15.93	15.58	15.20	17.94	17.58	17.22	18.95	18.59	18.24
115	TC	170.6	152.8	135.0	175.4	155.4	135.3	179.8	157.7	135.5
	SHC	15.7	62.0	108.2	30.8	77.8	124.7	43.0	90.5	128.0
	kW	17.31	16.95	16.58	19.32	18.95	18.58	20.32	19.96	19.59

50TC020 (17.5 TONS) – UNIT WITH HUMIDI-MIZER IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative)			(56% Relative)			(60% Relative)		
		Air Entering Evaporator – Cfm								
		5,250	7,000	8,750	5,250	7,000	8,750	5,250	7,000	8,750
80	TC	82.20	90.50	92.40	86.70	96.40	97.80	91.60	99.80	101.20
	SHC	18.20	29.40	41.60	8.60	17.20	27.50	0.50	9.30	13.20
	kW	12.64	12.73	12.88	12.78	13.06	13.15	12.96	13.07	13.22
75	TC	84.40	92.70	94.40	88.80	98.60	99.70	93.70	102.00	103.40
	SHC	19.70	31.30	43.50	10.10	18.80	29.20	12.10	10.80	15.30
	kW	12.60	12.71	12.85	12.75	13.02	13.12	12.93	13.03	13.19
70	TC	86.70	94.90	96.60	91.00	100.70	102.00	95.90	104.10	105.40
	SHC	21.30	32.80	44.80	11.60	20.40	30.70	3.80	12.30	16.50
	kW	12.56	12.66	12.82	12.70	12.99	13.08	12.89	13.00	13.14
60	TC	90.90	99.10	100.80	95.20	105.00	106.30	100.20	108.30	109.70
	SHC	24.80	36.00	48.20	14.90	23.90	35.90	7.20	15.60	19.60
	kW	12.49	12.60	12.75	12.64	12.92	13.02	12.83	12.93	13.09
50	TC	95.00	103.40	105.10	99.50	109.40	110.50	104.40	112.50	113.90
	SHC	28.10	39.30	51.30	18.20	27.20	37.40	10.30	18.90	23.20
	kW	12.43	12.53	12.67	12.57	12.86	12.95	12.76	12.87	13.02
40	TC	99.20	107.70	109.30	103.70	113.70	114.70	108.60	116.70	118.10
	SHC	31.40	42.50	54.40	21.30	30.40	40.50	13.40	22.00	26.50
	kW	12.35	12.45	12.61	12.50	12.79	12.87	12.68	12.80	12.94

LEGEND

Edb – Entering Dry-Bulb

Ewb – Entering Wet-Bulb

kW – Compressor Motor Power Input

l_{db} – Leaving Dry-Bulbl_{wb} – Leaving Wet-Bulb

SHC – Sensible Heat Capacity (1000 Btuh) Gross

TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The following formulas may be used:

$$t_{l_{db}} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{4.10 \times \text{cfm}}$$

$t_{l_{wb}} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (}h_{l_{wb}}\text{)}$

$$h_{l_{wb}} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

20 TONS

50TC-D24			AMBIENT TEMPERATURE												
			85			95			105			115			
			EA (db)			EA (db)			EA (db)			EA (db)			
6000 CFM	EAT (wb)	58	TC	213.1	217.2	228.7	199.9	207.5	219.4	184.8	195.8	208.4	169.6	182.6	195.6
		SHC	194.3	217.2	228.7	188.0	207.5	219.4	179.0	195.8	208.4	169.6	182.6	195.6	
		62	TC	230.0	229.4	230.4	217.5	217.0	219.7	202.5	201.9	208.8	184.9	184.9	195.9
		SHC	170.0	199.9	225.9	164.6	194.5	219.7	158.3	187.8	208.8	150.9	178.7	195.9	
		67	TC	251.5	251.1	250.6	239.4	238.7	238.1	225.4	224.7	224.0	208.8	208.2	207.4
		SHC	137.5	168.1	198.4	132.9	163.4	193.7	127.5	158.1	188.2	121.1	151.9	181.9	
7000 CFM	EAT (wb)	72	TC	274.0	273.8	273.5	262.3	261.7	261.0	248.2	247.4	246.6	232.2	231.3	230.5
		SHC	104.3	135.1	165.6	100.1	130.9	161.4	95.1	125.9	156.6	89.6	120.5	151.3	
		76	TC	—	292.9	292.2	—	280.5	279.9	—	266.3	265.6	—	250.6	249.8
		SHC	—	108.1	138.6	—	104.1	134.9	—	99.6	130.4	—	94.6	125.5	
		58	TC	220.8	229.7	241.7	208.4	219.7	232.2	194.3	208.1	221.0	180.1	194.2	207.9
		SHC	211.0	229.7	241.7	203.1	219.7	232.2	194.3	208.1	221.0	180.1	194.2	207.9	
8000 CFM	EAT (wb)	62	TC	237.8	237.3	241.9	225.1	224.6	232.3	209.6	210.2	221.3	191.3	196.0	208.2
		SHC	183.3	217.8	241.9	178.2	212.1	232.3	171.8	203.8	221.3	164.3	196.0	208.2	
		67	TC	260.0	259.2	258.5	247.2	246.4	245.7	232.7	231.9	231.7	215.8	215.0	214.3
		SHC	146.0	181.0	215.7	141.3	176.5	211.2	136.0	171.3	206.3	129.8	165.3	199.4	
		72	TC	283.3	282.5	281.8	270.6	269.8	268.9	255.9	255.0	254.1	240.0	238.9	238.0
		SHC	107.9	143.2	178.1	103.6	139.0	174.1	98.6	134.2	169.5	93.2	129.0	164.4	
9000 CFM	EAT (wb)	76	TC	—	302.3	301.6	—	289.1	288.4	—	274.4	273.6	—	257.9	256.8
		SHC	—	112.3	147.5	—	108.3	143.7	—	103.9	139.4	—	98.9	134.5	
		58	TC	232.1	243.6	256.1	219.8	233.4	246.0	206.9	221.3	234.5	192.1	206.8	221.2
		SHC	227.5	243.6	256.1	219.8	233.4	246.0	206.9	221.3	234.5	192.1	206.8	221.2	
		62	TC	247.8	247.1	256.4	234.7	235.5	246.2	218.7	221.1	234.7	199.5	207.0	221.4
		SHC	199.5	236.7	256.4	194.3	229.1	246.2	187.8	221.1	234.7	179.9	207.0	221.4	
10,000 CFM	EAT (wb)	67	TC	270.2	269.3	268.3	257.0	256.1	255.2	242.1	241.0	240.3	224.5	223.5	223.1
		SHC	157.6	197.1	235.6	152.7	192.6	231.0	147.3	187.2	225.3	141.0	181.0	215.6	
		72	TC	294.1	293.1	292.2	280.7	279.7	278.4	265.9	264.7	263.8	248.9	247.6	246.6
		SHC	114.8	154.6	193.9	110.3	150.4	190.0	105.4	145.6	185.5	99.7	140.1	180.2	
		76	TC	—	313.1	312.3	—	299.3	298.2	—	283.8	282.8	—	266.7	265.4
		SHC	—	120.2	159.6	—	116.0	155.9	—	111.4	151.5	—	106.2	146.6	
9000 CFM	EAT (wb)	58	TC	238.5	252.5	266.0	226.8	241.6	255.6	213.1	228.2	243.0	197.5	213.0	229.2
		SHC	238.5	252.5	266.0	226.8	241.6	255.6	213.1	228.2	243.0	197.5	213.0	229.2	
		62	TC	253.0	254.1	266.3	238.6	241.6	255.7	221.0	228.4	243.3	201.1	213.2	229.4
		SHC	211.9	249.1	266.3	206.2	241.6	255.7	199.2	228.4	243.3	164.2	213.2	229.4	
		67	TC	276.9	275.8	274.8	263.0	261.8	261.0	246.5	245.2	246.6	228.2	225.9	229.6
		SHC	165.6	209.9	252.2	160.7	205.1	247.0	154.9	199.3	238.5	132.3	192.7	229.6	
10,000 CFM	EAT (wb)	72	TC	302.2	301.0	299.7	287.9	286.6	285.4	272.3	270.9	269.6	254.3	252.9	251.6
		SHC	118.2	162.8	206.8	113.5	158.4	202.9	108.5	153.4	198.0	102.7	147.8	165.1	
		76	TC	—	322.0	320.8	—	307.7	306.1	—	291.4	289.9	—	275.1	272.5
		SHC	—	124.5	168.7	—	120.4	164.9	—	115.6	160.5	—	110.9	155.3	
		58	TC	245.7	259.8	273.9	233.8	248.7	263.2	219.8	235.3	250.5	203.7	219.8	236.5
		SHC	245.7	259.8	273.9	233.8	248.7	263.2	219.8	235.3	250.5	203.7	219.8	236.5	
6000 CFM	EAT (wb)	62	TC	256.8	260.7	274.2	242.2	249.0	263.3	224.6	235.6	250.6	205.6	220.0	236.8
		SHC	223.8	258.4	274.2	218.1	249.0	263.3	211.0	235.6	250.6	199.3	220.0	236.8	
		67	TC	280.8	279.6	266.3	266.6	265.4	265.8	249.9	248.6	251.0	231.4	229.8	237.3
		SHC	173.2	221.8	266.3	168.3	217.0	258.7	162.6	211.4	250.7	156.4	204.7	237.3	
		72	TC	306.4	305.0	274.8	292.1	290.6	289.3	276.0	274.3	273.0	257.5	256.0	254.6
		SHC	121.2	170.1	252.2	116.6	165.9	214.8	111.5	161.0	210.0	105.7	155.4	204.5	
7000 CFM	EAT (wb)	76	TC	—	326.2	299.7	—	311.4	310.0	—	295.2	293.2	—	277.0	275.3
		SHC	—	128.2	206.8	—	124.0	172.9	—	119.5	168.9	—	114.3	163.8	

* See Minimum-Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

LEGEND:

- Do not operate
- Cfm Cubic feet per minute (supply air)
- EAT(db) Entering air temperature (dry bulb)
- EAT(wb) Entering air temperature (wet bulb)
- SHC Sensible heat capacity
- TC Total capacity

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

20 TONS

50TC024 (20 TONS) – UNIT WITH HUMIDI-MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		6,000			8,000			10,000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	263.0	240.4	217.7	301.0	274.0	246.9	336.9	305.6	274.4
	SHC	125.3	151.6	178.0	144.4	171.1	198.0	160.0	186.9	213.9
	kW	15.63	15.20	14.65	15.91	15.62	14.98	16.26	15.92	15.21
85	TC	248.2	226.1	204.0	279.2	252.9	226.6	308.4	278.2	248.0
	SHC	98.9	131.7	164.5	118.6	152.0	185.3	134.6	168.4	202.2
	kW	17.50	17.04	16.50	17.74	17.51	16.75	18.08	17.73	17.03
95	TC	233.4	211.8	190.2	257.3	231.8	206.4	279.8	250.7	221.5
	SHC	72.4	111.8	151.1	92.7	132.8	172.9	109.3	149.9	190.6
	kW	19.36	18.96	18.35	19.61	19.37	18.67	20.02	19.62	18.97
105	TC	218.6	197.5	176.5	235.4	210.7	186.1	251.3	223.2	195.1
	SHC	46.0	91.8	137.7	66.9	113.6	160.4	83.9	131.4	178.9
	kW	21.23	20.76	20.18	21.53	21.22	20.52	21.91	21.52	20.77
115	TC	203.7	183.3	162.8	213.5	189.7	165.8	222.7	195.7	168.7
	SHC	19.5	71.9	124.2	41.0	94.4	147.9	58.5	112.9	157.2
	kW	23.02	22.58	22.02	23.42	23.02	22.38	23.73	23.41	22.57

50TC024 (20 TONS) – UNIT WITH HUMIDI-MIZER IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative)			(56% Relative)			(60% Relative)		
		Air Entering Evaporator – Cfm								
		6,000	8,000	10,000	6,000	8,000	10,000	6,000	8,000	10,000
80	TC	91.50	100.80	109.50	95.80	105.70	112.40	102.30	110.80	118.60
	SHC	12.30	31.20	44.50	0.90	15.10	25.70	-6.50	3.60	13.90
	kW	14.82	15.01	15.24	15.35	15.45	15.52	15.56	15.65	15.73
75	TC	94.00	103.40	112.00	98.70	108.10	115.10	104.70	113.10	121.10
	SHC	13.60	32.40	45.70	2.00	16.00	26.60	-5.60	4.70	15.10
	kW	14.90	15.07	15.33	15.43	15.56	15.64	15.69	15.77	15.85
70	TC	96.50	106.00	114.30	100.90	110.60	117.20	107.20	115.80	123.50
	SHC	14.50	33.20	45.70	3.30	17.30	28.00	-4.00	5.90	16.20
	kW	14.97	15.17	15.41	15.50	15.66	15.75	15.80	15.87	15.94
60	TC	101.80	111.30	119.30	106.20	115.60	122.20	112.60	119.40	128.00
	SHC	16.70	35.50	48.60	5.60	19.40	30.30	-1.80	8.20	18.50
	kW	15.14	15.32	15.58	15.66	15.88	15.97	16.05	16.10	16.19
50	TC	107.20	116.40	124.30	111.50	120.70	127.30	117.70	125.20	132.90
	SHC	18.60	37.60	50.70	8.00	22.00	32.70	0.50	10.50	21.00
	kW	15.27	15.46	15.76	15.81	16.10	16.23	16.27	16.34	16.41
40	TC	112.20	121.80	129.20	116.60	125.70	132.00	123.20	130.00	138.00
	SHC	21.80	39.50	52.90	10.20	24.40	35.20	2.90	13.00	23.40
	kW	15.42	15.63	15.93	15.96	16.32	16.44	16.52	16.57	16.65

LEGEND

Edb – Entering Dry-Bulb

Ewb – Entering Wet-Bulb

kW – Compressor Motor Power Input

l_{db} – Leaving Dry-Bulbl_{wb} – Leaving Wet-Bulb

SHC – Sensible Heat Capacity (1000 Btuh) Gross

TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The following formulas may be used:

$$t_{l_{db}} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$t_{l_{wb}} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (}h_{l_{wb}}\text{)}$

$$h_{l_{wb}} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

25 TONS

50TC-D28			AMBIENT TEMPERATURE												
			85			95			105			115			
			EA (db)			EA (db)			EA (db)			EA (db)			
7,500 CFM	EAT (wb)	58	TC	257.3	266.5	279.6	247.5	255.4	269.0	231.5	243.3	257.2	214.3	229.2	243.7
		SHC	247.5	266.5	279.6	231.1	255.4	269.0	223.5	243.3	257.2	213.2	229.2	243.7	
		62	TC	281.4	280.5	280.6	267.5	267.0	269.3	251.3	251.0	257.6	232.7	232.5	244.1
		SHC	208.2	244.0	278.0	202.3	238.4	269.3	195.8	231.5	257.6	188.1	223.4	244.1	
		67	TC	307.4	306.4	305.7	293.0	292.2	291.4	276.9	276.2	275.4	259.7	259.2	258.8
		SHC	168.7	205.7	242.3	163.2	200.3	236.9	157.1	194.4	230.7	150.6	188.4	224.8	
8,750 CFM	EAT (wb)	72	TC	333.9	333.2	332.5	320.1	319.3	318.6	304.5	303.7	302.7	287.2	285.3	284.5
		SHC	128.1	165.4	202.3	123.1	160.6	197.8	117.6	155.1	192.5	111.5	149.0	186.6	
		76	TC	—	356.0	355.2	—	342.0	341.2	—	326.0	325.2	—	308.0	307.4
		SHC	—	132.7	169.9	—	128.1	165.6	—	123.0	160.7	—	117.3	154.5	
		58	TC	269.8	280.2	294.4	255.3	268.9	283.2	241.1	256.1	270.7	225.5	241.3	257.3
		SHC	257.9	280.2	294.4	250.4	268.9	283.2	241.1	256.1	270.7	225.5	241.3	257.3	
10,000 CFM	EAT (wb)	62	TC	289.9	289.3	294.6	275.3	274.9	283.6	258.7	258.2	271.0	238.8	241.6	257.6
		SHC	224.2	265.0	294.6	218.6	258.6	283.6	212.0	251.7	271.0	203.9	241.6	257.6	
		67	TC	316.2	315.7	314.5	301.7	300.8	299.8	285.1	284.2	283.4	266.7	266.0	265.2
		SHC	179.0	221.6	263.1	173.5	216.4	257.9	167.5	210.5	251.9	161.0	204.5	245.1	
		72	TC	343.7	342.7	341.6	315.3	327.9	327.0	313.1	311.4	310.4	294.3	293.2	292.2
		SHC	132.4	175.4	217.7	127.6	170.7	213.3	122.0	165.3	208.3	115.6	159.2	202.5	
11,250 CFM	EAT (wb)	76	TC	—	366.0	364.9	—	351.2	350.1	—	334.2	333.2	—	315.4	314.3
		SHC	—	138.0	180.7	—	133.4	176.5	—	128.2	171.6	—	122.5	166.1	
		58	TC	277.1	291.8	306.8	264.9	280.2	295.3	251.2	267.0	282.3	235.1	252.2	268.1
		SHC	275.3	291.8	306.8	264.9	280.2	295.3	251.2	267.0	282.3	235.1	252.2	268.1	
		62	TC	296.8	296.0	307.2	281.8	281.8	295.6	264.7	267.1	282.6	244.9	252.4	268.4
		SHC	239.8	283.9	307.2	234.0	276.8	295.6	227.5	267.1	282.6	219.4	252.4	268.4	
12,500 CFM	EAT (wb)	67	TC	323.5	322.6	321.4	308.5	307.4	306.5	291.3	290.2	289.3	272.5	271.5	270.8
		SHC	188.8	236.9	282.9	183.5	231.9	277.4	177.5	226.1	271.2	171.2	219.7	264.3	
		72	TC	351.8	350.5	349.2	336.6	335.4	334.1	319.7	318.3	317.1	300.2	298.9	297.8
		SHC	136.6	185.1	232.8	131.6	180.4	228.6	126.0	175.1	223.7	119.7	169.1	217.9	
		76	TC	—	374.2	372.8	—	358.6	357.3	—	340.9	339.7	—	321.3	320.1
		SHC	—	143.1	191.2	—	138.5	187.1	—	133.3	182.3	—	127.6	176.8	
12,500 CFM	EAT (wb)	58	TC	285.8	301.5	317.0	273.8	289.0	305.1	259.8	276.1	291.7	244.0	260.9	277.4
		SHC	285.8	301.5	317.0	273.8	289.0	305.1	259.8	276.1	291.7	244.0	260.9	277.4	
		62	TC	302.2	302.3	317.4	286.3	289.5	305.4	269.6	276.4	208.4	249.3	261.1	277.6
		SHC	254.3	300.2	317.4	245.8	289.5	305.4	242.1	276.4	208.4	201.5	261.1	277.6	
		67	TC	328.7	327.7	326.7	313.5	312.2	311.1	296.0	294.8	294.3	277.5	275.7	277.9
		SHC	197.9	251.1	301.0	192.8	246.4	295.4	187.0	240.4	288.0	160.9	234.6	277.9	
12,500 CFM	EAT (wb)	72	TC	357.4	355.9	354.4	341.8	340.3	339.0	324.4	322.8	321.6	304.8	303.2	302.0
		SHC	140.2	193.9	246.7	135.2	189.4	242.8	129.7	184.3	238.2	123.5	178.4	198.1	
		76	TC	—	379.7	378.2	—	363.9	362.3	—	345.7	344.2	—	327.5	324.0
		SHC	—	147.6	200.8	—	143.1	196.9	—	138.0	192.3	—	132.9	187.1	
		58	TC	293.7	309.8	325.6	280.3	297.3	313.5	267.0	283.5	299.8	250.8	268.3	284.8
		SHC	293.7	309.8	325.6	280.3	297.3	313.5	267.0	283.5	299.8	250.8	268.3	284.8	
12,500 CFM	EAT (wb)	62	TC	310.5	310.2	326.1	290.7	297.6	313.9	273.7	283.7	300.1	253.1	268.5	285.0
		SHC	264.9	310.1	326.1	262.1	297.6	313.9	255.7	283.7	300.1	246.9	268.5	285.0	
		67	TC	333.1	331.7	330.9	317.5	316.2	315.9	299.8	298.7	300.3	280.7	279.6	285.5
		SHC	206.6	264.7	317.6	201.9	260.2	311.0	196.2	254.9	300.3	190.0	248.1	285.5	
		72	TC	362.1	360.3	358.7	346.0	344.3	343.0	328.2	326.6	325.1	308.4	306.6	305.3
		SHC	143.6	202.4	260.2	138.7	198.1	256.5	133.2	193.2	252.1	127.1	187.5	246.5	
12,500 CFM	EAT (wb)	76	TC	—	384.3	382.5	—	368.1	366.3	—	349.5	347.8	—	331.0	328.7
		SHC	—	151.9	210.1	—	147.5	206.4	—	142.5	201.9	—	137.4	195.2	

* See Minimum-Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

LEGEND:

- Do not operate
- Cfm Cubic feet per minute (supply air)
- EAT(db) Entering air temperature (dry bulb)
- EAT(wb) Entering air temperature (wet bulb)
- SHC Sensible heat capacity
- TC Total capacity

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

25 TONS

50TC028 (25 TONS) – UNIT WITH HUMIDI-MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		7,500			10,000			12,500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	335.3	305.5	275.8	368.3	334.4	300.5	398.1	360.5	322.9
	SHC	149.6	181.7	213.7	172.8	205.5	238.2	191.7	224.9	258.2
	kW	19.50	18.70	17.70	19.50	18.70	17.70	19.70	18.80	17.90
85	TC	316.3	287.0	257.7	341.5	308.4	275.3	364.3	327.8	291.2
	SHC	120.8	160.5	200.2	144.6	185.2	225.8	164.0	205.4	246.7
	kW	21.90	21.30	20.10	22.30	21.30	20.30	22.50	21.70	20.60
95	TC	297.3	268.5	239.6	314.7	282.4	250.1	330.5	295.0	259.5
	SHC	92.1	139.4	186.7	116.4	164.9	213.5	136.3	185.8	235.3
	kW	24.30	23.50	22.50	24.40	23.50	22.60	24.40	23.60	22.50
105	TC	278.2	249.9	221.6	287.9	256.4	224.9	296.7	262.3	227.8
	SHC	63.3	118.2	173.2	88.3	144.7	201.1	108.7	166.3	223.9
	kW	26.70	26.00	25.00	27.30	26.00	25.00	27.30	26.10	25.10
115	TC	259.2	231.4	203.5	261.1	230.4	199.7	262.9	229.5	196.1
	SHC	34.5	97.1	159.7	60.1	124.4	188.7	81.0	146.7	191.2
	kW	28.70	28.00	27.10	29.30	28.10	26.90	29.10	27.90	27.20

50TC028 (25 TONS) – UNIT WITH HUMIDI-MIZER IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – Ewb (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative)			(56% Relative)			(60% Relative)		
		Air Entering Evaporator – Cfm								
		7,500	10,000	12,500	7,500	10,000	12,500	7,500	10,000	12,500
80	TC	132.40	136.80	148.40	138.20	142.40	154.60	144.30	146.40	162.50
	SHC	37.80	61.50	85.50	21.80	44.40	52.40	16.10	32.10	48.90
	kW	17.90	18.15	18.21	18.05	18.33	18.43	18.26	18.55	18.62
75	TC	138.00	142.20	154.10	143.50	148.00	160.30	148.90	151.00	167.10
	SHC	44.20	68.00	91.80	28.10	51.50	58.80	22.70	38.20	56.00
	kW	17.77	18.00	18.07	17.92	18.19	18.29	18.14	18.40	18.48
70	TC	143.80	148.10	160.00	149.30	154.00	165.90	155.50	157.60	173.80
	SHC	50.50	73.80	98.10	34.20	56.50	65.30	28.30	44.00	62.30
	kW	17.63	17.86	17.93	17.78	18.04	18.14	18.03	18.26	18.34
60	TC	154.80	159.50	171.10	160.20	165.20	177.20	166.70	168.80	185.10
	SHC	63.10	84.50	110.10	46.50	69.50	75.70	41.40	56.50	74.30
	kW	17.35	17.58	17.65	17.50	17.76	17.85	17.70	17.97	18.04
50	TC	166.30	170.50	181.20	171.30	176.40	188.40	178.00	180.00	196.40
	SHC	75.80	96.50	122.20	58.30	79.80	87.80	53.70	69.10	85.90
	kW	17.06	17.30	17.37	17.22	17.46	17.56	17.42	17.69	17.76
40	TC	177.50	181.70	192.30	182.40	187.60	199.70	189.30	191.20	207.70
	SHC	85.70	109.80	134.30	71.50	92.30	100.50	66.10	79.50	97.90
	kW	16.76	17.01	17.09	16.93	17.18	17.28	17.14	17.41	17.47

LEGEND

- Edb – Entering Dry-Bulb
 Ewb – Entering Wet-Bulb
 kW – Compressor Motor Power Input
 ldb – Leaving Dry-Bulb
 lwb – Leaving Wet-Bulb
 SHC – Sensible Heat Capacity (1000 Btuh) Gross
 TC – Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The following formulas may be used:

$$t_{lwb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

Table 6 - COOLING CAPACITIES (cont.)

2-STAGE COOLING

27.5 TONS

50TC*D30			Ambient Temperature															
			85			95			105			115			125			
			EA (dB)			EA (dB)			EA (dB)			EA (dB)			EA (dB)			
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
7,500 CFM	EAT (wb)	58	THC	298	298	336.8	285.3	285.3	322.4	270.1	270.1	305.3	253.5	253.5	286.5	235	235	265.5
		58	SHC	259.2	298	336.8	248.2	285.3	322.4	235	270.1	305.3	220.5	253.5	286.5	204.4	235	265.5
		62	THC	318.3	318.3	318.3	301.9	301.9	309	282.4	282.4	299.5	260.5	260.5	288.5	237.1	237.1	273.1
		62	SHC	233.5	275.2	316.9	225.8	267.4	309	216.6	258.1	299.5	206.1	247.3	288.5	193	233.1	273.1
		67	THC	352.3	352.3	352.3	335.9	335.9	335.9	317.1	317.1	294	294	294	268.9	268.9	268.9	
		67	SHC	193.3	235	276.8	186.4	228.3	270.1	178.7	220.5	262.4	169.3	211.1	252.9	159.3	201.1	242.9
8,750 CFM	EAT (wb)	72	THC	383.6	383.6	383.6	368.5	368.5	368.5	350.7	350.7	350.7	329.6	329.6	329.6	304.6	304.6	304.6
		72	SHC	149.7	191.9	234.2	144	186.2	228.4	137.3	179.5	221.7	129.6	171.7	213.8	120.6	162.5	204.5
		76	THC	—	404	404	—	390.3	390.3	—	373.1	373.1	—	353.4	353.4	—	349.5	349.5
		76	SHC	—	154.8	200.2	—	150.2	195.6	—	144.5	189.9	—	138	183.2	—	135.9	181.3
		58	THC	315.7	315.7	356.8	302.4	302.4	341.8	286.8	286.8	324.1	269.2	269.2	304.3	250.1	250.1	282.6
		58	SHC	274.6	315.7	356.8	263	302.4	341.8	249.4	286.8	324.1	234.2	269.2	304.3	217.5	250.1	282.6
10,000 CFM	EAT (wb)	62	THC	329.7	329.7	346.7	312.7	312.7	338.3	293	293	328	271.1	271.1	314.6	250.4	250.4	293.8
		62	SHC	251.3	299	346.7	243.3	290.8	338.3	233.7	280.9	328	222	268.3	314.6	206.9	250.4	293.8
		67	THC	363.1	363.1	363.1	346.4	346.4	346.4	327.1	327.1	327.1	303.7	303.7	303.7	277.4	277.4	277.4
		67	SHC	204.4	252.2	299.9	197.8	245.7	293.6	190.2	238.3	286.3	181	229.1	277.2	170.9	219	267
		72	THC	392.4	392.4	392.4	377.4	377.4	377.4	359.5	359.5	359.5	338.6	338.6	338.6	313.2	313.2	313.2
		72	SHC	153.8	201.6	249.3	148.4	196.3	244.3	141.9	190	238	134.5	182.7	230.8	119	167.2	215.4
11,250 CFM	EAT (wb)	76	THC	—	410.9	410.9	—	397.4	397.4	—	380	380	—	359.9	359.9	—	350.6	350.6
		76	SHC	—	160.7	213.6	—	156.2	208.9	—	150.1	201.8	—	143.2	194.1	—	139	189.7
		58	THC	330.4	330.4	373.4	316.6	316.6	357.8	300.7	300.7	339.9	282.3	282.3	319	262.3	262.3	296.4
		58	SHC	287.4	330.4	373.4	275.4	316.6	357.8	261.6	300.7	339.9	245.6	282.3	319	228.2	262.3	296.4
		62	THC	338.9	338.9	373.5	321.8	321.8	364.5	301.9	301.9	354.3	282.6	282.6	331.6	262.6	262.6	308.2
		62	SHC	267.2	320.3	373.5	258.9	311.7	364.5	249.5	301.9	354.3	233.5	282.6	331.6	217	262.6	308.2
12,500 CFM	EAT (wb)	67	THC	371.1	371.1	371.1	354.3	354.3	354.3	334.7	334.7	334.7	310.9	310.9	310.9	284.1	284.1	289.8
		67	SHC	214.5	267.9	321.3	208.2	262	315.7	200.9	254.9	308.9	191.9	246	300.1	181.7	235.7	289.8
		72	THC	398.6	398.6	398.6	383.8	383.8	383.8	365.7	365.7	365.7	344.9	344.9	344.9	319.5	319.5	319.5
		72	SHC	157.3	210.1	262.8	152.2	205.4	258.7	145.8	199.4	252.9	138.7	192.5	246.3	122.5	176.2	230
		76	THC	—	415.7	415.7	—	402.3	402.3	—	384.9	384.9	—	364.5	364.5	—	355.1	355.1
		76	SHC	—	165.2	223.6	—	160.5	218	—	154.6	211.3	—	147.8	203.9	—	143.3	199.4
13,750 CFM	EAT (wb)	58	THC	342.7	342.7	387.3	328.7	328.7	371.4	312.7	312.7	353.3	293.5	293.5	331.7	272.7	272.7	308.2
		58	SHC	298.1	342.7	387.3	285.9	328.7	371.4	272	312.7	353.3	255.3	293.5	331.7	237.2	272.7	308.2
		62	THC	346.8	346.8	396.7	329.7	329.7	387	313	313	367.3	293.8	293.8	344.8	273	273	320.4
		62	SHC	281.1	338.9	396.7	272.5	329.7	387	258.6	313	367.3	242.8	293.8	344.8	225.6	273	320.4
		67	THC	377.2	377.2	377.2	360.4	360.4	360.4	340.7	340.7	340.7	316.6	316.6	321.8	289.3	289.3	311.2
		67	SHC	223.7	282.5	341.2	217.9	277.2	336.5	210.8	270.5	330.2	202.1	261.9	321.8	191.7	251.4	311.2
15,000 CFM	EAT (wb)	72	THC	403.1	403.1	403.1	388.6	388.6	388.6	370.3	370.3	370.3	349.5	349.5	349.5	324	324	324
		72	SHC	160.3	217.7	275.1	155.5	213.7	271.9	149.3	208	266.7	142.4	201.4	260.5	125.3	184.4	243.6
		76	THC	—	419.3	419.3	—	406	406	—	388.5	388.5	—	367.8	367.8	—	358.4	358.4
		76	SHC	—	168.8	231.3	—	164.4	226.3	—	158.6	220	—	151.9	212.8	—	147.2	147.9
		58	THC	353	353	398.9	338.8	338.8	382.9	322.5	322.5	364.5	303.1	303.1	342.5	281.8	281.8	318.4
		58	SHC	307.1	353	398.9	294.7	338.8	382.9	280.6	322.5	364.5	263.7	303.1	342.5	245.1	281.8	318.4
16,250 CFM	EAT (wb)	62	THC	353.9	353.9	415.3	339.1	339.1	397.9	322.8	322.8	378.9	303.4	303.4	356	282	282	331
		62	SHC	292.4	353.9	415.3	280.2	339.1	397.9	266.8	322.8	378.9	250.7	303.4	356	233.1	282	331
		67	THC	381.9	381.9	381.9	365.2	365.2	365.2	345.3	345.3	350.4	321.3	321.3	342.2	293.9	293.9	331
		67	SHC	232.3	296.1	360	227	291.6	356.3	220.1	285.2	350.4	211.5	276.8	342.2	200.9	266	331
		72	THC	406.6	406.6	406.6	392.2	392.2	392.2	373.9	373.9	373.9	352.9	352.9	352.9	327.5	327.5	327.5
		72	SHC	163.1	224.8	286.6	158.5	221.4	284.3	152.5	216.1	279.6	145.7	209.8	273.9	128.2	192	255.7
17,500 CFM	EAT (wb)	76	THC	—	422.1	422.1	—	408.9	408.9	—	391.2	391.2	—	370.3	370.3	—	360.9	360.9
		76	SHC	—	172.2	238.5	—	167.9	234	—	162.3	228.1	—	155.7	221.2	—	150.8	215.9

* See Minimum – Maximum Airflow Ratings in Table 3. Do not operate outside these limits.

† Humidi-Mizer available for 17–28 sizes only

LEGEND:

- Do not operate
- Cfm Cubic feet per minute (supply air)
- EAT(db) Entering air temperature (dry bulb)
- EAT(wb) Entering air temperature (wet bulb)
- SHC Sensible heat capacity
- TC Total capacity

Table 7 – STATIC PRESSURE ADDERS (IN. WG) - FACTORY OPTIONS AND/OR ACCESSORIES

Economizer - Vertical and Horizontal Duct Configuration

MODEL SIZES 17 – 30								
CFM	4500	5000	5500	6000	6500	7000	7500	8000
Static Pressure Adder (in. wg)	0.047	0.052	0.057	0.062	0.067	0.072	0.077	0.082

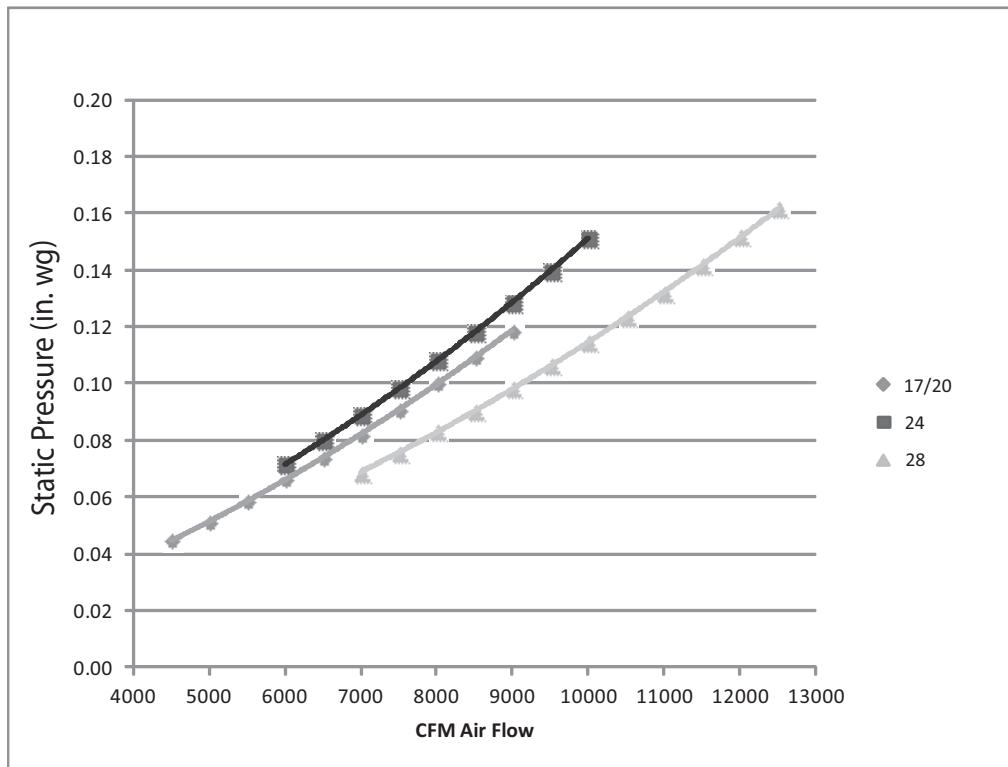
MODEL SIZES 17 – 30									
CFM	8500	9000	9500	10000	10500	11000	11500	12000	12500
Static Pressure Adder (in. wg)	0.088	0.093	0.098	0.103	0.109	0.114	0.119	0.125	0.131

Electric Heaters - Vertical and Horizontal Duct Configuration

MODEL SIZES 17 – 30								
CFM	4500	5000	5500	6000	6500	7000	7500	8000
25 kW Heater	0.010	0.010	0.015	0.020	0.025	0.030	0.035	0.040
50 kW Heater	0.020	0.020	0.030	0.040	0.050	0.060	0.070	0.080
75 kW Heater	0.030	0.040	0.050	0.060	0.070	0.080	0.100	0.120

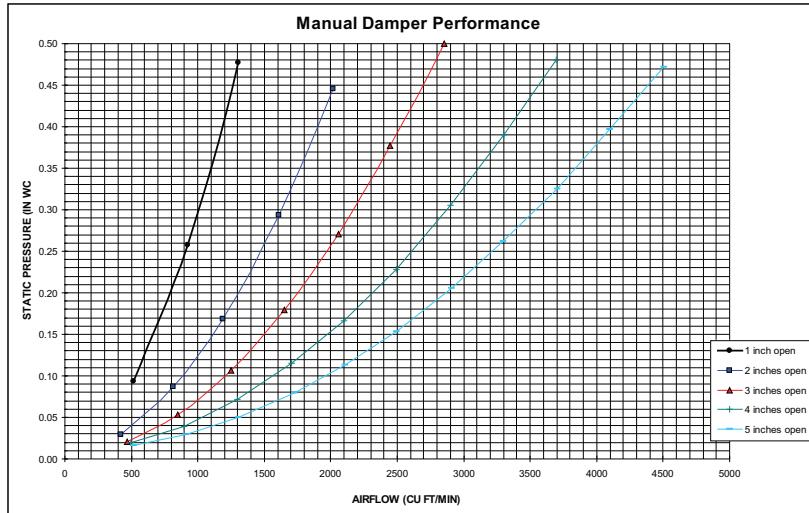
MODEL SIZES 17 – 30									
CFM	8500	9000	9500	10000	10500	11000	11500	12000	12500
25 kW Heater	0.045	0.050	0.055	0.060	0.070	0.080	0.090	0.100	0.105
50 kW Heater	0.090	0.100	0.120	0.130	0.150	0.160	0.180	0.200	0.230
75 kW Heater	0.140	0.150	0.180	0.200	0.230	0.250	0.270	0.300	0.330

Humidi-MiZer Coil



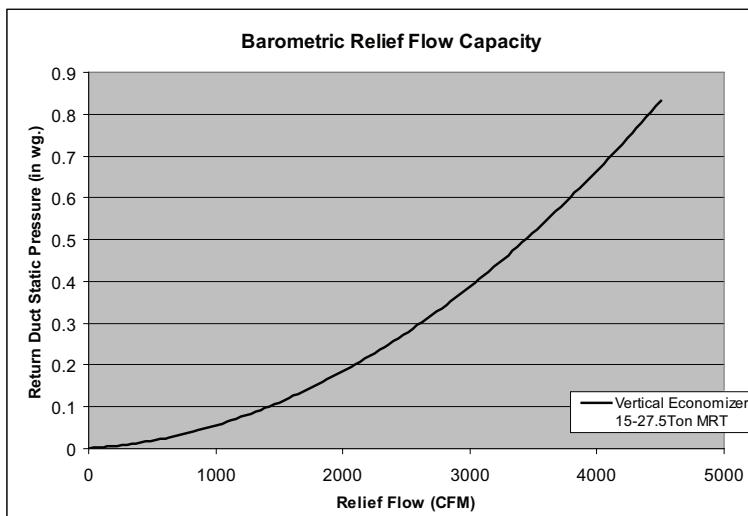
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DAMPER, BAROMETRIC RELIEF AND PE PERFORMANCE



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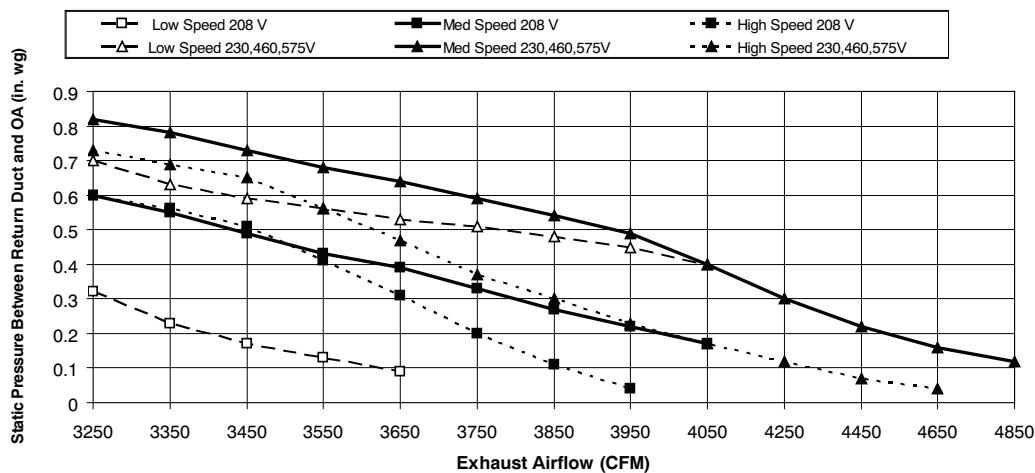
Fig. 12 - Manual Damper Performance



C11307

Fig. 13 - Barometric Relief Flow Capacity

Power Exhaust Fan Performance



C11308

Fig. 14 - Power Exhaust Fan Performance

GENERAL FAN PERFORMANCE NOTES:

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, Carrier recommended the lower horsepower option.
5. For information on the electrical properties of Carrier motors, please see the Electrical information section of this book.
6. For more information on the performance limits of Carrier motors, see the application data section of this book.

FAN PERFORMANCE

Table 8 – 50TC-D17

VERTICAL SUPPLY / RETURN

15 TON

CFM	Available External Static Pressure (in. wg)								
	0.2		0.4		0.6		0.8		1.0
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	436 0.60	530	0.90	611	1.22	684	1.57	751	1.94
4900	456 0.71	546	1.03	625	1.37	695	1.73	760	2.12
5250	473 0.83	560	1.16	637	1.51	706	1.89	770	2.30
5600	491 0.95	575	1.30	650	1.67	717	2.07	780	2.48
6000	513 1.11	593	1.48	665	1.87	731	2.28	792	2.71
6400	534 1.29	611	1.68	681	2.09	745	2.52	805	2.97
6750	553 1.46	628	1.87	696	2.29	758	2.74	817	3.20
7100	573 1.65	645	2.07	711	2.51	772	2.98	829	3.46
7500	595 1.88	665 2.33	729	2.79	788	3.27	844 3.77		

CFM	Available External Static Pressure (in. wg)								
	1.2		1.4		1.6		1.8		2.0
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	812 2.33	869	2.74	924	3.17	975	3.62	1024 4.08	
4900	821 2.53	877	2.95	931	3.40	981	3.86	1030 4.34	
5250	829 2.72	885	3.16	938	3.61	988	4.09	1036 4.57	
5600	838 2.92	893	3.37	945	3.84	994	4.33	1042 4.83	
6000	849 3.17	903	3.63	954	4.12	1003	4.62	-----	
6400	861 3.43	914	3.92	964	4.42	1012 4.94		-----	
6750	872 3.69	924	4.18	973	4.70	-----		-----	
7100	883 3.95	934	4.47	-----	-----	-----		-----	
7500	897 4.28	947	4.81	-----	-----	-----		-----	

Std Static Motor and Drive – 514–680 RPM, Max BHP 2.29

Medium Static Motor and Drive – 679–863 RPM, Max BHP 3.3

High Static Motor and Drive – 826–1009 RPM, Max BHP 4.9

----- Outside operating range

Boldface – Field-supplied Drive

Table 8 - 50TC-D20

VERTICAL SUPPLY / RETURN

17.5 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5250	473 0.83	560 1.16	637	1.51	706	1.89	770	2.30		
5700	497 0.99	580 1.34	654	1.72	721	2.12	783	2.54		
6100	518 1.15	598 1.53	669	1.92	735	2.34	795	2.78		
6500	540 1.33	616 1.73	685	2.14	749	2.58	808	3.03		
7000	567 1.59	640 2.01	707	2.45	768	2.91	826	3.38		
7500	595 1.88	665 2.33	729	2.79	788	3.27	844	3.77		
7900	618 2.14	685 2.60	747	3.09	805	3.59	859	4.10		
8300	641 2.42	705 2.91	765	3.41	822	3.93	875	4.46		
8750	666 2.77	729 3.28	787	3.80	842	4.34	893 4.90			

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5250	829 2.72	885	3.16	938	3.61	988	4.09	1036 4.57		
5700	841 2.98	895	3.43	947	3.91	997	4.40	1044 4.90		
6100	852 3.23	906	3.70	957	4.19	1005	4.70	1052 5.22		
6500	864 3.50	917	3.99	967	4.50	1015	5.02	1060 5.55		
7000	880 3.88	931	4.38	980	4.91	1027	5.45	1072 6.01		
7500	897 4.28	947	4.81	995	5.36	1041	5.92	1085 6.49		
7900	911 4.63	960	5.18	1007	5.75	1052	6.32	-----		
8300	926 5.01	974	5.58	1020	6.16	-----		-----		
8750	943 5.47	990	6.05	-----		-----		-----		

Std Static Motor and Drive – 622–822 RPM, Max BHP 3.3

Medium Static Motor and Drive – 713–879 RPM, Max BHP 4.9

High Static Motor and Drive – 882–1078 RPM, Max BHP 6.5

----- Outside operating range

Boldface – Field-supplied Drive

FAN PERFORMANCE (cont.)

Table 8 - 50TC-D24

VERTICAL SUPPLY / RETURN

20 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
6000	506	1.12	593	1.43	668	1.74	736	2.07	798	2.40
6500	533	1.36	616	1.70	689	2.04	754	2.39	815	2.74
7000	561	1.64	640	2.01	710	2.37	774	2.74	833	3.11
7500	588	1.96	664	2.35	732	2.74	795	3.13	852	3.53
8000	617	2.32	689	2.74	755	3.15	816	3.57	872	3.99
8500	645	2.73	715	3.17	779	3.60	837	4.04	892	4.49
9000	674	3.18	741	3.64	803	4.10	860	4.57	913	5.04
9500	703	3.67	767	4.16	827	4.65	883	5.14	935	5.64
10000	732	4.22	794	4.74	852	5.25	906	5.77	957	6.29

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
6000	855	2.75	909	3.11	959	3.47	1008	3.85	1054	4.24
6500	871	3.11	924	3.48	974	3.87	1022	4.26	1067	4.67
7000	888	3.50	940	3.89	989	4.30	1036	4.71	1081	5.13
7500	906	3.94	957	4.35	1005	4.77	1052	5.20	1096	5.64
8000	925	4.42	975	4.85	1022	5.29	1068	5.74	1111	6.20
8500	944	4.94	993	5.40	1040	5.86	1084	6.33	1127	6.81
9000	964	5.51	1012	5.99	1058	6.48	1102	6.97	1144	7.46
9500	984	6.13	1032	6.64	1077	7.14	1120	7.65	1161	8.17
10000	1006	6.81	1052	7.33	1096	7.86	1138	8.40	-----	-----

Std Static Motor and Drive – 690–863 RPM, Max BHP 4.9
Medium Static Motor and Drive – 835–1021 RPM, Max BHP 6.5

High Static Motor and Drive – 941–1176 RPM, Max BHP 8.7
----- Outside operating range

Boldface – Field-supplied Drive

Table 8 - 50TC-D28

VERTICAL SUPPLY / RETURN

25 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
7500	541	1.50	636	1.88	716	2.27	787	2.66	850	3.06
8000	563	1.76	656	2.17	735	2.58	804	3.00	867	3.42
8500	585	2.05	676	2.50	753	2.93	822	3.37	884	3.81
9000	608	2.37	697	2.85	772	3.31	840	3.77	901	4.24
9500	631	2.73	717	3.24	791	3.73	858	4.21	918	4.70
10000	654	3.12	738	3.66	811	4.18	876	4.69	936	5.20
10500	678	3.56	759	4.12	831	4.67	895	5.21	954	5.74
11000	701	4.02	781	4.62	851	5.20	914	5.76	972	6.33
11500	725	4.53	802	5.16	871	5.77	933	6.36	991	6.95
12000	748	5.09	824	5.75	892	6.38	953	7.00	1010	7.62
12500	772	5.68	846	6.38	912	7.04	973	7.69	1029	8.34

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7500	909	3.47	963	3.89	1014	4.32	1062	4.77	1108	5.23
8000	925	3.85	978	4.29	1029	4.74	1077	5.20	1122	5.68
8500	941	4.26	994	4.72	1044	5.19	1092	5.67	1137	6.16
9000	957	4.71	1010	5.19	1060	5.67	1107	6.17	1152	6.68
9500	974	5.19	1027	5.69	1076	6.20	1123	6.72	1167	7.24
10000	991	5.72	1043	6.24	1092	6.77	1138	7.30	-----	-----
10500	1009	6.28	1060	6.83	1109	7.37	1155	7.93	-----	-----
11000	1026	6.89	1077	7.46	1125	8.03	1171	8.60	-----	-----
11500	1044	7.54	1095	8.13	1142	8.72	-----	-----	-----	-----
12000	1062	8.23	1112	8.85	-----	-----	-----	-----	-----	-----
12500	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Std Static Motor and Drive – 717–911 RPM, Max BHP 4.9
Medium Static Motor and Drive – 913–1116 RPM, Max BHP 6.5

High Static Motor and Drive – 941–1176 RPM, Max BHP 8.7
----- Outside operating range

Boldface – Field-supplied Drive

FAN PERFORMANCE (cont.)

Table 8 - 50TC-D30

VERTICAL SUPPLY / RETURN

27.5 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8250	620	1.85	705	2.31	778	2.77	843	3.22	903	3.68
8800	650	2.18	731	2.67	802	3.16	866	3.64	925	4.13
9350	679	2.54	758	3.07	828	3.59	890	4.10	948	4.62
9900	710	2.95	786	3.51	853	4.06	915	4.60	971	5.15
10450	740	3.40	814	3.99	879	4.57	939	5.15	995	5.73
11000	771	3.90	842	4.52	906	5.14	965	5.75	1020	6.35
11550	802	4.45	871	5.10	933	5.75	991	6.39	1044	7.03
12100	833	5.04	900	5.73	961	6.41	1017	7.09	1070	7.76
12650	865	5.70	930	6.42	989	7.13	1044	7.84	1095	8.54
13200	897	6.40	959	7.16	1017	7.90	1071	8.64	1121	9.38
13750	929	7.17	990	7.96	1046	8.74	1098	9.51	1148	10.27
CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8250	959	4.14	1011	4.61	1059	5.08	1106	5.56	1150	6.05
8800	980	4.62	1031	5.11	1080	5.61	1126	6.12	1169	6.63
9350	1002	5.14	1052	5.66	1100	6.18	1146	6.72	1189	7.25
9900	1024	5.70	1074	6.25	1121	6.80	1166	7.36	1209	7.92
10450	1047	6.30	1096	6.88	1143	7.47	1187	8.05	1230	8.64
11000	1071	6.96	1119	7.57	1165	8.18	1209	8.79	1251	9.41
11550	1095	7.66	1142	8.30	1188	8.94	1231	9.58	1273	10.23
12100	1119	8.42	1166	9.09	1211	9.76	1253	10.43	1295	11.10
12650	1144	9.24	1190	9.93	1234	10.63	1276	11.33	-----	-----
13200	1169	10.10	1215	10.83	1258	11.56	-----	-----	-----	-----
13750	1195	11.03	1240	11.79	-----	-----	-----	-----	-----	-----

Std Static Motor and Drive – 751–954 RPM, Max BHP 6.5	Medium Static Motor and Drive – 920–1190 RPM, Max BHP 10.5
High Static Motor & Drive – 1015–1299 RPM, Max BHP 11.9	----- Outside operating range
Boldface – Field-supplied Drive	

FAN PERFORMANCE (cont.)

Table 8 - 50TC-D17

HORIZONTAL SUPPLY / RETURN

15 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
4500	451 0.84	533	1.21	605	1.63	668	2.12	726	2.67	
4900	476 1.01	554	1.40	623	1.84	685	2.34	742	2.89	
5250	498 1.18	573	1.60	640	2.05	701	2.55	756	3.11	
5600	520 1.37	593	1.82	658	2.28	717	2.79	771	3.35	
6000	546 1.61	616	2.10	679	2.58	736	3.10	789	3.67	
6400	572 1.88	640	2.41	700	2.91	756	3.45	808	4.03	
6750	595 2.13	661	2.70	720	3.23	774	3.79	825	4.38	
7100	619 2.41	683	3.02	740 3.59	793	4.16	842	4.76		
7500	646 2.75	708 3.42	764	4.02	815	4.62				

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
4500	778 3.25	826	3.86	871	4.49	913 5.15				
4900	794 3.49	842	4.12	887	4.78					
5250	808 3.72	856	4.36							
5600	822 3.97	870	4.62							
6000	839 4.29									
6400	857 4.65									
6750										
7100										
7500										

Std Static Motor and Drive – 514–680 RPM, Max BHP 2.2
Medium Static Motor and Drive – 614–780 RPM, Max BHP 3.3

High Static Motor and Drive – 746–912 RPM, Max BHP 4.9
--- Outside operating range

Boldface – Field-supplied Drive

Table 8 - 50TC-D20

HORIZONTAL SUPPLY / RETURN

17.5 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5250	498 1.18	573 1.60	640	2.05	701	2.55	756	3.11		
5700	526 1.43	599 1.89	663	2.35	721	2.86	776	3.43		
6100	552 1.67	622	2.17	684	2.66	741	3.18	794	3.76	
6500	579 1.95	646	2.49	706	3.00	761	3.54	813	4.12	
7000	612 2.33	677	2.93	734	3.48	788	4.05	837	4.64	
7500	646 2.75	708 3.42	764	4.02	815	4.62	863 5.23			
7900	673 3.13	734	3.86	788	4.50	838 5.12	884	5.75		
8300	700 3.53	760	4.33	812 5.01	861 5.66	906	6.32			
8750	731 4.03	789	4.90	840 5.63	887	6.33				

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5250	808 3.72	856	4.36	901	5.04	943	5.75	983 6.48		
5700	826 4.05	874	4.71	918	5.40	960	6.13			
6100	843 4.38	890 5.05	934	5.75	976	6.50				
6500	861 4.75	907	5.43	951	6.14					
7000	885 5.28	929	5.96							
7500	909 5.88									
7900	929 6.42									
8300										
8750										

Std Static Motor and Drive – 622–822 RPM, Max BHP 3.3
Medium Static Motor and Drive – 713–879 RPM, Max BHP 4.9

High Static Motor and Drive – 882–1078 RPM, Max BHP 6.5
--- Outside operating range

Boldface – Field-supplied Drive

FAN PERFORMANCE (cont.)

Table 8 - 50TC-D24

HORIZONTAL SUPPLY / RETURN

20 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
6000	546 1.57	617	2.10	680	2.67	738	3.29	790	3.93	
6500	579 1.90	646	2.46	707	3.07	763	3.71	814	4.39	
7000	613 2.28	677	2.87	735	3.51	789	4.19	839	4.89	
7500	648 2.71	708	3.34	764	4.01	816	4.72	865	5.46	
8000	683 3.20	740	3.86	794	4.57	846	5.30	892	6.08	
8500	718 3.76	773	4.45	825	5.18	873	5.95	919	6.75	
9000	754 4.37	814	5.10	856	5.87	903	6.67	947	7.50	
9500	-----	840	5.82	887	6.51	933	7.45	976	8.31	
10000	-----	874	6.50	920	7.44	965	8.30	-----	-----	

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
6000	839 4.60	885	5.29	928	6.01	969	6.75	1008	7.51	
6500	862 5.09	907	5.82	950	6.57	990	7.34	1028	8.13	
7000	886 5.63	930	6.39	972	7.17	1012	7.97	1050	8.70	
7500	911 6.22	954	7.01	995	7.83	1035	8.66	-----	-----	
8000	936	6.87	979	7.69	1019	8.54	-----	-----	-----	
8500	965 7.58	1004	8.44	-----	-----	-----	-----	-----	-----	
9000	990 8.36	-----	-----	-----	-----	-----	-----	-----	-----	
9500	-----	-----	-----	-----	-----	-----	-----	-----	-----	
10000	-----	-----	-----	-----	-----	-----	-----	-----	-----	

Std Static Motor and Drive – 690–863 RPM, Max BHP 4.9

Medium Static Motor and Drive – 835–1021 RPM, Max BHP 6.5

High Static Motor and Drive – 941–1176 RPM, Max BHP 8.7

----- Outside operating range

Boldface – Field-supplied Drive

Table 8 - 50TC-D28

HORIZONTAL SUPPLY / RETURN

25 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
7500	553 1.92	621	2.46	683	3.07	741	3.72	795	4.42	
8000	575 2.21	639	2.77	700	3.39	756	4.07	809	4.78	
8500	596 2.52	658	3.10	716	3.73	771	4.43	823	5.16	
9000	616 2.86	675	3.44	732	4.10	786	4.80	836	5.55	
9500	636 3.22	693	3.82	747	4.48	800	5.20	849	5.97	
10000	656 3.60	710	4.21	763	4.89	813	5.62	862	6.40	
10500	675 4.02	727	4.64	778	5.32	827	6.07	874	6.86	
11000	694 4.46	744	5.09	793	5.79	841	6.50	887	7.34	
11500	713 4.93	761	5.57	808	6.27	854	7.03	899	7.84	

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
7500	845 5.14	892	5.90	936	6.68	978	7.48	1018	8.31	
8000	859 5.53	905	6.31	949	7.11	991	7.94	-----	-----	
8500	872 5.93	918	6.73	961	7.56	1003	8.41	-----	-----	
9000	884 6.34	930	7.16	973	8.01	-----	-----	-----	-----	
9500	896 6.77	941	7.61	984	8.48	-----	-----	-----	-----	
10000	908 7.22	953	8.08	-----	-----	-----	-----	-----	-----	
10500	920 7.69	963	8.56	-----	-----	-----	-----	-----	-----	
11000	931 8.18	-----	-----	-----	-----	-----	-----	-----	-----	
11500	943 8.70	-----	-----	-----	-----	-----	-----	-----	-----	

Std Static Motor and Drive – 647–791 RPM, Max BHP 4.9

Medium Static Motor and Drive – 755–923 RPM, Max BHP 6.5

High Static Motor and Drive – 827–1010 RPM, Max BHP 8.7

----- Outside operating range

Boldface – Field-supplied Drive

FAN PERFORMANCE (cont.)

Table 8 - 50TC-D30

HORIZONTAL SUPPLY / RETURN

27.5 TON

CFM	Available External Static Pressure (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8250	709	3.26	760	3.91	811	4.63	859	5.41	906	6.24
8800	750	3.87	798	4.55	845	5.30	892	6.10	936	6.96
9350	791	4.55	836	5.26	881	6.04	925	6.87	968	7.75
9900	832	5.32	875	6.06	918	6.86	959	7.72	1000	8.63
10450	874	6.17	914	6.94	955	7.77	995	8.66	1034	9.59
11000	916	7.11	954	7.91	993	8.77	1031	9.69	1068	10.65
11550	958	8.15	994	8.98	1031	9.87	1067	10.82	1103	11.81
12100	1000	9.28	1035	10.15	1070	11.07	-----	-----	-----	-----
12650	1042	10.53	1076	11.43	-----	-----	-----	-----	-----	-----
13200	1085	11.88	-----	-----	-----	-----	-----	-----	-----	-----

CFM	Available External Static Pressure (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8250	951	7.12	994	8.03	1035	8.97	1075	9.95	1113	10.96
8800	980	7.86	1021	8.80	1062	9.78	1100	10.79	1138	11.83
9350	1010	8.68	1050	9.65	1089	10.66	1127	11.70	-----	-----
9900	1041	9.59	1079	10.58	1117	11.62	-----	-----	-----	-----
10450	1072	10.58	1110	11.60	-----	-----	-----	-----	-----	-----
11000	1105	11.66	-----	-----	-----	-----	-----	-----	-----	-----
11550	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12100	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12650	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13200	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Std Static Motor and Drive – 687–873 RPM, Max BHP 6.5

High Static Motor & Drive – 994–1197 RPM, Max BHP 11.9

Boldface – Field-supplied Drive

Medium Static Motor and Drive – 857–1047 RPM, Max BHP 10.5

----- Outside operating range

FAN PERFORMANCE (cont.)

Table 9 – PULLEY ADJUSTMENT - VERTICAL

UNIT	MOTOR/DRIVE COMBO	MOTOR PULLEY TURNS OPEN										
		0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
17	Standard Static	680	663	647	630	614	597	580	564	547	531	514
	Medium Static	863	845	826	808	789	771	753	734	716	697	679
	High Static	1009	991	972	954	936	918	899	881	863	844	826
20	Standard Static	822	802	782	762	742	722	702	682	662	642	622
	Medium Static	879	862	846	829	813	796	779	763	746	730	713
	High Static	1078	1058	1039	1019	1000	980	960	941	921	902	882
24	Standard Static	863	846	828	811	794	777	759	742	725	707	690
	Medium Static	1021	1002	984	965	947	928	909	891	872	854	835
	High Static	1176	1153	1129	1106	1082	1059	1035	1012	988	965	941
28	Standard Static	911	892	872	853	833	814	795	775	756	736	717
	Medium Static	1116	1096	1075	1055	1035	1015	994	974	954	933	913
	High Static	1176	1153	1129	1106	1082	1059	1035	1012	988	965	941
30	Standard Static	954	934	913	893	873	853	832	812	792	771	751
	Medium Static	1190	1163	1136	1109	1082	1055	1028	1001	974	947	920
	High Static	1299	1271	1243	1216	1188	1160	1132	1104	1077	1049	1015

Table 9 – PULLEY ADJUSTMENT HORIZONTAL

UNIT	MOTOR/DRIVE COMBO	MOTOR PULLEY TURNS OPEN										
		0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
17	Standard Static	680	663	647	630	614	597	580	564	547	531	514
	Medium Static	780	763	747	730	714	697	680	664	647	631	614
	High Static	912	895	879	862	846	829	812	796	779	763	746
20	Standard Static	822	802	782	762	742	722	702	682	662	642	622
	Medium Static	879	862	846	829	813	796	779	763	746	730	713
	High Static	1078	1058	1039	1019	1000	980	960	941	921	902	882
24	Standard Static	863	846	828	811	794	777	759	742	725	707	690
	Medium Static	1021	1002	984	965	947	928	909	891	872	854	835
	High Static	1176	1153	1129	1106	1082	1059	1035	1012	988	965	941
28	Standard Static	791	777	762	748	733	719	705	690	676	661	647
	Medium Static	923	906	889	873	856	839	822	805	789	772	755
	High Static	1010	992	973	955	937	919	900	882	864	845	827
30	Standard Static	873	854	836	817	799	780	761	743	724	706	687
	Medium Static	1047	1028	1009	990	971	952	933	914	895	876	857
	High Static	1197	1177	1156	1136	1116	1096	1075	1055	1035	1014	994

NOTE: Do not adjust pulley further than 5 turns open.

 – Factory settings

ELECTRICAL DATA FOR UNITS PRODUCED ON OR AFTER JULY 30, 2012

NOTE: Check the serial number of unit to verify production date.

To confirm the date of manufacture, locate the unit nameplate and check the first four digits of the Serial Number. If the number listed in the first 4 digits of the Serial Number is 3112 or higher, the unit was produced on or after July 30, 2012.

Position:	1	2	3	4	5	6	7	8	9	10
Example:	3	1	1	2	U	1	2	3	4	5
Week of manufacture (fiscal calendar)										Sequence number
Year of manufacture ("12" = 2012)										Manufacturing location

C12562A

ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012)

Table 10 – 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

15 - 27.5 TONS

UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
17	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	88.6%	8.4
										MED	87.0%	10.6
										HIGH	82.9%	13.6
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	88.6%	8.3
										MED	87.0%	10.6
										HIGH	82.9%	12.7
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	88.6%	4.2
										MED	87.0%	5.3
										HIGH	82.9%	6.4
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	2.8
										MED	81.1%	2.8
										HIGH	83.6%	5.6
20	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	87.0%	10.6
										MED	82.9%	13.6
										HIGH	89.5%	17.1
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	87.0%	10.6
										MED	82.9%	12.7
										HIGH	89.5%	17.1
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	87.0%	5.3
										MED	82.9%	6.4
										HIGH	89.5%	8.6
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	2.8
										MED	83.6%	5.6
										HIGH	89.5%	7.6
24	208-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	82.9%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	82.9%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	STD	82.9%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	STD	83.6%	5.6
										MED	89.5%	7.6
28	208-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	82.9%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	82.9%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	STD	82.9%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	STD	83.6%	5.6
										MED	89.5%	7.6
										HIGH	91.7%	9.5
30	208-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	17.1
										MED	91.7%	28.5
										HIGH	91.7%	30.4
	230-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	17.1
										MED	91.7%	28.5
										HIGH	91.7%	30.4
	460-3-60	414	506	23.1	150	23.1	150	277	0.9	STD	89.5%	8.6
										MED	91.7%	14.3
										HIGH	91.7%	15.2
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	STD	89.5%	7.6
										MED	91.7%	9.5
										HIGH	91.7%	12.4

ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 11 – 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

15 - 27.5 TONS

UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
17	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	85.0%	8.6
										MED	81.5%	10.8
										HIGH	83.6%	13.6
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	85.0%	7.8
										MED	81.5%	9.8
										HIGH	83.6%	12.7
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	85.0%	3.8
										MED	81.5%	4.9
										HIGH	83.6%	6.4
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	4.5
										MED	81.1%	4.5
										HIGH	83.6%	6.2
20	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.5%	10.8
										MED	83.6%	13.6
										HIGH	89.5%	17.1
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.5%	9.8
										MED	83.6%	12.7
										HIGH	89.5%	17.1
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	81.5%	4.9
										MED	83.6%	6.4
										HIGH	89.5%	8.6
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	4.5
										MED	83.6%	6.2
										HIGH	89.5%	7.6
24	208-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	STD	83.6%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	STD	83.6%	6.2
										MED	89.5%	7.6
										HIGH	91.7%	9.5
28	208-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	STD	83.6%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	STD	83.6%	6.2
										MED	89.5%	7.6
										HIGH	91.7%	9.5
30	208-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	17.1
										MED	91.7%	28.5
										HIGH	91.7%	30.4
	230-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	17.1
										MED	91.7%	28.5
										HIGH	91.7%	30.4
	460-3-60	414	506	23.1	150	23.1	150	277	0.9	STD	89.5%	8.6
										MED	91.7%	14.3
										HIGH	91.7%	15.2
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	STD	89.5%	7.6
										MED	91.7%	9.5
										HIGH	91.7%	12.4

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 12 – 50TC17**

1-SPEED INDOOR FAN MOTOR								
NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	–	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	–	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	–	–	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 13 – 50TC20**

1-SPEED INDOOR FAN MOTOR								
NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	–	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 14 – 50TC24**

1-SPEED INDOOR FAN MOTOR								
NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/203-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	057	–	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 15 – 50TC28**

1-SPEED INDOOR FAN MOTOR								
NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 16 – 50TC30**

1-SPEED INDOOR FAN MOTOR								
NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	057	–	057
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	057	–	057
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	057	057	057	057
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 17 – 50TC17**

2-SPEED INDOOR FAN MOTOR

NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	–	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 18 – 50TC20**

2-SPEED INDOOR FAN MOTOR

NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	–	–	–	–
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 19 – 50TC24**

2-SPEED INDOOR FAN MOTOR

NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/203-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	057	–	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 20 – 50TC28**

2-SPEED INDOOR FAN MOTOR

NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	–	–	–	–
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	–	–	–	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	–	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	–	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	–	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	–	–	–	–
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRIC HEAT - ELECTRICAL INFORMATION
(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 21 – 50TC30**

2-SPEED INDOOR FAN MOTOR

NOM. V-PH-Hz.	IFM TYPE	ELECTRIC HEATER PART NUMBER XXXXXX	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLEXXXXX			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	MED	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279A00	25.0	18.8/23.0	056	056	056	056
		280A00	50.0	37.6/45.9	056	056	056	056
		281A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	MED	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
	HIGH	282A00	25.0	23.0	057	057	057	057
		283A00	50.0	45.9	057	057	057	057
		284A00	75.0	68.9	057	057	057	057
575-3-60	STD	285A00	24.8	22.8	-	057	-	057
		286A00	49.6	45.6	-	057	057	057
		287A00	74.4	68.3	057	057	057	057
	MED	285A00	24.8	22.8	-	057	-	057
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057
	HIGH	285A00	24.8	22.8	057	057	057	057
		286A00	49.6	45.6	057	057	057	057
		287A00	74.4	68.3	057	057	057	057

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 22 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT C/N [†]	IFM TYPE	ELEC. HTR		NO P.E.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR					
					FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA				
208/230-3-60	STD	NONE	–	–	80.0/79.9	100/100	83/83	501	91.8/91.7	100/100	97/97	521	84.8/84.7	100/100	86/89	506	96.6/96.5	125/125	102/102	526
208/230-3-60	MED	279A00	18.8/25.0	52.1/60.1	80.0/85.5	100/100	83/83	501/501	91.8/100.3	100/110	97/97	521/521	84.8/91.5	100/100	86/89	506/506	96.6/106.3	125/125	102/102	526/526
208/230-3-60	MED	280A00	37.6/50.0	104.2/120.3	140.8/130.7	150/150	129/148	501/501	155.5/145.4	175/175	143/161	521/521	146.8/136.7	150/150	135/153	506/506	161.5/151.4	175/175	149/167	526/526
208/230-3-60	MED	281A00	56.3/75.0	156.4/180.4	166.9/190.8	200/200	190/217	501/501	181.7/205.5	200/225	203/231	521/521	172.9/196.8	200/225	195/223	506/506	187.7/211.5	200/225	209/236	526/526
460-3-60	STD	NONE	–	–	82.2/88.4	100	86	515	94.0/103.1	110/110	99	535	87.0	100/100	91/91	520/520	99.1/109.1	125/125	105/105	540/540
460-3-60	MED	279A00	18.8/25.0	52.1/60.1	82.2/88.4	100/100	86/86	515/515	94.0/103.1	110/110	99/99	535/535	87.0/94.4	100/100	91/91	520/520	164.3/154.3	175/175	151/170	540/540
460-3-60	MED	280A00	37.6/50.0	104.2/120.3	143.5/133.6	150/150	132/151	515/515	158.3/148.3	175/175	146/164	535/535	149.5/139.6	150/150	138/156	520/520	190.4/214.4	200/225	211/239	540/540
460-3-60	MED	281A00	56.3/75.0	156.4/180.4	168.7/193.7	200/225	192/220	515/515	184.4/208.4	200/225	206/233	535/535	175.7/199.7	200/225	198/225	520/520	101.8/100.9	125/125	108/107	542/542
575-3-60	HIGH	NONE	–	–	85.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1	100/100	95/94	522/522	102.9/111.8	125/125	108/107	542/542
575-3-60	HIGH	279A00	18.8/25.0	52.1/60.1	85.2/91.0	100/100	89/88	517/517	97.0/105.8	125/125	103/102	537/537	90.0/97.0	100/100	95/94	522/522	168.0/156.9	175/175	155/172	542/542
575-3-60	HIGH	280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	517/517	162.0/150.9	175/175	149/167	537/537	153.3/142.2	175/175	141/158	522/522	194.2/217.0	200/225	215/241	542/542
575-3-60	HIGH	281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	517/517	188.2/211.0	200/225	209/236	537/537	179.4/202.3	200/225	197/228	522/522	194.2/217.0	200/225	215/241	542/542
50TC**17	STD	NONE	–	–	42.5	50	44	251	48.7	60	51	263	44.7	60	47	253	50.9	60	54	265
50TC**17	STD	292A00	25	30.1	42.9	50	44	251	50.6	60	51	263	45.6	60	47	253	53.4	60	54	265
50TC**17	STD	293A00	50	60.1	65.4	70	74	251	73.1	80	81	263	68.1	80	76	253	75.9	80	84	265
50TC**17	STD	294A00	75	90.2	95.5	100	109	251	103.2	110	116	263	98.2	100	111	253	106	110	118	265
50TC**17	MED	NONE	–	–	43.6	60	45	258	49.8	60	52	270	45.8	60	48	260	52.0	60	55	272
50TC**17	MED	282A00	25	30.1	44.3	60	45	258	52	60	52	270	47	60	48	260	54.8	60	55	272
50TC**17	MED	283A00	50	60.1	66.7	80	75	258	74.5	80	82	270	69.5	80	78	260	77.2	80	85	272
50TC**17	MED	284A00	75	90.2	96.8	100	110	258	104.6	110	117	270	99.6	110	112	260	107.3	125	119	272
50TC**17	HIGH	282A00	25	30.1	44.7	60	47	259	50.9	60	54	271	46.9	60	49	261	53.1	60	56	273
50TC**17	HIGH	283A00	50	60.1	45.6	60	47	259	53.4	60	54	271	48.4	60	49	261	56.1	60	56	273
50TC**17	HIGH	284A00	75	90.2	98.2	100	111	259	75.9	80	84	271	70.9	80	79	261	78.6	80	86	273
50TC**17	STD	NONE	–	–	32.1	40	33	188	36.9	45	39	196	33.8	45	35	190	38.6	50	41	198
50TC**17	STD	295A00	24.8	23.9	33.4	40	33	188	39.4	45	39	196	35.5	45	35	190	41.5	50	41	198
50TC**17	STD	296A00	49.6	47.7	63.1	70	58	188	69.1	70	64	196	65.3	70	60	190	71.3	80	66	198
50TC**17	STD	297A00	74.4	71.6	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198
50TC**17	MED	NONE	–	–	32.1	40	33	188	36.9	45	39	196	33.8	45	35	190	38.6	50	41	198
50TC**17	MED	285A00	24.8	23.9	33.4	40	33	188	39.4	45	39	196	35.5	45	35	190	41.5	50	41	198
50TC**17	MED	286A00	49.6	47.7	63.1	70	58	188	69.1	70	64	196	65.3	70	60	190	71.3	80	66	198
50TC**17	MED	287A00	74.4	71.6	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198
50TC**17	HIGH	NONE	–	–	34.9	45	37	202	39.7	50	42	210	36.6	45	39	204	41.4	50	44	212
50TC**17	HIGH	285A00	24.8	23.9	36.9	45	37	202	42.9	50	42	210	39	45	39	204	45	50	44	212
50TC**17	HIGH	286A00	49.6	47.7	66.6	70	61	202	72.6	80	67	210	68.8	70	63	204	74.8	80	69	212
50TC**17	HIGH	287A00	74.4	71.6	78.6	90	89	202	84.6	90	94	210	80.7	90	91	204	86.7	90	96	212

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 23 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT C/N#	IFM TYPE	NO M.-V-P-Hz	ELEC. HTR		NO RE.		NO C.O. or UNPWR C.O.		w/ PWRD C.O.												
			CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE	MCA	FUSE or HACR BRKR					
							FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA	FLA	LRA				
208/230-3-60	460-3-60	50TC**20	NONE	–	82.2	100	86	515	94.0	110	99	535	87.0	100	91	520	98.8	125	105	540	
208/230-3-60	575-3-60	50TC**20	279A00	18.8/25.0	52.1/60.1	82.2/88.4	100/100	86/86	515/515	94.0/103.1	110/110	99/99	535/535	87.0/94.4	100/100	91/91	520/520	99.1/109.1	125/125	105/105	540/540
208/230-3-60	575-3-60	50TC**20	280A00	37.6/50.0	104.2/120.3	143.5/133.6	150/150	132/151	515/515	158.3/148.3	175/175	146/164	535/535	149.5/139.6	150/150	135/156	520/520	164.3/154.3	175/175	151/170	540/540
208/230-3-60	575-3-60	50TC**20	281A00	56.3/75.0	156.4/180.4	168.7/193.7	192/225	192/225	515/515	184.4/208.4	200/225	206/233	535/535	175.7/199.7	200/225	198/225	520/520	190.4/214.4	200/225	211/239	540/540
HIGH	575-3-60	50TC**20	NONE	–	65.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1	100/100	95/94	522	101.8/100.9	125/125	108/107	542	
HIGH	575-3-60	50TC**20	279A00	18.8/25.0	52.1/60.1	85.2/91.0	100/100	89/88	517/517	97.0/105.8	125/125	103/102	537/537	90.0/97.0	100/100	95/94	522	102.9/111.8	125/125	108/107	542/542
HIGH	575-3-60	50TC**20	280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	517/517	162.0/150.9	175/175	149/167	537/537	153.3/142.2	175/175	141/158	522	168.0/156.9	175/175	155/172	542/542
HIGH	575-3-60	50TC**20	281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	517/517	188.2/211.0	200/225	209/236	537/537	179.4/202.3	200/225	191/228	522	194.2/217.0	200/250	215/241	542/542
HIGH	575-3-60	50TC**20	NONE	–	88.7	100	93	513	100.5	125	107	533	93.5	110	99	518	105.3	125	112	538	
HIGH	575-3-60	50TC**20	279A00	18.8/25.0	52.1/60.1	88.7/96.5	100/100	93/93	513/513	101.3/111.3	125/125	107/107	533/533	93.5/102.5	110/110	99/99	518/518	107.3/117.3	125/125	112/112	538/538
HIGH	575-3-60	50TC**20	280A00	37.6/50.0	104.2/120.3	151.8/141.7	175/175	139/158	513/513	166.4/156.4	175/175	153/172	533/533	157.6/147.7	175/175	145/164	518/518	172.4/162.4	175/175	159/177	538/538
HIGH	575-3-60	50TC**20	281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	513/513	192.5/216.5	200/250	213/241	533/533	183.8/207.8	200/225	205/233	518/518	198.5/222.5	200/250	219/246	538/538
STD	460-3-60	50TC**20	NONE	–	43.6	60	45	258	49.8	60	52	270	45.8	60	48	260	52.0	60	55	272	
STD	460-3-60	50TC**20	292A00	25	30.1	44.3	60	45	258	52	60	52	270	47	60	48	260	54.8	60	55	272
STD	460-3-60	50TC**20	293A00	50	60.1	66.7	80	75	258	74.5	80	82	270	69.5	80	78	260	77.2	80	85	272
STD	460-3-60	50TC**20	294A00	75	90.2	96.8	100	110	258	104.6	110	117	270	99.6	110	112	260	107.3	125	119	272
STD	460-3-60	50TC**20	NONE	–	44.7	60	47	259	50.9	60	54	271	46.9	60	49	261	53.1	60	56	273	
STD	460-3-60	50TC**20	292A00	25	30.1	45.6	60	47	259	53.4	60	54	271	48.4	60	49	261	78.6	80	86	273
STD	460-3-60	50TC**20	293A00	50	60.1	68.1	80	76	259	75.9	80	84	271	70.9	80	79	261	108.7	125	121	273
STD	460-3-60	50TC**20	294A00	75	90.2	98.2	100	111	259	106	125	118	271	101	110	114	261	111.5	125	123	273
STD	460-3-60	50TC**20	NONE	–	46.9	60	49	257	53.1	60	56	269	49.1	60	52	259	55.3	60	59	271	
STD	460-3-60	50TC**20	292A00	25	30.1	48.4	60	49	257	56.1	60	56	269	51.1	60	52	259	58.9	60	59	271
STD	460-3-60	50TC**20	293A00	50	60.1	70.9	80	79	257	78.6	80	86	269	73.6	80	82	259	81.4	90	89	271
STD	460-3-60	50TC**20	294A00	75	90.2	101	110	114	257	108.7	121	125	269	103.7	125	116	259	111.5	125	123	271
STD	460-3-60	50TC**20	NONE	–	32.1	40	33	188	36.9	45	39	196	33.8	45	35	190	38.6	50	41	198	
STD	460-3-60	50TC**20	295A00	24.8	23.9	33.4	40	33	188	39.4	45	39	196	35.5	45	35	190	41.5	50	41	198
STD	460-3-60	50TC**20	296A00	49.6	47.7	63.1	70	58	188	69.1	70	64	196	65.3	70	60	190	71.3	80	66	198
STD	460-3-60	50TC**20	297A00	74.4	71.6	75.1	80	86	188	81.1	91	196	77.2	80	88	88	190	83.2	90	93	198
STD	460-3-60	50TC**20	NONE	–	34.9	45	37	202	39.7	50	42	210	36.6	45	39	204	41.4	50	44	212	
STD	460-3-60	50TC**20	295A00	24.8	23.9	36.9	45	37	202	42.9	50	42	210	39	45	39	204	45	50	44	212
STD	460-3-60	50TC**20	296A00	49.6	47.7	66.6	70	61	202	72.6	80	67	210	68.8	70	63	204	74.8	80	69	212
STD	460-3-60	50TC**20	297A00	74.4	71.6	78.6	90	89	202	84.6	90	94	210	80.7	90	91	204	86.7	90	96	212
HIGH	575-3-60	50TC**20	NONE	–	36.9	45	39	200	41.7	50	44	208	38.6	50	41	202	43.4	50	46	210	
HIGH	575-3-60	50TC**20	295A00	24.8	23.9	39.4	45	39	200	45.4	50	44	208	41.5	50	41	202	47.5	50	46	210
HIGH	575-3-60	50TC**20	296A00	49.6	47.7	69.1	70	64	200	75.1	80	69	208	71.3	80	66	202	77.3	80	71	210
HIGH	575-3-60	50TC**20	297A00	74.4	71.6	81.1	90	91	200	87.1	90	97	208	83.2	90	93	202	89.2	90	99	210

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 24 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT C/N#	IFM TYPE	ELEC. HTR		NO RE.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE					
					FLA	LRA	FLA	LRA			FLA	LRA			FLA	LRA				
		None	–	–	109.2/108.3	150/150	112/111	540	121.0/120.1	150/150	125/124	560	114.0/113.1	150/150	117/116	545	125.8/124.9	150/150	131/130	565
279A00	STD	18.8/25.0	52.1/60.1	109.2/108.3	150/150	112/111	540/540	121.0/120.1	150/150	125/124	560/560	114.0/113.1	150/150	117/116	545/545	125.8/124.9	150/150	131/130	565/565	
280A00	MED	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	540/540	162.0/150.9	175/175	149/167	560/560	153.3/142.2	175/175	141/158	545/545	168.0/156.9	175/175	155/172	565/565	
281A00	MED	56.3/75.0	156.4/180.4	173.4/196.3	196/222	540/540	188.2/211.0	200/225	209/236	560/560	179.4/202.3	200/225	201/228	545/545	194.2/217.0	200/250	215/241	565/565		
279A00	None	–	–	112.7	150	116	536	124.5	150	129	556	117.5	150	121	541	129.3/129.3	150/150	127/121	561	
279A00	STD	18.8/25.0	52.1/60.1	112.7/12.7	150/150	116/116	536/536	124.5/124.5	150/150	129/129	556/556	117.5/117.5	150/150	121/121	541/541	129.3/129.3	150/150	127/121	561/561	
280A00	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	536/536	166.4/156.4	175/175	153/172	556/556	157.6/147.7	175/175	145/164	541/541	172.4/162.4	175/175	159/177	561/561	
281A00	MED	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	536/536	192.5/216.5	200/250	213/241	556/556	183.8/207.8	200/225	205/233	541/541	198.5/222.5	200/250	219/246	561/561	
279A00	None	–	–	124.1	150	129	615	135.9	175	142	635	128.9	175	134	620	140.7	175	148	640	
279A00	STD	18.8/25.0	52.1/60.1	124.1/124.1	150/150	125/125	615/615	135.9/135.9	175/175	142/142	635/635	128.9/128.9	175/175	134/134	620/620	140.7/140.7	175/175	148/148	640/640	
280A00	HIGH	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	615/615	180.6/170.7	200/175	166/186	635/635	171.9/161.9	175/175	156/177	620/620	168.6/167.7	200/200	172/190	640/640	
281A00	HIGH	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	615/615	206.8/230.8	225/250	226/254	635/635	198.0/222.0	225/250	218/246	620/620	212.8/236.8	225/250	232/259	640/640	
292A00	None	–	–	48.0	60	50	272	54.2	60	57	284	50.2	60	52	274	56.4	70	59	286	
292A00	STD	25	30.1	48	60	50	272	54.2	60	57	284	50.2	60	52	274	56.4	70	59	286	
293A00	STD	50	60.1	68.1	80	76	272	75.9	80	84	284	70.9	80	79	274	78.6	80	86	286	
294A00	STD	75	90.2	98.2	100	111	272	106	125	118	284	101	110	114	274	108.7	125	121	286	
294A00	None	–	–	50.2	60	52	270	56.4	70	59	282	52.4	60	55	272	58.6	70	62	284	
292A00	MED	25	30.1	50.2	60	52	270	56.4	70	59	282	52.4	60	55	272	58.9	70	62	284	
293A00	MED	50	60.1	70.9	80	79	270	78.6	80	86	282	73.6	80	82	272	81.4	90	89	284	
294A00	MED	75	90.2	101	110	114	270	108.7	125	121	282	103.7	125	116	272	111.5	125	123	284	
282A00	None	–	–	55.9	70	59	310	62.1	80	66	322	58.1	70	61	312	64.3	80	69	324	
282A00	STD	25	30.1	55.9	70	59	310	63.3	80	66	322	58.3	70	61	312	66	80	69	324	
283A00	STD	50	60.1	78	90	86	310	85.7	90	93	322	80.7	90	88	312	88.5	100	95	324	
284A00	STD	75	90.2	108.1	125	120	310	115.8	125	127	322	110.8	125	123	312	118.6	125	130	324	
295A00	None	–	–	38.6	50	40	224	43.4	50	46	232	40.3	50	42	226	45.1	50	48	324	
295A00	STD	24.8	23.9	38.6	50	40	224	43.4	50	46	232	40.3	50	42	226	45.1	50	48	324	
286A00	None	–	–	40.6	50	42	222	45.4	60	48	230	42.3	50	44	224	47.1	60	50	322	
286A00	STD	24.8	23.9	40.6	50	42	222	45.4	60	48	230	42.3	50	44	224	47.5	60	50	322	
287A00	None	–	–	42.5	50	45	249	47.3	60	50	257	44.2	50	47	251	49.0	60	52	329	
287A00	STD	24.8	23.9	42.5	50	45	249	47.8	60	50	257	44.2	50	47	251	49.9	60	52	329	
286A00	MED	49.6	47.7	69.1	70	64	222	75.1	80	69	230	71.3	80	66	224	77.3	80	71	322	
287A00	MED	74.4	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93	224	89.2	90	99	323	
285A00	HIGH	24.8	23.9	42.5	50	45	249	47.3	60	50	257	44.2	50	47	251	49.0	60	52	329	
286A00	HIGH	49.6	47.7	71.5	80	66	249	77.5	80	71	257	73.6	80	68	251	79.6	80	73	329	
287A00	HIGH	74.4	71.6	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251	91.6	100	101	259	

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 25 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT C/N#	IFM TYPE	ELEC. HTR		NO RE.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.							
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		
					FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA	
		NONE	–	–	127.8/126.9	175/175	133/132	590	139.6/138.7	175/175	147/146	610	132.6/131.7	175/175	136/138	595	144.4/143.5	175/175	152/151
279A00	STD	18.8/25.0	52.1/60.1	127.8/126.9	175/175	133/132	590/590	139.6/138.7	175/175	147/146	610/610	132.6/131.7	175/175	136/138	595/595	144.4/143.5	175/175	152/151	
280A00	MED	37.6/50.0	104.2/120.3	147.3/136.2	175/175	135/153	590/590	162.0/150.9	175/175	149/167	610/610	153.3/142.2	175/175	141/158	595/595	168.0/156.9	175/175	155/172	
281A00	HIGH	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	590/590	188.2/211.0	200/225	209/236	610/610	179.4/202.3	200/225	201/228	595/595	194.2/187.0	200/250	215/241	
		NONE	–	131.3	175	137	586	143.1	175	151	606	136.1	175	143	591	147.9	175	156	
279A00	STD	18.8/25.0	52.1/60.1	131.3/131.3	175/175	137/137	586/586	143.1/143.1	175/175	151/151	606/606	136.1/136.1	175/175	142/143	591/591	147.9/147.9	175/175	156/156	
280A00	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	586/586	166.4/156.4	175/175	153/172	606/606	157.6/147.7	175/175	145/164	591/591	172.4/162.4	175/175	159/177	
281A00	HIGH	56.3/75.0	156.4/180.4	177.8/201.8	200/227	200/227	586/586	192.5/216.5	200/250	213/241	606/606	183.8/207.8	200/225	205/233	591/591	198.5/222.5	200/250	219/246	
		NONE	–	142.7	175	150	665	154.5	200	164	685	147.5	175	156	670	159.3	200	169	
279A00	STD	18.8/25.0	52.1/60.1	142.7/142.7	175/175	150/150	665/665	154.5/154.5	200/200	166/166	685/685	147.5/147.5	175/175	156/156	670/670	159.3/159.3	200/200	169/169	
280A00	MED	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/200	166/166	685/685	171.9/161.9	175/175	156/177	670/670	168.6/167.7	200/200	172/190	
281A00	HIGH	56.3/75.0	156.4/180.4	182.0/216.0	200/250	213/240	665/665	206.8/230.8	225/250	226/254	665/685	198.0/222.0	225/250	218/246	670/670	212.8/236.8	225/250	232/259	
		NONE	–	51.9	60	54	302	58.1	70	61	314	54.1	60	57	304	60.3	70	64	
292A00	STD	25	30.1	51.9	60	54	302	58.1	70	61	314	54.1	60	57	304	60.3	70	64	
293A00	MED	50	60.1	68.1	80	76	302	75.9	80	84	314	70.9	80	79	304	78.6	80	86	
294A00	HIGH	75	90.2	98.2	100	111	302	106	125	118	314	101	110	114	304	108.7	125	121	
		NONE	–	54.1	60	57	300	60.3	70	64	312	56.3	70	59	302	62.5	80	66	
292A00	STD	25	30.1	54.1	60	57	300	60.3	70	64	312	56.3	70	59	302	62.5	80	66	
293A00	MED	50	60.1	70.9	80	79	300	78.6	80	86	312	73.6	80	82	302	81.4	90	89	
294A00	HIGH	75	90.2	101	110	114	300	108.7	125	121	312	103.7	125	116	302	111.5	125	123	
		NONE	–	59.8	70	63	340	66.0	80	70	352	62.0	80	66	342	63.2	80	73	
282A00	STD	25	30.1	59.8	70	63	340	66	80	70	352	62	80	66	342	66.2	80	73	
283A00	MED	50	60.1	78	90	86	340	85.7	90	93	352	80.7	90	88	342	88.5	100	95	
284A00	HIGH	75	90.2	108.1	125	120	340	115.8	125	127	352	110.8	125	123	342	118.6	125	130	
		NONE	–	41.1	50	43	244	45.9	60	49	252	42.8	50	45	246	47.6	60	50	
295A00	STD	24.8	23.9	41.1	50	43	244	45.9	60	49	252	42.8	50	45	246	47.6	60	50	
286A00	MED	49.6	47.7	66.6	70	61	244	72.6	80	67	252	68.8	70	63	246	74.8	80	69	
287A00	HIGH	74.4	71.6	78.6	90	89	244	84.6	90	94	252	80.7	90	91	246	86.7	90	96	
		NONE	–	43.1	50	45	242	47.9	60	51	250	44.8	50	47	244	49.6	60	53	
285A00	STD	24.8	23.9	43.1	50	45	242	47.9	60	51	250	44.8	50	47	244	49.6	60	53	
286A00	MED	49.6	47.7	69.1	70	64	242	75.1	80	69	250	71.3	80	66	244	77.3	80	71	
287A00	HIGH	74.4	71.6	81.1	90	91	242	87.1	90	97	250	83.2	90	93	244	89.2	90	99	
		NONE	–	45.0	50	47	269	49.8	60	53	277	46.7	60	49	271	51.5	60	55	
285A00	STD	24.8	23.9	45	50	47	269	49.8	60	53	277	46.7	60	49	271	51.5	60	55	
286A00	MED	49.6	47.7	71.5	80	66	269	77.5	80	71	277	73.6	80	68	271	79.6	80	73	
287A00	HIGH	74.4	71.6	83.5	90	93	269	89.5	100	99	277	85.6	90	95	271	91.6	100	101	

ELECTRICAL INFORMATION UNITS PROVIDED ON OR AFTER JULY 3

Table 26 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR

ELEC. HTR		NO C.O. or UNPWR C.O.				NO P.E.				w/ PWRD C.O.				
IFM TYPE NO	V-FH- HZ	NO P.E.		w/ P.E. (pwrdftr/unit)		NO P.E.		w/ P.E. (pwrdftr/unit)		NO P.E.		w/ P.E. (pwrdftr/unit)		
		CRHEATER***A00	CRHEATER***A00	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	FLA	MCA	FUSE or HACR BRKR
208/230-3-60	HIGH	NONE	—	—	141.5	175	148	702	153.3	200	162	722	146.3	175
		279A00	18.8/25.0	52.1/60.1	141.5/141.5	175/175	148/148	702/702	153.3/153.3	200/200	162/162	722/722	146.3/146.3	175/175
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	148/158	702/702	166.4/156.4	200/250	162/172	722/722	157.6/147.7	175/175
	MED	281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	192.5/216.5	200/250	213/241	213/241	722/722	183.8/207.8	200/225
		NONE	—	—	152.9	200	161	781	164.7	200	175	801	157.7	200
		278A00	18.8/25.0	52.1/60.1	152.9/152.9	200/200	161.1/161	164.7/164.7	200/200	175/175	801/801	176/176	786/786	165.5/169.5
460-3-60	HIGH	280A00	37.6/50.0	104.2/120.3	165.9/155.9	200/200	161.1/171	171/171	200/200	175/185	801/801	171.9/161.9	200/200	186.6/176.7
		281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	781/781	206.8/230.8	225/250	226/254	801/801	198.0/222.0	225/250
		NONE	—	—	154.8	200	163	812	166.6	200	177	832	159.6	200
	MED	279A00	18.8/25.0	52.1/60.1	154.8/154.8	200/200	163/163	812/812	166.6/166.6	200/200	177/177	832/832	159.6/159.6	200/200
		280A00	37.6/50.0	104.2/120.3	168.3/158.3	200/200	163/173	812/812	183.0/173.1	200/200	177/187	832/832	174.3/164.3	200/200
		281A00	56.3/75.0	156.4/180.4	194.4/218.4	225/250	215/242	812/812	209.2/233.2	225/250	226/256	832/832	200.4/224.4	225/250
50TC**30	HIGH	282A00	25	30.1	66.0	80	69	354	72.2	90	76	366	68.2	90
		283A00	50	60.1	70.9	80	79	354	72.2	90	76	366	68.2	90
		284A00	75	90.2	101	110	114	354	78.6	90	86	366	73.6	90
	MED	NONE	—	—	66.0	80	69	354	72.2	90	76	366	68.2	90
		282A00	25	30.1	66	80	69	354	72.2	90	76	366	68.2	90
		283A00	50	60.1	78	80	79	354	78.6	90	86	366	81.4	90
575-3-60	HIGH	284A00	75	90.2	108.1	125	120	394	108.7	125	121	366	103.7	125
		NONE	—	—	72.6	90	77	409	77.9	100	83	406	73.9	90
		282A00	25	30.1	72.6	90	77	409	77.9	100	83	406	73.9	90
	MED	283A00	50	60.1	79.1	90	87	409	86.9	100	94	406	80.7	90
		284A00	75	90.2	109.2	125	121	409	115.8	125	127	406	110.8	125
		NONE	—	—	56.0	70	59	264	60.8	80	64	272	57.7	70
208/230-3-60	HIGH	285A00	24.8	23.9	56	70	59	264	60.8	80	64	272	57.7	70
		286A00	49.6	47.7	69.1	70	64	264	75.1	80	69	272	71.3	80
		287A00	74.4	71.6	81.1	90	91	264	87.1	90	97	272	83.2	90
	MED	NONE	—	—	57.9	70	61	291	62.7	80	66	299	59.6	70
		285A00	24.8	23.9	57.9	70	61	291	62.7	80	66	299	59.6	70
		286A00	49.6	47.7	71.5	80	66	291	77.5	80	71	299	73.6	80
460-3-60	HIGH	287A00	74.4	71.6	83.5	90	93	291	89.5	100	99	299	85.6	90
		NONE	—	—	60.8	80	64	302	65.6	80	70	310	62.5	80
		285A00	24.8	23.9	60.8	80	64	302	65.6	80	70	310	62.5	80
	MED	286A00	49.6	47.7	75.1	80	69	302	81.1	90	75	310	67.3	80
		287A00	74.4	71.6	87.1	100	97	302	93.1	100	102	310	89.2	100
		NONE	—	—	60.8	80	64	302	65.6	80	70	310	67.3	80

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 27 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN

UNIT C/N [†]	IFM TYPE	ELEC. HTR		NO RE.				NO C.O. or UNPWR C.O.				NO RE.				w/ PWRD C.O.					
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR	
					FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA
	NO M-V-P-H-Z																				
208/230-3-60	460-3-60	50TC**17	575-3-60	50TC**17																	
STD																					
279A00	18.8/25.0	–	80.2/79.4	100/100	84/83	482	92.0/91.2	100/100	502	85.0/84.2	100/100	86/88	487	96.8/96.0	125/125	103/102	507	507	507	507	
280A00	37.6/50.0	52.1/60.1	80.2/84.9	100/100	84/83	482/482	92.0/99.6	100/100	502/502	85.0/90.9	100/100	86/88	487/487	96.8/105.6	125/125	103/102	507/507	507	507	507	
281A00	56.3/75.0	141.0/130.1	141.0/130.1	150/150	130/147	482/482	155.8/144.8	175/150	143/161	147.0/136.1	150/150	135/153	487/487	161.8/150.8	175/175	149/166	507/507	507	507	507	
NONE	18.8/25.0	–	82.4/81.4	100/100	86/85	506	94.2/93.2	110/110	100/99	526	87.2/86.2	100/100	92/91	511	99.0/98.0	125/125	105/104	531	531	531	
279A00	37.6/50.0	52.1/60.1	82.4/87.4	100/100	86/85	506/506	94.2/102.1	110/100	100/99	526/526	87.2/93.4	100/100	92/91	511/511	99.4/104.0	125/125	105/104	531/531	531	531	
280A00	56.3/75.0	104.2/120.3	143.8/132.6	150/150	132/150	506/506	158.5/147.3	175/175	146/163	146/163	150/150	136/155	511/511	164.5/153.3	175/175	151/169	507/507	507	507		
MED	18.8/25.0	–	85.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1	100/100	95/94	522	101.8/100.9	125/125	108/107	542	542	542	
279A00	37.6/50.0	52.1/60.1	85.2/91.0	100/100	89/88	517/517	97.0/105.8	125/125	103/102	537/537	90.0/97.0	100/100	95/94	522/522	102.9/111.8	125/125	108/107	542/542	542	542	
280A00	56.3/75.0	104.2/120.3	147.3/136.2	150/150	135/153	517/517	162.0/150.9	175/175	149/167	175/175	153.3/142.2	141/158	152/152	168.0/156.9	175/175	155/172	507/507	507	507		
HIGH	18.8/25.0	–	85.2/91.0	100/100	89/88	517/517	188.2/211.0	200/225	209/236	537/537	179.4/202.3	200/225	209/228	522/522	194.2/217.0	200/250	215/241	542/542	542	542	
NONE	292A00	25.0	–	42.1	50	44	242	48.3	60	51	254	44.3	60	46	244	50.5	60	53	53	53	
293A00	50.0	30.1	42.4	50	44	242	50.1	60	51	254	45.1	60	46	244	52.9	60	53	53	53		
294A00	75.0	60.1	64.9	70	73	242	72.6	80	81	254	67.6	80	76	244	75.4	80	83	83	83		
NONE	–	–	95.0	100	108	242	102.7	110	115	254	97.7	100	111	244	105.5	110	118	118	118		
282A00	25.0	30.1	43.2	50	45	254	49.4	60	52	266	45.4	60	47	256	51.6	60	55	55	55		
283A00	50.0	60.1	66.2	80	75	254	51.5	60	60	266	46.5	60	47	256	54.3	60	55	55	55		
294A00	75.0	90.2	96.3	100	109	254	74.0	80	82	266	69.0	80	77	256	76.7	80	84	84	84		
NONE	282A00	25.0	30.1	44.7	60	47	259	50.9	60	54	271	46.9	60	49	261	53.1	60	56	56	56	
283A00	50.0	60.1	45.6	60	47	259	53.4	60	54	271	48.4	60	49	261	56.1	60	56	56	56		
HIGH	284A00	75.0	90.2	98.2	100	111	259	106.0	112	116	271	70.9	80	79	261	78.6	80	86	86	86	
NONE	295A00	24.8	–	33.8	45	35	188	38.6	50	41	196	35.5	45	37	190	40.3	50	43	43	43	
286A00	49.6	47.7	65.3	70	60	188	41.5	50	41	196	37.6	45	37	190	43.6	50	43	43	43		
287A00	74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	95	95		
NONE	285A00	24.8	23.9	35.5	45	35	188	38.6	50	41	196	35.5	45	37	190	40.3	50	43	43	43	
286A00	49.6	47.7	65.3	70	60	188	41.5	50	41	196	37.6	45	37	190	43.6	50	43	43	43		
287A00	74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	95	95		
NONE	285A00	24.8	23.9	37.6	45	37	202	40.3	50	43	210	37.2	45	39	204	42.0	50	45	45	45	
286A00	49.6	47.7	67.4	70	62	202	43.6	50	43	210	39.8	45	39	204	45.8	50	45	45	45		
HIGH	287A00	74.4	71.6	79.4	90	89	202	85.4	90	95	210	81.5	90	91	204	87.5	90	97	97	97	

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 28 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN

		ELEC. HTR		NO RE.		NO C.O. or UNPWR C.O.		NO RE.		w/ PWRD C.O.		
UNIT	IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	FUSE or HACR BRKR	DISC. SIZE	MCA	
	STD	279A00	18.8/25.0	—	82.4/81.4	100/100	86/85	506	94.2/93.2	110/110	100/99	
	280A00	37.6/50.0	52.1/60.1	82.4/87.4	100/100	86/85	506/506	94.2/102.1	110/110	100/99	526/526	
	281A00	56.3/75.0	104.2/120.3	143.8/132.6	150/150	132/150	506/506	158.5/147.3	175/175	146/163	149.8/138.6	
	MED	279A00	18.8/25.0	56.4/180.4	68.9/192.7	200/225	192/219	506/506	184.7/207.4	200/225	206/232	175.9/198.7
	280A00	37.6/50.0	52.1/60.1	85.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1
	281A00	56.3/75.0	104.2/120.3	147.3/136.2	150/150	89/88	517/517	97.2/105.8	125/125	123/125	537/537	90.0/97.0
HIGH	279A00	18.8/25.0	56.4/180.4	173.4/196.3	200/225	196/222	517/517	188.2/211.0	200/225	209/236	209/236	153.3/142.2
	280A00	37.6/50.0	52.1/60.1	88.7	100	93	513	100.5	125	107	533	93.5
	281A00	56.3/75.0	104.2/120.3	151.8/141.7	175/175	139/158	513/513	101.3/111.3	125/125	107/107	533/533	93.5/102.5
	STD	292A00	25.0	—	43.2	50	45	254	49.4	60	52	266
	293A00	50.0	30.1	43.8	50	45	254	51.5	60	52	266	46.5
	294A00	75.0	60.1	66.2	80	75	254	74.0	80	82	266	69.0
	MED	292A00	25.0	—	44.7	60	47	259	50.9	60	54	271
	293A00	50.0	30.1	45.6	60	47	259	53.4	60	54	271	48.4
	294A00	75.0	60.1	68.1	80	76	259	75.9	80	84	271	70.9
HIGH	292A00	25.0	30.1	46.9	60	49	257	53.1	60	56	271	49.1
	293A00	50.0	60.1	48.4	60	49	257	56.1	60	56	271	51.1
	294A00	75.0	90.2	98.2	100	111	259	106.0	125	118	271	101.0
	STD	295A00	24.8	—	33.8	45	35	188	38.6	50	41	196
	296A00	49.6	23.9	35.5	45	35	188	41.5	50	41	196	35.5
	297A00	74.4	47.7	65.3	70	60	188	71.3	80	66	196	37.6
	MED	295A00	24.8	—	35.5	45	37	202	40.3	50	43	210
	296A00	49.6	23.9	37.6	45	37	202	43.6	50	43	210	39.8
	297A00	74.4	47.7	67.4	70	62	202	73.4	80	68	210	69.5
HIGH	295A00	24.8	—	36.9	45	39	200	41.7	50	44	208	38.6
	296A00	49.6	23.9	39.4	45	39	200	45.4	50	44	208	41.5
	297A00	74.4	47.7	69.1	70	64	200	75.1	80	69	208	71.3
	STD	308A00	46.0-3-60	—	36.9	45	39	200	41.7	50	44	208
	309A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	308A00	46.0-3-60	—	36.9	45	39	200	41.7	50	44	208
	309A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	320A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	321A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	320A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	321A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	322A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	323A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	322A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	323A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	324A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	325A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	324A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	325A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	326A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	327A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	326A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	327A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	328A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	329A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	328A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	329A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	330A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	331A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	330A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	331A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	332A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	333A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	332A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	333A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	334A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	335A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	334A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	335A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	336A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	337A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	336A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	337A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	338A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	339A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	338A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	339A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	340A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	341A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	340A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	341A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	342A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	343A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	342A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	343A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	344A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	345A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	344A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	345A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	346A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	347A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	346A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	347A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	348A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	349A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	348A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	349A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	STD	350A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	351A00	57.5-3-60	—	36.9	45	39	200	41.7	50	44	208	41.5
	MED	350A00	50TC**20	—	36.9	45	39	200	41.7	50	44	208
	351A00	57.5-3-60	—									

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 29 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN

UNIT C/N#	IFM TYPE	ELEC. HTR		NO RE.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR					
					FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA				
		None	–	–	109.2/108.3	150/150	112/111	540	121.0/120.1	150/150	125/124	560	114.0/113.1	150/150	117/116	545	125.8/124.9	150/150	131/130	565
279A00	STD	18.8/25.0	52.1/60.1	109.2/108.3	150/150	112/111	540/540	121.0/120.1	150/150	125/124	560/560	114.0/113.1	150/150	117/116	545/545	125.8/124.9	150/150	131/130	565/565	
280A00	MED	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	540/540	162.0/150.9	175/175	149/167	560/560	153.3/142.2	175/175	141/158	545/545	168.0/156.9	175/175	155/172	565/565	
281A00	HIGH	56.3/75.0	156.4/180.4	173.4/196.3	196/222	540/540	188.2/211.0	200/225	209/236	560/560	179.4/202.3	200/225	201/228	545/545	194.2/217.0	200/250	215/241	565/565		
		None	–	–	112.7	150	116	536	124.5	150	129	556	117.5	150	121	541	129.3/129.3	175/175	135/135	561/561
279A00	STD	18.8/25.0	52.1/60.1	112.7/12.7	150/150	116/116	536/536	124.5/124.5	150/150	129/129	556/556	117.5/117.5	150/150	121/121	541/541	129.3/129.3	175/175	135/135	561/561	
280A00	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	536/536	166.4/156.4	175/175	153/172	556/556	157.6/147.7	175/175	145/164	541/541	172.4/162.4	175/175	159/177	561/561	
281A00	HIGH	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	536/536	192.5/216.5	200/250	213/241	556/556	183.8/207.8	200/225	205/233	541/541	198.5/222.5	200/250	219/246	561/561	
		None	–	–	124.1	150	129	615	135.9	175	142	635	128.9	175	134	620	140.7	175	148	640
279A00	STD	18.8/25.0	52.1/60.1	124.1/124.1	150/150	165/615	615/615	180.6/170.7	200/175	166/186	635/635	178.9/128.9	175/175	156/177	620/620	140.7/140.7	175/175	148/148	640/640	
280A00	MED	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	615/615	180.6/170.7	200/175	166/186	635/635	178.9/128.9	175/175	156/177	620/620	140.7/140.7	175/175	148/148	640/640	
281A00	HIGH	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	615/615	206.8/230.8	225/250	226/254	635/635	198.0/222.0	225/250	218/246	620/620	212.8/236.8	225/250	232/259	640/640	
		None	–	–	48.0	60	50	272	54.2	60	57	284	50.2	60	52	274	56.4	70	59	286
292A00	STD	25.0	30.1	48.0	60	50	272	54.2	60	57	284	50.2	60	52	274	56.4	70	59	286	
293A00	MED	50.0	60.1	68.1	80	76	272	75.9	80	84	284	70.9	80	79	274	78.6	80	86	286	
294A00	HIGH	75.0	90.2	98.2	100	111	272	106.0	125	118	284	101.0	110	114	274	108.7	125	121	286	
		None	–	–	50.2	60	52	270	56.4	70	59	282	52.4	60	55	272	58.6	70	62	284
292A00	STD	25.0	30.1	50.2	60	52	270	56.4	70	59	282	52.4	60	55	272	58.9	70	62	284	
293A00	MED	50.0	60.1	70.9	80	79	270	78.6	80	86	282	73.6	80	82	272	81.4	90	89	284	
294A00	HIGH	75.0	90.2	101.0	110	114	270	108.7	125	121	282	103.7	125	116	272	111.5	125	123	284	
		None	–	–	55.9	70	59	310	62.1	80	66	322	58.1	70	61	312	64.3	80	69	324
282A00	STD	25.0	30.1	55.9	70	59	310	63.3	80	66	322	58.3	70	61	312	66.0	80	69	324	
283A00	MED	50.0	60.1	78.0	90	86	310	85.7	90	93	322	80.7	90	88	312	88.5	100	95	324	
284A00	HIGH	75.0	90.2	108.1	125	120	310	115.8	125	127	322	110.8	125	123	312	118.6	125	130	324	
		None	–	–	39.2	50	41	224	44.0	50	46	232	40.9	50	43	226	45.7	60	48	234
295A00	STD	24.8	23.9	39.2	50	41	224	44.0	50	46	232	40.9	50	43	226	45.8	60	48	234	
296A00	MED	49.6	47.7	67.4	70	62	224	73.4	80	68	232	69.5	70	64	226	75.5	80	69	234	
297A00	HIGH	74.4	71.6	79.4	90	89	224	85.4	90	95	232	81.5	90	91	226	87.5	90	97	234	
		None	–	–	40.6	50	42	222	45.4	60	48	230	42.3	50	44	224	47.1	60	50	232
285A00	STD	24.8	23.9	40.6	50	42	222	45.4	60	48	230	42.3	50	44	224	47.5	60	50	232	
286A00	MED	49.6	47.7	69.1	70	64	222	75.1	80	69	230	71.3	80	66	224	77.3	80	71	232	
287A00	HIGH	74.4	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93	224	89.2	90	99	232	
		None	–	–	42.5	50	45	249	47.3	60	50	257	44.2	50	47	251	49.0	60	52	239
285A00	STD	24.8	23.9	42.5	50	45	249	47.8	60	50	257	44.2	50	47	251	49.9	60	52	239	
286A00	MED	49.6	47.7	71.5	80	66	249	77.5	80	71	257	73.6	80	68	251	79.6	80	73	259	
287A00	HIGH	74.4	71.6	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251	91.6	100	101	259	

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 30 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN

UNIT C/N#	IFM TYPE	ELEC. HTR		NO RE.		NO C.O. or UNPWR C.O.		NO PE.		w/ PWRD C.O.	
		CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR
						FLA	LRA	FLA	LRA		FLA
		NONE	–	–	127.8/126.9	175/175	133/132	590	139.6/138.7	175/175	610
279A00	STD	18.8/25.0	52.1/60.1	127.8/126.9	175/175	133/132	590/590	139.6/138.7	175/175	610/610	132.6/131.7
280A00	MED	37.6/50.0	104.2/120.3	147.3/136.2	175/175	135/153	590/590	162.0/150.9	175/175	610/610	153.3/142.2
281A00	HIGH	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	590/590	188.2/211.0	200/225	610/610	179.4/202.3
		NONE	–	131.3	175	137	586	143.1	175	151	606
279A00	STD	18.8/25.0	52.1/60.1	131.3/131.3	175/175	137/137	586/586	143.1/143.1	175/175	151/151	606/606
280A00	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	586/586	166.4/156.4	175/175	156/156	606/606
281A00	HIGH	56.3/75.0	156.4/180.4	177.8/201.8	200/227	200/227	586/586	192.5/216.5	200/250	213/241	606/606
		NONE	–	142.7	175	150	665	154.5	200	164	685
279A00	STD	18.8/25.0	52.1/60.1	142.7/142.7	175/175	150/150	665/665	154.5/154.5	200/200	164/164	685/685
280A00	MED	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/200	166/166	685/685
281A00	HIGH	56.3/75.0	156.4/180.4	182.0/216.0	200/250	213/240	665/665	206.8/230.8	225/250	226/254	665/685
		NONE	–	51.9	60	54	302	58.1	70	61	314
292A00	STD	25.0	30.1	51.9	60	54	302	58.1	70	61	314
293A00	MED	50.0	60.1	68.1	80	76	302	75.9	80	84	314
294A00	HIGH	75.0	90.2	98.2	100	111	302	106.0	125	118	314
		NONE	–	54.1	60	57	300	60.3	70	64	312
292A00	STD	25.0	30.1	54.1	60	57	300	60.3	70	64	312
293A00	MED	50.0	60.1	70.9	80	79	300	78.6	80	86	312
294A00	HIGH	75.0	90.2	101.0	110	114	300	108.7	125	121	312
		NONE	–	59.8	70	63	340	66.0	80	70	352
292A00	STD	25.0	30.1	59.8	70	63	340	66.0	80	70	352
293A00	MED	50.0	60.1	78.0	90	86	340	85.7	90	93	352
294A00	HIGH	75.0	90.2	108.1	125	120	340	115.8	125	127	352
		NONE	–	41.7	50	44	244	46.5	60	49	252
295A00	STD	24.8	23.9	41.7	50	44	244	46.5	60	49	252
296A00	MED	49.6	47.7	67.4	70	62	244	73.4	80	68	252
297A00	HIGH	74.4	71.6	79.4	90	89	244	85.4	90	95	252
		NONE	–	43.1	50	45	242	47.9	60	51	250
295A00	STD	24.8	23.9	43.1	50	45	242	47.9	60	51	250
296A00	MED	49.6	47.7	69.1	70	64	242	75.1	80	69	250
297A00	HIGH	74.4	71.6	81.1	90	91	242	87.1	90	97	250
		NONE	–	45.0	50	47	269	49.8	60	53	277
295A00	STD	24.8	23.9	45.0	50	47	269	49.8	60	53	277
296A00	MED	49.6	47.7	71.5	80	66	269	77.5	80	71	277
297A00	HIGH	74.4	71.6	83.5	90	93	269	89.5	100	99	277

ELECTRICAL INFORMATION

(UNITS PRODUCED ON OR AFTER JULY 30, 2012) cont.

Table 31 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH 2 SPEED INDOOR FAN

UNIT C/N#	IFM TYPE	ELEC. HTR		NO P.E.				NO C.O. or UNPWR C.O.				w/ PWRD C.O.								
		CRHEATER***A00	Nom (kW)	FLA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR		DISC. SIZE		MCA	FUSE or HACR BRKR					
					FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA				
		NONE	–	141.5	175	148	702	153.3	200	162	722	146.3	175	154	707	158.1	200	167	727	
	STD	279A00	18.8/25.0	52.1/60.1	141.5/141.5	175/175	148/148	702/702	153.3/153.3	200/200	162/162	722/722	146.3/146.3	175/175	154/154	707/707	158.1/158.1	200/200	167/167	727/727
	280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	148/158	702/702	166.4/156.4	200/200	162/172	722/722	157.6/147.7	175/175	154/164	707/707	172.4/162.4	200/200	167/177	727/727	
	281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	702/702	192.5/165.5	200/250	213/241	722/722	183.8/207.8	200/225	205/233	707/707	198.5/222.5	200/250	219/246	727/727	
	MED	NONE	–	152.9	200	161	781	164.7	200	175	801	157.7	200	167	786	169.5	200	180	806	
	279A00	18.8/25.0	52.1/60.1	152.9/152.9	200/200	161/161	781/781	164.7/164.7	200/200	175/175	801/801	157.7/157.7	200/200	167/167	786/786	169.5/169.5	200/200	180/180	806/806	
	280A00	37.6/50.0	104.2/120.3	165.9/155.9	200/200	161/171	781/781	180.6/170.7	200/200	175/185	801/801	171.9/161.9	200/200	167/177	786/786	186.6/176.7	200/200	180/190	806/806	
	281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	781/781	206.8/230.8	225/250	226/254	801/801	198.0/222.0	225/250	218/246	786/786	212.8/236.8	225/250	232/259	806/806	
	HIGH	NONE	–	154.8	200	163	812	166.6	200	177	832	159.6	200	169	817	171.4	200	182	837	
	279A00	18.8/25.0	52.1/60.1	154.8/154.8	200/200	163/163	812/812	166.6/166.6	200/200	177/177	832/832	159.6/159.6	200/200	165/169	817/817	171.4/171.4	200/200	182/182	837/837	
	280A00	37.6/50.0	104.2/120.3	168.3/156.3	200/200	163/173	812/812	183.0/173.1	200/200	177/187	832/832	174.3/164.3	200/200	169/179	817/817	189.0/179.1	200/200	182/192	837/837	
	281A00	56.3/75.0	156.4/180.4	194.4/218.4	225/250	215/242	812/812	209.2/233.2	225/250	228/256	832/832	200.4/224.4	225/250	220/248	817/817	215.2/239.2	225/250	234/262	837/837	
	STD	NONE	–	66.0	80	69	354	72.2	90	76	366	68.2	90	72	356	74.4	90	79	366	
	292A00	25.0	30.1	66.0	80	69	354	72.2	90	76	366	68.2	90	72	356	74.4	90	79	366	
	293A00	50.0	60.1	70.9	80	79	354	78.6	90	86	366	73.6	90	82	356	81.4	90	89	366	
	294A00	75.0	90.2	101.0	110	114	354	108.7	125	121	366	103.7	125	116	356	111.5	125	123	366	
	MED	NONE	–	71.7	90	76	394	77.9	100	83	406	73.9	90	78	396	80.1	100	85	408	
	292A00	25.0	30.1	71.7	90	76	394	77.9	100	83	406	73.9	90	78	396	80.1	100	85	408	
	293A00	50.0	60.1	78.0	90	86	394	85.7	100	93	406	80.7	90	88	396	88.5	100	95	408	
	294A00	75.0	90.2	108.1	125	120	394	115.8	125	127	406	110.8	125	123	396	118.6	125	130	408	
	HIGH	NONE	–	72.6	90	77	409	78.8	100	84	421	74.8	90	79	411	81.0	100	86	423	
	282A00	25.0	30.1	72.6	90	77	409	78.8	100	84	421	74.8	90	79	411	81.0	100	86	423	
	283A00	50.0	60.1	79.1	90	87	409	86.9	100	94	421	81.9	90	89	411	89.6	100	96	423	
	284A00	75.0	90.2	109.2	125	121	409	117.0	125	128	421	112.0	125	124	411	119.7	125	131	423	
	STD	NONE	–	56.0	70	59	264	60.8	80	64	272	57.7	70	61	266	62.5	80	66	274	
	295A00	24.8	23.9	56.0	70	59	264	60.8	80	64	272	57.7	70	61	266	62.5	80	66	274	
	286A00	49.6	47.7	69.1	70	64	264	75.1	80	69	272	71.3	80	66	266	77.3	80	71	274	
	287A00	74.4	71.6	81.1	90	91	264	87.1	97	97	272	83.2	90	93	266	89.2	90	99	274	
	MED	NONE	–	57.9	70	61	291	62.7	80	66	299	59.6	70	63	293	64.4	80	68	301	
	285A00	24.8	23.9	57.9	70	61	291	62.7	80	66	299	59.6	70	63	293	64.4	80	68	301	
	286A00	49.6	47.7	71.5	80	66	291	77.5	80	71	299	73.6	80	68	293	79.6	80	73	301	
	287A00	74.4	71.6	83.5	90	93	291	89.5	100	99	299	85.6	90	95	293	91.6	100	101	301	
	HIGH	NONE	–	60.3	80	64	302	65.6	80	70	310	62.5	80	66	304	67.3	80	72	312	
	285A00	24.8	23.9	60.3	80	64	302	65.6	80	70	310	62.5	80	66	304	67.3	80	72	312	
	286A00	49.6	47.7	75.1	80	69	302	81.1	90	75	310	77.3	80	71	304	83.3	90	77	312	
	287A00	74.4	71.6	87.1	100	97	302	93.1	100	102	310	89.2	100	99	304	95.2	100	104	312	


LEGEND:

BRKR	- Circuit breaker
CO	- Convenience outlet
DISC	- Disconnect
FLA	- Full load amps
IFM	- Indoor fan motor
LRA	- Locked rotor amps
MCA	- Minimum circuit amps
MOCP	- MAX FUSE or HACR BRKR
PE	- Power exhaust
PWRD CO	- Powered convenient outlet
UNPWR CO	- Unpowered convenient outlet

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

2. Unbalanced 3-Phase Supply Voltage

1. Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60


$$\begin{aligned} AB &= 224 \text{ V} \\ BC &= 231 \text{ V} \\ AC &= 226 \text{ V} \end{aligned}$$

Determine maximum deviation from average voltage.
 (AB) $227 - 224 = 3 \text{ V}$
 (BC) $231 - 227 = 4 \text{ V}$
 (AC) $227 - 226 = 1 \text{ V}$

Maximum deviation is 4 V.

Determine percent of voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{4}{227} \\ &= 1.76\% \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

ELECTRICAL DATA FOR UNITS PRODUCED PRIOR TO JULY 30, 2012

NOTE: Check the serial number of unit to verify production date.

To confirm the date of manufacture, locate the unit nameplate and check the first four digits of the Serial Number. If the number listed in the first 4 digits of the Serial Number is 3111 or lower, the unit was produced prior to July 30, 2012.

Position:	1	2	3	4	5	6	7	8	9	10
Example:	3	1	1	2	U	1	2	3	4	5
Week of manufacture <u>(fiscal calendar)</u>										Sequence number
Year of manufacture ("12" = 2012)										Manufacturing location

C12562A

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 32 – 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

15 - 27.5 TONS

UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
				RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
		MIN	MAX									
17	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.3%	7.5
										MED	83.8%	10.2
										HIGH	83.6%	15.0
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.3%	7.5
										MED	83.8%	10.2
										HIGH	83.6%	15.0
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	81.3%	3.4
										MED	83.8%	4.8
										HIGH	83.6%	7.4
20	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	2.8
										MED	81.1%	2.8
										HIGH	83.6%	5.6
	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	83.8%	10.2
										MED	83.6%	15.0
										HIGH	89.5%	17.1
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	83.8%	10.2
										MED	83.6%	15.0
										HIGH	89.5%	17.1
24	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	83.8%	4.8
										MED	83.6%	7.4
										HIGH	89.5%	8.6
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.1%	2.8
										MED	83.6%	5.6
										HIGH	89.5%	7.6
	208-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	15.0
										MED	89.5%	17.1
										HIGH	91.7%	28.5
28	230-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	15.0
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	STD	83.6%	7.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	STD	83.6%	5.6
										MED	89.5%	7.6
										HIGH	91.7%	9.5
30	208-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	15.0
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	15.0
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	STD	83.6%	7.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	STD	89.5%	7.6
										MED	91.7%	9.5
										HIGH	91.7%	12.4

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 33 – 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

15 - 27.5 TONS

UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATT S	FLA	TYPE	EFF at Full Load	FLA
17	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	85.0%	8.6
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	MED	81.5%	10.8
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	HIGH	83.6%	13.6
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	85.0%	7.8
	208-3-60	187	253	29.5	195	30.1	225	350	1.5	MED	81.5%	9.8
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	HIGH	83.6%	12.7
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	85.0%	3.8
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	MED	81.5%	4.9
	208-3-60	187	253	29.5	195	30.1	225	350	1.5	HIGH	83.6%	6.4
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.1%	4.5
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	MED	81.1%	4.5
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	HIGH	83.6%	6.2
20	208-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.5%	10.8
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	MED	83.6%	13.6
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	HIGH	89.5%	17.1
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	81.5%	9.8
	208-3-60	187	253	29.5	195	30.1	225	350	1.5	MED	83.6%	12.7
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	HIGH	89.5%	17.1
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	STD	81.5%	4.9
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	MED	83.6%	6.4
	208-3-60	187	253	29.5	195	30.1	225	350	1.5	HIGH	89.5%	8.6
	230-3-60	187	253	29.5	195	30.1	225	350	1.5	STD	81.1%	4.5
	460-3-60	414	506	14.7	95	16.7	114	277	0.9	MED	83.6%	6.2
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	HIGH	89.5%	7.6
24	208-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	13.6
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	MED	89.5%	17.1
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	HIGH	91.7%	28.5
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	STD	83.6%	12.7
	208-3-60	187	253	48.1	245	29.5	195	350	1.5	MED	89.5%	17.1
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	STD	83.6%	6.4
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	MED	89.5%	8.6
	208-3-60	187	253	48.1	245	29.5	195	350	1.5	HIGH	91.7%	14.3
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	6.2
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	MED	89.5%	7.6
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	HIGH	91.7%	9.5
28	208-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	13.6
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	MED	89.5%	17.1
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	HIGH	91.7%	28.5
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	STD	83.6%	12.7
	208-3-60	187	253	48.1	245	48.1	245	350	1.5	MED	89.5%	17.1
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	HIGH	91.7%	28.5
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	STD	83.6%	6.4
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	MED	89.5%	8.6
	208-3-60	187	253	48.1	245	48.1	245	350	1.5	HIGH	91.7%	14.3
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	6.2
	460-3-60	414	506	18.6	125	14.7	100	277	0.9	MED	89.5%	7.6
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	HIGH	91.7%	9.5
30	208-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	17.1
	230-3-60	187	253	51.3	300	51.3	300	350	1.5	MED	91.7%	28.5
	460-3-60	414	506	23.1	150	23.1	150	277	0.9	HIGH	91.7%	30.4
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	STD	89.5%	17.1
	208-3-60	187	253	51.3	300	51.3	300	350	1.5	MED	91.7%	28.5
	230-3-60	187	253	51.3	300	51.3	300	350	1.5	HIGH	91.7%	30.4
	460-3-60	414	506	23.1	150	23.1	150	277	0.9	STD	89.5%	8.6
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	MED	91.7%	14.3
	208-3-60	187	253	51.3	300	51.3	300	350	1.5	HIGH	91.7%	15.2
	230-3-60	187	253	51.3	300	51.3	300	350	1.5	STD	89.5%	7.6
	460-3-60	414	506	23.1	150	23.1	150	277	0.9	MED	91.7%	9.5
	575-3-60	518	633	19.9	109	19.9	109	397	0.6	HIGH	91.7%	12.4

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 34 – ELECTRIC HEAT - ELECTRICAL DATA
15 - 17.5 TONS
2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT	NOM. V-PH-HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOMINAL (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)
50TC-D17	208/230-3-60	STD	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		MED	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	HIGH	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		STD	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
	575-3-60	MED	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
		HIGH	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
50TC-D20	208/230-3-60	STD	285/276A00	24.8	22.8	77.7
			286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
		MED	285/276A00	24.8	22.8	77.7
			286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
	460-3-60	HIGH	285/276A00	24.8	22.8	77.7
			286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
		STD	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
	575-3-60	MED	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		HIGH	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
		STD	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
		MED	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
		HIGH	285/276A00	24.8	22.8	77.7
			286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1

LEGEND

APP PWR – 208 / 230V / 460V / 575V
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor

NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 35 – ELECTRIC HEAT - ELECTRICAL DATA
20 -25 TONS
2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT	NOM. V-PH-HZ	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOMINAL (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)
50TC-D24	208/203-3-60	STD	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		MED	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	HIGH	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		STD	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
50TC-D28	575-3-60	MED	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
		HIGH	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0
	208/230-3-60	STD	285/276A00	24.8	22.8	77.7
			286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
		MED	286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
			285/276A00	24.8	22.8	77.7
50TC-D28	460-3-60	HIGH	286/277A00	49.6	45.6	155.4
			287/278A00	74.4	68.3	233.1
			285/276A00	24.8	22.8	77.7
		STD	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
	575-3-60	MED	279/270A00	25.0	18.8/23.0	64.1/78.3
			280/271A00	50.0	37.6/45.9	128.1/156.7
			281/272A00	75.0	56.3/68.9	192.2/235.0
		HIGH	282/273A00	25.0	23.0	78.3
			283/274A00	50.0	45.9	156.7
			284/275A00	75.0	68.9	235.0

LEGEND

APP PWR – 208 / 230V / 460V / 575V
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor

NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 36 – ELECTRIC HEAT - ELECTRICAL DATA
27.5 TONS
2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

UNIT	NOM. V-Ph-Hz	IFM TYPE	Electric Heater Part Number	Nominal (kW)	Application (kW)	Application Output (MBH)
50TC-D30	208/230-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1

LEGEND

APP PWR	- 208 / 230V / 460V / 575V	NOM PWR	- 240V / 480V / 600V
C.O.	- Convenient outlet	P.E.	- Power exhaust
FLA	- Full load amps	PWRD	- Powered convenient outlet
IFM	- Indoor fan motor	UNPWRD	- Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 37 – ELECTRIC HEAT - ELECTRICAL DATA **15 - 17.5 TONS**
2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOMINAL (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)
50TC**17	208/230-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
50TC**20	208/230-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1

LEGEND

APP PWR	- 208 / 230V / 460V / 575V	NOM PWR	- 240V / 480V / 600V
C.O.	- Convenient outlet	P.E.	- Power exhaust
FLA	- Full load amps	PWRD	- Powered convenient outlet
IFM	- Indoor fan motor	UNPWRD	- Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 38 – ELECTRIC HEAT - ELECTRICAL DATA **20 -25 TONS**
2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOMINAL (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)
50TC**24	208/203-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
50TC**28	208/230-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1

LEGEND

APP PWR	- 208 / 230V / 460V / 575V	NOM PWR	- 240V / 480V / 600V
C.O.	- Convenient outlet	P.E.	- Power exhaust
FLA	- Full load amps	PWRD	- Powered convenient outlet
IFM	- Indoor fan motor	UNPWRD	- Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2010)

Table 39 – ELECTRIC HEAT - ELECTRICAL DATA **27.5 TONS**
2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOMINAL (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)
50TC**30	208/230-3-60	STD	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		MED	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
		HIGH	279A00	25.0	18.8/23.0	64.1/78.3
			280A00	50.0	37.6/45.9	128.1/156.7
			281A00	75.0	56.3/68.9	192.2/235.0
	460-3-60	STD	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		MED	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
		HIGH	282A00	25.0	23.0	78.3
			283A00	50.0	45.9	156.7
			284A00	75.0	68.9	235.0
	575-3-60	STD	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		MED	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1
		HIGH	285A00	24.8	22.8	77.7
			286A00	49.6	45.6	155.4
			287A00	74.4	68.3	233.1

LEGEND

APP PWR – 208 / 230V / 460V / 575V
C.O. – Convenient outlet
FLA – Full load amps
IFM – Indoor fan motor

NOM PWR – 240V / 480V / 600V
P.E. – Power exhaust
PWRD – Powered convenient outlet
UNPWRD – Unpowered convenient outlet

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 40 – 50TC-D17

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

		ELECTRIC HEATER				NO P.E.				W/ P.E. (Pwrd fr/unit)				NO C.O. or UNPWR C.O.				W/ PWRD C.O.						
NOM. V-Ph-Hz	IFM TYPE	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	FLA	LRA	FLA	LRA		
18.8/25.0	STD	52.1/60.1	-	79.1	100.0	82	485	90.9	100.0	96	505	83.9	100.0	88	490	95.7	125.0	101	510	510	510	510	510	
37.6/50.0	STD	104.2/120.3	139.6/129.7	150/150	128/147	495/485	90.9/99.3	100/100	96/96	505/505	83.9/90.5	100/100	88/88	490/490	95.7/105.3	125/125	101/101	510/510	510/510	510/510	510/510	510/510	510/510	
56.3/75.0	STD	156.4/180.4	165.8/189.8	175/200	158/216	485/485	180.5/204.5	200/225	202/230	505/505	145.6/135.7	150/150	134/152	490/490	160.4/150.4	175/175	148/166	510/510	510/510	510/510	510/510	510/510	510/510	
18.8/25.0	MED	52.1/60.1	81.8/87.9	100/100	85/85	502/502	93.6	110.0	99	522	86.6	100.0	91	507	98.4	125.0	105	527	527	527	527	527	527	
37.6/50.0	MED	104.2/120.3	143.0/133.1	150/150	132/150	502/502	157.8/147.8	175/175	145.6/164	522/522	149.0/139.1	150/150	137/156	507/507	163.8/153.8	175/175	151/169	527/527	527/527	527/527	527/527	527/527	527/527	
56.3/75.0	MED	156.4/180.4	169.2/193.2	200/225	192/219	502/502	183.9/207.9	200/225	205/233	522/522	175.2/199.2	200/225	197/225	507/507	189.9/213.9	200/225	211/238	527/527	527/527	527/527	527/527	527/527	527/527	
18.8/25.0	HIGH	52.1/60.1	86.6/93.9	100/100	91/91	511	98.4	125.0	105	531	91.4	100.0	96	516	103.2	125.0	110	536	536	536	536	536	536	
37.6/50.0	HIGH	104.2/120.3	149.0/139.1	150/175	137/156	511/511	163.8/153.8	175/175	151/169	531/531	155.0/145.1	175/175	143/161	516/516	169.8/159.8	175/175	156/175	536/536	536/536	536/536	536/536	536/536	536/536	
56.3/75.0	HIGH	156.4/180.4	175.2/199.2	200/225	197/225	511/511	189.9/213.9	200/250	211/238	531/531	181.2/205.2	200/225	203/230	516/516	195.9/219.9	200/250	216/244	536/536	536/536	536/536	536/536	536/536	536/536	
25.0	STD	30.1	41.9	50.0	43	243	47.9	60.0	50	255	43.9	60.0	46	245	50.1	60.0	53	257	257	257	257	257	257	
50.0	STD	60.1	64.4	70.0	73	243	72.1	80.0	80	255	67.1	70.0	76	245	74.9	80.0	83	257	257	257	257	257	257	
75.0	STD	90.2	94.5	100	108	243	102.2	110	115	255	97.2	100	110	245	105.0	110	117	257	257	257	257	257	257	
100.0	STD	120.2	134.1	150.0	45	252	49.3	60.0	52	264	45.3	60.0	47	254	51.5	60.0	54	266	266	266	266	266	266	
125.0	STD	150.1	143.6	50.0	45	252	51.4	60.0	52	264	46.4	60.0	47	254	54.1	60.0	54	266	266	266	266	266	266	
150.0	STD	166.1	80.0	75	252	73.9	80.0	82	264	68.9	80.0	77	254	76.6	80.0	84	266	266	266	266	266	266		
175.0	STD	190.2	96.2	100	109	252	104.0	110	116	264	99.0	100	112	254	106.7	110	119	266	266	266	266	266	266	
200.0	STD	215.1	145.7	60.0	48	256	51.9	60.0	55	268	47.9	60.0	50	258	54.1	60.0	57	270	270	270	270	270	270	
225.0	STD	240.1	46.9	60.0	48	256	54.6	60.0	55	268	49.6	60.0	50	258	57.4	60.0	57	270	270	270	270	270	270	
250.0	STD	265.1	69.4	80.0	78	256	77.1	80.0	85	268	72.1	80.0	80	258	79.9	80.0	87	270	270	270	270	270	270	
275.0	STD	290.2	99.5	110	112	256	107.2	125	119	268	102.2	110	115	258	110.0	125	122	270	270	270	270	270	270	
300.0	STD	315.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
325.0	STD	340.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
350.0	STD	365.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
375.0	STD	390.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
400.0	STD	415.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
425.0	STD	440.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
450.0	STD	465.1	47.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
475.0	STD	490.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
500.0	STD	515.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
525.0	STD	540.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
550.0	STD	565.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
575.0	STD	590.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
600.0	STD	615.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
625.0	STD	640.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
650.0	STD	665.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
675.0	STD	690.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
700.0	STD	715.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
725.0	STD	740.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
750.0	STD	765.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
775.0	STD	790.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
800.0	STD	815.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
825.0	STD	840.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
850.0	STD	865.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	198	198	198	198	198
875.0	STD	890.1	75.1	80	86	188	81.1	90	91	196	77.2	80	88	190	83.2	90	93	198	198	198	198	198	198	
900.0	STD	915.1	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	198	198	198	198	198	
925.0	STD	940.1	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	198	198	198	198	198	
950.0	STD	965.1	74.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198					

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 41 – 50TC-D20

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

		ELECTRIC HEATER				NO P.E.				NO C.O. or UNPWR C.O.				W/ PWRD C.O.							
		NO P.E.				W/ P.E. (pwrdr fr/unit)				NO P.E.				W/ P.E. (pwrdr fr/unit)							
NOM. V-Ph-Hz	IFM TYPE	Nom (kW)	FLA	MAX FUSE or HACR BRKR		DISC. SIZE		MCA	MAX FUSE or HACR BRKR		DISC. SIZE		MCA	MAX FUSE or HACR BRKR		DISC. SIZE					
				FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA				
208/ 230 – 3 – 60	STD	–	–	81.8	100.0	85	99	502	93.6	110.0	99	522	86.6	100.0	91	507	98.4	125.0			
		18.8/25.0	52.1/60.1	81.8/67.9	100/100	85/85	93.6/102.6	10/110	502/502	93.6/102.6	10/110	99/99	522/522	86.6/93.9	100/100	91/91	507/507	98.6/108.6	125/125		
		37.6/50.0	104.2/120.3	143.0/138.1	150/150	132/150	150/150	157.8/147.8	145/164	502/502	149.0/139.1	150/150	137/156	522/522	175.2/199.2	200/225	197/225	507/507	163.8/153.8	175/175	
		56.3/75.0	156.4/180.4	169.2/193.2	200/225	192/219	192/225	183.9/207.9	200/225	502/502	183.9/207.9	200/225	205/233	522/522	175.2/199.2	200/225	197/225	507/507	159.9/213.9	200/225	
		–	86.6	100.0	91	511	98.4	125.0	105	531	91.4	100.0	96	516	103.2	125.0	110	536	104.6/114.6	125/125	
	MED	18.8/25.0	52.1/60.1	86.6/83.9	100/100	91/91	511/511	98.6/108.6	125/125	105/105	531/531	91.4/99.9	100/100	96/96	516/516	104.6/114.6	110/110	536/536	104.6/114.6	110/110	
		37.6/50.0	104.2/120.3	149.0/139.1	150/175	137/156	511/511	163.8/153.8	151/169	531/531	155.0/145.1	175/175	143/161	516/516	169.8/159.8	175/175	156/175	536/536	156/175	175/175	
		56.3/75.0	156.4/180.4	175.2/199.2	200/225	197/225	511/511	189.9/213.9	200/250	211/238	531/531	181.2/205.2	200/225	203/230	516/516	195.9/219.9	200/250	216/244	536/536	216/244	
		–	88.7	100.0	93	513	100.5	125.0	107	533	93.5	110.0	99	518	105.3	125.0	112	538	107.3/117.3	125/125	
		18.8/25.0	52.1/60.1	88.7/96.5	100/100	93/93	513/513	101.3/111.3	125/125	107/107	533/533	93.5/102.5	110/110	99/99	518/518	107.3/117.3	112/112	538/538	107.3/117.3	112/112	
460 – 3 – 60	HIGH	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	513/513	166.4/156.4	175/175	533/533	157.6/147.7	175/175	145/164	518/518	172.4/162.4	175/175	155/177	538/538	155/177	175/175	
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	190/227	513/513	192.5/216.5	200/250	213/241	533/533	183.8/207.8	200/225	205/233	518/518	198.5/222.5	200/250	216/246	538/538	216/246	
		–	43.1	50.0	45	252	49.3	60.0	52	264	45.3	60.0	47	254	51.5	60.0	54	266	50.0	60.0	
		25.0	30.1	43.6	50.0	45	252	51.4	60.0	52	264	46.4	60.0	47	254	54.1	60.0	54	266		
		STD	50.0	60.1	66.1	80.0	75	252	73.9	80.0	82	264	68.9	80.0	77	254	76.6	80.0	84	266	
	MED	75.0	90.2	96.2	100	109	252	104.0	110	116	264	99.0	100	112	254	106.7	110	119	266		
		–	45.7	60.0	48	256	51.9	60.0	55	268	47.9	60.0	50	258	54.1	60.0	57	270	50.0	60.0	
		30.1	46.9	60.0	48	256	54.6	60.0	55	268	49.6	60.0	50	258	57.4	60.0	57	270	54.6	60.0	
		60.1	69.4	80.0	78	256	77.1	80.0	85	268	72.1	80.0	80	258	79.9	80.0	87	270	80.0	87	
		75.0	90.2	99.5	110	112	256	107.2	125	119	268	102.2	110	115	258	110.0	125	122	270	110.0	122
575 – 3 – 60	HIGH	25.0	30.1	46.9	60.0	49	257	53.1	60.0	56	269	49.1	60.0	52	259	55.3	60.0	59	271	50.0	60.0
		60.1	69.4	80.0	78	257	56.1	60.0	56	269	51.1	60.0	52	259	58.9	60.0	59	271	54.6	60.0	
		75.0	90.2	101.0	114	114	257	108.7	125	121	269	103.7	125	116	259	111.5	125	123	271	111.5	123
		–	32.1	40.0	33	188	36.9	45.0	39	196	33.8	45.0	35	190	38.6	50.0	41	198	41.4	50.0	
		24.8	23.9	33.4	40.0	33	188	39.4	45.0	39	196	35.5	45.0	35	190	41.5	50.0	41	198	45.0	50.0
	STD	49.6	47.7	63.1	70.0	58	188	69.1	70.0	64	196	65.3	70.0	60	190	71.3	80.0	66	198	74.8	80.0
		74.4	71.6	75.1	80	86	188	81.1	91	196	77.2	80	88	190	83.2	90	93	198	83.2	90	
		–	34.9	45.0	37	202	39.7	50.0	42	210	36.6	45.0	39	204	41.4	50.0	44	212	41.4	50.0	
		24.8	23.9	36.9	45.0	37	202	42.9	50.0	42	210	39.0	45.0	39	204	45.0	50.0	44	212	45.0	50.0
		49.6	47.7	66.6	70.0	61	202	72.6	80.0	67	210	68.8	70.0	63	204	74.8	80.0	69	212	74.8	80.0
HIGH	MED	74.4	71.6	78.6	90	89	202	84.6	90	94	210	80.7	90	91	204	86.7	90	96	212	86.7	90
		–	36.9	45.0	39	200	41.7	50.0	44	208	38.6	50.0	41	202	43.4	50.0	46	210	43.4	50.0	
		24.8	23.9	39.4	45.0	39	200	45.4	50.0	44	208	41.5	50.0	41	202	47.5	50.0	46	210	47.5	50.0
		49.6	47.7	69.1	70.0	64	200	75.1	80.0	69	208	71.3	80.0	66	202	77.3	80.0	71	210	77.3	80.0
		74.4	71.6	81.1	90	91	200	87.1	90	97	208	83.2	90	93	202	89.2	90	98	210	89.2	90

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 42 – 50TC-D24

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

		ELECTRIC HEATER		NO P.E.		W/ P.E. (Pwrd fr/unit)		NO C.O. or UNPWR C.O.		W/ PWRD C.O.				
NOM. V-Ph-Hz	IFM TYPE	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		
				FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	
18.8/25.0	STD	52.1/60.1	–	110.6	150.0	113	534	122.4	150.0	127	554	115.4	150.0	
37.6/50.0	STD	104.2/120.3	110.6/110.6	150/150	113/113	534/534	122.4/122.4	150/150	127/127	554/554	115.4/115.4	150/150	119	539
56.3/75.0	STD	156.4/180.4	149.9/139.1	150/175	137/156	534/534	163.8/153.8	175/175	151/169	554/554	155.0/145.1	175/175	143/161	539/539
18.8/25.0	MED	52.1/60.1	112.7	150.0	116	536	124.5	150.0	129	556	117.5	150.0	121	541
37.6/50.0	MED	104.2/120.3	151.6/141.7	150/150	116/116	536/536	124.5/124.5	150/150	129/129	556/556	117.5/117.5	150/150	121/121	541/541
56.3/75.0	MED	156.4/180.4	175.2/199.2	200/225	197/225	534/534	189.9/213.9	200/250	211/238	554/554	181.2/205.2	200/225	203/230	539/539
18.8/25.0	HIGH	52.1/60.1	112.7/112.7	150/150	116/116	536/536	124.5/124.5	150/150	129/129	556/556	117.5/117.5	150/150	121/121	541/541
37.6/50.0	HIGH	104.2/120.3	151.6/141.7	175/175	139/158	536/536	166.4/156.4	175/175	153/172	556/556	157.6/147.7	175/175	145/164	541/541
56.3/75.0	HIGH	156.4/180.4	177.8/201.8	200/225	200/225	536/536	192.5/216.5	200/250	213/241	556/556	183.8/207.8	200/225	205/233	541/541
18.8/25.0	STD	52.1/60.1	124.1	150.0	129	615	135.9	175.0	142	635	128.9	175.0	134	620
37.6/50.0	STD	104.2/120.3	165.9/155.9	175/175	153/171	615/615	135.9/135.9	175/175	142/142	635/635	128.9/128.9	175/175	134/134	620/620
56.3/75.0	STD	156.4/180.4	192.0/216.0	200/250	213/240	615/615	180.6/170.7	200/175	166/185	635/635	171.9/161.9	175/175	158/177	620/620
25.0	STD	49.0	60.0	51	269	55.2	60.0	58	281	51.2	60.0	53	271	57.4
60.1	STD	60.1	69.4	80.0	51	269	55.2	60.0	58	281	51.2	60.0	53	271
75.0	STD	90.2	99.5	110	112	269	78	77.1	80.0	85	281	72.1	80.0	80
90.2	STD	101.0	114	270	52	270	56.4	70.0	59	282	52.4	60.0	55	272
101.0	STD	102.0	60.0	52	270	56.4	70.0	59	282	52.4	60.0	55	272	56.9
109.0	STD	70.9	80.0	79	270	78.6	80.0	86	282	73.6	80.0	82	272	81.4
110.0	STD	101.0	114	270	108.7	125	121	282	103.7	125	116	272	111.5	125
114	STD	110	59	310	62.1	80.0	66	322	58.1	70.0	61	312	64.3	80.0
114	STD	110	59	310	63.3	80.0	66	322	58.3	70.0	61	312	66.0	80.0
114	STD	110	59	310	63.3	80.0	66	322	58.3	70.0	61	312	66.0	80.0
120	STD	108.1	78.0	90.0	86	310	85.7	90.0	93	322	80.7	90.0	88	312
120	STD	108.1	125	310	115.8	125	127	322	110.8	125	123	312	118.6	125
125	STD	108.1	38.6	50.0	40	224	43.4	50.0	46	232	40.3	50.0	42	226
125	STD	108.1	38.6	50.0	40	224	43.4	50.0	46	232	40.3	50.0	42	226
125	STD	108.1	66.6	70.0	61	224	72.6	80.0	67	232	68.8	70.0	63	226
125	STD	108.1	78.6	90	89	224	84.6	90	94	232	80.7	90	91	226
125	STD	108.1	40.6	50.0	42	222	45.4	60.0	48	230	42.3	50.0	44	224
125	STD	108.1	40.6	50.0	42	222	45.4	60.0	48	230	42.3	50.0	44	224
125	STD	108.1	69.1	70.0	64	222	75.1	80.0	69	230	71.3	80.0	66	224
125	STD	108.1	81.1	90	91	222	87.1	90	97	230	83.2	90	93	224
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD	108.1	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90	93
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	42.5	50.0	45	249	47.3	60.0	50	257	44.2	50.0	47	251
125	STD	108.1	71.5	80.0	66	249	77.5	80.0	71	257	73.6	80.0	68	251
125	STD	108.1	83.5	90	93	249	89.5	100	99	257	85.6	90	95	251
125	STD													

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 43 – 50TC-D28

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER		NO P.E.						NO C.O. or UNPWR C.O.						W/ PWRD C.O.					
		Nom (kW)	FLA	MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE			
				FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA				
208/ 230 – 3 – 60	STD	–	–	129.2	175.0	135	584	141.0	175.0	148	604	134.0	175.0	140	569	145.8	175.0	154	609		
		18.8/25.0	52.1/60.1	128.2/129.2	175/175	135/135	584/584	141.0/141.0	175/175	148/148	604/604	134.0/134.0	175/175	140/140	569/589	145.8/145.8	175/175	154/154	609/609		
		37.6/50.0	104.2/120.3	149.0/139.1	175/175	137/156	584/584	163.8/153.8	175/175	151/169	604/604	155.0/145.1	175/175	143/161	589/589	159.8/159.8	175/175	156/175	609/609		
		56.3/75.0	156.4/180.4	175.2/199.2	200/225	197/225	584/584	189.9/213.9	200/250	211/238	604/604	181.2/205.2	200/225	203/230	589/589	195.9/219.9	200/250	216/244	609/609		
		–	131.3	175.0	137	586	143.1	175.0	151	606	136.1	175.0	143	591	147.9	175.0	156	611			
		18.8/25.0	52.1/60.1	131.3/131.3	175/175	137/137	586/586	143.1/143.1	175/175	151/151	606/606	136.1/136.1	175/175	143/143	591/591	147.9/147.9	175/175	156/156	611/611		
460 – 3 – 60	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	586/586	166.4/156.4	175/175	153/172	606/606	157.6/147.7	175/175	145/164	591/591	172.4/162.4	175/175	156/177	611/611		
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	586/586	192.5/216.5	200/250	213/241	606/606	183.8/207.8	200/225	205/233	591/591	198.5/222.5	200/250	219/246	611/611		
		–	142.7	175.0	150	665	154.5	200.0	184	685	147.5	175.0	156	670	159.3	200.0	169	690			
		18.8/25.0	52.1/60.1	142.7/142.7	175/175	150/150	665/665	154.5/154.5	200/200	164/164	685/685	147.5/147.5	175/175	156/156	670/670	159.3/159.3	200/200	169/169	690/690		
		37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/200	166/185	685/685	171.9/161.9	175/175	158/177	670/670	186.6/176.7	200/200	172/190	690/690		
		56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	665/665	206.8/230.8	225/250	226/254	685/685	198.0/222.0	225/250	218/246	670/670	212.8/236.8	225/250	232/259	690/690		
575 – 3 – 60	HIGH	–	52.9	60.0	55	299	59.1	70.0	63	311	55.1	60.0	58	301	61.3	70.0	65	313			
		25.0	30.1	52.9	60.0	55	299	59.1	70.0	63	311	55.1	60.0	58	301	61.3	70.0	65	313		
		STD	60.1	69.4	80.0	78	299	77.1	80.0	85	311	72.1	80.0	80	301	79.9	80.0	87	313		
		75.0	90.2	99.5	110	112	299	107.2	125	119	311	102.2	110	115	301	110.0	125	122	313		
		–	–	54.1	60.0	57	300	60.3	70.0	64	312	56.3	70.0	59	302	62.5	80.0	66	314		
		30.1	44.1	60.0	60.0	57	300	60.3	70.0	64	312	56.3	70.0	59	302	62.5	80.0	66	314		
575 – 3 – 60	MED	50.0	60.1	70.9	80.0	79	300	78.6	80.0	86	312	73.6	80.0	82	302	81.4	90.0	90	314		
		75.0	90.2	101.0	114	114	300	108.7	125	121	312	103.7	125	116	302	111.5	125	123	314		
		–	–	59.8	70.0	63	340	66.0	80.0	70	352	62.0	80.0	66	342	68.2	80.0	73	354		
		25.0	30.1	59.8	70.0	63	340	66.0	80.0	70	352	62.0	80.0	66	342	68.2	80.0	73	354		
		HIGH	60.1	78.0	90.0	86	340	85.7	90.0	93	352	80.7	90.0	88	342	88.5	100.0	95	354		
		75.0	90.2	108.1	125	120	340	115.8	125	127	352	110.8	125	123	342	118.6	125	130	354		
575 – 3 – 60	STD	–	–	41.1	50.0	43	244	45.9	60.0	49	252	42.8	50.0	45	246	47.6	60.0	50	254		
		24.8	23.9	41.1	50.0	43	244	45.9	60.0	49	252	42.8	50.0	45	246	47.6	60.0	50	254		
		49.6	47.7	66.6	70.0	61	244	72.6	80.0	67	252	68.8	70.0	63	246	74.8	80.0	69	254		
		74.4	71.6	81.1	90	91	242	87.1	90	97	250	83.2	90	93	244	89.2	90	99	252		
		–	–	45.0	50.0	47	269	49.8	60.0	53	277	46.7	60.0	49	271	51.5	60.0	55	279		
		24.8	23.9	43.1	50.0	45	242	47.9	60.0	51	250	44.8	50.0	47	244	49.6	60.0	53	252		
575 – 3 – 60	MED	49.6	47.7	69.1	70.0	64	242	75.1	80.0	69	250	71.3	80.0	66	244	77.3	80.0	71	252		
		74.4	71.6	81.1	90	91	242	87.1	90	97	250	83.2	90	93	244	89.2	90	99	252		
		–	–	45.0	50.0	47	269	49.8	60.0	53	277	46.7	60.0	49	271	51.5	60.0	55	279		
		24.8	23.9	43.1	50.0	47	269	49.8	60.0	53	277	46.7	60.0	49	271	51.5	60.0	55	279		
HIGH	49.6	47.7	71.5	80.0	66	269	77.5	80.0	71	277	73.6	80.0	68	271	79.6	80.0	73	279			
		74.4	71.6	83.5	90	93	269	89.5	100	99	277	85.6	90	95	271	91.6	100	101	279		

ELECTRICAL INFORMATION (UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 44 – 50TC-D30

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR

Nom. V-Ph-Hz	IFM Type	ELECTRIC HEATER		NO P.E.						NO C.O. or UNPWR C.O.						W/ PWRD C.O.								
		Nom (kW)	FLA	MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR		DISC. SIZE		MAX FUSE or HACR BRKR				
				MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA			
208/ 230 – 3 – 60	STD	–	–	141.5	175.0	148	702	153.3	200.0	162	722	146.3	175.0	154	707	158.1	200.0	167	727	167/167	727/727			
		18.8/25.0	52.1/60.1	141.5/141.5	175/175	148/148	702/702	159.3/153.3	200/200	162/162	722/722	146.3/146.3	175/175	154/154	707/707	158.1/158.1	200/200	167/167	727/727	167/167	727/727			
		37.6/50.0	104.2/120.3	151.6/141.7	175/175	148/158	702/702	156.4/156.4	200/200	162/172	722/722	157.6/147.7	175/175	154/164	707/707	172.4/162.4	200/200	167/177	727/727	167/177	727/727			
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	702/702	152.5/216.5	200/250	213/241	722/722	183.8/207.8	200/225	205/233	707/707	188.5/222.5	200/250	219/246	727/727	219/246	727/727			
		–	152.9	200.0	161	781	164.7	200.0	175	801	157.7	200.0	167	786	169.5	200.0	180	806	180	200/200	180/180			
		18.8/25.0	52.1/60.1	152.9/152.9	200/200	161/161	781/781	164.7/164.7	200/200	175/175	801/801	157.7/157.7	200/200	167/167	786/786	169.5/169.5	200/200	180/180	180/180	200/200	180/180			
		37.6/50.0	104.2/120.3	165.9/155.9	200/250	161/171	781/781	180.6/170.7	200/200	175/185	801/801	171.9/161.9	200/200	167/177	786/786	186.6/176.7	200/200	186/190	200/200	186/190	200/200			
		56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	781/781	206.8/230.8	225/250	226/254	801/801	198.0/222.0	225/250	218/246	786/786	212.8/236.8	225/250	232/259	200/200	232/259	200/200			
		–	154.8	200.0	163	812	166.6	200.0	177	832	159.6	200.0	169	817	171.4	200/0	182	837	182	200/200	182/182			
		18.8/25.0	52.1/60.1	154.8/154.8	200/200	163/163	812/812	156.6/166.6	200/200	177/177	832/832	159.6/159.6	200/200	169/169	817/817	171.4/171.4	200/200	182/182	182/182	200/200	182/182			
56.3/75.0	HIGH	37.6/50.0	104.2/120.3	168.3/158.3	200/200	163/173	812/812	158.0/173.1	200/200	177/187	832/832	174.3/164.3	200/200	169/179	817/817	189.0/179.1	200/200	182/192	182/192	200/200	182/192			
		56.3/75.0	156.4/180.4	194.4/218.4	225/250	215/242	812/812	209.2/233.2	225/250	228/256	832/832	200/4/224.4	225/250	220/248	817/817	215.2/239.2	225/250	234/262	200/200	234/262	200/200			
		–	66.0	80.0	69	354	72.2	90.0	76	366	68.2	90.0	72	356	74.4	90.0	79	368	79	200/200	182/182			
		25.0	30.1	66.0	80.0	69	354	72.2	90.0	76	366	68.2	90.0	72	356	74.4	90.0	79	368	79	200/200	182/182		
		STD	50.0	60.1	70.9	80.0	79	354	78.6	90.0	86	366	73.6	90.0	82	356	81.4	90.0	89	368	89	200/200	182/182	
		75.0	90.2	101.0	110	114	354	108.7	125	121	366	103.7	125	116	356	111.5	125	123	123	123	123	200/200	182/182	
		–	–	71.7	90.0	76	394	77.9	100.0	83	406	73.9	90.0	78	396	80.1	100.0	85	85	85	85	200/200	182/182	
		25.0	30.1	71.7	90.0	76	394	77.9	100.0	83	406	73.9	90.0	78	396	80.1	100.0	85	85	85	85	200/200	182/182	
		50.0	60.1	78.0	90.0	86	394	85.7	100.0	93	406	80.7	90.0	88	396	88.5	100.0	95	95	95	95	200/200	182/182	
		75.0	90.2	108.1	125	120	394	115.8	125	127	406	110.8	125	123	396	118.6	125	130	130	130	130	200/200	182/182	
575–3–60	HIGH	25.0	30.1	72.6	90.0	77	409	78.8	100.0	84	421	74.8	90.0	79	411	81.0	100.0	86	86	86	86	200/200	182/182	
		50.0	60.1	79.1	90.0	87	409	86.9	100.0	94	421	81.9	90.0	89	411	89.6	100.0	96	96	96	96	200/200	182/182	
		75.0	90.2	109.2	125	121	409	117.0	125	128	421	112.0	125	124	411	119.7	125	131	131	131	131	200/200	182/182	
		–	–	56.0	70.0	59	264	60.8	80.0	64	272	57.7	70.0	61	266	62.5	80.0	66	66	66	66	200/200	182/182	
		24.8	23.9	56.0	70.0	59	264	60.8	80.0	64	272	57.7	70.0	61	266	62.5	80.0	66	66	66	66	200/200	182/182	
		STD	49.6	47.7	69.1	70.0	64	264	75.1	80.0	69	272	71.3	80.0	66	266	77.3	80.0	71	71	71	71	200/200	182/182
		74.4	71.6	81.1	90	91	264	87.1	90	97	272	83.2	90	93	266	89.2	90	99	99	99	99	200/200	182/182	
		–	–	57.9	70.0	61	291	62.7	80.0	66	299	59.6	70.0	63	293	64.4	80.0	68	68	68	68	200/200	182/182	
		24.8	23.9	57.9	70.0	61	291	62.7	80.0	66	299	59.6	70.0	63	293	64.4	80.0	68	68	68	68	200/200	182/182	
		49.6	47.7	71.5	80.0	66	291	77.5	80.0	71	299	73.6	80.0	68	293	79.6	80.0	73	73	73	73	200/200	182/182	
575–3–60	HIGH	74.4	71.6	83.5	90	93	291	89.5	100	99	299	85.6	90	95	293	91.6	100	101	101	101	101	200/200	182/182	
		–	–	60.8	80.0	64	302	65.6	80.0	70	310	62.5	80.0	66	304	67.3	80.0	72	72	72	72	200/200	182/182	
		24.8	23.9	60.8	80.0	64	302	65.6	80.0	70	310	62.5	80.0	66	304	67.3	80.0	72	72	72	72	200/200	182/182	
		49.6	47.7	75.1	80.0	69	302	81.1	90.0	75	310	77.3	80.0	71	304	83.3	90.0	77	77	77	77	200/200	182/182	
		74.4	71.6	87.1	100	97	302	93.1	100	102	310	89.2	100	99	304	95.2	100	104	104	104	104	200/200	182/182	

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 45 – 50TC-D17

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER		NO P.E.				W/ P.E. (Pwrd fr/unit)				NO P.E.				W/ P.E. (Pwrd fr/unit)			
		Nom (kW)	FLA	MAX FUSE or HACR BKR		DISC. SIZE		MAX FUSE or HACR BKR		DISC. SIZE		MAX FUSE or HACR BKR		DISC. SIZE		MAX FUSE or HACR BKR		DISC. SIZE	
				MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA
18.8/25.0	STD	–	–	80.2/79.4	100/100	84/83	482	92.0/91.2	100/100	97/96	502	85.0/84.2	100/100	89/88	487	96.8/96.0	125/125	103/102	507
37.6/50.0	STD	52.1/60.1	80.2/84.9	100/100	84/83	482/482	92.0/99.6	100/100	97/96	502/502	85.0/90.9	100/100	89/88	487/487	96.8/105.6	125/125	103/102	507/507	
56.3/75.0	STD	104.2/120.3	141.0/130.1	150/150	130/147	482/482	155.8/144.8	175/150	143/161	502/502	147.0/136.1	150/150	135/153	487/487	161.8/150.8	175/175	149/166	507/507	
18.8/25.0	MED	156.4/180.4	167.2/190.2	200/200	190/216	482/482	181.9/204.9	200/225	203/230	502/502	173.2/196.2	200/225	195/222	487/487	187.9/210.9	200/225	209/236	507/507	
208/230 – 3-60	MED	82.4/81.4	100/100	86/85	506	94.2/93.2	110/110	100/99	526	87.2/86.2	100/100	92/91	511	99.0/98.0	125/125	105/104	531		
18.8/25.0	HIGH	52.1/60.1	82.4/87.4	100/100	86/85	506/506	94.2/102.1	110/110	100/99	526/526	87.2/93.4	100/100	92/91	511/511	99.4/108.1	125/125	105/104	531/531	
37.6/50.0	HIGH	104.2/120.3	143.8/132.6	150/150	132/150	506/506	158.5/147.3	175/175	146/163	526/526	149.8/138.6	150/150	138/155	511/511	164.5/153.3	175/175	151/169	531/531	
56.3/75.0	HIGH	156.4/180.4	169.9/192.7	200/225	192/219	506/506	184.7/207.4	200/225	206/232	526/526	175.9/198.7	200/225	198/224	511/511	190.7/213.4	200/225	211/238	531/531	
18.8/25.0	HIGH	85.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1	100/100	95/94	522	101.8/100.9	125/125	108/107	542		
37.6/50.0	HIGH	85.2/91.0	100/100	89/88	517/517	97.0/105.8	125/125	103/102	537/537	90.0/97.0	100/100	95/94	522/522	102.9/111.8	125/125	108/107	542/542		
56.3/75.0	HIGH	104.2/120.3	147.3/136.2	150/150	135/153	517/517	162.0/150.9	175/175	149/167	537/537	153.3/142.2	175/175	141/158	522/522	168.0/156.9	175/175	155/172	542/542	
25.0	STD	–	–	42.1	50	44	242	48.3	60	51	254	44.3	60	46	244	50.5	60	53	256
50.0	STD	30.1	42.4	50	44	242	50.1	60	51	254	45.1	60	46	244	52.9	60	53	256	
75.0	STD	60.1	64.9	70	73	242	72.6	80	81	254	67.6	80	76	244	75.4	80	83	256	
75.0	STD	90.2	95.0	100	108	242	102.7	110	115	254	97.7	100	111	244	105.5	110	118	256	
75.0	MED	30.1	43.2	50	45	254	49.4	60	52	266	45.4	60	47	256	51.6	60	55	268	
75.0	MED	60.1	63.8	50	45	254	51.5	60	52	266	46.5	60	47	256	54.3	60	55	268	
75.0	HIGH	30.1	43.8	80	75	254	74.0	80	82	266	69.0	80	77	256	76.7	80	84	268	
75.0	HIGH	60.1	66.2	100	109	254	104.1	110	116	266	99.1	100	112	256	106.8	110	119	268	
75.0	HIGH	90.2	96.3	100	109	259	50.9	60	54	271	46.9	60	49	261	53.1	60	56	273	
75.0	HIGH	120.3	144.7	60	47	259	53.4	60	54	271	48.4	60	49	261	56.1	60	56	273	
75.0	HIGH	156.4/180.4	173.4/196.3	200/225	196/222	517/517	188.2/211.0	200/225	209/236	537/537	179.4/202.3	200/225	201/228	522/522	194.2/217.0	200/250	215/241	542/542	
75.0	STD	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
75.0	STD	24.8	33.8	45	35	188	38.6	50	41	196	35.5	45	37	190	40.3	50	43	198	
75.0	STD	49.6	47.7	65.3	70	60	188	41.5	50	41	196	37.6	45	37	190	43.6	50	43	198
75.0	STD	74.4	71.6	77.2	90	88	188	83.2	90	93	196	67.4	70	62	190	73.4	80	68	198
75.0	STD	74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	198
75.0	STD	74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	198
575-3-60	MED	24.8	23.9	35.5	45	35	188	38.6	50	41	196	35.5	45	37	190	40.3	50	43	198
575-3-60	MED	49.6	47.7	65.3	70	60	188	41.5	50	41	196	37.6	45	37	190	43.6	50	43	198
575-3-60	MED	74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	198
575-3-60	HIGH	24.8	23.9	37.6	45	37	202	40.3	50	43	210	37.2	45	39	204	45.8	50	45	212
575-3-60	HIGH	49.6	47.7	67.4	70	62	202	43.6	50	43	210	39.8	45	39	204	75.5	80	69	212
575-3-60	HIGH	74.4	71.6	79.4	90	89	202	85.4	90	95	210	81.5	90	91	204	87.5	90	97	212

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 46 – 50TC-D20

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

		ELECTRIC HEATER				NO P.E.				W/ P.E. (Pwrd fr/unit)				NO P.E.				W/ P.E. (Pwrd fr/unit)					
		NO C.O. or UNPWR C.O.		MAX FUSE or HACR BRKR		DISC. SIZE		MCA		MAX FUSE or HACR BRKR		DISC. SIZE		MCA		MAX FUSE or HACR BRKR		DISC. SIZE		MCA			
NOM. V-Ph-Hz	IFM TYPE	Nom (kW)	FLA	MCA	FLA	LRA	FLA	MCA	FLA	LRA	FLA	LRA	FLA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA
208/ 230 – 3 – 60	STD	–	–	82.4/81.4	100/100	86/85	506	94.2/93.2	110/110	100/99	526	87.2/86.2	100/100	92/91	511	99.0/98.0	125/125	105/104	531/531	531/531	531/531	531/531	
		18.8/25.0	52.1/60.1	82.4/81.4	100/100	86/85	506	90.2/102.1	110/110	100/99	526	87.2/93.4	100/100	92/91	511	99.4/108.1	125/125	105/104	531/531	531/531	531/531	531/531	
		37.6/50.0	104.2/120.3	143.8/132.6	150/150	132/150	506/506	158.5/147.3	175/175	146/163	526/526	149.8/138.6	150/150	138/155	511	164.5/153.3	175/175	151/169	531/531	531/531	531/531	531/531	
		56.3/75.0	156.4/180.4	169.9/192.7	200/225	192/219	506/506	184.7/207.4	200/225	206/232	526/526	175.9/198.7	200/225	198/224	511	190.7/213.4	200/225	211/238	531/531	531/531	531/531	531/531	
		–	85.2/84.3	100/100	89/88	517	97.0/96.1	125/125	103/102	537	90.0/89.1	100/100	95/94	522	101.8/100.9	125/125	108/107	542/542	542/542	542/542	542/542		
	MED	18.8/25.0	52.1/60.1	85.2/91.0	100/100	89/88	517/517	97.0/105.8	125/125	103/102	537/537	90.0/97.0	100/100	95/94	522/522	102.9/111.8	125/125	108/107	542/542	542/542	542/542	542/542	
		37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	517/517	162.0/150.9	175/175	149/167	537/537	155.3/142.2	175/175	141/158	522/522	168.0/156.9	175/175	156/172	542/542	542/542	542/542	542/542	
		56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	517/517	188.2/211.0	209/236	209/225	537/537	179.4/202.3	200/225	201/228	522/522	194.2/217.0	200/250	215/241	542/542	542/542	542/542	542/542	
		–	88.7	100	93	513	100/5	125	107	533	93.5	110	99	518	105.3	125	112	538/538	538/538	538/538	538/538		
		18.8/25.0	52.1/60.1	88.7/96.5	100/100	93/93	513/513	101.3/111.3	125/125	107/107	533/533	93.5/102.5	110/110	99/99	518/518	107.3/117.3	125/125	112/112	538/538	538/538	538/538	538/538	
56.3/75.0	HIGH	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	513/513	166.4/156.4	175/175	153/172	533/533	157.6/147.7	175/175	145/164	518/518	172.4/162.4	175/175	159/177	538/538	538/538	538/538	538/538	
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	199/227	513/513	192.5/216.5	200/250	213/241	533/533	163.8/207.8	200/225	205/233	518/518	198.5/222.5	200/250	219/246	538/538	538/538	538/538	538/538	
		–	43.2	50	45	254	49.4	60	52	266	45.4	60	47	256	51.6	60	55	268/268	268/268	268/268	268/268		
		25.0	30.1	43.8	50	45	254	51.5	60	52	266	46.5	60	47	256	54.3	60	55	268/268	268/268	268/268	268/268	
		STD	50.0	60.1	66.2	80	75	254	74.0	80	82	266	69.0	80	77	256	76.7	80	84	268/268	268/268	268/268	268/268
	MED	75.0	90.2	96.3	100	109	254	104.1	110	116	266	99.1	100	112	256	106.8	110	119	268/268	268/268	268/268	268/268	
		–	44.7	60	47	259	50.9	60	54	271	46.9	60	49	261	53.1	60	56	273/273	273/273	273/273	273/273		
		30.1	45.6	60	47	259	53.4	60	54	271	48.4	60	49	261	56.1	60	56	273/273	273/273	273/273	273/273		
		60.1	68.1	80	76	259	106.0	125	118	271	101.0	110	114	261	108.7	125	121	273/273	273/273	273/273	273/273		
		75.0	90.2	98.2	100	111	259	125	118	271	269	49.1	60	52	259	55.3	60	59	271/271	271/271	271/271	271/271	
460 – 3 – 60	HIGH	25.0	30.1	46.9	60	49	257	53.1	60	56	269	51.1	60	52	259	58.9	60	59	271/271	271/271	271/271	271/271	
		60.1	68.1	80	76	259	80	84	271	70.9	80	79	261	78.6	80	86	273/273	273/273	273/273	273/273			
		75.0	90.2	98.2	100	111	259	106.0	125	118	271	101.0	110	114	261	108.7	125	121	273/273	273/273	273/273	273/273	
		80.1	101.0	114	114	257	108.7	125	121	269	103.7	125	116	259	111.5	125	123	271/271	271/271	271/271	271/271		
		–	33.8	45	35	188	38.6	50	41	196	35.5	45	37	190	40.3	50	43	198/198	198/198	198/198	198/198		
	STD	24.8	23.9	35.5	45	35	188	41.5	50	41	196	37.6	45	37	190	43.6	50	43	198/198	198/198	198/198	198/198	
		49.6	47.7	65.3	70	60	188	71.3	80	66	196	67.4	70	62	190	73.4	80	68	198/198	198/198	198/198	198/198	
		74.4	71.6	77.2	90	88	188	83.2	90	93	196	79.4	90	89	190	85.4	90	95	198/198	198/198	198/198	198/198	
		–	35.5	45	37	202	40.3	50	43	210	37.2	45	39	204	42.0	50	45	212/212	212/212	212/212	212/212		
		24.8	23.9	37.6	45	37	202	43.6	50	43	210	39.8	45	39	204	45.8	50	45	212/212	212/212	212/212	212/212	
575 – 3 – 60	MED	49.6	47.7	67.4	70	62	202	73.4	80	68	210	69.5	70	64	204	75.5	80	69	212/212	212/212	212/212	212/212	
		74.4	71.6	79.4	90	89	202	85.4	90	95	210	81.5	90	91	204	87.5	90	97	212/212	212/212	212/212	212/212	
		–	36.9	45	39	200	41.7	50	44	208	38.6	50	41	202	43.4	50	46	210/210	210/210	210/210	210/210		
		24.8	23.9	39.4	45	39	200	45.4	50	44	208	41.5	50	41	202	47.5	50	46	210/210	210/210	210/210	210/210	
		49.6	47.7	69.1	70	64	200	75.1	80	69	208	71.3	80	66	202	77.3	80	71	210/210	210/210	210/210	210/210	
HIGH	74.4	71.6	81.1	90	91	200	87.1	90	97	208	83.2	90	93	202	89.2	90	99	210/210	210/210	210/210	210/210		
		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 47 – 50TC-D24

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER		NO P.E.		W/ P.E. (pwrdf fr/unit)		NO P.E.		W/ P.E. (pwrdf fr/unit)		w/ PWRD C.O.	
		Nom (kW)	FLA	MCA	MAX FUSE or HACR BKR		FLA	LRA	MCA	MAX FUSE or HACR BKR		FLA	LRA
					DISC. SIZE	DISC. SIZE				FLA	LRA		
208/ 230 – 3 – 60	STD	–	–	109.2/108.3	150/150	112/111	54.0	121.0/120.1	150/150	125/124	56.0	114.0/113.1	150/150
		18.6/25.0	52.1/60.1	109.2/108.3	150/150	112/111	54.0/54.0	121.0/120.1	150/150	125/124	56.0/56.0	114.0/113.1	150/150
		37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	54.0/54.0	162.9/150.9	175/175	149/167	56.0/56.0	153.3/142.2	175/175
		56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	54.0/54.0	188.2/211.0	200/225	209/236	56.0/56.0	179.4/202.3	200/225
		–	–	112.7	150	116	53.6	124.5	150	129	55.6	117.5	150
	MED	18.8/25.0	52.1/60.1	112.7/112.7	150/150	116/116	53.6/53.6	124.5/124.5	150/150	129/129	55.6/55.6	117.5/117.5	150/150
		37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	53.6/53.6	166.4/156.4	175/175	153/172	55.6/55.6	157.6/147.7	175/175
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	53.6/53.6	192.5/216.5	200/250	213/241	55.6/55.6	183.8/207.8	200/225
		–	–	124.1	150	129	61.5	135.9	175	142	63.5	128.9	175
HIGH		18.8/25.0	52.1/60.1	124.1/124.1	150/150	129/129	61.5/61.5	135.9/135.9	175/175	142/142	63.5/63.5	128.9/128.9	175/175
		37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	61.5/61.5	180.6/170.7	200/175	166.1/185	63.5/63.5	171.9/161.9	175/175
		56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	61.5/61.5	206.8/230.8	225/250	226/254	63.5/63.5	198.0/222.0	225/250
		–	–	48.0	60	50	27.2	54.2	60	57	28.4	50.2	60
	STD	25.0	30.1	48.0	60	50	27.2	54.2	60	57	28.4	50.2	60
		60.1	68.1	80	76	72	75.9	80	84	284	70.9	80	79
		75.0	90.2	100	111	272	106.0	125	118	284	101.0	110	114
		–	–	50.2	60	52	270	56.4	70	59	282	52.4	60
	MED	25.0	30.1	50.2	60	52	270	56.4	70	59	282	52.4	60
		50.0	60.1	70.9	80	79	270	78.6	80	86	282	73.6	80
		75.0	90.2	101.0	114	270	108.7	125	121	282	103.7	125	116
		–	–	55.9	70	59	310	62.1	80	66	322	58.1	70
	HIGH	25.0	30.1	55.9	70	59	310	63.3	80	66	322	58.3	70
		60.1	78.0	90	86	310	85.7	90	93	322	80.7	90	88
		75.0	90.2	108.1	125	120	310	115.8	125	127	322	110.8	125
		–	–	39.2	50	41	224	44.0	50	46	232	40.9	50
	STD	24.8	23.9	39.2	50	41	224	44.0	50	46	232	40.9	50
		49.6	47.7	70	62	224	73.4	80	68	232	69.5	70	64
		74.4	71.6	79.4	90	89	224	85.4	90	95	232	81.5	90
		–	–	40.6	50	42	222	45.4	60	48	230	42.3	50
	MED	24.8	23.9	40.6	50	42	222	45.4	60	48	230	42.3	50
		49.6	47.7	69.1	70	64	222	75.1	80	69	230	71.3	80
		74.4	71.6	81.1	90	91	222	87.1	90	97	230	83.2	90
		–	–	42.5	50	45	249	47.3	60	50	257	44.2	50
	HIGH	24.8	23.9	42.5	50	45	249	47.8	60	50	257	44.2	50
		49.6	47.7	71.5	80	66	249	77.5	80	71	257	73.6	80
		74.4	71.6	83.5	90	93	249	89.5	100	99	257	85.6	90
		–	–	–	–	–	–	–	–	–	–	95	251
												100	101

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 48 – 50TC-D28

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

Nom. V-Ph-Hz	IFM Type	ELECTRIC HEATER		NO P.E.				W/ P.E. (Pwrd fr/unit)				NO P.E.				W/ P.E. (Pwrd fr/unit)						
		Nom. (kW)	FLA	MAX FUSE or HACR BKR		DISC. SIZE		MCA	MAX FUSE or HACR BKR		DISC. SIZE		MCA	MAX FUSE or HACR BKR		DISC. SIZE		MCA	MAX FUSE or HACR BKR		DISC. SIZE	
				FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA		FLA	LRA	FLA	LRA
208/ 230–3–60	STD	–	–	127.8/126.9	175/175	133/132	590	139.6/138.7	175/175	147/146	61/0	132.6/131.7	175/175	139/138	595	144.4/143.5	175/175	152/151	615/615	615/615	615/615	615/615
		18.8/25.0	52.1/60.1	127.8/126.9	175/175	133/132	590/590	139.6/138.7	175/175	147/146	61/0/610	132.6/131.7	175/175	139/138	595/595	144.4/143.5	175/175	152/151	615/615	615/615	615/615	615/615
		37.6/50.0	104.2/120.3	147.3/136.2	175/175	135/153	590/590	162.9/150.9	175/175	149/167	61/0/610	153.3/142.2	175/175	141/158	595/595	168.0/156.9	175/175	156/172	615/615	615/615	615/615	615/615
		56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	580/590	188.2/211.0	200/225	209/236	61/0/610	178.4/202.3	200/225	201/228	595/595	194.2/217.0	200/250	215/241	615/615	615/615	615/615	615/615
		–	131.3	175	137	586	143.1	175	151	606	136.1	175	143	591	147.9	175	156	611	611	611	611	611
		18.8/25.0	52.1/60.1	131.3/131.3	175/175	137/137	586/586	143.1/143.1	175/175	151/151	606/606	136.1/136.1	175/175	143/143	591/591	147.9/147.9	175/175	156/156	611/611	611/611	611/611	611/611
56.3/75.0	MED	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	586/586	166.4/156.4	175/175	153/172	606/606	157.6/147.7	175/175	145/164	591/591	172.4/162.4	175/175	156/177	611/611	611/611	611/611	611/611
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	199/227	586/586	192.5/216.5	200/250	213/241	606/606	183.8/207.8	200/225	205/233	591/591	198.5/222.5	200/250	219/246	611/611	611/611	611/611	611/611
		–	142.7	175	150	665	154.5	200	184	685	147.5	175	156	670	158.3	200	169	690	690	690	690	690
		18.8/25.0	52.1/60.1	142.7/142.7	175/175	156/150	665/665	154.5/154.5	200/200	164/164	685/685	147.5/147.5	175/175	156/156	670/670	159.3/159.3	200/200	169/169	690/690	690/690	690/690	690/690
		18.8/25.0	52.1/60.1	165.9/155.9	175/175	153/171	665/665	180.9/170.7	200/200	166/185	685/685	171.9/161.9	175/175	158/177	670/670	186.6/176.7	200/200	172/190	690/690	690/690	690/690	690/690
		56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	665/665	206.8/230.8	225/250	226/254	685/685	198.0/222.0	225/250	218/246	670/670	212.8/236.8	225/250	232/259	690/690	690/690	690/690	690/690
460–3–60	STD	–	–	51.9	60	54	302	58.1	70	61	314	54.1	60	57	304	60.3	70	64	316	316	316	316
		25.0	30.1	51.9	60	54	302	58.1	70	61	314	54.1	60	57	304	60.3	70	64	316	316	316	316
		60.1	68.1	80	76	302	75.9	80	84	314	70.9	80	79	304	78.6	80	86	316	316	316	316	
		75.0	90.2	98.2	100	111	302	106.0	125	118	314	101.0	110	114	304	108.7	125	121	316	316	316	316
		–	–	54.1	60	57	300	60.3	70	64	312	56.3	70	59	302	62.5	80	66	314	314	314	314
		30.1	41.1	60	57	300	60.3	70	64	312	56.3	70	59	302	62.5	80	66	314	314	314	314	
575–3–60	HIGH	–	–	59.8	70	63	340	66.0	80	70	352	62.0	80	66	342	68.2	80	73	354	354	354	354
		25.0	30.1	59.8	70	63	340	66.0	80	70	352	62.0	80	66	342	68.2	80	73	354	354	354	354
		60.1	78.0	90	86	340	85.7	90	93	352	80.7	90	88	342	88.5	100	95	354	354	354	354	
		75.0	90.2	108.1	125	120	340	115.8	125	127	352	110.8	125	123	342	118.6	125	130	354	354	354	354
		–	–	41.7	50	44	244	46.5	60	49	252	43.4	50	46	246	48.2	60	51	254	254	254	254
		24.8	23.9	41.7	50	44	244	46.5	60	49	252	43.4	50	46	246	48.2	60	51	254	254	254	254
575–3–60	STD	49.6	47.7	67.4	70	62	244	73.4	80	68	252	69.5	70	64	246	75.5	80	69	254	254	254	254
		74.4	71.6	79.4	90	89	244	85.4	90	95	252	81.5	90	91	246	87.5	90	97	254	254	254	254
		–	–	43.1	50	45	242	47.9	60	51	250	44.8	50	47	244	49.6	60	53	252	252	252	252
		24.8	23.9	43.1	50	45	242	47.9	60	51	250	44.8	50	47	244	49.6	60	53	252	252	252	252
		49.6	47.7	69.1	70	64	242	75.1	80	69	250	71.3	80	66	244	77.3	80	71	252	252	252	252
		74.4	71.6	81.1	90	91	242	87.1	90	97	250	83.2	90	93	244	89.2	90	99	252	252	252	252
HIGH	HIGH	–	–	45.0	50	47	269	49.8	60	53	277	46.7	60	49	271	51.5	60	55	279	279	279	279
		24.8	23.9	45.0	50	47	269	49.8	60	53	277	46.7	60	49	271	51.5	60	55	279	279	279	279
		49.6	47.7	71.5	80	66	269	77.5	80	71	277	73.6	80	68	271	79.6	80	73	279	279	279	279
		74.4	71.6	83.5	90	93	269	89.5	100	99	277	85.6	90	95	271	91.6	100	101	279	279	279	279

ELECTRICAL INFORMATION
(UNITS PRODUCED PRIOR TO JULY 30, 2012) cont.

Table 49 – 50TC-D30

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER		NO P.E.						W/ P.E. (Pwrd fr/unit)						NO P.E.						W/ P.E. (Pwrd fr/unit)					
		Nom (kW)	FLA	MAX FUSE or HACR BKMR		DISC. SIZE		MAX FUSE or HACR BKMR		DISC. SIZE		MAX FUSE or HACR BKMR		DISC. SIZE		MAX FUSE or HACR BKMR		DISC. SIZE		MAX FUSE or HACR BKMR		DISC. SIZE					
				MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA	MCA	LRA	FLA	LRA				
208/ 230–3–60	STD	–	–	141.5	175	148	702	153.3	200	162	722	146.3	175	154	707	158.1	200	167	727	158.1/158.1	200/200	167/167	727/727				
		18.8/25.0	52.1/60.1	141.5/141.5	175/175	148/148	702/702	153.3/153.3	200/200	162/162	722/722	146.3/146.3	175/175	154/154	707/707	158.1/158.1	200/200	167/167	727/727	158.1/158.1	200/200	167/167	727/727				
		37.6/50.0	104.2/120.3	151.6/141.7	175/175	148/158	702/702	156.4/156.4	200/200	162/172	722/722	157.6/147.7	175/175	154/164	707/707	172.4/162.4	200/200	167/167	727/727	172.4/162.4	200/200	167/167	727/727				
		56.3/75.0	156.4/180.4	177.8/201.8	200/225	702/702	152.5/216.5	200/250	213/241	722/722	183.8/207.8	200/225	205/233	707/707	188.5/222.5	200/250	219/246	727/727	188.5/222.5	200/250	219/246	727/727					
		–	152.9	200	161	781	164.7	200	175	801	157.7	200	167	786	169.5	200	180	806	169.5	200/200	180/180	806/806					
	MED	18.8/25.0	52.1/60.1	152.9/152.9	200/200	161/161	781/781	164.7/164.7	200/200	175/175	801/801	157.7/157.7	200/200	167/167	786/786	169.5/169.5	200/200	180/180	806/806	169.5/169.5	200/200	180/180	806/806				
		37.6/50.0	104.2/120.3	165.9/155.9	200/200	161/171	781/781	180.6/170.7	200/200	175/185	801/801	171.9/161.9	200/200	167/177	786/786	186.6/176.7	200/200	180/190	806/806	186.6/176.7	200/200	182/192	806/806				
		56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	781/781	206.8/230.8	205/250	226/254	801/801	198.0/222.0	225/250	218/246	786/786	212.8/236.8	225/250	232/259	806/806	212.8/236.8	225/250	232/259	806/806				
		–	154.8	200	163	812	166.6	200	177	832	159.6	200	169	817	171.4	200	182	837	171.4	200/200	182/182	837/837					
		18.8/25.0	52.1/60.1	154.8/154.8	200/200	163/163	812/812	166.6/166.6	200/200	177/177	832/832	159.6/159.6	200/200	169/169	817/817	171.4/171.4	200/200	182/182	837/837	171.4/171.4	200/200	182/182	837/837				
56.3/75.0	HIGH	104.2/120.3	168.3/158.3	200/200	163/173	812/812	183.0/173.1	200/200	177/187	832/832	174.3/164.3	200/200	169/179	817/817	189.0/179.1	200/200	182/192	837/837	189.0/179.1	200/200	182/192	837/837					
		194.4/218.4	225/250	215/242	80	69	354	72.2	90	76	366	68.2	90	72	356	74.4	90	79	368	74.4	90	79	368				
		30.1	66.0	80	69	354	72.2	90	76	366	68.2	90	72	356	74.4	90	79	368	74.4	90	79	368					
		60.1	70.9	80	79	354	78.6	90	86	366	73.6	90	82	356	81.4	90	89	368	81.4	90	89	368					
		90.2	101.0	110	114	354	108.7	125	121	366	103.7	125	116	356	111.5	125	123	368	111.5	125	123	368					
	MED	–	71.7	90	76	394	77.9	100	83	406	73.9	90	78	396	80.1	100	85	408	80.1	100	85	408					
		30.1	71.7	90	76	394	77.9	100	83	406	73.9	90	78	396	80.1	100	85	408	80.1	100	85	408					
		108.1	125	120	120	394	115.8	125	127	406	110.8	125	123	396	118.6	125	130	408	118.6	125	130	408					
		70.0	72.6	90	77	409	78.8	100	84	421	74.8	90	79	411	81.0	100	86	423	81.0	100	86	423					
		80.1	72.6	90	77	409	78.8	100	84	421	74.8	90	79	411	81.0	100	86	423	81.0	100	86	423					
575–3–60	HIGH	79.1	90	87	409	86.9	100	94	421	81.9	90	89	411	89.6	100	96	423	89.6	100	96	423						
		90.2	109.2	125	121	409	117.0	125	128	421	112.0	125	124	411	119.7	125	131	423	119.7	125	131	423					
		–	56.0	70	59	264	60.8	80	64	272	57.7	70	61	266	62.5	80	66	274	62.5	80	66	274					
		24.8	56.0	70	59	264	60.8	80	64	272	57.7	70	61	266	62.5	80	66	274	62.5	80	66	274					
		47.7	69.1	70	64	264	75.1	80	69	272	71.3	80	66	266	77.3	80	71	274	77.3	80	71	274					
	MED	71.6	81.1	90	91	264	87.1	90	97	272	83.2	90	93	266	89.2	90	99	274	89.2	90	99	274					
		–	57.9	70	61	291	62.7	80	66	299	59.6	70	63	293	64.4	80	68	301	64.4	80	68	301					
		23.9	57.9	70	61	291	62.7	80	66	299	59.6	70	63	293	64.4	80	68	301	64.4	80	68	301					
		47.7	71.5	80	66	291	77.5	80	71	299	73.6	80	68	293	79.6	80	73	301	79.6	80	73	301					
		74.4	83.5	90	93	291	89.5	100	99	299	85.6	90	95	293	91.6	100	101	301	91.6	100	101	301					
HIGH	HIGH	–	60.8	80	64	302	65.6	80	70	310	62.5	80	66	304	67.3	80	72	312	67.3	80	72	312					
		23.9	60.8	80	64	302	65.6	80	70	310	62.5	80	66	304	67.3	80	72	312	67.3	80	72	312					
		47.7	75.1	80	69	302	81.1	90	75	310	77.3	80	71	304	83.3	90	77	312	83.3	90	77	312					
		74.4	87.1	100	97	302	93.1	100	102	310	89.2	100	99	304	95.2	100	104	312	95.2	100	104	312					


LEGEND:

BRKR	- Circuit breaker
CO	- Convenience outlet
DISC	- Disconnect
FLA	- Full load amps
IFM	- Indoor fan motor
LRA	- Locked rotor amps
MCA	- Minimum circuit amps
MOCP	- MAX FUSE or HACR BRKR
PE	- Power exhaust
PWRD CO	- Powered convenient outlet
UNPWR CO	- Unpowered convenient outlet

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

2. Unbalanced 3-Phase Supply Voltage

- Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60


AB = 224 v
BC = 231 v
AC = 226 v

$$\begin{aligned} \text{Average Voltage} &= \frac{(224 + 231 + 226)}{3} = \frac{681}{3} \\ &= 227 \end{aligned}$$

Determine maximum deviation from average voltage.
 (AB) 227 - 224 = 3 v
 (BC) 231 - 227 = 4 v
 (AC) 227 - 226 = 1 v

- Maximum deviation is 4 v.
 Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

SEQUENCE OF OPERATION

General

The sequence below describes the sequence of operation for an electro-mechanical unit with and without a factory installed EconoMi\$er™ IV and X (called “economizer” in this sequence). For information regarding a direct digital controller, see the start-up, operations, and troubleshooting manual for the applicable controller.

Electro-mechanical units with no economizer

Cooling (Single speed indoor fan motor) —

When the thermostat calls for cooling, terminals G and Y1 are energized. As a result, the indoor-fan contactor (IFC) and the compressor contactor (C1) are energized, causing the indoor-an motor (IFM), compressor #1, and outdoor fan to start. If the unit has 2 stages of cooling, the thermostat will additionally energize Y2. The Y2 signal will energize compressor contactor #2 (C2), causing compressor #2 to start. Regardless of the number of stages, the outdoor-fan motor runs continuously while unit is cooling.

Cooling (2-speed indoor fan motor) —

Per ASHRAE 90.1 2010 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 2/3rd of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit established (100%).

Heating —

NOTE: The 50TC is sold as cooling only. If electric heaters are required, use only factory-approved electric heaters. They will operate as described below.

Units have either 1 or 2 stages of electric heat. When the thermostat calls for heating, power is applied to the W1 terminal at the unit. The unit control will energize the indoor fan contactor and the first stage of electric heat. On units with 2-stage heating, when additional heating is required, the second stage of electric heat (if equipped) will be energized when power is applied at the W2 terminal on the unit.

Electro-mechanical units with an economizer

Cooling —

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMi\$er IV and X control to provide a 50°F (10°C) to 55°F (13°C) mixed-air temperature into the zone. As the mixed air temperature fluctuates above 55°F (13°C) or below 50°F (10°C) dampers will be modulated (open or close) to bring the mixed-air temperature back within control. If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the

increase in cooling capacity causes the mixed-air temperature to drop below 45°F (9°C), then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F (9°C). The power exhaust fans will be energized and de-energized, if installed, as the outdoor-air damper opens and closes.

If field-installed accessory CO₂ sensors are connected to the EconoMi\$er IV and X control, a demand controlled ventilation strategy will begin to operate. As the CO₂ level in the zone increases above the CO₂ setpoint, the minimum position of the damper will be increased proportionally. As the CO₂ level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed. For EconoMi\$er IV and X operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

When the EconoMi\$er IV control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMi\$er IV damper to the minimum position.

On the initial power to the EconoMi\$er IV control, it will take the damper up to 2 1/2 minutes before it begins to position itself. After the initial power-up, further changes in damper position can take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between 1 1/2 and 2 1/2 minutes. If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature setpoint at 50°F (10°C) to 55°F (13°C). If there is a further demand for cooling (cooling second stage - Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature setpoint. The EconoMi\$er IV damper will be open at maximum position. EconoMi\$er IV operation is limited to a single compressor.

2-Speed Note: When operating in ventilation mode only, the indoor fan motor will automatically adjust to 2/3rd of the total cfm established.

SEQUENCE OF OPERATION (cont.)

Heating —

The sequence of operation for the heating is the same as an electromechanical unit with no economizer. The only difference is how the economizer acts. The economizer will stay at the Economizer Minimum Position while the evaporator fan is operating. The outdoor-air damper is closed when the indoor fan is not operating.

Refer to Service and Maintenance Manual for further details.

Optional Humidi-MiZer Dehumidification System

Units with the factory equipped Humidi-MiZer option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle. The Humidi-MiZer option includes additional valves in the liquid line and discharge line of each refrigerant circuit, a small reheat condenser coil downstream of the evaporator, and Motormaster variable-speed control of some or all outdoor fans. Operation of the revised refrigerant circuit for each mode is described below.

The Humidi-MiZer system provides three sub-modes of operation: Cool, Reheat1, and Reheat2.

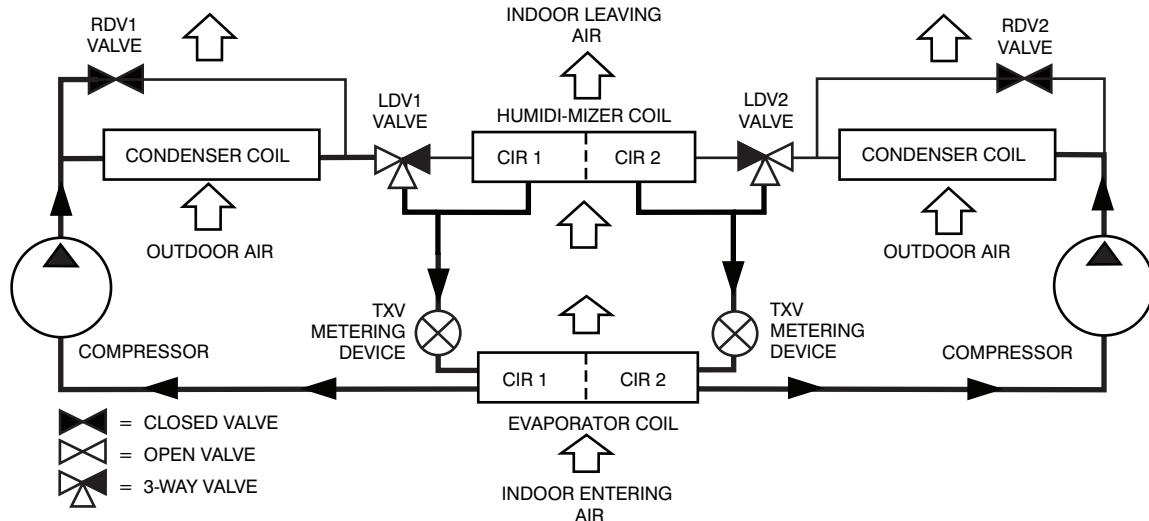
Cool mode - provides a normal ratio of Sensible and Latent Cooling effect from the evaporator coil.

Reheat1 - provides increased Latent Cooling while slightly reducing the Sensible Cooling effect.

Reheat2 - provides normal Latent Cooling but with null or minimum Sensible Cooling effect delivered to the space.

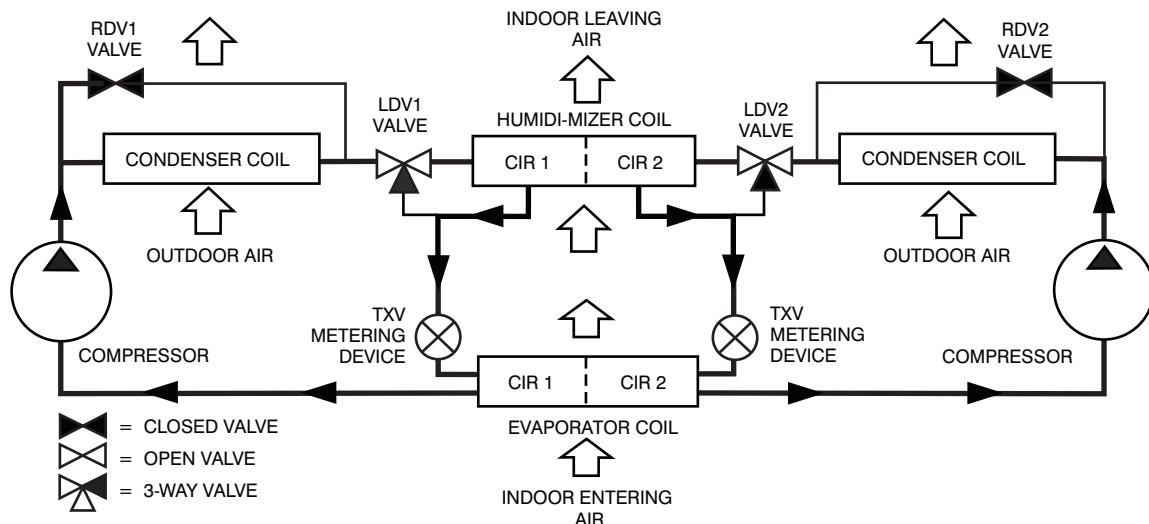
The Reheat1 and Reheat2 modes are available when the unit is not in a Heating mode and when the Low Ambient Lockout switch is closed.

SEQUENCE OF OPERATION (cont.)



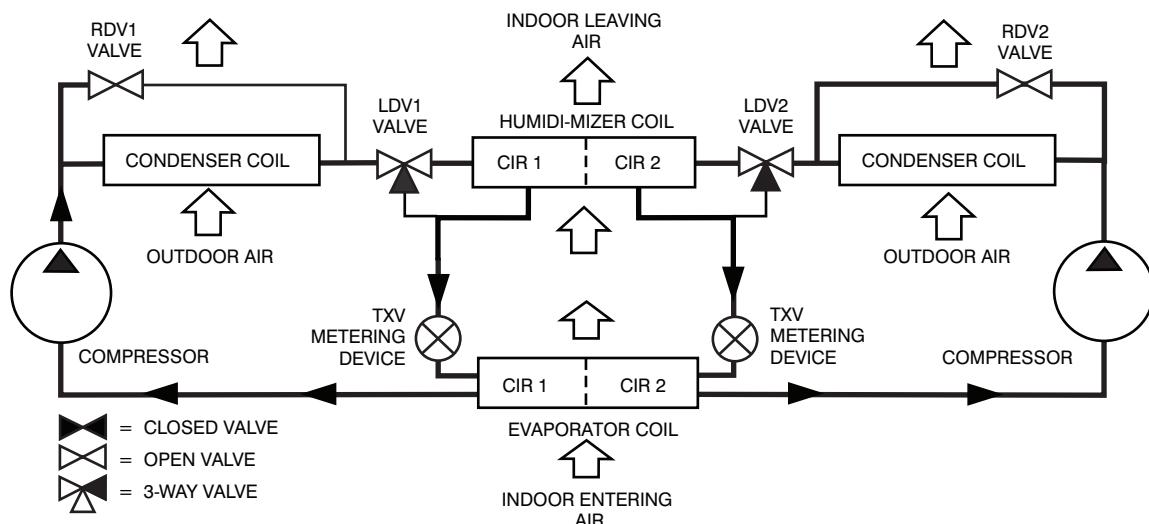
C12705

Normal Cooling Mode - Humidi-MiZer System



C12706

Subcooling Mode (Reheat 1) - Humidi-MiZer System



C12707

Hot Gas Reheat Mode (Reheat 2) - Humidi-MiZer System

GUIDE SPECIFICATIONS - 50TC-D17-30

Note about this specification:

These specifications are written in "Masterformat" as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.

Cooling Only/Electric Heat Packaged Rooftop

HVAC Guide Specifications

Size Range: 15 to 27.5 Nominal Tons

Section **Description**

23 06 80 Schedules for Decentralized HVAC Equipment

23 06 80.13 Decentralized Unitary HVAC Equipment Schedule

23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

23 07 16.13 Decentralized, Rooftop Units:

23 07 16.13.A. Evaporator fan compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 07 16.13.B. Electric heat compartment:

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 09 13 Instrumentation and Control Devices for HVAC

23 09 13.23 Sensors and Transmitters

23 09 13.23.A. Thermostats

1. Thermostat must
 - a. energize both "W" and "G" when calling for heat.
 - b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
 - c. include capability for occupancy scheduling.

23 09 23 Direct-digital Control system for HVAC

23 09 23.13 Decentralized, Rooftop Units:

23 09 23.13.A. PremierLink controller

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-32VAC input power.
3. Shall have an operating temperature range from -40°F (-40°C) to 158°F (70°C), 10% - 95% RH (non-condensing).
4. Shall include an integrated economizer controller to support an economizer with 4 to 20 mA actuator input and no microprocessor controller.
5. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, indoor relative humidity, compressor lock-out, fire shutdown, enthalpy, fan status, remote time clock/door switch.
6. Shall accept a CO₂ sensor in the conditioned space, and be Demand Control Ventilation (DCV) ready.
7. Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, heat stage 3/ exhaust/ reversing valve/ dehumidify/ occupied.
8. Unit shall provide surge protection for the controller through a circuit breaker.
9. Shall be Internet capable, and communicate at a Baud rate of 38.4K or faster
10. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
11. Shall include an EIA-485 protocol communication port, an access port for connection of either a computer or a Carrier technician tool, an EIA-485 port for network communication to intelligent space sensors and displays, and a port to connect an optional LonWorks plug-in communications card.



12. Shall have built-in Carrier Comfort Network (CCN) protocol, and be compatible with other CCN devices, including ComfortVIEW controllers.
13. Shall have built-in support for Carrier technician tool.
14. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.
15. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.
16. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.
17. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000ft sections.

23 09 23.13.B. RTU-Open protocol, direct digital controller:

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.
3. Shall have an operating temperature range from -40°F (-40°C) to 130°F (54°C), 10% - 90% RH (non-condensing).
4. Shall include built-in protocol for BACNET (MS/TP and PTP modes), Modbus (RTU and ASCII), Johnson N2 and LonWorks. LonWorks Echelon processor required for all Lon applications shall be contained in separate communication board.
5. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
6. Baud rate Controller shall be selectable using a dipswitch.
7. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
8. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/humidity/ remote occupancy.
9. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, heat stage 3/ exhaust/ reversing valve.
10. Shall have built-in surge protection circuitry through solid state polyswitches. Polyswitches shall be used on incoming power and network connections. Polyswitches will return to normal when the “trip” condition clears.
11. Shall have a battery back-up capable of a minimum of 10,000 hours of data and time clock retention during power outages.
12. Shall have built-in support for Carrier technician tool.
13. Shall include an EIA-485 protocol communication port, an access port for connection of either a computer or a Carrier technician tool, an EIA-485 port for network communication to intelligent space sensors and displays, and a port to connect an optional LonWorks communications card.
14. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

23 09 33 Electric and Electronic Control System for HVAC

23 09 33.13 Decentralized, Rooftop Units:

23 09 33.13.A. General:

1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
2. Shall utilize color-coded wiring.
3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, and low and high pressure switches.
4. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

23 09 33.23.B. Safeties:

1. Compressor over-temperature, over current.
2. Low-pressure switch.
 - a. Units shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
 - b. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
3. High-pressure switch.
 - a. Units compressors shall have different sized connectors for the circuit 1 and circuit 2 low and high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.

- b. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
- 4. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

- 23 09 93.13 Decentralized, Rooftop Units:
23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

- 23 40 13.13 Decentralized, Rooftop Units:
23 40 13.13.A. Standard filter section
- 1. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
 - 2. Unit shall use only one filter size. Multiple sizes are not acceptable.
 - 3. Filters shall be accessible through a dedicated, weather tight panel.
 - 4. 4-in filter capabilities shall be capable with pre engineered and approved Carrier filter track field installed accessory. This kit requires field furnished filters.

23 81 19 Self-Contained Air Conditioners

- 23 81 19.13 Medium-Capacity Self-Contained Air Conditioners (50TC*D17-30)
23 81 19.13.A. General
- 1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty and gas combustion for heating duty.
 - 2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
 - 3. Unit shall use environmentally safe, Puron refrigerant.
 - 4. Unit shall be installed in accordance with the manufacturer's instructions.
 - 5. Unit must be selected and installed in compliance with local, state, and federal codes.
- 23 81 19.13.B. Quality Assurance
- 1. Unit meets ASHRAE 90.1 minimum efficiency requirements.
 - 2. 3 phase units are Energy Star qualified where sizes are required.
 - 3. Unit shall be rated in accordance with AHRI Standard 340/360.
 - 4. Unit shall be designed to conform to ASHRAE 15.
 - 5. Unit shall be ETL-tested and certified in accordance with ANSI Z21.47 Standards and ETL-listed and certified under Canadian standards as a total package for safety requirements.
 - 6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
 - 7. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
 - 8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
 - 9. Unit shall be designed and manufactured in accordance with ISO 9001.
 - 10. Roof curb shall be designed to conform to NRCA Standards.
 - 11. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
 - 12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
 - 13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
 - 14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
 - 15. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).
- 23 81 19.13.C. Delivery, Storage, and Handling
- 1. Unit shall be stored and handled per manufacturer's recommendations.
 - 2. Lifted by crane requires either shipping top panel or spreader bars.
 - 3. Unit shall only be stored or positioned in the upright position.
- 23 81 19.13.D. Project Conditions
- 1. As specified in the contract.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation from 30°F (-1°C), ambient outdoor temperatures. Accessory kits are necessary if mechanically cooling at ambient temperatures below 30°F (-1°C).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured and ordered for vertical supply & return configurations.
5. Unit shall be factory furnished for either vertical or horizontal configuration without the use of special conversion kits. No field kits conversion is possible.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
4. Base of unit shall have a minimum of four locations for factory thru-the-base electrical connections. Connections shall be internal to the cabinet to protect from environmental issues.
5. Base Rail
 - a. Unit shall have base rails on a minimum of 2 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4-in -14 NPT drain connection at the end of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
 - a. Shall be a multi-piece top panel linked with water tight flanges and interlocking systems.
8. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - (1.) Thru-the base provisions/connections are available as standard with every unit. When bottom connections are required, field furnished couplings are required
 - (2.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Unit shall have one factory installed, tool-less, removable, filter access panel.
 - c. Panels covering control box and filters shall have molded composite handles while the blower access door shall have an integrated flange for easy removal.
 - d. Handles shall be UV modified, composite, permanently attached, and recessed into the panel.
 - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
 - f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

23 81 19.13.I. N/A

23 81 19.13.J. Coils

1. Standard Aluminum fin - Copper Tube Coils:

- a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
- b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
- c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

2. Optional Pre-coated aluminum-fin condenser coils:

- a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
- b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
- c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

3. Optional Copper-fin evaporator and condenser coils:

- a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
- b. Galvanized steel tube sheets shall not be acceptable.
- c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

4. Optional E-coated aluminum-fin evaporator and condenser coils:

- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
- b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
- c. Color shall be high gloss black with gloss per ASTM D523-89.
- d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
- e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
- f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
- g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
- h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.

5. Standard All Aluminum Novation Coils:

- a. Standard condenser coils shall have all aluminum Novation Heat Exchanger Technology design consisting of aluminum multi port flat tube design and aluminum fin. Coils shall be a furnace brazed design and contain epoxy lined shrink wrap on all aluminum to copper connections.
- b. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

6. Optional E-coated aluminum-fin, aluminum tube condenser coils:

- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil external surface areas without material bridging between fins or louvers.
- b. Coating process shall ensure complete coil encapsulation, including all exposed fin edges.
- c. E-coat thickness of 0.8 to 1.2 mil with top coat having a uniform dry film thickness from 1.0 to 2.0 mil on all external coil surface areas, including fin edges, shall be provided.
- d. Shall have superior hardness characteristics of 2H per ASTM D3363-00 and cross-hatch adhesion of 4B-5B per ASTM D3359-02.
- e. Shall have superior impact resistance with no cracking, chipping or peeling per NSF/ANSI 51-2002 Method 10.2.

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:

- a. Fixed orifice metering system shall prevent mal-distribution of two-phase refrigerant by including multiple fixed orifice devices in each refrigeration circuit. Each orifice is to be optimized to the coil circuit it serves.
- b. Refrigerant filter drier.
- c. Service gauge connections on suction and discharge lines.
- d. Pressure gauge access through a specially designed screen on the side of the unit.

2. Compressors
 - a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
 - b. Models shall be available with 2 compressor/2-stage cooling.
 - c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
 - d. Compressors shall be internally protected from high discharge temperature conditions.
 - e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
 - f. Compressor shall be factory mounted on rubber grommets.
 - g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
 - h. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.

23 81 19.13.L. Filter Section

1. Filters access is specified in the unit cabinet section of this specification.
2. Filters shall be held in place by a preformed slide out filter tray, facilitating easy removal and installation.
3. Shall consist of factory-installed, low velocity, throw-away 2-in. thick fiberglass filters.
4. Filters shall be standard, commercially available sizes.
5. Only one size filter per unit is allowed.
6. 4-in filter capability is possible with a field installed pre engineered slide out filter track accessory. 4-in filters are field furnished.

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
 - a. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - b. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
2. Belt-driven Evaporator Fan:
 - a. Belt drive shall include an adjustable-pitch motor pulley and belt break protection system..
 - b. Shall use rigid pillow block bearing system with lubricate fittings at are accessible or lubrication line.
 - c. Blower fan shall be double-inlet type with forward-curved blades.
 - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

23 81 19.13.N. Condenser Fans and Motors

1. Condenser fan motors:
 - a. Shall be a totally enclosed motor.
 - b. Shall use permanently lubricated bearings.
 - c. Shall have inherent thermal overload protection with an automatic reset feature.
 - d. Shall use a shaft-down design.
2. Condenser Fans:
 - a. Shall be a direct-driven propeller type fan.
 - b. Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

23 81 19.13.O. Special Features, Options and Accessories

1. Staged Air Volume System (SAV) for 2-stage cooling models only
 - a. Evaporator fan motor:
 - (1.) Shall have permanently lubricated bearings.
 - (2.) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
 - (3.) Shall be Variable Frequency duty and 2-speed control.
 - (4.) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
2. Variable Frequency Drive (VFD). Only available on 2-speed indoor fan motor option (SAV):
 - a. Shall be installed inside the unit cabinet, mounted, wired and tested.
 - b. Shall contain Electromagnetic Interference (EMI) frequency protection.
 - c. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
 - d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.

- e. RS485 capability standard.
 - f. Electronic thermal overload protection.
 - g. 5% swinging chokes for harmonic reduction and improved power factor.
 - h. All printed circuit boards shall be conformal coated.
3. Standard Integrated Economizers (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models):
- a. Integrated, gear-driven opposing blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical and horizontal return modules shall be available as a factory installed option.
 - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Standard models shall be equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential. Economizer controller on electromechanical units shall be Honeywell W7212 that provides:
 - (1) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
 - (2) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
 - (3) Contain LED indicates for:
 - When free cooling is available
 - When module is in DCV mode
 - When exhaust fan contact is closed
 - g. Ultra low leak EconoMi\$er X system shall be available on models with SAV 2-speed Variable Frequency Drive (VFD) systems. Only available on 2-speed indoor fan motor systems with electromechanical controls or RTU Open.
 - (1) Maximum damper leakage rate to be equal to or less than 4.0 cfm/sq. ft. at 1.0 in. w.g., meeting or exceeding ASHRAE 90.1 requirements. Economizer controller on electromechanical units shall be Honeywell W7220 that provides:
 - (2) 2-line LCD interface screen for setup, configuration and troubleshooting.
 - (3) On-board fault detection and diagnostics
 - (4) Sensor failure loss of communication identification
 - (5) Automatic sensor detection
 - (6) Capabilities for use with multiple-speed indoor fan systems
 - (7) Utilize digital sensors: Dry bulb and Enthalpy
 - (2) Shall be capable of introducing up to 100% outdoor air.
 - (3) Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - (4) Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - (5) Dry bulb outdoor air temperature sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
 - (6) The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
 - (7) The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper set-point.
 - (8) Dampers shall be completely closed when the unit is in the unoccupied mode.
 - (9) Economizer controller shall accept a 2-10 Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - (10) Compressor lockout sensor shall open at 35°F (2°C) and close closes at 50°F (10°C).
 - (11) Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - (12) Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

4. Two-Position Motorized Damper (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models)
 - a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter
5. Manual damper
 - a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 25% outdoor air for year round ventilation.
6. Humidi-MiZer Adaptive Dehumidification System (3 Phase Models only)
 - a. The Humidi-MiZer Adaptive Dehumidification System shall be factory-installed in 2-stage 50TC17-28 models with RTPF (round tube plate fin) condenser coils, and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:
 - (1.) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
 - (2.) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving- air temperature when only humidity in the space is not satisfied.
 - (3.) Includes Head Pressure Controller.
7. Head Pressure Control Package
 - a. Controller shall control coil head pressure by condenser-fan speed modulation or condenser-fan cycling and wind baffles.
 - b. Shall consist of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90°F (32°C) and 110°F (43°C) at outdoor ambient temperatures down to -20°F (-29°C).
8. Condenser Coil Hail Guard Assembly
 - a. Shall protect against damage from hail.
 - b. Shall be louvered style design.
9. Unit-Mounted, Non-Fused Disconnect Switch:
 - a. Switch shall be factory-installed, internally mounted.
 - b. National Electric Code (NEC) and ETL approved non-fused switch shall provide unit power shutoff.
 - c. Shall be accessible from outside the unit
 - d. Shall provide local shutdown and lockout capability.
10. Convenience Outlet:
 - a. Powered convenience outlet.
 - (1.) Outlet shall be powered from main line power to the rooftop unit.
 - (2.) Outlet shall be powered from line side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be ETL certified and rated for additional outlet amperage.
 - (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
 - (5.) Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer.
 - (6.) Outlet shall be accessible from outside the unit.
 - (7.) Outlet shall include a field-installed "Wet in Use" cover.
 - b. Non-Powered convenience outlet.
 - (1.) Outlet shall be powered from a separate 115/120v power source.
 - (2.) A transformer shall not be included.

- (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
 - (5.) Outlet shall be accessible from outside the unit.
 - (6.) Outlet shall include a field-installed "Wet in Use" cover.
11. Fan/Filter Status Switch:
- a. Switch shall provide status of indoor evaporator fan (ON/OFF) or filter (CLEAN/DIRTY).
 - b. Status shall be displayed either over communication bus (when used with direct digital controls) or with an indicator light at the thermostat.
12. Centrifugal Power Exhaust:
- a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
13. Roof Curbs (Vertical):
- a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailing strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
14. Adapter Curb (Vertical):
- a. Full perimeter, fully assembled and welded roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailing strip and shall be capable of supporting entire unit weight.
 - c. Permits installation of new 50TC17-28 models to past Carrier design curb models: DP, DR, HJ, TM, and TJ. Check with Carrier sales expert of further details and information.
15. High-Static Indoor Fan Motor(s) and Drive(s):
- a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
16. Outdoor Air Enthalpy Sensor:
- a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
17. Return Air Enthalpy Sensor:
- a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
18. Indoor Air Quality (CO₂) Sensor:
- a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The set-point shall have adjustment capability.
19. Smoke detectors:
- a. Shall be a Four-Wire Controller and Detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have tool-less connection terminal access.
 - e. Shall have a recessed momentary switch for testing and resetting the detector.
 - f. Controller shall include:
 - (1.) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - (2.) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - (3.) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - (4.) Capable of direct connection to two individual detector modules.
 - (5.) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
20. Winter start kit
- a. Shall contain a bypass device around the low pressure switch.

- b. Shall be required when mechanical cooling is required down to 25°F (-4°C).
 - c. Shall not be required to operate on an economizer when below an outdoor ambient of 40°F (4°C).
21. Time Guard
- a. Shall prevent compressor short cycling by providing a 5-minute delay (± 2 minutes) before restarting a compressor after shutdown for any reason.
 - b. One device shall be required per compressor.
22. Electric Heat:
- a. Heating Section
 - (1.) Heater element open coil resistance wire, nickel-chrome alloy, 0.29 inches inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
 - (2.) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.
23. Barometric Hood (Horizontal Economizer Applications)
- a. Shall be required when a horizontal economizer and barometric relief are required. Barometric relief damper must be installed in the return air (horizontal) duct work. This hood provides weather protection.
24. California OSHPD Seismic Certification Label (17-28 sizes only)
- a. Units meet the seismic requirements of the International Code Council Evaluation Service (ICC-ES) document AC156 (Acceptance Criteria for Seismic Qualification by Shake-Table Testing of Nonstructural Components and Systems) and per International Building Code (IBC 2009) at an SDS (g) value of 2.00 $z/h=1.0$, $I_p=1.5$ and certified by independent structural engineers.
 - b. Units shall include a certification label that meets the CA OSHPD Special Seismic Certification pre-approval labeling requirements on the external chassis of the unit.
25. Display Kit for Variable Frequency Drive
- a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
 - b. Kit contains display module, mounting bracket and communication cable.
 - c. Display Kit can be permanently installed in the unit or used on any SAV system VFD controller as needed.