

**50HC  
High Efficiency  
Cooling Only/Electric Heat Packaged Rooftop  
15 to 25 Nominal Tons**



## Product Data



(Unit shown with optional economizer and power exhaust.)

C101008



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The 15 to 25 ton WeatherMaster 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 WeatherMaster 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.

## **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

- Two stage cooling capacity with independent circuits and control.
- High performance copper tube/aluminum plate fin (RTPF) condenser and evaporator coils with optional coating.
- EER's up to 12.2.
- IEER's up to 13.4 with single speed indoor fan motor and up to 14.0 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.
- Precision sized TXV metering device on each refrigerant circuit.
- 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 or thru-the-curb 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 (125°F to 35°F / 52°C to 2°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 on all sizes with round tube/plate fin (RTPF) condenser coils, includes MotorMaster I controller.
- Standard Parts Warranty: 5 year compressor, 5 year electric heater, 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 models with electromechanical, ComfortLink or RTU Open controls.

# MODEL NUMBER NOMENCLATURE

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

## Product Type

50 = Elect Heat Pkg. Rooftop

## Model Series – WeatherMaster

HC = High Efficiency

## Electric Heat Option

- = Standard (No Electric Heat)  
 A = Low Electric Heat  
 B = Medium Electric Heat  
 C = High Electric Heat

## Refrigerant System Options

D = 2 stage Cooling w/RTPF  
 E = 2 stg cooling w/Humidi-MiZer  
 G = 2 stg cool w/Motormaster low amb cntl

## Cooling Tons

17 = 15 ton  
 20 = 17.5 ton  
 24 = 10 ton  
 28 = 25 ton

## Sensor Options

A = None  
 B = RA Smoke Detector  
 C = SA Smoke Detector  
 D = RA + SA Smoke Detector  
 E = CO<sub>2</sub> Sensor  
 F = RA Smoke Detector + CO<sub>2</sub>  
 G = SA Smoke Detector + CO<sub>2</sub>  
 H = RA + SA Smoke Detector + CO<sub>2</sub>

## Indoor Fan Options & Air Flow Configuration

1 = Standard Static / Vertical Supply, Return Air Flow  
 2 = Medium Static / Vertical Supply, Return Air Flow  
 3 = High Static / Vertical Supply, Return Air Flow  
 B = Med Static High Eff Motor / Vert Supply Return Air Flow  
 C = High Static High Eff Motor / Vert Supply Return Air Flow  
 5 = Standard Static / Horizontal Supply, Return Air Flow  
 6 = Medium Static / Horizontal Supply, Return Air Flow  
 7 = High Static / Horizontal Supply, Return Air Flow  
 F = Med Static High Eff Motor / Horiz Supply Return Air Flow  
 G = High Static High Eff Motor / Horiz Supply Return Air Flow

## Coil Options (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  
 M = Al/Cu – Al/Cu – Louvered Hail Guard  
 N = Pre-Coat Al/Cu – Al/Cu – Louvered Hail Guard  
 P = E-Coat Al/Cu – Al/Cu Louvered Hail Guard  
 Q = E-Coat Al/Cu – E-coat Al/Cu – Louvered Hail Guard  
 R = Cu/Cu – Al/Cu – Louvered Hail Guard  
 S = Cu/Cu – Cu/Cu – Louvered Hail Guard

## Packaging

0 = Standard

## Electrical Options

A = None  
 B = HACR Breaker  
 C = Non-fused disconnect  
 G = 2-speed indoor fan (VFD) controller  
 D = Thru the base connections  
 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.  
 C = Foil faced insulation

## 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(cent) Vert.  
 W = Enthalpy Ultra Low Leak Econo w/Baro Relief  
 X = Enth. Ultra Low Leak Econo w/PE(cent) Vert.

## 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  
 D = ComfortLink Controls

## Design Revision

- Factory Design Revision

## Voltage

1 = 575/3/60  
 5 = 208-230/3/60  
 6 = 460/3/60

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
<b>Cabinet</b>	Dedicated Vertical Air Flow Duct Configuration	X	
	Dedicated Horizontal Air Flow Duct Configuration	X	
	Hinged Access Panels	X	
<b>Coil Options</b>	Cu/Cu (indoor) coils	X	
	E-coated indoor & outdoor coils	X	
	Pre-coated outdoor coils	X	
<b>Humidity Control</b>	Humidi-MiZer Adaptive Dehumidification System	X	
<b>Condenser Protection</b>	Condenser coil hail guard (louvered design)	X	X
<b>Controls</b>	Thermostats, temperature sensors, and subbases		X
	PremierLink DDC communicating controller	X	X
	RTU Open protocol controller	X	
	ComfortLink Controls	X	
	Smoke detector (supply and/or return air)	X	X
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
<b>Economizers &amp; Outdoor Air Dampers</b>	EconoMiSer IV (for electro-mechanical controlled RTUs)	X	X
	EconoMiSer2 (for DDC controlled RTUs)	X	X
	Motorized 2 position outdoor-air damper	X	X
	Manual outdoor-air damper (25%)		X
	Barometric relief <sup>1</sup>	X	X
	Barometric hood (Horizontal economizer)		X
	Power exhaust	X	X
	Ultra Low Leak EconoMiSer X (for 2-speed SAV system only 17 to 28 sizes with 2 stages of cooling), vertical supply and return air only.	X	X
<b>Economizer Sensors &amp; IAQ Devices</b>	Single dry bulb temperature sensors <sup>2</sup>	X	X
	Differential dry bulb temperature sensors <sup>2</sup>		X
	Single enthalpy sensors <sup>2</sup>	X	X
	Differential enthalpy sensors <sup>2</sup>		X
	CO <sub>2</sub> sensor (wall, duct, or unit mounted) <sup>2</sup>	X	X
<b>Electric Heat</b>	Electric Resistance Heaters	X	X
	Single Point Kit	X	X
<b>Indoor Motor &amp; Drive</b>	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
<b>Low Ambient Control</b>	Winter start kit <sup>3</sup>		X
	MotorMaster head pressure controller to -20°F (-29°C) <sup>3</sup>		X
	Cooling Low Ambient Controller to 0°F (-18°C) <sup>3</sup>	X	
<b>Power Options</b>	Convenience outlet (powered)	X	
	Convenience outlet (unpowered)	X	
	Non-fused disconnect <sup>4</sup>	X	
	HACR circuit breaker <sup>5</sup>	X	
<b>Roof Curbs</b>	Roof curb 14-in (356mm)		X
	Roof curb 24-in (610mm)		X
	Adapter Curb (Adapts to Models – DP/DR/HJ/TM/TJ) <sup>6</sup>		X

**NOTES:**

- Included with economizer.
- Sensors for optimizing economizer.
- See application data for assistance.
- Non-fused disconnect switch cannot be used when FLA electrical rating exceeds 100 amps at 460/575 volt and 200 amps at 208/230 volt. Carrier RTUBuilder selects this automatically.
- HACR circuit breaker cannot be used when rooftop MOCB electrical rating exceeds 200 amps at 208/230 volt, 90 amps at 460 volt and 90 amps at 575 volt. 575 volt can only be used on Wye power supply. Delta power supply is prohibited. Carrier RTUBuilder selects this automatically.
- 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 CO<sub>2</sub> 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.

## **CO<sub>2</sub> 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 CO<sub>2</sub> sensor detects their presence through increasing CO<sub>2</sub> levels, and opens the economizer appropriately.

When the occupants leave, the CO<sub>2</sub> 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 WeatherMaster 50HC17-28 rooftop unit.

This system expands the envelope of operation of Carrier's WeatherMaster 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 WeatherMaster 50HC17-28 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 factory and field-installed 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.

### **Hinged Access Panels**

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box, indoor fan motor.

### **HACR Breaker**

These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units with access cover to help provide environment protection.

On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.

### **Foil Faced Insulated Cabinet**

Cabinet is fully insulated with non-fibrous, foil faced cleanable insulation that is secured and encapsulated in unit design.

### **Low Ambient Controller**

The low ambient controller is a 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 low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to 0°F (-18°C) ambient conditions.



**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 FAN	IEER WITH 2–SPEED INDOOR FAN
17	2	15.0	174.0	14.3	12.2	13.2	13.7
20	2	17.5	202.0	16.6	12.2	13.2	13.8
24	2	20.0	236.0	19.3	12.2	13.4	14.0
28	2	25.0	282.0	24.7	11.4	12.2	12.7

**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

**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 50HC units comply with ASHRAE 90.1 and Energy Star Energy Standard for minimum EER and IEER requirements.
4. Where appropriate, 50HC 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.



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to [www.ahridirectory.org](http://www.ahridirectory.org).



**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	5070	3346	7500
	50						
	75						
20	25	5200	9000	5250	5915	3904	9000
	50						
	75						
24	25	6000	10000	6000	7500	4950	10000
	50						
	75						
28	25	7000	12500	7500	8450	5577	12500
	50						
	75						

**Table 4 – SOUND PERFORMANCE TABLE**

MODEL SIZE	COOLING STAGES	OUTDOOR SOUND (dB)									
		A–Wtg.	AHRI 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

**LEGEND**

dB – Decibel

**NOTES:**

1. Outdoor sound data is measure 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**

**(COOLING)**

**15 - 25 TONS**

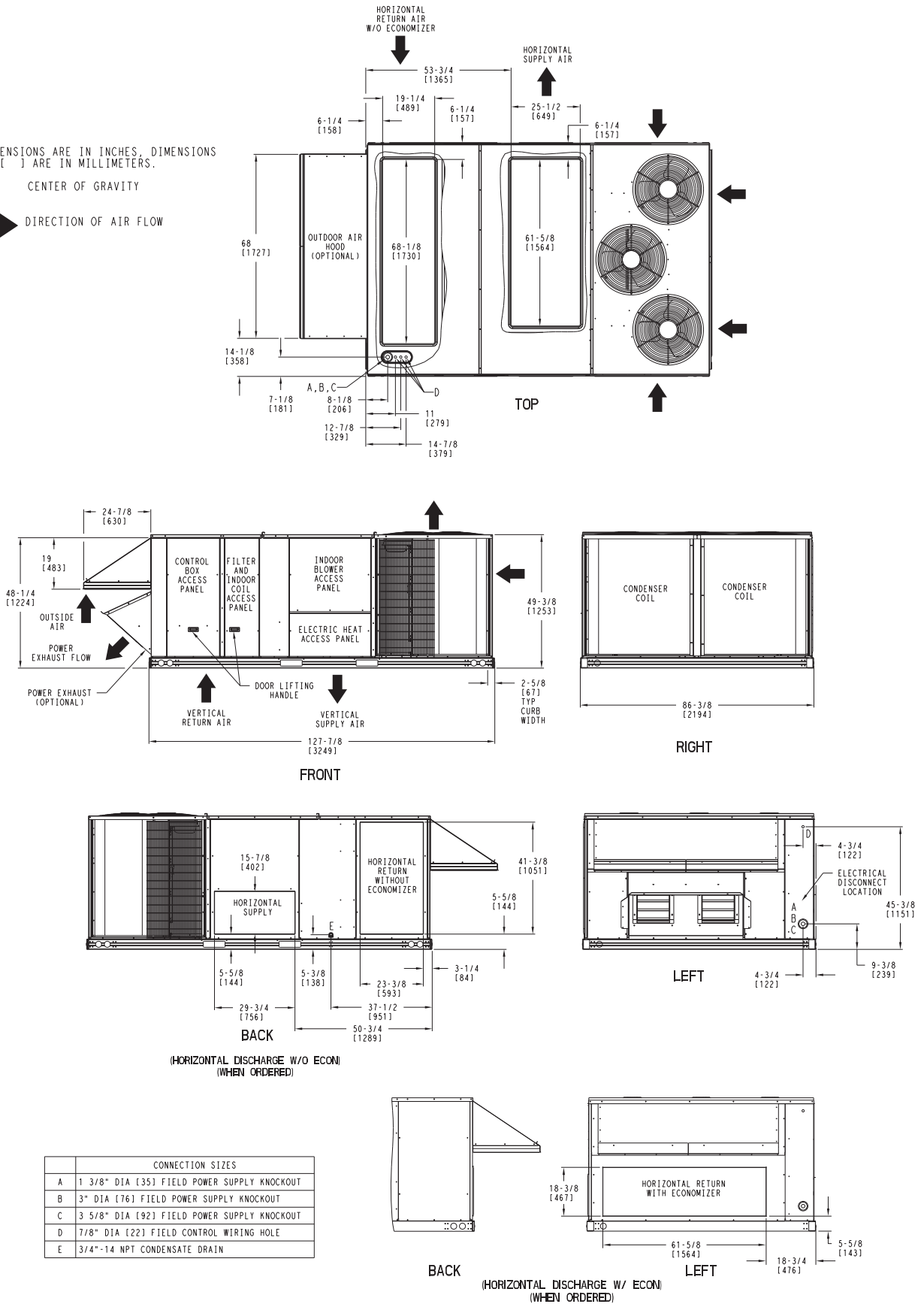
	<b>50HC*17</b>	<b>50HC*20</b>	<b>50HC*24</b>	<b>50HC*28</b>	
<b>Refrigeration System</b>					
# Circuits / # Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	
R-410a charge circuit A/B (lbs)	17/16.4	17.5/16.8	23.8/23.1	24.9/27.7	
Humidi-MiZer R-410a charge circuit A/B (lbs)	24.5/25.7	25.5/25.5	30.0/30.7	35.1/35.4	
Metering device	TXV	TXV	TXV	TXV	
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%	
<b>Evap. Coil</b>					
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
Tube Diameter	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	
Rows / FPI	4 / 15	4 / 15	4 / 15	4 / 15	
Total face area (ft2)	22	22	26	26	
Condensate drain conn. size	3/4-in	3/4-in	3/4-in	3/4-in	
<b>Humidi-MiZer Coil</b>					
Material	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
Tube Diameter	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	3/8-in RTPF	
Rows / FPI	1 / 17	1 / 17	1 / 17	1 / 17	
Total face area (ft2)	22	22	26	26	
<b>Evap. fan and motor</b>					
<b>VERTICAL</b>					
Standard Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.2	3.3	4.9	4.9
	RPM range	514-680	622-822	690-863	717-911
	Motor frame size	56	56	56	56
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15
Medium Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	3.3	4.9	6.5	6.5
	RPM range	679-863	713-879	835-1021	913-1116
	Motor frame size	56	56	184T	184T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15
High Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.9	6.5	8.7	8.7
	RPM range	826-1009	882-1078	941-1176	941-1176
	Motor frame size	56	184T	213T	213T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15

HORIZONTAL		50HC*17	50HC*20	50HC*24	50HC*28
Standard Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.2	3.3	4.9	4.9
	RPM range	514–680	622–822	690–863	647–791
	Motor frame size	56	56	56	184T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11
Medium Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	3.3	4.9	6.5	6.5
	RPM range	614–780	713–879	835–1021	755–923
	Motor frame size	56	56	184T	184T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11
High Static	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	4.9	6.5	8.7	8.7
	RPM range	746–912	882–1078	941–1176	827–1010
	Motor frame size	56	184T	213T	213T
	Fan Qty / Type	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal	2 / Centrifugal
	Fan Diameter (in)	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11	18 x 15/15 X 11
<b>Cond. Coil (Circuit A)</b>					
	Coil type	RTPF	RTPF	RTPF	RTPF
	Coil Length (in)	70	72	82	95
	Coil Height (in)	44	44	52	52
	Rows / FPI (fins per inch)	2 /17	2 /17	2 /17	2 /17
	Total face area (ft2)	21.4	22.0	29.6	34.3
<b>Cond. Coil (Circuit B)</b>					
	Coil type	RTPF	RTPF	RTPF	RTPF
	Coil Length (in)	70	64	80	95
	Coil Height (in)	44	44	52	52
	Rows / FPI (fins per inch)	2 /17	2 /17	2 /17	2 /17
	Total face area (ft2)	21.4	19.5	29.6	34.3
<b>Cond. fan / motor</b>					
	Qty / Motor drive type	3 / direct	4 / direct	4 / direct	6 / direct
	Motor HP / RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
	Fan diameter (in)	22	22	22	22
<b>Filters</b>					
	RA Filter # / size (in)	6 / 20 x 25 x 2	6 / 20 x 25 x 2	9 / 16 x 25 x 2	9 / 16 x 25 x 2
	OA inlet screen # / size (in)	4 / 16 x 25 x 1	4 / 16 x 25 x 1	4 / 16 x 25 x 1	4 / 16 x 25 x 1

# DIMENSIONS

**NOTES:**

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



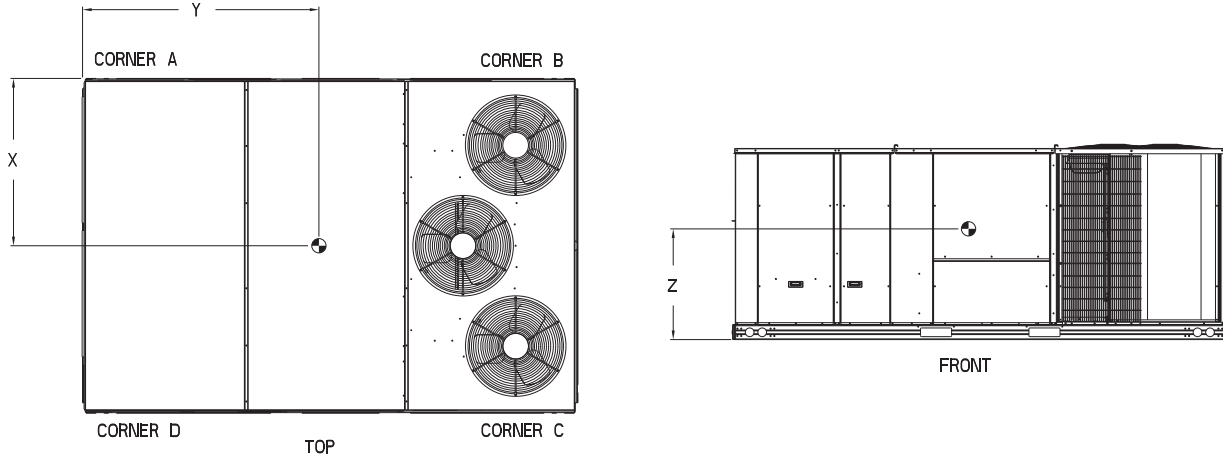
**Fig. 1 - Dimensions 50HC-D17**

C10894

## DIMENSIONS (cont.)

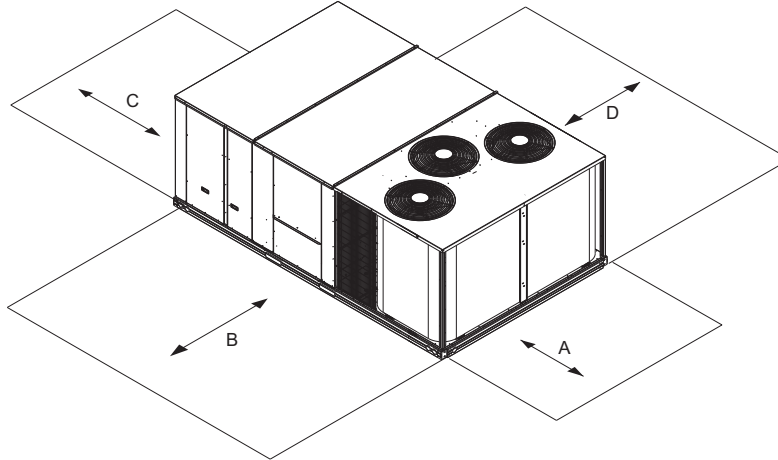
UNIT	STD UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
	50HC17	1793	815	375	170	419	191	528	240	472	214	48 [1219]	67 13/32 [1712]

\* Standard unit weight is without electric heat and without packaging.  
For other options and accessories, refer to the product data catalog.



**Fig. 2 - Dimensions 50HC-D17**

C11171



**Fig. 3 - Service Clearance**

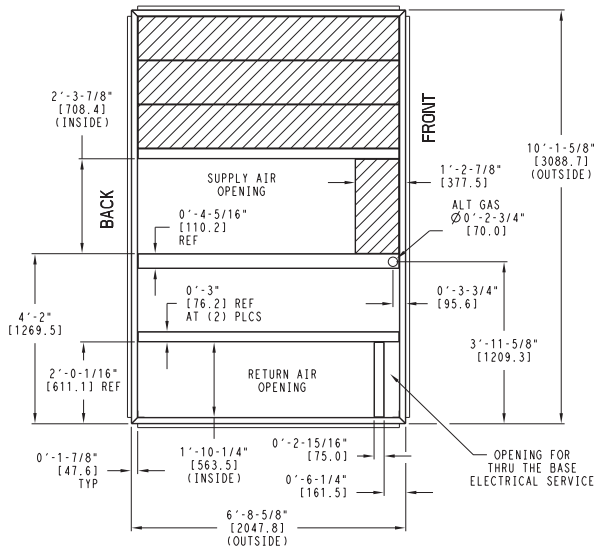
C11343

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.)

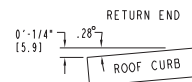
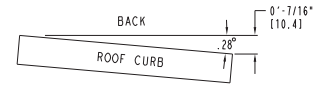
UNIT SIZE	"A"	ROOF CURB ACCESSORY
17	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB045A00 CRRFCURB046A00



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

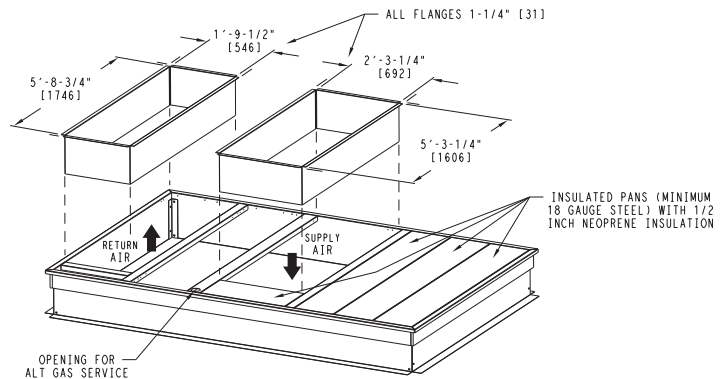
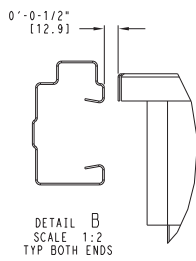
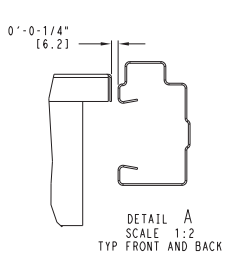
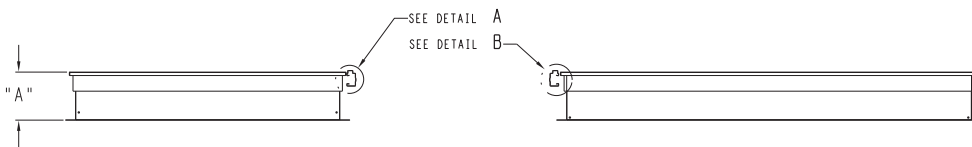
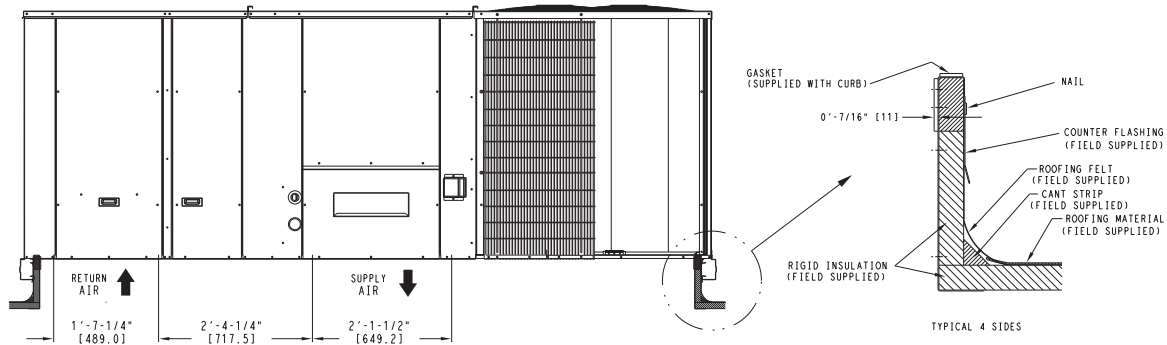


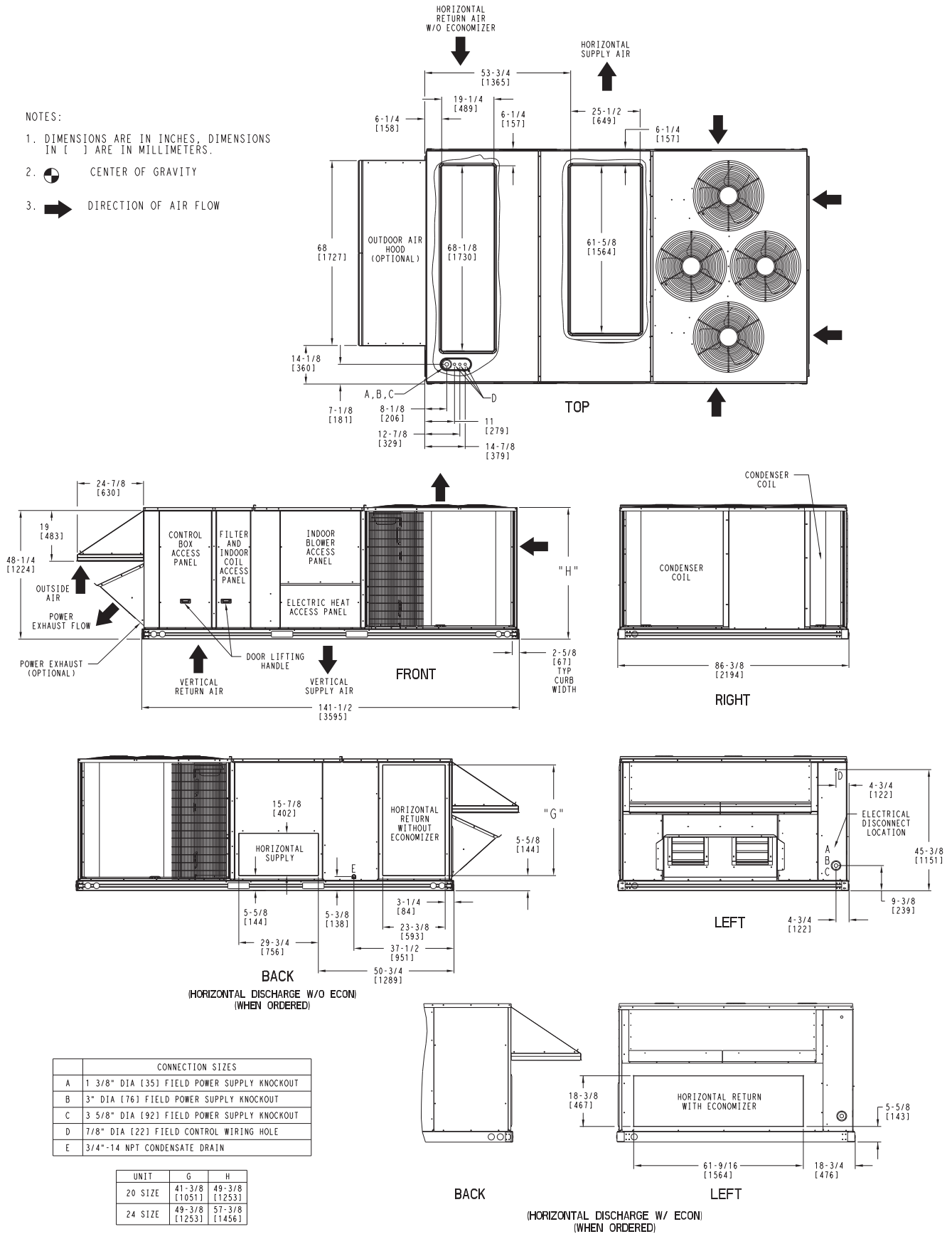
Fig. 4 - Curb Dimensions 50HC\*D17

C10954

# DIMENSIONS (cont.)

**NOTES:**

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



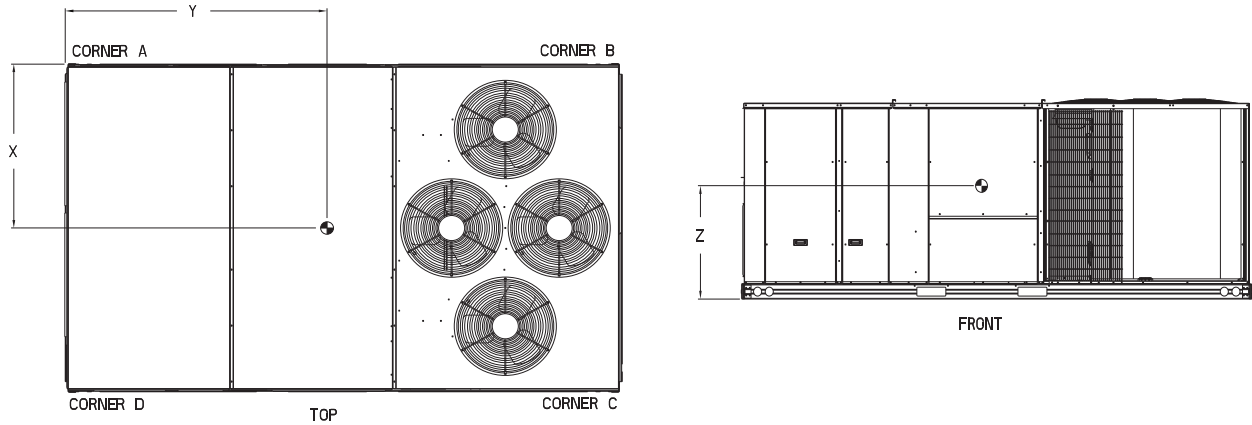
**Fig. 5 - Dimensions 50HC-D20-24**

C10958

## DIMENSIONS (cont.)

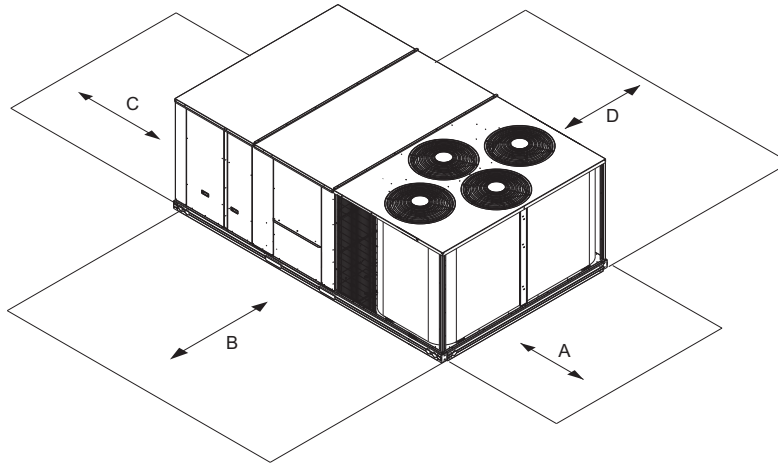
UNIT	STD UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC20	2003	911	445	202	367	167	557	253	547	249	47 1/2 [1207]	71 9/32 [1811]	16 1/2 [419]
50HC24	2148	976	510	232	525	238	564	257	549	250	44 21/32 [1135]	71 5/8 [1819]	19 [483]

\* Standard unit weight is without electric heat and without packaging.  
For other options and accessories, refer to the product data catalog.



**Fig. 6 - Dimensions 50HC-D20-24**

C11172



**Fig. 7 - Service Clearance**

C11342

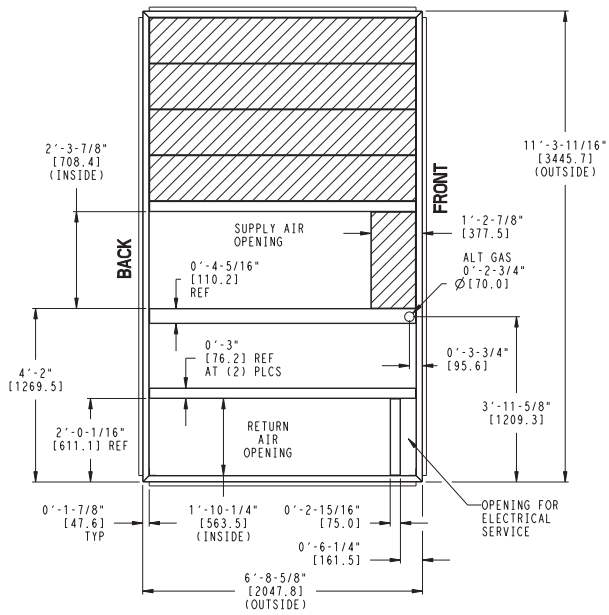
LOC	DIMENSION	CONDITION
A	36-in	Recommended clearance for airflow and service.
B	42-in	Recommended clearance for airflow and service.
C	18-in	1. No CO. 2. No Economizer. 3. No field installed disconnect on economizer hood side (Factory-installed disconnect installed).
	36-in	1. CO installed. 2. Vertical 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.



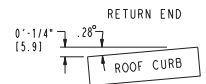
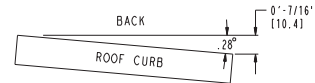
# DIMENSIONS (cont.)

UNIT SIZE	"A"	ROOF CURB ACCESSORY
20, 24	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

➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES

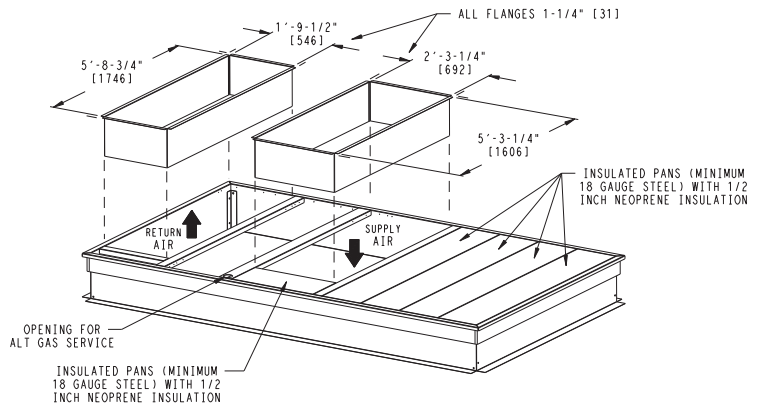
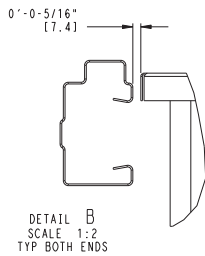
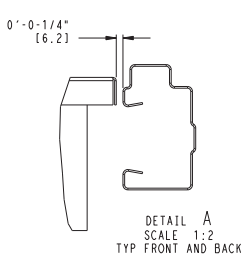
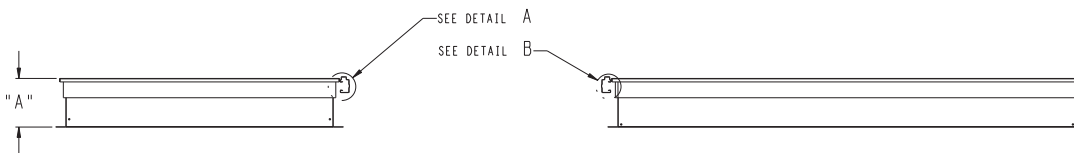
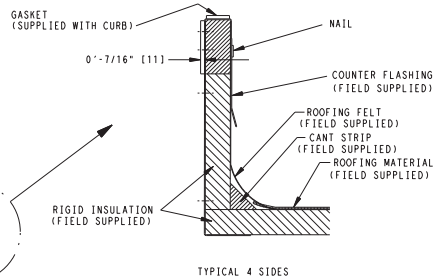
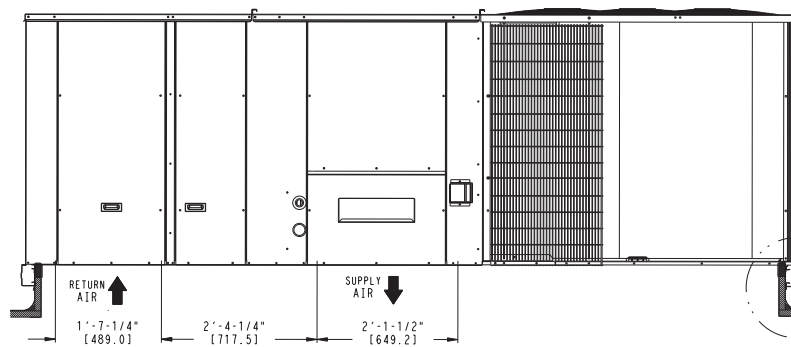


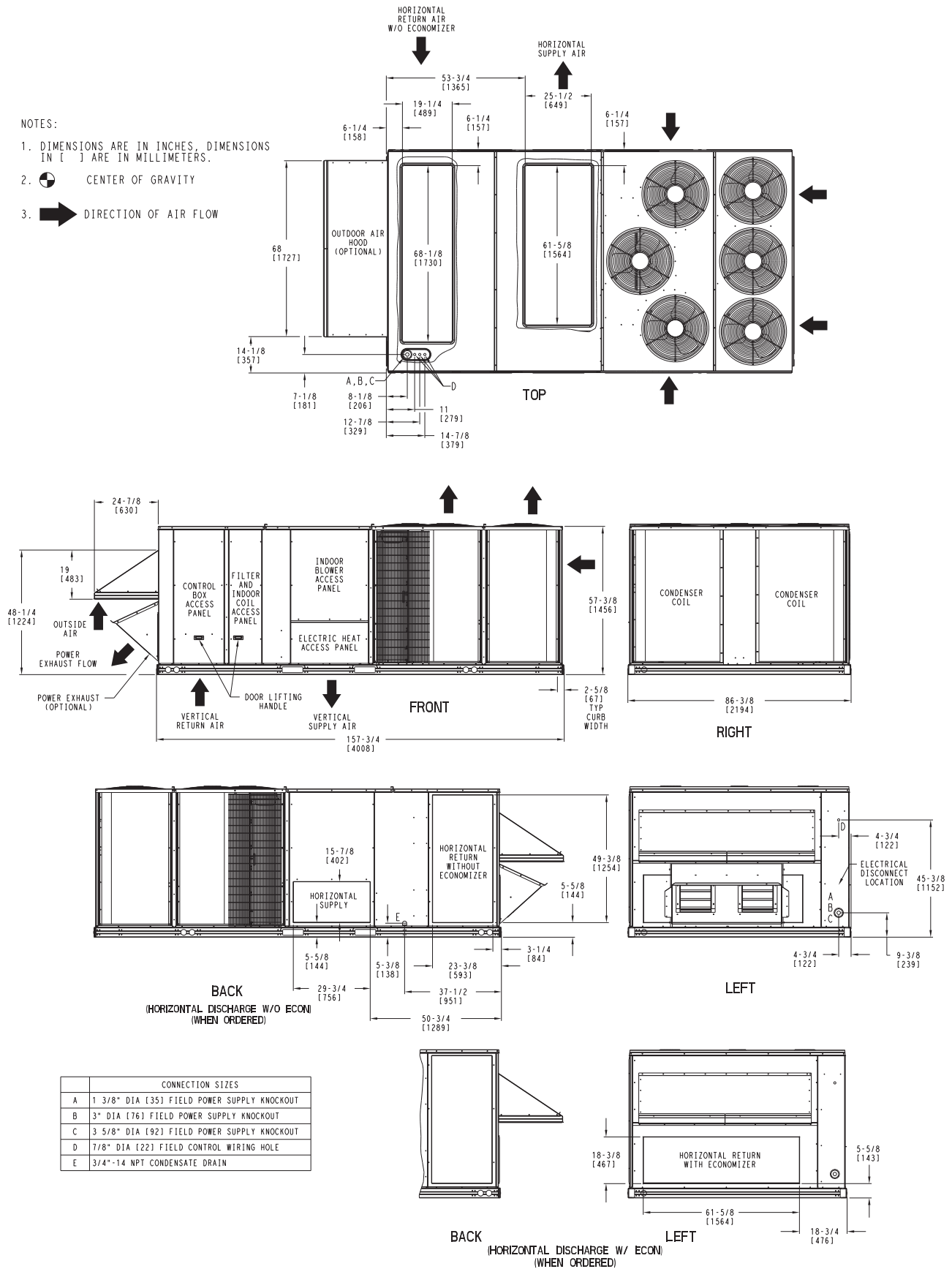
Fig. 8 - Curb Dimensions 50HC\*D20 - 24

C10955

# DIMENSIONS (cont.)

**NOTES:**

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



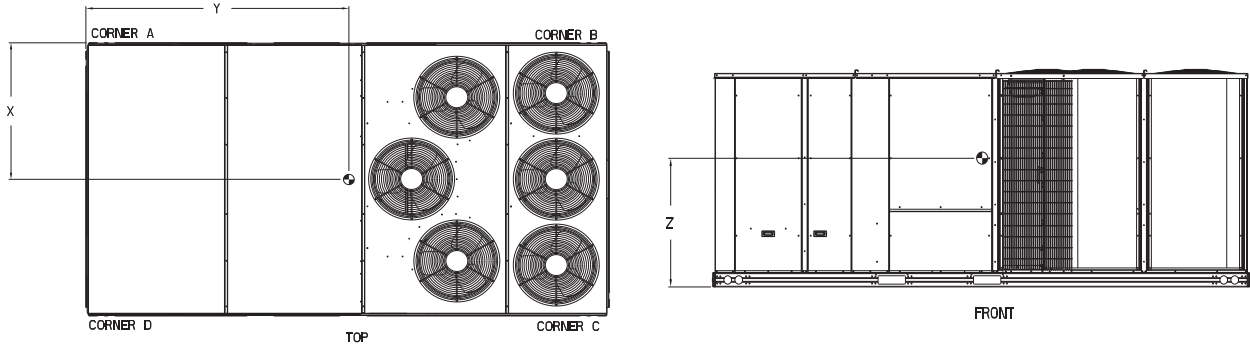
**Fig. 9 - Dimensions 50HC\*D28**

C10960

## DIMENSIONS (cont.)

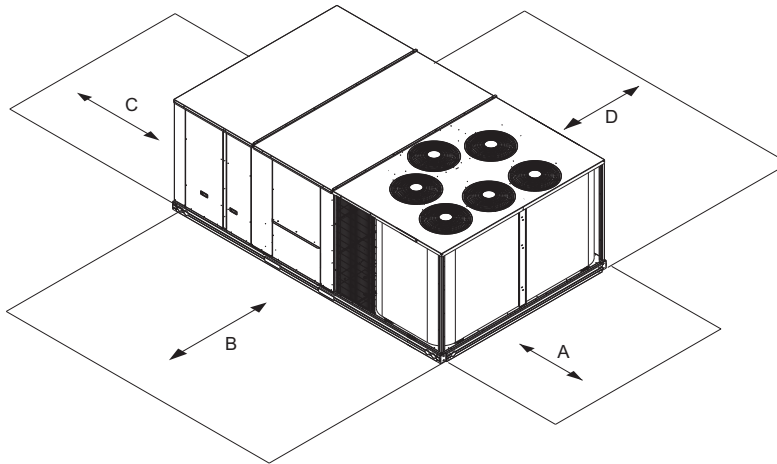
UNIT	STD UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC28	2193	997	545	248	528	240	551	251	569	259	44 [1118]	77 17/32 [1969]	19 [483]

\* Standard unit weight is without electric heat and without packaging.  
For other options and accessories, refer to the product data catalog.



**Fig. 10 - Dimensions 50HC\*D28**

C10961



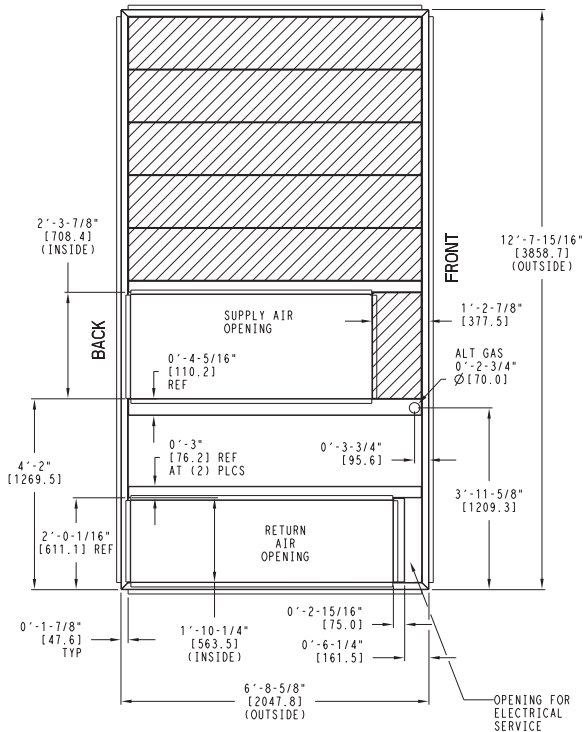
C11344

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.

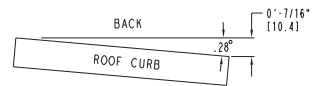
# DIMENSIONS (cont.)

UNIT SIZE	"A"	ROOF CURB ACCESSORY
28	1'-2" [356.0] 2'-0" [610.0]	CRRFCURB049A00 CRRFCURB050A00



- NOTES:
- 1 ROOF CURB ACCESSORY IS SHIPPED UNASSEMBLED.
  - 2 BOLT HEADS TO BE ON INSIDE OF FLANGE. CLEARANCE IS [11] 0-0-7/16" TYP ALL CORNERS.
  - 3 DIMENSIONS IN [ ] ARE IN MILLIMETERS.
  - 4 ROOF CURB GALVANIZED STEEL.
  - 5 ATTACH DUCTWORK TO CURB (FLANGES ON DUCT REST ON CURB)
  - 6 SERVICE CLEARANCE 4 FT ON EACH SIDE
  - 7 GAS SERVICE PLATE IS PART OF A SEPARATELY SHIPPED ACCESSORY PACKAGE.
  - 8 GAS SERVICE PLATE CAN BE USED WITH EITHER ACCESSORY ROOFCURB.

➔ DIRECTION OF AIR FLOW



MAX CURB LEVELING TOLERANCES

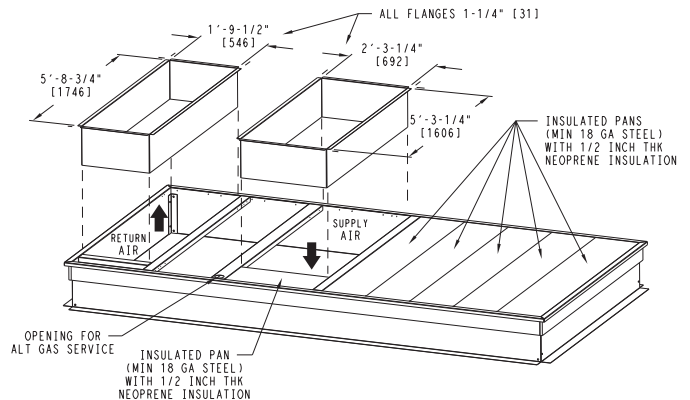
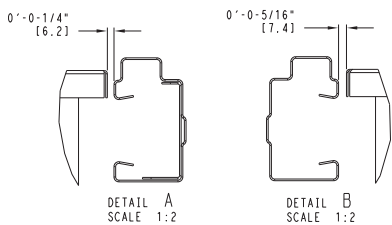
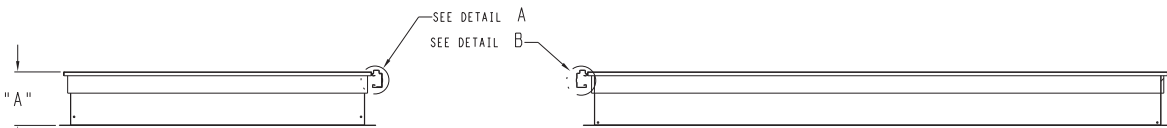
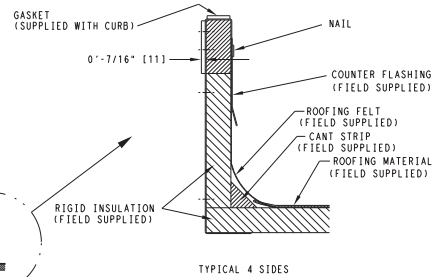
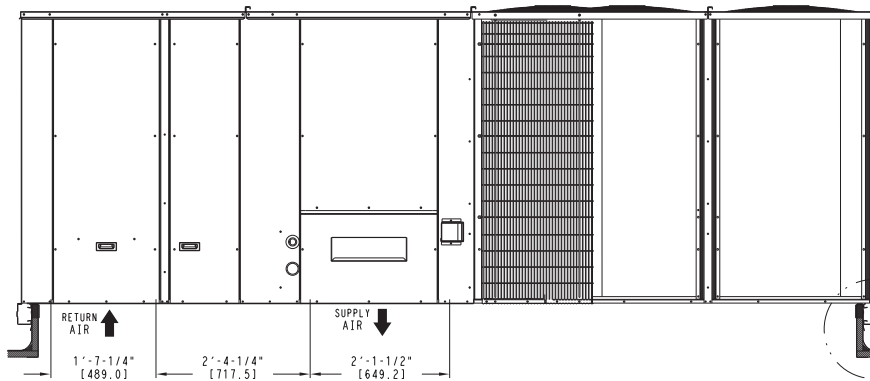


Fig. 11 - Curb Dimensions 50HC\*D28

## OPTIONS AND ACCESSORIES WEIGHT ADDERS

BASE UNIT WITH OPTIONS AND ACCESSORIES (Weight Adders)	MAX WEIGHT ADD							
	50HC*17		50HC*20		50HC*24		50HC*28	
	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer	83	38	83	38	88	40	92	42
Base Unit Operating Weight	1793	813	2003	909	2148	974	2193	975
Power Exhaust	125	57	125	57	125	57	125	57
Economizer	170	77	170	77	170	77	195	88
Copper Tube/Fin Evaporator Coil	110	50	110	50	135	61	161	73
Electric Heater	85	39	85	39	85	39	85	39
Single Point Kit	15	7	15	7	15	7	15	7
Roof Curb 14-in (356mm)	240	109	240	109	240	109	255	116
Roof Curb 24-in (610mm)	340	154	340	154	340	154	355	161
Louvered Hail Guard	60	27	60	27	120	54	150	68
CO <sub>2</sub> sensor	5	2	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2
Fan/Filter Status Switch	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7
HACR Circuit Breaker	15	7	15	7	15	7	15	7
Powered Convenience Outlet	35	16	35	16	35	16	35	16
Non-Powered Convenience Outlet	5	2	5	2	5	2	5	2
Enthalpy Sensor	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1
Two Position Motorized Damper	50	23	50	23	50	23	65	29
Manual Damper	35	16	35	16	35	16	40	18
Field Filter Track 4-in (102mm)	12	5	12	5	12	5	12	5
MotorMaster Controller	35	16	35	16	35	16	35	16
Standard Static Motor/Drive	0	0	0	0	0	0	0	0
Medium Static Motor/Drive	5	2	6	3	6	3	6	3
High Static Motor/Drive	11	5	12	5	16	7	16	7
Barometric Relief Hood (Horizontal)	25	11	25	11	25	11	25	11
SAV System with VFD	20	9	20	9	20	9	20	9

## 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 35°F (2°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 125°F (52°C). While cooling operation above 125°F (52°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.

## APPLICATION/SELECTION DATA (cont.)

### **Staged Air Volume (SAV) with Variable Frequency Drive (VFD)**

Carrier's Staged Air Volume (SAV) system utilizes 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.

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 module 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 operation.

**Table 6 – COOLING CAPACITIES**

**2-STAGE COOLING**

**15 TONS**

50HC*D17			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		
4500 CFM	EAT (wb)	58	TC	158.3	158.3	179.2	152.6	152.6	172.9	146.6	146.6	166.1	140.2	140.2	158.8	133.2	133.2	150.8	
		SHC	137.3	158.3	179.2	132.4	152.6	172.9	127.2	146.6	166.1	121.6	140.2	158.8	115.5	133.2	150.8		
		62	TC	166.8	166.8	169.0	159.5	159.5	165.6	151.8	151.8	161.9	143.6	143.6	157.9	134.9	134.9	153.4	
		SHC	123.1	146.1	169.0	119.7	142.6	165.6	116.1	139.0	161.9	112.3	135.1	157.9	108.2	130.8	153.4		
		67	TC	182.9	182.9	182.9	174.9	174.9	174.9	166.3	166.3	166.3	157.2	157.2	157.2	147.6	147.6	147.6	
		SHC	100.0	123.1	146.1	96.7	119.8	142.8	93.2	116.3	139.4	89.7	112.7	135.7	85.9	108.9	131.9		
	72	TC	200.5	200.5	200.5	191.6	191.6	191.6	182.2	182.2	182.2	172.2	172.2	172.2	161.7	161.7	161.7		
	SHC	76.1	99.5	122.8	72.9	96.2	119.5	69.5	92.8	116.1	66.0	89.3	112.5	62.4	85.6	108.8			
	76	TC	-	215.4	215.4	-	205.8	205.8	-	195.6	195.6	-	184.8	184.8	-	173.6	173.6		
	SHC	-	80.2	105.0	-	77.1	101.7	-	73.7	98.2	-	70.2	94.5	-	66.7	90.7			
	5250 CFM	EAT (wb)	58	TC	166.7	166.7	188.8	160.6	160.6	181.9	154.0	154.0	174.4	147.0	147.0	166.5	139.5	139.5	157.9
			SHC	144.6	166.7	188.8	139.3	160.6	181.9	133.6	154.0	174.4	127.6	147.0	166.5	121.0	139.5	157.9	
62			TC	172.0	172.0	185.1	164.3	164.3	181.2	156.3	156.3	177.0	147.8	147.8	172.4	139.6	139.6	164.3	
SHC			132.5	158.8	185.1	128.9	155.1	181.2	125.0	151.0	177.0	120.9	146.6	172.4	114.9	139.6	164.3		
67			TC	188.3	188.3	188.3	179.7	179.7	179.7	170.7	170.7	170.7	161.0	161.0	161.0	150.9	150.9	150.9	
SHC			106.1	132.7	159.3	102.8	129.3	155.9	99.3	125.8	152.4	95.6	122.1	148.6	91.7	118.2	144.7		
72		TC	206.1	206.1	206.1	196.7	196.7	196.7	186.7	186.7	186.7	176.2	176.2	176.2	165.3	165.3	165.3		
SHC		78.8	105.6	132.5	75.5	102.3	129.1	72.1	98.8	125.6	68.5	95.2	121.9	64.8	91.4	118.0			
76		TC	-	221.2	221.2	-	211.0	211.0	-	200.3	200.3	-	189.0	189.0	-	177.2	177.2		
SHC		-	83.6	111.7	-	80.3	108.2	-	76.9	104.6	-	73.3	100.9	-	69.7	97.1			
6000 CFM		EAT (wb)	58	TC	173.8	173.8	196.8	167.2	167.2	189.4	160.2	160.2	181.4	152.7	152.7	173.0	144.7	144.7	163.8
			SHC	150.8	173.8	196.8	145.1	167.2	189.4	139.0	160.2	181.4	132.5	152.7	173.0	125.5	144.7	163.8	
	62		TC	176.3	176.3	199.5	168.5	168.5	194.9	160.5	160.5	188.9	152.9	152.9	179.9	144.8	144.8	170.4	
	SHC		140.9	170.2	199.5	136.9	165.9	194.9	132.1	160.5	188.9	125.8	152.9	179.9	119.2	144.8	170.4		
	67		TC	192.3	192.3	192.3	183.4	183.4	183.4	173.9	173.9	173.9	164.0	164.0	164.0	153.4	153.4	156.9	
	SHC		112.0	142.0	172.0	108.5	138.5	168.5	104.9	134.9	164.8	101.2	131.1	161.0	97.2	127.1	156.9		
	72	TC	210.4	210.4	210.4	200.6	200.6	200.6	190.2	190.2	190.2	179.3	179.3	179.3	167.9	167.9	167.9		
	SHC	81.2	111.4	141.7	77.9	108.0	138.2	74.4	104.5	134.6	70.7	100.8	130.8	67.0	96.9	126.9			
	76	TC	-	225.6	225.6	-	215.0	215.0	-	203.8	203.8	-	192.1	192.1	-	180.0	180.0		
	SHC	-	86.7	117.9	-	83.3	114.5	-	79.9	110.8	-	76.3	107.1	-	72.6	103.2			
	6750 CFM	EAT (wb)	58	TC	179.8	179.8	203.7	172.9	172.9	195.8	165.5	165.5	187.4	157.5	157.5	178.4	149.0	149.0	168.8
			SHC	156.0	179.8	203.7	150.0	172.9	195.8	143.5	165.5	187.4	136.7	157.5	178.4	129.3	149.0	168.8	
62			TC	180.5	180.5	210.7	173.0	173.0	203.6	165.6	165.6	194.9	157.7	157.7	185.5	149.1	149.1	175.5	
SHC			147.6	179.2	210.7	142.4	173.0	203.6	136.3	165.6	194.9	129.8	157.7	185.5	122.8	149.1	175.5		
67			TC	195.6	195.6	195.6	186.2	186.2	186.2	176.5	176.5	176.8	166.2	166.2	172.7	155.4	155.4	168.4	
SHC			117.5	150.8	184.1	114.0	147.3	180.5	110.4	143.6	176.8	106.5	139.6	172.7	102.4	135.4	168.4		
72		TC	213.8	213.8	213.8	203.6	203.6	203.6	192.9	192.9	192.9	181.6	181.6	181.6	169.9	169.9	169.9		
SHC		83.5	117.0	150.5	80.1	113.5	147.0	76.5	109.9	143.3	72.8	106.1	139.4	69.1	102.3	135.5			
76		TC	-	229.1	229.1	-	218.1	218.1	-	206.6	206.6	-	194.6	194.6	-	182.1	182.1		
SHC		-	89.6	124.0	-	86.2	120.5	-	82.7	116.8	-	79.0	113.0	-	75.2	109.0			
7500 CFM		EAT (wb)	58	TC	185.1	185.1	209.6	177.7	177.7	201.3	170.0	170.0	192.5	161.6	161.6	183.0	152.8	152.8	173.0
			SHC	160.6	185.1	209.6	154.2	177.7	201.3	147.5	170.0	192.5	140.2	161.6	183.0	132.5	152.8	173.0	
	62		TC	185.2	185.2	218.0	177.9	177.9	209.3	170.1	170.1	200.2	161.8	161.8	190.4	152.9	152.9	179.9	
	SHC		152.5	185.2	218.0	146.4	177.9	209.3	140.0	170.1	200.2	133.2	161.8	190.4	125.8	152.9	179.9		
	67		TC	198.1	198.1	198.1	188.6	188.6	192.1	178.6	178.6	188.1	168.1	168.1	183.8	157.2	157.2	179.1	
	SHC		122.8	159.3	195.9	119.2	155.7	192.1	115.5	151.8	188.1	111.5	147.7	183.8	107.3	143.2	179.1		
	72	TC	216.6	216.6	216.6	206.1	206.1	206.1	195.1	195.1	195.1	183.5	183.5	183.5	171.6	171.6	171.6		
	SHC	85.6	122.3	159.0	82.2	118.8	155.5	78.6	115.2	151.7	74.9	111.3	147.8	71.1	107.4	143.8			
	76	TC	-	231.9	231.9	-	220.7	220.7	-	208.9	208.9	-	196.5	196.5	-	183.8	183.8		
	SHC	-	92.4	129.9	-	88.9	126.3	-	85.4	122.6	-	81.6	118.7	-	77.8	114.6			

\* 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



50HC017 (15 TONS) – UNIT WITH HUMIDI-MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent 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	202.9	184.6	166.2	213.7	194.6	175.4	222.3	202.5	182.7
	SHC	91.9	112.4	132.9	106.1	126.4	146.8	117.5	137.7	158.0
	kW	10.19	10.12	9.78	10.51	10.19	9.95	10.61	10.36	10.12
85	TC	189.8	171.8	153.8	201.0	182.2	163.3	209.9	190.4	170.8
	SHC	75.9	101.0	126.2	91.2	116.3	141.3	103.4	128.4	153.5
	kW	11.57	11.49	11.15	11.88	11.56	11.32	11.98	11.73	11.49
95	TC	176.7	159.1	141.4	188.3	169.7	151.2	197.5	178.2	159.0
	SHC	59.8	89.7	119.6	76.2	106.1	135.9	89.4	119.2	149.0
	kW	12.87	12.81	12.47	13.20	12.88	12.64	13.30	13.05	12.81
105	TC	163.6	146.3	129.0	175.6	157.3	139.1	185.1	166.1	147.1
	SHC	43.8	78.4	112.9	61.3	95.9	130.4	75.3	109.9	144.4
	kW	14.05	14.00	13.65	14.39	14.07	13.82	14.40	14.24	14.00
115	TC	150.5	133.5	116.5	162.9	144.9	127.0	172.7	154.0	135.3
	SHC	27.7	67.0	106.3	46.4	85.7	125.0	61.3	100.6	133.4
	kW	15.44	15.36	15.02	15.75	15.43	15.19	15.85	15.60	15.36
125	TC	137.4	120.8	104.1	150.2	132.5	114.9	160.3	141.9	123.5
	SHC	11.7	55.7	99.6	31.4	75.5	112.9	47.3	91.3	123.0
	kW	16.77	16.71	16.37	17.10	16.78	16.54	17.20	16.95	16.71

50HC017 (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	64.50	71.00	73.30	68.40	74.50	77.30	71.20	79.70	80.60
	SHC	12.60	24.90	36.80	6.80	13.70	23.90	-0.80	5.50	13.80
	kW	10.10	10.26	10.42	10.18	10.40	10.56	10.33	10.47	10.67
75	TC	66.60	73.10	75.60	70.50	76.60	79.50	73.20	80.80	82.90
	SHC	14.30	26.70	38.50	8.10	14.90	25.70	0.70	7.00	15.00
	kW	10.05	10.22	10.36	10.14	10.36	10.52	10.28	10.43	10.62
70	TC	68.70	75.10	77.40	72.50	78.60	81.40	75.20	82.80	84.90
	SHC	15.40	27.80	40.00	9.50	16.20	26.80	2.10	8.40	16.30
	kW	10.00	10.18	10.33	10.10	10.31	10.47	10.23	10.40	10.58
60	TC	72.80	79.30	81.60	76.70	82.80	85.70	79.40	86.90	88.80
	SHC	19.00	31.10	43.20	12.70	19.90	30.10	5.30	11.60	20.00
	kW	9.92	10.09	10.24	10.01	10.22	10.37	10.14	10.31	10.49
50	TC	76.80	83.40	85.70	80.80	86.90	89.70	83.50	90.90	92.80
	SHC	21.70	34.20	46.20	15.80	22.70	33.20	8.40	14.70	22.80
	kW	9.83	10.00	10.15	9.92	10.13	10.29	10.05	10.21	10.39
40	TC	80.90	87.30	89.60	84.90	90.80	93.60	87.40	94.80	96.70
	SHC	24.90	37.10	49.30	19.00	26.00	36.10	11.60	17.90	26.20
	kW	9.74	9.91	10.06	9.83	10.04	10.20	9.96	10.12	10.30

**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:

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

$t_{lwb}$  = 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 8 – COOLING CAPACITIES

2-STAGE COOLING

17.5 TONS

50HC*D20			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		
5250 CFM	EAT (wb)	58	TC	185.1	185.1	209.2	178.7	178.7	201.9	171.8	171.8	194.1	164.5	164.5	185.8	156.7	156.7	177.0	
		SHC	161.1	185.1	209.2	155.4	178.7	201.9	149.4	171.8	194.1	143.1	164.5	185.8	136.3	156.7	177.0		
		62	TC	193.8	193.8	199.5	185.6	185.6	195.4	176.9	176.9	191.1	167.7	167.7	186.4	158.2	158.2	181.1	
		SHC	145.6	172.6	199.5	141.7	168.6	195.4	137.6	164.4	191.1	133.2	159.8	186.4	128.3	154.7	181.1		
		67	TC	212.2	212.2	212.2	203.3	203.3	203.3	193.8	193.8	193.8	183.8	183.8	183.8	173.1	173.1	173.1	
		SHC	119.0	146.0	173.1	115.3	142.3	169.4	111.4	138.4	165.4	107.3	134.3	161.3	103.0	130.0	157.0		
	72	TC	232.3	232.3	232.3	222.7	222.7	222.7	212.4	212.4	212.4	201.6	201.6	201.6	190.1	190.1	190.1		
	SHC	91.5	118.8	146.2	87.9	115.2	142.5	84.1	111.4	138.7	80.2	107.4	134.6	76.0	103.2	130.4			
	76	TC	-	249.5	249.5	-	239.2	239.2	-	228.2	228.2	-	216.6	216.6	-	204.3	204.3		
	SHC	-	96.7	125.3	-	93.2	121.7	-	89.5	117.9	-	85.6	113.8	-	81.5	109.5			
	6125 CFM	EAT (wb)	58	TC	194.7	194.7	220.0	187.8	187.8	212.2	180.4	180.4	203.8	172.5	172.5	194.9	164.1	164.1	185.5
			SHC	169.4	194.7	220.0	163.3	187.8	212.2	156.9	180.4	203.8	150.1	172.5	194.9	142.8	164.1	185.5	
62			TC	199.6	199.6	218.0	191.1	191.1	213.5	182.1	182.1	208.4	173.0	173.0	201.2	164.3	164.3	192.8	
SHC			156.5	187.2	218.0	152.3	182.9	213.5	147.7	178.0	208.4	141.8	171.5	201.2	135.8	164.3	192.8		
67			TC	218.0	218.0	218.0	208.7	208.7	208.7	198.7	198.7	198.7	188.2	188.2	188.2	177.1	177.1	177.1	
SHC			126.2	157.4	188.6	122.4	153.6	184.7	118.4	149.6	180.7	114.3	145.4	176.5	109.9	141.0	172.1		
72		TC	238.5	238.5	238.5	228.4	228.4	228.4	217.7	217.7	217.7	206.3	206.3	206.3	194.3	194.3	194.3		
SHC		94.7	126.1	157.5	91.0	122.4	153.8	87.2	118.5	149.8	83.1	114.4	145.7	78.9	110.1	141.4			
76		TC	-	255.9	255.9	-	245.1	245.1	-	233.6	233.6	-	221.4	221.4	-	208.5	208.5		
SHC		-	100.7	133.3	-	97.1	129.6	-	93.3	125.6	-	89.3	121.5	-	85.1	117.1			
7000 CFM		EAT (wb)	58	TC	202.7	202.7	229.1	195.4	195.4	220.8	187.5	187.5	211.9	179.2	179.2	202.5	170.3	170.3	192.4
			SHC	176.4	202.7	229.1	170.0	195.4	220.8	163.1	187.5	211.9	155.9	179.2	202.5	148.1	170.3	192.4	
	62		TC	204.6	204.6	234.4	196.0	196.0	228.0	187.7	187.7	220.3	179.3	179.3	210.5	170.4	170.4	200.0	
	SHC		166.0	200.2	234.4	160.8	194.4	228.0	155.1	187.7	220.3	148.2	179.3	210.5	140.8	170.4	200.0		
	67		TC	222.5	222.5	222.5	212.8	212.8	212.8	202.4	202.4	202.4	191.5	191.5	191.5	180.0	180.0	186.4	
	SHC		133.0	168.2	203.4	129.2	164.3	199.5	125.1	160.3	195.4	120.9	156.0	191.0	116.4	151.4	186.4		
	72	TC	243.3	243.3	243.3	232.7	232.7	232.7	221.6	221.6	221.6	209.9	209.9	209.9	197.4	197.4	197.4		
	SHC	97.5	132.9	168.3	93.8	129.2	164.5	89.9	125.2	160.5	85.8	121.1	156.3	81.6	116.7	151.9			
	76	TC	-	260.8	260.8	-	249.6	249.6	-	237.7	237.7	-	225.1	225.1	-	211.7	211.7		
	SHC	-	104.4	140.8	-	100.7	137.0	-	96.9	133.0	-	92.8	128.8	-	88.5	124.4			
	7875 CFM	EAT (wb)	58	TC	209.6	209.6	236.8	201.8	201.8	228.1	193.6	193.6	218.8	184.8	184.8	208.9	175.5	175.5	198.3
			SHC	182.3	209.6	236.8	175.6	201.8	228.1	168.4	193.6	218.8	160.8	184.8	208.9	152.7	175.5	198.3	
62			TC	209.8	209.8	246.2	202.0	202.0	237.1	193.8	193.8	227.4	185.0	185.0	217.1	175.6	175.6	206.1	
SHC			173.4	209.8	246.2	167.0	202.0	237.1	160.1	193.8	227.4	152.9	185.0	217.1	145.1	175.6	206.1		
67			TC	226.1	226.1	226.1	216.0	216.0	216.0	205.4	205.4	209.4	194.2	194.2	204.8	182.4	182.4	199.9	
SHC			139.6	178.6	217.7	135.6	174.7	213.7	131.5	170.5	209.4	127.1	166.0	204.8	122.5	161.2	199.9		
72		TC	247.0	247.0	247.0	236.2	236.2	236.2	224.7	224.7	224.7	212.7	212.7	212.7	199.9	199.9	199.9		
SHC		100.2	139.5	178.8	96.5	135.7	174.9	92.5	131.7	170.9	88.4	127.5	166.6	84.1	123.1	162.1			
76		TC	-	264.7	264.7	-	253.1	253.1	-	240.9	240.9	-	227.9	227.9	-	-	-		
SHC		-	107.9	148.1	-	104.2	144.3	-	100.2	140.2	-	96.1	135.9	-	-	-			
8750 CFM		EAT (wb)	58	TC	215.4	215.4	243.4	207.3	207.3	234.3	198.7	198.7	224.6	189.6	189.6	214.2	179.9	179.9	203.2
			SHC	187.4	215.4	243.4	180.3	207.3	234.3	172.9	198.7	224.6	164.9	189.6	214.2	156.5	179.9	203.2	
	62		TC	215.5	215.5	253.0	207.5	207.5	243.5	198.9	198.9	233.4	189.7	189.7	222.7	180.0	180.0	211.2	
	SHC		178.1	215.5	253.0	171.5	207.5	243.5	164.4	198.9	233.4	156.8	189.7	222.7	148.8	180.0	211.2		
	67		TC	228.9	228.9	231.5	218.7	218.7	227.3	207.8	207.8	222.8	196.4	196.4	217.9	184.5	184.5	212.6	
	SHC		145.8	188.6	231.5	141.8	184.5	227.3	137.5	180.1	222.8	133.0	175.5	217.9	128.2	170.4	212.6		
	72	TC	250.1	250.1	250.1	239.0	239.0	239.0	227.3	227.3	227.3	214.9	214.9	214.9	201.8	201.8	201.8		
	SHC	102.8	145.8	188.9	99.0	142.0	185.0	95.0	137.9	180.9	90.8	133.7	176.5	86.4	129.2	172.0			
	76	TC	-	267.8	267.8	-	256.0	256.0	-	243.5	243.5	-	230.2	230.2	-	-	-		
	SHC	-	111.2	155.2	-	107.4	151.3	-	103.5	147.1	-	99.3	142.8	-	-	-			

\* 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

50HC020 (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	232.0	211.3	190.6	242.4	221.0	199.7	250.7	228.9	207.0
	SHC	110.9	133.7	156.4	127.6	150.3	173.0	141.1	163.7	186.4
	kW	12.45	12.16	11.81	12.74	12.41	12.02	12.93	12.51	12.18
85	TC	215.9	195.7	175.5	226.0	205.2	184.4	234.2	212.8	191.5
	SHC	90.6	118.8	147.0	108.4	136.6	164.9	122.7	151.0	179.2
	kW	13.48	13.20	12.88	13.77	13.47	13.07	13.96	13.58	13.23
95	TC	199.7	180.0	160.3	209.7	189.4	169.1	217.6	196.8	176.1
	SHC	70.3	104.0	137.7	89.2	123.0	156.7	104.4	138.2	172.1
	kW	14.60	14.25	13.94	14.89	14.51	14.15	15.08	14.63	14.31
105	TC	183.6	164.5	145.2	193.3	173.5	153.8	201.0	180.8	160.6
	SHC	50.0	89.1	128.3	70.0	109.3	148.6	86.0	125.5	158.6
	kW	15.64	15.36	15.01	15.93	15.60	15.21	16.12	15.72	15.37
115	TC	167.5	148.8	130.1	176.9	157.7	138.5	184.5	164.8	145.1
	SHC	29.7	74.3	118.9	50.7	95.6	138.1	67.7	112.7	145.1
	kW	16.70	16.38	15.82	16.98	16.63	16.03	17.17	16.75	16.19
125	TC	151.4	133.2	115.0	160.6	141.9	123.1	167.9	148.8	129.7
	SHC	9.4	59.5	109.6	31.5	81.9	123.0	49.3	100.0	129.7
	kW	17.71	17.39	17.09	18.01	17.65	17.30	18.20	17.76	17.46

50HC020 (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	67.80	71.30	74.10	70.50	74.80	79.80	73.30	78.20	82.40
	SHC	9.00	26.50	41.70	2.20	13.20	26.90	-5.20	2.90	13.80
	kW	11.65	11.75	11.87	11.82	11.90	11.98	11.93	12.10	12.19
75	TC	72.50	76.00	78.80	75.00	79.20	84.30	78.00	83.00	86.90
	SHC	13.40	30.90	46.10	6.50	18.00	31.30	-2.10	7.20	17.90
	kW	11.44	11.54	11.66	11.61	11.68	11.75	11.70	11.86	11.95
70	TC	77.10	80.60	83.40	79.50	83.90	88.90	82.40	87.30	91.10
	SHC	17.60	34.70	49.90	10.80	22.20	35.10	3.20	11.50	22.20
	kW	11.22	11.33	11.45	11.40	11.46	11.54	11.49	11.64	11.75
60	TC	86.30	89.90	92.70	88.80	93.20	98.20	91.70	96.60	100.50
	SHC	26.20	43.20	58.40	19.40	30.80	43.60	11.60	20.10	30.70
	kW	10.76	10.86	10.98	10.93	11.00	11.07	11.03	11.18	11.28
50	TC	95.50	99.10	101.90	98.00	102.40	107.40	101.00	106.00	109.80
	SHC	34.80	51.80	67.00	28.00	39.40	52.20	20.10	28.70	39.40
	kW	10.33	10.43	10.55	10.50	10.52	10.63	10.59	10.74	10.85
40	TC	104.80	108.40	111.20	107.30	111.70	116.60	110.30	115.30	119.10
	SHC	43.40	60.40	75.60	36.60	48.00	60.80	28.80	37.30	47.90
	kW	9.87	9.97	10.09	10.04	10.11	10.18	10.14	10.28	10.40

**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:

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

$t_{lwb}$  = 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 10 – COOLING CAPACITIES**

**2-STAGE COOLING**

**20 TONS**

50HC*D24			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		
6000 CFM	EAT (wb)	58	TC	214.4	214.4	242.5	207.0	207.0	234.2	199	199	225.1	190.2	190.2	215.2	180.6	180.6	204.3	
		SHC	186.3	214.4	242.5	179.9	207.0	234.2	173	199	225.1	165.3	190.2	215.2	157.0	180.6	204.3		
		62	TC	226.8	226.8	227.7	217.3	217.3	223.0	206.9	206.9	218	195.8	195.8	212.5	183.7	183.7	206.4	
		SHC	167.0	197.3	227.7	162.4	192.7	223.0	157.6	187.8	218	152.3	182.4	212.5	146.6	176.5	206.4		
		67	TC	248.4	248.4	248.4	237.9	237.9	237.9	226.6	226.6	226.6	214.3	214.3	214.3	201.0	201.0	201.0	
		SHC	136.5	167.1	197.6	132.2	162.7	193.2	127.5	158	188.4	222.5	152.9	183.4	117.2	147.6	178.0		
	72	TC	271.9	271.9	271.9	260.3	260.3	260.3	247.9	247.9	247.9	234.5	234.5	234.5	220.1	220.1	220.1		
	SHC	105.1	136.0	167.0	100.8	131.7	162.5	96.3	127.1	157.9	91.4	122.1	152.9	86.3	116.9	147.6			
	76	TC	-	291.7	291.7	-	279.2	279.2	-	265.7	265.7	-	251.3	251.3	-	235.8	235.8		
	SHC	-	110.7	143.7	-	106.5	139.5	-	102	134.7	-	97.2	129.7	-	92.1	124.3			
	7000 CFM	EAT (wb)	58	TC	225.8	225.8	255.3	217.8	217.8	246.3	209.1	209.1	236.5	199.6	199.6	225.7	189.2	189.2	214.0
			SHC	196.2	225.8	255.3	189.3	217.8	246.3	181.7	209.1	236.5	173.4	199.6	225.7	164.4	189.2	214.0	
62			TC	233.9	233.9	248.8	223.8	223.8	243.8	213.1	213.1	238.2	201.4	201.4	231.8	190.0	190.0	221.5	
SHC			179.4	214.1	248.8	174.6	209.2	243.8	169.4	203.8	238.2	163.7	197.8	231.8	155.9	188.7	221.5		
67			TC	255.7	255.7	255.7	244.6	244.6	244.6	232.6	232.6	232.6	219.6	219.6	219.6	205.7	205.7	205.7	
SHC			144.7	179.7	214.8	140.2	175.2	210.2	135.4	170.4	205.4	130.3	165.2	200.2	124.9	159.8	194.7		
72		TC	279.4	279.4	279.4	267.3	267.3	267.3	254.1	254.1	254.1	240.1	240.1	240.1	224.9	224.9	224.9		
SHC		108.7	144.1	179.6	104.3	139.7	175.1	99.6	135	170.3	94.7	129.9	165.1	89.5	124.6	159.7			
76		TC	-	299.4	299.4	-	286.2	286.2	-	272.1	272.1	-	256.9	256.9	-	240.7	240.7		
SHC		-	115.3	152.9	-	110.9	148.2	-	106.3	143.3	-	101.3	138.0	-	96.1	132.6			
8000 CFM		EAT (wb)	58	TC	235.3	235.3	266.2	226.8	226.8	256.5	217.5	217.5	246	207.4	207.4	234.5	196.3	196.3	222.0
			SHC	204.5	235.3	266.2	197.1	226.8	256.5	189	217.5	246	180.2	207.4	234.5	170.6	196.3	222.0	
	62		TC	239.7	239.7	268.1	229.4	229.4	262.0	219	219	253.3	208.3	208.3	241.9	196.7	196.7	231.0	
	SHC		190.7	229.4	268.1	185.4	223.7	262.0	178.6	215.9	253.3	170.4	206.2	241.9	162.3	196.7	231.0		
	67		TC	261.3	261.3	261.3	249.6	249.6	249.6	237.1	237.1	237.1	223.6	223.6	223.6	209.2	209.2	210.6	
	SHC		152.3	191.8	231.2	147.7	187.1	226.6	142.9	182.2	221.6	137.7	177.0	216.3	132.2	171.4	210.6		
	72	TC	285.3	285.3	285.3	272.5	272.5	272.5	258.9	258.9	258.9	244.2	244.2	244.2	228.6	228.6	228.6		
	SHC	111.9	151.7	191.5	107.5	147.2	186.9	102.7	142.4	182	97.7	137.2	176.7	92.4	131.8	171.2			
	76	TC	-	305.4	305.4	-	291.6	291.6	-	276.8	276.8	-	261.2	261.2	-	244.4	244.4		
	SHC	-	119.4	161.0	-	114.9	156.2	-	110.1	151.2	-	105.1	146.0	-	99.8	140.4			
	9000 CFM	EAT (wb)	58	TC	243.5	243.5	275.4	234.5	234.5	265.2	224.6	224.6	254	213.9	213.9	241.9	202.3	202.3	228.8
			SHC	211.6	243.5	275.4	203.8	234.5	265.2	195.2	224.6	254	185.9	213.9	241.9	175.8	202.3	228.8	
62			TC	245.4	245.4	282.9	235.4	235.4	274.6	225	225	264.3	214.4	214.4	251.7	202.5	202.5	237.8	
SHC			199.7	241.3	282.9	193.2	233.9	274.6	185.6	224.9	264.3	176.8	214.3	251.7	167.1	202.5	237.8		
67			TC	265.6	265.6	265.6	253.6	253.6	253.6	240.7	240.7	240.7	226.8	226.8	231.8	212.0	212.0	225.8	
SHC			159.6	203.3	247.1	154.9	198.6	242.3	150	193.6	237.3	144.7	188.3	231.8	139.0	182.4	225.8		
72		TC	289.9	289.9	289.9	276.7	276.7	276.7	262.6	262.6	262.6	247.5	247.5	247.5	231.4	231.4	231.4		
SHC		114.9	159.0	203.0	110.4	154.4	198.3	105.6	149.5	193.3	100.5	144.2	188.0	95.2	138.7	182.3			
76		TC	-	310.1	310.1	-	295.8	295.8	-	280.6	280.6	-	264.4	264.4	-	247.3	247.3		
SHC		-	123.2	168.9	-	118.6	164.1	-	113.8	159	-	108.7	153.6	-	103.4	147.9			
10,000 CFM		EAT (wb)	58	TC	250.4	250.4	283.2	240.9	240.9	272.5	230.7	230.7	260.9	219.5	219.5	248.2	207.3	207.3	234.5
			SHC	217.7	250.4	283.2	209.4	240.9	272.5	200.5	230.7	260.9	190.7	219.5	248.2	180.2	207.3	234.5	
	62		TC	250.8	250.8	294.6	241.1	241.1	283.3	231.1	231.1	271.4	219.6	219.6	258.0	207.5	207.5	243.7	
	SHC		207.0	250.8	294.6	199.0	241.1	283.3	190.7	231.1	271.4	181.2	219.6	258.0	171.2	207.5	243.7		
	67		TC	269.2	269.2	269.2	256.8	256.8	257.6	243.5	243.5	252.3	229.4	229.4	246.4	214.3	214.3	240.0	
	SHC		166.6	214.5	262.5	161.9	209.7	257.6	156.8	204.5	252.3	151.3	198.9	246.4	145.5	192.8	240.0		
	72	TC	293.7	293.7	293.7	280.1	280.1	280.1	265.6	265.6	265.6	250.2	250.2	250.2	233.7	233.7	233.7		
	SHC	117.8	166.0	214.2	113.2	161.3	209.3	108.3	156.3	204.3	103.2	151.0	198.8	97.8	145.4	193.1			
	76	TC	-	313.9	313.9	-	299.3	299.3	-	283.7	283.7	-	267.1	267.1	-	249.6	249.6		
	SHC	-	126.8	176.5	-	122.2	171.6	-	117.3	166.5	-	112.1	161.0	-	106.7	155.1			

\* 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

50HC024 (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	281.6	256.5	231.3	293.1	267.0	240.9	302.3	275.4	248.6
	SHC	114.7	141.0	167.4	140.6	166.6	192.6	161.6	187.3	212.9
	kW	13.52	13.25	12.95	13.82	13.46	13.21	13.97	13.60	13.31
85	TC	261.3	236.9	212.4	272.1	247.7	221.3	280.7	254.6	228.5
	SHC	90.9	123.5	156.1	118.8	151.1	183.3	141.4	173.4	205.4
	kW	14.95	14.68	14.48	15.25	14.89	14.64	15.40	15.03	14.74
95	TC	241.1	217.2	193.4	251.1	226.4	201.7	259.2	233.8	208.4
	SHC	67.2	106.0	144.8	97.1	120.1	174.1	121.2	159.5	197.8
	kW	16.52	16.25	15.95	16.82	16.46	16.21	16.97	16.60	16.31
105	TC	220.8	197.5	174.4	230.2	206.2	182.2	237.7	213.0	188.4
	SHC	43.4	88.4	133.5	75.3	120.1	164.9	101.0	145.7	178.9
	kW	18.09	17.82	17.52	18.39	18.03	17.78	18.54	18.17	17.88
115	TC	200.5	178.0	155.5	209.2	185.9	162.6	216.2	192.2	168.7
	SHC	19.7	70.9	122.2	53.5	104.6	155.7	80.9	131.8	161.2
	kW	19.65	19.38	19.08	19.95	19.59	19.34	20.10	19.73	19.44
125	TC	180.2	158.4	136.5	188.2	165.6	143.0	194.7	171.4	148.2
	SHC	-4.1	53.4	110.8	31.7	89.1	142.2	60.7	118.0	145.1
	kW	20.59	20.32	20.02	20.89	20.53	20.28	21.04	20.67	20.38

50HC024 (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	115.20	123.30	130.60	120.40	129.30	138.20	122.80	135.00	143.70
	SHC	40.80	58.30	76.10	32.30	45.50	60.40	20.10	34.30	48.00
	kW	13.24	13.32	13.39	13.43	13.57	13.65	13.49	13.68	13.74
75	TC	119.80	128.60	135.90	125.50	135.30	143.20	128.00	139.50	148.40
	SHC	45.60	62.80	82.10	37.00	49.80	65.20	24.30	38.70	52.60
	kW	13.05	13.10	13.17	13.21	13.35	13.43	13.27	13.46	13.52
70	TC	122.50	133.10	140.20	129.80	140.70	147.60	132.40	144.40	153.20
	SHC	49.80	76.00	86.10	41.10	54.30	69.20	28.80	41.40	56.80
	kW	12.80	12.87	12.94	12.98	13.12	13.20	13.04	13.23	13.29
60	TC	133.80	142.50	149.60	139.30	150.40	157.40	141.50	154.20	163.00
	SHC	58.60	76.00	95.00	50.20	63.50	78.10	37.80	52.10	65.90
	kW	12.34	12.42	12.49	12.53	12.67	12.75	12.59	12.78	12.84
50	TC	143.50	151.80	159.30	149.00	160.00	167.00	151.30	163.60	172.50
	SHC	67.70	84.80	103.80	59.10	72.40	87.00	46.70	61.00	74.90
	kW	11.88	11.95	12.03	12.07	12.21	12.29	12.13	12.32	12.38
40	TC	153.20	161.30	168.70	158.60	169.20	176.60	160.80	173.10	182.00
	SHC	76.50	93.60	111.60	68.00	81.50	95.80	55.80	69.80	84.00
	kW	11.42	11.49	11.56	11.60	11.74	11.82	11.66	11.85	11.91

**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:

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

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

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

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

Table 12 – COOLING CAPACITIES

2-STAGE COOLING

25 TONS

50HC*D28			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	TC	264.4	264.4	298.9	254.6	254.6	287.9	244.1	244.1	276.0	232.7	232.7	263.1	220.3	220.3	249.1	
		SHC	229.9	264.4	298.9	221.4	254.6	287.9	212.2	244.1	276.0	202.3	232.7	263.1	191.5	220.3	249.1		
		62	TC	278.7	278.7	282.4	266.3	266.3	276.4	252.8	252.8	269.8	238.5	238.5	262.4	223.9	223.9	251.3	
		SHC	206.8	244.6	282.4	200.9	238.7	276.4	194.6	232.2	269.8	187.7	225.0	262.4	178.7	215.0	251.3		
		67	TC	305.3	305.3	305.3	291.9	291.9	291.9	277.3	277.3	277.3	261.5	261.5	261.5	244.5	244.5	244.5	
		SHC	169.0	207.0	245.0	163.4	201.4	239.4	157.4	195.3	233.3	151.0	188.9	226.8	144.2	182.1	219.9		
	72	TC	334.0	334.0	334.0	319.4	319.4	319.4	303.6	303.6	303.6	286.5	286.5	286.5	268.1	268.1	268.1		
	SHC	129.9	168.5	207.1	124.5	163.0	201.5	118.7	157.1	195.5	112.5	150.8	189.2	106.0	144.2	182.3			
	76	TC	-	358.2	358.2	-	342.4	342.4	-	325.4	325.4	-	307.1	307.1	-	287.4	287.4		
	SHC	-	137.0	178.2	-	131.7	172.9	-	126.0	166.9	-	119.9	160.4	-	113.4	153.4			
	8,750 CFM	EAT (wb)	58	TC	278.2	278.2	314.5	267.8	267.8	302.8	256.5	256.5	289.9	244.2	244.2	276.1	230.8	230.8	261.0
			SHC	241.9	278.2	314.5	232.8	267.8	302.8	223.0	256.5	289.9	212.3	244.2	276.1	200.7	230.8	261.0	
62			TC	287.2	287.2	308.3	274.3	274.3	301.5	260.8	260.8	291.7	247.0	247.0	280.9	232.0	232.0	269.1	
SHC			222.1	265.2	308.3	215.7	258.6	301.5	207.7	249.7	291.7	199.0	240.0	280.9	189.7	229.4	269.1		
67			TC	314.0	314.0	314.0	299.8	299.8	299.8	284.4	284.4	284.4	267.8	267.8	267.8	250.0	250.0	250.0	
SHC			179.1	222.7	266.4	173.3	216.9	260.6	167.2	210.8	254.3	160.7	204.2	247.7	153.7	197.2	240.6		
72		TC	343.0	343.0	343.0	327.7	327.7	327.7	311.1	311.1	311.1	293.1	293.1	293.1	273.8	273.8	273.8		
SHC		134.3	178.5	222.6	128.8	172.9	216.9	122.9	166.9	210.8	116.6	160.4	204.3	109.9	153.6	197.3			
76		TC	-	367.3	367.3	-	350.8	350.8	-	333.0	333.0	-	313.8	313.8	-	293.2	293.2		
SHC		-	142.6	189.4	-	137.1	183.5	-	131.2	177.3	-	125.0	170.7	-	118.4	163.7			
10,000 CFM		EAT (wb)	58	TC	289.7	289.7	327.5	278.7	278.7	315.0	266.6	266.6	301.4	253.6	253.6	286.7	239.4	239.4	270.7
			SHC	251.9	289.7	327.5	242.3	278.7	315.0	231.8	266.6	301.4	220.5	253.6	286.7	208.2	239.4	270.7	
	62		TC	294.6	294.6	329.6	282.2	282.2	319.7	268.7	268.7	309.1	254.1	254.1	298.4	239.7	239.7	281.4	
	SHC		234.7	282.1	329.6	226.8	273.3	319.7	218.4	263.7	309.1	209.7	254.1	298.4	197.9	239.7	281.4		
	67		TC	320.6	320.6	320.6	305.9	305.9	305.9	289.9	289.9	289.9	272.7	272.7	272.7	254.3	254.3	260.3	
	SHC		188.6	237.7	286.8	182.7	231.8	280.9	176.5	225.5	274.5	169.8	218.8	267.7	162.8	211.5	260.3		
	72	TC	350.0	350.0	350.0	334.0	334.0	334.0	316.8	316.8	316.8	298.2	298.2	298.2	278.3	278.3	278.3		
	SHC	138.4	187.9	237.5	132.8	182.2	231.7	126.8	176.1	225.5	120.4	169.6	218.8	113.6	162.6	211.7			
	76	TC	-	374.4	374.4	-	357.3	357.3	-	338.7	338.7	-	318.9	318.9	-	297.5	297.5		
	SHC	-	147.7	199.5	-	142.1	193.7	-	136.1	187.4	-	129.7	180.6	-	123.0	173.5			
	11,250 CFM	EAT (wb)	58	TC	299.4	299.4	338.4	287.8	287.8	325.4	275.2	275.2	311.1	261.4	261.4	295.6	246.6	246.6	278.8
			SHC	260.3	299.4	338.4	250.2	287.8	325.4	239.2	275.2	311.1	227.3	261.4	295.6	214.4	246.6	278.8	
62			TC	302.2	302.2	346.0	289.3	289.3	335.7	275.5	275.5	323.5	262.1	262.1	307.7	246.8	246.8	289.8	
SHC			244.8	295.4	346.0	236.7	286.2	335.7	227.5	275.5	323.5	216.4	262.1	307.7	203.8	246.8	289.8		
67			TC	325.9	325.9	325.9	310.7	310.7	310.7	294.2	294.2	294.2	276.6	276.6	286.7	257.7	257.7	278.9	
SHC			197.6	252.1	306.5	191.7	246.1	300.4	185.3	239.6	293.9	178.5	232.6	286.7	171.2	225.1	278.9		
72		TC	355.5	355.5	355.5	339.1	339.1	339.1	321.3	321.3	321.3	302.2	302.2	302.2	281.8	281.8	281.8		
SHC		142.1	197.0	251.8	136.4	191.2	245.9	130.4	185.0	239.6	123.9	178.3	232.8	117.1	171.3	225.5			
76		TC	-	380.0	380.0	-	362.4	362.4	-	343.3	343.3	-	322.8	322.8	-	300.9	300.9		
SHC		-	152.4	209.4	-	146.8	203.4	-	140.7	197.0	-	134.2	190.2	-	127.3	182.8			
12,500 CFM		EAT (wb)	58	TC	307.7	307.7	347.9	295.7	295.7	334.2	282.5	282.5	319.3	268.2	268.2	303.2	252.7	252.7	285.7
			SHC	267.6	307.7	347.9	257.1	295.7	334.2	245.6	282.5	319.3	233.2	268.2	303.2	219.7	252.7	285.7	
	62		TC	308.4	308.4	362.2	295.9	295.9	347.4	283.1	283.1	332.4	268.4	268.4	315.2	252.8	252.8	296.9	
	SHC		254.6	308.4	362.2	244.4	295.9	347.4	233.8	283.1	332.4	221.7	268.4	315.2	208.8	252.8	296.9		
	67		TC	330.2	330.2	330.2	314.6	314.6	319.2	297.8	297.8	312.3	279.8	279.8	304.7	260.6	260.6	295.9	
	SHC		206.3	265.9	325.5	200.3	259.7	319.2	193.8	253.1	312.3	186.7	245.7	304.7	179.0	237.4	295.9		
	72	TC	360.1	360.1	360.1	343.2	343.2	343.2	325.0	325.0	325.0	305.4	305.4	305.4	284.6	284.6	284.6		
	SHC	145.7	205.7	265.7	139.9	199.8	259.7	133.8	193.5	253.3	127.3	186.8	246.3	120.4	179.7	238.9			
	76	TC	-	384.6	384.6	-	366.5	366.5	-	346.9	346.9	-	325.9	325.9	-	303.5	303.5		
	SHC	-	157.0	218.9	-	151.2	212.9	-	145.1	206.3	-	138.5	199.3	-	131.5	191.7			

\* 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

50HC028 (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	351.3	319.5	287.8	370.4	337.3	304.1	385.8	351.5	317.2
	SHC	166.5	199.4	232.3	191.2	245.6	258.5	211.4	245.6	279.9
	kW	16.75	16.55	15.20	17.30	16.75	15.85	17.80	17.50	16.50
85	TC	327.5	296.4	265.3	346.1	313.6	281.2	361.1	327.5	294.0
	SHC	137.4	178.2	219.0	162.6	204.5	246.4	183.3	226.0	268.7
	kW	18.65	18.45	17.25	19.20	18.65	17.80	19.45	19.15	18.15
95	TC	303.7	273.3	242.9	321.8	290.0	258.3	336.4	303.5	270.7
	SHC	108.2	157.0	205.8	134.0	184.1	234.3	155.1	206.4	257.6
	kW	20.60	20.40	19.34	21.15	20.60	19.95	21.60	21.30	20.30
105	TC	279.9	250.2	220.4	297.5	266.4	235.3	311.7	279.5	247.4
	SHC	79.0	135.8	192.5	105.4	163.8	222.2	127.1	186.7	246.4
	kW	22.85	22.65	21.45	23.40	22.85	22.05	23.70	23.40	22.40
115	TC	256.2	227.1	198.0	273.2	242.8	212.4	287.0	255.5	224.1
	SHC	49.9	114.5	179.2	76.8	143.4	210.1	98.9	167.1	223.8
	kW	25.05	24.85	23.65	25.60	25.05	24.25	25.90	25.60	24.60
125	TC	232.4	203.9	175.5	248.9	219.2	189.5	262.3	231.5	200.8
	SHC	20.7	93.3	166.0	48.2	123.1	188.9	70.8	147.4	200.8
	kW	27.25	27.05	25.80	27.80	27.25	26.50	28.15	27.85	26.85

50HC028 (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	124.40	133.90	139.00	132.00	142.10	145.10	135.60	149.10	151.50
	SHC	37.60	60.70	82.20	27.80	45.40	65.80	17.50	34.20	50.10
	kW	15.83	15.90	16.00	15.97	16.13	16.16	16.11	16.31	16.38
75	TC	129.00	138.50	144.60	136.60	147.60	150.10	140.60	154.00	156.30
	SHC	47.10	70.60	92.10	37.30	55.30	75.70	27.00	43.70	60.00
	kW	15.77	15.83	15.94	15.91	16.07	16.10	16.05	16.25	16.32
70	TC	133.60	143.10	149.20	141.20	152.30	154.80	145.30	158.80	161.10
	SHC	57.30	80.70	102.20	47.50	65.40	85.80	37.20	53.90	70.10
	kW	15.68	15.75	15.86	15.83	16.00	16.04	15.88	16.08	16.15
60	TC	142.80	158.40	158.40	150.40	161.40	163.90	153.90	167.40	169.70
	SHC	76.50	121.40	121.40	66.70	84.60	105.00	56.40	73.10	89.30
	kW	15.54	15.60	15.71	15.68	15.84	15.87	15.82	16.02	16.09
50	TC	151.80	161.30	167.40	159.40	170.50	173.20	162.80	176.20	178.80
	SHC	94.10	117.50	139.00	84.30	102.20	122.60	74.00	90.70	106.90
	kW	15.40	15.47	15.58	15.54	15.68	15.71	15.66	15.86	15.93
40	TC	161.20	170.70	176.80	168.80	179.80	182.50	172.20	185.70	188.20
	SHC	114.10	137.60	159.10	104.30	122.30	142.70	94.00	110.70	127.00
	kW	15.24	15.31	15.42	15.39	15.55	15.58	15.53	15.73	15.80

**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:

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

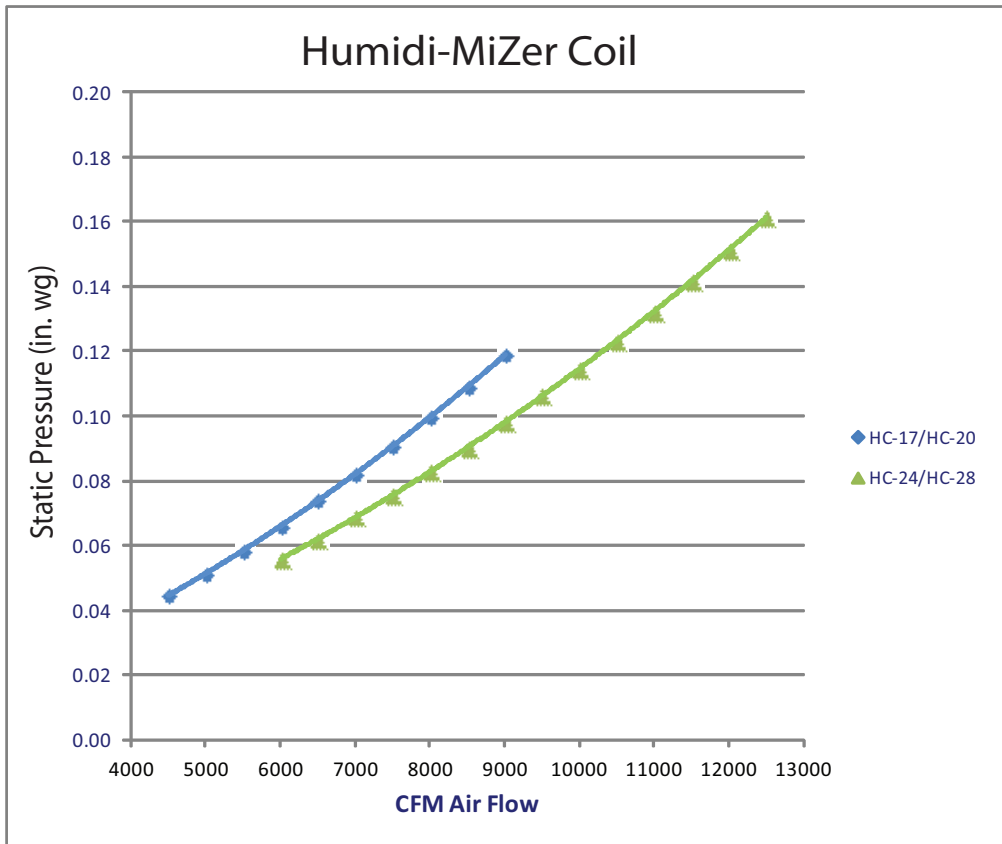
$t_{lwb}$  = Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil ( $h_{lwb}$ )

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

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

**Table 14 – STATIC PRESSURE ADDERS (in. wg) - Factory Options and/or Accessories**

**Humidi-MiZer**



C11174

**Economizer - Vertical and Horizontal Duct Configuration**

MODEL SIZES 17 – 28								
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 – 28									
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

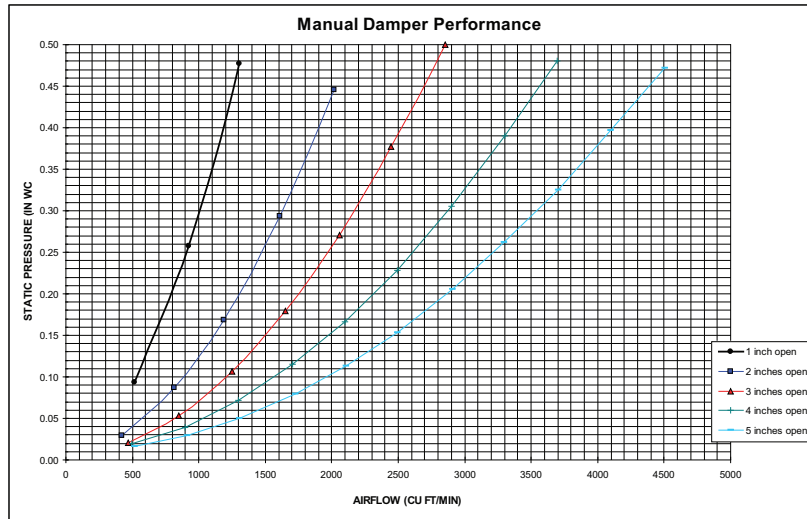
**Electric Heaters - Vertical and Horizontal Duct Configuration**

MODEL SIZES 17 – 28								
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 – 28									
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

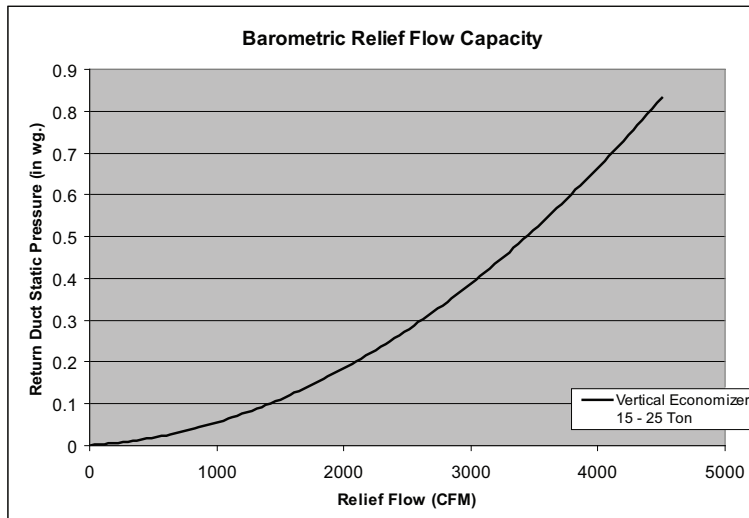


# DAMPER, BAROMETRIC RELIEF AND PE PERFORMANCE



**Fig. 12 - Manual Damper Performance**

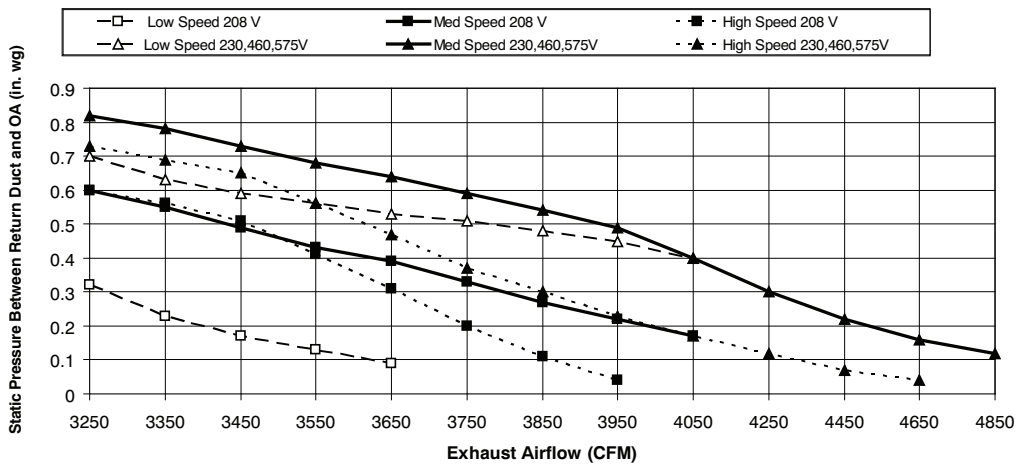
C09264



**Fig. 13 - Barometric Relief Flow Capacity**

C10583

## Power Exhaust Fan Performance



**Fig. 14 - Power Exhaust Fan Performance**

C09270

## 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 15 – 50HC-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	<b>436</b>	<b>0.60</b>	530	0.90	611	1.22	684	1.57	751	1.94
4900	<b>456</b>	<b>0.71</b>	546	1.03	625	1.37	695	1.73	760	2.12
5250	<b>473</b>	<b>0.83</b>	560	1.16	637	1.51	706	1.89	770	2.30
5600	<b>491</b>	<b>0.95</b>	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	<b>665</b>	<b>2.33</b>	729	2.79	788	3.27	<b>844</b>	<b>3.77</b>

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	<b>1024</b>	<b>4.08</b>
4900	821	2.53	877	2.95	931	3.40	981	3.86	<b>1030</b>	<b>4.34</b>
5250	829	2.72	885	3.16	938	3.61	988	4.09	<b>1036</b>	<b>4.57</b>
5600	838	2.92	893	3.37	945	3.84	994	4.33	<b>1042</b>	<b>4.83</b>
6000	849	3.17	903	3.63	954	4.12	1003	4.62	-----	-----
6400	<b>861</b>	<b>3.43</b>	914	3.92	964	4.42	<b>1012</b>	<b>4.94</b>	-----	-----
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 2.2

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 16 – 50HC-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	<b>473</b>	<b>0.83</b>	<b>560</b>	<b>1.16</b>	637	1.51	706	1.89	770	2.30
5700	<b>497</b>	<b>0.99</b>	<b>580</b>	<b>1.34</b>	654	1.72	721	2.12	783	2.54
6100	<b>518</b>	<b>1.15</b>	<b>598</b>	<b>1.53</b>	669	1.92	735	2.34	795	2.78
6500	<b>540</b>	<b>1.33</b>	<b>616</b>	<b>1.73</b>	685	2.14	749	2.58	808	3.03
7000	<b>567</b>	<b>1.59</b>	640	2.01	707	2.45	768	2.91	826	3.38
7500	<b>595</b>	<b>1.88</b>	665	2.33	729	2.79	788	3.27	844	3.77
7900	<b>618</b>	<b>2.14</b>	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	<b>893</b>	<b>4.90</b>

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	<b>880</b>	<b>3.88</b>	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	<b>1085</b>	<b>6.49</b>
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 17 – 50HC-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	<b>506</b>	<b>1.12</b>	<b>593</b>	<b>1.43</b>	<b>668</b>	<b>1.74</b>	736	2.07	798	2.40
6500	<b>533</b>	<b>1.36</b>	<b>616</b>	<b>1.70</b>	689	2.04	754	2.39	815	2.74
7000	<b>561</b>	<b>1.64</b>	<b>640</b>	<b>2.01</b>	710	2.37	774	2.74	833	3.11
7500	<b>588</b>	<b>1.96</b>	<b>664</b>	<b>2.35</b>	732	2.74	795	3.13	852	3.53
8000	<b>617</b>	<b>2.32</b>	689	2.74	755	3.15	816	3.57	872	3.99
8500	<b>645</b>	<b>2.73</b>	715	3.17	779	3.60	837	4.04	892	4.49
9000	<b>674</b>	<b>3.18</b>	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 18 – 50HC-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	<b>541</b>	<b>1.50</b>	<b>636</b>	<b>1.88</b>	<b>716</b>	<b>2.27</b>	787	2.66	850	3.06
8000	<b>563</b>	<b>1.76</b>	<b>656</b>	<b>2.17</b>	735	2.58	804	3.00	867	3.42
8500	<b>585</b>	<b>2.05</b>	<b>676</b>	<b>2.50</b>	753	2.93	822	3.37	884	3.81
9000	<b>608</b>	<b>2.37</b>	<b>697</b>	<b>2.85</b>	772	3.31	840	3.77	901	4.24
9500	<b>631</b>	<b>2.73</b>	717	3.24	791	3.73	858	4.21	918	4.70
10000	<b>654</b>	<b>3.12</b>	738	3.66	811	4.18	876	4.69	936	5.20
10500	<b>678</b>	<b>3.56</b>	759	4.12	831	4.67	<b>895</b>	<b>5.21</b>	954	5.74
11000	<b>701</b>	<b>4.02</b>	781	4.62	<b>851</b>	<b>5.20</b>	914	5.76	972	6.33
11500	725	4.53	<b>802</b>	<b>5.16</b>	<b>871</b>	<b>5.77</b>	933	6.36	991	6.95
12000	<b>748</b>	<b>5.09</b>	<b>824</b>	<b>5.75</b>	<b>892</b>	<b>6.38</b>	953	7.00	1010	7.62
12500	<b>772</b>	<b>5.68</b>	<b>846</b>	<b>6.38</b>	<b>912</b>	<b>7.04</b>	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 19 – 50HC-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	<b>451</b>	<b>0.84</b>	533	1.21	605	1.63	668	2.12	726	2.67
4900	<b>476</b>	<b>1.01</b>	554	1.40	623	1.84	685	2.34	742	2.89
5250	<b>498</b>	<b>1.18</b>	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	<b>740</b>	<b>3.59</b>	793	4.16	842	4.76
7500	646	2.75	<b>708</b>	<b>3.42</b>	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	<b>913</b>	<b>5.15</b>	----	----
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 20 – 50HC-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	<b>498</b>	<b>1.18</b>	<b>573</b>	<b>1.60</b>	640	2.05	701	2.55	756	3.11
5700	<b>526</b>	<b>1.43</b>	<b>599</b>	<b>1.89</b>	663	2.35	721	2.86	776	3.43
6100	<b>552</b>	<b>1.67</b>	622	2.17	684	2.66	741	3.18	794	3.76
6500	<b>579</b>	<b>1.95</b>	646	2.49	706	3.00	761	3.54	813	4.12
7000	<b>612</b>	<b>2.33</b>	677	2.93	734	3.48	788	4.05	837	4.64
7500	646	2.75	<b>708</b>	<b>3.42</b>	764	4.02	815	4.62	<b>863</b>	<b>5.23</b>
7900	673	3.13	734	3.86	788	4.50	<b>838</b>	<b>5.12</b>	884	5.75
8300	<b>700</b>	<b>3.53</b>	760	4.33	<b>812</b>	<b>5.01</b>	<b>861</b>	<b>5.66</b>	906	6.32
8750	731	4.03	789	4.90	<b>840</b>	<b>5.63</b>	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 21 – 50HC-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	<b>546</b>	<b>1.57</b>	<b>617</b>	<b>2.10</b>	<b>680</b>	<b>2.67</b>	738	3.29	790	3.93
6500	<b>579</b>	<b>1.90</b>	<b>646</b>	<b>2.46</b>	707	3.07	763	3.71	814	4.39
7000	<b>613</b>	<b>2.28</b>	<b>677</b>	<b>2.87</b>	735	3.51	789	4.19	839	4.89
7500	<b>648</b>	<b>2.71</b>	708	3.34	764	4.01	816	4.72	865	5.46
8000	<b>683</b>	<b>3.20</b>	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	<b>919</b>	<b>6.75</b>
9000	754	4.37	<b>814</b>	<b>5.10</b>	856	5.87	<b>903</b>	<b>6.67</b>	947	7.50
9500	-----	-----	840	5.82	<b>887</b>	<b>6.51</b>	<b>933</b>	<b>7.45</b>	976	8.31
10000	-----	-----	874	6.50	<b>920</b>	<b>7.44</b>	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	<b>936</b>	<b>6.87</b>	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 22 – 50HC-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	<b>553</b>	<b>1.92</b>	<b>621</b>	<b>2.46</b>	683	3.07	741	3.72	795	4.42
8000	<b>575</b>	<b>2.21</b>	<b>639</b>	<b>2.77</b>	700	3.39	756	4.07	809	4.78
8500	<b>596</b>	<b>2.52</b>	658	3.10	716	3.73	771	4.43	823	5.16
9000	<b>616</b>	<b>2.86</b>	675	3.44	732	4.10	786	4.80	836	5.55
9500	<b>636</b>	<b>3.22</b>	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	<b>744</b>	<b>5.09</b>	793	5.79	841	6.50	887	7.34
11500	<b>713</b>	<b>4.93</b>	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	<b>1018</b>	<b>8.31</b>
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 23 – PULLEY ADJUSTMENT**

MODEL SIZE	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

**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) cont.**

**Table 24 – 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

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	25.0	164	25.0	164	350	1.5	STD	88.6%	8.4
										MED	87.0%	10.6
										HIGH	82.9%	13.6
	230-3-60	187	253	25.0	164	25.0	164	350	1.5	STD	88.6%	8.3
										MED	87.0%	10.6
										HIGH	82.9%	12.7
	460-3-60	414	506	12.8	100	12.8	100	277	0.9	STD	88.6%	4.2
										MED	87.0%	5.3
										HIGH	82.9%	6.4
	575-3-60	518	633	9.6	78	9.6	78	397	0.6	STD	81.1%	2.8
										MED	81.1%	2.8
										HIGH	83.6%	5.6
20	208-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	87.0%	10.6
										MED	82.9%	13.6
										HIGH	89.5%	17.1
	230-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	87.0%	10.6
										MED	82.9%	12.7
										HIGH	89.5%	17.1
	460-3-60	414	506	12.8	100	12.2	100	277	0.9	STD	87.0%	5.3
										MED	82.9%	6.4
										HIGH	89.5%	8.6
	575-3-60	518	633	9.6	78	9.0	78	397	0.6	STD	81.1%	2.8
										MED	83.6%	5.6
										HIGH	89.5%	7.6
24	208-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	82.9%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	82.9%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	16.7	114	16.7	114	277	0.9	STD	82.9%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	12.2	80	12.2	80	397	0.6	STD	83.6%	5.6
										MED	89.5%	7.6
										HIGH	91.7%	9.5
28	208-3-60	187	253	48.1	245	33.3	239	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	33.3	239	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	17.9	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	12.8	80	397	0.6	STD	83.6%	5.6
										MED	89.5%	7.6
										HIGH	91.7%	9.5

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

**Table 25 – 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

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	25.0	164	25.0	164	350	1.5	STD	85.0%	8.6
										MED	81.5%	10.8
										HIGH	83.6%	13.6
	230-3-60	187	253	25.0	164	25.0	164	350	1.5	STD	85.0%	7.8
										MED	81.5%	9.8
										HIGH	83.6%	12.7
	460-3-60	414	506	12.8	100	12.8	100	277	0.9	STD	85.0%	3.8
										MED	81.5%	4.9
										HIGH	83.6%	6.4
	575-3-60	518	633	9.6	78	9.6	78	397	0.6	STD	81.1%	4.5
										MED	81.1%	4.5
										HIGH	83.6%	6.2
20	208-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	81.5%	10.8
										MED	83.6%	13.6
										HIGH	89.5%	17.1
	230-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	81.5%	9.8
										MED	83.6%	12.7
										HIGH	89.5%	17.1
	460-3-60	414	506	12.8	100	12.2	100	277	0.9	STD	81.5%	4.9
										MED	83.6%	6.4
										HIGH	89.5%	8.6
	575-3-60	518	633	9.6	78	9.0	78	397	0.6	STD	81.1%	4.5
										MED	83.6%	6.2
										HIGH	89.5%	7.6
24	208-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	83.6%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	83.6%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	16.7	114	16.7	114	277	0.9	STD	83.6%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	12.2	80	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	33.3	239	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	33.3	239	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	17.9	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	12.8	80	397	0.6	STD	83.6%	6.2
										MED	89.5%	7.6
										HIGH	91.7%	9.5

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

Table 26 – 50HC\*\*17

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
208/ 230-3-60	STD	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	-	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057

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

Table 27 – 50HC\*\*20

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057

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

**Table 28 – 50HC\*\*24**

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	056	-	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057	057	057	057
		287/278A00	74.4	68.3	057	057	057	057

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

Table 29 – 50HC\*\*28

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	057	057	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057	057	057	057
		287/278A00	74.4	68.3	057	057	057	057

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

**Table 30 – 50HC\*\*17**

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	-	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057

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

**Table 31 – 50HC\*\*20**

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057



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

**Table 32 – 50HC\*\*24**

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	-	056	-	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	-	-	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057	057	057	057
		287/278A00	74.4	68.3	057	057	057	057

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

Table 33 – 50HC\*\*28

**ELECTRIC HEAT - ELECTRICAL DATA**  
**2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR**

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	MED	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
	HIGH	279/270A00	25.0	18.8/23.0	056	056	056	056
		280/271A00	50.0	37.6/45.9	056	056	056	056
		281/272A00	75.0	56.3/68.9	056	056	056	056
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	MED	282/273A00	25.0	23.0	-	-	-	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
	HIGH	282/273A00	25.0	23.0	-	057	057	057
		283/274A00	50.0	45.9	057	057	057	057
		284/275A00	75.0	68.9	057	057	057	057
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	-	057
		287/278A00	74.4	68.3	057	057	057	057
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057	057	057
		287/278A00	74.4	68.3	057	057	057	057
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057	057	057	057
		287/278A00	74.4	68.3	057	057	057	057

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

**Table 34 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA**

UNIT	NO M, V-PH-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.				NO PWRD C.O.										
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO P.E.		w/ P.E. (pwrd fr/unit)		NO P.E.		w/ P.E. (pwrd fr/unit)								
						MAX FUSE or HACR BRKR	MCA	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	MCA	DISC. SIZE FLA LRA	MCA							
STD		NONE	279A00	18.8/25.0	52.1/60.1	90/90	69.2/69.1	72/72	409	88/86	429	74.0/73.9	90/90	85.8/85.7	78/78	414	88.0	100/100	91/91	484
						90/90	75.6/85.5	72/79	409/409	86/92	429/429	81.6/91.5	90/100	78/84	414/414	80/87	96.4/106.3	100/110	91/98	434/434
						150/150	140.8/130.7	129/148	409/409	149/161	429/429	146.8/136.7	150/150	135/153	414/414	138/156	161.5/151.4	175/175	149/167	434/434
						200/200	166.9/190.8	190/217	409/409	203/231	429/429	172.9/196.8	200/225	195/223	414/414	198/225	187.7/211.5	200/225	209/236	434/434
MED	208/230-3-60	NONE	279A00	18.8/25.0	52.1/60.1	90	71.4	75	423	88	443	76.2	100	88.0	80	428	100	94	100	448
						90/90	78.4/88.4	75/81	423/423	88/95	443/443	84.4/94.4	100/110	80/87	428/428	99.1/109.1	100/110	94/100	448/448	
						150/150	143.5/133.6	132/151	423/423	149/164	443/443	149.5/139.6	150/150	138/156	428/428	164.3/154.3	175/175	151/170	448/448	
						200/225	169.7/193.7	192/220	423/423	206/233	443/443	175.7/199.7	200/225	198/225	428/428	190.4/214.4	200/225	211/239	448/448	
HIGH		NONE	279A00	18.8/25.0	52.1/60.1	90/90	74.4/73.5	78/77	425	92/91	445	79.2/78.3	100/100	84/83	430	100/100	97/96	450	100/100	450
						90/100	82.1/91.0	78/84	425/425	92/97	445/445	88.1/97.0	100/110	84/89	430/430	102.9/111.8	110/125	97/103	450/450	
						150/150	147.3/136.2	135/153	425/425	149/167	445/445	153.3/142.2	175/175	141/158	430/430	168.0/156.9	175/175	155/172	450/450	
						200/225	173.4/196.3	196/222	425/425	209/236	445/445	179.4/202.3	200/225	201/228	430/430	194.2/217.0	200/250	215/241	450/450	
STD	460-3-60	NONE	282A00	25.0	30.1	45	35.7	37	242	45	254	37.9	50	40	244	50	47	50	47	256
						45	42.9	39	242	47	254	45.6	60	42	244	60	49	256		
						70	65.4	74	242	81	254	68.1	80	76	244	80	84	256		
						100	95.5	109	242	116	254	98.2	110	111	244	110	118	256		
MED		NONE	282A00	25.0	30.1	45	36.8	39	249	46	261	39.0	50	41	251	50	48	50	48	263
						45	44.3	41	249	48	261	47.0	60	43	251	60	50	263		
						80	66.7	75	249	82	261	69.5	80	78	251	80	85	263		
						100	96.8	110	249	117	261	99.6	110	112	251	125	119	263		
HIGH		NONE	282A00	25.0	30.1	50	37.9	40	250	47	262	40.1	50	42	252	50	50	50	264	
						50	45.6	42	250	49	262	48.4	60	45	252	60	52	264		
						80	68.1	76	250	84	262	70.9	80	79	252	80	86	264		
						100	98.2	111	250	118	262	101.0	125	114	252	125	121	264		
STD		NONE	285A00	24.8	23.9	30	26.2	27	184	33	192	27.9	40	29	186	40	35	40	194	
						35	33.4	31	184	36	192	35.5	40	33	186	41.5	45	38	194	
						70	63.1	58	184	64	192	65.3	70	60	186	71.3	80	66	194	
						80	75.1	86	184	91	192	77.2	90	88	186	83.2	90	93	194	
MED	575-3-60	NONE	285A00	24.8	23.9	30	26.2	27	184	33	192	27.9	40	29	186	40	35	40	194	
						35	33.4	31	184	36	192	35.5	40	33	186	41.5	45	38	194	
						70	63.1	58	184	64	192	65.3	70	60	186	71.3	80	66	194	
						80	75.1	86	184	91	192	77.2	90	88	186	83.2	90	93	194	
HIGH		NONE	285A00	24.8	23.9	35	29.0	31	198	36	206	30.7	40	33	200	40	38	40	208	
						40	36.9	34	198	39	206	39.0	45	36	200	45.0	50	41	208	
						70	66.6	61	198	67	206	68.8	70	63	200	74.8	80	69	208	
						90	78.6	89	198	94	206	80.7	90	91	200	86.7	90	96	208	

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

**Table 34 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NO M, V-Ph-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.									
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO P.E.			w/ P.E. (pwrdr fr/unit)			NO P.E.			w/ P.E. (pwrdr fr/unit)						
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA				
50HC**20	460-3-60	STD	NONE	-	-	76.1	100	80	453	87.9	100	93	473	80.9	100	85	458	92.7	100	99	478
			279A00	18.8/25.0	52.1/60.1	78.4/88.4	100/100	80/81	453/453	98.1/103.1	100/110	93/95	473/473	84.4/94.4	100/100	85/87	458/458	99.1/109.1	100/110	99/100	478/478
			280A00	37.6/50.0	104.2/120.3	143.5/133.6	150/150	132/151	453/453	158.3/148.3	175/175	148/164	473/473	149.5/139.6	150/150	138/156	458/458	164.3/154.3	175/175	151/170	478/478
			281A00	56.3/75.0	156.4/180.4	169.7/193.7	200/225	192/220	453/453	184.4/208.4	200/225	206/233	473/473	175.7/199.7	200/225	198/225	458/458	190.4/214.4	200/225	211/239	478/478
575-3-60	MED	NONE	-	-	79.1/78.2	100/100	83/82	455	90.9/90.0	100/100	97/96	475	83.9/83.0	100/100	89/88	460	95.7/94.8	110/110	102/101	480	
		279A00	18.8/25.0	52.1/60.1	82.1/91.0	100/100	83/84	455/455	96.9/105.8	100/110	97/97	475/475	88.1/97.0	100/100	89/89	460/460	102.9/111.8	110/125	102/103	480/480	
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	455/455	162.0/150.9	175/175	149/167	475/475	153.3/142.2	175/175	141/158	460/460	168.0/156.9	175/175	155/172	480/480	
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	455/455	188.2/211.0	200/225	209/236	475/475	179.4/202.3	200/225	201/228	460/460	194.2/217.0	200/250	215/241	480/480	
575-3-60	HIGH	NONE	-	-	82.6	100	87	451	94.4	110	101	471	87.4	100	93	456	99.2	125	106	476	
		279A00	18.8/25.0	52.1/60.1	86.5/96.5	100/100	87/89	451/451	101.3/111.3	110/125	101/102	471/471	92.5/102.5	100/110	93/94	456/456	107.3/117.3	125/125	106/108	476/476	
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	451/451	166.4/156.4	175/175	153/172	471/471	157.6/147.7	175/175	145/164	456/456	172.4/162.4	175/175	159/177	476/476	
		281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	451/451	192.5/216.5	200/250	213/241	471/471	183.8/207.8	200/225	205/233	456/456	198.5/222.5	200/250	219/246	476/476	
575-3-60	STD	NONE	-	-	37.1	45	39	251	43.3	50	46	263	39.3	50	42	253	45.5	50	49	265	
		282A00	25.0	30.1	44.3	45	41	251	52.0	60	48	263	47.0	50	43	253	54.8	60	50	265	
		283A00	50.0	60.1	66.7	80	75	251	74.5	80	82	263	69.5	80	78	253	77.2	80	85	265	
		284A00	75.0	90.2	96.8	100	110	251	104.6	110	117	263	99.6	110	112	253	107.3	125	119	265	
575-3-60	MED	NONE	-	-	38.2	50	40	252	44.4	50	47	264	40.4	50	43	254	46.6	50	50	266	
		282A00	25.0	30.1	45.6	50	42	252	53.4	60	49	264	48.4	50	45	254	56.1	60	52	266	
		283A00	50.0	60.1	68.1	80	76	252	75.9	80	84	264	70.9	80	79	254	78.6	80	86	266	
		284A00	75.0	90.2	98.2	100	111	252	106.0	125	118	264	101.0	110	114	254	108.7	125	121	266	
575-3-60	HIGH	NONE	-	-	40.4	50	43	250	46.6	50	50	262	42.6	50	45	252	48.8	60	52	264	
		282A00	25.0	30.1	48.4	50	45	250	56.1	60	52	262	51.1	60	47	252	58.9	60	54	264	
		283A00	50.0	60.1	70.9	80	79	250	78.6	80	86	262	73.6	80	82	252	81.4	90	89	264	
		284A00	75.0	90.2	101.0	110	114	250	108.7	125	121	262	103.7	125	116	252	111.5	125	123	264	
575-3-60	STD	NONE	-	-	26.2	30	27	186	31.0	40	33	194	27.9	35	29	188	32.7	40	35	196	
		285A00	24.8	23.9	33.4	35	31	186	39.4	40	36	194	35.5	40	33	188	41.5	45	38	196	
		286A00	49.6	47.7	63.1	70	58	186	69.1	70	64	194	65.3	70	60	188	71.3	80	66	196	
		287A00	74.4	71.6	75.1	80	86	186	81.1	90	91	194	77.2	80	88	188	83.2	90	93	196	
575-3-60	MED	NONE	-	-	29.0	35	31	200	33.8	40	36	208	30.7	40	33	202	35.5	45	38	210	
		285A00	24.8	23.9	36.9	40	34	200	42.9	45	39	208	39.0	40	36	202	45.0	50	41	210	
		286A00	49.6	47.7	66.6	70	61	200	72.6	80	67	208	68.8	70	63	202	74.8	80	69	210	
		287A00	74.4	71.6	78.6	90	89	200	84.6	90	94	208	80.7	90	91	202	86.7	90	96	210	
575-3-60	HIGH	NONE	-	-	31.0	40	33	198	35.8	45	38	206	32.7	40	35	200	37.5	45	40	208	
		285A00	24.8	23.9	39.4	40	36	198	45.4	50	42	206	41.5	45	38	200	47.5	50	44	208	
		286A00	49.6	47.7	69.1	70	64	198	75.1	80	69	206	71.3	80	66	200	77.3	80	71	208	
		287A00	74.4	71.6	81.1	90	91	198	87.1	90	97	206	83.2	90	93	200	89.2	90	99	208	

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

**Table 34 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NO M, V-Ph-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	Nom (kW)	FLA	MCA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)				
						MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA
STD		NONE	-	-	87.3/86.4	100/100	92/91	550	570	105/104	125/125	109	566	92.1/91.2	100/100	97/96	555	103.9/103.0	125/125	111/110	111/110	125/125	111/110	575/575	
		279A00	18.8/25.0	52.1/60.1	87.3/91.0	550/550	100/100	92/91	550/550	570/570	105/104	125/125	109/109	566/566	92.1/97.0	100/100	97/96	555/555	103.9/111.8	125/125	111/110	111/110	125/125	575/575	
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	550/550	150/150	135/153	550/550	570/570	149/167	175/175	209/236	570/570	153.3/142.2	175/175	141/158	555/555	168.0/156.9	175/175	155/172	155/172	200/250	575/575	
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	550/550	200/225	196/222	550/550	570/570	209/236	200/225	209/236	570/570	179.4/202.3	200/225	201/228	555/555	194.2/217.0	200/250	215/241	215/241	200/250	575/575	
MED		NONE	-	-	90.8	100	96	546	566	109	125	109	566	95.6/102.5	125	101	551	107.4	125	115	115	125	115	571	
		279A00	18.8/25.0	52.1/60.1	90.8/96.5	546/546	100/100	96/96	546/546	566/566	109/109	125/125	109/109	566/566	95.6/102.5	125/125	101/101	551/551	107.4/117.3	125/125	115/115	115/115	125/125	571/571	
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	546/546	175/175	139/158	546/546	566/566	153/172	175/175	209/236	566/566	157.6/147.7	175/175	145/164	551/551	172.4/162.4	175/175	159/177	159/177	200/200	571/571	
		281A00	56.3/75.0	156.4/180.4	177.8/201.8	546/546	200/225	200/227	546/546	566/566	213/241	200/250	213/241	566/566	183.8/207.8	200/225	205/233	551/551	198.5/222.5	200/250	219/246	219/246	200/250	571/571	
HIGH		NONE	-	-	102.2	125	109	625	645	122	125	122	645	107.0/116.8	125	114	630	118.8	150	128	128	150	128	650	
		279A00	18.8/25.0	52.1/60.1	102.2/110.8	625/625	125/125	109/109	625/625	645/645	122/122	125/150	122/122	645/645	107.0/116.8	125/125	114/114	630/630	121.5/131.5	150/150	128/128	128/128	150/150	650/650	
		280A00	37.6/50.0	104.2/120.3	165.9/155.9	625/625	175/175	153/171	625/625	645/645	166/185	200/175	166/185	645/645	171.9/161.9	175/175	158/177	630/630	186.8/176.7	200/200	172/190	172/190	200/200	650/650	
		281A00	56.3/75.0	156.4/180.4	192.0/216.0	625/625	200/250	213/240	625/625	645/645	226/254	225/250	226/254	645/645	198.0/222.0	225/250	218/246	630/630	212.8/236.8	225/250	232/259	232/259	200/200	650/650	
STD		NONE	-	-	47.6	60	50	280	292	57	60	57	292	49.8	60	52	282	56.0	70	60	60	70	60	294	
		282A00	25.0	30.1	47.6	280	60	50	280	292	57	60	57	292	49.8	60	52	282	56.1	70	60	60	70	294	
		283A00	50.0	60.1	68.1	280	80	76	280	292	84	80	84	292	70.9	80	79	282	78.6	80	86	86	80	294	
		284A00	75.0	90.2	98.2	280	100	111	280	292	118	125	118	292	101.0	110	114	282	108.7	125	121	121	125	294	
MED		NONE	-	-	49.8	60	52	278	290	60	70	60	290	52.0	60	55	280	58.2	70	62	62	70	62	292	
		282A00	25.0	30.1	49.8	278	60	52	278	290	60	70	60	290	52.0	60	55	280	58.9	70	62	62	70	292	
		283A00	50.0	60.1	70.9	278	80	79	278	290	86	80	86	290	73.6	80	82	280	81.4	90	89	89	90	292	
		284A00	75.0	90.2	101.0	278	110	114	278	290	121	125	121	290	103.7	125	116	280	111.5	125	123	123	125	292	
HIGH		NONE	-	-	55.5	60	59	318	330	66	70	66	330	57.7	70	62	320	63.9	80	69	69	80	69	332	
		282A00	25.0	30.1	55.5	318	60	59	318	330	66	70	66	330	58.3	70	62	320	66.0	80	69	69	80	332	
		283A00	50.0	60.1	78.0	318	90	86	318	330	93	90	93	330	80.7	90	88	320	88.5	100	95	95	100	332	
		284A00	75.0	90.2	108.1	318	125	120	318	330	127	125	127	330	110.8	125	123	320	118.6	125	130	130	125	332	
STD		NONE	-	-	35.5	45	37	204	212	43	50	43	212	37.2	45	39	206	42.0	50	45	45	50	45	214	
		285A00	24.8	23.9	36.9	204	45	37	204	212	43	50	43	212	39.0	45	39	206	45.0	50	45	45	50	214	
		286A00	49.6	47.7	66.6	204	70	61	204	212	67	80	67	212	68.8	70	63	206	74.8	80	69	69	80	214	
		287A00	74.4	71.6	78.6	204	90	89	204	212	94	90	94	212	80.7	90	91	206	86.7	90	96	96	90	214	
MED		NONE	-	-	37.5	45	40	202	210	45	50	45	210	39.2	50	42	204	44.0	50	47	47	50	47	212	
		285A00	24.8	23.9	39.4	202	45	40	202	210	45	50	45	210	41.5	50	42	204	47.5	50	47	47	50	212	
		286A00	49.6	47.7	69.1	202	70	64	202	210	69	80	69	210	71.3	80	66	204	77.3	80	71	71	80	212	
		287A00	74.4	71.6	81.1	202	90	91	202	210	97	90	97	210	83.2	90	93	204	89.2	90	99	99	90	212	
HIGH		NONE	-	-	39.4	50	42	229	237	47	50	47	237	41.1	50	44	231	45.9	50	49	49	50	49	239	
		285A00	24.8	23.9	41.8	229	50	42	229	237	47	50	47	237	43.9	50	44	231	49.9	50	49	49	50	239	
		286A00	49.6	47.7	71.5	229	80	66	229	237	71	80	71	237	73.6	80	68	231	79.6	80	73	73	80	239	
		287A00	74.4	71.6	83.5	229	90	93	229	237	99	100	99	237	85.6	90	95	231	91.6	100	101	101	100	239	

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

**Table 34 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NO M, V-P-H-Z	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO PE.				w/ P.E. (pwrdr fr/unit)				NO PE.				w/ P.E. (pwrdr fr/unit)							
						MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA				
50HC**28	460-3-60	STD	NONE	-	-	116.0/115.1	150/150	120/119	590	127.8/126.9	175/175	133/132	610	120.8/119.9	150/150	125/124	595	132.6/131.7	175/175	139/138	615				
						116.0/115.1	150/150	120/119	590/590	127.8/126.9	175/175	133/132	610/610	120.8/119.9	150/150	125/124	595/595	132.6/131.7	175/175	139/138	615/615				
						147.3/136.2	150/150	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	615/615				
						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	194.2/217.0	200/250	215/241	615/615				
						119.5	150	124	586	131.3	175	137	606	124.3	150	129	591	136.1	175	143	611				
						119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611				
						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	611/611				
						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				
						130.9	175	137	665	142.7	175	150	685	135.7	175	142	670	147.5	175	156	690				
						130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690				
50HC**28	460-3-60	MED	289A00	25.0	30.1	53.0	60	56	306	59.2	70	63	318	57.4	60	58	308	61.4	70	65	320				
						53.0	60	56	306	59.2	70	63	318	57.4	60	58	308	61.4	70	65	320				
						68.1	80	76	306	75.9	80	84	318	70.9	80	79	308	78.6	80	86	320				
						98.2	100	111	306	106.0	125	118	318	101.0	110	114	308	108.7	125	121	320				
						55.2	60	58	304	61.4	70	65	316	57.4	60	61	306	63.6	80	68	318				
						55.2	60	58	304	61.4	70	65	316	57.4	60	61	306	63.6	80	68	318				
						70.9	80	79	304	78.6	80	86	316	73.6	80	82	306	81.4	90	89	318				
						101.0	110	114	304	108.7	125	121	316	103.7	125	116	306	111.5	125	123	318				
						60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358				
						60.9/60.9	70/70	65/65	344/344	67.1/67.1	80/80	72/72	356/356	63.1/63.1	80/80	67/67	346/346	69.3/69.3	80/80	74/74	358/358				
50HC**28	460-3-60	HIGH	289A00	50.0	60.1	78.0	90	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358				
						78.0	90	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358				
						108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
50HC**28	460-3-60	STD	NONE	-	-	42.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						42.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
50HC**28	460-3-60	MED	289A00	49.6	47.7	69.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236				
						69.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236				
						81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
						66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
						42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
50HC**28	460-3-60	HIGH	289A00	74.4	71.6	83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263				
						83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263				
						44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				
						44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				
						71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263				
						71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263				
						81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236				
						78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
						42.4	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				
						42.4	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				

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

**Table 35 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER**

UNIT	NO M. V-PH-HZ	ELEC. HTR			NO C.O. or UNPWR C.O.				NO PE.				w/ PWRD C.O.								
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	
50HC*17	208/230-3-60	STD	NONE	-	-	90/90	72/72	409	81.0/81.0	100/100	86/96	429	74.0/74.0	90/90	78/78	414	85.8/85.8	100/100	91/91	434	
			279A00	18.8/25.0	52.1/60.1	85.5/85.5	90/90	72/79	409/409	100.3/100.3	110/110	86/92	429/429	91.5/91.5	100/100	78/84	414/414	106.3/106.3	110/110	91/98	434/434
			280A00	37.6/50.0	104.2/120.3	140.8/140.8	150/150	129/148	409/409	155.5/155.5	175/175	143/161	429/429	146.8/146.8	150/150	135/153	414/414	161.5/161.5	175/175	149/167	434/434
			281A00	56.3/75.0	156.4/180.4	190.8/190.8	200/200	190/217	409/409	205.5/205.5	225/225	203/231	429/429	196.8/196.8	200/225	195/223	414/414	211.5/211.5	225/225	209/236	434/434
			NONE	-	-	90	75	423	83.2	100	88	443	443	76.2	100	80	428	88.0	100	94	448
			279A00	18.8/25.0	52.1/60.1	88.4/88.4	90/90	75/81	423/423	103.1/103.1	110/110	88/95	443/443	94.4/94.4	100/100	80/87	428/428	109.1/109.1	110/110	94/100	448/448
			280A00	37.6/50.0	104.2/120.3	143.5/143.5	150/150	132/151	423/423	158.3/158.3	175/175	148/164	443/443	149.5/149.5	150/150	138/156	428/428	164.3/164.3	175/175	151/170	448/448
			281A00	56.3/75.0	156.4/180.4	193.7/193.7	200/225	192/220	423/423	208.4/208.4	225/225	206/233	443/443	199.7/199.7	200/225	198/225	428/428	214.4/214.4	225/225	211/239	448/448
			NONE	-	-	90/90	78/77	425	86.2/86.2	100/100	92/91	445	445	79.2/79.2	100/100	84/83	430	91.0/91.0	100/100	97/96	450
			279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	78/84	425/425	105.8/105.8	110/110	92/97	445/445	97.0/97.0	100/100	84/89	430/430	111.8/111.8	125/125	97/103	450/450
460-3-60	460-3-60	STD	NONE	-	-	45	37	242	41.9	50	45	254	37.9	50	40	244	44.1	50	47	256	
			282A00	25.0	30.1	42.9	45	39	242	50.6	60	47	254	45.6	60	42	244	53.4	60	49	256
			283A00	50.0	60.1	65.4	70	74	242	73.1	80	81	254	68.1	80	76	244	75.9	80	84	256
			284A00	75.0	90.2	95.5	100	109	242	103.2	110	116	254	98.2	100	111	244	106.0	110	118	256
			NONE	-	-	45	39	249	43.0	50	46	261	39.0	50	41	251	45.2	50	48	263	
			282A00	25.0	30.1	44.3	45	41	249	52.0	60	48	261	47.0	50	43	251	54.8	60	50	263
			283A00	50.0	60.1	66.7	80	75	249	74.5	80	82	261	69.5	80	78	251	77.2	80	85	263
			284A00	75.0	90.2	96.8	100	110	249	104.6	110	117	261	99.6	110	112	251	107.3	125	119	263
			NONE	-	-	50	40	250	44.1	50	47	262	40.1	50	42	252	46.3	50	50	50	264
			282A00	25.0	30.1	45.6	50	42	250	53.4	60	49	262	48.4	50	45	252	56.1	60	52	264
575-3-60	575-3-60	HIGH	283A00	50.0	60.1	68.1	80	76	250	75.9	80	84	70.9	80	79	252	78.6	80	86	264	
			284A00	75.0	90.2	98.2	100	111	250	106.0	125	118	262	101.0	110	114	252	108.7	125	121	264
			NONE	-	-	30	27	184	31.0	40	33	192	27.9	35	29	186	32.7	40	35	194	
			285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194
			286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194
			287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194
			NONE	-	-	30	27	184	31.0	40	33	192	27.9	35	29	186	32.7	40	35	194	
			285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194
			286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194
			287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194
HIGH	HIGH	NONE	-	-	35	31	198	33.8	40	36	206	30.7	40	33	200	35.5	45	38	208		
		285A00	24.8	23.9	36.9	40	34	198	42.9	45	39	206	39.0	40	36	200	45.0	50	41	208	
		286A00	49.6	47.7	66.6	70	61	198	72.6	80	67	206	68.8	70	63	200	74.8	80	69	208	
		287A00	74.4	71.6	78.6	90	89	198	84.6	90	84	206	80.7	90	91	200	86.7	90	96	208	

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

**Table 35 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NO M. V-P-H-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.										
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO P.E.			w/ P.E. (pwrdr fr/unit)			NO P.E.			w/ P.E. (pwrdr fr/unit)			NO P.E.			w/ P.E. (pwrdr fr/unit)					
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA						
50HC*20	460-3-60	STD	NONE	-	-	-	80	453	473	87.9	100	93	473	80.9	100	85	458	92.7	100	99	478	102/101	102/101	102/101	480	
			279A00	18.8/25.0	52.1/60.1	88.4/88.4	100/100	80/81	453/453	473/473	103.1/103.1	110/110	93/95	473/473	94.4/94.4	100/100	85/87	458/458	109.1/109.1	110/110	99/100	478/478	102/103	102/103	102/103	480/480
			280A00	37.6/50.0	104.2/120.3	143.5/143.5	150/150	132/151	453/453	473/473	158.3/158.3	175/175	149/164	473/473	149.5/149.5	150/150	138/156	458/458	164.3/164.3	175/175	151/170	478/478	155/172	155/172	155/172	480/480
			281A00	56.3/75.0	156.4/180.4	193.7/193.7	200/225	192/220	453/453	473/473	208.4/208.4	225/225	206/233	473/473	199.7/199.7	200/225	198/225	458/458	214.4/214.4	225/225	211/239	478/478	215/241	215/241	215/241	480/480
			NONE	-	-	79.1/79.1	100/100	83/82	455	475	90.9/90.9	100/100	97/96	475	83.9/83.9	100/100	89/88	460	95.7/95.7	110/110	102/101	480	102/101	102/101	102/101	480
			279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	83/84	455/455	475/475	105.8/105.8	110/110	97/97	475/475	97.0/97.0	100/100	89/89	460/460	111.8/111.8	125/125	102/103	480/480	102/103	102/103	102/103	480/480
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	455/455	475/475	162.0/162.0	175/175	149/167	475/475	153.3/153.3	175/175	141/158	460/460	168.0/168.0	175/175	155/172	480/480	155/172	155/172	155/172	480/480
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	455/455	475/475	211.0/211.0	225/225	209/236	475/475	202.3/202.3	225/225	201/228	460/460	217.0/217.0	225/250	215/241	480/480	215/241	215/241	215/241	480/480
			NONE	-	-	82.6	100	87	451	471	94.4	110	101	471	87.4	100	93	456	99.2	106	106	476	106	106	106	476
			279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	87/89	451/451	471/471	111.3/111.3	125/125	101/102	471/471	102.5/102.5	110/110	93/94	456/456	117.3/117.3	125/125	106/108	476/476	106/108	106/108	106/108	476/476
280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	451/451	471/471	166.4/166.4	175/175	153/172	471/471	157.6/157.6	175/175	145/164	456/456	172.4/172.4	175/175	159/177	476/476	159/177	159/177	159/177	476/476			
281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	451/451	471/471	216.5/216.5	225/250	213/241	471/471	207.8/207.8	225/225	205/233	456/456	222.5/222.5	225/250	219/246	476/476	219/246	219/246	219/246	476/476			
50HC*20	460-3-60	STD	NONE	-	-	-	39	251	263	43.3	50	46	263	39.3	50	42	253	45.5	50	49	265	102/101	102/101	102/101	265	
			282A00	25.0	30.1	44.3	45	41	251	263	52.0	60	48	263	47.0	50	43	253	54.8	60	50	265	106/107	106/107	106/107	265
			283A00	50.0	60.1	66.7	80	75	251	263	74.5	80	82	263	69.5	80	78	253	77.2	80	85	265	106/107	106/107	106/107	265
			284A00	75.0	90.2	96.8	100	110	251	263	104.6	110	117	263	99.6	110	112	253	107.3	125	119	265	106/107	106/107	106/107	265
			NONE	-	-	38.2	50	40	252	264	44.4	50	47	264	40.4	50	43	254	46.6	50	50	266	106/107	106/107	106/107	266
			282A00	25.0	30.1	45.6	50	42	252	264	53.4	60	49	264	48.4	50	45	254	56.1	60	60	266	106/107	106/107	106/107	266
			283A00	50.0	60.1	68.1	80	76	252	264	75.9	80	84	264	70.9	80	79	254	78.6	80	86	266	106/107	106/107	106/107	266
			284A00	75.0	90.2	98.2	100	111	252	264	106.0	125	118	264	101.0	110	114	254	108.7	125	121	266	106/107	106/107	106/107	266
			NONE	-	-	40.4	50	43	250	262	46.6	50	50	262	42.6	50	45	252	48.8	50	52	264	106/107	106/107	106/107	264
			282A00	25.0	30.1	48.4	50	45	250	262	56.1	60	52	262	51.1	60	47	252	58.9	60	60	264	106/107	106/107	106/107	264
575-3-60	460-3-60	HIGH	283A00	50.0	60.1	70.9	80	79	250	262	78.6	80	86	262	73.6	80	82	252	81.4	90	89	264	106/107	106/107	106/107	264
			284A00	75.0	90.2	101.0	110	114	250	262	108.7	125	121	262	103.7	125	116	252	111.5	125	123	264	106/107	106/107	106/107	264
			NONE	-	-	26.2	30	27	186	194	31.0	40	33	194	27.9	35	29	188	32.7	40	35	196	106/107	106/107	106/107	196
			285A00	24.8	23.9	33.4	35	31	186	194	39.4	40	36	194	35.5	40	33	188	41.5	45	38	196	106/107	106/107	106/107	196
			286A00	49.6	47.7	63.1	70	58	186	194	69.1	70	64	194	65.3	70	60	188	71.3	80	66	196	106/107	106/107	106/107	196
			287A00	74.4	71.6	75.1	80	86	186	194	81.1	90	91	194	77.2	80	88	188	83.2	90	93	196	106/107	106/107	106/107	196
			NONE	-	-	29.0	35	31	200	208	33.8	40	36	208	30.7	40	33	202	35.5	45	38	210	106/107	106/107	106/107	210
			285A00	24.8	23.9	36.9	40	34	200	208	42.9	45	39	208	39.0	40	36	202	45.0	50	41	210	106/107	106/107	106/107	210
			286A00	49.6	47.7	66.6	70	61	200	208	72.6	80	67	208	68.8	70	63	202	74.8	80	69	210	106/107	106/107	106/107	210
			287A00	74.4	71.6	78.6	90	89	200	208	84.6	90	94	208	80.7	90	91	202	86.7	90	96	210	106/107	106/107	106/107	210
575-3-60	460-3-60	HIGH	NONE	-	-	-	33	198	206	35.8	45	38	206	32.7	40	35	200	37.5	45	40	208	106/107	106/107	106/107	208	
			285A00	24.8	23.9	39.4	40	36	198	206	45.4	50	42	206	41.5	45	38	200	47.5	50	44	208	106/107	106/107	106/107	208
			286A00	49.6	47.7	69.1	70	64	198	206	75.1	80	69	206	71.3	80	66	200	77.3	80	71	208	106/107	106/107	106/107	208
			287A00	74.4	71.6	81.1	90	91	198	206	87.1	90	97	206	83.2	90	93	200	89.2	90	99	208	106/107	106/107	106/107	208



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

**Table 35 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NO M. V-PH-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)				NO P.E.				w/ P.E. (pwrdr fr/unit)							
						MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA				
50HC*24	460-3-60	STD	NONE	-	-	87.3/87.3	100/100	92/91	550	99.1/89.1	125/125	105/104	570	92.1/92.1	100/100	100/100	97/96	555	103.9/103.9	125/125	111/110	111/110	575		
			279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	92/91	550/550	105.8/105.8	125/125	105/104	570/570	570/570	97.0/97.0	100/100	100/100	97/96	555/555	111.8/111.8	125/125	111/110	111/110	575/575	
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	550/550	162.0/162.0	175/175	149/167	570/570	570/570	153.3/153.3	175/175	175/175	141/158	555/555	168.0/168.0	175/175	155/172	155/172	575/575	
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	550/550	211.0/211.0	225/225	209/236	570/570	570/570	202.3/202.3	225/225	225/225	201/228	555/555	217.0/217.0	225/250	215/241	215/241	575/575	
			NONE	-	-	90.8	100	96	546	102.6	125	109	566	566	95.6	125	125	101	551	107.4	125	115	115	571	
			279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	96/96	546/546	111.3/111.3	125/125	109/109	566/566	566/566	102.5/102.5	125/125	125/125	101/101	551/551	117.3/117.3	125/125	115/115	115/115	571/571	
			280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	546/546	166.4/166.4	175/175	153/172	566/566	566/566	157.6/157.6	175/175	175/175	145/164	551/551	172.4/172.4	175/175	159/177	159/177	571/571	
			281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	546/546	216.5/216.5	225/250	213/241	566/566	566/566	207.8/207.8	225/225	225/225	205/233	551/551	222.5/222.5	225/250	219/246	219/246	571/571	
			NONE	-	-	102.2	125	109	625	114.0	125	122	645	645	107.0	125	125	114	630	118.8	150	128	128	650	
			279A00	18.8/25.0	52.1/60.1	110.8/110.8	125/125	109/109	625/625	125.5/125.5	150/150	122/122	645/645	645/645	116.8/116.8	125/125	125/125	114/114	630/630	131.5/131.5	150/150	128/128	128/128	650/650	
50HC*24	460-3-60	MED	280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	625/625	180.6/180.6	200/200	166/185	645/645	171.9/171.9	175/175	175/175	158/177	630/630	186.6/186.6	200/200	172/190	172/190	650/650		
			281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	625/625	230.8/230.8	250/250	226/254	645/645	222.0/222.0	225/250	225/250	218/246	630/630	236.8/236.8	250/250	232/259	232/259	650/650		
			NONE	-	-	47.6	60	50	280	53.8	60	57	292	292	49.8	60	60	52	282	56.0	70	60	60	294	
			282A00	25.0	30.1	47.6	60	50	280	53.8	60	57	292	292	49.8	60	60	52	282	56.1	70	60	60	294	
			283A00	50.0	60.1	68.1	80	76	280	75.9	80	84	292	292	70.9	80	80	79	282	78.6	80	86	86	294	
			284A00	75.0	90.2	98.2	100	111	280	106.0	125	118	292	292	101.0	110	110	114	282	108.7	125	121	121	294	
			NONE	-	-	49.8	60	52	278	56.0	70	60	60	290	52.0	60	60	55	280	58.2	70	62	62	292	
			282A00	25.0	30.1	49.8	60	52	278	56.1	70	60	60	290	52.0	60	60	55	280	58.9	70	62	62	292	
			283A00	50.0	60.1	70.9	80	79	278	78.6	80	86	290	290	73.6	80	80	82	280	81.4	90	89	89	292	
			284A00	75.0	90.2	101.0	110	114	278	108.7	125	121	290	290	103.7	125	125	116	280	111.5	125	123	123	292	
575-3-60	575-3-60	HIGH	NONE	-	-	55.5	60	59	318	61.7	70	66	330	57.7	70	70	62	320	63.9	80	69	69	332		
			282A00	25.0	30.1	55.5	60	59	318	63.3	70	66	330	58.3	70	70	62	320	66.0	80	69	69	332		
			283A00	50.0	60.1	78.0	90	86	318	85.7	90	93	330	80.7	90	90	88	320	88.5	100	95	95	332		
			284A00	75.0	90.2	108.1	125	120	318	115.8	125	127	330	110.8	125	125	123	320	118.6	125	130	130	332		
			NONE	-	-	35.5	45	37	204	40.3	50	43	212	37.2	45	45	39	206	42.0	50	45	45	214		
			285A00	24.8	23.9	36.9	45	37	204	42.9	50	43	212	39.0	45	45	39	206	45.0	50	50	45	214		
			286A00	49.6	47.7	66.6	70	61	204	72.6	80	67	212	68.8	70	70	63	206	74.8	80	80	69	214		
			287A00	74.4	71.6	78.6	90	89	204	84.6	90	94	212	80.7	90	90	91	206	86.7	90	90	96	214		
			NONE	-	-	37.5	45	40	202	42.3	50	45	210	39.2	45	45	42	204	44.0	50	50	47	212		
			285A00	24.8	23.9	39.4	45	40	202	45.4	50	45	210	41.5	45	45	42	204	47.5	50	50	47	212		
575-3-60	575-3-60	MED	286A00	49.6	47.7	69.1	70	64	202	75.1	80	69	210	71.3	80	80	66	204	77.3	80	71	71	212		
			287A00	74.4	71.6	81.1	90	91	202	87.1	90	97	210	83.2	90	90	93	204	89.2	90	99	99	212		
			NONE	-	-	39.4	50	42	229	44.2	50	47	237	41.1	50	50	44	231	45.9	50	49	49	239		
			285A00	24.8	23.9	41.8	50	42	229	47.8	50	47	237	43.9	50	50	44	231	49.9	50	49	49	239		
			286A00	49.6	47.7	71.5	80	66	229	77.5	80	71	237	73.6	80	80	68	231	79.6	80	73	73	239		
			287A00	74.4	71.6	83.5	90	93	229	89.5	100	99	237	85.6	90	90	95	231	91.6	100	101	101	239		

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

**Table 35 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NO M. V.-P-h-HZ	ELEC. HTR			NO C.O. or UNPWR C.O.												w/ PWRD C.O.											
		CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)				NO P.E.				w/ P.E. (pwrdr fr/unit)				NO P.E.				w/ P.E. (pwrdr fr/unit)			
					MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE
STD	208/230-3-60	NONE	-	-	116.0/116.0	150/150	120/119	590	127.8/127.8	175/175	133/132	610	120.8/120.8	150/150	125/124	595	132.8/132.6	175/175	139/138	615	139/138	615	139/138	615	139/138	615	139/138	
		279A00	18.8/25.0	52.1/60.1	116.0/116.0	150/150	120/119	590/590	127.8/127.8	175/175	133/132	610/610	120.8/120.8	150/150	125/124	595/595	132.6/132.6	175/175	139/138	615/615	139/138	615/615	139/138	615/615	139/138	615/615		
		280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	590/590	162.0/162.0	175/175	149/167	610/610	153.3/153.3	175/175	141/158	595/595	168.0/168.0	175/175	155/172	615/615	155/172	615/615	155/172	615/615	155/172	615/615		
		281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	590/590	211.0/211.0	225/225	209/236	610/610	202.3/202.3	225/225	201/228	595/595	217.0/217.0	225/250	215/241	615/615	215/241	615/615	215/241	615/615	215/241	615/615		
MED	208/230-3-60	NONE	-	-	119.5	150	124	586	131.3	175	137	606	124.3	150	129	591	136.1	175	143	611	143	611	143	611	143	611		
		279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611	143/143	611/611	143/143	611/611	143/143	611/611		
		280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	586/586	166.4/166.4	175/175	153/172	606/606	157.6/157.6	175/175	145/164	591/591	172.4/172.4	175/175	159/177	611/611	159/177	611/611	159/177	611/611	159/177	611/611		
		281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	586/586	216.5/216.5	225/250	213/241	606/606	207.8/207.8	225/225	205/233	591/591	222.5/222.5	225/250	219/246	611/611	219/246	611/611	219/246	611/611	219/246	611/611		
HIGH	208/230-3-60	NONE	-	-	130.9	175	137	665	142.7	175	150	685	135.7	175	142	670	147.5	175	156	690	156	690	156	690	156	690		
		279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690	156/156	690/690	156/156	690/690	156/156	690/690		
		280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	665/665	180.6/180.6	200/200	166/185	685/685	171.9/171.9	175/175	158/177	670/670	186.6/186.6	200/200	172/190	690/690	172/190	690/690	172/190	690/690	172/190	690/690		
		281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	665/665	230.8/230.8	250/250	226/254	685/685	222.0/222.0	225/250	218/246	670/670	236.8/236.8	250/250	232/259	690/690	232/259	690/690	232/259	690/690	232/259	690/690		
STD	460-3-60	NONE	-	-	53.0	60	56	306	59.2	70	63	318	55.2	60	58	308	61.4	70	65	320	65	320	65	320	65	320		
		282A00	25.0	30.1	53.0	60	56	306	59.2	70	63	318	55.2	60	58	308	61.4	70	65	320	65	320	65	320	65	320		
		283A00	50.0	60.1	88.1	80	76	306	75.9	80	84	318	70.9	80	79	308	78.6	80	86	320	86	320	86	320	86	320		
		284A00	75.0	90.2	98.2	100	111	306	106.0	125	118	318	101.0	110	114	308	108.7	125	121	320	121	320	121	320	121	320		
MED	460-3-60	NONE	-	-	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68	318	68	318	68	318		
		282A00	25.0	30.1	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68	318	68	318	68	318		
		283A00	50.0	60.1	70.9	80	79	304	78.6	80	86	316	73.6	80	82	306	81.4	90	89	318	89	318	89	318	89	318		
		284A00	75.0	90.2	101.0	110	114	304	108.7	125	121	316	103.7	110	116	306	111.5	125	123	320	123	320	123	320	123	320		
HIGH	460-3-60	NONE	-	-	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74	358	74	358	74	358		
		282A00	25.0	30.1	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74	358	74	358	74	358		
		283A00	50.0	60.1	78.0	80	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358	95	358	95	358	95	358		
		284A00	75.0	90.2	108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358	130	358	130	358	130	358		
STD	575-3-60	NONE	-	-	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238	50	238	50	238	50	238		
		285A00	24.8	23.9	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238	50	238	50	238	50	238		
		286A00	49.6	47.7	66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238	69	238	69	238	69	238		
		287A00	74.4	71.6	78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238	96	238	96	238	96	238		
MED	575-3-60	NONE	-	-	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52	236	52	236	52	236		
		285A00	24.8	23.9	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52	236	52	236	52	236		
		286A00	49.6	47.7	68.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236	71	236	71	236	71	236		
		287A00	74.4	71.6	81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236	99	236	99	236	99	236		
HIGH	575-3-60	NONE	-	-	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54	263	54	263	54	263		
		285A00	24.8	23.9	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54	263	54	263	54	263		
		286A00	49.6	47.7	71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263	73	263	73	263	73	263		
		287A00	74.4	71.6	83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263	101	263	101	263	101	263		

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

**Table 36 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION**

UNIT	NO M, V-Ph-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.							
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)				
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA		
STD		NONE	-	-	-	69.4/66.6	90/90	73/72	390	86/85	410	74.2/73.4	90/90	78/77	395	86.0/85.2	100/100	92/91	415
		279A00	18.8/25.0	52.1/60.1	75.9/84.9	90/90	73/78	390/390	390/390	86/92	410/410	81.9/90.9	90/100	78/84	395/395	96.6/105.6	100/110	92/97	415/415
		280A00	37.6/50.0	104.2/120.3	141.0/130.1	150/150	130/147	390/390	390/390	143/161	410/410	147.0/136.1	150/150	135/153	395/395	161.8/150.8	175/175	149/166	415/415
		281A00	56.3/75.0	156.4/180.4	167.2/190.2	200/200	190/216	390/390	390/390	203/230	410/410	173.2/166.2	200/225	195/222	395/395	187.9/210.9	200/225	209/236	415/415
MED	208/230-3-60	NONE	-	-	-	71.6/70.6	90/90	75/74	414	89/88	434	76.4/75.4	100/100	81/79	419	88.2/87.2	100/100	94/93	439
		279A00	18.8/25.0	52.1/60.1	78.6/87.4	90/90	75/80	414/414	434/434	89/94	434/434	84.6/83.4	100/100	81/86	419/419	99.4/108.1	100/110	94/99	439/439
		280A00	37.6/50.0	104.2/120.3	143.8/132.6	150/150	132/150	414/414	434/434	148/163	434/434	149.8/138.6	150/150	138/155	419/419	164.5/153.3	175/175	151/169	439/439
		281A00	56.3/75.0	156.4/180.4	169.9/192.7	200/225	192/219	414/414	434/434	206/232	434/434	175.9/168.7	200/225	198/224	419/419	190.7/213.4	200/225	211/238	439/439
HIGH		NONE	-	-	-	74.4/73.5	90/90	78/77	425	92/91	445	79.2/78.3	100/100	84/83	430	91.0/90.1	100/100	97/96	450
		279A00	18.8/25.0	52.1/60.1	82.1/91.0	90/100	78/84	425/425	445/445	92/97	445/445	88.1/97.0	100/100	84/89	430/430	102.9/111.8	110/125	97/103	450/450
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	425/425	445/445	149/167	445/445	153.3/142.2	175/175	141/158	430/430	168.0/156.9	175/175	155/172	450/450
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	425/425	445/445	209/236	445/445	179.4/202.3	200/225	201/228	430/430	194.2/217.0	200/250	215/241	450/450
STD	460-3-60	NONE	-	-	-	35.3	45	37	233	44	245	37.5	50.00	39	235	43.7	50.00	47	247
		282A00	25.0	30.1	42.4	45	39	233	233	46	245	45.1	50.00	42	235	52.9	60.00	49	247
		283A00	50.0	60.1	64.9	70	73	233	233	81	245	67.6	80.00	76	235	75.4	80.00	83	247
		284A00	75.0	90.2	95.0	100	108	233	233	115	245	97.7	100	111	235	105.5	110	118	247
MED	460-3-60	NONE	-	-	-	36.4	45	38	245	45	257	38.6	50.00	41	247	44.8	50.00	48	259
		282A00	25.0	30.1	43.8	45	40	245	245	47	257	46.5	50.00	43	247	54.3	60.00	50	259
		283A00	50.0	60.1	66.2	80	75	245	245	82	257	69.0	80.00	77	247	76.7	80.00	84	259
		284A00	75.0	90.2	96.3	100	109	245	245	116	257	99.1	100	112	247	106.8	110	119	259
HIGH		NONE	-	-	-	37.9	50	40	250	47	262	40.1	50.00	42	252	46.3	50.00	50	264
		282A00	25.0	30.1	45.6	50	42	250	250	49	262	48.4	50.00	45	252	56.1	60.00	52	264
		283A00	50.0	60.1	68.1	80	76	250	250	84	262	70.9	80.00	79	252	78.6	80.00	86	264
		284A00	75.0	90.2	98.2	100	111	250	250	118	262	101.0	110	114	252	108.7	125	121	264
STD	575-3-60	NONE	-	-	-	27.9	35	29	184	35	192	29.6	35.00	31	186	34.4	40.00	37	194
		285A00	24.8	23.9	35.5	40	33	184	184	38	192	37.6	40.00	35	186	43.6	45.00	40	194
		286A00	49.6	47.7	65.3	70	60	184	184	66	192	73.4	70.00	62	186	73.4	80.00	68	194
		287A00	74.4	71.6	77.2	90	88	184	184	93	192	85.4	90	89	186	85.4	90	95	194
MED	575-3-60	NONE	-	-	-	27.9	35	29	184	35	192	29.6	35.00	31	186	34.4	40.00	37	194
		285A00	24.8	23.9	35.5	40	33	184	184	38	192	37.6	40.00	35	186	43.6	45.00	40	194
		286A00	49.6	47.7	65.3	70	60	184	184	66	192	73.4	70.00	62	186	73.4	80.00	68	194
		287A00	74.4	71.6	77.2	90	88	184	184	93	192	85.4	90	89	186	85.4	90	95	194
HIGH		NONE	-	-	-	29.6	35	31	198	37	206	31.3	40.00	33	200	36.1	45.00	39	208
		285A00	24.8	23.9	37.6	40	35	198	198	40	206	39.8	40.00	37	200	45.8	50.00	42	208
		286A00	49.6	47.7	67.4	70	62	198	198	68	206	69.5	70.00	64	200	75.5	80.00	69	208
		287A00	74.4	71.6	79.4	90	89	198	198	95	206	81.5	90	91	200	87.5	90	97	208

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

**Table 36 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	NO M, V-Ph-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO P.E.					w/ P.E. (pwrld fr/unit)					NO P.E.					w/ P.E. (pwrld fr/unit)				
						MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA				
STD	208/230-3-60	NONE	-	-	-	76.3/75.3	100/100	80/79	444	88.1/87.1	100/100	93/92	464	81.7/80.1	100/100	85/84	449	92.9/91.9	100/100	99/98	469	489			
		279A00	18.8/25.0	52.1/60.1	78.6/87.4	100/100	80/80	444/444	93.4/102.1	100/110	93/94	464/464	464/464	84.6/93.4	100/100	85/86	449/449	99.4/108.1	100/110	99/99	469/469	489/469			
		280A00	37.6/50.0	104.2/120.3	143.8/132.6	150/150	132/150	444/444	158.5/147.3	175/175	148/163	464/464	464/464	149.8/138.6	150/150	138/155	449/449	164.5/153.3	175/175	151/169	469/469	489/469			
		281A00	56.3/75.0	156.4/180.4	169.9/192.7	200/225	192/219	444/444	184.7/207.4	200/225	206/232	464/464	464/464	175.9/198.7	200/225	198/224	449/449	190.7/213.4	200/225	211/238	469/469	489/469			
MED	208/230-3-60	NONE	-	-	-	79.1/78.2	100/100	83/82	455	90.9/90.0	100/100	97/96	475	83.9/83.0	100/100	89/88	460	95.7/94.8	110/110	102/101	480	480			
		279A00	18.8/25.0	52.1/60.1	82.1/91.0	100/100	83/84	455/455	96.9/105.8	100/110	97/97	475/475	475/475	88.1/97.0	100/100	89/89	460/460	102.9/111.8	110/125	102/103	480/480	480/480			
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	455/455	162.0/150.9	175/175	149/167	475/475	475/475	153.3/142.2	175/175	141/158	460/460	168.0/156.9	175/175	155/172	480/480	480/480			
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	455/455	188.2/211.0	200/225	209/236	475/475	475/475	179.4/202.3	200/225	201/228	460/460	194.2/217.0	200/250	215/241	480/480	480/480			
HIGH	208/230-3-60	NONE	-	-	-	82.6	100	87	451	94.4	110	101	471	87.4	100/100	93	456	99.2	125/100	106	476	476			
		279A00	18.8/25.0	52.1/60.1	86.5/96.5	100/100	87/89	451/451	101.3/111.3	110/125	101/102	471/471	471/471	92.5/102.5	100/110	93/94	456/456	107.3/117.3	125/125	106/108	476/476	476/476			
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	451/451	166.4/156.4	175/175	153/172	471/471	471/471	157.6/147.7	175/175	145/164	456/456	172.4/162.4	175/175	159/177	476/476	476/476			
		281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	451/451	192.5/216.5	200/250	213/241	471/471	471/471	183.8/207.8	200/225	205/233	456/456	198.5/222.5	200/250	219/246	476/476	476/476			
STD	460-3-60	NONE	-	-	-	36.7	45	39	247	42.9	50	46	259	38.9	50/00	41	249	45.1	50/00	48	261	261			
		282A00	25.0	30.1	43.8	45	40	247	51.5	60	47	259	259	46.5	50/00	43	249	54.3	60/00	50	261	261			
		283A00	50.0	60.1	66.2	80	75	247	74.0	80	82	259	259	69.0	80/00	77	249	76.7	80/00	84	261	261			
		284A00	75.0	90.2	98.3	100	109	247	104.1	110	116	252	252	99.1	100	112	249	106.8	110	119	261	261			
MED	460-3-60	NONE	-	-	-	38.2	50	40	252	44.4	50	47	264	40.4	50/00	43	254	46.6	50/00	50	266	266			
		282A00	25.0	30.1	45.6	50	42	252	53.4	60	49	264	264	48.4	50/00	45	254	56.1	60/00	52	266	266			
		283A00	50.0	60.1	68.1	80	76	252	75.9	80	84	264	264	70.9	80/00	79	254	78.6	80/00	86	266	266			
		284A00	75.0	90.2	98.2	100	111	252	106.0	125	118	264	264	101.0	110	114	254	108.7	125	121	266	266			
HIGH	460-3-60	NONE	-	-	-	40.4	50	43	250	46.6	50	50	262	42.6	50/00	45	252	48.8	60/00	52	264	264			
		282A00	25.0	30.1	48.4	50	45	250	56.1	60	52	262	262	51.1	60/00	47	252	58.9	60/00	54	264	264			
		283A00	50.0	60.1	70.9	80	79	250	78.6	80	86	262	262	73.6	80/00	82	252	81.4	90/00	89	264	264			
		284A00	75.0	90.2	101.0	110	114	250	108.7	125	121	262	262	103.7	125	116	252	111.5	125	123	264	264			
STD	575-3-60	NONE	-	-	-	27.9	35	29	186	32.7	40	35	194	29.6	35/00	31	188	34.4	40/00	37	196	196			
		285A00	24.8	23.9	35.5	40	33	186	41.5	45	38	194	194	37.6	40/00	35	188	43.6	45/00	40	196	196			
		286A00	49.6	47.7	65.3	70	60	186	71.3	80	66	194	194	67.4	70/00	62	188	73.4	80/00	68	196	196			
		287A00	74.4	71.6	77.2	90	88	186	83.2	90	93	194	194	79.4	90	89	188	85.4	90	95	196	196			
MED	575-3-60	NONE	-	-	-	29.6	35	31	200	34.4	40	37	208	31.3	40/00	33	202	36.1	45/00	39	210	210			
		285A00	24.8	23.9	37.6	40	35	200	43.6	45	40	208	208	39.8	40/00	37	202	45.8	50/00	42	210	210			
		286A00	49.6	47.7	67.4	70	62	200	73.4	80	68	208	208	69.5	70/00	64	202	75.5	80/00	69	210	210			
		287A00	74.4	71.6	79.4	90	89	200	85.4	90	95	208	208	81.5	90	91	202	87.5	90	97	210	210			
HIGH	575-3-60	NONE	-	-	-	31.0	40	33	198	35.8	45	38	206	32.7	40/00	35	200	37.5	45/00	40	208	208			
		285A00	24.8	23.9	39.4	40	36	198	45.4	50	42	206	206	41.5	45/00	38	200	47.5	50/00	44	208	208			
		286A00	49.6	47.7	69.1	70	64	198	75.1	80	69	206	206	71.3	80/00	66	200	77.3	80/00	71	208	208			
		287A00	74.4	71.6	81.1	90	91	198	87.1	90	97	206	206	83.2	90	93	200	89.2	90	99	208	208			

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

**Table 36 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.											
		CRHEATER***A00	Nom (kW)	FLA	MCA	NO P.E.			w/ P.E. (pwrld fr/unit)			NO P.E.			w/ P.E. (pwrld fr/unit)			NO P.E.			w/ P.E. (pwrld fr/unit)						
						MAX FUSE or HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA	DISC. SIZE LRA			
50HC**24	STD	NONE	-	-	87.3/86.4	100/100	92/91	550	550	570	105/104	125/125	109/109	566/566	101	551	551	103.9/103.0	125/125	111/110	571	111/110	125/125	103.9/103.0	125/125	111/110	571
		279A00	18.8/25.0	52.1/60.1	87.3/91.0	100/100	92/91	550/550	550/570	570/570	105/104	125/125	109/109	566/566	101/101	551/551	551/551	103.9/111.8	125/125	111/110	575/575	111/110	125/125	103.9/111.8	125/125	111/110	575/575
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	550/550	570/570	570/570	149/167	175/175	175/175	566/566	145/164	551/551	551/551	168.0/156.9	175/175	155/172	575/575	141/158	175/175	168.0/156.9	175/175	155/172	575/575
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	550/550	570/570	570/570	209/236	200/225	200/225	566/566	205/233	551/551	551/551	194.2/17.0	200/250	215/241	575/575	201/228	200/250	194.2/17.0	200/250	215/241	575/575
460-3-60	MED	NONE	-	-	90.8	100	96	546	546	645	109	125	109	566	101	551	107.4	125.00	115	571	101	125.00	107.4	125.00	115	571	
		279A00	18.8/25.0	52.1/60.1	90.8/96.5	100/100	96/96	546/546	546/546	645/645	109/109	125/125	109/109	566/566	101/101	551/551	107.4/117.3	125/125	115/115	571/571	101/101	125/125	107.4/117.3	125/125	115/115	571/571	
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	546/546	546/546	645/645	153/172	175/175	175/175	566/566	145/164	551/551	172.4/162.4	175/175	159/177	571/571	145/164	175/175	172.4/162.4	175/175	159/177	571/571	
		281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	546/546	546/546	645/645	213/241	200/250	200/250	566/566	205/233	551/551	198.5/222.5	200/250	219/246	571/571	205/233	200/250	198.5/222.5	200/250	219/246	571/571	
575-3-60	STD	NONE	-	-	102.2	125	109	625	625	729	122	125	122	645	114	630	118.8	150.00	128	650	114	150.00	118.8	150.00	128	650	
		279A00	18.8/25.0	52.1/60.1	102.2/110.8	125/125	109/109	625/625	625/625	729/729	122/122	125/125	125/125	645/645	114/114	630/630	121.5/131.5	150/150	128/128	650/650	114/114	150/150	121.5/131.5	150/150	128/128	650/650	
		280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	625/625	625/625	729/729	166/185	175/175	175/175	645/645	158/177	630/630	186.6/176.7	200/200	172/190	650/650	158/177	175/175	186.6/176.7	200/200	172/190	650/650	
		281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	625/625	625/625	729/729	226/254	225/250	225/250	645/645	218/246	630/630	212.9/236.8	225/250	232/259	650/650	218/246	225/250	212.9/236.8	225/250	232/259	650/650	
460-3-60	MED	NONE	-	-	47.6	60	50	280	280	292	57	60	57	292	52	282	56.0	70.00	62	292	52	70.00	56.0	70.00	62	292	
		282A00	25.0	30.1	47.6	60	50	280	280	292	57	60	57	292	52	282	56.1	70.00	69	292	52	70.00	56.1	70.00	69	292	
		283A00	50.0	60.1	68.1	80	76	280	280	292	84	80	84	292	79	282	78.6	80.00	86	292	79	80.00	78.6	80.00	86	292	
		284A00	75.0	90.2	98.2	100	111	280	280	292	118	110	125	292	114	280	108.7	125	123	292	114	125	108.7	125	123	292	
460-3-60	HIGH	NONE	-	-	55.5	60	59	318	318	330	66	70	66	330	62	320	63.9	80.00	69	332	62	80.00	63.9	80.00	69	332	
		282A00	25.0	30.1	55.5	60	59	318	318	330	66	70	66	330	62	320	66.0	80.00	69	332	62	80.00	66.0	80.00	69	332	
		283A00	50.0	60.1	78.0	80	86	318	318	330	93	90	90	330	88	320	88.5	100.00	95	332	88	100.00	88.5	100.00	95	332	
		284A00	75.0	90.2	108.1	125	120	318	318	330	127	125	125	330	123	320	118.6	125	130	332	123	125	118.6	125	130	332	
575-3-60	STD	NONE	-	-	36.1	45	38	204	204	212	43	50	43	212	40	206	42.6	50.00	45	214	40	50.00	42.6	50.00	45	214	
		285A00	24.8	23.9	37.6	45	38	204	204	212	43	50	43	212	40	206	45.8	50.00	45	214	40	50.00	45.8	50.00	45	214	
		286A00	49.6	47.7	67.4	70	62	204	204	212	68	70	80	212	64	206	75.5	80.00	69	214	64	70.00	75.5	80.00	69	214	
		287A00	74.4	71.6	79.4	90	89	204	204	212	95	90	90	212	91	206	87.5	90	97	214	91	90	87.5	90	97	214	
575-3-60	MED	NONE	-	-	37.5	45	40	202	202	210	45	50	45	210	42	204	44.0	50.00	47	212	42	50.00	44.0	50.00	47	212	
		285A00	24.8	23.9	38.4	45	40	202	202	210	45	50	45	210	42	204	47.5	50.00	47	212	42	50.00	47.5	50.00	47	212	
		286A00	49.6	47.7	69.1	70	64	202	202	210	69	80	80	210	66	204	77.3	80.00	71	212	66	80.00	77.3	80.00	71	212	
		287A00	74.4	71.6	81.1	90	91	202	202	210	97	90	90	210	93	204	89.2	90	99	212	93	90	89.2	90	99	212	
575-3-60	HIGH	NONE	-	-	39.4	50	42	229	229	237	47	50	47	237	44	231	45.9	50.00	49	239	44	50.00	45.9	50.00	49	239	
		285A00	24.8	23.9	41.8	50	42	229	229	237	47	50	47	237	44	231	49.9	50.00	49	239	44	50.00	49.9	50.00	49	239	
		286A00	49.6	47.7	71.5	80	66	229	229	237	71	80	80	237	68	231	79.6	80.00	73	239	68	80.00	79.6	80.00	73	239	
		287A00	74.4	71.6	83.5	90	93	229	229	237	99	100	100	237	95	231	91.6	100	101	239	95	100	91.6	100	101	239	

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

**Table 36 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	NO M, V-PH-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrdr fr/unit)			NO PE.			w/ P.E. (pwrdr fr/unit)			NO PE.			w/ P.E. (pwrdr fr/unit)				
						MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE FLA LRA					
STD	208/230-3-60	NONE	-	-	-	116.0/115.1	150/150	120/119	590	590	133/132	610	120.8/119.9	150/150	125/124	595	132.6/131.7	175/175	139/138	615					
		279A00	18.8/25.0	52.1/60.1	116.0/115.1	150/150	120/119	590/590	590/590	133/132	610/610	120.8/119.9	150/150	125/124	595/595	132.6/131.7	175/175	139/138	615/615						
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	590/590	590/590	149/167	610/610	153.3/142.2	175/175	141/158	595/595	168.0/156.9	175/175	155/172	615/615						
		281A00	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	194.2/217.0	200/250	215/241	615/615					
MED	208/230-3-60	NONE	-	-	-	119.5	150	124	586	586	137	606	124.3	150/150	129	591	136.1	175/175	143	611					
		279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611					
		280A00	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	611/611					
		281A00	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					
HIGH	208/230-3-60	NONE	-	-	-	130.9	175	137	665	665	150	685	135.7	175/175	142	670	147.5	175/175	156	690					
		279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690					
		280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/175	166/185	685/685	171.9/161.9	175/175	158/177	670/670	186.6/176.7	200/200	172/190	690/690					
		281A00	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					
STD	460-3-60	NONE	-	-	-	53.0	60	56	306	306	63	318	55.2	60/60	58	308	61.4	70/60	65	320					
		282A00	25.0	30.1	53.0	60	56	306	59.2	70	63	318	55.2	60/60	58	308	61.4	70/60	65	320					
		283A00	50.0	60.1	68.1	80	76	306	75.9	80	84	318	70.9	80/80	79	308	78.6	80/80	86	320					
		284A00	75.0	90.2	98.2	100	111	306	106.0	125	118	318	101.0	110	114	308	108.7	125	121	320					
MED	460-3-60	NONE	-	-	-	55.2	60	58	304	304	65	316	57.4	70/60	61	306	63.6	80/80	68	318					
		282A00	25.0	30.1	55.2	60	58	304	61.4	70	65	316	57.4	70/60	61	306	63.6	80/80	68	318					
		283A00	50.0	60.1	70.9	80	79	304	78.6	80	86	316	73.6	80/80	82	306	81.4	90/80	89	318					
		284A00	75.0	90.2	101.0	110	114	304	108.7	125	121	316	103.7	125	116	306	111.5	125	123	318					
HIGH	460-3-60	NONE	-	-	-	60.9	70	65	344	344	72	356	63.1	80/80	67	346	69.3	80/80	74	358					
		282A00	25.0	30.1	60.9	70	65	344	67.1	80	72	356	63.1	80/80	67	346	69.3	80/80	74	358					
		283A00	50.0	60.1	78.0	90	86	344	85.7	90	93	356	80.7	90/90	88	346	88.5	100/80	95	358					
		284A00	75.0	90.2	108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358					
STD	575-3-60	NONE	-	-	-	41.0	50	43	228	228	48	236	42.7	50/50	45	230	47.5	60/50	50	238					
		285A00	24.8	23.9	41.0	50	43	228	45.8	60	48	236	42.7	50/50	45	230	47.5	60/50	50	238					
		286A00	49.6	47.7	67.4	70	62	228	73.4	80	68	236	69.5	70/60	64	230	75.5	80/60	69	238					
		287A00	74.4	71.6	79.4	90	89	228	85.4	90	95	236	81.5	90	91	230	87.5	90	97	238					
MED	575-3-60	NONE	-	-	-	42.4	50	45	226	226	50	234	44.1	50/50	46	228	48.9	60/50	52	236					
		285A00	24.8	23.9	42.4	50	45	226	47.2	60	50	234	44.1	50/50	46	228	48.9	60/50	52	236					
		286A00	49.6	47.7	69.1	70	64	226	75.1	80	69	234	71.3	80/60	66	228	77.3	80/60	71	236					
		287A00	74.4	71.6	81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236					
HIGH	575-3-60	NONE	-	-	-	44.3	50	47	253	253	52	261	46.0	60/60	49	255	50.8	60/60	54	263					
		285A00	24.8	23.9	44.3	50	47	253	49.1	60	52	261	46.0	60/60	49	255	50.8	60/60	54	263					
		286A00	49.6	47.7	71.5	80	66	253	77.5	80	71	261	73.6	80/60	68	255	79.6	80/60	73	263					
		287A00	74.4	71.6	83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263					

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

**Table 37 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION**

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.				NO PE.				w/ PWRD C.O.								
		CR-HEATER***A00	Nom (kW)	FLA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA					
50HC**17	STD	NONE	-	-	69.4/69.4	90/90	73/72	390	81.2/81.2	100/100	86/85	410	74.2/74.2	90/90	78/77	395	86.0/86.0	100/100	92/91	415	
		279A00	18.8/25.0	52.1/60.1	84.9/84.9	90/90	73/78	390/390	99.6/99.6	100/100	86/92	410/410	90.9/90.9	100/100	78/84	395/395	105.6/105.6	110/110	92/97	415/415	
		280A00	37.6/50.0	104.2/120.3	141.0/141.0	150/150	130/147	390/390	155.8/155.8	175/175	175/175	143/161	410/410	147.0/147.0	150/150	135/153	395/395	161.8/161.8	175/175	149/166	415/415
		281A00	56.3/75.0	156.4/180.4	190.2/190.2	200/200	190/216	390/390	204.9/204.9	225/225	225/225	203/230	410/410	196.2/196.2	200/225	195/222	395/395	210.9/210.9	225/225	209/236	415/415
	MED	NONE	-	-	71.6/71.6	90/90	75/74	414	83.4/83.4	100/100	89/88	434	76.4/76.4	100/100	81/79	419	88.2/88.2	100/100	94/93	439	
		279A00	18.8/25.0	52.1/60.1	87.4/87.4	90/90	75/80	414/414	102.1/102.1	110/110	89/94	434/434	93.4/93.4	100/100	81/86	419/419	108.1/108.1	110/110	94/99	439/439	
		280A00	37.6/50.0	104.2/120.3	143.8/143.8	150/150	132/150	414/414	158.5/158.5	175/175	148/163	434/434	149.8/149.8	150/150	138/155	419/419	164.5/164.5	175/175	151/169	439/439	
		281A00	56.3/75.0	156.4/180.4	192.7/192.7	200/225	192/219	414/414	207.4/207.4	225/225	225/225	206/232	434/434	198.7/198.7	200/225	198/224	419/419	213.4/213.4	225/225	211/238	439/439
	HIGH	NONE	-	-	74.4/74.4	90/90	78/77	425	86.2/86.2	100/100	92/91	445	79.2/79.2	100/100	84/83	430	91.0/91.0	100/100	97/96	450	
		279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	78/84	425/425	105.8/105.8	110/110	92/97	445/445	97.0/97.0	100/100	84/89	430/430	111.8/111.8	125/125	97/103	450/450	
		280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	425/425	162.0/162.0	175/175	149/167	445/445	153.3/153.3	175/175	141/158	430/430	168.0/168.0	175/175	155/172	450/450	
		281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	425/425	211.0/211.0	225/225	209/236	445/445	202.3/202.3	225/225	201/228	430/430	217.0/217.0	225/250	215/241	450/450	
460-3-60	STD	NONE	-	-	35.3	45	37	233	41.5	50	44	245	37.5	50	39	235	43.7	50	47	247	
		282A00	25.0	30.1	42.4	45	39	233	50.1	60	46	245	45.1	50	42	235	52.9	60	49	247	
		283A00	50.0	60.1	64.9	70	73	233	72.6	80	81	245	67.6	80	76	235	75.4	80	83	247	
		284A00	75.0	90.2	95.0	100	108	233	102.7	110	115	245	97.7	100	111	235	105.5	110	118	247	
	MED	NONE	-	-	38.4	45	38	245	42.6	50	45	257	38.6	50	41	247	44.8	50	48	259	
		282A00	25.0	30.1	43.8	45	40	245	51.5	60	47	257	46.5	50	43	247	54.3	60	50	259	
		283A00	50.0	60.1	66.2	80	75	245	74.0	80	82	257	69.0	80	77	247	76.7	80	84	259	
		284A00	75.0	90.2	96.3	100	109	245	104.1	110	116	257	99.1	100	112	247	106.8	110	119	259	
	HIGH	NONE	-	-	37.9	50	40	250	44.1	50	47	262	40.1	50	42	252	46.3	50	50	264	
		282A00	25.0	30.1	45.6	50	42	250	53.4	60	49	262	48.4	50	45	252	56.1	60	52	264	
		283A00	50.0	60.1	68.1	80	76	250	75.9	80	84	262	70.9	80	79	252	78.6	80	86	264	
		284A00	75.0	90.2	98.2	100	111	250	106.0	125	118	262	101.0	110	114	252	108.7	125	121	264	
STD	NONE	-	-	27.9	35	29	184	32.7	40	35	192	29.6	35	31	186	34.4	40	37	194		
	285A00	24.8	23.9	35.5	40	33	184	41.5	45	38	192	37.6	40	35	186	43.6	45	40	194		
	286A00	49.6	47.7	65.3	70	60	184	71.3	80	66	192	67.4	70	62	186	73.4	80	68	194		
	287A00	74.4	71.6	77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194		
MED	NONE	-	-	27.9	35	29	184	32.7	40	35	192	29.6	35	31	186	34.4	40	37	194		
	285A00	24.8	23.9	35.5	40	33	184	41.5	45	38	192	37.6	40	35	186	43.6	45	40	194		
	286A00	49.6	47.7	65.3	70	60	184	71.3	80	66	192	67.4	70	62	186	73.4	80	68	194		
	287A00	74.4	71.6	77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194		
HIGH	NONE	-	-	29.6	35	31	198	34.4	40	37	206	31.3	40	33	200	36.1	45	39	208		
	285A00	24.8	23.9	37.6	40	35	198	43.6	45	40	206	39.8	40	37	200	45.8	50	42	208		
	286A00	49.6	47.7	67.4	70	62	198	73.4	80	68	206	69.5	70	64	200	75.5	80	69	208		
	287A00	74.4	71.6	79.4	90	89	198	85.4	90	95	206	81.5	90	91	200	87.5	90	97	208		

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

**Table 37 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	ELEC. HTR		NO C.O. or UNPWR C.O.						w/ PWRD C.O.												
	IFM TYPE	CR-HEATER**A00	Nom (kW)	FLA	MCA	HACR BRKR	NO PE.	DISC. SIZE FLA LRA	MCA	HACR BRKR	w/ PE. (pwrd fr/unit)	DISC. SIZE FLA LRA	MCA	HACR BRKR	w/ PE. (pwrd fr/unit)	DISC. SIZE FLA LRA					
50HC**20	STD	NONE	-	-	76.3/76.3	100/100	80/79	444	88.1/88.1	100/100	99/92	464	81.7/81.1	100/100	85/84	449	92.9/92.9	100/100	99/98	469	
		279A00	18.8/25.0	52.1/60.1	87.4/87.4	100/100	80/80	444/444	102.1/102.1	110/110	99/94	464/464	49.4/49.4	93.4/93.4	100/100	85/86	449/449	108.1/108.1	110/110	99/99	469/469
		280A00	37.6/50.0	104.2/120.3	143.8/143.8	150/150	132/150	444/444	158.5/158.5	175/175	148/163	464/464	149.8/149.8	149.8/149.8	150/150	138/155	449/449	164.5/164.5	175/175	151/169	469/469
		281A00	56.3/75.0	156.4/180.4	192.7/192.7	200/225	192/219	444/444	207.4/207.4	225/225	206/232	464/464	198.7/198.7	198.7/198.7	200/225	198/224	449/449	213.4/213.4	225/225	211/238	469/469
		NONE	-	-	79.1/79.1	100/100	83/82	455	90.9/90.9	100/100	97/96	475	83.9/83.9	83.9/83.9	100/100	89/88	460	95.7/95.7	110/110	102/101	480
		279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	83/84	455/455	105.8/105.8	110/110	97/97	475/475	97.0/97.0	97.0/97.0	100/100	89/89	460/460	111.8/111.8	125/125	102/103	480/480
		280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	455/455	162.0/162.0	175/175	149/167	475/475	153.3/153.3	153.3/153.3	175/175	141/158	460/460	168.0/168.0	175/175	155/172	480/480
		281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	455/455	211.0/211.0	225/225	209/236	475/475	202.3/202.3	202.3/202.3	225/225	201/228	460/460	217.0/217.0	225/250	215/241	480/480
		NONE	-	-	82.6	100	87	451	94.4	110	101	471	87.4	87.4	100	93	456	99.2	125	106	476
		279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	87/89	451/451	111.3/111.3	125/125	101/102	471/471	102.5/102.5	102.5/102.5	110/110	93/94	456/456	117.3/117.3	125/125	106/108	476/476
460-3-60	STD	280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	451/451	166.4/166.4	175/175	153/172	471/471	157.6/157.6	157.6/157.6	175/175	145/164	456/456	172.4/172.4	175/175	159/177	476/476
		281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	451/451	216.5/216.5	225/250	213/241	471/471	207.8/207.8	207.8/207.8	225/225	205/233	456/456	222.5/222.5	225/250	219/246	476/476
		NONE	-	-	36.7	45	39	247	42.9	50	47	259	38.9	38.9	50	41	249	45.1	50	48	261
		282A00	25.0	30.1	43.8	45	40	247	51.5	60	47	259	46.5	46.5	50	43	249	54.3	60	50	261
		283A00	50.0	60.1	66.2	80	75	247	74.0	80	82	259	69.0	69.0	80	77	249	76.7	80	84	261
		284A00	75.0	90.2	96.3	100	109	247	104.1	110	116	259	99.1	99.1	100	112	249	106.8	110	119	261
		NONE	-	-	38.2	50	40	252	44.4	50	47	264	40.4	40.4	50	43	254	46.6	50	50	266
		282A00	25.0	30.1	45.6	50	42	252	53.4	60	49	264	48.4	48.4	50	45	254	56.1	60	52	266
		283A00	50.0	60.1	68.1	80	76	252	75.9	80	84	264	70.9	70.9	80	79	254	78.6	80	86	266
		284A00	75.0	90.2	98.2	100	111	252	106.0	125	118	264	101.0	101.0	110	114	254	108.7	125	121	266
460-3-60	HIGH	NONE	-	-	40.4	50	43	250	46.6	50	50	262	42.6	50	45	252	48.8	60	52	264	
		282A00	25.0	30.1	48.4	50	45	250	56.1	60	52	262	51.1	60	47	252	58.9	60	54	264	
		283A00	50.0	60.1	70.9	80	79	250	78.6	80	86	262	73.6	73.6	80	82	252	81.4	90	89	264
		284A00	75.0	90.2	101.0	110	114	250	108.7	125	121	262	103.7	103.7	125	116	252	111.5	125	123	264
		NONE	-	-	27.9	35	29	186	32.7	40	35	194	29.6	29.6	35	31	188	34.4	40	37	196
		285A00	24.8	23.9	35.5	40	33	186	41.5	45	38	194	37.6	37.6	40	35	188	43.6	45	40	196
		286A00	49.6	47.7	65.3	70	60	186	71.3	80	66	194	67.4	67.4	70	62	188	73.4	80	68	196
		287A00	74.4	71.6	77.2	90	88	186	83.2	90	93	194	79.4	79.4	90	89	188	85.4	90	95	196
		NONE	-	-	29.6	35	31	200	34.4	40	37	208	31.3	31.3	40	33	202	36.1	45	39	210
		285A00	24.8	23.9	37.6	40	35	200	43.6	45	40	208	39.8	39.8	40	37	202	45.8	50	42	210
575-3-60	MED	286A00	49.6	47.7	67.4	70	62	200	73.4	80	68	208	69.5	69.5	70	64	202	75.5	80	69	210
		287A00	74.4	71.6	79.4	90	89	200	85.4	90	95	208	81.5	81.5	90	91	202	87.5	90	97	210
		NONE	-	-	31.0	40	33	198	35.8	45	38	206	32.7	32.7	40	35	200	37.5	45	40	208
		285A00	24.8	23.9	39.4	40	36	198	45.4	50	42	206	41.5	41.5	45	38	200	47.5	50	44	208
		286A00	49.6	47.7	69.1	70	64	198	75.1	80	69	206	71.3	71.3	80	66	200	77.3	80	71	208
		287A00	74.4	71.6	81.1	90	91	198	87.1	90	97	206	83.2	83.2	90	93	200	89.2	90	99	208



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

**Table 37 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	NO M. V-PH-HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		IFM TYPE	CRHEATER***A00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrdr fr/unit)				NO P.E.				w/ P.E. (pwrdr fr/unit)							
						MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA	MCA	HACR BRKR	FLA	DISC. SIZE LRA				
50HC*24	460-3-60	STD	NONE	-	-	87.3/87.3	100/100	92/91	550	99.1/89.1	125/125	105/104	570	92.1/92.1	100/100	100/100	97/96	555	103.9/103.9	125/125	111/110	111/110	575		
			279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	92/91	550/550	105.8/105.8	125/125	105/104	570/570	570/570	97.0/97.0	100/100	100/100	97/96	555/555	111.8/111.8	125/125	111/110	111/110	575/575	
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	550/550	162.0/162.0	175/175	149/167	570/570	570/570	153.3/153.3	175/175	175/175	141/158	555/555	168.0/168.0	175/175	155/172	155/172	575/575	
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	550/550	211.0/211.0	225/225	209/236	570/570	570/570	202.3/202.3	225/225	225/225	201/228	555/555	217.0/217.0	225/250	215/241	215/241	575/575	
			NONE	-	-	90.8	100	96	546	102.6	125	109	566	566	95.6	125	125	101	551	107.4	125	115	115	571	
			279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	96/96	546/546	111.3/111.3	125/125	109/109	566/566	566/566	102.5/102.5	125/125	125/125	101/101	551/551	117.3/117.3	125/125	115/115	115/115	571/571	
			280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	546/546	166.4/166.4	175/175	153/172	566/566	566/566	157.6/157.6	175/175	175/175	145/164	551/551	172.4/172.4	175/175	159/177	159/177	571/571	
			281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	546/546	216.5/216.5	225/250	213/241	566/566	566/566	207.8/207.8	225/225	225/225	205/233	551/551	222.5/222.5	225/250	219/246	219/246	571/571	
			NONE	-	-	102.2	125	109	625	114.0	125	122	645	645	107.0	125	125	114	630	118.8	150	128	128	650	
			279A00	18.8/25.0	52.1/60.1	110.8/110.8	125/125	109/109	625/625	125.5/125.5	150/150	122/122	645/645	645/645	116.8/116.8	125/125	125/125	114/114	630/630	131.5/131.5	150/150	128/128	128/128	650/650	
280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	625/625	180.6/180.6	200/200	166/185	645/645	645/645	171.9/171.9	175/175	175/175	158/177	630/630	186.6/186.6	200/200	172/190	172/190	650/650				
281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	625/625	230.8/230.8	250/250	226/254	645/645	645/645	222.0/222.0	225/250	225/250	218/246	630/630	236.8/236.8	250/250	232/259	232/259	650/650				
50HC*24	460-3-60	STD	NONE	-	-	47.6	60	50	280	53.8	60	57	292	49.8	60	60	52	282	56.0	70	60	60	294		
			282A00	25.0	30.1	47.6	60	50	280	53.8	60	57	292	49.8	60	60	52	282	56.1	70	60	60	294		
			283A00	50.0	60.1	68.1	80	76	280	75.9	80	84	292	70.9	80	80	79	282	78.6	80	86	86	294		
			284A00	75.0	90.2	98.2	100	111	280	106.0	125	118	292	101.0	110	110	114	282	108.7	125	125	121	294		
			NONE	-	-	49.8	60	52	278	56.0	70	60	60	290	52.0	60	60	55	280	58.2	70	62	62	292	
			282A00	25.0	30.1	49.8	60	52	278	56.1	70	60	60	290	52.0	60	60	55	280	58.9	70	62	62	292	
			283A00	50.0	60.1	70.9	80	79	278	78.6	80	86	290	73.6	80	80	82	280	81.4	90	90	89	292		
			284A00	75.0	90.2	101.0	110	114	278	108.7	125	121	290	103.7	110	110	116	280	111.5	125	125	123	292		
			NONE	-	-	55.5	60	59	318	61.7	70	66	330	57.7	60	60	62	320	63.9	80	80	69	69	332	
			282A00	25.0	30.1	55.5	60	59	318	63.3	70	66	330	58.3	60	60	62	320	66.0	80	80	69	69	332	
283A00	50.0	60.1	78.0	90	86	318	85.7	90	93	330	80.7	80	80	88	320	88.5	100	100	95	95	332				
284A00	75.0	90.2	108.1	125	120	318	115.8	125	127	330	110.8	125	125	123	320	118.6	125	125	130	130	332				
575-3-60	STD	NONE	-	-	36.1	45	38	204	40.9	50	43	212	37.8	45	45	40	206	42.6	50	45	45	214			
		285A00	24.8	23.9	37.6	45	38	204	43.6	50	43	212	39.8	45	45	40	206	45.8	50	50	45	214			
		286A00	49.6	47.7	67.4	70	62	204	73.4	80	68	212	69.5	70	70	64	206	75.5	80	80	69	69	214		
		287A00	74.4	71.6	79.4	90	89	204	85.4	90	95	212	81.5	90	90	91	206	87.5	90	90	97	97	214		
		NONE	-	-	37.5	45	40	202	42.3	50	45	210	39.2	45	45	42	204	44.0	50	50	47	47	212		
		285A00	24.8	23.9	39.4	45	40	202	45.4	50	45	210	41.5	45	45	42	204	47.5	50	50	47	47	212		
		286A00	49.6	47.7	68.1	70	64	202	75.1	80	69	210	71.3	80	80	66	204	77.3	80	80	71	71	212		
		287A00	74.4	71.6	81.1	90	91	202	87.1	90	97	210	83.2	90	90	93	204	89.2	90	90	99	99	212		
		NONE	-	-	39.4	50	42	229	44.2	50	47	237	41.1	45	45	44	231	45.9	50	50	49	49	239		
		285A00	24.8	23.9	41.8	50	42	229	47.8	50	47	237	43.9	45	45	44	231	49.9	50	50	49	49	239		
286A00	49.6	47.7	71.5	80	66	229	77.5	80	71	237	73.6	80	80	68	231	79.6	80	80	73	73	239				
287A00	74.4	71.6	83.5	90	93	229	89.5	100	99	237	85.6	90	90	95	231	91.6	100	100	101	101	239				

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

**Table 37 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH FACTORY INSTALLED 2 SPEED INDOOR FAN OPTION (cont)**

UNIT	NO M, V, P, H, HZ	ELEC. HTR				NO C.O. or UNPWR C.O.										W/ PWRD C.O.									
		IFM TYPE	CRHEATER**A00	Nom (kW)	FLA	NO PE.				w/ P.E. (pwrdr fr/unit)				NO PE.				w/ P.E. (pwrdr fr/unit)							
						MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC**28		STD	NONE	-	-	116.0/116.0	150/150	120/119	590	610	133/132	120.8/120.8	150/150	150/150	125/124	595	132.6/132.6	175/175	139/138	615					
			279A00	18.8/25.0	52.1/60.1	116.0/116.0	150/150	120/119	590/590	610/610	133/132	120.8/120.8	150/150	150/150	125/124	595/595	132.6/132.6	175/175	139/138	615/615					
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	590/590	610/610	149/167	153.3/153.3	175/175	175/175	141/158	595/595	168.0/168.0	175/175	155/172	615/615					
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	590/590	610/610	209/236	202.3/202.3	225/225	225/250	201/228	595/595	217.0/217.0	225/250	215/241	615/615					
			NONE	-	-	119.5	150	124	586	606	137	137	124.3	150	150	129	591	136.1	175	143	611				
			279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	606/606	137/137	124.3/124.3	150/150	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611					
			280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	586/586	606/606	153/172	157.6/157.6	175/175	175/175	145/164	591/591	172.4/172.4	175/175	159/177	611/611					
			281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	586/586	606/606	213/241	207.8/207.8	225/250	225/250	205/233	591/591	222.5/222.5	225/250	219/246	611/611					
			NONE	-	-	130.9	175	137	665	685	150	150	142.7	175	175	142	670	147.5	175	156	690				
			279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	685/685	150/150	150/150	142.7/142.7	175/175	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690				
280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	665/665	685/685	166/185	171.9/171.9	200/200	200/200	158/177	670/670	186.6/186.6	200/200	172/190	690/690								
281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	665/665	685/685	226/254	222.0/222.0	250/250	250/250	218/246	670/670	236.8/236.8	250/250	232/259	690/690								
460-3-60		STD	NONE	-	-	53.0	60	56	306	63	63	59.2	70	70	63	318	55.2	80	65	320					
			282A00	25.0	30.1	53.0	60	56	306	63	63	59.2	70	70	63	318	55.2	80	65	320					
			283A00	50.0	60.1	68.1	80	76	306	306	84	75.9	80	80	79	308	78.6	80	86	320					
			284A00	75.0	90.2	98.2	100	111	306	306	118	106.0	125	125	114	308	108.7	125	121	320					
			NONE	-	-	55.2	60	58	304	316	65	61.4	70	70	61	306	63.6	80	68	318					
			282A00	25.0	30.1	55.2	60	58	304	316	65	61.4	70	70	61	306	63.6	80	68	318					
			283A00	50.0	60.1	70.9	80	79	304	316	86	78.6	80	80	82	306	81.4	90	89	318					
			284A00	75.0	90.2	101.0	110	114	304	316	121	103.7	125	125	116	306	111.5	125	123	318					
			NONE	-	-	60.9	70	65	344	356	72	67.1	80	80	67	346	69.3	80	74	358					
			282A00	25.0	30.1	60.9	70	65	344	356	72	67.1	80	80	67	346	69.3	80	74	358					
283A00	50.0	60.1	78.0	90	86	344	344	93	85.7	90	90	88	346	88.5	100	95	358								
284A00	75.0	90.2	108.1	125	120	344	344	127	115.8	125	125	123	346	118.6	125	130	358								
575-3-60		STD	NONE	-	-	41.0	50	43	228	48	48	45.8	60	60	48	236	42.7	60	50	238					
			285A00	24.8	23.9	41.0	50	43	228	236	48	45.8	60	60	45	230	47.5	60	50	238					
			286A00	49.6	47.7	67.4	70	62	228	236	68	73.4	80	80	64	230	75.5	80	69	238					
			287A00	74.4	71.6	79.4	90	89	228	236	95	85.4	90	90	91	230	87.5	90	97	238					
			NONE	-	-	42.4	50	45	226	234	50	44.1	60	60	46	228	48.9	60	52	236					
			285A00	24.8	23.9	42.4	50	45	226	234	50	44.1	60	60	46	228	48.9	60	52	236					
			286A00	49.6	47.7	69.1	70	64	226	234	69	71.3	80	80	66	228	77.3	80	71	236					
			287A00	74.4	71.6	81.1	90	91	226	234	97	83.2	90	90	93	228	89.2	90	99	236					
			NONE	-	-	44.3	50	47	253	261	52	49.1	60	60	49	255	50.8	60	54	263					
			285A00	24.8	23.9	44.3	50	47	253	261	52	49.1	60	60	49	255	50.8	60	54	263					
286A00	49.6	47.7	71.5	80	66	253	261	71	73.6	80	80	68	255	79.6	80	73	263								
287A00	74.4	71.6	83.5	90	93	253	261	99	85.6	100	100	95	255	91.6	100	101	263								

## 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 3012 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 (fiscal calendar)			Sequence number
Year of manufacture ("12" = 2012)		Manufacturing location	

C12562A

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

**Table 38 – 2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

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	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
	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	83.8%	10.2
										MED	83.6%	15.0
										HIGH	89.5%	20.4
	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%	20.4
	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%	20.4
	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%	9.0
24	208-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	15.0
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	230-3-60	187	253	48.1	245	29.5	195	350	1.5	STD	83.6%	15.0
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	460-3-60	414	506	18.6	125	14.7	95	277	0.9	STD	83.6%	7.4
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	575-3-60	518	633	14.7	100	12.2	80	397	0.6	STD	83.6%	5.6
										MED	89.5%	9.0
										HIGH	91.7%	9.5
28	208-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	15.0
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	230-3-60	187	253	48.1	245	48.1	245	350	1.5	STD	83.6%	15.0
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	460-3-60	414	506	18.6	125	18.6	125	277	0.9	STD	83.6%	7.4
										MED	89.5%	20.4
										HIGH	91.7%	33.1
	575-3-60	518	633	14.7	100	14.7	100	397	0.6	STD	83.6%	5.6
										MED	89.5%	9.0
										HIGH	91.7%	9.5

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

**Table 39 – 2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

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	25.0	164	25.0	164	350	1.5	STD	85.0%	8.6
										MED	81.5%	10.8
										HIGH	83.6%	13.6
	230-3-60	187	253	25.0	164	25.0	164	350	1.5	STD	85.0%	7.8
										MED	81.5%	9.8
										HIGH	83.6%	12.7
	460-3-60	414	506	12.8	100	12.8	100	277	0.9	STD	85.0%	3.8
										MED	81.5%	4.9
										HIGH	83.6%	6.4
	575-3-60	518	633	9.6	78	9.6	78	397	0.6	STD	81.1%	4.5
										MED	81.1%	4.5
										HIGH	83.6%	6.2
20	208-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	81.5%	10.8
										MED	83.6%	13.6
										HIGH	89.5%	17.1
	230-3-60	187	253	27.6	191	25.0	164	350	1.5	STD	81.5%	9.8
										MED	83.6%	12.7
										HIGH	89.5%	17.1
	460-3-60	414	506	12.8	100	12.2	100	277	0.9	STD	81.5%	4.9
										MED	83.6%	6.4
										HIGH	89.5%	8.6
	575-3-60	518	633	9.6	78	9.0	78	397	0.6	STD	81.1%	4.5
										MED	83.6%	6.2
										HIGH	89.5%	7.6
24	208-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	83.6%	13.6
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	230-3-60	187	253	30.1	225	30.1	225	350	1.5	STD	83.6%	12.7
										MED	89.5%	17.1
										HIGH	91.7%	28.5
	460-3-60	414	506	16.7	114	16.7	114	277	0.9	STD	83.6%	6.4
										MED	89.5%	8.6
										HIGH	91.7%	14.3
	575-3-60	518	633	12.2	80	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	33.3	239	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	33.3	239	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	17.9	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	12.8	80	397	0.6	STD	83.6%	6.2
										MED	89.5%	7.6
										HIGH	91.7%	9.5

# ELECTRICAL INFORMATION

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

Table 40 – 50HC\*\*17

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	-	057A00	-	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 41 – 50HC\*\*17

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered C.O.		w/PWRD C.O.	
					NO PE.	w/ PE. (pwrd fr/unit)	NO PE.	w/ PE. (pwrd fr/unit)
208/ 230-3-60	STD	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	-	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 42 – 50HC\*\*20

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	-	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 43 – 50HC\*\*20

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered C.O.		w/PWRD C.O.	
					NO PE.	w/ PE. (pwrd fr/unit)	NO PE.	w/ PE. (pwrd fr/unit)
208/ 230-3-60	STD	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 44 – 50HC\*\*24

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered C.O.		w/PWRD C.O.	
					NO P.E.	w/ P.E. (pwr fr/unit)	NO P.E.	w/ P.E. (pwr fr/unit)
208/ 203-3-60	STD	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	056A00	-	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057A00	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 45 – 50HC\*\*24

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING 2-SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. Or Unpowered C.O.		w/PWRD C.O.	
					NO PE.	w/ PE. (pwrd fr/unit)	NO PE.	w/ PE. (pwrd fr/unit)
208/ 203-3-60	STD	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	-	-	-	-
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	-	056A00	-	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	-	-	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057A00	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 46 – 50HC\*\*28

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM. PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered 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	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	057A00	057A00	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057A00	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 47 – 50HC\*\*28

### ELECTRIC HEAT - ELECTRICAL DATA 2-STAGE COOLING SINGLE 2-INDOOR FAN MOTOR

NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE			
					NO C.O. or Unpowered C.O.		w/PWRD C.O.	
					NO PE.	w/ PE. (pwrd fr/unit)	NO PE.	w/ PE. (pwrd fr/unit)
208/ 230-3-60	STD	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	MED	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
	HIGH	279/270A00	25.0	18.8/23.0	056A00	056A00	056A00	056A00
		280/271A00	50.0	37.6/45.9	056A00	056A00	056A00	056A00
		281/272A00	75.0	56.3/68.9	056A00	056A00	056A00	056A00
460-3-60	STD	282/273A00	25.0	23.0	-	-	-	-
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	MED	282/273A00	25.0	23.0	-	-	-	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
	HIGH	282/273A00	25.0	23.0	-	057A00	057A00	057A00
		283/274A00	50.0	45.9	057A00	057A00	057A00	057A00
		284/275A00	75.0	68.9	057A00	057A00	057A00	057A00
575-3-60	STD	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	-	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	MED	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	-	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00
	HIGH	285/276A00	24.8	22.8	-	-	-	-
		286/277A00	49.6	45.6	057A00	057A00	057A00	057A00
		287/278A00	74.4	68.3	057A00	057A00	057A00	057A00

**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 48 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.				NO PE.				w/ PE. (pwrd fr/unit)				w/ PWRD C.O.								
			CRHEATER	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	DISC. SIZE						
								FLA	LRA				FLA	LRA			FLA	LRA			FLA	LRA					
208/ 230-3-60	STD	NONE	-	-	68.3	90	71	383	80.1	100	85	413	73.1	90	77	398	84.9	100	90	90	398	84.9	100	90	90	418	
		279A00	18.8/25.0	52.1/60.1	74.5/84.5	90/90	71/78	393/393	89.3/99.3	100/100	85/91	413/413	80.5/90.5	90/100	77/83	398/398	95.3/105.3	100/110	100/110	100/110	90/97	418/418	95.3/105.3	100/110	90/97	418/418	
		280A00	37.6/50.0	104.2/120.3	139.6/129.7	150/150	128/147	393/393	154.4/144.4	175/150	142/161	413/413	145.6/135.7	150/150	134/152	398/398	160.4/150.4	175/175	175/175	175/175	148/166	418/418	160.4/150.4	175/175	148/166	418/418	
		281A00	56.3/75.0	156.4/180.4	165.8/189.8	175/200	188/216	393/393	180.5/204.5	200/225	202/230	413/413	171.8/195.8	200/225	194/222	398/398	186.5/210.5	200/225	200/225	200/225	208/235	418/418	186.5/210.5	200/225	208/235	418/418	
		NONE	-	-	71.0	90	74	410	82.8	100	88	430	75.8	100	80	415	87.6	100	93	93	93	435	87.6	100	93	93	435
		279A00	18.8/25.0	52.1/60.1	77.9/87.9	90/90	74/81	410/410	92.6/102.6	100/110	89/94	430/430	83.9/93.9	100/100	80/86	415/415	98.6/108.6	100/110	100/110	100/110	93/100	435/435	98.6/108.6	100/110	93/100	435/435	
		280A00	37.6/50.0	104.2/120.3	143.0/133.1	150/150	132/150	410/410	157.8/147.8	175/175	145/164	430/430	149.0/139.1	150/150	137/156	415/415	163.8/153.8	175/175	175/175	175/175	151/169	435/435	163.8/153.8	175/175	151/169	435/435	
		281A00	56.3/75.0	156.4/180.4	169.2/193.2	200/225	192/219	410/410	183.9/207.9	200/225	205/233	430/430	175.2/199.2	200/225	197/225	415/415	189.9/213.9	200/225	200/225	200/225	211/238	435/435	189.9/213.9	200/225	211/238	435/435	
		NONE	-	-	75.8	100	80	419	87.6	100	93	439	80.6	100	85	424	92.4	100	99	99	99	444	92.4	100	99	99	444
		279A00	18.8/25.0	52.1/60.1	83.9/93.9	100/100	80/86	419/419	98.6/108.6	100/110	93/100	439/439	89.9/99.9	100/100	85/92	424/424	104.6/114.6	110/125	99/105	99/105	99/105	444/444	104.6/114.6	110/125	99/105	99/105	444/444
460-3-60	STD	280A00	37.6/50.0	104.2/120.3	149.0/139.1	150/175	137/156	419/419	163.8/153.8	175/175	151/169	439/439	155.0/145.1	175/175	143/161	424/424	169.8/159.8	175/175	175/175	156/175	444/444	169.8/159.8	175/175	156/175	156/175	444/444	
		281A00	56.3/75.0	156.4/180.4	175.2/199.2	200/225	197/225	419/419	189.9/213.9	200/250	211/238	439/439	181.2/205.2	200/225	203/230	424/424	195.9/219.9	200/250	200/250	216/244	444/444	195.9/219.9	200/250	216/244	216/244	444/444	
		NONE	-	-	34.9	45	36	234	41.1	50	44	246	37.1	45	39	236	43.3	50	46	46	248	43.3	50	46	46	248	
		282A00	25.0	30.1	41.9	45	39	234	49.6	50	46	246	44.6	45	41	236	52.4	60	48	48	248	52.4	60	48	48	248	
		283A00	50.0	60.1	64.4	70	73	234	72.1	80	80	246	67.1	70	76	236	74.9	80	83	83	248	74.9	80	83	83	248	
		284A00	75.0	90.2	94.5	100	108	234	102.2	110	115	246	97.2	100	110	236	105.0	110	117	117	248	105.0	110	117	117	248	
		NONE	-	-	36.3	45	38	243	42.5	50	45	255	38.5	50	41	245	44.7	50	48	48	257	44.7	50	48	48	257	
		282A00	25.0	30.1	43.6	45	40	243	51.4	60	47	255	46.4	50	43	245	54.1	60	50	50	257	54.1	60	50	50	257	
		283A00	50.0	60.1	66.1	80	75	243	73.9	80	82	255	68.9	80	77	245	76.6	80	84	84	257	76.6	80	84	84	257	
		284A00	75.0	90.2	96.2	100	109	243	104.0	110	116	255	99.0	100	112	245	106.7	110	119	119	257	106.7	110	119	119	257	
575-3-60	STD	NONE	-	-	38.9	50	41	247	45.1	50	48	259	41.1	50	44	249	47.3	60	51	261	47.3	60	51	261	261		
		282A00	25.0	30.1	46.9	50	43	247	54.6	60	50	259	49.6	50	46	249	57.4	60	53	261	57.4	60	53	261	261		
		283A00	50.0	60.1	69.4	80	78	247	77.1	80	85	259	72.1	80	80	249	79.9	80	87	261	79.9	80	87	261	261		
		284A00	75.0	90.2	99.5	110	112	247	107.2	125	119	259	102.2	110	115	249	110.0	125	122	261	110.0	125	122	261	261		
		NONE	-	-	26.2	30	27	184	31.0	40	33	192	27.9	35	29	186	32.7	40	35	194	32.7	40	35	194	194		
		285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194	41.5	45	38	194	194		
		286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194	71.3	80	66	194	194		
		287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194	83.2	90	93	194	194		
		NONE	-	-	29.0	35	31	198	33.8	40	36	206	30.7	40	33	200	35.5	45	38	208	35.5	45	38	208	208		
		285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194	41.5	45	38	194	194		
HIGH	HIGH	286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194	71.3	80	66	194	194		
		287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194	83.2	90	93	194	194		
		NONE	-	-	29.0	35	31	198	33.8	40	36	206	30.7	40	33	200	35.5	45	38	208	35.5	45	38	208	208		
		285A00	24.8	23.9	36.9	40	34	198	42.9	45	39	206	39.0	40	36	200	45.0	50	41	208	45.0	50	41	208	208		
		286A00	49.6	47.7	66.6	70	61	198	72.6	80	67	206	66.8	70	63	200	74.8	80	69	208	74.8	80	69	208	208		
		287A00	74.4	71.6	78.6	90	89	198	84.6	90	94	206	80.7	90	91	200	86.7	90	96	208	86.7	90	96	208	208		

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

**Table 48 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.				NO PE.				w/ PWRD C.O.				w/ PE. (pwrd fr/unit)							
			CRHEATER	Nom (kW)	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	LRA	DISC. SIZE	
						FLA	LRA																			FLA
20	230-3-60	STD	NONE	-	-	79	440	440	87.5	100	93	460	460	80.5	100	85	445	445	92.3	100	98	465	465	98/100	465/465	
			279A00	18.8/25.0	52.1/60.1	77.9/87.9	100/100	440/440	93/94	460/460	83.9/93.9	100/100	93/94	460/460	83.9/93.9	100/100	85/86	445/445	445/445	98.6/108.6	100/110	98/100	465/465	465/465	98/100	465/465
			280A00	37.6/50.0	104.2/120.3	143.0/133.1	150/150	440/440	132/150	440/440	157.8/147.8	175/175	145/164	460/460	149.0/139.1	150/150	137/156	445/445	445/445	163.8/153.8	175/175	151/169	465/465	465/465	151/169	465/465
		281A00	56.3/75.0	156.4/180.4	169.2/193.2	200/225	440/440	192/219	440/440	183.9/207.9	200/225	205/233	460/460	175.2/199.2	200/225	197/225	445/445	445/445	189.9/213.9	200/225	211/238	465/465	465/465	211/238	465/465	
		NONE	-	-	85	449	92.3	100	98	85.3	100	90	454	454	97.1	110	104	474	474	104/105	474/474	474/474	104/105	474/474		
		279A00	18.8/25.0	52.1/60.1	83.9/93.9	100/100	449/449	85/86	449/449	98.6/108.6	100/110	98/100	469/469	89.9/99.9	100/100	90/92	454/454	454/454	104.6/114.6	110/125	104/105	474/474	474/474	104/105	474/474	
		280A00	37.6/50.0	104.2/120.3	149.0/139.1	150/175	449/449	137/156	449/449	163.8/153.8	175/175	151/169	469/469	155.0/145.1	175/175	143/161	454/454	454/454	169.8/159.8	175/175	156/175	474/474	474/474	156/175	474/474	
		281A00	56.3/75.0	156.4/180.4	175.2/199.2	200/225	449/449	197/225	449/449	189.9/213.9	200/250	211/238	469/469	181.2/205.2	200/225	203/220	454/454	454/454	195.9/219.9	200/250	216/244	474/474	474/474	216/244	474/474	
		NONE	-	-	87	451	94.4	110	101	87.4	110	93	456	456	87.4	100	93	456	456	99.2	125	106	476	476	106	476
		279A00	18.8/25.0	52.1/60.1	86.5/96.5	100/100	451/451	87/89	451/451	101.3/111.3	110/125	101/102	471/471	92.5/102.5	100/110	93/94	456/456	456/456	107.3/117.3	125/125	106/108	476/476	476/476	106/108	476/476	
280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	451/451	139/158	451/451	166.4/156.4	175/175	153/172	471/471	157.6/147.7	175/175	145/164	456/456	456/456	172.4/162.4	175/175	159/177	476/476	476/476	159/177	476/476			
281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	451/451	200/227	451/451	192.9/216.5	200/250	213/241	471/471	183.8/207.8	200/225	205/233	456/456	456/456	198.5/222.5	200/250	219/246	476/476	476/476	219/246	476/476			
NONE	-	-	38	245	42.8	50	46	38.8	50	41	247	247	38.8	50	41	247	247	45.0	50	48	259	259	50	259		
282A00	25.0	30.1	43.6	45	245	40	245	51.4	60	47	257	257	46.4	50	43	247	247	54.1	60	50	259	259	60	259		
283A00	50.0	60.1	66.1	80	245	75	245	73.9	80	82	257	257	68.9	80	77	247	247	76.6	80	84	259	259	80	259		
284A00	75.0	90.2	96.2	100	245	109	245	104.0	110	116	257	257	99.0	100	112	247	247	106.7	110	119	259	259	110	259		
NONE	-	-	39	249	45.4	50	49	39.2	50	49	261	261	41.4	50	44	251	251	47.6	60	51	263	263	60	263		
282A00	25.0	30.1	46.9	50	249	43	249	54.6	60	50	261	261	49.6	50	46	251	251	57.4	60	53	263	263	60	263		
283A00	50.0	60.1	69.4	80	249	78	249	77.1	80	85	261	261	72.1	80	80	251	251	79.9	80	87	263	263	80	263		
284A00	75.0	90.2	99.5	110	249	112	249	107.2	125	119	261	261	102.2	110	115	251	251	110.0	125	122	263	263	125	263		
NONE	-	-	40	250	46.6	50	50	46.6	50	50	262	262	42.6	50	45	252	252	48.8	60	52	264	264	60	264		
282A00	25.0	30.1	48.4	50	250	45	250	56.1	60	52	262	262	51.1	60	47	252	252	58.9	60	54	264	264	60	264		
283A00	50.0	60.1	70.9	80	250	79	250	78.6	80	86	262	262	73.6	80	82	252	252	81.4	90	89	264	264	90	264		
284A00	75.0	90.2	101.0	110	250	114	250	108.7	125	121	262	262	103.7	125	116	252	252	111.5	125	123	264	264	125	264		
NONE	-	-	26	186	31.0	40	33	26.2	40	33	194	194	27.9	35	29	188	188	32.7	40	35	196	196	40	196		
285A00	24.8	23.9	33.4	35	186	31	186	39.4	40	36	194	194	35.5	40	33	188	188	41.5	45	38	196	196	45	196		
286A00	49.6	47.7	63.1	70	186	58	186	69.1	70	64	194	194	66.3	70	60	188	188	71.3	80	66	196	196	80	196		
287A00	74.4	71.6	75.1	80	186	86	186	81.1	90	91	194	194	77.2	80	88	188	188	83.2	90	93	196	196	90	196		
NONE	-	-	29	200	33.8	40	36	29.0	40	36	208	208	30.7	40	33	202	202	35.5	45	38	210	210	45	210		
285A00	24.8	23.9	36.9	40	200	34	200	42.9	45	39	208	208	39.0	40	36	202	202	45.0	50	41	210	210	50	210		
286A00	49.6	47.7	66.6	70	200	61	200	72.6	80	67	208	208	68.8	70	63	202	202	74.8	80	69	210	210	80	210		
287A00	74.4	71.6	78.6	90	200	89	200	84.6	90	94	208	208	80.7	90	91	202	202	86.7	90	96	210	210	90	210		
NONE	-	-	31	198	35.8	45	38	31.0	45	35	206	206	32.7	40	35	200	200	37.5	45	40	208	208	45	208		
285A00	24.8	23.9	39.4	40	198	36	198	45.4	50	42	206	206	41.5	45	38	200	200	47.5	50	44	208	208	50	208		
286A00	49.6	47.7	69.1	70	198	64	198	75.1	80	69	206	206	71.3	80	66	200	200	77.3	80	71	208	208	80	208		
287A00	74.4	71.6	81.1	90	198	91	198	87.1	90	97	206	206	83.2	90	93	200	200	89.2	90	99	208	208	90	208		

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

**Table 48 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.				NO PE.				w/ PWRD C.O.				w/ P.E. (pwrd fr/unit)				
			CRHEATER	Nom (kW)	FLA	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	MCA	
							FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA			FLA
24	460-3-60	STD	NONE	-	-	88.7	93	544	100.5	125	107	564	93.5	110	99	549	105.3	125	112	569	112/112	569/569	
			279A00	18.8/25.0	52.1/60.1	88.7/93.9	100/100	93/93	544/544	100.5/108.6	125/125	107/107	564/564	93.5/99.9	110/110	99/99	549/549	105.3/114.6	125/125	112/112	569/569	112/112	569/569
			280A00	37.6/50.0	104.2/120.3	149.0/193.1	150/175	137/156	544/544	163.8/153.8	175/175	151/169	564/564	155.0/145.1	175/175	143/161	549/549	169.8/159.8	175/175	156/175	569/569	156/175	569/569
			281A00	56.3/75.0	156.4/180.4	175.2/199.2	200/225	197/225	544/544	189.9/213.9	200/250	211/238	564/564	181.2/205.2	200/225	203/230	549/549	195.9/219.9	200/250	216/244	569/569	216/244	569/569
			NONE	-	-	90.8	96	546	102.6	125	109	566	95.6	125	101	551	107.4	125	115	571	115	571	
			279A00	18.8/25.0	52.1/60.1	90.8/96.5	100/100	96/96	546/546	102.6/111.3	125/125	109/109	566/566	95.6/102.5	125/125	101/101	551/551	107.4/117.3	125/125	115/115	571/571	115/115	571/571
			280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	546/546	166.4/156.4	175/175	153/172	566/566	157.6/147.7	175/175	145/164	551/551	172.4/162.4	175/175	159/177	571/571	159/177	571/571
			281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	546/546	192.5/216.5	200/250	213/241	566/566	183.8/207.8	200/225	205/233	551/551	198.5/222.5	200/250	219/246	571/571	219/246	571/571
			NONE	-	-	102.2	109	625	114.0	125	122	645	107.0	125	114	630	118.8	150	128	650	128	650	
			279A00	18.8/25.0	52.1/60.1	102.2/110.8	125/125	109/109	625/625	115.5/125.5	125/150	122/122	645/645	107.0/116.8	125/125	114/114	630/630	121.5/131.5	150/150	128/128	650/650	128/128	650/650
280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	625/625	180.6/170.7	200/175	166/185	645/645	171.9/161.9	175/175	158/177	630/630	186.6/176.7	200/200	172/190	650/650	172/190	650/650			
281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/225	213/240	625/625	206.8/230.8	225/250	226/254	645/645	198.0/222.0	225/250	218/246	630/630	212.8/236.8	225/250	232/259	650/650	232/259	650/650			
NONE	-	-	48.6	60	51	277	54.8	60	58	289	50.8	60	54	279	57.4	70	61	291	61	291			
282A00	25.0	30.1	48.6	60	51	277	54.8	60	58	289	50.8	60	54	279	57.4	70	61	291	61	291			
283A00	50.0	60.1	69.4	80	78	277	77.1	80	85	289	72.1	80	80	80	79.9	80	87	291	87	291			
284A00	75.0	90.2	99.5	110	112	277	107.2	125	119	289	102.2	110	115	279	110.0	125	122	291	122	291			
NONE	-	-	49.8	60	52	278	56.0	70	60	290	52.0	60	55	280	58.2	70	62	292	62	292			
282A00	25.0	30.1	49.8	60	52	278	56.1	70	60	290	52.0	60	55	280	58.9	70	62	292	62	292			
283A00	50.0	60.1	70.9	80	79	278	78.6	80	86	290	73.6	80	82	280	81.4	90	89	292	89	292			
284A00	75.0	90.2	101.0	110	114	278	108.7	125	121	290	103.7	125	116	280	111.5	125	123	292	123	292			
NONE	-	-	55.5	60	59	318	61.7	70	66	330	57.7	70	62	320	63.9	80	69	332	69	332			
282A00	25.0	30.1	55.5	60	59	318	63.3	70	66	330	58.3	70	62	320	66.0	80	69	332	69	332			
283A00	50.0	60.1	78.0	90	86	318	85.7	90	93	330	80.7	90	88	320	88.5	100	95	332	95	332			
284A00	75.0	90.2	108.1	125	120	318	115.8	125	127	330	110.8	125	123	320	118.6	125	130	332	130	332			
NONE	-	-	35.5	45	37	204	40.3	50	43	212	37.2	45	39	206	42.0	50	45	214	45	214			
285A00	24.8	23.9	36.9	45	37	204	42.9	50	43	212	39.0	45	39	206	45.0	50	45	214	45	214			
286A00	49.6	47.7	66.6	70	61	204	72.6	80	67	212	68.8	70	63	206	74.8	80	69	214	69	214			
287A00	74.4	71.6	78.6	90	89	204	84.6	90	94	212	80.7	90	91	206	86.7	90	96	214	96	214			
NONE	-	-	37.5	45	40	202	42.3	50	45	210	39.2	50	42	204	44.0	50	47	212	47	212			
285A00	24.8	23.9	39.4	45	40	202	45.4	50	45	210	41.5	50	42	204	47.5	50	47	212	47	212			
286A00	49.6	47.7	69.1	70	64	202	75.1	80	69	210	71.3	80	66	204	77.3	80	71	212	71	212			
287A00	74.4	71.6	81.1	90	91	202	87.1	90	97	210	83.2	90	93	204	89.2	90	99	212	99	212			
NONE	-	-	39.4	50	42	229	44.2	50	47	237	41.1	50	44	231	45.9	50	49	239	49	239			
285A00	24.8	23.9	41.8	50	42	229	47.8	50	47	237	43.9	50	44	231	49.9	50	49	239	49	239			
286A00	49.6	47.7	71.5	80	66	229	77.5	80	71	237	73.6	80	68	231	79.6	80	73	239	73	239			
287A00	74.4	71.6	83.5	90	93	229	89.5	100	99	237	85.6	90	95	231	91.6	100	101	239	101	239			



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

**Table 48 - UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.				NO PE.				w/ PE. (pwrd fr/unit)				w/ PWRD C.O.						
			CRHEATER	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	FLA	LRA	MCA	DISC. SIZE		MAX FUSE or HACR BRKR	FLA	LRA
								FLA	LRA						FLA	LRA					FLA	LRA			
28	460-3-60	STD	NONE	-	-	117.4	150	121	584	129.2	175	135	604	122.2	150	127	589	134.0	175	140	609	140	140	609/609	
			279A00	18.8/25.0	52.1/60.1	117.4/117.4	150/150	121/121	584/584	129.2/129.2	175/175	135/135	604/604	122.2/122.2	150/150	127/127	589/589	134.0/134.0	175/175	140/140	609/609				
			280A00	37.6/50.0	104.2/120.3	149.0/139.1	150/175	137/156	584/584	163.8/153.8	175/175	151/169	604/604	155.0/145.1	175/175	143/161	589/589	169.8/159.8	175/175	159/175	609/609				
			281A00	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				
			NONE	-	-	119.5	150	124	586	131.3	175	137	606	124.3	150	129	591	136.1	175	143	611				
			279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611				
			280A00	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	611/611				
			281A00	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				
			NONE	-	-	130.9	175	137	665	142.7	175	150	685	135.7	175	142	670	147.5	175	156	690				
			279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690				
280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/175	166/185	685/685	171.9/161.9	175/175	158/177	670/670	186.6/176.7	200/200	172/190	690/690							
281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/225	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							
28	460-3-60	STD	NONE	-	-	54.0	60	57	303	60.2	70	64	315	56.2	70	59	305	62.4	80	66	317				
			282A00	25.0	30.1	54.0	60	57	303	60.2	70	64	315	56.2	70	59	305	62.4	80	66	317				
			283A00	50.0	60.1	69.4	80	78	303	77.1	80	85	315	72.1	80	80	305	79.9	80	87	317				
			284A00	75.0	90.2	99.5	110	112	303	107.2	125	119	315	102.2	110	115	305	110.0	125	122	317				
			NONE	-	-	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318				
			282A00	25.0	30.1	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318				
			283A00	50.0	60.1	70.9	80	79	304	78.6	80	86	316	73.6	80	82	306	81.4	90	89	318				
			284A00	75.0	90.2	101.0	110	114	304	108.7	125	121	316	103.7	125	116	306	111.5	125	123	318				
			NONE	-	-	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358				
			282A00	25.0	30.1	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358				
283A00	50.0	60.1	78.0	90	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358							
284A00	75.0	90.2	108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358							
28	460-3-60	STD	NONE	-	-	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
			285A00	24.8	23.9	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238				
			286A00	49.6	47.7	66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238				
			287A00	74.4	71.6	78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238				
			NONE	-	-	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
			285A00	24.8	23.9	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236				
			286A00	49.6	47.7	69.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236				
			287A00	74.4	71.6	81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236				
			NONE	-	-	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				
			285A00	24.8	23.9	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263				
286A00	49.6	47.7	71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263							
287A00	74.4	71.6	83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263							

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

**Table 49 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.											
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)								
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA						
		STD	NONE	-	-	68.3	90	71	393	393/393	80.1	100	85	413	73.1	90	77	398	398/398	84.9	100	90	418
			279A00	18.8/25.0	52.1/60.1	84.5/84.5	90/90	71/78	393/393	99.3/99.3	80.1	100	85	413	90.5/90.5	100/100	77/83	398/398	105.3/105.3	110/110	90/97	418/418	
			280A00	37.6/50.0	104.2/120.3	139.6/139.6	150/150	128/147	393/393	154.4/154.4	175/175	142/161	413/413	145.6/145.6	150/150	134/152	398/398	160.4/160.4	175/175	148/166	418/418		
			281A00	56.3/75.0	156.4/180.4	189.8/189.8	200/200	188/216	393/393	204.5/204.5	225/225	202/230	413/413	195.8/195.8	200/225	194/222	398/398	210.5/210.5	225/225	208/235	418/418		
			NONE	-	-	71.0	90	74	410	82.8	100	88	430	75.8	100	80	415	87.6	100	93	435		
	208/ 230-3-60	MED	279A00	18.8/25.0	52.1/60.1	87.9/87.9	90/90	74/81	410/410	102.6/102.6	110/110	88/94	430/430	93.9/93.9	100/100	80/86	415/415	108.6/108.6	110/110	93/100	435/435		
			280A00	37.6/50.0	104.2/120.3	143.0/143.0	150/150	132/150	410/410	157.8/157.8	175/175	145/164	430/430	149.0/149.0	150/150	137/156	415/415	163.8/163.8	175/175	151/169	435/435		
			281A00	56.3/75.0	156.4/180.4	193.2/193.2	200/225	192/219	410/410	207.9/207.9	225/225	205/233	430/430	199.2/199.2	200/225	197/225	415/415	213.9/213.9	225/225	211/238	435/435		
			NONE	-	-	75.8	100	80	419	87.6	100	93	439	80.6	100	85	424	92.4	100	99	444		
		HIGH	279A00	18.8/25.0	52.1/60.1	93.9/93.9	100/100	80/86	419/419	108.6/108.6	110/110	93/100	439/439	99.9/99.9	100/100	85/92	424/424	114.6/114.6	125/125	99/105	444/444		
			280A00	37.6/50.0	104.2/120.3	149.0/149.0	150/175	137/156	419/419	163.8/163.8	175/175	151/169	439/439	155.0/155.0	175/175	143/161	424/424	169.8/169.8	175/175	156/175	444/444		
			281A00	56.3/75.0	156.4/180.4	199.2/199.2	200/225	197/225	419/419	213.9/213.9	225/250	211/238	439/439	205.2/205.2	225/225	203/230	424/424	219.9/219.9	225/250	216/244	444/444		
			NONE	-	-	34.9	45	36	234	41.1	50	44	246	37.1	45	39	236	43.3	50	46	248		
		STD	282A00	25.0	30.1	41.9	45	39	234	49.6	50	46	246	44.6	45	41	236	52.4	60	48	248		
			283A00	50.0	60.1	64.4	70	73	294	72.1	80	80	246	67.1	70	76	236	74.9	80	83	248		
			284A00	75.0	90.2	94.5	100	108	234	102.2	110	115	246	97.2	100	110	236	105.0	110	117	248		
			NONE	-	-	36.3	45	38	243	42.5	50	45	255	38.5	50	41	245	44.7	50	48	257		
		MED	282A00	25.0	30.1	43.6	45	40	243	51.4	60	47	255	46.4	50	43	245	54.1	60	50	257		
	460-3-60		283A00	50.0	60.1	66.1	80	75	243	73.9	80	82	255	68.9	80	77	245	76.6	80	84	257		
			284A00	75.0	90.2	96.2	100	109	243	104.0	110	116	255	99.0	100	112	245	106.7	110	119	257		
			NONE	-	-	38.9	50	41	247	45.1	50	48	259	41.1	50	44	249	47.3	60	51	261		
		HIGH	282A00	25.0	30.1	46.9	50	43	247	54.6	60	50	259	49.6	50	46	249	57.4	60	53	261		
			283A00	50.0	60.1	69.4	80	78	247	77.1	80	85	259	72.1	80	80	249	79.9	80	87	261		
			284A00	75.0	90.2	99.5	110	112	247	107.2	125	119	259	102.2	110	115	249	110.0	125	122	261		
			NONE	-	-	26.2	30	27	184	31.0	40	33	192	27.9	35	29	186	32.7	40	35	194		
		STD	285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194		
			286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194		
			287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194		
			NONE	-	-	26.2	30	27	184	31.0	40	33	192	27.9	35	29	186	32.7	40	35	194		
	575-3-60	MED	285A00	24.8	23.9	33.4	35	31	184	39.4	40	36	192	35.5	40	33	186	41.5	45	38	194		
			286A00	49.6	47.7	63.1	70	58	184	69.1	70	64	192	65.3	70	60	186	71.3	80	66	194		
			287A00	74.4	71.6	75.1	80	86	184	81.1	90	91	192	77.2	80	88	186	83.2	90	93	194		
			NONE	-	-	29.0	35	31	198	33.8	40	36	206	30.7	40	33	200	35.5	45	38	208		
		HIGH	285A00	24.8	23.9	36.9	40	34	198	42.9	45	39	206	39.0	40	36	200	45.0	50	41	208		
			286A00	49.6	47.7	66.6	70	61	198	72.6	80	67	206	68.8	70	63	200	74.8	80	69	208		
			287A00	74.4	71.6	78.6	90	89	198	84.6	90	94	206	80.7	90	91	200	86.7	90	96	208		

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

**Table 49 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.																
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)													
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA											
20	460-3-60	STD	NONE	-	-	75.7	100	79	440	440/440	87.5	100	93	460	460/460	80.5	100	85	445	445/445	92.3	100	98	465	465/465			
			279A00	18.8/25.0	52.1/60.1	87.9/87.9	100/100	79/81	440/440	440/440	102.6/102.6	110/110	93/94	460/460	93.9/93.9	100/100	85/86	445/445	108.6/108.6	110/110	98/100	465/465	110/110	100	98	465	465/465	
			280A00	37.6/50.0	104.2/120.3	143.0/143.0	150/150	132/150	440/440	440/440	157.8/157.8	175/175	145/164	460/460	149.0/149.0	150/150	137/156	445/445	163.8/163.8	175/175	151/169	465/465	175/175	151	169	465	465/465	
			281A00	56.3/75.0	156.4/180.4	193.2/193.2	200/225	192/219	440/440	440/440	207.9/207.9	225/225	205/233	460/460	199.2/199.2	200/225	197/225	445/445	213.9/213.9	225/225	211/238	465/465	225/225	211	238	465	465/465	
			NONE	-	-	80.5	100	85	449	449	92.3	100	98	469	469	85.3	100	90	454	454	104	474	474	110	104	104	474	474/474
			279A00	18.8/25.0	52.1/60.1	93.9/93.9	100/100	85/86	449/449	449/449	108.6/108.6	110/110	98/100	469/469	99.9/99.9	100/100	90/92	454/454	114.6/114.6	125/125	104/105	474/474	125/125	104	105	474	474/474	
		280A00	37.6/50.0	104.2/120.3	149.0/149.0	150/175	137/156	449/449	449/449	163.8/163.8	175/175	151/169	469/469	155.0/155.0	175/175	143/161	454/454	169.8/169.8	175/175	156/175	474/474	175/175	156	175	474	474/474		
		281A00	56.3/75.0	156.4/180.4	199.2/199.2	200/225	197/225	449/449	449/449	213.9/213.9	225/250	211/238	469/469	205.2/205.2	225/225	203/230	454/454	219.9/219.9	225/250	216/244	474/474	225/250	216	244	474	474/474		
		NONE	-	-	82.6	100	87	451	451	94.4	110	101	471	471	87.4	100	93	456	456	106	476	476	125	106	106	476	476/476	
		279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	87/89	451/451	451/451	111.3/111.3	125/125	101/102	471/471	102.5/102.5	110/110	93/94	456/456	117.3/117.3	125/125	106/108	476/476	125/125	106	108	476	476/476		
		280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	451/451	451/451	166.4/166.4	175/175	153/172	471/471	157.6/157.6	175/175	145/164	456/456	172.4/172.4	175/175	159/177	476/476	175/175	159	177	476	476/476		
		281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	451/451	451/451	216.5/216.5	225/250	213/241	471/471	207.8/207.8	225/225	205/233	456/456	222.5/222.5	225/250	219/246	476/476	225/250	219	246	476	476/476		
NONE	-	-	36.6	45	38	245	245	42.8	50	46	257	257	38.8	50	41	247	247	48	259	259	45.0	50	48	259	259/259			
282A00	25.0	30.1	43.6	45	40	245	245	51.4	60	47	257	257	46.4	50	43	247	247	50	259	259	54.1	60	50	259	259/259			
283A00	50.0	60.1	66.1	80	75	245	245	73.9	80	82	257	257	68.9	80	77	247	247	80	84	84	76.6	80	84	84	84/84			
284A00	75.0	90.2	96.2	100	109	245	245	104.0	110	116	257	257	99.0	100	112	247	247	110	119	119	106.7	110	119	119	119/119			
NONE	-	-	39.2	50	41	249	249	45.4	50	49	261	261	41.4	50	44	251	251	60	63	63	47.6	60	63	63	63/63			
282A00	25.0	30.1	46.9	50	43	249	249	54.6	60	50	261	261	49.6	50	46	251	251	60	63	63	57.4	60	63	63	63/63			
283A00	50.0	60.1	69.4	80	78	249	249	77.1	80	85	261	261	72.1	80	80	251	251	80	87	87	79.9	80	87	87	87/87			
284A00	75.0	90.2	99.5	110	112	249	249	107.2	125	119	261	261	102.2	110	115	251	251	125	132	132	110.0	125	132	132	132/132			
NONE	-	-	40.4	50	43	250	250	46.6	50	50	262	262	42.6	50	45	252	252	60	63	63	48.8	60	63	63	63/63			
282A00	25.0	30.1	48.4	50	45	250	250	56.1	60	52	262	262	51.1	60	47	252	252	60	63	63	58.9	60	63	63	63/63			
283A00	50.0	60.1	70.9	80	79	250	250	78.6	80	86	262	262	73.6	80	82	252	252	80	89	89	81.4	90	89	89	89/89			
284A00	75.0	90.2	101.0	110	114	250	250	108.7	125	121	262	262	103.7	125	116	252	252	125	132	132	111.5	125	132	132	132/132			
NONE	-	-	26.2	30	27	186	186	31.0	40	33	194	194	27.9	35	29	188	188	40	35	35	32.7	40	35	35	35/35			
285A00	24.8	23.9	33.4	35	31	186	186	39.4	40	36	194	194	35.5	40	33	188	188	45	41	41	41.5	45	38	38	38/38			
286A00	49.6	47.7	63.1	70	58	186	186	69.1	70	64	194	194	65.3	70	60	188	188	80	69	69	71.3	80	66	66	66/66			
287A00	74.4	71.6	75.1	80	86	186	186	81.1	90	91	194	194	77.2	80	88	188	188	90	96	96	83.2	90	93	93	93/93			
NONE	-	-	29.0	35	31	200	200	33.8	40	36	208	208	30.7	40	33	202	202	45	38	38	35.5	45	38	38	38/38			
285A00	24.8	23.9	36.9	40	34	200	200	42.9	45	39	208	208	39.0	40	36	202	202	50	41	41	45.0	50	41	41	41/41			
286A00	49.6	47.7	66.6	70	61	200	200	72.6	80	67	208	208	68.8	70	63	202	202	80	69	69	74.8	80	69	69	69/69			
287A00	74.4	71.6	78.6	90	89	200	200	84.6	90	94	208	208	80.7	90	91	202	202	90	96	96	86.7	90	96	96	96/96			
NONE	-	-	31.0	40	33	198	198	35.8	45	38	206	206	32.7	40	35	200	200	45	40	40	37.5	45	40	40	40/40			
285A00	24.8	23.9	39.4	40	36	198	198	45.4	50	42	206	206	41.5	45	38	200	200	50	44	44	47.5	50	44	44	44/44			
286A00	49.6	47.7	69.1	70	64	198	198	75.1	80	69	206	206	71.3	80	66	200	200	80	71	71	77.3	80	71	71	71/71			
287A00	74.4	71.6	81.1	90	91	198	198	87.1	90	97	206	206	83.2	90	93	200	200	90	99	99	89.2	90	99	99	99/99			

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

**Table 49 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.																																		
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)																													
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA																														
24	208/ 230-3-60	STD	NONE	-	-	88.7	100	93	544	544	100.5	125	107	564	564	93.5	110	99	549	549	105.3	125	112	569	569	279A00	18.8/25.0	52.1/60.1	93.9/93.9	100/100	93/93	544/544	544/544	108.6/108.6	125/125	107/107	564/564	564/564	99.9/99.9	110/110	99/99	549/549	549/549	114.6/114.6	125/125	112/112	569/569	569/569		
			280A00	37.6/50.0	104.2/120.3	149.0/149.0	150/175	137/156	544/544	544/544	163.8/163.8	175/175	151/169	564/564	564/564	155.0/155.0	175/175	143/161	549/549	549/549	169.8/169.8	175/175	156/175	156/175	156/175	156/175	281A00	56.3/75.0	156.4/180.4	199.2/199.2	200/225	197/225	544/544	544/544	213.9/213.9	225/250	211/238	564/564	564/564	205.2/205.2	225/225	203/230	549/549	549/549	219.9/219.9	225/250	216/244	569/569	569/569	
			NONE	-	-	90.8	100	96	546	546	102.6	125	109	566	566	95.6	125	101	551	551	107.4	125	115	571	571	279A00	18.8/25.0	52.1/60.1	96.5/96.5	100/100	96/96	546/546	546/546	111.3/111.3	125/125	109/109	566/566	566/566	102.5/102.5	125/125	101/101	551/551	551/551	117.3/117.3	125/125	115/115	571/571	571/571		
		HIGH	280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	546/546	546/546	166.4/166.4	175/175	153/172	566/566	566/566	157.6/157.6	175/175	145/164	551/551	551/551	172.4/172.4	175/175	159/177	159/177	159/177	281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	546/546	546/546	216.5/216.5	225/250	213/241	566/566	566/566	207.8/207.8	225/225	205/233	551/551	551/551	222.5/222.5	225/250	219/246	571/571	571/571		
			NONE	-	-	102.2	109	109	625	625	114.0	125	122	645	645	107.0	125	114	630	630	118.8	150	128	650	650	279A00	18.8/25.0	52.1/60.1	110.8/110.8	125/125	109/109	625/625	625/625	116.8/116.8	125/125	114/114	630/630	630/630	131.5/131.5	150/150	128/128	650/650	650/650							
			280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	625/625	625/625	180.6/180.6	200/200	166/185	645/645	645/645	171.9/171.9	175/175	158/177	630/630	630/630	186.6/186.6	200/200	172/190	172/190	172/190	281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	625/625	625/625	230.8/230.8	250/250	226/254	645/645	645/645	222.0/222.0	225/250	218/246	630/630	630/630	236.8/236.8	250/250	232/259	650/650	650/650		
		460-3-60	208/ 230-3-60	STD	NONE	-	-	48.6	60	51	277	277	54.8	60	58	289	289	50.8	60	54	279	279	57.4	70	61	291	291	282A00	25.0	30.1	48.6	60	51	277	277	54.8	60	58	289	289	50.8	60	54	279	279	57.4	70	61	291	291
					282A00	25.0	30.1	60.1	80	78	277	277	77.1	80	85	289	289	72.1	80	80	279	279	79.9	80	87	291	291	284A00	50.0	60.1	69.4	80	72	277	277	107.2	125	119	289	289	102.2	110	115	279	279	110.0	125	122	291	291
					NONE	-	-	49.8	60	52	278	278	56.0	70	60	290	290	52.0	70	55	280	280	58.2	70	62	292	292	282A00	25.0	30.1	49.8	60	52	278	278	56.1	70	60	290	290	52.0	60	55	280	280	58.9	70	62	292	292
				MED	283A00	50.0	60.1	70.9	80	79	278	278	78.6	80	86	290	290	73.6	80	82	280	280	81.4	90	89	292	292	284A00	75.0	90.2	101.0	110	114	278	278	108.7	125	121	290	290	103.7	125	116	280	280	111.5	125	123	292	292
NONE	-				-	55.5	60	59	318	318	61.7	70	66	330	330	57.7	70	62	320	320	63.9	80	69	332	332	282A00	25.0	30.1	55.5	60	59	318	318	63.3	70	66	330	330	58.3	70	62	320	320	66.0	80	69	332	332		
283A00	50.0				60.1	78.0	90	86	318	318	85.7	90	93	330	330	80.7	90	88	320	320	88.5	100	95	332	332	284A00	75.0	90.2	108.1	125	120	318	318	115.8	125	127	330	330	110.8	125	123	320	320	118.6	125	130	332	332		
STD	NONE			-	-	35.5	45	37	204	204	40.3	50	43	212	212	37.2	45	39	206	206	42.0	50	45	214	214	285A00	24.8	23.9	36.9	45	37	204	204	42.9	50	43	212	212	39.0	45	39	206	206	45.0	50	45	214	214		
	286A00			49.6	47.7	66.6	70	61	204	204	72.6	80	67	212	212	68.8	70	63	206	206	74.8	80	69	212	212	287A00	74.4	71.6	78.6	90	89	204	204	84.6	90	91	202	202	80.7	90	91	206	206	86.7	90	96	214	214		
	NONE			-	-	37.5	45	40	202	202	42.3	50	45	210	210	39.2	45	42	204	204	44.0	50	47	212	212	285A00	24.8	23.9	39.4	45	40	202	202	45.4	50	45	210	210	41.5	50	45	212	212	47.5	50	47	214	214		
MED	286A00			49.6	47.7	69.1	70	64	202	202	75.1	80	69	210	210	71.3	80	66	204	204	77.3	80	71	212	212	287A00	74.4	71.6	81.1	90	91	202	202	87.1	90	93	204	204	89.2	90	99	212	212							
	NONE	-	-	39.4	50	42	229	229	44.2	50	47	237	237	41.1	50	44	231	231	45.9	50	49	239	239	285A00	24.8	23.9	41.8	50	42	229	229	47.8	50	44	231	231	49.9	50	49	239	239									
	286A00	49.6	47.7	71.5	80	66	229	229	77.5	80	71	237	237	73.6	80	68	231	231	79.6	80	73	239	239	287A00	74.4	71.6	83.5	90	93	229	229	89.5	100	95	231	231	91.6	100	101	239	239									

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

**Table 49 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
			CRHEATER	Nom (kW)	FLA	NO PE.					w/ P.E. (pwrd fr/unit)					NO PE.					w/ P.E. (pwrd fr/unit)				
						MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	LRA	MCA	HACR BRKR	FLA	LRA
28	460-3-60	STD	NONE	-	-	117.4	150	121	584	129.2	175	135	604	122.2	150	127	589	134.0	175	140	609	140/140	609/609		
			279A00	18.8/25.0	52.1/60.1	117.4/117.4	150/150	121/121	584/584	129.2/129.2	175/175	135/135	604/604	122.2/122.2	150/150	127/127	589/589	134.0/134.0	175/175	140/140	609/609	140/140	609/609		
			280A00	37.6/50.0	104.2/120.3	149.0/149.0	150/175	137/156	584/584	163.8/163.8	175/175	151/169	604/604	155.0/155.0	175/175	143/161	589/589	169.8/169.8	175/175	156/175	156/175	156/175	609/609		
			281A00	56.3/75.0	156.4/180.4	199.2/199.2	200/225	197/225	584/584	213.9/213.9	225/250	211/238	604/604	205.2/205.2	225/225	203/230	589/589	219.9/219.9	225/250	216/244	216/244	609/609	609/609		
			NONE	-	-	119.5	150	124	586	131.3	175	137	606	124.3	150	129	591	136.1	175	143	611	143/143	611/611		
			279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611	143/143	611/611		
		HIGH	280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	586/586	166.4/166.4	175/175	153/172	606/606	157.6/157.6	175/175	145/164	591/591	172.4/172.4	175/175	159/177	159/177	611/611	611/611		
			281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	586/586	216.5/216.5	225/250	213/241	606/606	207.8/207.8	225/225	205/233	591/591	222.5/222.5	225/250	219/246	219/246	611/611	611/611		
			NONE	-	-	130.9	175	137	665	142.7	175	150	685	135.7	175	142	670	147.5	175	156	690	156/156	690/690		
			279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	156/156	690/690	690/690		
			280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	665/665	180.6/180.6	200/200	166/185	685/685	171.9/171.9	175/175	158/177	670/670	186.6/186.6	200/200	172/190	172/190	690/690	690/690		
			281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	665/665	230.8/230.8	250/250	226/254	685/685	222.0/222.0	225/250	218/246	670/670	236.8/236.8	250/250	232/259	232/259	690/690	690/690		
28	460-3-60	STD	NONE	-	-	54.0	60	57	303	60.2	70	64	315	56.2	70	59	305	62.4	80	66	317	66/317	317		
			282A00	25.0	30.1	54.0	60	57	303	60.2	70	64	315	56.2	70	59	305	62.4	80	66	317	66/317	317		
			283A00	50.0	60.1	69.4	80	78	303	77.1	80	85	315	72.1	80	80	305	79.9	80	87	317	87/317	317		
			284A00	75.0	90.2	99.5	110	112	303	107.2	125	119	315	102.2	110	115	305	110.0	125	122	317	122/317	317		
			NONE	-	-	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68/318	318		
			282A00	25.0	30.1	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68/318	318		
		MED	283A00	50.0	60.1	70.9	80	79	304	78.6	80	86	316	73.6	80	82	306	81.4	90	89	318	89/318	318		
			284A00	75.0	90.2	101.0	110	114	304	108.7	125	121	316	103.7	125	116	306	111.5	125	123	318	123/318	318		
			NONE	-	-	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74/358	358		
			282A00	25.0	30.1	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74/358	358		
			283A00	50.0	60.1	78.0	90	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358	95/358	358		
			284A00	75.0	90.2	108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358	130/358	358		
28	575-3-60	STD	NONE	-	-	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238	50/238	238		
			285A00	24.8	23.9	40.4	50	42	228	45.2	50	48	236	42.1	50	44	230	46.9	60	50	238	50/238	238		
			286A00	49.6	47.7	66.6	70	61	228	72.6	80	67	236	68.8	70	63	230	74.8	80	69	238	69/238	238		
			287A00	74.4	71.6	78.6	90	89	228	84.6	90	94	236	80.7	90	91	230	86.7	90	96	238	96/238	238		
			NONE	-	-	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52/236	236		
			285A00	24.8	23.9	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52/236	236		
		MED	286A00	49.6	47.7	69.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236	71/236	236		
			287A00	74.4	71.6	81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236	99/236	236		
			NONE	-	-	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54/263	263		
			285A00	24.8	23.9	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54/263	263		
			286A00	49.6	47.7	71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263	73/263	263		
			287A00	74.4	71.6	83.5	90	93	253	89.5	100	99	261	85.6	90	95	255	91.6	100	101	263	101/263	263		

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

**Table 50 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED TWO SPEED INDOOR FAN OPTION**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)						
						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	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA		
208/ 230-3-60	STD	NONE	-	-	-	69.4/68.6	90/90	73/72	390	81.2/80.4	100/100	86/85	410	74.2/73.4	90/90	78/77	395	86.0/85.2	100/100	92/91	415
		279A00	18.8/25.0	52.1/60.1	75.9/84.9	90/90	73/78	390/390	90.6/99.6	100/100	86/92	410/410	81.9/90.9	90/100	78/84	395/395	96.6/105.6	100/110	92/97	415/415	
		280A00	37.6/50.0	104.2/120.3	141.0/130.1	150/150	130/147	390/390	155.8/144.8	175/150	143/161	410/410	147.0/136.1	150/150	135/153	395/395	161.8/150.8	175/175	149/166	415/415	
		281A00	56.3/75.0	156.4/180.4	167.2/190.2	200/200	190/216	390/390	181.9/204.9	200/225	203/230	410/410	173.2/196.2	200/225	195/222	395/395	187.9/210.9	200/225	209/236	415/415	
	MED	NONE	-	-	71.6/70.6	90/90	75/74	414	83.4/82.4	100/100	89/88	434	76.4/75.4	100/100	81/79	419	88.2/87.2	100/100	94/93	439	
		279A00	18.8/25.0	52.1/60.1	78.6/87.4	90/90	75/80	414/414	93.4/102.1	100/110	89/94	434/434	84.6/93.4	100/100	81/86	419/419	99.4/108.1	100/110	94/99	439/439	
		280A00	37.6/50.0	104.2/120.3	143.8/132.6	150/150	132/150	414/414	158.5/147.3	175/175	146/163	434/434	149.8/138.6	150/150	138/155	419/419	164.5/153.3	175/175	151/169	439/439	
		281A00	56.3/75.0	156.4/180.4	169.9/192.7	200/225	192/219	414/414	184.7/207.4	200/225	206/232	434/434	175.9/198.7	200/225	198/224	419/419	190.7/213.4	200/225	211/238	439/439	
	HIGH	NONE	-	-	74.4/73.5	90/90	78/77	425	86.2/85.3	100/100	92/91	445	79.2/78.3	100/100	84/83	430	91.0/90.1	100/100	97/96	450	
		279A00	18.8/25.0	52.1/60.1	82.1/91.0	90/100	78/84	425/425	96.9/105.8	100/110	92/97	445/445	88.1/97.0	100/100	84/89	430/430	102.9/111.8	110/125	97/103	450/450	
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	425/425	162.0/150.9	175/175	149/167	445/445	153.3/142.2	175/175	141/158	430/430	168.0/156.9	175/175	155/172	450/450	
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	425/425	188.2/211.0	200/225	209/236	445/445	179.4/202.3	200/225	201/228	430/430	194.2/217.0	200/250	215/241	450/450	
460-3-60	STD	NONE	-	-	35.3	45	37	233	41.5	50	44	245	37.5	50.00	39	235	43.7	50.00	47	247	
		282A00	25.0	30.1	42.4	45	39	233	50.1	60	46	245	45.1	50.00	42	235	52.9	60.00	49	247	
		283A00	50.0	60.1	64.9	70	73	233	72.6	80	81	245	67.6	80.00	76	235	75.4	80.00	83	247	
		284A00	75.0	90.2	95.0	100	108	233	102.7	110	115	245	97.7	100	111	235	105.5	110	118	247	
	MED	NONE	-	-	36.4	45	38	245	42.6	50	45	257	38.6	50.00	41	247	44.8	50.00	48	259	
		282A00	25.0	30.1	43.8	45	40	245	51.5	60	47	257	46.5	50.00	43	247	54.3	60.00	50	259	
		283A00	50.0	60.1	66.2	80	75	245	74.0	80	82	257	69.0	80.00	77	247	76.7	80.00	84	259	
		284A00	75.0	90.2	96.3	100	109	245	104.1	110	116	257	99.1	100	112	247	106.8	110	119	259	
	HIGH	NONE	-	-	37.9	50	40	250	44.1	50	47	262	40.1	50.00	42	252	46.3	50.00	50	264	
		282A00	25.0	30.1	45.6	50	42	250	53.4	60	49	262	48.4	50.00	45	252	56.1	60.00	52	264	
		283A00	50.0	60.1	68.1	80	76	250	75.9	80	84	262	70.9	80.00	79	252	78.6	80.00	86	264	
		284A00	75.0	90.2	98.2	100	111	250	106.0	125	118	262	101.0	110	114	252	108.7	125	121	264	
STD	NONE	-	-	27.9	35	29	184	32.7	40	35	192	29.6	35.00	31	186	34.4	40.00	37	194		
	285A00	24.8	23.9	35.5	40	33	184	41.5	45	38	192	37.6	40.00	35	186	43.6	45.00	40	194		
	286A00	49.6	47.7	65.3	70	60	184	71.3	80	66	192	67.4	70.00	62	186	73.4	80.00	68	194		
	287A00	74.4	71.6	77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194		
MED	NONE	-	-	27.9	35	29	184	32.7	40	35	192	29.6	35.00	31	186	34.4	40.00	37	194		
	285A00	24.8	23.9	35.5	40	33	184	41.5	45	38	192	37.6	40.00	35	186	43.6	45.00	40	194		
	286A00	49.6	47.7	65.3	70	60	184	71.3	80	66	192	67.4	70.00	62	186	73.4	80.00	68	194		
	287A00	74.4	71.6	77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194		
HIGH	NONE	-	-	29.6	35	31	198	34.4	40	37	206	31.3	40.00	33	200	36.1	45.00	39	208		
	285A00	24.8	23.9	37.6	40	35	198	43.6	45	40	206	39.8	40.00	37	200	45.8	50.00	42	208		
	286A00	49.6	47.7	67.4	70	62	198	73.4	80	68	206	69.5	70.00	64	200	75.5	80.00	69	208		
	287A00	74.4	71.6	79.4	90	89	198	85.4	90	95	206	81.5	90	91	200	87.5	90	97	208		

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

**Table 50 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED TWO SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.														
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)												
						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	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA									
20	208/ 230-3-60	STD	NONE	-	-	76.3/75.3	100/100	80/79	444	444	444	88.1/87.1	100/100	93/92	464	464	464	85/84	449	449	449	92.9/91.9	100/100	99/98	469		
			279A00	18.8/25.0	52.1/60.1	78.6/87.4	100/100	80/80	444/444	444/444	444/444	93/94	93/94	84.6/93.4	100/100	93/94	464/464	464/464	464/464	85/86	449/449	449/449	99.4/108.1	100/110	99/99	469/469	
			280A00	37.6/50.0	104.2/120.3	143.8/132.6	150/150	132/150	444/444	444/444	444/444	146/163	146/163	149.8/138.6	150/150	146/163	464/464	464/464	464/464	138/155	449/449	449/449	164.5/153.3	175/175	151/169	469/469	
			281A00	56.3/75.0	156.4/180.4	169.9/192.7	200/225	192/219	444/444	444/444	444/444	206/232	206/232	175.9/198.7	200/225	206/232	464/464	464/464	464/464	198/224	449/449	449/449	190.7/213.4	200/225	211/238	469/469	
			NONE	-	-	79.1/78.2	100/100	83/82	455	455	455	90.9/90.0	100/100	97/96	475	475	475	475	475	89/88	460	460	460	95.7/94.8	110/110	102/101	480
			279A00	18.8/25.0	52.1/60.1	82.1/91.0	100/100	83/84	455/455	455/455	455/455	96.9/105.8	100/110	97/97	475/475	100/100	97/97	475/475	475/475	89/89	460/460	460/460	102.9/111.8	110/125	102/103	480/480	
		280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	455/455	455/455	455/455	162.0/150.9	175/175	149/167	475/475	153/175	475/475	475/475	475/475	141/158	460/460	460/460	168.0/156.9	175/175	155/172	480/480		
		281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	455/455	455/455	455/455	188.2/211.0	200/225	209/236	475/475	179.4/202.3	200/225	201/228	460/460	201/228	460/460	194.2/217.0	200/250	215/241	480/480			
		NONE	-	-	82.6	100	87	451	451	451	94.4	110	101	471	87.4	100.0	93	456	99.2	456	456	99.2	125.00	106	476		
		279A00	18.8/25.0	52.1/60.1	86.5/96.5	100/100	87/89	451/451	451/451	451/451	101.3/111.3	110/125	101/102	471/471	92.5/102.5	100/110	93/94	456/456	107.3/117.3	456/456	456/456	172.4/162.4	175/175	108/108	476/476		
		280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	451/451	451/451	451/451	166.4/156.4	175/175	153/172	471/471	157.6/147.7	175/175	145/164	456/456	172.4/162.4	456/456	456/456	198.5/222.5	200/250	159/177	476/476		
		281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	451/451	451/451	451/451	192.5/216.5	200/250	213/241	471/471	183.8/207.8	200/225	205/233	456/456	198.5/222.5	456/456	456/456	219.2/246	200/250	176/176	476/476		
20	460-3-60	STD	NONE	-	-	36.7	45	39	247	247	247	42.9	50	46	259	259	259	41	249	249	45.1	50.00	48	261			
			282A00	25.0	30.1	43.8	45	40	247	247	247	51.5	60	47	259	259	259	43	249	249	54.3	60.00	50	261			
			283A00	50.0	60.1	66.2	80	75	247	247	247	74.0	80	82	259	259	259	77	249	249	76.7	80.00	84	261			
			284A00	75.0	90.2	96.3	100	109	247	247	247	104.1	110	116	259	259	259	112	249	249	106.8	110	119	261			
			NONE	-	-	38.2	50	40	252	252	252	44.4	50	47	264	264	264	43	254	254	46.6	50.00	50	266			
			282A00	25.0	30.1	45.6	50	42	252	252	252	53.4	60	49	264	264	264	45	254	254	56.1	60.00	52	266			
		283A00	50.0	60.1	68.1	80	76	252	252	252	75.9	80	84	264	264	264	79	254	254	78.6	80.00	86	266				
		284A00	75.0	90.2	98.2	100	111	252	252	252	106.0	125	118	264	264	264	114	254	254	108.7	125	121	266				
		NONE	-	-	40.4	50	43	250	250	250	46.6	50	50	262	262	262	45	252	252	48.8	60.00	52	264				
		282A00	25.0	30.1	48.4	50	45	250	250	250	56.1	60	52	262	262	262	47	252	252	58.9	60.00	54	264				
		283A00	50.0	60.1	70.9	80	79	250	250	250	78.6	80	86	262	262	262	82	252	252	81.4	90.00	89	264				
		284A00	75.0	90.2	101.0	110	114	250	250	250	108.7	125	121	262	262	262	116	252	252	111.5	125	123	264				
20	575-3-60	STD	NONE	-	-	27.9	35	29	186	186	186	32.7	40	35	194	194	194	31	188	188	34.4	40.00	37	196			
			285A00	24.8	23.9	35.5	40	33	186	186	186	41.5	45	38	194	194	194	35	188	188	43.6	45.00	40	196			
			286A00	49.6	47.7	65.3	70	60	186	186	186	71.3	80	66	194	194	194	62	188	188	73.4	80.00	68	196			
		287A00	74.4	71.6	77.2	90	88	186	186	186	83.2	90	93	194	194	194	89	188	188	85.4	90	95	196				
		NONE	-	-	29.6	35	31	200	200	200	34.4	40	37	208	208	208	33	202	202	36.1	45.00	39	210				
		285A00	24.8	23.9	37.6	40	35	200	200	200	43.6	45	40	208	208	208	37	202	202	45.8	50.00	42	210				
286A00	49.6	47.7	67.4	70	62	200	200	200	73.4	80	68	208	208	208	64	202	202	75.5	80.00	69	210						
287A00	74.4	71.6	79.4	90	89	200	200	200	85.4	90	95	208	208	208	91	202	202	87.5	90	97	210						
NONE	-	-	31.0	40	33	198	198	198	35.8	45	38	206	206	206	35	200	200	37.5	45.00	40	208						
285A00	24.8	23.9	39.4	40	36	198	198	198	45.4	50	42	206	206	206	38	200	200	47.5	50.00	44	208						
286A00	49.6	47.7	69.1	70	64	198	198	198	75.1	80	69	206	206	206	66	200	200	77.3	80.00	71	208						
287A00	74.4	71.6	81.1	90	91	198	198	198	87.1	90	97	206	206	206	93	200	200	89.2	90	99	208						

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

**Table 50 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED TWO SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.													
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)											
						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	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA	FLA									
24	460-3-60	STD	NONE	-	-	87.3/86.4	100/100	92/91	550	570	570	98.1/98.2	100/100	105/104	570	92.1/91.2	100/100	97/96	555	570	570	103.9/103.0	125/125	111/110	575	
			279A00	18.8/25.0	52.1/60.1	87.3/91.0	100/100	92/91	550/550	570/570	570/570	99.1/105.8	125/125	105/104	570/570	92.1/97.0	100/100	97/96	555/555	570/570	570/570	103.9/111.8	125/125	111/110	575/575	
			280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	135/153	162.0/150.9	175/175	149/167	570/570	153.3/142.2	175/175	179.4/202.3	200/225	209/236	570/570	179.4/202.3	200/225	201/228	555/555	168.0/156.9	175/175	155/172	575/575
			281A00	56.3/75.0	156.4/180.4	173.4/196.3	200/225	196/222	550/550	188.2/211.0	200/225	209/236	179.4/202.3	200/225	209/236	570/570	179.4/202.3	200/225	201/228	555/555	194.2/217.0	200/250	215/241	575/575		
			NONE	-	-	90.8	100	546	102.6	125	109	566	95.6	125.00	101	551	107.4	125.00	101	551	551	107.4	125.00	115	571	
			279A00	18.8/25.0	52.1/60.1	90.8/96.5	100/100	96/96	546/546	102.6/111.3	125/125	109/109	566/566	95.6/102.5	125/125	109/109	566/566	95.6/102.5	125/125	101/101	551/551	551/551	107.4/117.3	125/125	115/115	571/571
			280A00	37.6/50.0	104.2/120.3	151.6/141.7	175/175	139/158	546/546	166.4/156.4	175/175	153/172	566/566	157.6/147.7	175/175	145/164	551/551	172.4/162.4	175/175	145/164	551/551	551/551	172.4/162.4	175/175	159/177	571/571
			281A00	56.3/75.0	156.4/180.4	177.8/201.8	200/225	200/227	546/546	192.5/216.5	200/250	213/241	566/566	183.8/207.8	200/225	209/236	570/570	192.5/216.5	200/225	205/233	551/551	551/551	198.5/222.5	200/250	219/246	571/571
			NONE	-	-	102.2	125	109	625	114.0	125	122	645	107.0	125.00	114	630	118.8	150.00	114	630	118.8	150.00	128	650	
			279A00	18.8/25.0	52.1/60.1	102.2/110.8	125/125	109/109	625/625	115.5/125.5	125/150	122/122	645/645	107.0/116.8	125/125	122/122	645/645	107.0/116.8	125/125	114/114	630/630	630/630	121.5/131.5	150/150	128/128	650/650
280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	625/625	180.6/170.7	200/175	166/185	645/645	171.9/161.9	175/175	166/185	645/645	171.9/161.9	175/175	158/177	630/630	630/630	186.6/176.7	200/200	172/190	650/650			
281A00	56.3/75.0	156.4/180.4	192.0/216.0	200/250	213/240	625/625	206.8/230.8	225/250	226/254	645/645	198.0/222.0	225/250	226/254	645/645	198.0/222.0	225/250	218/246	630/630	630/630	212.8/236.8	225/250	232/259	650/650			
NONE	-	-	47.6	60	50	280	53.8	60	57	292	49.8	60.00	52	282	56.0	70.00	52	282	56.0	70.00	60	294				
282A00	25.0	30.1	47.6	60	50	280	53.8	60	57	292	49.8	60.00	52	282	56.1	70.00	52	282	56.1	70.00	60	294				
283A00	50.0	60.1	68.1	80	76	280	75.9	80	84	292	70.9	80.00	79	282	78.6	80.00	79	282	78.6	80.00	86	294				
284A00	75.0	90.2	98.2	100	111	280	106.0	125	118	292	101.0	110	114	292	108.7	125	114	292	108.7	125	121	294				
NONE	-	-	49.8	60	52	278	56.0	70	60	290	52.0	60.00	55	280	58.2	70.00	55	280	58.2	70.00	62	292				
282A00	25.0	30.1	49.8	60	52	278	56.1	70	60	290	52.0	60.00	55	280	58.9	70.00	55	280	58.9	70.00	62	292				
283A00	50.0	60.1	70.9	80	79	278	78.6	80	86	290	73.6	80.00	82	280	81.4	90.00	82	280	81.4	90.00	89	292				
284A00	75.0	90.2	101.0	110	114	278	108.7	125	121	290	103.7	125	116	280	111.5	125	116	280	111.5	125	123	292				
NONE	-	-	55.5	60	59	318	61.7	70	66	330	57.7	70.00	62	320	63.9	80.00	62	320	63.9	80.00	69	332				
282A00	25.0	30.1	55.5	60	59	318	63.3	70	66	330	58.3	70.00	62	320	66.0	80.00	62	320	66.0	80.00	69	332				
283A00	50.0	60.1	78.0	90	86	318	85.7	90	93	330	80.7	90.00	88	320	88.5	100.00	88	320	88.5	100.00	95	332				
284A00	75.0	90.2	108.1	125	120	318	115.8	125	127	330	110.8	125	123	320	118.6	125	123	320	118.6	125	130	332				
NONE	-	-	36.1	45	38	204	40.9	50	43	212	37.8	45.00	40	206	42.6	50.00	40	206	42.6	50.00	45	214				
285A00	24.8	23.9	37.6	45	38	204	43.6	50	43	212	39.8	45.00	40	206	45.8	50.00	40	206	45.8	50.00	45	214				
286A00	49.6	47.7	67.4	70	62	204	73.4	80	68	212	69.5	70.00	64	206	75.5	80.00	64	206	75.5	80.00	69	214				
287A00	74.4	71.6	79.4	90	89	204	85.4	90	95	212	81.5	90	91	206	87.5	90	91	206	87.5	90	97	214				
NONE	-	-	37.5	45	40	202	42.3	50	45	210	39.2	50.00	42	204	44.0	50.00	42	204	44.0	50.00	47	212				
285A00	24.8	23.9	39.4	45	40	202	45.4	50	45	210	41.5	50.00	42	204	47.5	50.00	42	204	47.5	50.00	47	212				
286A00	49.6	47.7	69.1	70	64	202	75.1	80	69	210	71.3	80.00	66	204	77.3	80.00	66	204	77.3	80.00	71	212				
287A00	74.4	71.6	81.1	90	91	202	87.1	90	97	210	83.2	90	93	204	89.2	90	93	204	89.2	90	99	212				
NONE	-	-	39.4	50	42	229	44.2	50	47	237	41.1	50.00	44	231	45.9	50.00	44	231	45.9	50.00	49	239				
285A00	24.8	23.9	41.8	50	42	229	47.8	50	47	237	43.9	50.00	44	231	49.9	50.00	44	231	49.9	50.00	49	239				
286A00	49.6	47.7	71.5	80	66	229	77.5	80	71	237	73.6	80.00	68	231	79.6	80.00	68	231	79.6	80.00	73	239				
287A00	74.4	71.6	83.5	90	93	229	89.5	100	99	237	85.6	90	95	231	91.6	100	95	231	91.6	100	101	239				



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

**Table 50 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED TWO SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR				NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)						
						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	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA						
28	460-3-60	STD	NONE	-	-	116.0/115.1	150/150	120/119	590	127.8/126.9	175/175	133/132	610	120.8/119.9	150/150	125/124	595	132.6/131.7	175/175	139/138	615
			279A00	18.8/25.0	52.1/60.1	116.0/115.1	150/150	120/119	590/590	127.8/126.9	175/175	133/132	610/610	120.8/119.9	150/150	125/124	595/595	132.6/131.7	175/175	139/138	615/615
			280A00	37.6/50.0	104.2/120.3	147.3/136.2	150/150	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	615/615
			281A00	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	194.2/217.0	200/250	215/241	615/615
			NONE	-	-	119.5	150	586	131.3	175	137	606	606	124.3	150.00	129	591	136.1	175.00	143	611
			279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611
			280A00	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	611/611
			281A00	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
			NONE	-	-	130.9	175	665	142.7	175	150	685	685	135.7	175.00	142	670	147.5	175.00	156	690
			279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150/150	685/685	135.7/135.7	175/175	142/142	670/670	147.5/147.5	175/175	156/156	690/690
280A00	37.6/50.0	104.2/120.3	165.9/155.9	175/175	153/171	665/665	180.6/170.7	200/175	166/185	685/685	171.9/161.9	175/175	158/177	670/670	186.6/176.7	200/200	172/190	690/690			
281A00	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	196.0/222.0	225/250	218/246	670/670	212.8/236.8	225/250	232/259	690/690			
NONE	-	-	53.0	60	306	59.2	70	63	318	318	55.2	60.00	58	308	61.4	70.00	65	320			
282A00	25.0	30.1	53.0	60	56	59.2	70	63	318	318	55.2	60.00	58	308	61.4	70.00	65	320			
283A00	50.0	60.1	68.1	80	76	75.9	80	84	318	318	70.9	80.00	79	308	78.6	80.00	86	320			
284A00	75.0	90.2	98.2	100	111	106.0	106.0	125	118	118	101.0	110	114	308	108.7	125	121	320			
NONE	-	-	55.2	60	58	61.4	70	65	316	316	57.4	70.00	61	306	63.6	80.00	68	318			
282A00	25.0	30.1	55.2	60	58	61.4	70	65	316	316	57.4	70.00	61	306	63.6	80.00	68	318			
283A00	50.0	60.1	70.9	80	79	78.6	80	86	316	316	73.6	80.00	82	306	81.4	90.00	89	318			
284A00	75.0	90.2	101.0	110	114	108.7	108.7	125	121	121	103.7	125	116	306	111.5	125	123	318			
NONE	-	-	60.9	70	65	67.1	80	72	356	356	63.1	80.00	67	346	69.3	80.00	74	358			
282A00	25.0	30.1	60.9	70	65	67.1	80	72	356	356	63.1	80.00	67	346	69.3	80.00	74	358			
283A00	50.0	60.1	78.0	90	86	85.7	90	93	356	356	80.7	90.00	88	346	88.5	100.00	95	358			
284A00	75.0	90.2	108.1	125	120	115.8	125	127	356	356	110.8	125	123	346	118.6	125	130	358			
NONE	-	-	41.0	50	43	45.8	60	48	236	236	42.7	50.00	45	230	47.5	60.00	50	238			
285A00	24.8	23.9	41.0	50	43	45.8	60	48	236	236	42.7	50.00	45	230	47.5	60.00	50	238			
286A00	49.6	47.7	67.4	70	62	73.4	80	68	236	236	69.5	70.00	64	230	75.5	80.00	69	238			
287A00	74.4	71.6	79.4	90	89	85.4	90	95	236	236	81.5	90	91	230	87.5	90	97	238			
NONE	-	-	42.4	50	45	47.2	60	50	234	234	44.1	50.00	46	228	48.9	60.00	52	236			
285A00	24.8	23.9	42.4	50	45	47.2	60	50	234	234	44.1	50.00	46	228	48.9	60.00	52	236			
286A00	49.6	47.7	69.1	70	64	75.1	80	69	234	234	71.3	80.00	66	228	77.3	80.00	71	236			
287A00	74.4	71.6	81.1	90	91	87.1	90	97	234	234	83.2	90	93	228	89.2	90	99	236			
NONE	-	-	44.3	50	47	49.1	60	52	261	261	46.0	60.00	49	255	50.8	60.00	54	263			
285A00	24.8	23.9	44.3	50	47	49.1	60	52	261	261	46.0	60.00	49	255	50.8	60.00	54	263			
286A00	49.6	47.7	71.5	80	66	77.5	80	71	261	261	73.6	80.00	68	255	79.6	80.00	73	263			
287A00	74.4	71.6	83.5	90	93	89.5	100	99	261	261	85.6	90	95	255	91.6	100	101	263			

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

**Table 51 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER AND 2-SPEED INDOOR FAN OPTION**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.												w/ PWRD C.O.											
			CRHEATER	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)											
						MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA				
208/ 230-3-60	STD	NONE	-	-	-	69.4/69.4	90/90	73/72	390	86/85	410	74.2/74.2	90/90	78/77	395	86.0/86.0	100/100	92/91	415	86.0/86.0	100/100	92/91	415						
						84.9/84.9	90/90	73/78	390/390	100/100	86/92	410/410	90.9/90.9	100/100	78/84	395/395	105.6/105.6	110/110	92/97	415/415									
						141.0/141.0	150/150	130/147	390/390	155.8/155.8	175/175	143/161	410/410	147.0/147.0	150/150	135/153	395/395	161.8/161.8	175/175	149/166	415/415								
						190.2/190.2	200/200	190/216	390/390	204.9/204.9	225/225	203/230	410/410	196.2/196.2	200/225	195/222	395/395	210.9/210.9	225/225	209/236	415/415								
						71.6/71.6	90/90	75/74	414	83.4/83.4	100/100	89/88	434	76.4/76.4	100/100	81/79	419	88.2/88.2	100/100	94/93	439								
						87.4/87.4	90/90	75/80	414/414	102.1/102.1	110/110	89/94	434/434	93.4/93.4	100/100	81/86	419/419	108.1/108.1	110/110	94/99	439/439								
						143.8/143.8	150/150	132/150	414/414	158.5/158.5	175/175	146/163	434/434	149.8/149.8	150/150	138/155	419/419	164.5/164.5	175/175	151/169	439/439								
						192.7/192.7	200/225	192/219	414/414	207.4/207.4	225/225	206/232	434/434	198.7/198.7	200/225	198/224	419/419	213.4/213.4	225/225	211/238	439/439								
						74.4/74.4	90/90	78/77	425	86.2/86.2	100/100	92/91	445	79.2/79.2	100/100	84/83	430	91.0/91.0	100/100	97/96	450								
						91.0/91.0	100/100	78/84	425/425	105.8/105.8	110/110	92/97	445/445	97.0/97.0	100/100	84/89	430/430	111.8/111.8	125/125	97/103	450/450								
						147.3/147.3	150/150	135/153	425/425	162.0/162.0	175/175	149/167	445/445	153.3/153.3	175/175	141/158	430/430	168.0/168.0	175/175	155/172	450/450								
						196.3/196.3	200/225	196/222	425/425	211.0/211.0	225/225	209/236	445/445	202.3/202.3	225/225	201/228	430/430	217.0/217.0	225/250	215/241	450/450								
460-3-60	STD	NONE	-	-	-	35.3	45	37	233	41.5	50	44	245	45	37.5	50	39	235	43.7	50	47	247							
						42.4	45	39	233	50.1	60	46	245	45.1	50	42	235	52.9	60	49	247								
						64.9	70	73	233	72.6	80	81	245	67.6	80	76	235	75.4	80	83	247								
						95.0	100	108	233	102.7	110	115	245	97.7	100	111	235	105.5	110	118	247								
						36.4	45	38	245	42.6	50	45	257	38.6	50	41	247	44.8	50	48	259								
						43.8	45	40	245	51.5	60	47	257	46.5	50	43	247	54.3	60	50	259								
						66.2	80	75	245	74.0	80	82	257	69.0	80	77	247	76.7	80	84	259								
						96.3	100	109	245	104.1	110	116	257	99.1	100	112	247	106.8	110	119	259								
						37.9	50	40	250	44.1	50	47	262	40.1	50	42	252	46.3	50	50	264								
						45.6	50	42	250	53.4	60	49	262	48.4	50	45	252	56.1	60	52	264								
						66.1	80	76	250	75.9	80	84	262	70.9	80	79	252	78.6	80	86	264								
						98.2	100	111	250	106.0	125	118	262	101.0	110	114	252	108.7	125	121	264								
575-3-60	STD	NONE	-	-	-	27.9	35	29	184	32.7	40	35	192	29.6	40	37	186	34.4	40	37	194								
						35.5	40	33	184	41.5	45	38	192	37.6	40	35	186	43.6	45	40	194								
						65.3	70	60	184	71.3	80	66	192	67.4	70	62	186	73.4	80	68	194								
						77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194								
						27.9	35	29	184	32.7	40	35	192	29.6	40	35	192	34.4	40	37	194								
						35.5	40	33	184	41.5	45	38	192	37.6	40	35	186	43.6	45	40	194								
						65.3	70	60	184	71.3	80	66	192	67.4	70	62	186	73.4	80	68	194								
						77.2	90	88	184	83.2	90	93	192	79.4	90	89	186	85.4	90	95	194								
						29.6	35	31	198	34.4	40	37	206	31.3	40	33	200	36.1	45	39	208								
						37.6	40	35	198	43.6	45	40	206	39.8	40	37	200	45.8	50	42	208								
						67.4	70	62	198	73.4	80	68	206	69.5	70	64	200	75.5	80	69	208								
						79.4	90	89	198	85.4	90	95	206	81.5	90	91	200	87.5	90	97	208								

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

**Table 51 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER AND 2-SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.										
			CRHEATER	Nom (kW)	FLA	NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)			NO PE.			w/ P.E. (pwrd fr/unit)					
						MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA						
20	208/ 230-3-60	STD	NONE	-	-	76.3/76.3	100/100	80/79	444	444	88.1/88.1	100/100	93/92	464	464	81.1/81.1	100/100	85/84	449	449	92.9/92.9	100/100	100/100	99/98	469	469
			279A00	18.8/25.0	52.1/60.1	87.4/87.4	100/100	80/80	444/444	444/444	102.1/102.1	110/110	93/94	464/464	464/464	93.4/93.4	100/100	85/86	449/449	449/449	108.1/108.1	110/110	110/110	99/99	469/469	469/469
			280A00	37.6/50.0	104.2/120.3	143.8/143.8	150/150	132/150	444/444	444/444	158.5/158.5	175/175	146/163	464/464	464/464	149.8/149.8	150/150	138/155	449/449	449/449	164.5/164.5	175/175	175/175	151/169	469/469	469/469
			281A00	56.3/75.0	156.4/180.4	192.7/192.7	200/225	192/219	444/444	444/444	207.4/207.4	225/225	206/232	464/464	464/464	198.7/198.7	200/225	198/224	449/449	449/449	213.4/213.4	225/225	225/225	211/238	469/469	469/469
			NONE	-	-	79.1/79.1	100/100	83/82	455	455	90.9/90.9	100/100	97/96	475	475	83.9/83.9	100/100	89/88	460	460	95.7/95.7	110/110	110/110	102/101	480	480
			279A00	18.8/25.0	52.1/60.1	91.0/91.0	100/100	83/84	455/455	455/455	105.8/105.8	110/110	97/97	475/475	475/475	97.0/97.0	100/100	89/89	460/460	460/460	111.8/111.8	125/125	125/125	102/103	480/480	480/480
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	455/455	455/455	162.0/162.0	175/175	149/167	475/475	475/475	153.3/153.3	175/175	141/158	460/460	460/460	168.0/168.0	175/175	175/175	155/172	480/480	480/480
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	455/455	455/455	211.0/211.0	225/225	209/236	475/475	475/475	202.3/202.3	225/225	201/228	460/460	460/460	217.0/217.0	225/250	225/250	215/241	480/480	480/480
			NONE	-	-	82.6	100	87	451	451	94.4	110	101	471	471	87.4	100	93	456	456	99.2	125	125	106	476	476
			282A00	25.0	30.1	43.8	45	40	247	247	51.5	60	47	259	259	46.5	50	43	249	249	54.3	60	50	48	261	261
283A00	50.0	60.1	66.2	80	75	247	247	74.0	80	82	259	259	69.0	80	77	249	249	76.7	80	84	84	261	261			
284A00	75.0	90.2	96.3	100	109	247	247	104.1	110	116	259	259	99.1	100	112	249	249	106.8	110	119	119	261	261			
NONE	-	-	38.2	50	40	252	252	44.4	50	47	264	264	40.4	50	43	254	254	46.6	50	50	50	266	266			
282A00	25.0	30.1	45.6	50	42	252	252	53.4	60	49	264	264	48.4	50	45	254	254	56.1	60	52	52	266	266			
283A00	50.0	60.1	68.1	80	76	252	252	75.9	80	84	264	264	70.9	80	79	254	254	78.6	80	86	86	266	266			
284A00	75.0	90.2	98.2	100	111	252	252	106.0	125	118	264	264	101.0	110	114	254	254	108.7	125	125	121	266	266			
NONE	-	-	40.4	50	43	250	250	46.6	50	50	262	262	42.6	50	45	252	252	48.8	60	52	52	266	266			
282A00	25.0	30.1	48.4	50	45	250	250	56.1	60	52	262	262	51.1	60	47	252	252	58.9	60	54	54	266	266			
283A00	50.0	60.1	70.9	80	79	250	250	78.6	80	86	262	262	73.6	80	82	252	252	81.4	90	89	89	266	266			
284A00	75.0	90.2	101.0	110	114	250	250	108.7	125	121	262	262	103.7	125	116	252	252	111.5	125	123	123	266	266			
NONE	-	-	27.9	35	29	186	186	32.7	40	35	194	194	29.6	35	31	188	188	34.4	40	37	37	196	196			
285A00	24.8	23.9	35.5	40	33	186	186	41.5	45	38	194	194	37.6	40	35	188	188	43.6	45	40	40	196	196			
286A00	49.6	47.7	65.3	70	60	186	186	71.3	80	68	194	194	67.4	70	62	188	188	73.4	80	68	68	196	196			
287A00	74.4	71.6	77.2	90	88	186	186	83.2	90	93	194	194	79.4	90	89	188	188	85.4	90	95	95	196	196			
NONE	-	-	29.6	35	31	200	200	34.4	40	37	208	208	31.3	40	33	202	202	36.1	45	39	39	210	210			
285A00	24.8	23.9	37.6	40	35	200	200	43.6	45	40	208	208	39.8	40	37	202	202	45.8	50	42	42	210	210			
286A00	49.6	47.7	67.4	70	62	200	200	73.4	80	68	208	208	69.5	70	64	202	202	75.5	80	69	69	210	210			
287A00	74.4	71.6	79.4	90	89	200	200	85.4	90	95	208	208	81.5	90	91	202	202	87.5	90	97	97	210	210			
NONE	-	-	31.0	40	33	198	198	35.8	45	38	206	206	32.7	40	35	200	200	37.5	45	40	40	208	208			
285A00	24.8	23.9	39.4	40	36	198	198	45.4	50	42	206	206	41.5	45	38	200	200	47.5	50	44	44	208	208			
286A00	49.6	47.7	69.1	70	64	198	198	75.1	80	69	206	206	71.3	80	66	200	200	77.3	80	71	71	208	208			
287A00	74.4	71.6	81.1	90	91	198	198	87.1	90	97	206	206	83.2	90	93	200	200	89.2	90	99	99	208	208			

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

**Table 51 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER AND 2-SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.										
			CRHEATER	Nom (kW)	FLA	NO P.E.			w/ P.E. (pwrd fr/unit)			NO P.E.			w/ P.E. (pwrd fr/unit)							
						MCA	HACR BRKR	FLA	DISC. SIZE FLA LRA	MCA	HACR BRKR	FLA	DISC. SIZE FLA LRA	MCA	HACR BRKR	FLA	DISC. SIZE FLA LRA					
24	208/ 230-3-60	STD	NONE	-	-	87.3/87.3	100/100	92/91	550	550/550	105/104	570	92.1/92.1	100/100	97/96	555	103.9/103.9	125/125	111/110	575		
			279A00	18.8/25.0	52.1/60.1	-	91.0/91.0	100/100	92/91	550/550	105.8/105.8	125/125	105/104	570/570	97.0/97.0	100/100	97/96	555/555	111.8/111.8	125/125	111/110	575/575
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	550/550	162.0/162.0	175/175	149/167	570/570	153.3/153.3	175/175	141/158	555/555	168.0/168.0	175/175	159/172	575/575	
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	550/550	211.0/211.0	225/225	209/236	570/570	202.3/202.3	225/225	201/228	555/555	217.0/217.0	225/250	215/241	575/575	
		279A00	18.8/25.0	52.1/60.1	-	96.5/96.5	100/100	96/96	546/546	111.3/111.3	125/125	109	566	102.5/102.5	101/101	551/551	117.3/117.3	125/125	115/115	571/571		
		280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	546/546	166.4/166.4	175/175	153/172	566/566	157.6/157.6	175/175	145/164	551/551	172.4/172.4	175/175	159/177	571/571		
		281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	546/546	216.5/216.5	225/250	213/241	566/566	207.8/207.8	225/225	205/233	551/551	222.5/222.5	225/250	219/246	571/571		
		279A00	18.8/25.0	52.1/60.1	-	110.8/110.8	125/125	109/109	625/625	125/125	122/122	645/645	116.8/116.8	125/125	114/114	630/630	131.5/131.5	150/150	128/128	650/650		
		280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	625/625	180.6/180.6	200/200	166/185	645/645	171.9/171.9	175/175	158/177	630/630	186.6/186.6	200/200	172/190	650/650		
		281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	625/625	230.8/230.8	250/250	226/254	645/645	222.0/222.0	225/250	218/246	630/630	236.8/236.8	250/250	232/259	650/650		
460-3-60	460-3-60	STD	NONE	-	-	47.6	60	50	280	280	57	292	53.8	60	60	57	292	49.8	60	60	294	
			282A00	25.0	30.1	60.1	47.6	60	50	280	280	57	292	53.8	60	60	57	292	49.8	60	60	294
			283A00	50.0	60.1	98.1	68.1	80	76	280	280	84	292	70.9	80	79	282	78.6	80	86	294	
			284A00	75.0	90.2	98.2	98.2	100	111	280	280	118	292	101.0	110	114	282	108.7	125	121	294	
		282A00	25.0	30.1	49.8	49.8	60	52	278	278	60	290	52.0	60	55	280	58.2	70	62	292		
		283A00	50.0	60.1	70.9	70.9	80	79	278	278	86	290	73.6	80	82	280	81.4	90	89	292		
		284A00	75.0	90.2	101.0	101.0	110	114	278	278	125	290	103.7	125	116	280	111.5	125	123	292		
		282A00	25.0	30.1	55.5	55.5	60	59	318	318	66	330	57.7	70	62	320	63.9	80	69	332		
		283A00	50.0	60.1	78.0	78.0	80	86	318	318	86	330	80.7	90	88	320	88.5	100	95	332		
		284A00	75.0	90.2	108.1	108.1	125	120	318	318	127	330	110.8	125	123	320	118.6	125	130	332		
575-3-60	575-3-60	STD	NONE	-	-	36.1	45	38	204	204	43	212	37.8	45	40	206	42.6	50	45	214		
			285A00	24.8	23.9	37.6	37.6	45	38	204	204	43	212	39.8	45	40	206	45.8	50	45	214	
			286A00	49.6	47.7	67.4	67.4	70	62	204	204	68	212	69.5	70	64	208	75.5	80	69	214	
			287A00	74.4	71.6	79.4	79.4	90	89	204	204	95	212	81.5	90	91	206	87.5	90	97	214	
		285A00	24.8	23.9	39.4	39.4	45	40	202	202	45	210	39.2	50	42	204	44.0	50	47	212		
		286A00	49.6	47.7	69.1	69.1	70	64	202	202	69	210	71.3	80	66	204	77.3	80	71	212		
		287A00	74.4	71.6	81.1	81.1	90	91	202	202	97	210	83.2	90	93	204	89.2	90	99	212		
		285A00	24.8	23.9	41.8	41.8	50	42	229	229	44	237	41.1	50	44	231	45.9	50	49	239		
		286A00	49.6	47.7	71.5	71.5	80	66	229	229	71	237	73.6	80	68	231	79.6	80	73	239		
		287A00	74.4	71.6	83.5	83.5	90	93	229	229	99	237	85.6	90	95	231	91.6	100	101	239		

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

**Table 51 - UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER AND 2-SPEED INDOOR FAN OPTION (cont)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.												w/ PWRD C.O.											
			CRHEATER	Nom (kW)	FLA	NO RE.				w/ P.E. (pwrd fr/unit)				NO RE.				w/ P.E. (pwrd fr/unit)											
						MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE								
28	460-3-60	STD	NONE	-	-	116.0/116.0	150/150	120/119	590	127.8/127.8	175/175	133/132	610	120.8/120.8	150/150	125/124	595	132.6/132.6	175/175	139/138	615	139/138	615						
			279A00	18.8/25.0	52.1/60.1	116.0/116.0	150/150	120/119	590/590	127.8/127.8	175/175	133/132	610/610	120.8/120.8	150/150	125/124	595/595	132.6/132.6	175/175	139/138	615/615	139/138	615/615						
			280A00	37.6/50.0	104.2/120.3	147.3/147.3	150/150	135/153	590/590	162.0/162.0	175/175	149/167	610/610	153.3/153.3	175/175	141/158	595/595	168.0/168.0	175/175	159/172	615/615	159/172	615/615						
			281A00	56.3/75.0	156.4/180.4	196.3/196.3	200/225	196/222	590/590	211.0/211.0	225/225	209/236	610/610	202.3/202.3	225/225	201/228	595/595	217.0/217.0	225/250	215/241	615/615	215/241	615/615						
			NONE	-	-	119.5	150	124	586	131.3	175	137	606	124.3	150	129	591	136.1	175	143	611	143	611						
			279A00	18.8/25.0	52.1/60.1	119.5/119.5	150/150	124/124	586/586	131.3/131.3	175/175	137/137	606/606	124.3/124.3	150/150	129/129	591/591	136.1/136.1	175/175	143/143	611/611	143/143	611/611						
		280A00	37.6/50.0	104.2/120.3	151.6/151.6	175/175	139/158	586/586	166.4/166.4	175/175	153/172	606/606	157.6/157.6	175/175	145/164	591/591	172.4/172.4	175/175	159/177	611/611	159/177	611/611							
		281A00	56.3/75.0	156.4/180.4	201.8/201.8	225/225	200/227	586/586	216.5/216.5	225/250	213/241	606/606	207.8/207.8	225/225	205/233	591/591	222.5/222.5	225/250	219/246	611/611	219/246	611/611							
		279A00	18.8/25.0	52.1/60.1	130.9/130.9	175/175	137/137	665/665	142.7/142.7	175/175	150	685	135.7	175	142	670	147.5	175	156	690	156	690							
		280A00	37.6/50.0	104.2/120.3	165.9/165.9	175/175	153/171	665/665	180.6/180.6	200/200	166/185	685/685	171.9/171.9	175/175	158/177	670/670	186.6/186.6	200/200	172/190	690/690	172/190	690/690							
		281A00	56.3/75.0	156.4/180.4	216.0/216.0	225/250	213/240	665/665	230.8/230.8	250/250	226/254	685/685	222.0/222.0	225/250	218/246	670/670	236.8/236.8	250/250	232/259	690/690	232/259	690/690							
		NONE	-	-	53.0	60	56	306	59.2	70	63	318	55.2	60	58	308	61.4	70	65	320	65	320							
282A00	25.0	30.1	53.0	60	56	306	59.2	70	63	318	55.2	60	58	308	61.4	70	65	320	65	320									
283A00	50.0	60.1	88.1	80	76	306	75.9	80	84	318	70.9	80	79	308	78.6	80	86	320	86	320									
284A00	75.0	90.2	98.2	100	111	306	106.0	125	118	318	101.0	110	114	308	108.7	125	121	320	121	320									
NONE	-	-	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68	318									
282A00	25.0	30.1	55.2	60	58	304	61.4	70	65	316	57.4	70	61	306	63.6	80	68	318	68	318									
283A00	50.0	60.1	70.9	80	79	304	78.6	80	86	316	73.6	80	82	306	81.4	90	89	318	89	318									
284A00	75.0	90.2	101.0	110	114	304	108.7	125	121	316	103.7	125	116	306	111.5	125	123	318	123	318									
NONE	-	-	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74	358									
282A00	25.0	30.1	60.9	70	65	344	67.1	80	72	356	63.1	80	67	346	69.3	80	74	358	74	358									
283A00	50.0	60.1	78.0	90	86	344	85.7	90	93	356	80.7	90	88	346	88.5	100	95	358	95	358									
284A00	75.0	90.2	108.1	125	120	344	115.8	125	127	356	110.8	125	123	346	118.6	125	130	358	130	358									
NONE	-	-	41.0	50	43	228	45.8	60	48	236	42.7	50	45	230	47.5	60	50	238	50	238									
285A00	24.8	23.9	41.0	50	43	228	45.8	60	48	236	42.7	50	45	230	47.5	60	50	238	50	238									
286A00	49.6	47.7	67.4	70	62	228	73.4	80	68	236	69.5	70	64	230	75.5	80	69	238	69	238									
287A00	74.4	71.6	79.4	90	89	228	85.4	90	95	236	81.5	90	91	230	87.5	90	97	238	97	238									
NONE	-	-	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52	236									
285A00	24.8	23.9	42.4	50	45	226	47.2	60	50	234	44.1	50	46	228	48.9	60	52	236	52	236									
286A00	49.6	47.7	69.1	70	64	226	75.1	80	69	234	71.3	80	66	228	77.3	80	71	236	71	236									
287A00	74.4	71.6	81.1	90	91	226	87.1	90	97	234	83.2	90	93	228	89.2	90	99	236	99	236									
NONE	-	-	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54	263									
285A00	24.8	23.9	44.3	50	47	253	49.1	60	52	261	46.0	60	49	255	50.8	60	54	263	54	263									
286A00	49.6	47.7	71.5	80	66	253	77.5	80	71	261	73.6	80	68	255	79.6	80	73	263	73	263									
287A00	74.4	71.6	83.5	90	93	253	89.5	100	100	261	85.6	90	95	255	91.6	100	101	263	101	263									

# 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-fan 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 50HC 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 two-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 CO<sub>2</sub> sensors are connected to the EconoMi\$er IV and X control, a demand controlled ventilation strategy will begin to operate. As the CO<sub>2</sub> level in the zone increases above the CO<sub>2</sub> setpoint, the minimum position of the damper will be increased proportionally. As the CO<sub>2</sub> 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 and X 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 and X damper to the minimum position.

On the initial power to the EconoMi\$er IV and X 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 and X damper will be open at maximum position. EconoMi\$er IV and X 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.

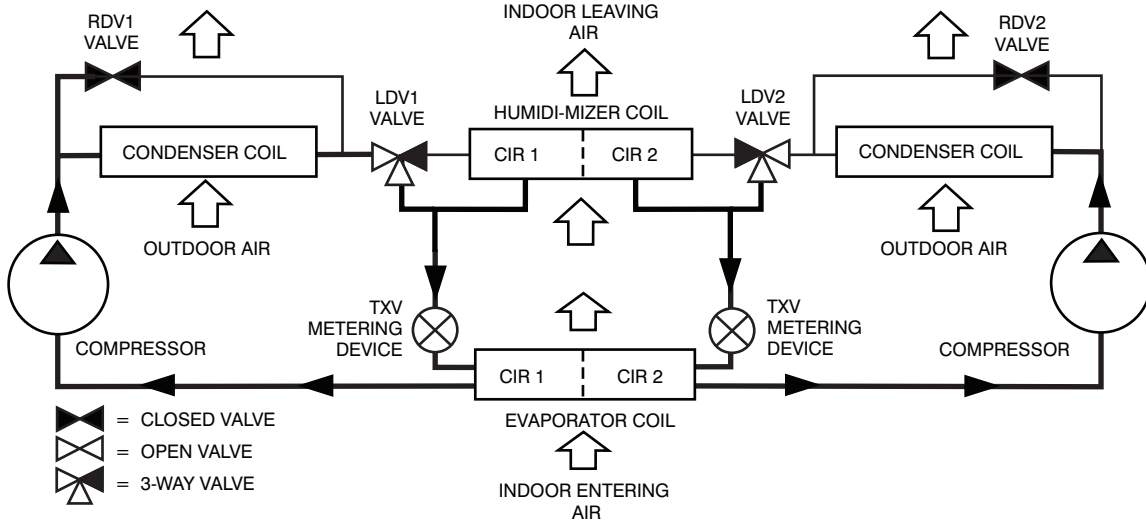
**Cool mode** - provides a normal ratio of Sensible and Latent Cooling effect from the evaporator coil.

**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.

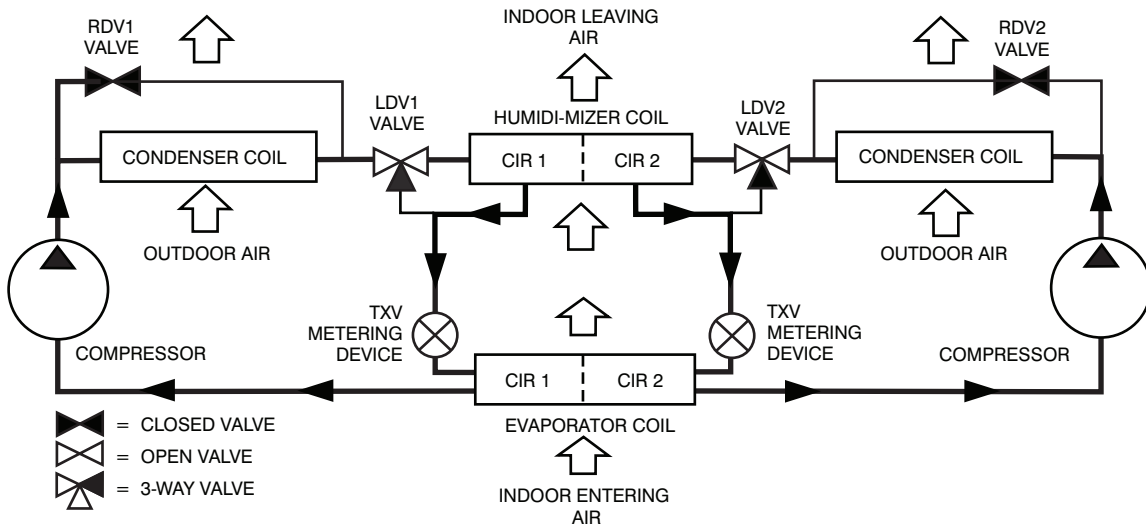
The Reheat1 and Reheat2 modes are available when the unit is not in a Heating mode and when the Low Ambient Lockout switch is closed.

## SEQUENCE OF OPERATION (cont.)



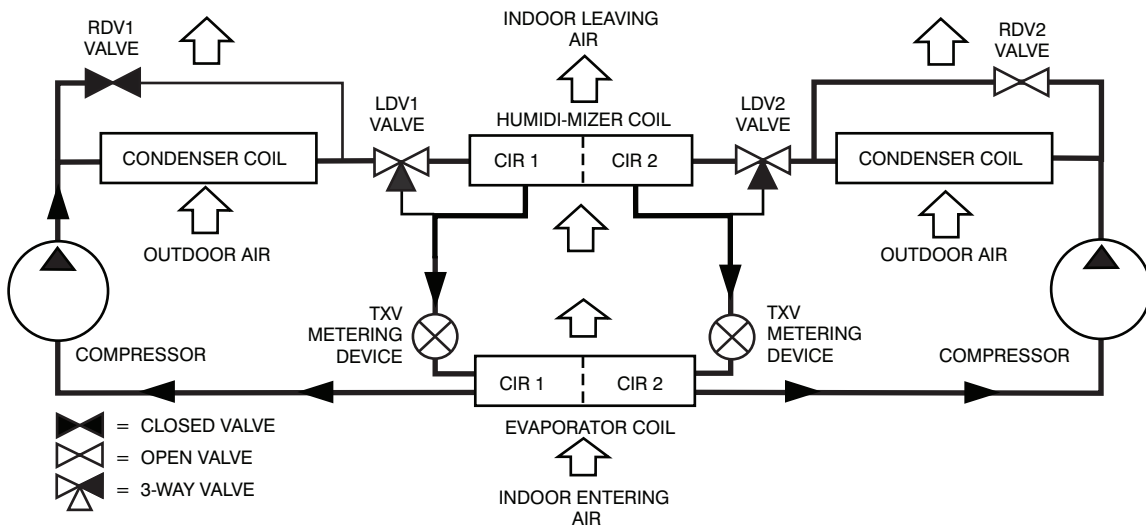
C12705

### 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 - 50HC\*\*17-28

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 25 Nominal Tons



<u>Section</u>	<u>Description</u>
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<b>23 06 80</b>	<b>Schedules for Decentralized HVAC Equipment</b>
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- |                |   |
|----------------|---|
| 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. |

<b>23 07 16</b>	<b>HVAC Equipment Insulation</b>
-----------------	----------------------------------

- |                |   |
|----------------|---|
| 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.   |

<b>23 09 13</b>	<b>Instrumentation and Control Devices for HVAC</b>
-----------------	---

- |                |   |
|----------------|---|
| 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.  |

<b>23 09 23</b>	<b>Direct-digital Control system for HVAC</b>
-----------------	---

- |                |  |
|----------------|--|
| 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 CO <sub>2</sub> 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 (50HC\*D17-28)

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 125°F (52°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 35°F (2°C) , ambient outdoor temperatures. Accessory kits are necessary if mechanically cooling at ambient temperatures below 35°F (2°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. 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. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
  - 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.
  - e. Standard on all 17-28 size models with Humidi-MiZer.

### 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 galvalum 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 EconoMiSer 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
  - h. Shall be capable of introducing up to 100% outdoor air.
  - i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
  - j. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
  - k. 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.
  - l. 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%.
  - m. 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 setpoint.
  - n. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - o. Economizer controller shall accept a 2-10 Vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
  - p. Compressor lockout sensor shall open at 35°F (2°C) and close closes at 50°F (10°C).
  - q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.

- r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
- 4. Two-Position Damper (Factory installed on 3 Phase Models Only. Field installed on all 3 and 1 Phase Models)
  - a. Damper shall be a 2-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 two stage 50HC17-28 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 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. HACR Breaker
  - a. These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units, with access cover to help provide environmental protection. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
- 11. 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.
- 12. 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.
- 13. 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.
- 14. 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 nailer 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.
- 15. 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 nailer strip and shall be capable of supporting entire unit weight.
  - c. Permits installation of new 50HC17-28 models to past Carrier design curb models: DP,DR,HJ,TM, and TJ. Check with Carrier sales expert of further details and information.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. Indoor Air Quality (CO<sub>2</sub>) 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 setpoint shall have adjustment capability.
- 20. 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.
21. 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).
  22. 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.
  23. 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.
  24. 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.
  25. Hinged Access Panels
    - a. Shall provide easy access through integrated quarter turn latches.
    - b. Shall be on major panels of – filter, control box, fan motor and compressor
  26. 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.
  27. Foil faced insulation
    - a. Throughout unit cabinet air stream, non-fibrous and cleanable foil faced insulation is used.