

**50HC**  
High—Efficiency  
Single Package Rooftop  
Cooling Only/Electric Heat  
with Puron® (R—410A) Refrigerant  
3 to 12.5 Tons — (Sizes 04 to 14)



## Product Data



**WeatherMaster®**



C10222



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Your Carrier rooftop unit (RTU) was designed by customers for customers. With “no-strip” screw collars, handled access panels, and more we’ve made your unit easy to install, easy to maintain and easy to use.

**Easy to install:**

All WeatherMaster® units are field-convertible to horizontal air flow, which makes it easy to adjust to unexpected job-site complications. Lighter units make easy replacement. Most of Carrier’s 3–12.5 ton 50HC rooftops fit on existing Carrier curbs dating back to 1989. Also, our large control box 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 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 on. Simply remove the black, composite plug, route your gauge line(s) through the hole, and connect them to the refrigeration service valve(s). Now, you can take refrigeration system pressure readings without affecting the condenser airflow.

**Easy to use:**

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

## FEATURES AND BENEFITS

- Single-stage cooling capacity control on 04 to 07 models
- Two-stage cooling capacity control on 07–14 models
- SEER up to 15.6
- EER up to 13.0
- IEER's up to 14.2 with single speed indoor fan motor and up to 16.2 with SAV™ (Staged Air Volume) 2-speed/VFD indoor fan motor system
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Single point electrical connection
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- TXV refrigerant metering system on each circuit
- Fully insulated cabinet
- Cooling operating range up to 125°F (52°C), and down to 35°F (2°C), 0°F (-18 °C) on 11 size standard
- Access panels with easy grip handles
- Innovative, easy starting, no-strip screw feature on unit access panels
- Two-inch disposable return air filters
- Tool-less filter access door
- Belt drive evaporator-fan motor and pulley combinations available on all three phase models
- Electric Drive X13 (5 speed/torque) motor on 04 to 06 models
- New terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement
- Field Convertible airflow (3–12.5 ton). Being able to convert a unit from vertical airflow to horizontal makes it easy to overcome job site complications. 12.5 ton models require a simple supply air duct cover to field convert from factory vertical to horizontal.
- Provisions for thru-the-bottom power entry capability as standard
- Full perimeter base rail with built-in rigging adapters and fork truck slots
- Scroll compressors with internal line-break overload protection
- 24-volt control circuit protected with resettable circuit breaker
- Permanently lubricated evaporator-fan motor
- Totally enclosed condenser motors with permanently lubricated bearings
- Low-pressure switch and high-pressure switch protection
- Liquid line filter drier on each circuit
- Factory-installed Humidi-MiZer® adaptive dehumidification system on all sizes, includes Motormaster® I controller.
- Standard Warranty: 5 years electric heater exchanger, 5 years compressor, 1 year parts
- Optional Staged Air Volume (SAV) system utilizes a Variable Frequency Drive (VFD) to automatically adjust the indoor fan motor speed between cooling stages. Available on 2-stage cooling models 07–14 with electro-mechanical, ComfortLink or RTU Open controls.

# MODEL NUMBER NOMENCLATURE

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

## Unit Heat Type

50 - Electric Heat Packaged Rooftop

## Model Series - WeatherMaster®

HC - High Efficiency

## Heat Options

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

## Refrig. Systems Options

- A = Single stage cooling models
- B = Single stage cooling models with Humidi-MiZer®
- D = Two stage cooling models
- E = Two stage cooling models with Humidi-MiZer
- F = Single stage cooling models with Motormaster® Low Ambient Controller
- G = Two stage cooling models with Motormaster Low Ambient Controller

## Cooling Tons

- |              |                        |
|--------------|------------------------|
| 04 - 3 ton   | 09 - 8.5 ton           |
| 05 - 4 ton   | 11 - 10 ton (12.0 EER) |
| 06 - 5 ton   | 12 - 10 ton (11.7 EER) |
| 07 - 6 ton   | 14 - 12.5 ton          |
| 08 - 7.5 ton |                        |

## Sensor Options

- A = None
- B = RA Smoke Detector
- C = SA Smoke Detector
- D = RA + SA Smoke Detector
- E = CO<sub>2</sub>
- F = RA Smoke Detector and CO<sub>2</sub>
- G = SA Smoke Detector and CO<sub>2</sub>
- H = RA + SA Smoke Detector and CO<sub>2</sub>
- J = Condensate Overflow Switch (electro-mechanical controls only)
- K = Condensate Overflow Switch and RA Smoke Detectors
- L = Condensate Overflow Switch and RA + SA Smoke Detectors

## Indoor Fan Options 3, 4, 5 Ton Models Only\*

- 0 = Electric (Direct) Drive x13 Motor
- 2 = Medium Static Option - Belt Drive
- 3 = High Static Option - Belt Drive

## Indoor Fan Options 6-12.5 Ton Models Only

- 1 = Standard Static Option - Belt Drive
- 2 = Medium Static Option - Belt Drive
- 3 = High Static Option - Belt Drive
- C = High Static Option with High-Efficiency Motor, Belt Drive (Size 14 only)

## Coil Options (RTPF) (Outdoor - Indoor - Hail Guard)

- A = Al/Cu - Al/Cu
- B = Precoat 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 = Precoat 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

\* See Price Pages for specific Humidi-MiZer models.

**Note: On single phase models (-3 voltage code), the following are not available as factory-installed options:**

- Humidi-MiZer
- Coated Coils or Cu Fin Coils
- Louvered Hail Guards
- Economizer or 2-Position Damper
- Powered 115 Volt Convenience Outlet

## Factory Assigned

- 0 = Standard
- 1 = LTL

## Electrical Options

- A = None
- B = HACR Breaker
- C = Non-Fused Disconnect
- D = Thru-The-Base Connections
- E = HACR and Thru-The Base Connections
- F = Non-Fused Disconnect and Thru-The-Base Connections
- G = 2-Speed Indoor Fan (VFD) Controller
- H = 2-Speed Fan Controller (VFD) and HACR Breaker
- J = 2-Speed Fan Controller (VFD) and Non-Fused Disconnect
- K = 2-Speed Fan Controller (VFD) and Thru-The-Base Connections
- L = 2-Speed Fan Controller (VFD) w/ HACR Breaker and Thru-The Base Connections
- M = 2-Speed Fan Controller (VFD) with Non-Fused Disconnect and Thru-The-Base Connections

## Service Options

- 0 = None
- 1 = Unpowered Convenience Outlet
- 2 = Powered Convenience Outlet
- 3 = Hinged Panels
- 4 = Hinged Panels and Unpowered Convenience Outlet
- 5 = Hinged Panels and Powered Convenience Outlet
- C = Foil Faced Insulation
- D = Foil Faced Insulation with Unpowered Convenience Outlet
- E = Foil Faced Insulation with Powered Convenience Outlet
- F = Foil Faced Insulation & Hinged Panels
- G = Foil Faced Insulation & Hinged Panels with Unpowered Convenience Outlet
- H = Foil Faced Insulation & Hinged Panels with Powered Convenience Outlet

## Intake / Exhaust Options

- A = None
- B = Temperature Economizer w/ Barometric Relief
- F = Enthalpy Economizer w/ Barometric Relief
- K = 2-Position Damper
- U = Low Leak Temperature Economizer w/ Barometric Relief
- W = Low Leak Enthalpy Economizer w/ Barometric Relief

## Base Unit Controls

- 0 = Electromechanical Controls can be used with W7212 EconoMi\$er (Non-Fault Detection and Diagnostic)
- 1 = PremierLink™ Controller
- 2 = RTU Open Multi-Protocol Controller
- 6 = Electro-mechanical w/ 2-speed fan and W7220 Econo controller controls. Can be used with W7220 EconoMi\$er X (w/ Fault Detection & Diagnostic)
- D = ComfortLink Controls (Not available on 2-stage cooling 07 size models)

## Design Revision

- A = Factory Design Revision

## Voltage

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

Not all possible options can be displayed above - see the 50HC 3 to 12.5 Ton 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>	Thru–the–base electrical connections	X	X
	Hinged access panels	X	
	Supply duct cover – 14 size only		X
	Foil faced insulation throughout entire cabinet	X	
<b>Coil Options</b>	Cu/Cu indoor and/or outdoor coils <sup>1</sup>	X	
	Pre–coated outdoor coils <sup>1</sup>	X	
	Premium, E–coated outdoor coils <sup>1</sup>	X	
<b>Humidity Control</b>	Humidi–MiZer <sup>®</sup> Adaptive Dehumidification System <sup>1</sup>	X	
<b>Condenser Protection</b>	Condenser coil hail guard (louvered design) <sup>1</sup>	X	X
<b>Controls</b>	Thermostats, temperature sensors, and subbases		X
	PremierLink™ DDC communicating controller	X	X
	RTU Open Multi–Protocol Controller	X	
	ComfortLink Controls	X	
	Smoke detector (supply and/or return air)	X	
	Horn/Strobe Annunciator <sup>11</sup>		X
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
	Condensate Overflow switch – for electro–mechanical controls only	X	
	Carrier Energy Demand System (EDS)		X
<b>Economizers &amp; Outdoor Air Dampers</b>	EconoMi\$er IV for electro–mechanical controls – Non FDD (Standard air leak damper models) <sup>1, 9</sup>	X	X
	EconoMi\$er2 for DDC controls (Standard and Ultra Low Leak air damper models) <sup>1, 10</sup>	X	X
	Motorized 2 position outdoor–air damper <sup>1</sup>	X	X
	Manual outdoor–air damper (25% and 50%)	X	X
	Barometric relief <sup>2</sup>	X	X
	Power exhaust – prop design		X
<b>Economizer Sensors &amp; IAQ Devices</b>	EconoMi\$er X for electro–mechanical controls, complies with FDD. (Standard and Ultra Low Leak air damper models) <sup>1, 9</sup>	X	X
	Single dry bulb temperature sensors <sup>3</sup>	X	X
	Differential dry bulb temperature sensors <sup>3</sup>		X
	Single enthalpy sensors <sup>3</sup>	X	X
	Differential enthalpy sensors <sup>3</sup>		X
	CO <sub>2</sub> sensor (wall, duct, or unit mounted) <sup>3</sup>	X	X
<b>Electric Heat</b>	Electric Resistance Heaters	X	X
	Single Point Kit <sup>8</sup>	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 electro–mechanical and RTU Open controls)	X	
	Display Kit for SAV system with VFD		X
<b>Low Ambient Control</b>	Winter start kit <sup>4</sup>		X
	Motormaster <sup>®</sup> head pressure controller to –20°F (–29°C) <sup>4</sup>		X
	Cooling Low Ambient Controller to 0°F/–18°C (except 11 size) <sup>4</sup>	X	
<b>Power Options</b>	Convenience outlet (powered) <sup>1,5</sup>	X	
	Convenience outlet (unpowered)	X	
	HACR circuit breaker <sup>6</sup>	X	
	Non–fused disconnect <sup>7</sup>	X	
<b>Roof Curbs</b>	Roof curb 14–in (356mm)		X
	Roof curb 24–in (610mm)		X

**NOTES:**

- Not available as factory–installed option on single phase (208/230/1/60) models. Use field–installed accessory where available.
- Included with economizer.
- Sensors used to optimize economizer performance.
- See application data for assistance.
- Powered convenience outlet is not available on 11 size models with 460/3/60 or 575/3/60 voltage.
- HACR circuit breaker cannot be used when unit MOCP electrical rating exceeds:  
 04–12 sizes – 208/230/1/60 and 208/230/3/60 = 100 amps, 460/3/60 = 90 amps, 575/3/60 = 70 amps.  
 14 size – 208/230/3/60 = 200 amps, 460/3/60 = 90 amps, 575/3/60 = 80 amps.  
 HACR circuit breaker on 575 volt can only be used on Wye power supply. Delta power supply is prohibited. Carrier RTUBuilder automatically selects the amp limitations.
- Non–fused disconnect switch (04–12 sizes) cannot be used when unit electrical rating exceeds:  
 Without factory–installed electric heat: 208/230/1/60 and 208/230/3/60 = 80 amps (FLA), 460/3/60 and 575/3/60 = 80 amps (FLA).  
 With factory–installed electric heat: 208/230/1/60 and 208/230/3/60 = 100 amps (FLA), 460/3/60 and 575/3/60 = 80 amps (FLA).  
 Non–fused disconnect switch (14 size) cannot be used when unit electrical rating exceeds:  
 Without factory–installed electric heat: 208/230/3/60 = 115 amps (MCA), 460/3/60 and 575/3/60 = 100 amps (FLA).  
 With factory–installed electric heat: 208/230/2/60 = 200 amps (FLA), 460/3/60 and 575/3/60 = 100 amps (FLA). Carrier RTUBuilder automatically selects the amp limitations.
- See Tables 66 – 84 for single point kit requirements.
- FDD – (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
- Models with ComfortLink and RTU Open DDC controls comply with California Title 24 Fault Detection and Diagnostic (FDD). PremierLink in non FDD.
- Requires a field–supplied 24V transformer for each application. See price pages for details.

## FACTORY OPTIONS AND/OR ACCESSORIES

### Economizer (dry–bulb or enthalpy)

Economizers can reduce operating costs. They bring in fresh, outside air for ventilation; and provide cool outside air to cool your building. This also is the preferred method of low ambient cooling. When coupled to CO<sub>2</sub> sensors, economizers can limit the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or temperature dry–bulb inputs. There are also models for electro–mechanical, direct digital controllers and single speed fan or 2–speed indoor fan motors. Additional sensors are available as accessories to optimize the economizer.

Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions.

### CO<sub>2</sub> Sensor

The CO<sub>2</sub> sensor works 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 Controlled 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 or load side 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. When selecting a factory–installed non–fused disconnect, note they are sized for the unit as ordered

from the factory. The sizing of these do not accommodate field–installed items such as power exhaust devices, etc.

If field installing electric heat with factory–installed non–fused disconnect switch, a Single Point Kit may or may not be required. See Electrical Information Tables 69 –84 for details.

### Power Exhaust

Superior internal building pressure control. This field–installed accessory may eliminate the need for costly, external pressure control fans.

### PremierLink™ DDC Controller

This CCN (Carrier Comfort Network®) 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 controller can be factory–installed, or easily field–installed.

### RTU Open, Multi–Protocol Controller

Connect the rooftop to an existing BAS (building automation system) without needing complicated translators or adapter modules using the RTU Open controller. The RTU Open controller speaks the 4 most common building automation system languages (BACnet\*, Modbus†, N2, and LonWorks\*\*). Use this controller when you have an existing BAS. Besides the 4 protocols, it also communicates with a Carrier Open system (i–Vu® and VVT®).

### 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 controller, RTU Open controller, or authorized commercial thermostats.

### Motorized 2–Position Damper

The 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. Not available with Staged Air Volume (SAV™) models.

### Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions. Not available with Staged Air Volume (SAV) models.

\* BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air–Conditioning Engineers).

† Modbus is a registered trademark of Schneider Electric.

\*\* LonWorks is a registered trademark of Echelon Corporation.

## FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

### Optional Humidi–MiZer<sup>®</sup> Adaptive Dehumidification System

Carrier's Humidi–MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaster<sup>®</sup> 50HC04–14 rooftop unit, with the exception of single phase voltage (208–230/1/60) units.

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 a unique dual operational mode setting. The Humidi–MiZer system provides greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode.

The WeatherMaster 50HC04–14 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<sup>™</sup>) 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 90.1–2013 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 66% 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 66% 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.

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

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 electro-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.

### Hinged Access Panels

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

### Motormaster<sup>®</sup> 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.

Motormaster allows cooling operation down to –20°F (–29°C) ambient conditions.

### 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 connections, available as either an accessory or as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

## FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

### Electric Heaters

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

### ComfortLink Controls

Models with the optional Carrier ComfortLink Controls allow added unit diagnostics and operation setup capabilities, as well as controlling logic for single zone Variable Air Volume (VAV) applications.

The ComfortLink control is your link to a world of simple and easy to use rooftop units that offer outstanding performance and value. It optimizes the performance of the refrigeration circuits as conditions change, resulting in the following features:

- Better control of temperature and humidity
- Superior reliability
- Automatic redundancy
- Low ambient cooling operation to 0°F (-18°C)
- More accurate diagnostics, at unit or remote

The ComfortLink Scrolling Marquee is very easy to use. The messages are displayed in easy to understand English, no decoding is required. A scrolling readout provides detailed explanations of control information. Only four, large, easy-to-use buttons are required to maneuver through the entire menu. The readout is designed to be visible even in the brightest sunlight. A handheld Navigator accessory or wall-mounted System Pilot™ accessory can be used for added service flexibility.

The ComfortLink control provides unparalleled service diagnostic information. Temperature and pressure can be read directly from the display with no need for separate gauges. Other data, such as compressor cycles, unit run time hours, current alarms, can also be accessed. A history of alarms is also available for viewing.

The service run test can be very helpful when troubleshooting. The user can run test major components to determine the root cause of a problem. The unit can be run-tested before an installation is complete to ensure satisfactory start-up. To ensure reliability, the ComfortLink control prevents reverse compressor rotation. No laptop computers are required for start-up.

Time schedules are built in and the Scrolling Marquee display provides easy access to setpoints. The ComfortLink control accepts input from a CO<sub>2</sub> sensor and a smoke detector. Both are available as factory-installed options or as field-installed accessories.

### 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 protection from the environment.

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 mechanically 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 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. (Not available on 11 size models as standard unit cooling operation down to 0°F/-18°C.)

### Carrier Energy Demand System (EDS)

Carrier's wireless automated demand management and demand response controllers can be easily installed onto any packaged rooftop unit. Once installed, the controllers work together like a swarm of bees, intelligently communicating and managing the duty cycles of the units being controlled.

Utilizing patented intelligence, the controllers dramatically reduce peak electrical demand by up to 30 percent in commercial and light industrial properties and allow for effective scheduling of overnight and weekend loads. This platform can easily be installed when a full building automation system is not required.

The Energy Demand System is as easy to install as thermostats, and requires no special training. Every controller has a built-in self-configuring wireless network. The controllers work together to establish a wireless network, eliminating the need for expensive wiring. The secure web portal allows property managers to easily access multiple sites from any internet connection to monitor building performance and reconfigure controllers for demand response or the scheduling of loads.

- Simple, affordable, wireless electrical demand management
- Automated demand response, including Open ADR
- Energy consumption reduction through efficient schedule-based control
- Intelligent, adaptive energy management
- Web-based interface
- Electrical demand reductions
- Reduces energy costs, not comfort



## FACTORY OPTIONS AND/OR ACCESSORIES (cont.)

### Condensate Overflow Switch (Factory–Installed Option)

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light – solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected)
- 10 second delay to break – eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for Economizer.

**NOTE:** The Condensate Overflow switch FIOP is only available for units with electro–mechanical controls.



**Table 2 – AHRI COOLING RATING TABLE 1-STAGE COOLING**

50HC UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER
A04	1	3	36.0	2.9	15.00	12.50	—
A05	1	4	48.5	3.7	15.60	13.00	—
A06	1	5	57.5	4.6	15.20	12.45	—
A07	1	6	73.0	6.0	—	12.20	13.20

**Table 3 – AHRI COOLING RATING TABLE 2-STAGE COOLING**

50HC UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH SINGLE SPEED INDOOR FAN MOTOR	IEER WITH 2-SPEED INDOOR MOTOR
D07	2	6.0	72.0	5.9	12.20	14.20	16.2
D08	2	7.5	89.0	7.3	12.20	13.20	14.0
D09	2	8.5	97.0	8.0	12.20	13.20	14.0
D11	2	10.0	111.0	9.3	12.00	12.60	14.5
D12	2	10.0	115.0	9.8	11.70	12.20	12.6
D14	2	12.5	146.0	11.8	12.40	13.20	14.1

**LEGEND**

- AHRI – Air-Conditioning, Heating and Refrigeration Institute Test Standard
- ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
- EER – Energy Efficiency Ratio
- IEER – Integrated Energy Efficiency Ratio
- SEER – Seasonal Energy Efficiency Ratio



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).



**NOTES:**

1. Rated in accordance with AHRI Standards 210/240 (04–06 size) and 340/360 (07–14 size).
2. Ratings are based on:  
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F (35°C) 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 90.1–2013 and ENERGY STAR\* Energy Standard for minimum SEER and EER requirements.
4. 50HC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

**Table 4 – MINIMUM – MAXIMUM AIRFLOWS (CFM) ELECTRIC HEAT**

UNIT	COOLING			ELECTRIC HEATERS		
	Minimum Single Speed Fan Motor	Minimum 2-speed Fan Motor (at high speed)	Minimum 2-speed Fan Motor (at low speed)	Maximum	Minimum	Maximum
50HC**04	900	—	—	1500	900	1500
50HC**05	1200	—	—	2000	1200	2000
50HC**06	1500	—	—	2500	1500	2500
50HC**07	1800	1800	1200	3000	1800	3000
50HC**08	2250	2535	1690	3750	2250	3750
50HC**09	2550	2550	1700	4250	2250	4250
50HC**11	3000	3380	2253	5000	3000	5000
50HC**12	3000	3380	2253	5000	3000	5000
50HC**14	3750	4056	2704	6250	3750	6250

— Not available

\* ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.

**Table 5 – SOUND PERFORMANCE TABLE**

50HC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60								
		A–WEIGHTED	63	125	250	500	1000	2000	4000	8000
A04	1	76	78.2	78.0	74.2	73.3	70.6	66.0	62.4	56.9
A05	1	78	84.7	83.6	77.1	74.6	72.3	68.3	64.7	60.9
A06	1	77	87.5	82.5	76.1	73.6	71.3	67.1	64.1	60.0
A07	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
D07	2	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
D08	2	82	90.6	84.3	80.2	79.3	77.1	72.2	67.4	63.7
D09	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
D11	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
D12	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
D14	2	83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

**LEGEND:** dB – Decibel

**NOTES:**

1. Outdoor sound data is measured in accordance with AHRI.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally 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 “average” human ear. A–weighted measurements for Carrier units are taken in accordance with AHRI.



**Table 6 – PHYSICAL DATA**

**(COOLING)**

**3 – 6 TONS**

	<b>50HC**04</b>	<b>50HC**05</b>	<b>50HC**06</b>	<b>50HC*A07</b>	<b>50HC*D07</b>	
<b>Refrigeration System</b>						
# Circuits / # Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / 1–Stage Scroll	1 / 1 / 2–Stage Scroll	
Puron® refrigerant (R–410A) charge (lbs–oz)	9 – 0	12 – 8	13 – 3	14 – 0	14 – 0	
Humidi–MiZer® Puron refrigerant (R–410A) charge (lbs–oz)	11 – 0	19 – 12	20 – 0	22 – 8	22 – 8	
Metering Device	TXV	TXV	TXV	TXV	TXV	
High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505	630 / 505	
Low–press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117	54 / 117	54 / 117	
<b>Evap. Coil</b>						
Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	
Rows / FPI	3 / 15	3 / 15	4 / 15	3 / 15	3 / 15	
Total Face Area (ft <sup>2</sup> )	5.5	7.3	7.3	8.9	8.9	
Condensate Drain Conn. Size	3/4–in	3/4–in	3/4–in	3/4–in	3/4–in	
<b>Humidi–MiZer Coil</b>						
Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al	
Coil type	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	
Rows / FPI	1 / 17	2 / 17	2 / 17	2 / 17	2 / 17	
Total Face Area (ft <sup>2</sup> )	3.9	5.2	5.2	5.2	5.2	
<b>Evap. Fan and Motor</b>						
Standard Static 1 phase	Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	–	–
	Max BHP	1.0	1.0	1.0	–	–
	RPM Range	600–1200	600–1200	600–1200	–	–
	Motor Frame Size	48	48	48	–	–
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	–	–
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	–	–
Standard Static 3 phase	Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Belt	1 / Belt
	Max BHP	1.0	1.0	1.0	1.7	1.7
	RPM Range	600–1200	600–1200	600–1200	489–747	489–747
	Motor Frame Size	48	48	48	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	11 x 10	15 x 15	15 x 15
Standard Static 3 phase†	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	1.7	1.7	1.7
	RPM Range	560–854	560–854	770–1175	489–747	489–747
	Motor Frame Size	48	48	48	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	15 x 15	15 x 15

† Humidi–MiZer models only

– Not applicable

Table 6 (cont.) – PHYSICAL DATA

(COOLING)

3 – 6 TONS

		50HC**04	50HC**05	50HC**06	50HC*A07	50HC*D07
<b>Evap. Fan and Motor</b>						
Medium Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	2.4	2.9	2.9
	RPM Range	770–1175	920–1303	1035–1466	733–949	733–949
	Motor Frame Size	48	56	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	15 x 15	15 x 15
Medium Static 3 phase†	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	2.4	2.9	2.9
	RPM Range	770–1175	770–1175	1035–1466	733–949	733–949
	Motor Frame Size	48	48	56	56	56
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	15 x 15	15 x 15
High Static 3 phase	Motor Qty / Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.9	2.9	4.7	4.7
	RPM Range	1035–1466	1208–1639	1303–1687	909–1102	909–1102
	Motor Frame Size	56	56	56	14	14
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	10 x 10	10 x 10	10 x 10	15 x 15	15 x 15
<b>Condenser Coil</b>						
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF	3/8–in RTPF
Rows / FPI		2 / 17	2 / 17	2 / 17	2 / 17	2 / 17
Total Face Area (ft <sup>2</sup> )		12.7	21.3	21.3	20.5	20.5
<b>Condenser fan / motor</b>						
Qty / Motor Drive Type		1/ Direct	1/ Direct	1/ Direct	2/ Direct	2/ Direct
Motor HP / RPM		1/8 / 825	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan diameter (in)		22	22	22	22	22
<b>Filters</b>						
RA Filter # / Size (in)		2 / 16 x 25 x 2	4 / 16 x 16 x 2	4 / 16 x 16 x 2	4 / 16 x 20 x 2	4 / 16 x 20 x 2
OA inlet screen # / Size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 36 x 1	1 / 20 x 36 x 1

† Humidi–MiZer® models only

– Not applicable

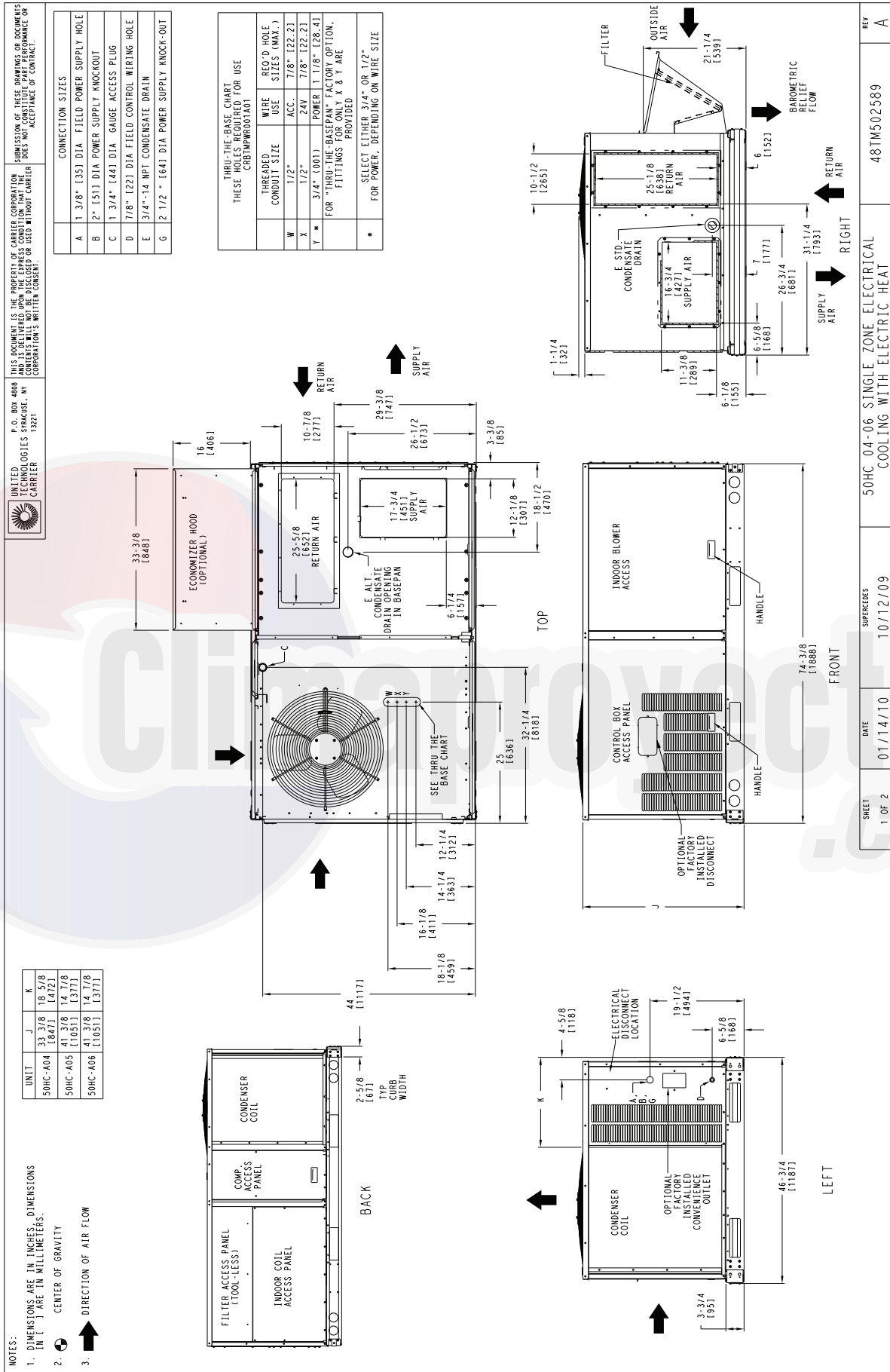
**Table 7 – PHYSICAL DATA**

**(COOLING)**

**7.5 – 12.5 TONS**

		50HC**08	50HC**09	50HC**11	50HC**12	50HC**14
<b>Refrigeration System</b>						
# Circuits / # Comp. / Type		2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
Puron® Refrig (R-410A) charge A/B (lbs-oz)		9 – 10 / 9 – 10	9 – 14 / 9 – 14	12 – 10 / 13 – 0	12 – 11 / 12 – 5	16 – 7 / 15 – 5
Humidi-MiZer® Puron Refrig (R-410A) charge A/B (lbs-oz)		17-0 / 17-0	15-2 / 15-0	18-0 / 18-0	18-3 / 17-3	25-8 / 22-8
Metering device		TXV	TXV	TXV	TXV	TXV
High-press. Trip / Reset (psig)		630 / 505	630 / 505	630 / 505	630 / 505	630 / 505
Low-press. Trip / Reset (psig)		54 / 117	54 / 117	27 / 44	54 / 117	54 / 117
Compressor Capacity Staging (%)		50% / 100%	50% / 100%	50% / 100%	50% / 100%	50% / 100%
<b>Evaporator Coil</b>						
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF
Rows / FPI		4 / 15	4 / 15	4 / 15	4 / 15	4 / 15
total face area (ft <sup>2</sup> )		11.1	11.1	11.1	11.1	17.5
Condensate drain conn. size		3/4-in	3/4-in	3/4-in	3/4-in	3/4-in
<b>Humidi-MiZer Coil</b>						
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF
Rows / FPI		2 / 17	2 / 17	2 / 17	2 / 17	1 / 17
total face area (ft <sup>2</sup> )		6.3	8.4	8.6	8.6	13.8
<b>Evaporator fan and motor</b>						
Standard Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	1.7	1.7	2.4	2.4	2.9
	RPM range	518-733	518-733	591-838	591-838	440-609
	Motor Frame Size	56	56	56	56	56Y
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
Medium Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	2.4	2.4	3.7	3.7	3.7
	RPM range	690-936	690-936	838-1084	838-1084	609-778
	Motor Frame Size	56	56	56HZ	56HZ	56HZ
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
High Static 3 phase	Motor Qty / Drive type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
	Max BHP	3.7	3.7	4.9	4.9	6.1
	RPM range	838-1084	838-1084	1022-1240	1022-1240	776-955
	Motor Frame Size	56	56	145TY	145TY	S184T
	Fan Qty / Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
	Fan Diameter (in)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
<b>Condenser Coil</b>						
Material (Tube/Fin)		Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil type		3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF	3/8-in RTPPF
Rows / FPI		2 / 17	2 / 17	3 / 17	3 / 17	2 / 17
Total Face Area (ft <sup>2</sup> )		25.1	25.1	25.1	25.1	2 at 23.1
<b>Condenser fan / motor</b>						
Qty / Motor drive type		2 / direct	2 / direct	1 / direct ECM	1 / direct	3 / direct
Motor HP / RPM		1/4 / 1100	1/4 / 1100	1 / 1050	1 / 1175	1/4 / 1100
Fan diameter (in)		22	22	30	30	22
<b>Filters</b>						
RA Filter # / size (in)		4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2	6 / 18 x 24 x 2
OA inlet screen # / size (in)		1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	Vert 2/24 x 27 x 1 Horz 1/30 x 39 x 1

# CURBS & WEIGHTS DIMENSIONS – 50HC 04-06



**Fig. 1 – Dimensions 50HC 04-06**

# CURBS & WEIGHTS DIMENSIONS – 50HC 04–06 (cont.)

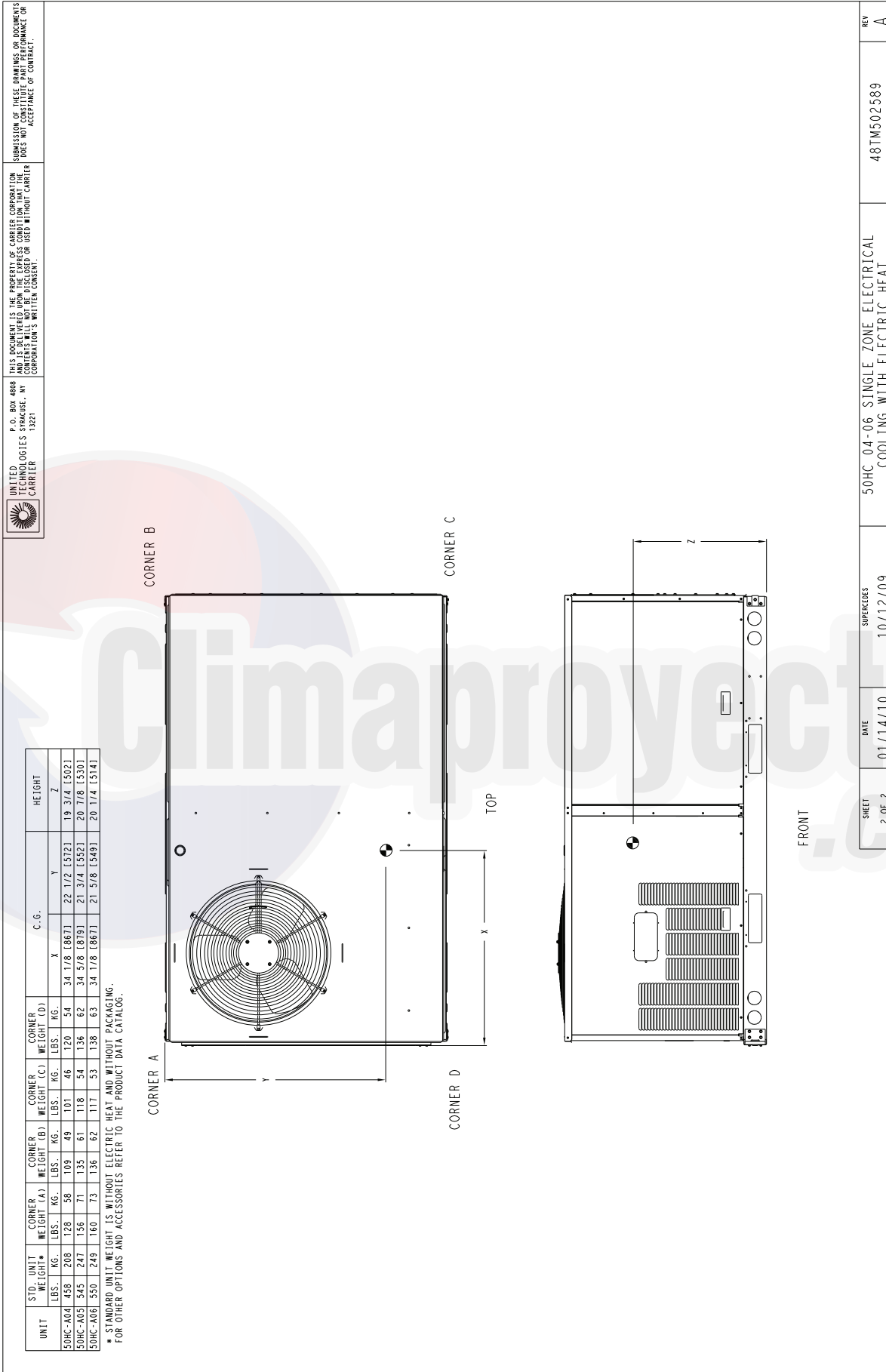
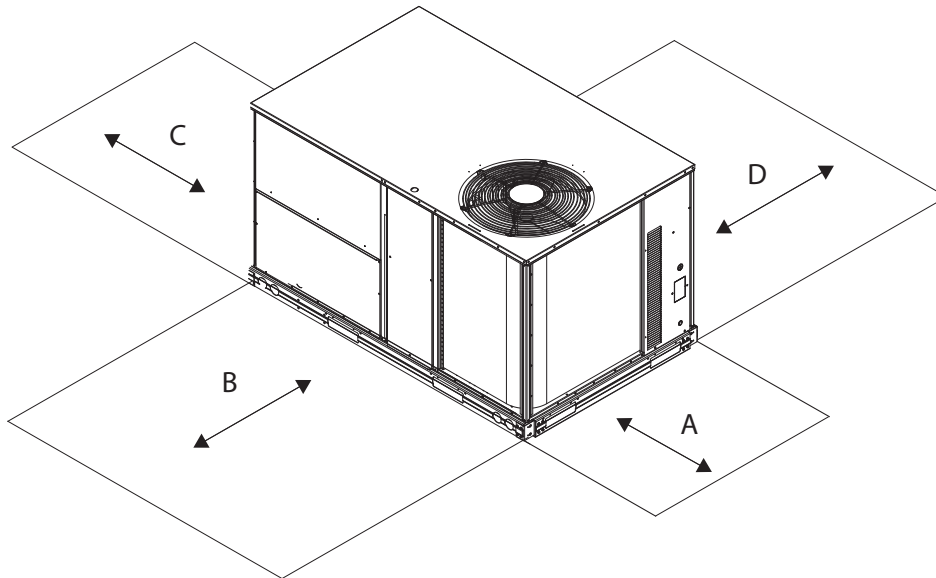


Fig. 2 – Dimensions 50HC 04–06



## CURBS & WEIGHTS DIMENSIONS – 50HC 04–06 (cont.)



**Fig. 3 – Service Clearance**

C08337

LOC	DIMENSION	CONDITION
A	48-in (1219 mm) 18-in (457 mm) 18-in (457 mm) 12-in (305 mm)	Unit disconnect is mounted on panel No disconnect, convenience outlet option Recommended service clearance Minimum clearance
B	42-in (1067 mm) 36-in (914 mm) Special	Surface behind servicer is grounded (e.g., metal, masonry wall) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm) 18-in (457 mm)	Side condensate drain is used Minimum clearance
D	42-in (1067 mm) 36-in (914 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)

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

# CURBS & WEIGHTS DIMENSIONS – 50HC 04–06 (cont.)

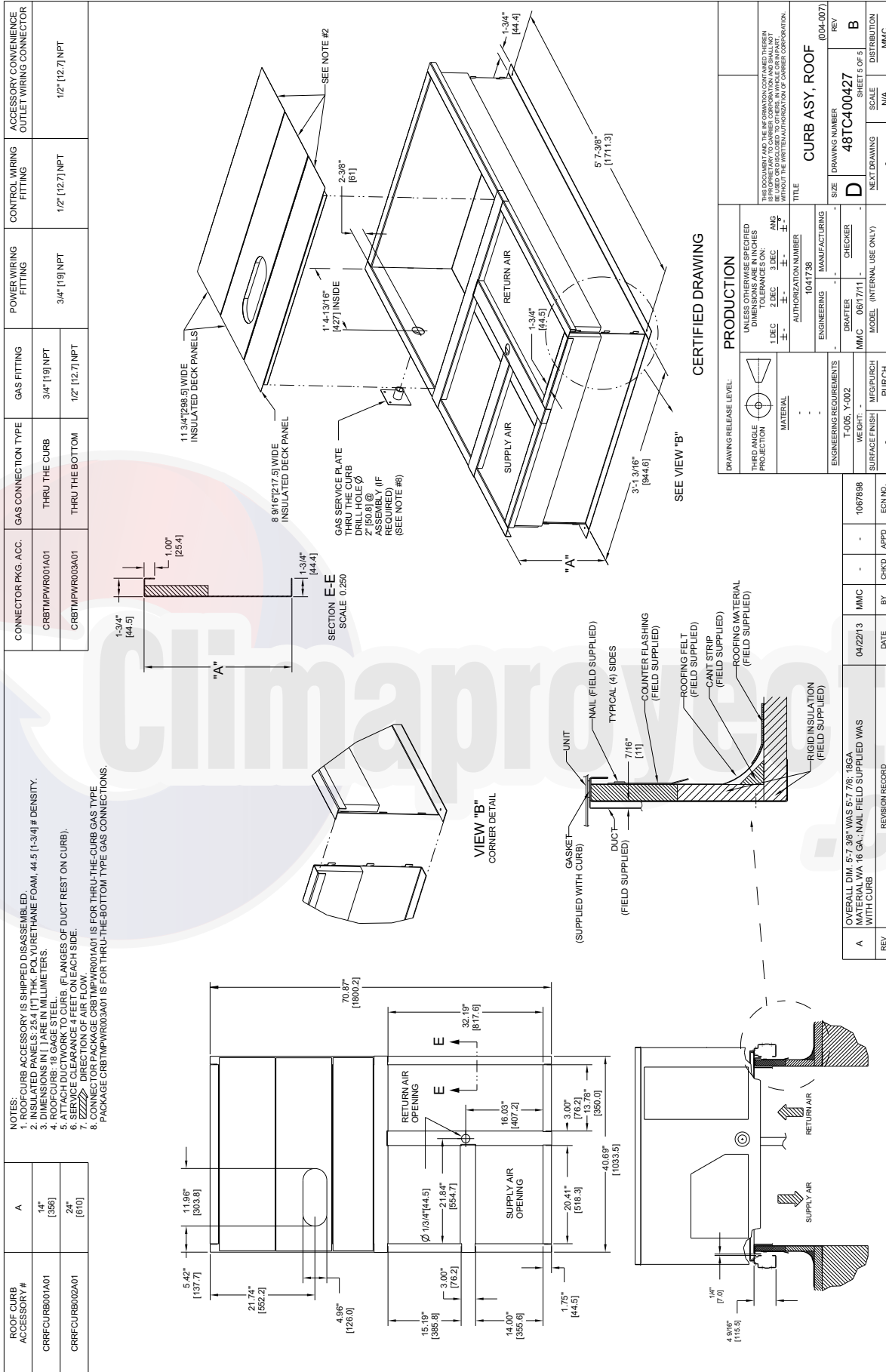
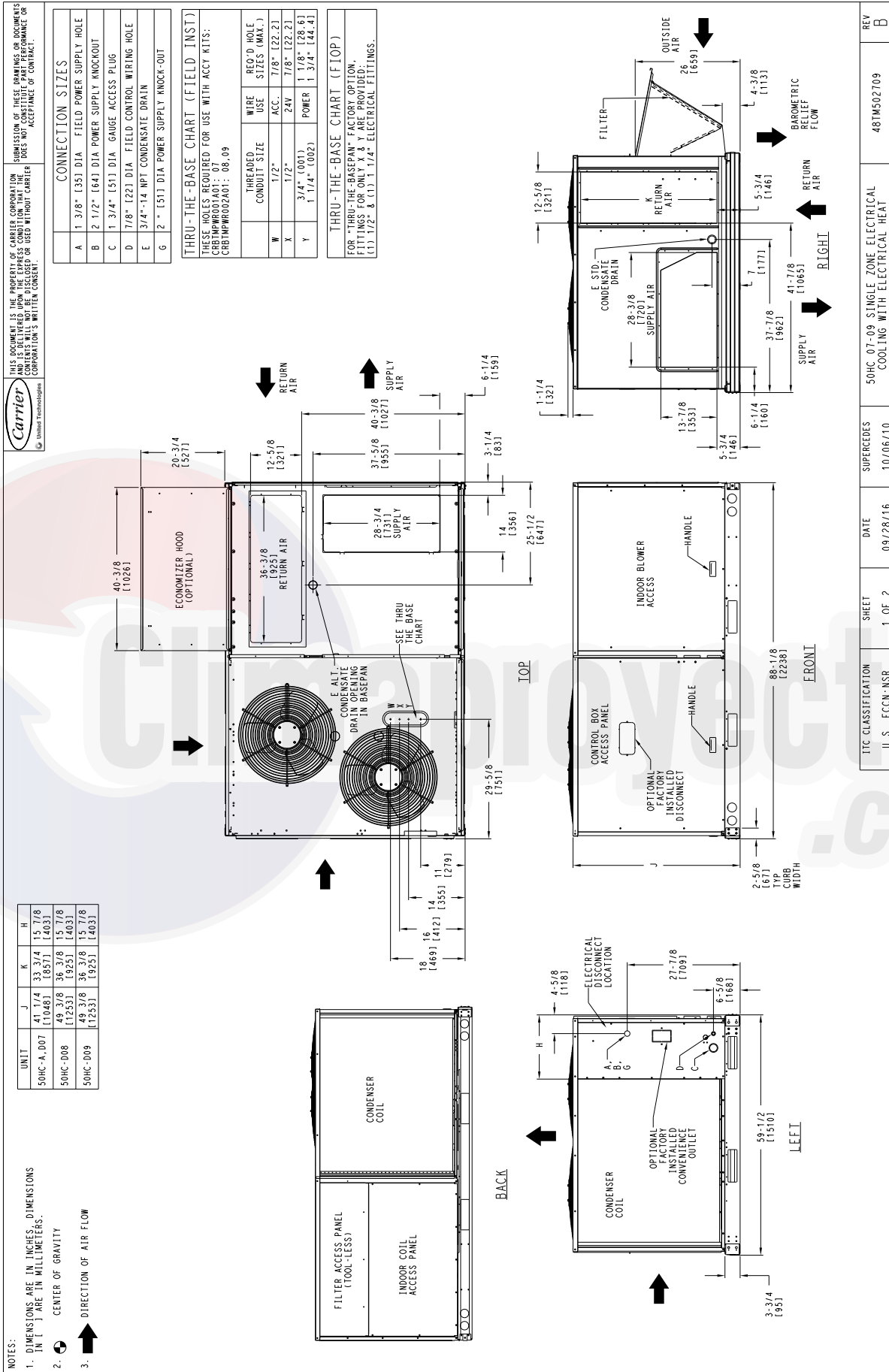


Fig. 4 – Roof Curb Details

# CURBS & WEIGHTS DIMENSIONS – 50HC 07-09



**Fig. 5 – Dimensions 50HC 07-09**

# CURBS & WEIGHTS DIMENSIONS – 50HC 07–09 (cont.)

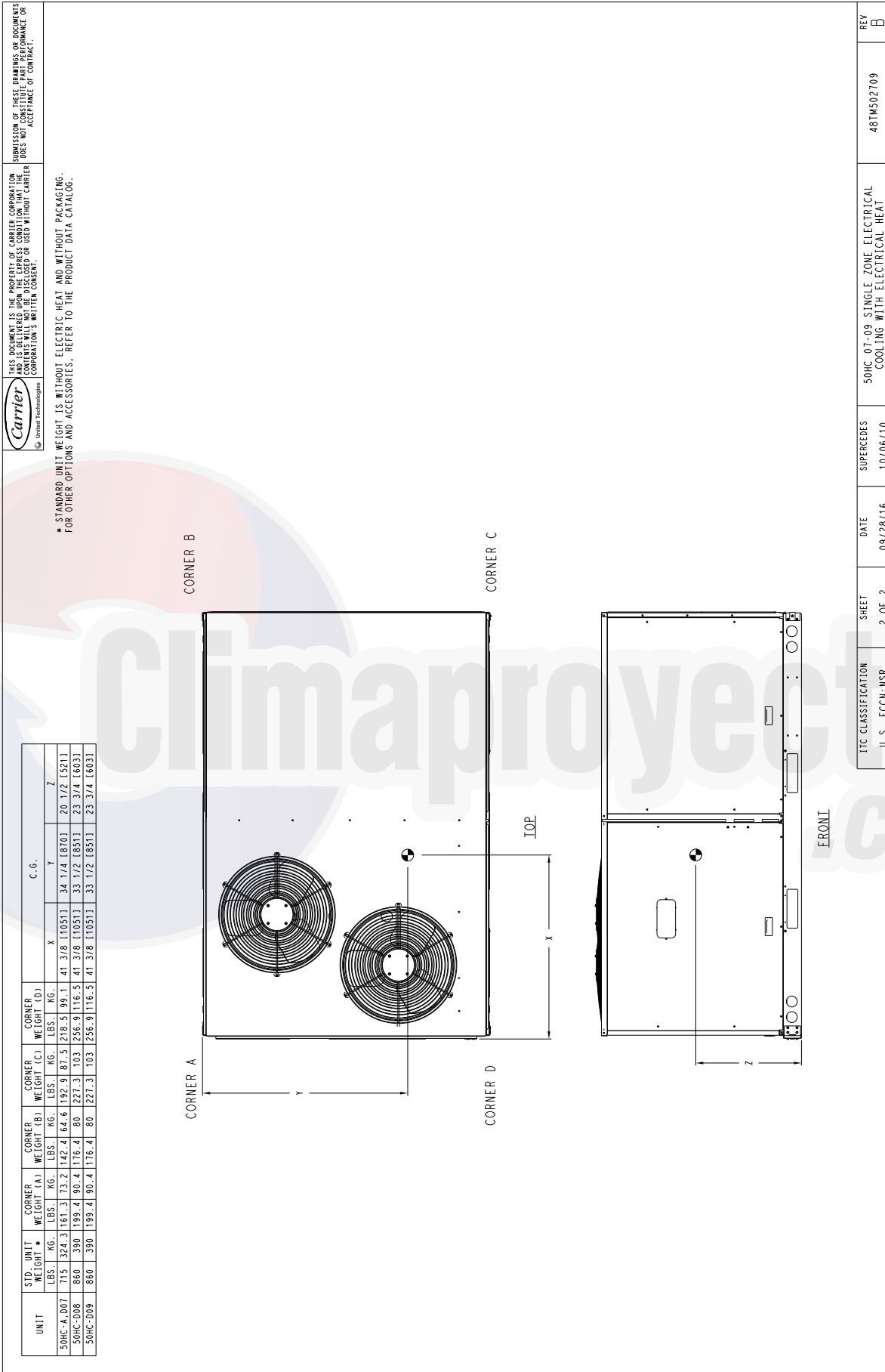
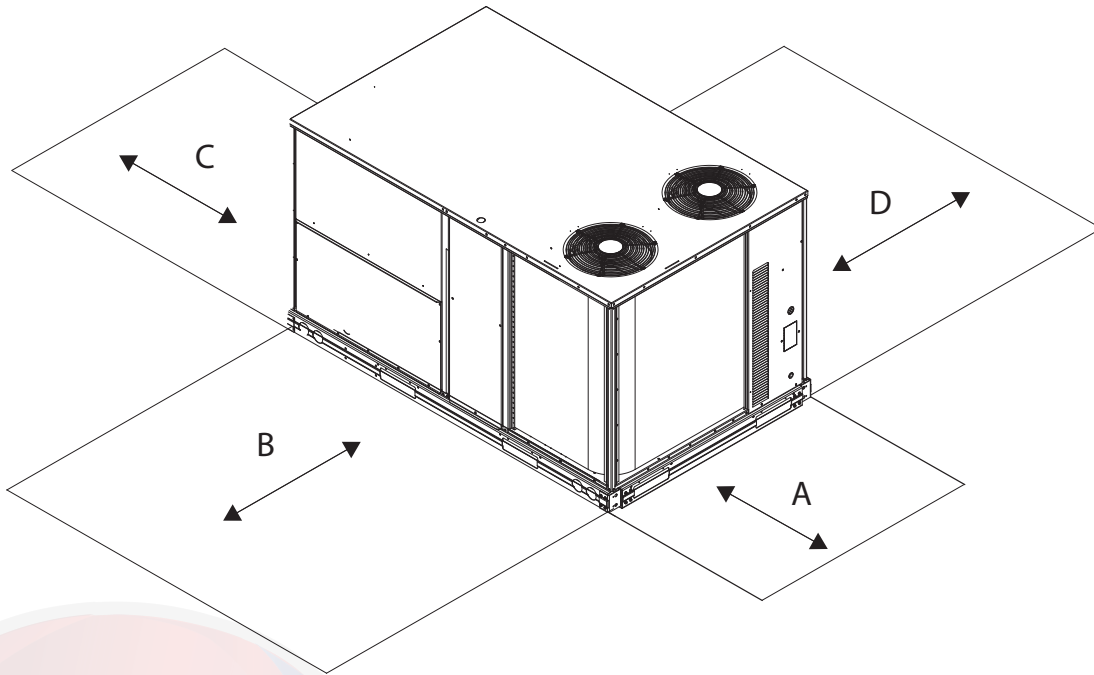


Fig. 6 – Dimensions 50HC 07–09

## CURBS & WEIGHTS DIMENSIONS – 50HC 07–09 (cont.)



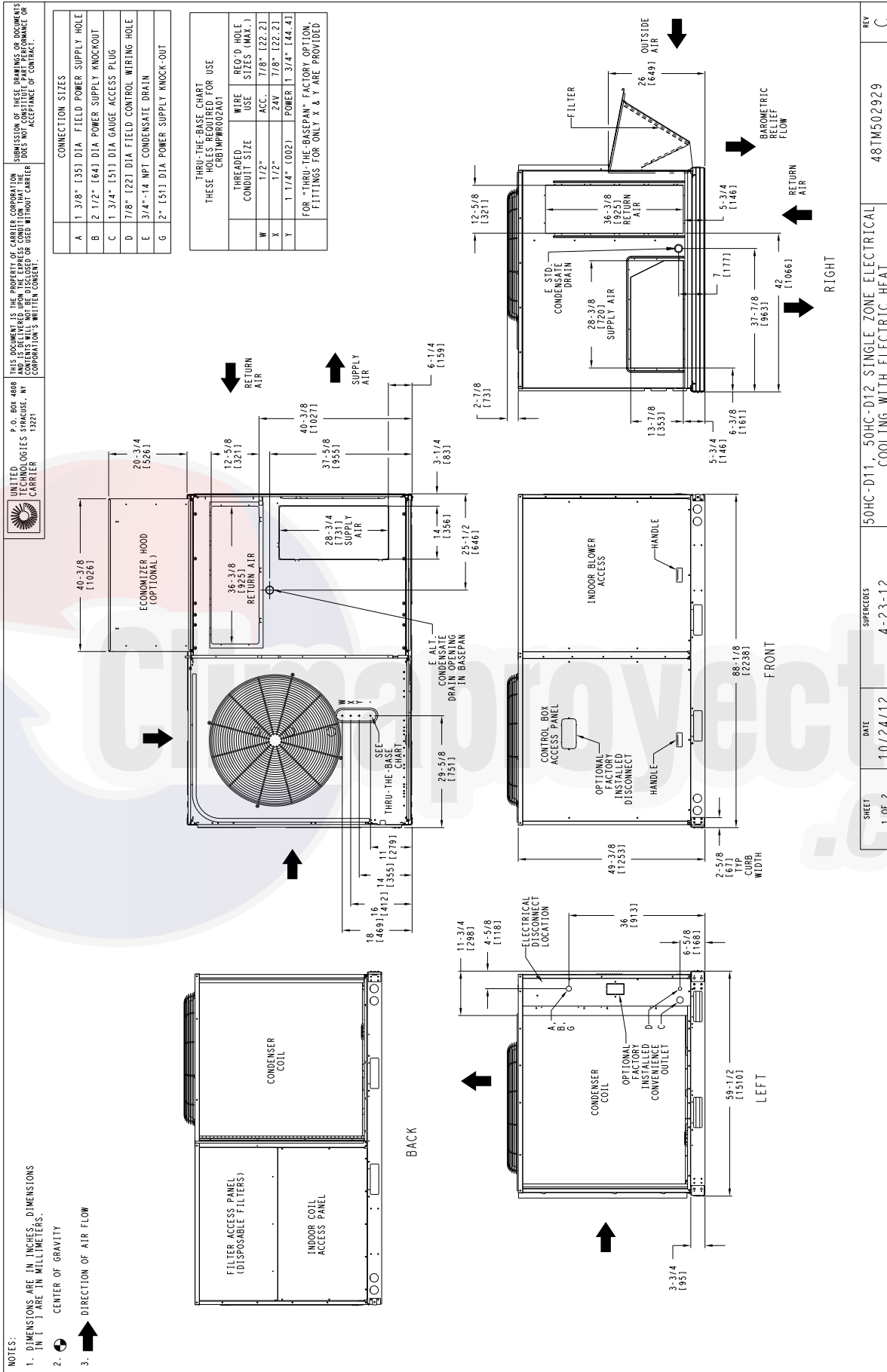
**Fig. 7 – Service Clearance**

C10577

LOC	DIMENSION	CONDITION
A	48-in (1219 mm)	Unit disconnect is mounted on panel
	18-in (457 mm)	No disconnect, convenience outlet option
	18-in (457 mm)	Recommended service clearance
	12-in (305 mm)	Minimum clearance
B	42-in (1067 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall)
	36-in (914 mm) Special	Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm)	Side condensate drain is used
	18-in (457 mm)	Minimum clearance
D	42-in (1067 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit)
	36-in (914 mm)	Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)

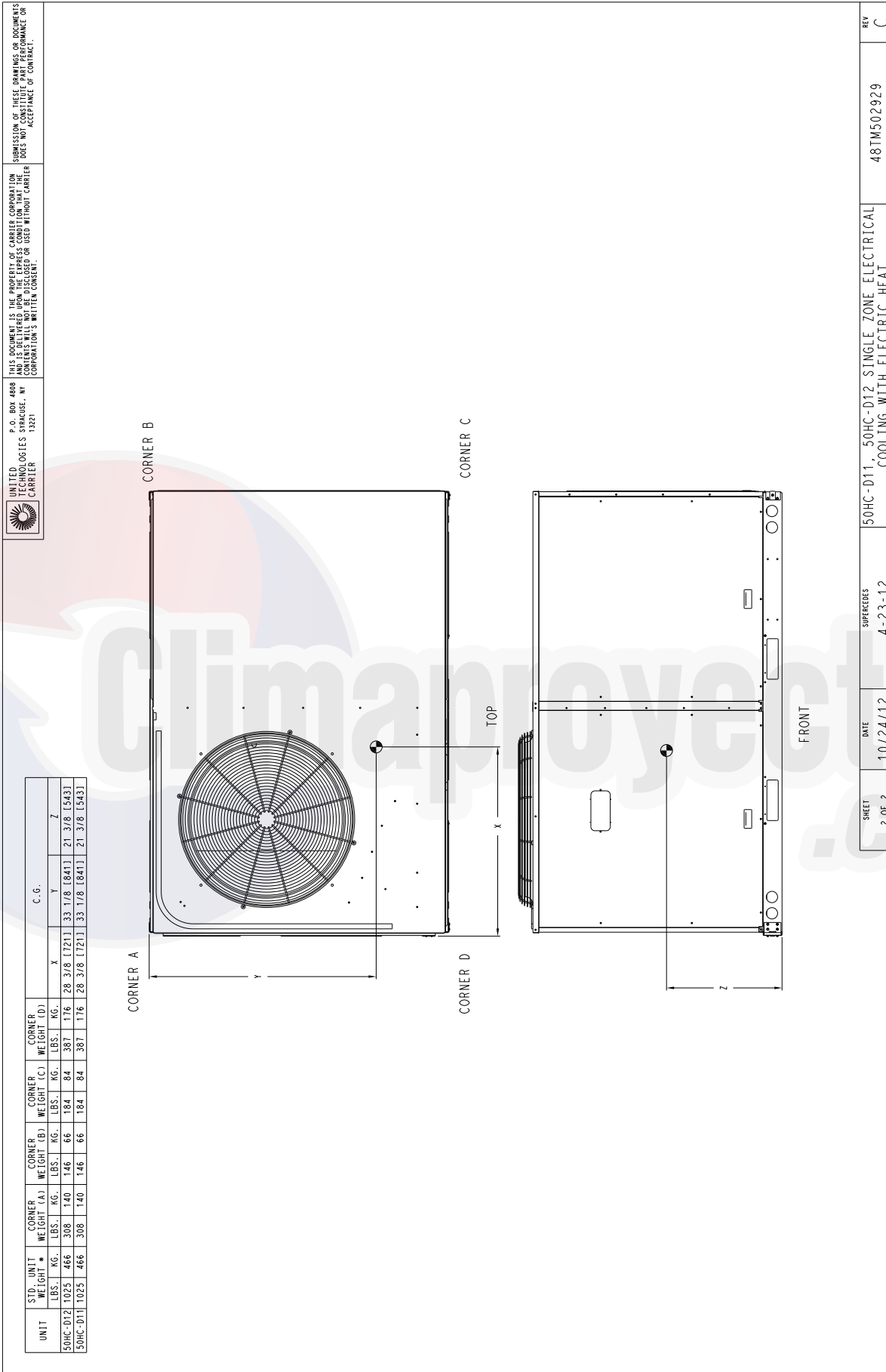
**NOTE:** Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

# CURBS & WEIGHTS DIMENSIONS – 50HC 11-12



**Fig. 8 – Dimensions 50HC 11-12**

# CURBS & WEIGHTS DIMENSIONS – 50HC 11–12 (cont.)



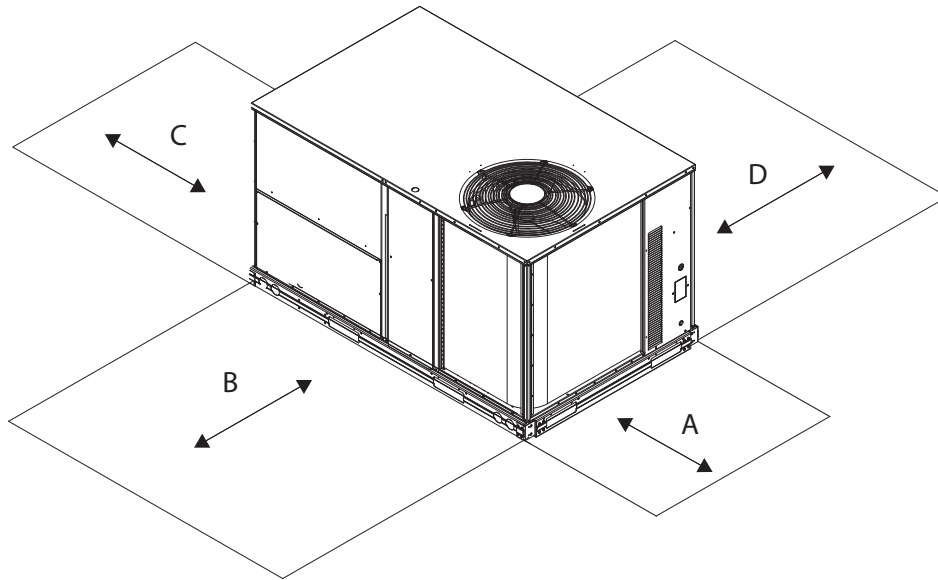
SHEET	DATE	SUPERCEDES	REV
2 OF 2	10/24/12	4-23-12	C

50HC-D11, 50HC-D12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT

48TM502929

**Fig. 9 – Dimensions 50HC 11–12**

## CURBS & WEIGHTS DIMENSIONS – 50HC 11–12 (cont.)



**Fig. 10 – Service Clearance**

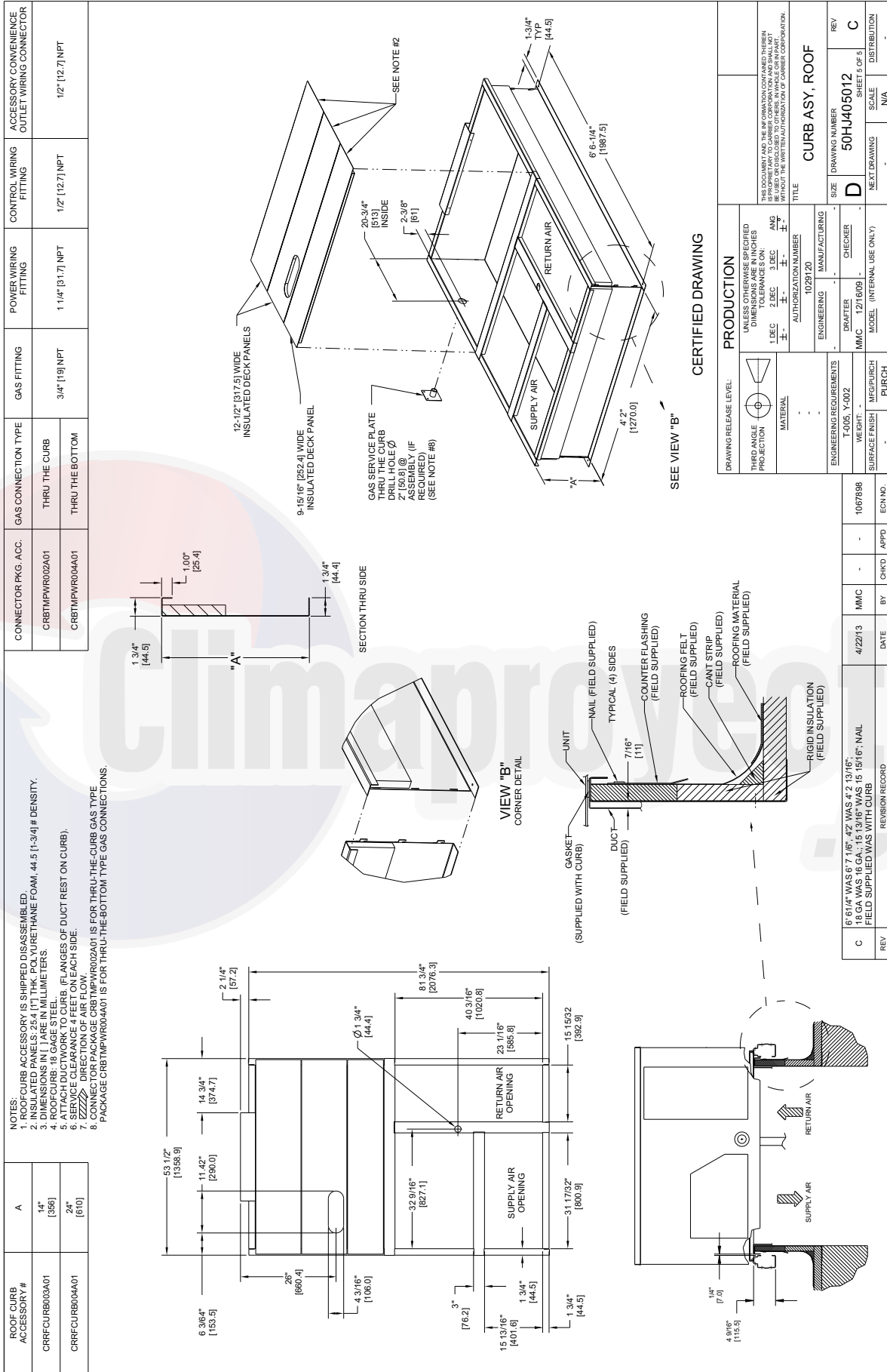
C08337

LOC	DIMENSION	CONDITION
A	48-in (1219 mm) 18-in (457 mm) 18-in (457 mm) 12-in (305 mm)	Unit disconnect is mounted on panel No disconnect, convenience outlet option Recommended service clearance Minimum clearance
B	42-in (1067 mm) 36-in (914 mm) Special	Surface behind servicer is grounded (e.g., metal, masonry wall) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm) 18-in (457 mm)	Side condensate drain is used Minimum clearance
D	42-in (1067 mm) 36-in (914 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)

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



# CURBS & WEIGHTS DIMENSIONS – 50HC 07–12 (cont.)



**Fig. 11 – Roof Curb Details**

# CURBS & WEIGHTS DIMENSIONS – 50HC 14

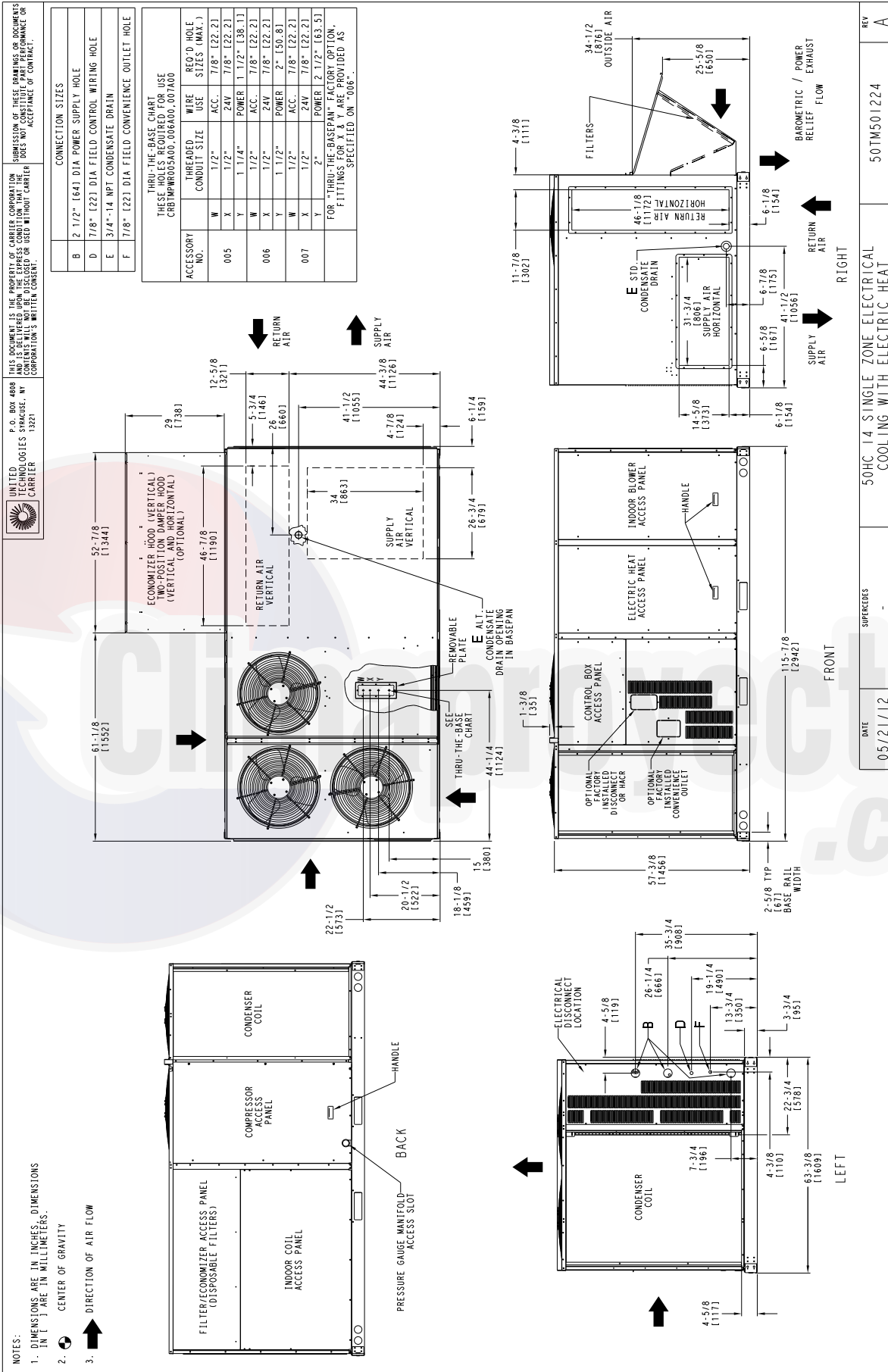


Fig. 12 – Dimensions 50HC 14

# CURBS & WEIGHTS DIMENSIONS – 50HC 14 (cont.)

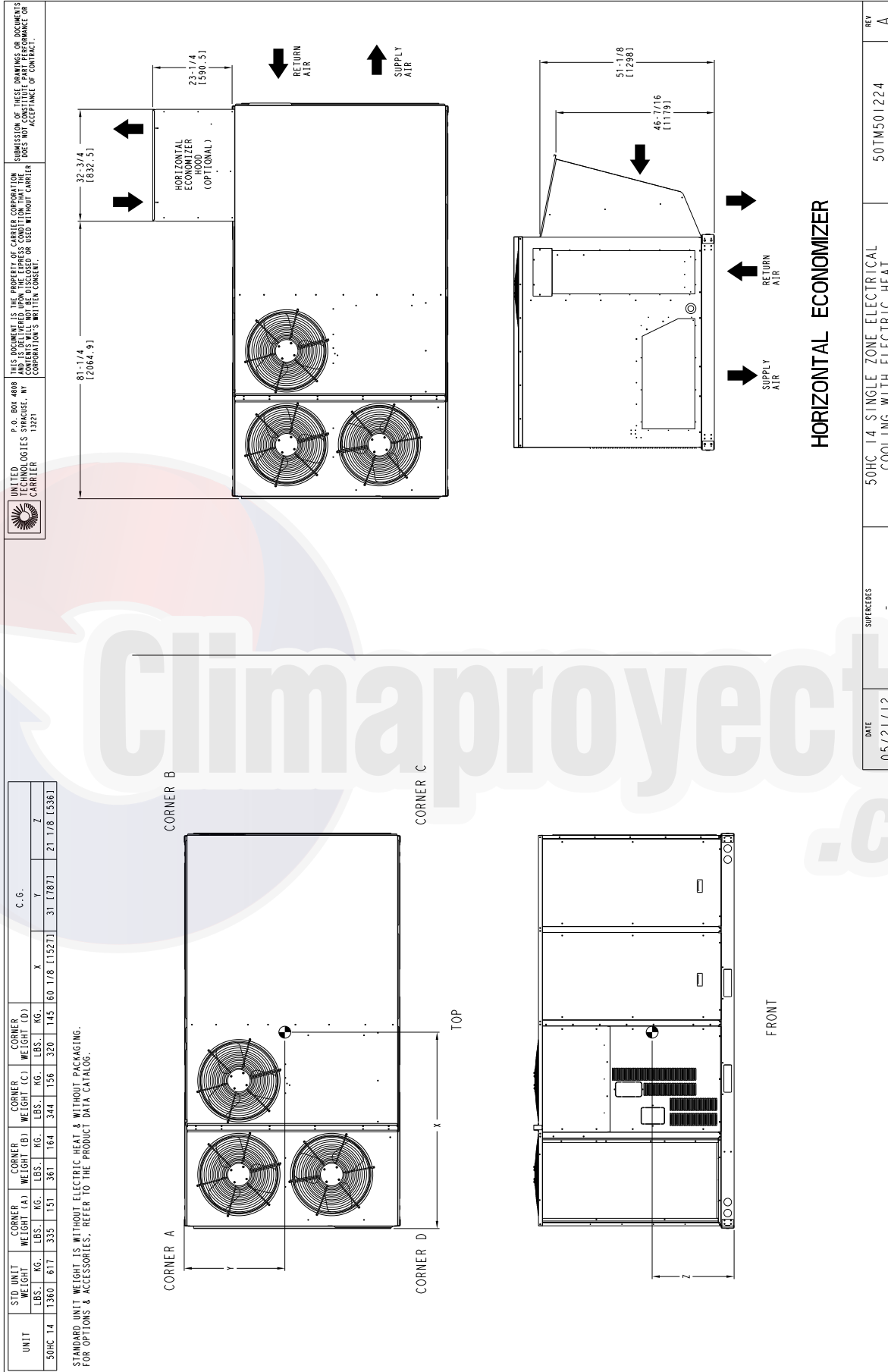
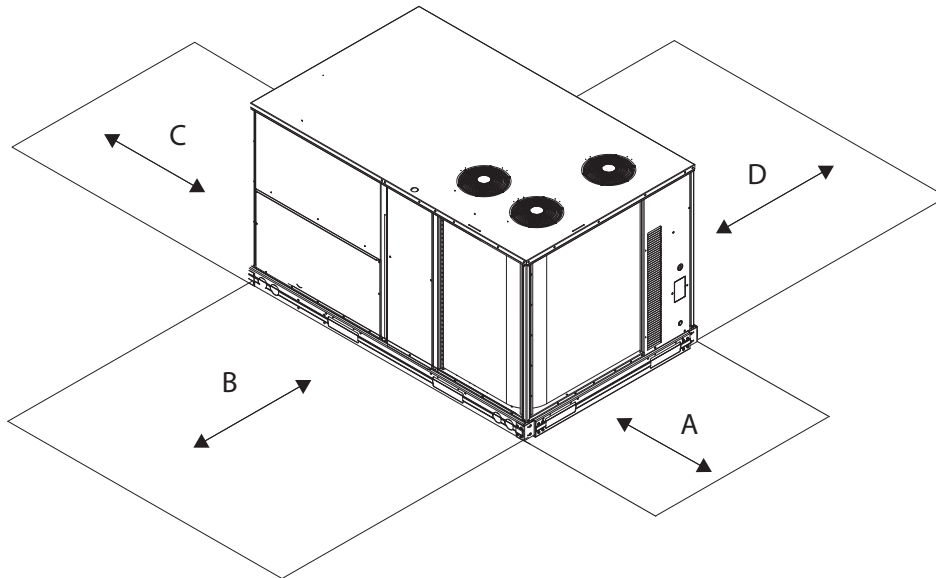


Fig. 13 – Dimensions 50HC 14

## CURBS & WEIGHTS DIMENSIONS – 50HC 14 (cont.)



**Fig. 14 – Service Clearance**

C10578B

LOC	DIMENSION	CONDITION
A	48-in (1219 mm) 18-in (457 mm) 18-in (457 mm) 12-in (305 mm)	Unit disconnect is mounted on panel No disconnect, convenience outlet option Recommended service clearance Minimum clearance
B	42-in (1067 mm) 36-in (914 mm) Special	Surface behind servicer is grounded (e.g., metal, masonry wall) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass) Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm) 18-in (457 mm)	Side condensate drain is used Minimum clearance
D	42-in (1067 mm) 36-in (914 mm)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit) Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)

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

# CURBS & WEIGHTS DIMENSIONS – 50HC 14 (cont.)

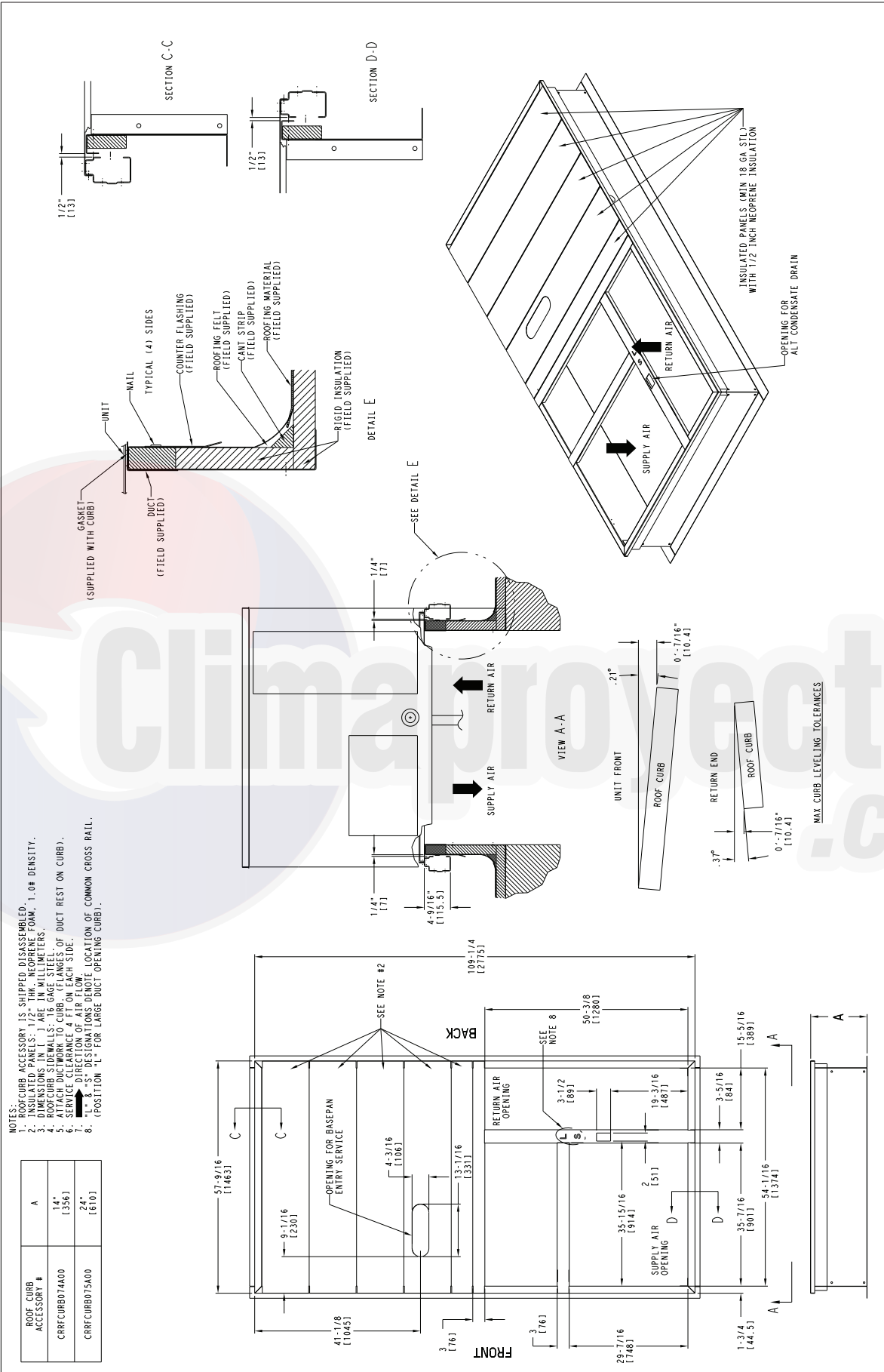


Fig. 15 – Roof Curb Details

## OPTIONS & ACCESSORY WEIGHTS

OPTION / ACCESSORY	OPTION / ACCESSORY WEIGHTS																	
	04		05		06		07		08		09		11		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Humidi–MiZer® System <sup>1</sup>	50	23	55	25	55	25	80	36	80	36	80	36	85	39	85	39	90	41
Power Exhaust – vertical	50	23	50	23	50	23	75	34	75	34	75	34	75	34	75	34	85	39
Power Exhaust – horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14	75	34
EconoMi\$er (X, IV or 2)	50	23	50	23	50	23	75	34	75	34	75	34	75	34	75	34	115	52
Two Position damper	39	18	39	18	39	18	58	26	58	26	58	26	58	26	58	26	65	29
Manual Dampers	12	5	12	5	12	5	18	8	18	8	18	8	18	8	18	8	25	11
Hail Guard (louvered)	16	7	16	7	16	7	34	15	34	15	34	15	34	15	34	15	45	20
Cu/Cu Condenser Coil	35	16	35	16	35	16	95	43	95	43	95	43	170	77	170	77	160	73
Cu/Cu Cond. & Evaporator Coils	60	27	60	27	90	41	140	64	140	64	195	88	270	122	270	122	280	127
Roof Curb (14–in. curb)	115	52	115	52	115	52	143	65	143	65	143	65	143	65	143	65	180	82
Roof Curb (24–in. curb)	197	89	197	89	197	89	245	111	245	111	245	111	245	111	245	111	255	116
CO <sub>2</sub> sensor	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Electric Heater	30	14	30	14	30	14	45	20	45	20	45	20	45	20	45	20	25	11
Single Point Kit	10	5	10	5	10	5	12	5	12	5	12	5	12	5	12	5	25	11
Optional Indoor Motor / Drive	10	5	10	5	10	5	15	7	15	7	15	7	15	7	15	7	45	20
Motormaster® Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18
Low Ambient Controller	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Fan / Filter Status Switch	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Non–Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	10	5
HACR Circuit Breaker	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	10	5
Powered Convenience outlet	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16	32	15
Non–Powered C.O.	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
SAV™ System with VFD	–	–	–	–	–	–	20	9	20	9	20	9	20	9	20	9	20	9

**NOTE:** Where multiple variations are available, the heaviest combination is listed.

– Not Available

<sup>1</sup> For Humidi–MiZer System add Motormaster Controller.

## APPLICATION 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) and 25°F (-4°C), with an accessory winter start kit. 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 6 and 7, 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 field-installed accessory Motormaster® low ambient controller or 0°F (-18°C) with the factory-installed low ambient controller option.

### 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 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 90.1–2013 standard, during the first stage of cooling operation the VFD will adjust the fan motor to provide 66% 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 66% 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 thermostat 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 operations.

### 50HC – Staged Air Volume (SAV) – Variable Frequency Drive (VFD) HP Rating

UNIT SIZE	VOLTAGE	STATIC OPTION	VFD HP RATING
07	208/230, 460, 575	STD	3
	208/230, 460	MED	3
	575	MED	5
	208/230, 460, 575	HIGH	7.5
08	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	3
	208/230, 460, 575	HIGH	5
09	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	3
	208/230, 460, 575	HIGH	5
11	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
12	208/230, 460, 575	STD	3
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5
14	208/230, 460	STD	3
	575	STD	5
	208/230, 460, 575	MED	5
	208/230, 460, 575	HIGH	7.5



## SELECTION PROCEDURE (WITH 50HC\*A07 EXAMPLE)

### I. Determine cooling and heating loads.

Given:

Mixed Air Drybulb	80°F (27°C)
Mixed Air Wetbulb	67°F (19°C)
Ambient Drybulb	95°F (35°C)
TC <sub>Load</sub>	69.0 MBH
SHC <sub>Load</sub>	51.0 MBH
Vertical Supply Air	2100 CFM
External Static Pressure	0.66 in. w.g.
Electrical Characteristics	230–3–60

### II. Make an initial guess at cooling tons.

Refrig. tons = TC<sub>Load</sub> / 12 MBH per ton  
 Refrig. tons = 69.0 / 12 = 5.75 tons

In this case, start by looking at the 50HC\*A07.

### III. Look up the rooftop's TC and SHC.

Cooling Capacity Table shows that, at the application's supply air CFM, mixed air and ambient temperatures, the 50HC\*A07 supplies:

TC = 73.6 MBH  
 SHC = 53.3 MBH.

### IV. Calculate the building Latent Heat Load.

LC<sub>Load</sub> = TC<sub>Load</sub> - SHC<sub>Load</sub>  
 LC<sub>Load</sub> = 69.0 MBH - 51.0 MBH = 18.0 MBH

### V. Calculate RTU Latent Heat Capacity

LC = TC - SHC  
 LC = 73.6 MBH - 53.3 MBH = 20.3 MBH

### VI. Compare RTU capacities to loads.<sup>2,3</sup>

Compare the rooftop's SHC and LC to the building's Sensible and Latent Heat Loads.

### VII. Select factory options (FIOP)

Local code requires an economizer for any unit with TC larger than 65.0 MBH.

### VIII. Calculate the total static pressure.

External static pressure	0.66 in. wg
Sum of FIOP/Accessory static	+0.05 in. wg
Total Static Pressure	0.71 in. wg

### IX. Look up the Indoor Fan RPM & BHP.

Table 31 shows, at 2100 CFM & ESP= 0.71, RPM = 680 & BHP = 0.97

### X. Convert BHP (Step IX) into fan motor heat.

Fan Motor Heat = 2.546\*097/.80 efficiency.  
 Fan Motor Heat = 1.98 MBH  
 Deduct this value from the gross capacity values for net capacity.

### XI. Determine electrical requirements

MCA/MOCP table shows the MCA and MOCP of a 50HC\*A07 (without convenience outlet) as:

MCA = 32 amps & Breaker size = 50 amps  
 Min. Disconnect Size: FLA = 31 & LRA = 148.

#### Legend

BHP	— Break horsepower
FLA	— Full load amps
LC	— Latent capacity
LRA	— Lock rotor amp
MBH	— (1,000) BTUH
MCA	— Min. circuit ampacity
MOCP	— Max. over-current protection
RPM	— Revolutions per minute
RTU	— Rooftop unit
SHC	— Sensible heat capacity
TC	— Total capacity

#### NOTES:

1. Selection software by Carrier saves time by performing many of the steps above. Contact your Carrier sales representative for assistance.
2. Selecting a unit with a SHC slightly lower than the SHC<sub>Load</sub> is often better than oversizing. Slightly lower SHC's will help control indoor humidity, and prevent temperature swings.
3. If the rooftop's capacity meets the Sensible Heat Load, but not the Latent Heat Load.
4. Indoor Fan Motor efficiency is available in Table 53. Use the decimal form in the equation eg. 80% =.8.



50HC04 (3 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		900			1200			1500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	44.6	40.3	36.5	47.0	43.0	39.1	48.8	44.3	40.8
	SHC	19.8	24.5	29.3	22.6	29.1	35.3	25.4	33.0	40.4
	kW	2.02	1.97	1.93	1.96	2.00	2.05	2.08	2.02	1.98
85	TC	42.1	38.1	34.4	44.6	40.5	36.9	46.1	41.9	38.6
	SHC	17.5	22.5	27.4	20.4	26.8	33.2	22.9	30.8	38.2
	kW	2.28	2.23	2.19	2.22	2.26	2.31	2.33	2.28	2.24
95	TC	39.6	35.8	32.3	41.9	38.0	34.5	43.2	39.3	36.2
	SHC	15.2	20.3	25.5	17.8	24.5	31.1	20.2	28.4	35.9
	kW	2.56	2.51	2.47	2.50	2.54	2.60	2.62	2.56	2.52
105	TC	36.8	33.2	30.0	38.9	35.3	32.0	40.2	36.5	33.6
	SHC	12.7	18.1	23.4	15.1	22.0	28.8	17.5	25.8	33.6
	kW	2.88	2.83	2.79	2.82	2.86	2.91	2.93	2.88	2.84
115	TC	33.9	30.5	27.5	35.8	32.4	29.4	37.0	33.5	30.9
	SHC	10.1	15.7	21.2	12.3	19.5	26.4	14.5	23.1	30.9
	kW	3.23	3.19	3.15	3.17	3.21	3.26	3.28	3.23	3.19
125	TC	30.8	27.7	24.9	32.5	29.3	26.5	33.5	30.3	27.9
	SHC	7.3	13.1	18.9	9.4	16.7	23.9	11.4	20.3	27.9
	kW	3.62	3.59	3.56	3.57	3.60	3.65	3.66	3.62	3.59

50HC04 (3 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator - Cfm								
900	1200	1500	900	1200	1500	900	1200	1500		
80	TC	16.46	17.15	17.74	16.66	17.23	17.79	16.85	17.74	18.29
	SHC	5.10	6.60	8.15	3.21	4.33	5.61	1.59	2.75	3.83
	kW	1.94	2.01	2.02	2.04	2.13	2.15	2.12	2.14	2.16
75	TC	16.61	17.52	18.09	17.18	18.09	18.67	17.69	18.61	19.19
	SHC	5.24	6.96	8.48	3.71	5.15	6.45	2.40	3.59	4.69
	kW	1.98	2.00	2.01	1.99	2.01	2.02	2.00	2.02	2.03
70	TC	17.00	18.06	18.63	17.56	18.46	19.40	18.41	19.35	20.10
	SHC	5.62	7.47	9.00	4.08	5.50	7.16	3.09	4.31	5.58
	kW	1.96	1.94	1.96	1.97	2.00	1.94	1.91	1.94	1.92
60	TC	17.63	18.49	19.37	18.17	19.38	19.95	18.66	19.52	20.46
	SHC	6.21	7.89	9.71	4.66	6.39	7.68	3.31	4.45	5.90
	kW	1.93	1.96	1.92	1.95	1.92	1.94	1.97	2.00	1.96
50	TC	17.82	18.59	19.72	18.31	19.73	20.26	18.76	20.21	20.73
	SHC	6.40	7.99	10.05	4.79	6.71	7.97	3.40	5.11	6.16
	kW	1.98	2.03	1.94	2.01	1.94	1.97	2.03	1.96	1.99
40	TC	17.70	19.38	19.85	19.10	20.30	20.34	19.53	20.76	21.26
	SHC	6.30	8.74	10.17	5.54	7.26	8.05	4.13	5.64	6.67
	kW	2.07	1.95	1.99	1.93	1.91	2.02	1.96	1.94	1.97

**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



50HC05 (4 TONS) – UNIT WITH HUMIDI–MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1200			1600			2000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	57.8	52.3	47.2	61.5	55.6	50.6	63.7	57.9	0.0
	SHC	24.2	30.5	36.8	27.9	35.9	44.0	31.2	40.9	0.0
	kW	2.50	2.47	2.44	2.46	2.48	2.51	2.53	2.50	0.00
85	TC	54.1	48.9	44.1	57.1	52.0	47.3	59.6	54.0	49.5
	SHC	20.7	27.3	33.9	23.9	32.6	41.0	27.3	37.3	47.1
	kW	2.81	2.78	2.76	2.78	2.80	2.82	2.84	2.81	2.79
95	TC	50.1	45.3	40.8	53.3	48.2	43.7	55.2	50.1	45.8
	SHC	17.0	24.0	30.9	20.4	29.1	37.7	23.3	33.6	43.6
	kW	3.16	3.14	3.12	3.13	3.15	3.18	3.19	3.16	3.14
105	TC	45.7	41.1	37.2	48.6	43.8	39.8	50.5	45.5	41.8
	SHC	12.9	20.1	27.6	16.0	25.0	34.1	19.0	29.4	39.9
	kW	3.56	3.54	3.52	3.54	3.55	3.58	3.59	3.56	3.55
115	TC	41.1	37.0	33.2	43.5	39.2	35.5	45.4	41.1	37.5
	SHC	8.7	16.4	23.9	11.3	20.7	30.1	14.3	25.4	35.8
	kW	4.02	4.01	4.00	4.00	4.01	4.03	4.04	4.03	4.01
125	TC	36.3	32.5	29.0	38.6	34.7	31.2	40.2	36.1	32.9
	SHC	4.3	12.2	20.1	6.8	16.6	26.2	9.4	20.8	31.5
	kW	4.54	4.53	4.53	4.53	4.54	4.54	4.55	4.54	4.54

50HC05 (4 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
1200	1600	2000	1200	1600	2000	1200	1600	2000		
80	TC	18.64	19.95	20.78	19.35	20.71	21.51	20.00	21.37	22.33
	SHC	0.78	4.36	8.24	-1.95	1.01	4.29	-4.33	-1.91	0.99
	kW	2.66	2.68	2.69	2.67	2.69	2.69	2.68	2.69	2.68
75	TC	19.37	21.21	22.15	20.47	21.97	22.92	21.15	22.78	23.65
	SHC	1.48	5.52	9.49	-0.91	2.18	5.57	-3.26	-0.61	2.20
	kW	2.62	2.54	2.54	2.56	2.55	2.55	2.56	2.55	2.56
70	TC	19.92	21.63	22.64	20.77	22.52	23.61	21.70	23.39	24.26
	SHC	2.01	5.94	9.98	-0.61	2.70	6.23	-2.72	-0.02	2.78
	kW	2.60	2.56	2.54	2.58	2.54	2.53	2.54	2.52	2.54
60	TC	20.11	21.27	22.23	20.75	23.15	23.43	22.49	23.78	24.55
	SHC	2.24	5.70	9.70	-0.57	3.35	6.15	-1.95	0.40	3.13
	kW	2.69	2.74	2.73	2.72	2.58	2.68	2.56	2.60	2.63
50	TC	21.56	22.70	23.37	22.18	23.33	24.01	22.75	23.90	25.40
	SHC	3.61	7.03	10.76	0.78	3.57	6.73	-1.67	0.57	3.96
	kW	2.57	2.63	2.66	2.60	2.66	2.69	2.63	2.69	2.62
40	TC	21.67	23.23	24.04	22.76	23.82	25.57	23.28	24.34	26.13
	SHC	3.74	7.56	9.89	1.35	4.06	8.17	-1.15	1.01	4.67
	kW	2.64	2.64	2.69	2.61	2.67	2.58	2.64	2.70	2.61

**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



50HC06 (5 TONS) – UNIT WITH HUMIDI–MIZER IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1500			2000			2500		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	66.9	60.3	54.8	71.0	64.4	58.6	73.5	66.9	61.6
	SHC	25.8	34.1	43.0	30.5	41.7	52.6	35.0	48.6	61.2
	kW	3.11	3.06	3.03	3.05	3.09	3.16	3.16	3.11	3.07
85	TC	62.4	56.5	51.2	66.3	60.1	54.7	68.2	62.3	57.5
	SHC	21.5	30.6	39.6	26.1	37.6	49.0	29.9	44.2	57.2
	kW	3.47	3.43	3.39	3.42	3.46	3.51	3.52	3.48	3.44
95	TC	57.8	52.3	47.3	61.3	55.6	50.6	63.5	57.7	53.2
	SHC	17.2	26.6	35.9	21.4	33.3	45.1	25.6	39.9	53.2
	kW	3.89	3.85	3.80	3.83	3.88	3.93	3.95	3.90	3.86
105	TC	52.8	47.5	42.9	55.4	50.0	45.3	58.0	52.2	47.9
	SHC	12.5	22.1	31.7	15.8	28.1	40.1	20.4	34.7	47.9
	kW	4.36	4.31	4.26	4.29	4.33	4.38	4.42	4.36	4.32
115	TC	47.4	42.8	38.6	50.1	45.2	41.1	51.8	47.1	43.4
	SHC	7.4	17.7	27.8	11.0	23.6	36.1	14.7	30.0	43.4
	kW	4.88	4.83	4.78	4.81	4.86	4.91	4.93	4.88	4.84
125	TC	41.6	37.5	33.8	44.0	39.7	35.8	45.8	41.3	38.0
	SHC	2.1	12.8	23.3	5.3	18.6	31.2	9.1	24.7	38.0
	kW	5.44	5.39	5.35	5.37	5.42	5.47	5.49	5.44	5.40

50HC06 (5 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative Humidity)			75 Dry Bulb 64 Wet Bulb (56% Relative Humidity)			75 Dry Bulb 65.3 Wet Bulb (60%Relative Humidity)		
		Air Entering Evaporator – Cfm								
		1500	2000	2500	1500	2000	2500	1500	2000	2500
		80	TC	25.29	27.61	28.72	26.81	28.62	29.71	27.68
SHC	5.06		10.68	15.86	2.37	6.73	11.22	-0.40	3.30	7.17
kW	3.23		3.12	3.13	3.12	3.13	3.14	3.12	3.14	3.15
75	TC	26.69	28.45	29.73	27.65	29.64	30.73	28.53	30.55	31.65
	SHC	6.39	11.52	16.85	3.20	7.72	12.20	0.43	4.29	8.16
	kW	3.08	3.11	3.09	3.10	3.09	3.11	3.11	3.10	3.12
70	TC	27.04	29.08	30.15	28.29	30.04	31.09	29.13	30.91	31.97
	SHC	6.76	12.14	17.28	3.82	8.14	12.60	1.02	4.67	8.51
	kW	3.15	3.12	3.15	3.11	3.14	3.17	3.13	3.16	3.18
60	TC	27.99	29.57	31.33	28.86	30.46	32.25	29.63	32.44	33.81
	SHC	7.70	12.66	18.45	4.41	8.60	13.74	1.54	6.16	10.28
	kW	3.17	3.23	3.15	3.21	3.26	3.18	3.23	3.12	3.10
50	TC	30.09	31.66	32.64	30.93	32.57	33.53	31.73	33.38	34.35
	SHC	9.72	14.66	19.72	6.40	10.61	14.99	3.56	7.10	10.85
	kW	3.01	3.07	3.11	3.04	3.10	3.15	3.07	3.14	3.18
40	TC	28.39	30.78	32.67	31.13	32.60	34.40	31.86	33.33	36.07
	SHC	8.17	13.89	19.80	6.63	10.69	15.85	3.72	7.10	12.51
	kW	3.39	3.32	3.24	3.14	3.23	3.15	3.18	3.27	3.08

**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





50HC07 (6 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1800			2400			3000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	85.7	77.4	70.0	91.1	82.6	74.9	94.5	85.7	78.4
	SHC	38.2	47.1	56.1	43.9	55.6	67.1	49.0	63.1	76.4
	kW	4.05	4.01	3.97	4.00	4.04	4.08	4.09	4.05	4.02
85	TC	80.9	73.1	66.0	85.9	77.9	70.6	89.2	80.9	73.9
	SHC	33.5	42.9	52.3	38.8	51.1	63.0	43.9	58.6	72.1
	kW	4.46	4.43	4.39	4.42	4.45	4.48	4.51	4.47	4.43
95	TC	75.7	68.4	61.7	80.6	72.9	66.0	83.6	75.7	69.1
	SHC	28.7	38.5	48.3	33.8	46.4	58.7	38.6	53.7	67.6
	kW	4.92	4.89	4.86	4.88	4.91	4.95	4.96	4.92	4.90
105	TC	70.2	63.3	57.0	74.7	67.5	61.1	77.5	70.1	64.0
	SHC	23.6	33.9	44.1	28.4	41.4	54.2	32.9	48.6	62.7
	kW	5.43	5.40	5.37	5.39	5.42	5.45	5.47	5.43	5.41
115	TC	64.3	57.8	52.0	68.4	61.7	55.7	71.0	64.1	58.3
	SHC	18.2	28.9	39.6	22.7	36.2	49.4	27.0	43.1	58.2
	kW	5.99	5.96	5.93	5.95	5.98	6.01	6.02	5.99	5.97
125	TC	57.9	52.0	46.6	61.6	55.4	49.9	64.0	57.5	52.4
	SHC	12.4	23.8	34.9	16.6	30.7	44.3	20.7	37.3	52.4
	kW	6.59	6.57	6.55	6.56	6.59	6.61	6.62	6.60	6.58

50HC07 (6 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative Humidity)			75 Dry Bulb 64 Wet Bulb (56% Relative Humidity)			75 Dry Bulb 65.3 Wet Bulb (60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
		80	TC	24.17	25.88	26.92	25.35	27.08	28.15	26.39
SHC	-1.44		2.99	7.86	-5.08	-1.55	2.50	-8.25	-5.47	-2.14
kW	4.15		4.16	4.17	4.17	4.18	4.18	4.18	4.19	4.20
75	TC	26.03	27.87	28.95	27.27	29.11	30.21	28.36	30.24	31.35
	SHC	0.43	4.97	9.86	-3.12	0.49	4.56	-6.19	-3.36	-0.03
	kW	3.96	3.97	3.98	3.98	3.99	4.00	4.00	4.01	4.01
70	TC	26.50	28.76	30.07	27.92	29.99	31.34	29.45	31.67	33.23
	SHC	0.87	5.84	10.97	-2.49	1.35	5.68	-5.06	-1.85	1.94
	kW	3.97	3.93	3.91	3.96	3.95	3.93	3.92	3.89	3.87
60	TC	27.59	29.22	30.17	28.70	30.33	31.30	31.50	31.32	32.91
	SHC	1.91	6.25	11.02	-1.79	1.63	5.57	-3.31	-2.39	1.45
	kW	3.95	3.99	4.01	3.99	4.02	4.04	4.09	4.05	4.01
50	TC	27.77	29.18	30.03	28.75	30.18	32.02	29.63	32.07	32.96
	SHC	2.03	6.18	10.85	-1.80	1.43	6.25	-5.14	-1.69	1.45
	kW	4.03	4.08	4.11	4.07	4.12	4.05	4.12	4.06	4.09
40	TC	29.02	30.38	31.46	29.96	31.32	32.09	30.79	33.49	34.34
	SHC	3.26	7.34	10.07	-0.63	2.54	6.29	-4.01	-0.30	2.80
	kW	3.96	4.02	4.08	4.01	4.08	4.11	4.06	4.00	4.03

**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



50HC07 (6 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		1800			2400			3000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	83.5	75.6	68.5	88.5	76.0	72.9	91.7	83.4	76.2
	SHC	37.0	47.0	55.4	43.6	51.9	65.6	47.9	62.0	74.2
	kW	3.49	3.50	3.45	3.57	3.53	3.48	3.58	3.56	3.50
85	TC	79.0	71.5	64.7	83.6	75.5	68.7	86.4	78.5	71.8
	SHC	32.9	43.2	51.9	39.5	50.6	61.7	43.7	57.3	70.1
	kW	3.94	3.94	3.90	4.03	3.97	3.91	4.08	3.97	3.95
95	TC	73.5	67.1	60.7	70.2	71.2	64.6	81.3	73.7	67.1
	SHC	26.6	39.3	48.2	31.5	46.7	57.9	39.5	53.3	65.6
	kW	4.39	4.44	4.40	4.54	4.48	4.43	4.56	4.50	4.44
105	TC	68.6	62.6	56.5	73.3	66.3	60.1	75.7	68.4	62.6
	SHC	25.5	35.3	44.4	30.5	42.3	53.8	34.6	48.6	61.5
	kW	5.05	5.02	4.98	5.10	5.05	5.00	4.56	5.06	5.02
115	TC	64.2	57.8	55.0	67.8	61.2	55.3	75.7	63.2	57.6
	SHC	21.7	31.1	40.5	25.8	37.8	49.5	34.6	44.0	57.6
	kW	5.05	5.68	5.64	5.74	5.70	5.66	5.12	5.72	5.67
125	TC	58.8	52.8	47.4	62.1	55.8	50.3	63.6	57.6	52.4
	SHC	17.1	26.7	36.3	20.8	33.0	45.0	24.1	39.1	52.4
	kW	6.46	6.43	6.41	6.48	6.44	6.41	6.48	6.45	6.42

50HC07 (6 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb			75 Dry Bulb 64 Wet Bulb			75 Dry Bulb 65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
80	TC	27.93	28.67	29.02	28.32	29.87	30.25	29.63	30.24	31.31
	SHC	6.95	10.60	14.71	2.87	6.41	9.76	0.19	2.12	5.43
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
75	TC	28.78	30.12	30.68	29.82	30.63	31.42	30.45	31.77	32.14
	SHC	7.76	12.01	16.31	4.30	7.17	10.89	1.00	3.59	6.24
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
70	TC	29.64	30.80	31.85	30.48	31.97	32.67	31.55	32.79	33.12
	SHC	8.60	12.69	17.46	4.95	8.46	12.12	2.06	4.59	7.21
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
60	TC	31.14	32.55	33.57	32.03	33.49	34.38	32.98	34.50	35.39
	SHC	10.05	14.38	19.13	6.45	9.96	13.79	3.45	6.26	9.41
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
50	TC	32.23	33.83	34.70	33.47	34.97	35.86	34.42	35.95	36.90
	SHC	11.11	15.63	20.24	7.83	11.39	15.24	4.84	7.67	10.88
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
40	TC	33.41	35.02	35.91	34.52	36.20	37.25	35.66	37.22	38.32
	SHC	12.24	16.78	21.43	8.85	12.58	16.58	6.03	8.90	12.27
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77

**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



50HC08 (7.5 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2250			3000			3750		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	101.9	92.9	84.0	109.6	96.3	89.9	113.6	103.0	94.5
	SHC	43.9	54.6	66.7	50.2	62.7	80.9	56.8	75.8	93.0
	kW	4.60	4.54	4.48	4.65	4.50	4.52	4.68	4.60	4.55
85	TC	96.6	87.3	78.9	102.8	92.9	84.5	106.5	96.7	88.7
	SHC	36.8	49.3	61.9	43.8	59.7	75.9	50.2	69.8	87.4
	kW	5.15	5.09	5.04	5.20	5.13	5.08	5.22	5.16	5.11
95	TC	90.2	81.4	73.5	95.7	86.8	78.8	99.4	90.1	82.7
	SHC	30.8	43.9	56.9	37.2	54.1	70.5	43.6	63.8	81.6
	kW	5.78	5.72	5.67	5.82	5.76	5.71	5.85	5.79	5.74
105	TC	83.5	75.2	67.8	88.8	80.2	72.7	92.0	83.2	76.4
	SHC	24.6	38.2	51.7	30.8	48.0	64.9	36.7	57.4	75.5
	kW	6.50	6.45	6.40	6.54	6.48	6.43	6.57	6.50	6.46
115	TC	76.3	68.7	61.8	81.1	73.2	66.3	84.1	76.0	69.7
	SHC	17.9	32.1	46.2	23.7	41.5	59.0	29.4	50.7	69.0
	kW	7.32	7.28	7.24	7.35	7.31	7.27	7.38	7.32	7.29
125	TC	68.6	61.6	55.4	73.0	65.7	59.3	75.8	68.2	62.6
	SHC	10.9	25.6	40.3	16.2	34.7	52.6	21.7	43.6	62.1
	kW	8.24	8.22	8.20	8.27	8.23	8.21	8.29	8.25	8.22

50HC08 (7.5 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	24.06	26.14	27.48	25.50	27.56	28.78	26.59	28.71	29.96
	SHC	-5.55	1.16	8.38	-10.20	-4.69	1.40	-14.39	-9.85	-4.68
	kW	4.43	4.42	4.41	4.40	4.41	4.42	4.42	4.43	4.44
75	TC	24.87	27.26	28.47	26.06	28.53	30.02	27.67	29.77	31.02
	SHC	-4.77	2.23	9.32	-9.65	-3.76	2.59	-13.35	-8.83	-3.66
	kW	4.42	4.36	4.38	4.45	4.38	4.36	4.36	4.39	4.40
70	TC	25.16	27.88	28.56	26.72	29.10	30.26	28.17	30.20	31.83
	SHC	-4.48	2.84	9.45	-9.02	-3.19	2.85	-12.88	-8.40	-2.87
	kW	4.49	4.38	4.48	4.44	4.41	4.44	4.40	4.44	4.40
60	TC	26.43	28.14	29.14	27.49	29.24	30.27	28.50	30.24	32.33
	SHC	-3.25	3.14	10.05	-8.26	-2.99	2.94	-12.54	-8.29	-2.32
	kW	4.48	4.55	4.59	4.53	4.60	4.65	4.58	4.65	4.54
50	TC	27.19	29.55	31.26	28.94	30.59	32.36	30.54	31.54	32.52
	SHC	-2.50	4.50	12.05	-6.87	-1.69	4.92	-10.60	-7.02	-2.07
	kW	4.53	4.51	4.46	4.48	4.57	4.52	4.43	4.63	4.70
40	TC	27.92	31.58	32.82	28.81	32.60	33.54	31.82	33.50	34.44
	SHC	-1.79	6.42	10.84	-6.94	0.23	6.05	-9.36	-5.15	-0.25
	kW	4.57	4.37	4.46	4.65	4.45	4.51	4.40	4.51	4.58

**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



50HC09 (8.5 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		2550			3400			4250		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	114.7	103.9	93.9	104.3	110.6	100.5	122.9	114.6	105.5
	SHC	48.7	62.2	75.7	84.7	74.2	91.4	60.6	85.1	103.9
	kW	5.17	5.09	5.01	5.10	5.14	5.07	5.20	5.18	5.11
85	TC	107.8	97.4	88.0	114.2	102.9	94.2	116.2	107.6	98.7
	SHC	42.3	56.3	70.3	49.7	67.0	85.6	61.1	78.7	97.3
	kW	5.79	5.71	5.63	5.85	5.75	5.69	5.88	5.80	5.72
95	TC	100.5	90.8	82.0	106.6	96.2	87.7	110.2	100.1	92.2
	SHC	35.6	50.2	64.8	42.8	61.0	79.6	49.2	71.9	91.0
	kW	6.50	6.42	6.34	6.56	6.46	6.40	6.59	6.50	6.44
105	TC	92.7	83.8	75.7	98.5	89.0	80.9	102.1	92.4	85.1
	SHC	28.5	43.9	59.1	35.4	54.6	73.4	41.9	64.9	84.2
	kW	7.30	7.23	7.16	7.36	7.28	7.21	7.40	7.31	7.25
115	TC	85.0	76.5	69.0	90.0	81.3	73.8	93.3	84.4	77.7
	SHC	21.5	37.4	53.1	27.7	47.6	66.9	34.0	57.7	77.0
	kW	8.23	8.16	8.10	8.27	8.20	8.14	8.31	8.23	8.18
125	TC	76.5	68.8	61.8	81.1	72.9	66.2	84.1	75.8	69.8
	SHC	13.8	30.4	46.7	19.7	40.0	60.1	25.6	50.0	69.8
	kW	9.25	9.20	9.16	9.28	9.22	9.19	9.31	9.25	9.21

50HC09 (8.5 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative Humidity)			75 Dry Bulb 64 Wet Bulb (56% Relative Humidity)			75 Dry Bulb 65.3 Wet Bulb (60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		2550	3400	4250	2550	3400	4250	2550	3400	4250
		80	TC	27.53	29.56	30.72	28.95	31.03	32.22	30.26
SHC	-3.84		3.82	11.92	-9.25	-2.92	4.09	-13.93	-8.77	-2.82
kW	5.09		5.11	5.13	5.11	5.14	5.15	5.14	5.15	5.17
75	TC	29.09	31.60	32.81	30.77	33.10	34.33	32.30	34.45	35.73
	SHC	-2.34	5.72	13.84	-7.51	-0.98	6.04	-11.95	-6.78	-0.82
	kW	4.97	4.91	4.93	4.95	4.94	4.95	4.94	4.96	4.97
70	TC	29.58	32.45	33.63	31.48	34.12	35.55	33.12	35.65	37.38
	SHC	-1.88	6.54	14.63	-6.83	0.00	7.20	-11.16	-5.63	0.75
	kW	4.99	4.90	4.92	4.96	4.90	4.89	4.93	4.90	4.86
60	TC	30.71	33.44	34.52	32.90	34.79	35.86	34.07	36.02	37.09
	SHC	-0.78	7.52	15.54	-5.47	0.68	7.57	-10.28	-5.24	0.55
	kW	5.03	4.95	5.00	4.94	5.01	5.05	4.99	5.06	5.09
50	TC	32.63	34.31	35.26	33.81	35.53	36.51	34.90	36.66	37.65
	SHC	1.05	8.38	16.29	-4.60	1.42	8.24	-9.49	-4.59	1.14
	kW	4.92	5.01	5.06	4.99	5.07	5.13	5.05	5.14	5.19
40	TC	31.94	33.26	35.77	32.96	35.70	37.86	35.17	38.01	38.92
	SHC	0.45	7.47	13.75	-5.35	1.63	9.52	-9.20	-3.29	2.36
	kW	5.16	5.27	5.20	5.25	5.19	5.10	5.16	5.11	5.17

**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





50HC11 (10 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3000			4000			5000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	121.34	110.46	99.60	139.20	125.18	111.17	157.20	140.10	110.50
	SHC	58.86	72.03	85.20	67.31	80.25	93.18	74.00	86.80	72.00
	kW	6.61	6.54	6.45	6.65	6.58	6.50	6.67	6.62	6.53
85	TC	115.30	105.01	94.73	128.03	114.90	101.77	140.90	124.90	105.00
	SHC	45.81	62.19	78.57	55.02	71.16	87.29	62.30	78.30	62.20
	kW	6.76	6.88	6.78	6.80	6.73	6.83	6.82	6.77	6.87
95	TC	109.26	99.57	89.89	116.87	104.62	92.38	124.60	109.70	99.60
	SHC	32.76	52.35	71.93	42.70	62.07	81.40	50.60	69.80	52.30
	kW	7.55	7.49	7.39	7.58	7.51	7.45	7.60	7.56	7.49
105	TC	103.21	94.13	85.04	105.71	94.34	82.98	108.20	94.60	94.10
	SHC	19.71	42.51	65.30	30.45	52.98	75.51	39.00	61.30	42.50
	kW	8.47	8.42	8.32	8.51	8.44	8.37	8.53	8.49	8.41
115	TC	97.17	88.68	80.20	94.54	84.06	73.58	91.90	79.40	88.70
	SHC	6.67	32.66	58.66	18.16	43.89	69.62	27.30	52.80	32.60
	kW	9.42	9.37	9.27	9.46	9.39	9.32	9.48	9.44	9.36
125	TC	91.12	83.24	75.36	83.38	73.78	64.19	75.60	64.20	83.20
	SHC	-6.40	22.82	52.03	5.87	34.80	63.73	15.60	44.30	22.80
	kW	10.35	10.30	10.20	10.39	10.32	10.25	10.41	10.37	10.29

50HC11 (10 TONS) – UNIT WITH HUMIDI–MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Entering Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative Humidity)			75 Dry Bulb 64 Wet Bulb (56% Relative Humidity)			75 Dry Bulb 65.3 Wet Bulb (60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
		75	TC	46.00	49.70	52.50	50.20	52.60	55.00	51.40
SHC	8.50		18.40	26.50	3.60	11.90	18.50	-1.10	5.20	11.70
kW	6.56		6.50	6.42	6.55	6.48	6.40	6.53	6.49	6.40
85	TC	47.80	51.30	54.10	51.70	54.20	56.80	53.30	57.50	59.70
	SHC	10.20	20.00	28.20	5.30	13.40	20.10	0.50	6.80	13.20
	kW	6.51	6.45	6.36	6.50	6.44	6.35	6.47	6.44	6.35
95	TC	50.00	53.60	56.20	54.00	56.30	58.80	55.30	59.60	61.80
	SHC	12.00	21.60	29.80	6.90	15.00	21.70	2.20	8.50	14.70
	kW	6.45	6.40	6.29	6.45	6.39	6.28	6.42	6.39	6.28
105	TC	54.00	57.50	60.10	57.90	60.20	62.70	59.30	63.50	65.70
	SHC	15.20	24.70	31.90	10.20	18.30	24.90	5.40	11.80	18.00
	kW	6.33	6.28	6.19	6.33	6.27	6.17	6.30	6.27	6.17
115	TC	58.00	61.40	64.20	61.80	64.40	66.50	63.30	67.20	69.50
	SHC	18.50	28.00	36.20	13.50	21.50	28.20	8.70	15.10	21.30
	kW	6.22	6.17	6.10	6.22	6.16	6.08	6.19	6.16	6.08
125	TC	61.90	65.30	68.00	65.70	68.10	70.50	67.20	71.30	73.50
	SHC	21.70	31.10	39.30	16.70	24.90	31.20	12.00	18.30	24.60
	kW	6.10	6.05	5.98	6.10	6.04	5.96	6.07	6.04	5.96

**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 16 – COOLING CAPACITIES

2-STAGE COOLING

10 TONS (11.7 EER)

50HC*D12				AMBIENT TEMPERATURE (F)															
				85			95			105			115			125			
				EAT (db))			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
3000 Cfm	EAT (wb)	58	TC	104.3	104.3	118.5	99.5	99.5	113	93.4	93.4	106.1	86.7	86.7	98.6	79.7	79.7	90.6	
			SHC	90.2	104.3	118.5	86	99.5	113	80.6	93.4	106.1	74.9	86.7	98.6	68.8	79.7	90.6	
		62	TC	109.7	109.7	112.4	103.6	103.6	109.5	95.9	95.9	105.9	87.6	87.6	101.2	79.8	79.8	94.4	
			SHC	80.8	96.6	112.4	78	93.8	109.5	74.5	90.2	105.9	70.3	85.7	101.2	65.2	79.8	94.4	
		67	TC	121.5	121.5	121.5	115.4	115.4	115.4	107.8	107.8	107.8	98.7	98.7	98.7	89.1	89.1	89.1	
			SHC	65.2	81	96.9	62.7	78.6	94.5	59.7	75.6	91.5	56.2	72	87.9	52.5	68.3	84.2	
	72	TC	133	133	133	127.1	127.1	127.1	120.5	120.5	120.5	112	112	112	102.1	102.1	102.1		
		SHC	48.7	64.5	80.4	46.5	62.4	78.3	44.1	60	75.9	41.2	57.1	73	37.8	53.7	69.6		
	76	TC	–	140.9	140.9	–	135.1	135.1	–	128.4	128.4	–	121.3	121.3	–	112.5	112.5		
		SHC	–	50.6	67.1	–	48.7	65.2	–	46.6	63.1	–	44.3	60.7	–	41.4	57.7		
	3500 Cfm	EAT (wb)	58	TC	109.9	109.9	124.9	104.9	104.9	119.3	98.7	98.7	112.2	91.6	91.6	104.2	84.2	84.2	95.8
				SHC	94.9	109.9	124.9	90.6	104.9	119.3	85.2	98.7	112.2	79	91.6	104.2	72.6	84.2	95.8
62			TC	112.8	112.8	123.1	106.7	106.7	120	99.5	99.5	115.3	91.7	91.7	108.5	84.3	84.3	99.8	
			SHC	86.8	104.9	123.1	83.9	102	120	80	97.6	115.3	74.9	91.7	108.5	68.8	84.3	99.8	
67			TC	124.2	124.2	124.2	118	118	118	110.3	110.3	110.3	101	101	101	91	91	92.5	
			SHC	68.4	86.7	104.9	66.1	84.3	102.6	63.2	81.5	99.8	59.6	78	96.3	55.9	74.2	92.5	
72		TC	135.2	135.2	135.2	129.1	129.1	129.1	122.4	122.4	122.4	114.2	114.2	114.2	104.2	104.2	104.2		
		SHC	49.2	67.3	85.4	47.1	65.3	83.4	44.8	63	81.2	42	60.4	78.7	38.7	57.1	75.5		
76		TC	–	142.4	142.4	–	136.5	136.5	–	129.6	129.6	–	122.4	122.4	–	114	114		
		SHC	–	51.7	70.9	–	49.7	68.7	–	47.5	66.3	–	45.2	63.8	–	42.6	61.2		
4000 Cfm		EAT (wb)	58	TC	114.3	114.3	130	109.2	109.2	124.2	102.9	102.9	117	95.4	95.4	108.7	87.7	87.7	99.9
				SHC	98.6	114.3	130	94.2	109.2	124.2	88.7	102.9	117	82.2	95.4	108.7	75.5	87.7	99.9
	62		TC	115.3	115.3	132.4	109.6	109.6	128.3	102.9	102.9	121.9	95.5	95.5	113.2	87.8	87.8	104.1	
			SHC	91.9	112.2	132.4	88.7	108.5	128.3	84	102.9	121.9	77.9	95.5	113.2	71.5	87.8	104.1	
	67		TC	125.8	125.8	125.8	119.5	119.5	119.5	111.9	111.9	111.9	102.4	102.4	104.2	92.2	92.2	100.4	
			SHC	71.3	91.8	112.3	69	89.6	110.2	66.2	86.9	107.6	62.8	83.5	104.2	59.1	79.7	100.4	
	72	TC	136.3	136.3	136.3	130.2	130.2	130.2	123.4	123.4	123.4	115.4	115.4	115.4	105.3	105.3	105.3		
		SHC	49.5	69.7	89.8	47.4	67.7	87.9	45.1	65.5	85.9	42.5	63.1	83.7	39.3	60.1	80.9		
	76	TC	–	143.1	143.1	–	137.1	137.1	–	130.1	130.1	–	122.6	122.6	–	114.5	114.5		
		SHC	–	52.2	73.2	–	50.2	71.1	–	48	68.7	–	45.7	66.4	–	43.3	64.1		
	4500 Cfm	EAT (wb)	58	TC	117.5	117.5	133.8	112.4	112.4	127.9	106	106	120.7	98.4	98.4	112.1	90.3	90.3	103
				SHC	101.3	117.5	133.8	96.8	112.4	127.9	91.2	106	120.7	84.6	98.4	112.1	77.7	90.3	103
62			TC	117.6	117.6	139.4	112.5	112.5	133.3	106.1	106.1	125.8	98.5	98.5	116.8	90.4	90.4	107.4	
			SHC	95.9	117.6	139.4	91.6	112.5	133.3	86.4	106.1	125.8	80.1	98.5	116.8	73.5	90.4	107.4	
67			TC	126.6	126.6	126.6	120.2	120.2	120.2	112.8	112.8	114.8	103.2	103.2	111.6	93	93	107.6	
			SHC	73.7	96.4	119.2	71.5	94.3	117.2	68.9	91.8	114.8	65.6	88.6	111.6	61.8	84.7	107.6	
72		TC	136.7	136.7	136.7	130.5	130.5	130.5	123.6	123.6	123.6	115.7	115.7	115.7	105.7	105.7	105.7		
		SHC	49.4	71.6	93.7	47.4	69.7	91.9	45.1	67.5	89.9	42.7	65.4	88.2	39.5	62.6	85.8		
76		TC	–	143.1	143.1	–	137	137	–	129.9	129.9	–	122.4	122.4	–	114.3	114.3		
		SHC	–	52.4	75.1	–	50.5	73.1	–	48.2	70.8	–	46	68.5	–	43.7	66.5		
5000 Cfm		EAT (wb)	58	TC	119.9	119.9	136.7	114.7	114.7	130.7	108.4	108.4	123.6	100.6	100.6	114.8	92.3	92.3	105.4
				SHC	103.2	119.9	136.7	98.6	114.7	130.7	93.2	108.4	123.6	86.4	100.6	114.8	79.2	92.3	105.4
	62		TC	120	120	142.4	114.7	114.7	136.2	108.5	108.5	128.8	100.7	100.7	119.7	92.4	92.4	109.9	
			SHC	97.6	120	142.4	93.3	114.7	136.2	88.1	108.5	128.8	81.7	100.7	119.7	74.9	92.4	109.9	
	67		TC	126.8	126.8	126.8	120.4	120.4	123.6	113.2	113.2	121.3	103.8	103.8	118.4	93.6	93.6	114	
			SHC	75.7	100.6	125.4	73.6	98.6	123.6	71.2	96.2	121.3	68	93.2	118.4	64.2	89.1	114	
	72	TC	136.5	136.5	136.5	130.2	130.2	130.2	123.2	123.2	123.2	115.5	115.5	115.5	105.6	105.6	105.6		
		SHC	49.1	73.1	97	47.1	71.3	95.4	44.9	69.2	93.5	42.5	67.3	92	39.5	64.9	90.2		
	76	TC	–	142.7	142.7	–	136.5	136.5	–	129.4	129.4	–	121.6	121.6	–	113.6	113.6		
		SHC	–	52.2	76.7	–	50.4	74.7	–	48.2	72.4	–	45.9	70.1	–	43.7	68.3		

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 (1000 Btuh) Gross
- TC – Total capacity (1000 Btuh) Gross

NOTE: See Minimum–Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

50HC12 (10 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3000			4000			5000		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	135.8	123.1	111.6	144.0	130.9	119.2	148.7	135.7	122.9
	SHC	56.7	72.8	88.9	66.1	86.9	107.4	74.4	100.1	121.0
	kW	6.42	6.26	6.13	6.54	6.37	6.22	6.61	6.43	6.26
85	TC	127.3	115.4	104.5	134.9	120.1	111.7	139.3	126.9	116.8
	SHC	48.6	65.4	82.1	57.5	76.6	100.2	65.4	91.8	115.0
	kW	7.20	7.04	6.90	7.31	7.11	7.00	7.38	7.21	7.07
95	TC	118.1	106.5	96.9	125.2	113.6	103.6	129.5	117.8	108.4
	SHC	39.9	57.0	74.9	48.3	70.5	92.4	56.2	83.1	106.8
	kW	8.06	7.89	7.76	8.17	8.00	7.86	8.24	8.07	7.93
105	TC	107.3	97.8	87.8	114.5	103.8	94.5	117.6	107.3	99.0
	SHC	29.6	48.7	66.2	38.1	61.3	83.8	44.9	73.1	97.5
	kW	8.99	8.85	8.72	9.11	8.95	8.82	9.16	9.01	8.88
115	TC	95.7	86.3	78.2	102.1	91.3	83.4	105.7	95.8	88.2
	SHC	18.6	37.8	57.1	26.4	49.4	73.2	33.6	62.3	87.0
	kW	10.03	9.89	9.79	10.14	9.97	9.86	10.20	10.05	9.94
125	TC	83.7	75.2	67.7	87.5	80.1	72.5	92.1	83.1	75.2
	SHC	7.3	27.4	47.2	12.5	38.8	62.9	20.6	50.3	74.2
	kW	11.17	11.06	10.98	11.23	11.13	11.03	11.30	11.17	11.07

50HC12 (10 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative Humidity)			75 Dry Bulb 64 Wet Bulb (56% Relative Humidity)			75 Dry Bulb 65.3 Wet Bulb (60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
		80	TC	45.83	49.08	50.90	47.62	50.84	52.72	49.16
SHC	4.82		14.45	24.36	-1.60	6.39	14.99	-7.27	-0.59	6.73
kW	7.33		7.46	7.55	7.40	7.53	7.62	7.46	7.60	7.68
75	TC	48.52	51.89	53.81	50.31	53.74	55.73	51.92	55.47	57.43
	SHC	7.37	17.08	27.08	0.95	9.11	17.81	-4.65	2.25	9.63
	kW	6.93	7.07	7.15	7.00	7.14	7.23	7.06	7.21	7.29
70	TC	51.15	54.66	56.69	52.96	56.60	58.66	54.65	58.34	60.43
	SHC	9.87	19.70	29.80	3.47	11.82	20.57	-2.05	4.98	12.45
	kW	6.56	6.69	6.78	6.62	6.76	6.85	6.68	6.83	6.91
60	TC	52.89	56.41	59.04	55.63	59.10	62.68	58.00	62.31	64.50
	SHC	11.58	21.44	32.07	6.06	14.26	24.41	1.21	8.78	16.36
	kW	6.60	6.80	6.72	6.53	6.71	6.51	6.46	6.48	6.58
50	TC	55.13	59.53	62.75	58.04	62.61	64.69	59.64	64.34	66.41
	SHC	13.77	24.43	35.63	8.41	17.62	26.38	2.80	10.77	18.23
	kW	6.57	6.53	6.44	6.43	6.41	6.54	6.52	6.50	6.64
40	TC	57.08	60.11	64.35	58.75	63.63	65.58	60.16	65.23	69.04
	SHC	15.67	25.05	33.55	9.13	18.64	27.28	3.34	11.67	20.76
	kW	6.51	6.77	6.62	6.64	6.54	6.70	6.75	6.65	6.50

**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 17 – COOLING CAPACITIES

2-STAGE COOLING

12.5 TONS

50HC*D14			Ambient Temperature (F)																	
			85			95			105			115			125					
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)					
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85			
3750 Cfm	EAT (wb)	58	TC	131.9	131.9	149.8	127.0	127.0	144.1	121.5	121.5	137.9	115.4	115.4	131.0	108.7	108.7	123.4		
			SHC	114.1	131.9	149.8	109.8	127.0	144.1	105.0	121.5	137.9	99.8	115.4	131.0	94.0	108.7	123.4		
		62	TC	138.0	138.0	143.4	131.7	131.7	140.4	124.7	124.7	136.9	117.1	117.1	133.1	109.4	109.4	127.4		
			SHC	103.4	123.4	143.4	100.4	120.4	140.4	97.1	117.0	136.9	93.4	113.2	133.1	88.8	108.1	127.4		
		67	TC	151.5	151.5	151.5	144.5	144.5	144.5	136.9	136.9	136.9	128.5	128.5	128.5	119.4	119.4	119.4		
			SHC	85.1	105.2	125.3	82.1	102.2	122.3	78.9	99.0	119.0	75.4	95.5	115.5	71.7	91.8	111.8		
	72	72	TC	166.1	166.1	166.1	158.5	158.5	158.5	150.2	150.2	150.2	141.1	141.1	141.1	131.3	131.3	131.3		
			SHC	66.2	86.5	106.7	63.3	83.6	103.8	60.2	80.4	100.6	56.8	76.9	97.1	53.1	73.3	93.4		
		76	TC	–	178.6	178.6	–	170.5	170.5	–	161.6	161.6	–	151.8	151.8	–	141.3	141.3		
			SHC	–	71.1	91.8	–	68.3	88.9	–	65.2	85.8	–	61.8	82.5	–	58.2	78.7		
		4375 Cfm	EAT (wb)	58	TC	139.2	139.2	158.0	133.8	133.8	151.9	127.9	127.9	145.2	121.3	121.3	137.7	114.1	114.1	129.5
					SHC	120.4	139.2	158.0	115.7	133.8	151.9	110.6	127.9	145.2	104.9	121.3	137.7	98.7	114.1	129.5
62	TC			142.4	142.4	157.6	135.8	135.8	154.1	128.9	128.9	149.2	121.7	121.7	142.9	114.2	114.2	134.8		
	SHC			111.5	134.5	157.6	108.2	131.2	154.1	104.2	126.7	149.2	99.4	121.1	142.9	93.6	114.2	134.8		
67	TC			155.8	155.8	155.8	148.5	148.5	148.5	140.4	140.4	140.4	131.6	131.6	131.6	122.1	122.1	123.0		
	SHC			90.3	113.6	136.8	87.3	110.5	133.8	84.0	107.2	130.5	80.4	103.6	126.8	76.6	99.8	123.0		
72	72		TC	170.6	170.6	170.6	162.7	162.7	162.7	154.0	154.0	154.0	144.4	144.4	144.4	134.1	134.1	134.1		
			SHC	68.5	91.9	115.3	65.5	88.9	112.3	62.3	85.6	109.0	58.8	82.1	105.4	55.1	78.4	101.7		
	76		TC	–	183.3	183.3	–	174.8	174.8	–	165.4	165.4	–	155.2	155.2	–	144.3	144.3		
			SHC	–	74.3	98.3	–	71.3	95.2	–	68.0	91.9	–	64.6	88.3	–	60.9	84.5		
5000 Cfm	EAT (wb)		58	TC	145.3	145.3	164.9	139.5	139.5	158.4	133.2	133.2	151.2	126.2	126.2	143.2	118.5	118.5	134.5	
				SHC	125.6	145.3	164.9	120.7	139.5	158.4	115.2	133.2	151.2	109.1	126.2	143.2	102.5	118.5	134.5	
		62	TC	146.5	146.5	169.3	140.2	140.2	163.9	133.3	133.3	157.4	126.3	126.3	149.1	118.6	118.6	140.0		
			SHC	118.3	143.8	169.3	114.1	139.0	163.9	109.3	133.3	157.4	103.5	126.3	149.1	97.2	118.6	140.0		
		67	TC	159.1	159.1	159.1	151.5	151.5	151.5	143.1	143.1	143.1	134.0	134.0	137.7	124.2	124.2	133.7		
			SHC	95.2	121.6	148.0	92.2	118.5	144.9	88.8	115.1	141.5	85.1	111.4	137.7	81.3	107.5	133.7		
	72	72	TC	174.1	174.1	174.1	165.9	165.9	165.9	156.8	156.8	156.8	146.9	146.9	146.9	136.2	136.2	136.2		
			SHC	70.5	97.0	123.5	67.5	94.0	120.5	64.2	90.7	117.1	60.6	87.1	113.5	56.9	83.3	109.6		
		76	TC	–	187.0	187.0	–	178.1	178.1	–	168.3	168.3	–	157.7	157.7	–	146.4	146.4		
			SHC	–	77.0	104.0	–	74.0	100.9	–	70.7	97.5	–	67.2	93.9	–	63.4	90.0		
	5625 Cfm	EAT (wb)	58	TC	150.4	150.4	170.8	144.4	144.4	163.9	137.7	137.7	156.3	130.3	130.3	147.9	122.2	122.2	138.7	
				SHC	130.1	150.4	170.8	124.9	144.4	163.9	119.0	137.7	156.3	112.7	130.3	147.9	105.7	122.2	138.7	
62			TC	150.7	150.7	177.9	144.5	144.5	170.6	137.8	137.8	162.7	130.4	130.4	153.9	122.3	122.3	144.4		
			SHC	123.5	150.7	177.9	118.4	144.5	170.6	112.9	137.8	162.7	106.8	130.4	153.9	100.2	122.3	144.4		
67			TC	161.7	161.7	161.7	153.9	153.9	155.6	145.3	145.3	152.1	135.9	135.9	148.2	125.9	125.9	143.9		
			SHC	100.0	129.4	158.8	96.8	126.2	155.6	93.4	122.7	152.1	89.7	118.9	148.2	85.6	114.8	143.9		
72		72	TC	176.9	176.9	176.9	168.3	168.3	168.3	159.0	159.0	159.0	148.8	148.8	148.8	137.9	137.9	137.9		
			SHC	72.3	101.9	131.5	69.3	98.8	128.4	66.0	95.5	125.0	62.4	91.8	121.3	58.6	88.0	117.4		
		76	TC	–	189.8	189.8	–	180.6	180.6	–	170.6	170.6	–	159.7	159.7	–	148.1	148.1		
			SHC	–	79.6	109.7	–	76.5	106.5	–	73.2	103.0	–	69.6	99.2	–	65.7	95.1		
6250 Cfm		EAT (wb)	58	TC	154.8	154.8	175.8	148.5	148.5	168.6	141.5	141.5	160.6	133.7	133.7	151.8	125.3	125.3	142.3	
				SHC	133.9	154.8	175.8	128.4	148.5	168.6	122.3	141.5	160.6	115.6	133.7	151.8	108.4	125.3	142.3	
	62		TC	155.0	155.0	183.0	148.6	148.6	175.5	141.6	141.6	167.2	133.9	133.9	158.0	125.4	125.4	148.1		
			SHC	127.0	155.0	183.0	121.8	148.6	175.5	116.0	141.6	167.2	109.7	133.9	158.0	102.8	125.4	148.1		
	67		TC	163.8	163.8	169.3	155.8	155.8	166.0	147.0	147.0	162.3	137.5	137.5	158.1	127.4	127.4	153.3		
			SHC	104.5	136.9	169.3	101.3	133.6	166.0	97.8	130.0	162.3	93.9	126.0	158.1	89.7	121.5	153.3		
	72	72	TC	179.1	179.1	179.1	170.3	170.3	170.3	160.8	160.8	160.8	150.3	150.3	150.3	139.2	139.2	139.2		
			SHC	74.1	106.7	139.3	71.0	103.6	136.1	67.7	100.2	132.7	64.1	96.5	128.9	60.2	92.6	124.9		
		76	TC	–	192.1	192.1	–	182.7	182.7	–	172.3	172.3	–	161.2	161.2	–	149.4	149.4		
			SHC	–	82.1	115.1	–	79.0	111.8	–	75.6	108.2	–	71.9	104.3	–	67.9	100.0		

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 (1000 Btuh) Gross
- TC – Total capacity (1000 Btuh) Gross

NOTE: See Minimum-Maximum Airflow Ratings in Table 4. Do not operate outside these limits.

Table 17 – COOLING CAPACITIES

2-STAGE COOLING

12.5 TONS (cont.)

50HC14 (12.5 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN SUBCOOLING MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR – CFM								
		3750			5000			6250		
		Air Entering Evaporator – Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	162.0	147.4	132.8	185.6	167.2	148.8	209.5	187.2	164.9
	SHC	85.0	101.4	117.4	96.9	113.0	129.0	106.5	122.4	138.4
	kW	7.70	7.60	7.30	7.90	7.70	7.40	8.10	7.80	7.50
85	TC	154.8	140.9	127.0	171.7	154.4	137.1	188.8	168.0	147.2
	SHC	70.2	90.4	110.6	83.1	103.2	123.2	93.4	113.4	133.3
	kW	8.80	8.70	8.30	8.90	8.70	8.40	9.10	8.80	8.50
95	TC	147.5	134.4	121.2	157.8	141.6	125.4	168.1	148.8	129.6
	SHC	55.5	79.7	103.9	69.3	93.4	117.5	80.4	104.3	128.3
	kW	9.80	9.70	9.30	9.90	9.70	9.50	10.10	9.80	9.60
105	TC	140.3	127.8	115.4	143.8	128.7	113.7	147.4	129.7	111.9
	SHC	40.9	69.0	97.2	55.5	83.6	111.7	67.3	95.3	111.9
	kW	10.80	10.70	10.30	10.90	10.70	10.50	11.10	10.80	10.60
115	TC	133.0	121.3	109.5	129.9	115.9	101.9	126.7	110.5	94.2
	SHC	26.2	58.3	90.4	41.8	73.8	101.9	54.2	86.2	94.2
	kW	11.80	11.70	11.40	11.90	11.70	11.60	12.10	11.80	11.70
125	TC	125.8	114.7	103.7	115.9	103.1	90.2	106.0	91.3	76.6
	SHC	11.5	47.6	83.7	28.0	64.0	90.2	41.2	77.2	76.6
	kW	12.80	12.70	12.40	12.90	12.70	12.60	13.10	12.80	12.70

50HC14 (12.5 TONS) – UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE										
Temp (F) Air Ent Condenser (Edb)		AIR ENTERING EVAPORATOR (F)								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator – Cfm								
		3750	5000	6250	3750	5000	6250	3750	5000	6250
80	TC	57.70	60.00	66.40	60.20	66.80	69.50	64.30	69.10	72.30
	SHC	21.30	27.00	44.00	12.80	22.40	32.50	8.60	16.20	25.50
	kW	8.08	8.15	8.23	8.28	8.34	8.37	8.36	8.43	8.52
75	TC	59.00	61.20	67.90	61.40	68.10	71.00	65.80	70.70	73.70
	SHC	22.40	28.10	44.80	13.50	23.50	33.70	9.30	17.10	26.30
	kW	8.06	8.13	8.21	8.25	8.31	8.34	8.33	8.40	8.49
70	TC	60.40	62.90	69.20	63.10	69.40	72.50	67.00	72.00	75.00
	SHC	23.20	28.90	46.00	14.50	24.30	34.40	10.30	17.90	27.40
	kW	8.04	8.11	8.18	8.23	8.29	8.32	8.31	8.38	8.47
60	TC	63.40	65.70	72.00	65.90	72.30	75.20	70.00	74.80	77.80
	SHC	24.80	30.50	47.80	16.10	25.90	36.00	11.90	19.60	29.00
	kW	8.00	8.07	8.15	8.20	8.25	8.29	8.28	8.35	8.44
50	TC	66.20	68.60	74.30	68.80	74.60	78.20	72.80	77.80	80.70
	SHC	26.60	32.30	49.40	17.70	27.70	37.80	13.50	21.20	30.60
	kW	7.94	8.01	8.08	8.13	8.20	8.23	8.22	8.29	8.38
40	TC	69.10	71.60	77.80	71.80	78.00	81.00	75.70	80.60	83.70
	SHC	28.20	33.90	50.10	19.40	29.30	39.80	15.20	22.90	32.20
	kW	7.90	7.97	8.04	8.09	8.15	8.17	8.16	8.23	8.32

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<sub>lwb</sub> = Wet–bulb temperature corresponding to enthalpy of air leaving evaporator coil (h<sub>lwb</sub>)

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

Where: h<sub>ewb</sub> = Enthalpy of air entering evaporator coil

**Table 18 – STATIC PRESSURE ADDERS (in. wg) – Factory Options and/or Accessories**

**Electric Heaters**

3–5 TONS										
CFM	600	900	1200	1400	1600	1800	2000	2200	2400	2600
1 Electric Heater Module	0.03	0.05	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.13
2 Electric Heater Modules	0.13	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18

6 – 10 TONS										
CFM	2250	2500	2750	3000	3250	3500	3750	4000		
1 Electric Heater Module	0.031	0.037	0.044	0.051	0.059	0.067	0.076	0.085		
2 Electric Heater Modules	0.038	0.046	0.053	0.062	0.070	0.080	0.089	0.100		

6 – 10 TONS										
CFM	4250	4500	4750	5000	5250	5500	5750	6000		
1 Electric Heater Module	0.095	0.105	0.116	0.127	0.139	0.151	0.164	0.177		
2 Electric Heater Modules	0.110	0.122	0.133	0.146	0.158	0.172	0.185	0.200		

12.5 TON										
CFM	3750	4063	4375	4688	5000	5313	5625	5938	6250	
Vertical - 1 Electric Heater Module	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	
Vertical - 2 Electric Heater Modules	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	
Horizontal - 1 Electric Heater Module	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09	
Horizontal - 2 Electric Heater Modules	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	

**Humidi-MiZer® System**

3–6 TONS										
CFM (in. wg)	1000	1250	1500	1750	2000	2250	2500	2750	3000	
3 Tons	0.04	0.052	0.07	–	–	–	–	–	–	
4 Tons	–	0.106	0.138	0.172	0.21	–	–	–	–	
5 Tons	–	–	0.138	0.172	0.21	0.252	0.30	–	–	
6 Tons	–	–	–	0.112	0.125	0.161	0.19	0.22	0.25	

7.5–12.5 TONS										
CFM (in. wg)	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250
7.5 Tons	–	–	–	–	–	–	–	–	–	–
8.5 Tons	0.20	0.22	–	–	–	–	–	–	–	–
10 Tons	0.20	0.22	0.24	0.26	0.28	–	–	–	–	–
12.5 Tons	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12

# ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE

## Vertical Application

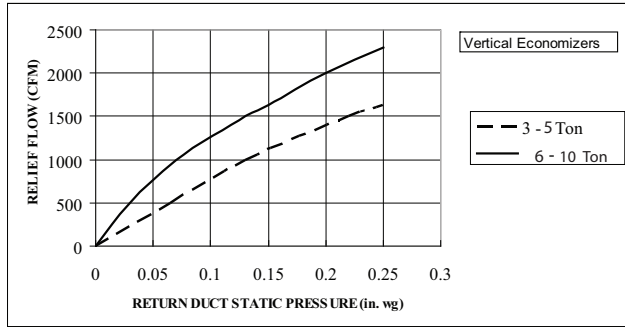


Fig. 16 – Barometric Relief Flow–Vertical 3–10 Ton

C10475

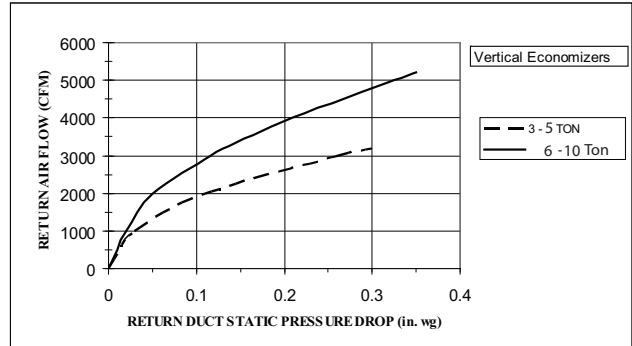


Fig. 17 – Return Air Pressure Drop–Vertical 3–10 Ton

C10477

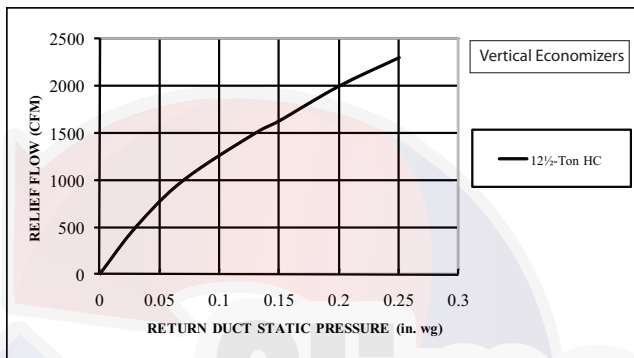


Fig. 18 – Barometric Relief Flow–Vertical 12.5 Ton

C101004

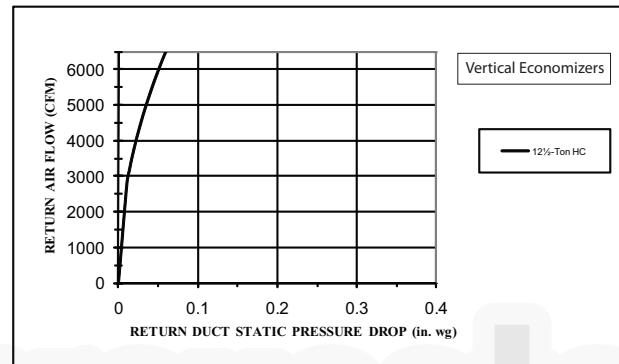


Fig. 19 – Return Air Pressure Drop–Vertical 12.5 Ton

C101005

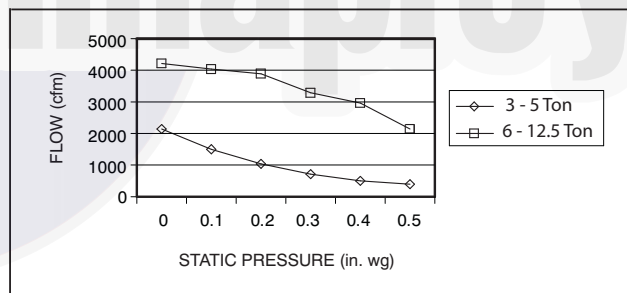


Fig. 20 – Vertical Power Exhaust Performance

C10996

## Horizontal Application

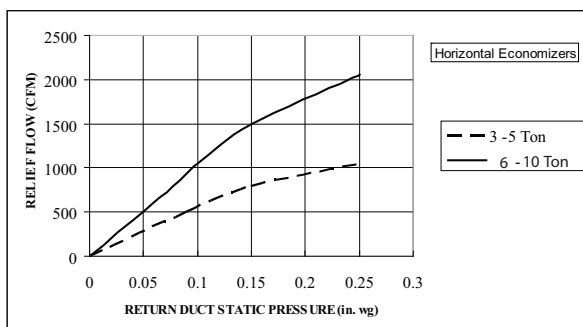


Fig. 21 – Barometric Relief Flow–Horizontal 3–10 Ton

C10472

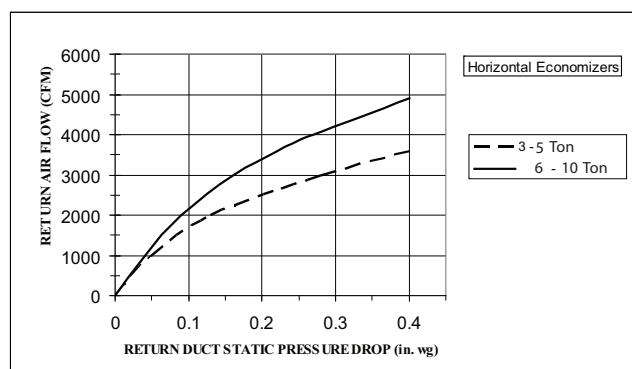
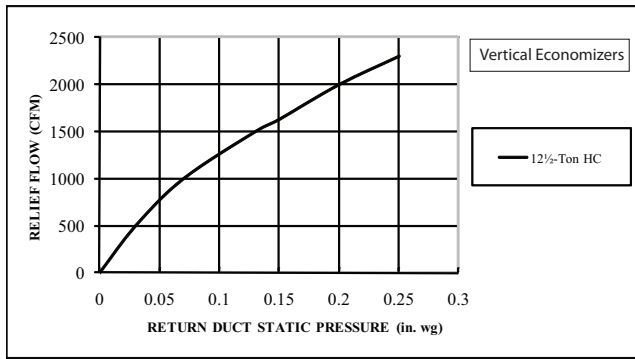


Fig. 22 – Return Air Pressure Drop–Horizontal 3–10 Ton

C10474

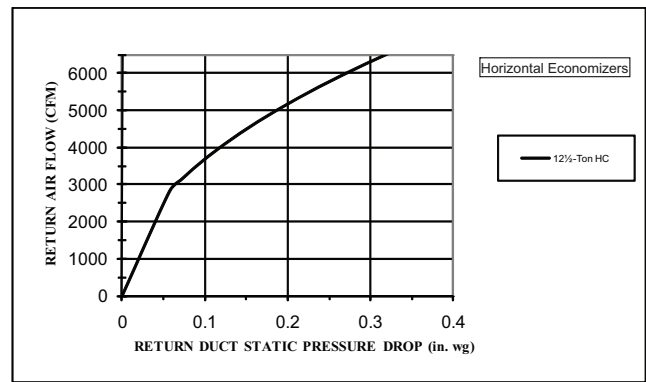
# ECONOMIZER, BAROMETRIC RELIEF AND PE PERFORMANCE (cont.)

## Horizontal Application (cont.)



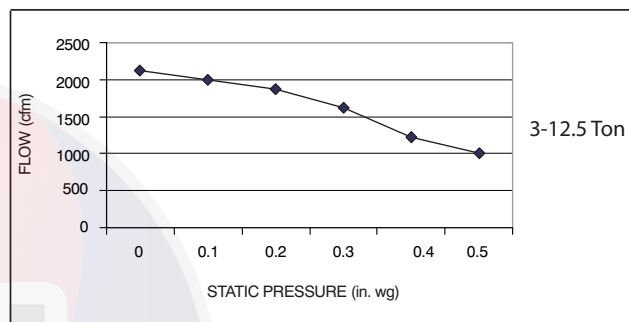
C101004

Fig. 23 – Barometric Relief Flow–Vertical 12.5 Ton



C101003

Fig. 24 – Return Air Pressure Drop–Horizontal–12.5 Ton



C10995

Fig. 25 – Horizontal Power Exhaust Performance

## GENERAL FAN PERFORMANCE NOTES:

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, Carrier recommended the lower horsepower option.
5. For information on the electrical properties of Carrier motors, please see the Electrical information section of this book.
6. For more information on the performance limits of Carrier motors, see the application data section of this book.
7. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.



# FAN PERFORMANCE (BELT DRIVE)

Table 19 – 50HC\*\*04

3 PHASE NON-HUMIDI-MIZER

3 TON VERTICAL SUPPLY

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
900	594	0.15	740	0.25	867	0.37	981	0.52	1084	0.68
975	618	0.17	758	0.28	881	0.40	991	0.55	1092	0.71
1050	642	0.19	777	0.30	896	0.43	1003	0.58	1102	0.75
1125	668	0.22	797	0.34	912	0.47	1017	0.62	1113	0.79
1200	695	0.25	818	0.37	930	0.51	1032	0.66	1126	0.83
1275	722	0.29	841	0.41	949	0.55	1048	0.71	1140	0.88
1350	750	0.33	864	0.46	968	0.60	1065	0.76	1155	0.93
1425	778	0.37	888	0.50	989	0.65	1083	0.81	1171	0.99
1500	807	0.42	913	0.56	1011	0.71	1103	0.87	1188	1.05

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
900	1180	0.86	1269	1.05	1354	1.25	1434	1.47	1511	1.70
975	1186	0.89	1275	1.08	1358	1.29	1437	1.51	1513	1.74
1050	1194	0.92	1281	1.12	1363	1.32	1441	1.54	1516	1.78
1125	1204	0.97	1289	1.16	1370	1.37	1447	1.59	1520	1.82
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	1526	1.87
1275	1227	1.06	1309	1.26	1387	1.47	1462	1.69	1533	1.92
1350	1240	1.12	1321	1.32	1397	1.53	1471	1.75	1541	1.99
1425	1254	1.18	1333	1.38	1409	1.59	1481	1.82	—	—
1500	1270	1.24	1347	1.45	1421	1.66	1492	1.89	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium static 770–1175 RPM, 1.7 BHP max

High static 1035–1466 RPM, 2.4 BHP max

Table 20 – 50HC\*\*04

3 PHASE HUMIDI-MIZER

3 TON VERTICAL SUPPLY

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
900	594	0.15	740	0.25	867	0.37	981	0.52	1084	0.68
975	618	0.17	758	0.28	881	0.40	991	0.55	1092	0.71
1050	642	0.19	777	0.30	896	0.43	1003	0.58	1102	0.75
1125	668	0.22	797	0.34	912	0.47	1017	0.62	1113	0.79
1200	695	0.25	818	0.37	930	0.51	1032	0.66	1126	0.83
1275	722	0.29	841	0.41	949	0.55	1048	0.71	1140	0.88
1350	750	0.33	864	0.46	968	0.60	1065	0.76	1155	0.93
1425	778	0.37	888	0.50	989	0.65	1083	0.81	1171	0.99
1500	807	0.42	913	0.56	1011	0.71	1103	0.87	1188	1.05

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
900	1180	0.86	1269	1.05	1354	1.25	1434	1.47	1511	1.70
975	1186	0.89	1275	1.08	1358	1.29	1437	1.51	1513	1.74
1050	1194	0.92	1281	1.12	1363	1.32	1441	1.54	1516	1.78
1125	1204	0.97	1289	1.16	1370	1.37	1447	1.59	1520	1.82
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	1526	1.87
1275	1227	1.06	1309	1.26	1387	1.47	1462	1.69	1533	1.92
1350	1240	1.12	1321	1.32	1397	1.53	1471	1.75	1541	1.99
1425	1254	1.18	1333	1.38	1409	1.59	1481	1.82	—	—
1500	1270	1.24	1347	1.45	1421	1.66	1492	1.89	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard static 560–854 RPM, 1.7 BHP max

Medium static 770–1175 RPM, 1.7 BHP max

High static 1035–1466 RPM, 2.4 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 21 – 50HC\*\*04

3 PHASE NON-HUMIDI-MIZER

3 TON HORIZONTAL SUPPLY

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
900	574	0.13	707	0.23	817	0.34	913	0.47	999	0.61
975	597	0.15	727	0.25	835	0.37	929	0.50	1015	0.64
1050	621	0.18	747	0.28	853	0.40	946	0.53	1030	0.68
1125	646	0.20	768	0.31	872	0.43	964	0.57	1047	0.72
1200	671	0.23	790	0.34	892	0.47	982	0.61	1064	0.76
1275	696	0.26	812	0.38	912	0.51	1001	0.65	1082	0.81
1350	723	0.30	835	0.42	933	0.55	1020	0.70	1100	0.86
1425	749	0.34	859	0.46	955	0.60	1040	0.75	1119	0.91
1500	776	0.38	883	0.51	977	0.65	1061	0.80	1138	0.97

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
900	1078	0.77	1151	0.93	1220	1.11	1284	1.30	1346	1.49
975	1093	0.80	1165	0.97	1233	1.15	1297	1.33	1358	1.53
1050	1108	0.84	1180	1.01	1247	1.19	1311	1.38	1371	1.58
1125	1123	0.88	1195	1.05	1261	1.23	1325	1.42	1385	1.62
1200	1140	0.92	1210	1.10	1276	1.28	1339	1.47	1399	1.68
1275	1157	0.97	1226	1.15	1292	1.33	1354	1.53	1414	1.73
1350	1174	1.02	1243	1.20	1308	1.39	1370	1.59	1429	1.80
1425	1192	1.08	1260	1.26	1325	1.45	1386	1.65	1444	1.86
1500	1210	1.14	1278	1.33	1342	1.52	1403	1.72	1461	1.93

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium static 770–1175 RPM, 1.7 BHP max

High static 1035–1466 RPM, 2.4 BHP max

Table 22 – 50HC\*\*04

3 PHASE HUMIDI-MIZER

3 TON HORIZONTAL SUPPLY

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
900	574	0.13	707	0.23	817	0.34	913	0.47	999	0.61
975	597	0.15	727	0.25	835	0.37	929	0.50	1015	0.64
1050	621	0.18	747	0.28	853	0.40	946	0.53	1030	0.68
1125	646	0.20	768	0.31	872	0.43	964	0.57	1047	0.72
1200	671	0.23	790	0.34	892	0.47	982	0.61	1064	0.76
1275	696	0.26	812	0.38	912	0.51	1001	0.65	1082	0.81
1350	723	0.30	835	0.42	933	0.55	1020	0.70	1100	0.86
1425	749	0.34	859	0.46	955	0.60	1040	0.75	1119	0.91
1500	776	0.38	883	0.51	977	0.65	1061	0.80	1138	0.97

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
900	1078	0.77	1151	0.93	1220	1.11	1284	1.30	1346	1.49
975	1093	0.80	1165	0.97	1233	1.15	1297	1.33	1358	1.53
1050	1108	0.84	1180	1.01	1247	1.19	1311	1.38	1371	1.58
1125	1123	0.88	1195	1.05	1261	1.23	1325	1.42	1385	1.62
1200	1140	0.92	1210	1.10	1276	1.28	1339	1.47	1399	1.68
1275	1157	0.97	1226	1.15	1292	1.33	1354	1.53	1414	1.73
1350	1174	1.02	1243	1.20	1308	1.39	1370	1.59	1429	1.80
1425	1192	1.08	1260	1.26	1325	1.45	1386	1.65	1444	1.86
1500	1210	1.14	1278	1.33	1342	1.52	1403	1.72	1461	1.93

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard static 560–854 RPM, 1.7 BHP max

Medium static 770–1175 RPM, 1.7 BHP max

High static 1035–1466 RPM, 2.4 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

**Table 23 – 50HC\*\*05**

**3 PHASE NON-HUMIDI-MIZER**

**4 TON VERTICAL SUPPLY**

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
1200	<b>695</b>	<b>0.25</b>	<b>818</b>	<b>0.37</b>	930	0.51	1032	0.66	1126	0.83
1300	<b>731</b>	<b>0.30</b>	<b>849</b>	<b>0.43</b>	955	0.57	1053	0.72	1145	0.89
1400	<b>769</b>	<b>0.36</b>	<b>880</b>	<b>0.49</b>	982	0.63	1077	0.79	1166	0.97
1500	<b>807</b>	<b>0.42</b>	<b>913</b>	<b>0.56</b>	1011	0.71	1103	0.87	1188	1.05
1600	<b>847</b>	<b>0.49</b>	948	0.63	1042	0.79	1130	0.96	1213	1.14
1700	<b>887</b>	<b>0.57</b>	983	0.72	1073	0.88	1158	1.06	1239	1.24
1800	928	0.66	1020	0.82	1106	0.98	1188	1.16	1266	1.35
1900	969	0.76	1057	0.92	1140	1.09	1219	1.28	1295	1.48
2000	1010	0.87	1095	1.04	1175	1.21	1251	1.41	1325	1.61

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
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	1526	1.87
1300	1231	1.08	1313	1.28	1390	1.49	1465	1.71	1536	1.94
1400	1249	1.16	1329	1.36	1405	1.57	1478	1.79	1547	2.03
1500	1270	1.24	1347	1.45	1421	1.66	1492	1.89	—	—
1600	1292	1.34	1367	1.54	1440	1.76	1509	1.99	—	—
1700	1315	1.44	1389	1.65	1459	1.88	1527	2.11	—	—
1800	1341	1.56	1412	1.77	1481	2.00	1547	2.23	—	—
1900	1367	1.68	1437	1.90	1504	2.13	—	—	—	—
2000	1395	1.82	1463	2.04	1528	2.28	—	—	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium Static 920–1303 RPM, 1.7 BHP max

High Static 1208–1550 RPM, 2.9 BHP max

**Table 24 – 50HC\*\*05**

**3 PHASE HUMIDI-MIZER**

**4 TON VERTICAL SUPPLY**

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
1200	695	0.25	818	0.37	930	0.51	1032	0.66	1126	0.83
1300	731	0.30	849	0.43	955	0.57	1053	0.72	1145	0.89
1400	769	0.36	880	0.49	982	0.63	1077	0.79	1166	0.97
1500	807	0.42	913	0.56	1011	0.71	1103	0.87	1188	1.05
1600	847	0.49	948	0.63	1042	0.79	1130	0.96	1213	1.14
1700	887	0.57	983	0.72	1073	0.88	1158	1.06	1239	1.24
1800	928	0.66	1020	0.82	1106	0.98	1188	1.16	1266	1.35
1900	969	0.76	1057	0.92	1140	1.09	1219	1.28	1295	1.48
2000	1010	0.87	1095	1.04	1175	1.21	1251	1.41	1325	1.61

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
1200	1215	1.01	1298	1.21	1378	1.42	1454	1.64	1526	1.87
1300	1231	1.08	1313	1.28	1390	1.49	1465	1.71	1536	1.94
1400	1249	1.16	1329	1.36	1405	1.57	1478	1.79	1547	2.03
1500	1270	1.24	1347	1.45	1421	1.66	1492	1.89	—	—
1600	1292	1.34	1367	1.54	1440	1.76	1509	1.99	—	—
1700	1315	1.44	1389	1.65	1459	1.88	1527	2.11	—	—
1800	1341	1.56	1412	1.77	1481	2.00	1547	2.23	—	—
1900	1367	1.68	1437	1.90	1504	2.13	—	—	—	—
2000	1395	1.82	1463	2.04	1528	2.28	—	—	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard Static 560–854 RPM, 1.7 BHP max

Medium Static 770–1175 RPM, 1.7 BHP max

High Static 1208–1550 RPM, 2.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 25 – 50HC\*\*05

3 PHASE NON-HUMIDI-MIZER

4 TON HORIZONTAL SUPPLY

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
1200	<b>671</b>	<b>0.23</b>	<b>790</b>	<b>0.34</b>	<b>892</b>	<b>0.47</b>	<b>982</b>	0.61	<b>1064</b>	0.76
1300	<b>705</b>	<b>0.28</b>	<b>820</b>	<b>0.39</b>	<b>919</b>	<b>0.52</b>	1007	0.67	1088	0.82
1400	<b>740</b>	<b>0.33</b>	<b>851</b>	<b>0.45</b>	<b>947</b>	<b>0.58</b>	1034	0.73	1113	0.89
1500	<b>776</b>	<b>0.38</b>	<b>883</b>	<b>0.51</b>	<b>977</b>	<b>0.65</b>	1061	0.80	1138	0.97
1600	<b>813</b>	<b>0.45</b>	<b>916</b>	<b>0.58</b>	1007	0.73	1089	0.89	1165	1.05
1700	<b>851</b>	<b>0.52</b>	949	0.66	1038	0.81	1118	0.97	1192	1.15
1800	<b>888</b>	<b>0.60</b>	984	0.75	1069	0.90	1148	1.07	1221	1.25
1900	<b>927</b>	0.69	1019	0.84	1102	1.00	1179	1.18	1250	1.36
2000	<b>965</b>	0.78	1054	0.94	1135	1.11	1210	1.29	1280	1.48

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
1200	<b>1140</b>	0.92	<b>1210</b>	1.10	<b>1276</b>	1.28	<b>1339</b>	1.47	<b>1399</b>	1.68
1300	<b>1162</b>	0.99	<b>1232</b>	1.16	<b>1297</b>	1.35	<b>1360</b>	1.55	<b>1419</b>	1.75
1400	<b>1186</b>	1.06	<b>1254</b>	1.24	<b>1319</b>	1.43	<b>1381</b>	1.63	<b>1439</b>	1.84
1500	<b>1210</b>	1.14	<b>1278</b>	1.33	<b>1342</b>	1.52	<b>1403</b>	1.72	<b>1461</b>	1.93
1600	<b>1236</b>	1.23	<b>1302</b>	1.42	<b>1365</b>	1.62	<b>1425</b>	1.82	<b>1483</b>	2.04
1700	<b>1262</b>	1.33	<b>1328</b>	1.52	<b>1390</b>	1.72	<b>1449</b>	1.93	<b>1505</b>	2.15
1800	<b>1289</b>	1.44	<b>1354</b>	1.63	<b>1415</b>	1.84	<b>1473</b>	2.05	<b>1529</b>	2.27
1900	<b>1317</b>	1.55	<b>1380</b>	1.75	<b>1441</b>	1.96	<b>1498</b>	2.18	–	–
2000	<b>1345</b>	1.68	<b>1408</b>	1.88	<b>1467</b>	2.10	<b>1524</b>	2.32	–	–

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium Static 920–1303 RPM, 1.7 BHP max

High Static 1208–1550 RPM, 2.9 max BHP

Table 26 – 50HC\*\*05

3 PHASE HUMIDI-MIZER

4 TON HORIZONTAL SUPPLY

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
1200	<b>671</b>	0.23	<b>790</b>	0.34	<b>892</b>	0.47	<b>982</b>	0.61	<b>1064</b>	0.76
1300	<b>705</b>	0.28	<b>820</b>	0.39	<b>919</b>	0.52	<b>1007</b>	0.67	<b>1088</b>	0.82
1400	<b>740</b>	0.33	<b>851</b>	0.45	<b>947</b>	0.58	<b>1034</b>	0.73	<b>1113</b>	0.89
1500	<b>776</b>	0.38	<b>883</b>	0.51	<b>977</b>	0.65	<b>1061</b>	0.80	<b>1138</b>	0.97
1600	<b>813</b>	0.45	<b>916</b>	0.58	<b>1007</b>	0.73	<b>1089</b>	0.89	<b>1165</b>	1.05
1700	<b>851</b>	0.52	<b>949</b>	0.66	<b>1038</b>	0.81	<b>1118</b>	0.97	<b>1192</b>	1.15
1800	<b>888</b>	0.60	<b>984</b>	0.75	<b>1069</b>	0.90	<b>1148</b>	1.07	<b>1221</b>	1.25
1900	<b>927</b>	0.69	<b>1019</b>	0.84	<b>1102</b>	1.00	<b>1179</b>	1.18	<b>1250</b>	1.36
2000	<b>965</b>	0.78	<b>1054</b>	0.94	<b>1135</b>	1.11	<b>1210</b>	1.29	<b>1280</b>	1.48

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
1200	<b>1140</b>	0.92	<b>1210</b>	1.10	<b>1276</b>	1.28	<b>1339</b>	1.47	<b>1399</b>	1.68
1300	<b>1162</b>	0.99	<b>1232</b>	1.16	<b>1297</b>	1.35	<b>1360</b>	1.55	<b>1419</b>	1.75
1400	<b>1186</b>	1.06	<b>1254</b>	1.24	<b>1319</b>	1.43	<b>1381</b>	1.63	<b>1439</b>	1.84
1500	<b>1210</b>	1.14	<b>1278</b>	1.33	<b>1342</b>	1.52	<b>1403</b>	1.72	<b>1461</b>	1.93
1600	<b>1236</b>	1.23	<b>1302</b>	1.42	<b>1365</b>	1.62	<b>1425</b>	1.82	<b>1483</b>	2.04
1700	<b>1262</b>	1.33	<b>1328</b>	1.52	<b>1390</b>	1.72	<b>1449</b>	1.93	<b>1505</b>	2.15
1800	<b>1289</b>	1.44	<b>1354</b>	1.63	<b>1415</b>	1.84	<b>1473</b>	2.05	<b>1529</b>	2.27
1900	<b>1317</b>	1.55	<b>1380</b>	1.75	<b>1441</b>	1.96	<b>1498</b>	2.18	–	–
2000	<b>1345</b>	1.68	<b>1408</b>	1.88	<b>1467</b>	2.10	<b>1524</b>	2.32	–	–

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard Static 560–854 RPM, 1.7 BHP max

Medium Static 770–1175 RPM, 1.7 BHP max

High Static 1208–1550 RPM, 2.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 27 – 50HC\*\*06

3 PHASE NON-HUMIDI-MIZER

5 TON VERTICAL SUPPLY

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
1500	<b>794</b>	<b>0.41</b>	<b>902</b>	<b>0.55</b>	<b>993</b>	<b>0.69</b>	1074	0.85	1147	1.00
1625	<b>840</b>	<b>0.49</b>	<b>945</b>	<b>0.64</b>	<b>1034</b>	<b>0.80</b>	1113	0.96	1185	1.13
1750	<b>888</b>	<b>0.59</b>	<b>988</b>	<b>0.75</b>	<b>1075</b>	<b>0.92</b>	1153	1.09	1223	1.26
1875	<b>936</b>	<b>0.70</b>	<b>1033</b>	<b>0.87</b>	1117	1.05	1193	1.23	1263	1.41
2000	<b>984</b>	<b>0.82</b>	1078	1.00	1160	1.19	1235	1.39	1303	1.58
2125	<b>1033</b>	<b>0.96</b>	1124	1.15	1204	1.35	1277	1.56	1343	1.76
2250	1083	1.11	1170	1.32	1248	1.53	1319	1.74	1385	1.96
2375	1133	1.28	1217	1.50	1293	1.72	1363	1.95	1427	2.17
2500	1183	1.47	1265	1.70	1339	1.93	1406	2.17	1470	2.41

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
1500	1214	1.16	1277	1.33	1336	1.50	1392	1.67	1445	1.85
1625	1251	1.30	1313	1.47	1371	1.65	1427	1.83	1479	2.02
1750	1289	1.44	1350	1.63	1407	1.81	1462	2.01	1514	2.20
1875	1327	1.60	1387	1.80	1444	1.99	1498	2.19	1550	2.40
2000	1366	1.78	1426	1.98	1482	2.19	1535	2.40	–	–
2125	1406	1.97	1464	2.18	1520	2.40	–	–	–	–
2250	1446	2.18	1504	2.40	–	–	–	–	–	–
2375	1487	2.40	1544	2.63	–	–	–	–	–	–
2500	1529	2.64	1585	2.89	–	–	–	–	–	–

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium Static 1035 – 1466 RPM, 2.4 BHP max

High Static 1303 – 1550 RPM, 2.9 max BHP

Table 28 – 50HC\*\*06

3 PHASE HUMIDI-MIZER

5 TON VERTICAL SUPPLY

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
1500	794	0.41	902	0.55	993	0.69	1074	0.85	1147	1.00
1625	840	0.49	945	0.64	1034	0.80	1113	0.96	1185	1.13
1750	888	0.59	988	0.75	1075	0.92	1153	1.09	1223	1.26
1875	936	0.70	1033	0.87	1117	1.05	1193	1.23	1263	1.41
2000	984	0.82	1078	1.00	1160	1.19	1235	1.39	1303	1.58
2125	1033	0.96	1124	1.15	1204	1.35	1277	1.56	1343	1.76
2250	1083	1.11	1170	1.32	1248	1.53	1319	1.74	1385	1.96
2375	1133	1.28	1217	1.50	1293	1.72	1363	1.95	1427	2.17
2500	1183	1.47	1265	1.70	1339	1.93	1406	2.17	1470	2.41

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
1500	1214	1.16	1277	1.33	1336	1.50	1392	1.67	1445	1.85
1625	1251	1.30	1313	1.47	1371	1.65	1427	1.83	1479	2.02
1750	1289	1.44	1350	1.63	1407	1.81	1462	2.01	1514	2.20
1875	1327	1.60	1387	1.80	1444	1.99	1498	2.19	1550	2.40
2000	1366	1.78	1426	1.98	1482	2.19	1535	2.40	–	–
2125	1406	1.97	1464	2.18	1520	2.40	–	–	–	–
2250	1446	2.18	1504	2.40	–	–	–	–	–	–
2375	1487	2.40	1544	2.63	–	–	–	–	–	–
2500	1529	2.64	–	–	–	–	–	–	–	–

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard Static 770–1175 RPM, 1.7 BHP max

Medium Static 1035–1466 RPM, 2.4 BHP max

High Static 1303–1550 RPM, 2.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 29 – 50HC\*\*06

3 PHASE NON-HUMIDI-MIZER

5 TON HORIZONTAL SUPPLY

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
1500	<b>725</b>	<b>0.33</b>	<b>840</b>	<b>0.46</b>	937	0.60	1023	0.75	1101	0.90
1625	<b>765</b>	<b>0.40</b>	<b>876</b>	<b>0.54</b>	970	0.68	1054	0.84	1131	1.00
1750	<b>806</b>	<b>0.48</b>	<b>912</b>	<b>0.63</b>	1004	0.78	1087	0.94	1162	1.11
1875	<b>847</b>	<b>0.57</b>	<b>950</b>	<b>0.72</b>	1039	0.88	1120	1.05	1194	1.23
2000	<b>889</b>	<b>0.66</b>	<b>988</b>	<b>0.83</b>	1075	1.00	1154	1.18	1226	1.36
2125	<b>931</b>	<b>0.78</b>	<b>1027</b>	<b>0.95</b>	1112	1.13	1189	1.31	1260	1.50
2250	<b>974</b>	<b>0.90</b>	<b>1067</b>	<b>1.08</b>	1149	1.27	1224	1.46	1294	1.66
2375	<b>1018</b>	<b>1.03</b>	1107	1.23	1187	1.43	1261	1.63	1329	1.84
2500	1061	1.19	1148	1.39	1226	1.59	1297	1.81	1364	2.02

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
1500	1172	1.06	1239	1.23	1302	1.40	1361	1.58	1418	1.77
1625	1201	1.16	1267	1.34	1329	1.52	1388	1.71	1444	1.90
1750	1231	1.28	1296	1.46	1358	1.65	1416	1.84	1472	2.04
1875	1262	1.41	1326	1.60	1387	1.79	1445	1.99	1499	2.20
2000	1294	1.55	1357	1.74	1417	1.95	1474	2.15	1528	2.36
2125	1326	1.70	1388	1.90	1447	2.11	1504	2.33	—	—
2250	1359	1.87	1420	2.08	1479	2.29	1534	2.51	—	—
2375	1393	2.05	1453	2.27	1511	2.49	—	—	—	—
2500	1427	2.24	1487	2.47	1543	2.70	—	—	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Medium Static 1035 – 1466 RPM, 2.4 BHP max

High Static 1303 – 1550 RPM, 2.9 BHP max

Table 30 – 50HC\*\*06

3 PHASE HUMIDI-MIZER

5 TON HORIZONTAL SUPPLY

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
1500	725	0.33	840	0.46	937	0.60	1023	0.75	1101	0.90
1625	765	0.40	876	0.54	970	0.68	1054	0.84	1131	1.00
1750	806	0.48	912	0.63	1004	0.78	1087	0.94	1162	1.11
1875	847	0.57	950	0.72	1039	0.88	1120	1.05	1194	1.23
2000	889	0.66	988	0.83	1075	1.00	1154	1.18	1226	1.36
2125	931	0.78	1027	0.95	1112	1.13	1189	1.31	1260	1.50
2250	974	0.90	1067	1.08	1149	1.27	1224	1.46	1294	1.66
2375	1018	1.03	1107	1.23	1187	1.43	1261	1.63	1329	1.84
2500	1061	1.19	1148	1.39	1226	1.59	1297	1.81	1364	2.02

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
1500	1172	1.06	1239	1.23	1302	1.40	1361	1.58	1418	1.77
1625	1201	1.16	1267	1.34	1329	1.52	1388	1.71	1444	1.90
1750	1231	1.28	1296	1.46	1358	1.65	1416	1.84	1472	2.04
1875	1262	1.41	1326	1.60	1387	1.79	1445	1.99	1499	2.20
2000	1294	1.55	1357	1.74	1417	1.95	1474	2.15	1528	2.36
2125	1326	1.70	1388	1.90	1447	2.11	1504	2.33	—	—
2250	1359	1.87	1420	2.08	1479	2.29	1534	2.51	—	—
2375	1393	2.05	1453	2.27	1511	2.49	—	—	—	—
2500	1427	2.24	1487	2.47	1543	2.70	—	—	—	—

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field-supplied drive is required.

Standard Static 770 – 1175 RPM 1.7 BHP max

Medium Static 1035–1466 2.4 BHP max

High Static 1303–1550 2.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

**Table 31 – 50HC\*\*07**

**3 PHASE**

**6 TON VERTICAL SUPPLY**

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
1800	446	0.33	534	0.50	609	0.70	676	0.91	736	1.14
1950	467	0.39	552	0.57	625	0.77	690	0.99	750	1.23
2100	489	0.45	571	0.64	642	0.86	706	1.08	764	1.33
2250	511	0.53	591	0.73	660	0.95	722	1.19	779	1.44
2400	534	0.61	611	0.82	678	1.05	739	1.30	795	1.56
2550	558	0.71	631	0.93	697	1.17	756	1.42	811	1.69
2700	581	0.81	652	1.04	716	1.29	774	1.55	828	1.83
2850	605	0.93	674	1.17	736	1.43	792	1.70	845	1.98
3000	630	1.06	696	1.31	756	1.58	811	1.86	863	2.15

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
1800	791	1.39	843	1.65	892	1.93	938	2.22	981	2.53
1950	804	1.49	855	1.76	903	2.04	949	2.34	992	2.65
2100	818	1.59	868	1.87	915	2.16	961	2.46	1003	2.78
2250	832	1.71	882	1.99	928	2.29	973	2.59	1015	2.92
2400	847	1.83	896	2.12	942	2.43	986	2.74	1028	3.07
2550	862	1.97	910	2.27	956	2.58	999	2.90	1041	3.23
2700	878	2.12	926	2.42	971	2.74	1013	3.07	1055	3.41
2850	895	2.28	941	2.59	986	2.92	1028	3.25	1069	3.60
3000	912	2.46	958	2.78	1001	3.11	1043	3.45	1083	3.80

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 489–747 RPM, 1.7 BHP max
- Medium static 733–949 RPM, 2.9 BHP max
- High static 909–1102 RPM, 4.7 BHP max

**Table 32 – 50HC\*\*07**

**3 PHASE**

**6 TON HORIZONTAL SUPPLY**

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
1800	415	0.28	510	0.46	588	0.65	655	0.85	715	1.08
1950	431	0.32	525	0.51	601	0.71	668	0.93	727	1.16
2100	448	0.38	540	0.57	615	0.78	681	1.01	740	1.25
2250	465	0.43	555	0.64	629	0.86	694	1.10	753	1.34
2400	483	0.49	571	0.71	644	0.94	708	1.19	766	1.45
2550	501	0.56	587	0.79	659	1.04	722	1.29	779	1.56
2700	519	0.64	603	0.88	674	1.14	737	1.40	793	1.68
2850	538	0.72	620	0.98	689	1.24	751	1.52	807	1.80
3000	557	0.82	637	1.08	705	1.36	766	1.64	822	1.94

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
1800	770	1.31	821	1.56	868	1.82	913	2.09	955	2.36
1950	782	1.40	832	1.66	879	1.92	924	2.20	966	2.49
2100	794	1.50	844	1.76	891	2.03	935	2.32	977	2.61
2250	806	1.60	856	1.87	903	2.15	947	2.45	988	2.75
2400	819	1.71	868	1.99	915	2.28	958	2.58	1000	2.89
2550	832	1.83	881	2.12	927	2.42	971	2.73	1012	3.05
2700	845	1.96	894	2.26	940	2.57	983	2.88	1024	3.21
2850	859	2.10	907	2.41	953	2.72	995	3.05	1036	3.38
3000	873	2.24	921	2.56	966	2.89	1008	3.22	1049	3.56

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 489–747 RPM, 1.7 BHP max
- Medium static 733–949 RPM, 2.9 BHP max
- High static 909–1102 RPM, 4.7 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

**Table 33 – 50HC\*\*08**

**3 PHASE**

**7.5 TON VERTICAL SUPPLY**

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
2250	482	0.36	577	0.51	659	0.66	732	0.82	799	0.98
2438	505	0.43	597	0.59	676	0.75	748	0.92	813	1.09
2625	529	0.51	617	0.68	694	0.85	764	1.03	827	1.22
2813	554	0.60	638	0.78	713	0.97	781	1.16	843	1.35
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3188	604	0.81	683	1.02	753	1.23	817	1.44	877	1.65
3375	630	0.94	706	1.15	774	1.37	836	1.60	895	1.82
3563	657	1.08	729	1.31	795	1.54	856	1.77	913	2.01
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21

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
2250	860	1.14	917	1.31	971	1.48	1022	1.66	1071	1.84
2438	873	1.27	929	1.45	983	1.63	1033	1.81	1081	2.00
2625	887	1.40	942	1.59	995	1.78	1045	1.98	1092	2.18
2813	901	1.55	956	1.75	1008	1.95	1057	2.15	1104	2.36
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3188	933	1.87	986	2.09	1036	2.32	1084	2.54	1130	2.77
3375	950	2.05	1002	2.29	1051	2.52	1098	2.76	1144	3.00
3563	967	2.25	1018	2.49	1067	2.74	1113	2.99	1158	3.24
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 518–733 RPM, 1.7 BHP max
- Medium static 690–936 RPM, 2.4 BHP max
- High static 838–1084 RPM, 3.7 BHP max

**Table 34 – 50HC\*\*08**

**3 PHASE**

**7.5 TON HORIZONTAL SUPPLY**

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
2250	433	0.29	518	0.41	596	0.54	667	0.67	733	0.81
2438	454	0.35	535	0.48	609	0.61	677	0.75	741	0.90
2625	477	0.42	553	0.55	624	0.69	689	0.84	751	1.00
2813	500	0.49	572	0.64	640	0.78	703	0.94	763	1.10
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3188	547	0.68	613	0.83	675	1.00	733	1.17	789	1.34
3375	571	0.78	634	0.95	694	1.12	750	1.30	804	1.48
3563	596	0.90	656	1.07	713	1.25	768	1.44	820	1.63
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79

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
2250	795	0.96	854	1.11	910	1.27	963	1.43	1014	1.60
2438	802	1.05	859	1.21	913	1.38	966	1.55	1016	1.72
2625	810	1.16	865	1.32	919	1.49	970	1.67	1019	1.85
2813	819	1.27	874	1.44	925	1.62	975	1.80	1023	1.99
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3188	843	1.53	894	1.71	943	1.90	990	2.10	1036	2.30
3375	856	1.67	905	1.86	953	2.06	1000	2.27	1045	2.48
3563	870	1.83	918	2.03	965	2.23	1010	2.44	1054	2.66
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 518–733 RPM, 1.7 BHP max
- Medium static 690–936 RPM, 2.4 BHP max
- High static 838–1084 RPM, 3.7 BHP max



## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 35 – 50HC\*\*09

3 PHASE

8.5 TON VERTICAL SUPPLY

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
2550	495	0.43	570	0.56	634	0.70	693	0.83	746	0.96
2750	522	0.52	593	0.66	656	0.80	712	0.94	764	1.09
3000	556	0.65	623	0.80	684	0.95	738	1.11	789	1.26
3200	583	0.76	648	0.93	707	1.09	760	1.26	809	1.42
3400	611	0.89	674	1.07	730	1.24	782	1.42	831	1.59
3600	639	1.04	700	1.22	754	1.41	805	1.59	852	1.78
3850	675	1.24	733	1.44	785	1.64	834	1.83	880	2.03
4050	704	1.42	760	1.63	811	1.84	858	2.05	903	2.25
4250	733	1.62	787	1.84	836	2.06	883	2.28	926	2.49

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
2550	795	1.09	814	1.23	885	1.36	926	1.50	965	1.64
2750	813	1.23	858	1.37	901	1.52	942	1.66	981	1.81
3000	836	1.42	881	1.57	923	1.73	963	1.89	1001	2.05
3200	856	1.58	899	1.75	941	1.92	980	2.08	1018	2.25
3400	876	1.76	919	1.94	960	2.12	998	2.29	1036	2.47
3600	897	1.96	939	2.14	979	2.33	1017	2.52	1054	2.70
3850	923	2.23	964	2.42	1004	2.62	1041	2.82	1077	3.02
4050	945	2.46	986	2.67	1024	2.88	1061	3.08	<b>1097</b>	<b>3.29</b>
4250	968	2.71	1007	2.93	1045	3.15	1081	3.36	<b>1117</b>	<b>3.58</b>

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field—supplied drive is required.

Standard static 518–733 RPM, 1.7 BHP max

Medium static 690–936 RPM, 2.4 BHP max

High static 838–1084 RPM, 3.7 BHP max

Table 36 – 50HC\*\*09

3 PHASE

8.5 TON HORIZONTAL SUPPLY

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
2550	468	0.39	546	0.52	618	0.66	684	0.80	747	0.96
2750	492	0.47	566	0.61	634	0.75	698	0.91	759	1.07
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3200	549	0.68	614	0.84	676	1.00	735	1.17	790	1.35
3400	575	0.80	637	0.96	696	1.14	752	1.31	806	1.50
3600	601	0.93	661	1.10	717	1.28	771	1.47	823	1.66
3850	635	1.11	691	1.29	745	1.48	796	1.68	846	1.88
4050	662	1.27	716	1.46	767	1.66	817	1.87	865	2.08
4250	689	1.45	741	1.65	790	1.86	838	2.07	885	2.29

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
2550	806	1.11	863	1.28	916	1.45	968	1.62	1018	1.80
2750	816	1.23	871	1.40	923	1.58	973	1.76	1022	1.94
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3200	843	1.53	894	1.72	944	1.91	991	2.11	1037	2.31
3400	858	1.69	907	1.88	955	2.09	1001	2.29	1046	2.50
3600	873	1.86	921	2.06	967	2.27	1012	2.48	1056	2.70
3850	894	2.09	940	2.30	985	2.52	1028	2.74	1071	2.97
4050	911	2.29	956	2.51	1000	2.74	1048	2.97	1083	3.20
4250	930	2.51	973	2.74	1015	2.97	1057	3.21	<b>1097</b>	<b>3.45</b>

**NOTE:** For more information, see General Fan Performance Notes.

**Boldface** indicates field—supplied drive is required.

Standard static 518–733 RPM, 1.7 BHP max

Medium static 690–936 RPM, 2.4 BHP max

High static 838–1084 RPM, 3.7 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

**Table 37 – 50HC\*\*11**

**3 PHASE**

**10 TON VERTICAL SUPPLY**

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
3000	556	0.65	623	0.80	684	0.95	738	1.11	789	1.26
3250	590	0.79	655	0.96	713	1.13	766	1.29	815	1.46
3500	625	0.96	687	1.14	742	1.32	794	1.50	841	1.68
3750	661	1.16	719	1.35	773	1.54	822	1.73	869	1.93
4000	697	1.37	753	1.58	804	1.79	852	1.99	897	2.20
4250	733	1.62	787	1.84	836	2.06	883	2.28	926	2.49
4500	770	1.89	821	2.13	869	2.36	914	2.59	956	2.82
4750	807	2.20	856	2.45	902	2.69	945	2.94	986	3.18
5000	844	2.54	891	2.80	936	3.06	978	3.31	1018	3.57

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
3000	836	1.42	881	1.57	923	1.73	963	1.89	1001	2.05
3250	861	1.63	904	1.79	945	1.96	985	2.13	1023	2.30
3500	886	1.86	929	2.04	969	2.22	1008	2.40	1045	2.58
3750	912	2.12	954	2.31	994	2.50	1031	2.70	1068	2.89
4000	940	2.40	980	2.61	1019	2.81	1056	3.02	1092	3.22
4250	968	2.71	1007	2.93	1045	3.15	1081	3.36	1117	3.58
4500	996	3.05	1035	3.28	1072	3.51	1108	3.74	1142	3.97
4750	1026	3.42	1063	3.66	1100	3.91	1135	4.15	1168	4.39
5000	1056	3.82	1093	4.08	1128	4.34	1162	4.59	—	—

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 591–838 RPM, 2.4 BHP max
- Medium static 838–1084 RPM, 3.7 BHP max
- High static 1022–1240 RPM, 4.9 BHP max

**Table 38 – 50HC\*\*11**

**3 PHASE**

**10 TON HORIZONTAL SUPPLY**

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
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3250	555	0.71	620	0.87	681	1.04	739	1.21	794	1.39
3500	588	0.86	649	1.03	707	1.21	762	1.39	815	1.58
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79
4000	655	1.23	709	1.42	761	1.61	812	1.82	860	2.03
4250	689	1.45	741	1.65	790	1.86	838	2.07	885	2.29
4500	723	1.69	773	1.90	820	2.12	866	2.35	910	2.57
4750	758	1.96	805	2.19	850	2.42	894	2.65	937	2.89
5000	793	2.26	838	2.50	881	2.74	923	2.98	965	3.23

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
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3250	847	1.57	897	1.76	946	1.96	993	2.16	1039	2.36
3500	865	1.77	914	1.97	961	2.18	1007	2.38	1051	2.60
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86
4000	907	2.24	952	2.46	996	2.68	1038	2.91	1080	3.14
4250	930	2.51	973	2.74	1015	2.97	1057	3.21	1097	3.45
4500	954	2.81	996	3.05	1037	3.29	1076	3.54	1115	3.79
4750	979	3.13	1019	3.38	1059	3.63	1097	3.89	1135	4.15
5000	1005	3.49	1044	3.74	1082	4.01	1119	4.27	1156	4.55

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 591–838 RPM, 2.4 BHP max
- Medium static 838–1084 RPM, 3.7 BHP max
- High static 1022–1240 RPM, 4.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

**Table 39 – 50HC\*\*12**

**3 PHASE**

**10 TON VERTICAL SUPPLY**

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
3000	556	0.65	623	0.80	684	0.95	738	1.11	789	1.26
3250	590	0.79	655	0.96	713	1.13	766	1.29	815	1.46
3500	625	0.96	687	1.14	742	1.32	794	1.50	841	1.68
3750	661	1.16	719	1.35	773	1.54	822	1.73	869	1.93
4000	697	1.37	753	1.58	804	1.79	852	1.99	897	2.20
4250	733	1.62	787	1.84	836	2.06	883	2.28	926	2.49
4500	770	1.89	821	2.13	869	2.36	914	2.59	956	2.82
4750	807	2.20	856	2.45	902	2.69	945	2.94	986	3.18
5000	844	2.54	891	2.80	936	3.06	978	3.31	1018	3.57

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
3000	836	1.42	881	1.57	923	1.73	963	1.89	1001	2.05
3250	861	1.63	904	1.79	945	1.96	985	2.13	1023	2.30
3500	886	1.86	929	2.04	969	2.22	1008	2.40	1045	2.58
3750	912	2.12	954	2.31	994	2.50	1031	2.70	1068	2.89
4000	940	2.40	980	2.61	1019	2.81	1056	3.02	1092	3.22
4250	968	2.71	1007	2.93	1045	3.15	1081	3.36	1117	3.58
4500	996	3.05	1035	3.28	1072	3.51	1108	3.74	1142	3.97
4750	1026	3.42	1063	3.66	1100	3.91	1135	4.15	1168	4.39
5000	1056	3.82	1093	4.08	1128	4.34	1162	4.59	—	—

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 591–838 RPM, 2.4 BHP max
- Medium static 838–1084 RPM, 3.7 BHP max
- High static 1022–1240 RPM, 4.9 BHP max

**Table 40 – 50HC\*\*12**

**3 PHASE**

**10 TON HORIZONTAL SUPPLY**

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
3000	523	0.58	592	0.73	657	0.88	718	1.05	775	1.22
3250	555	0.71	620	0.87	681	1.04	739	1.21	794	1.39
3500	588	0.86	649	1.03	707	1.21	762	1.39	815	1.58
3750	621	1.03	679	1.21	734	1.40	786	1.59	837	1.79
4000	655	1.23	709	1.42	761	1.61	812	1.82	860	2.03
4250	689	1.45	741	1.65	790	1.86	838	2.07	885	2.29
4500	723	1.69	773	1.90	820	2.12	866	2.35	910	2.57
4750	758	1.96	805	2.19	850	2.42	894	2.65	937	2.89
5000	793	2.26	838	2.50	881	2.74	923	2.98	965	3.23

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
3000	830	1.39	883	1.57	934	1.76	982	1.95	1029	2.14
3250	847	1.57	897	1.76	946	1.96	993	2.16	1039	2.36
3500	865	1.77	914	1.97	961	2.18	1007	2.38	1051	2.60
3750	885	1.99	932	2.20	978	2.42	1022	2.64	1065	2.86
4000	907	2.24	952	2.46	996	2.68	1038	2.91	1080	3.14
4250	930	2.51	973	2.74	1015	2.97	1057	3.21	1097	3.45
4500	954	2.81	996	3.05	1037	3.29	1076	3.54	1115	3.79
4750	979	3.13	1019	3.38	1059	3.63	1097	3.89	1135	4.15
5000	1005	3.49	1044	3.74	1082	4.01	1119	4.27	1156	4.55

**NOTE:** For more information, see General Fan Performance Notes.

- Standard static 591–838 RPM, 2.4 BHP max
- Medium static 838–1084 RPM, 3.7 BHP max
- High static 1022–1240 RPM, 4.9 BHP max

## FAN PERFORMANCE (BELT DRIVE) (cont.)

Table 41 – 50HC\*\*14

3 PHASE

12.5 TON VERTICAL SUPPLY

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
3438	383	0.46	458	0.66	530	0.91	601	1.20	668	1.53
3750	402	0.56	474	0.77	540	1.01	605	1.30	670	1.64
4063	422	0.67	491	0.90	552	1.14	613	1.43	674	1.76
4375	443	0.79	508	1.04	567	1.29	623	1.58	680	1.90
4688	464	0.93	527	1.19	583	1.46	636	1.75	689	2.07
5000	486	1.10	546	1.37	600	1.65	651	1.95	700	2.27
5313	509	1.28	565	1.56	618	1.86	666	2.17	713	2.49
5625	533	1.48	585	1.77	636	2.09	683	2.41	728	2.74
5938	557	1.71	605	2.01	655	2.34	701	2.67	744	3.02
6250	581	1.97	626	2.26	673	2.61	718	2.96	760	3.32

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
3438	729	1.88	783	2.25	833	2.62	879	2.99	921	3.37
3750	731	2.00	787	2.39	838	2.78	885	3.18	929	3.59
4063	733	2.13	789	2.52	841	2.94	890	3.36	935	3.79
4375	736	2.27	791	2.67	843	3.10	892	3.54	938	3.99
4688	741	2.43	794	2.83	845	3.26	894	3.72	941	4.19
5000	749	2.63	799	3.02	848	3.45	896	3.90	942	4.39
5313	760	2.85	806	3.23	853	3.66	899	4.11	944	4.60
5625	772	3.10	816	3.48	860	3.90	904	4.35	947	4.83
5938	786	3.38	827	3.76	869	4.18	911	4.62	952	5.09
6250	801	3.69	841	4.07	880	4.49	920	4.93	<b>959</b>	<b>5.40</b>

**NOTE:** For more information, see General Fan Performance Notes.  
**Boldface** indicates field-supplied drive is required.

Standard static 440–609 RPM, 2.9 BHP max  
 Medium static 609–778 RPM, 3.7 BHP max  
 High static 776–955 RPM, 6.1 BHP max

Table 42 – 50HC\*\*14

3 PHASE

12.5 TON HORIZONTAL SUPPLY

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
3438	379	0.48	455	0.69	526	0.94	593	1.23	655	1.54
3750	399	0.59	469	0.80	536	1.06	600	1.35	660	1.67
4063	420	0.71	486	0.93	549	1.19	609	1.49	667	1.81
4375	442	0.84	503	1.08	562	1.35	620	1.65	675	1.97
4688	464	1.00	522	1.25	578	1.52	632	1.83	685	2.16
5000	486	1.17	541	1.44	594	1.72	646	2.03	696	2.37
5313	509	1.37	561	1.64	612	1.94	661	2.26	708	2.60
5625	532	1.58	582	1.87	630	2.18	677	2.51	722	2.86
5938	555	1.82	603	2.13	649	2.45	694	2.78	737	3.14
6250	578	2.09	625	2.41	669	2.74	711	3.09	753	3.45

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
3438	713	1.89	766	2.25	816	2.64	863	3.04	907	3.46
3750	717	2.02	770	2.39	820	2.79	867	3.20	911	3.63
4063	722	2.17	774	2.55	824	2.95	870	3.37	914	3.81
4375	728	2.33	779	2.72	828	3.13	874	3.56	918	4.00
4688	736	2.52	785	2.91	832	3.32	878	3.76	922	4.21
5000	745	2.73	792	3.12	838	3.54	883	3.98	926	4.44
5313	755	2.97	801	3.36	846	3.78	889	4.23	931	4.69
5625	767	3.23	811	3.63	854	4.05	896	4.50	937	4.97
5938	780	3.52	822	3.92	864	4.35	904	4.80	944	5.27
6250	794	3.84	835	4.25	875	4.68	914	5.13	952	5.61

**NOTE:** For more information, see General Fan Performance Notes.

Standard static 440–609 RPM, 2.9 BHP max  
 Medium static 609–778 RPM, 3.7 BHP max  
 High static 776–955 RPM, 6.1 BHP max

## FAN PERFORMANCE (cont.) X13 MULTI SPEED/TORQUE MOTOR

Table 43 – 50HC\*A04 Vertical Unit–Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	900	0.36	0.16
	975	0.27	0.16
	1050	0.18	0.15
	1125	0.10	0.15
	1200	0.04	0.16
	1275	–	–
	1350	–	–
	1425	–	–
2	1500	–	–
	900	0.51	0.21
	975	0.40	0.20
	1050	0.30	0.19
	1125	0.21	0.18
	1200	0.11	0.17
	1275	0.02	0.16
	1350	–	–
3	1425	–	–
	1500	–	–
	900	0.84	0.33
	975	0.72	0.32
	1050	0.60	0.31
	1125	0.49	0.29
	1200	0.38	0.28
	1275	0.28	0.26
4	1350	0.17	0.25
	1425	0.07	0.24
	1500	–	–
	900	1.06	0.41
	975	0.96	0.41
	1050	0.86	0.41
	1125	0.74	0.40
	1200	0.63	0.38
5	1275	0.50	0.37
	1350	0.38	0.35
	1425	0.26	0.34
	1500	0.15	0.32
	900	1.24	0.51
	975	1.19	0.52
	1050	1.14	0.54
	1125	1.08	0.57
	1200	1.03	0.59
	1275	0.98	0.61
	1350	0.93	0.64
	1425	0.88	0.67
	1500	0.82	0.69

Table 44 – 50HC\*A04 Horizontal Unit–Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	900	0.47	0.21
	975	0.38	0.20
	1050	0.29	0.19
	1125	0.21	0.18
	1200	0.13	0.18
	1275	0.06	0.20
	1350	–	–
	1425	–	–
2	1500	–	–
	900	0.65	0.27
	975	0.54	0.26
	1050	0.44	0.25
	1125	0.33	0.24
	1200	0.23	0.23
	1275	0.13	0.21
	1350	0.02	0.20
3	1425	–	–
	1500	–	–
	900	0.96	0.38
	975	0.84	0.37
	1050	0.73	0.36
	1125	0.61	0.34
	1200	0.50	0.33
	1275	0.38	0.31
4	1350	0.26	0.30
	1425	0.15	0.28
	1500	0.04	0.26
	900	1.17	0.46
	975	1.08	0.46
	1050	0.98	0.46
	1125	0.87	0.45
	1200	0.75	0.44
5	1275	0.63	0.42
	1350	0.51	0.40
	1425	0.39	0.39
	1500	0.27	0.37
	900	1.35	0.52
	975	1.30	0.54
	1050	1.26	0.57
	1125	1.21	0.59
	1200	1.16	0.62
	1275	1.12	0.64
	1350	1.07	0.67
	1425	1.02	0.70
	1500	0.97	0.73

## FAN PERFORMANCE (cont.) X13 MULTI SPEED/TORQUE MOTOR

Table 45 – 50HC\*A05 Vertical Unit–Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	1200	0.57	0.31
	1300	0.44	0.29
	1400	0.30	0.27
	1500	0.16	0.25
	1600	0.03	0.25
	1700	–	–
	1800	–	–
	1900	–	–
2	1200	0.68	0.35
	1300	0.54	0.33
	1400	0.40	0.31
	1500	0.24	0.28
	1600	0.10	0.26
	1700	–	–
	1800	–	–
	1900	–	–
3	1200	1.15	0.54
	1300	1.09	0.54
	1400	1.02	0.55
	1500	0.93	0.58
	1600	0.82	0.57
	1700	0.69	0.55
	1800	0.54	0.52
	1900	0.38	0.50
4	1200	1.16	0.56
	1300	1.12	0.59
	1400	1.07	0.61
	1500	1.00	0.65
	1600	0.92	0.65
	1700	0.80	0.66
	1800	0.67	0.65
	1900	0.51	0.62
5	1200	1.16	0.59
	1300	1.11	0.63
	1400	1.00	0.67
	1500	0.88	0.67
	1600	0.96	0.75
	1700	0.91	0.75
	1800	0.86	0.83
	1900	0.80	0.87
2000	0.74	0.91	

Table 46 – 50HC\*A05 Horizontal Unit–Direct Drive

Speed (Torque) Tap	CFM	ESP	BHP
1	1200	0.62	0.34
	1300	0.48	0.32
	1400	0.35	0.30
	1500	0.23	0.28
	1600	0.12	0.28
	1700	0.02	0.27
	1800	–	–
	1900	–	–
2	1200	0.74	0.39
	1300	0.60	0.37
	1400	0.46	0.35
	1500	0.32	0.32
	1600	0.19	0.30
	1700	0.07	0.27
	1800	–	–
	1900	–	–
3	1200	1.20	0.59
	1300	1.12	0.60
	1400	1.01	0.61
	1500	0.89	0.62
	1600	0.76	0.59
	1700	0.61	0.56
	1800	0.47	0.53
	1900	0.32	0.50
4	1200	1.24	0.60
	1300	1.18	0.63
	1400	1.11	0.65
	1500	1.03	0.69
	1600	0.93	0.69
	1700	0.82	0.69
	1800	0.70	0.69
	1900	0.56	0.66
5	1200	1.25	0.61
	1300	1.20	0.65
	1400	1.11	0.68
	1500	1.03	0.68
	1600	1.05	0.76
	1700	1.01	0.76
	1800	0.96	0.84
	1900	0.91	0.89
2000	0.87	0.93	

## FAN PERFORMANCE (cont.) X13 MULTI SPEED/TORQUE MOTOR

Table 47 – 50HC\*A06 Vertical Unit–Direct Drive

Speed (Torque) tap	CFM	ESP	BHP
1	1500	0.50	0.44
	1625	0.32	0.42
	1750	0.14	0.39
	1875	–	–
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
2500	–	–	
2	1500	0.72	0.56
	1625	0.53	0.53
	1750	0.34	0.50
	1875	0.18	0.48
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
2500	–	–	
3	1500	1.20	0.84
	1625	1.02	0.82
	1750	0.82	0.82
	1875	0.61	0.79
	2000	0.40	0.75
	2125	0.20	0.71
	2250	0.04	0.67
	2375	–	–
2500	–	–	
4	1500	1.31	0.92
	1625	1.17	0.92
	1750	0.99	0.95
	1875	0.80	0.94
	2000	0.59	0.90
	2125	0.37	0.86
	2250	0.17	0.83
	2375	0.00	0.79
2500	–	–	
5	1500	1.36	0.94
	1625	1.24	0.99
	1750	0.99	1.02
	1875	0.80	1.05
	2000	0.74	1.03
	2125	0.53	0.99
	2250	0.31	0.94
	2375	0.08	0.90
2500	–	0.86	

Table 48 – 50HC\*A06 Horizontal Unit–Direct Drive

Speed (Torque) tap	CFM	ESP	BHP
1	1500	0.63	0.49
	1625	0.45	0.46
	1750	0.27	0.43
	1875	0.10	0.39
	2000	–	–
	2125	–	–
	2250	–	–
	2375	–	–
2500	–	–	
2	1500	0.88	0.61
	1625	0.69	0.58
	1750	0.49	0.55
	1875	0.30	0.51
	2000	0.12	0.48
	2125	–	–
	2250	–	–
	2375	–	–
2500	–	–	
3	1500	1.37	0.89
	1625	1.20	0.87
	1750	1.02	0.86
	1875	0.81	0.83
	2000	0.60	0.79
	2125	0.39	0.75
	2250	0.21	0.71
	2375	0.07	0.67
2500	–	–	
4	1500	1.48	0.95
	1625	1.35	0.95
	1750	1.20	0.99
	1875	1.03	0.99
	2000	0.83	0.96
	2125	0.63	0.93
	2250	0.42	0.89
	2375	0.22	0.84
2500	0.05	0.78	
5	1500	1.52	0.97
	1625	1.42	1.01
	1750	1.20	1.05
	1875	1.03	1.09
	2000	1.00	1.09
	2125	0.82	1.06
	2250	0.62	1.02
	2375	0.40	0.98
2500	0.16	0.93	

## FAN PERFORMANCE (cont.)

**Table 49 – PULLEY ADJUSTMENT**

UNIT		Motor/Drive Combo	Motor Pulley turns open										
			0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
04	1 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
	3 Phase	Standard Static*	854	825	795	766	736	707	678	648	619	589	560
		Medium Static*	1175	1135	1094	1054	1013	973	932	892	851	811	770
		High Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
		Medium Static	1303	1265	1226	1188	1150	1112	1073	1035	997	958	920
05	1 Phase	Standard Static	854	825	795	766	736	707	678	648	619	589	560
		Medium Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
	3 Phase	Standard Static*	854	825	795	766	736	707	678	648	619	589	560
		Medium Static*	1175	1135	1094	1054	1013	973	932	892	851	811	770
		Medium Static	1303	1265	1226	1188	1150	1112	1073	1035	997	958	920
		High Static	1639	1596	1553	1510	1467	1424	1380	1337	1294	1251	1208
06	1 Phase	Standard Static	1175	1135	1094	1054	1013	973	932	892	851	811	770
		Medium Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
	3 Phase	Standard Static*	1175	1135	1094	1054	1013	973	932	892	851	811	770
		Medium Static*	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
		High Static	1687	1649	1610	1572	1533	1495	1457	1418	1380	1341	1303
		Medium Static	1466	1423	1380	1337	1294	1251	1207	1164	1121	1078	1035
07	3 Phase	Standard Static	747	721	695	670	644	618	592	566	541	515	489
		Medium Static	949	927	906	884	863	841	819	798	776	755	733
		High Static	1102	1083	1063	1044	1025	1006	986	967	948	928	909
08	3 Phase	Standard Static	733	712	690	669	647	626	604	583	561	540	518
		Medium Static	936	911	887	862	838	813	788	764	739	715	690
		High Static	1084	1059	1035	1010	986	961	936	912	887	863	838
09	3 Phase	Standard Static	733	712	690	669	647	626	604	583	561	540	518
		Medium Static	936	911	887	862	838	813	788	764	739	715	690
		High Static	1084	1059	1035	1010	986	961	936	912	887	863	838
11	3 Phase	Standard Static	838	813	789	764	739	715	690	665	640	616	591
		Medium Static	1084	1059	1035	1010	986	961	936	912	887	863	838
		High Static	1240	1218	1196	1175	1153	1131	1109	1087	1066	1044	1022
12	3 Phase	Standard Static	838	813	789	764	739	715	690	665	640	616	591
		Medium Static	1084	1059	1035	1010	986	961	936	912	887	863	838
		High Static	1240	1218	1196	1175	1153	1131	1109	1087	1066	1044	1022
14	3 Phase	Standard Static	609	592	575	558	541	525	508	491	474	457	440
		Medium Static	778	761	744	727	710	694	677	660	643	626	609
		High Static	955	973	951	929	907	886	864	842	820	798	776

■ – Factory settings

\* Humidi–MiZer® system models only



# ELECTRICAL INFORMATION

**Table 50 – 50HC\*\*04**

**SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	16.6	79	190	1.0	DD-STD	78%	7.4
					190	1.0	STD	67%	4.9
					190	1.0	MED	67%	4.9
230-1-60	187	253	16.6	79	190	1.0	DD-STD	78%	7.4
					190	1.0	STD	67%	4.9
					190	1.0	MED	67%	4.9
208-3-60	187	253	10.4	73	190	1.0	DD-STD	78%	7.4
					190	1.0	STD	75%	5.2
					190	1.0	MED	87%	5.2
					190	1.0	HIGH	89%	8.4
230-3-60	187	253	10.4	73	190	1.0	DD-STD	78%	7.4
					190	1.0	STD	75%	5.2
					190	1.0	MED	87%	4.9
					190	1.0	HIGH	89%	8.3
460-3-60	414	506	5.8	38	190	0.5	DD-STD	78%	4.0
					190	0.5	STD	75%	2.6
					190	0.5	MED	87%	2.5
					190	0.5	HIGH	89%	4.2
575-3-60	518	633	3.8	37	190	0.5	DD-STD	78%	4.0
					190	0.5	STD	73%	1.2
					190	0.5	MED	73%	1.2
					190	0.5	HIGH	78%	2.0

**Table 51 – 50HC\*\*05**

**SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	21.8	117	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	67%	4.9
230-1-60	187	253	21.8	117	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	67%	4.9
208-3-60	187	253	13.7	83	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	5.2
					325	1.4	HIGH	89%	8.4
230-3-60	187	253	13.7	83	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	87%	4.9
					325	1.4	HIGH	89%	8.3
460-3-60	414	506	6.2	41	325	0.9	DD-STD	78%	4.0
					325	0.9	STD	75%	2.6
					325	0.9	MED	87%	2.5
					325	0.9	HIGH	89%	4.2
575-3-60	518	633	4.8	33	325	0.9	DD-STD	78%	4.0
					325	0.9	STD	73%	1.2
					325	0.9	MED	72%	1.6
					325	0.9	HIGH	77%	2.8

## ELECTRICAL INFORMATION (cont.)

**Table 52 – 50HC\*\*06**

**SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-1-60	187	253	25.0	134	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	76%	7.0
230-1-60	187	253	25.0	134	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	67%	4.9
					325	1.4	MED	76%	7.0
208-3-60	187	253	15.9	110	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	89%	8.4
					325	1.4	HIGH	89%	8.4
230-3-60	187	253	15.9	110	325	1.4	DD-STD	78%	7.4
					325	1.4	STD	75%	5.2
					325	1.4	MED	89%	8.3
					325	1.4	HIGH	89%	8.3
460-3-60	414	506	7.0	52	325	0.9	DD-STD	78%	4.0
					325	0.9	STD	75%	2.6
					325	0.9	MED	89%	4.2
					325	0.9	HIGH	89%	4.2
575-3-60	518	633	5.1	40	325	0.9	DD-STD	78%	4.0
					325	0.9	STD	73%	1.2
					325	0.9	MED	78%	2.0
					325	0.9	HIGH	77%	2.8

**Table 53 – 50HC\*A07**

**SINGLE STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	325	1.5	STD	75%	5.2
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	83%	13.6
230-3-60	187	253	19.6	136	325	1.5	STD	75%	5.2
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	83%	12.7
460-3-60	414	506	8.2	66	325	0.8	STD	75%	2.6
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	83%	6.4
575-3-60	518	633	6.6	55	325	0.6	STD	72%	1.6
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

**Table 54 – 50HC\*D07**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	17.5	136	325	1.5	STD	75%	5.2
					325	1.5	MED	89%	8.4
					325	1.5	HIGH	83%	13.6
230-3-60	187	253	17.5	136	325	1.5	STD	75%	5.2
					325	1.5	MED	89%	8.3
					325	1.5	HIGH	83%	12.7
460-3-60	414	506	8.4	66	325	0.8	STD	75%	2.6
					325	0.8	MED	89%	4.2
					325	0.8	HIGH	83%	6.4
575-3-60	518	633	6.3	55	325	0.6	STD	72%	1.6
					325	0.6	MED	77%	2.8
					325	0.6	HIGH	81%	5.6

## ELECTRICAL INFORMATION (cont.)

**Table 55 – 50HC\*\*08**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2
							325	1.5	MED	87%	6.9
							325	1.5	HIGH	87%	10.6
230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2
							325	1.5	MED	87%	6.7
							325	1.5	HIGH	87%	10.6
460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	75%	2.6
							325	0.8	MED	87%	3.4
							325	0.8	HIGH	87%	5.3
575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	72%	1.6
							325	0.6	MED	78%	2.0
							325	0.6	HIGH	77%	2.8

**Table 56 – 50HC\*\*09**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2
							325	1.5	MED	87%	6.9
							325	1.5	HIGH	87%	10.6
230-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2
							325	1.5	MED	87%	6.7
							325	1.5	HIGH	87%	10.6
460-3-60	414	506	6.2	41	6.2	41	325	0.8	STD	75%	2.6
							325	0.8	MED	87%	3.4
							325	0.8	HIGH	87%	5.3
575-3-60	518	633	4.8	33	4.8	33	325	0.6	STD	72%	1.6
							325	0.6	MED	78%	2.0
							325	0.6	HIGH	77%	2.8

**Table 57 – 50HC\*\*11**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	69%	5.2
							610	7.4	MED	87%	10.6
							610	7.4	HIGH	83%	13.6
230-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	69%	2.6
							610	7.4	MED	87%	10.6
							610	7.4	HIGH	83%	12.7
460-3-60	414	506	7.0	52	7.0	52	610	3.6	STD	69%	2.6
							610	3.6	MED	87%	5.3
							610	3.6	HIGH	83%	6.4
575-3-60	518	633	5.1	40	5.1	40	610	3.6	STD	78%	2.0
							610	3.6	MED	77%	2.8
							610	3.6	HIGH	81%	5.6

## ELECTRICAL INFORMATION (cont.)

**Table 58 – 50HC\*\*12**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	13.6
230-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2
							1070	6.2	MED	87%	10.6
							1070	6.2	HIGH	83%	12.7
460-3-60	414	506	7.7	52	7.7	52	1070	3.1	STD	69%	2.6
							1070	3.1	MED	87%	5.3
							1070	3.1	HIGH	83%	6.4
575-3-60	518	633	5.7	39	5.7	39	1070	2.5	STD	78%	2.0
							1070	2.5	MED	77%	2.8
							1070	2.5	HIGH	81%	5.6

**Table 59 – 50HC\*\*14**

**2-STAGE COOLING WITH SINGLE SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	79%	7.5
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	20.4
230-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	79%	7.5
							280	1.5	MED	87%	10.6
							280	1.5	HIGH	90%	20.4
460-3-60	414	506	8.2	66	8.2	66	280	0.8	STD	79%	3.4
							280	0.8	MED	87%	5.3
							280	0.8	HIGH	90%	10.2
575-3-60	518	633	6.6	55	6.6	55	280	0.7	STD	77%	2.8
							280	0.7	MED	77%	2.8
							280	0.7	HIGH	94%	9.0

## ELECTRICAL INFORMATION (cont.)

**Table 60 – 50HC\*\*07**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (ea)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	17.5	136	325	1.5	STD	84%	5.8
					325	1.5	MED	85%	8.6
					325	1.5	HIGH	84%	13.6
230-3-60	187	253	17.5	136	325	1.5	STD	84%	5.6
					325	1.5	MED	85%	7.8
					325	1.5	HIGH	84%	12.7
460-3-60	414	506	8.4	66	325	0.8	STD	79%	2.9
					325	0.8	MED	85%	3.8
					325	0.8	HIGH	84%	6.4
575-3-60	518	633	6.3	55	325	0.6	STD	81%	2.8
					325	0.6	MED	84%	4.5
					325	0.6	HIGH	83%	6.2

**Table 61 – 50HC\*\*08**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.8
							325	1.5	MED	77%	7.1
							325	1.5	HIGH	82%	10.8
230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.6
							325	1.5	MED	77%	6.8
							325	1.5	HIGH	82%	9.8
460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	79%	2.9
							325	0.8	MED	77%	3.4
							325	0.8	HIGH	82%	4.9
575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	81%	2.8
							325	0.6	MED	80%	3.5
							325	0.6	HIGH	84%	4.5

**Table 62 – 50HC\*\*09**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.8
							325	1.5	MED	77%	7.1
							325	1.5	HIGH	82%	10.8
230-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.6
							325	1.5	MED	77%	6.8
							325	1.5	HIGH	82%	9.8
460-3-60	414	506	6.2	41	6.2	41	325	0.8	STD	79%	2.9
							325	0.8	MED	77%	3.4
							325	0.8	HIGH	82%	4.9
575-3-60	518	633	4.8	33	4.8	33	325	0.6	STD	81%	2.8
							325	0.6	MED	80%	3.5
							325	0.6	HIGH	84%	4.5

## ELECTRICAL INFORMATION (cont.)

**Table 63 – 50HC\*\*11**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	7.1
							610	7.4	MED	82%	10.8
							610	7.4	HIGH	84%	13.6
230-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	6.8
							610	7.4	MED	82%	9.8
							610	7.4	HIGH	84%	12.7
460-3-60	414	506	7.0	52	7.0	52	610	3.6	STD	77%	3.4
							610	3.6	MED	82%	4.9
							610	3.6	HIGH	84%	6.4
575-3-60	518	633	5.1	40	5.1	40	610	3.6	STD	80%	3.5
							610	3.6	MED	84%	4.5
							610	3.6	HIGH	83%	6.2

**Table 64 – 50HC\*\*12**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	7.1
							1070	6.2	MED	82%	10.8
							1070	6.2	HIGH	84%	13.6
230-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	6.8
							1070	6.2	MED	82%	9.8
							1070	6.2	HIGH	84%	12.7
460-3-60	414	506	7.7	52	7.7	52	1070	3.1	STD	77%	3.4
							1070	3.1	MED	82%	4.9
							1070	3.1	HIGH	84%	6.4
575-3-60	518	633	5.7	39	5.7	39	1070	2.5	STD	80%	3.5
							1070	2.5	MED	84%	4.5
							1070	2.5	HIGH	83%	6.2

**Table 65 – 50HC\*\*14**

**2-STAGE COOLING WITH 2-SPEED INDOOR FAN MOTOR**

V-Ph-Hz	VOLTAGE RANGE		COMP (Cir 1)		COMP (Cir 2)		OFM (ea)		IFM		
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF at Full Load	FLA
208-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	8.6
							280	1.5	MED	82%	10.8
							280	1.5	HIGH	90%	20.4
230-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	7.8
							280	1.5	MED	82%	9.8
							280	1.5	HIGH	90%	20.4
460-3-60	414	506	8.2	66	8.2	66	280	0.8	STD	85%	3.8
							280	0.8	MED	82%	4.9
							280	0.8	HIGH	90%	10.2
575-3-60	518	633	6.6	55	6.6	55	280	0.7	STD	84%	4.5
							280	0.7	MED	84%	4.5
							280	0.7	HIGH	94%	9.0

## ELECTRICAL INFORMATION (cont.)

Table 66 – 50HC–A04

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO PE.	w/PE. (pwrd fr/unit)	NO PE.	w/PE. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		104B00	10.5	7.9/9.6	040A00	040A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
	STD	101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		104B00	10.5	7.9/9.6	040A00	040A00	–	–
MED	102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–	
	101A00	4.4	3.3/4.0	–	–	–	–	
	102A00	6.5	4.9/6.0	–	–	–	–	
	103B00	8.7	6.5/8.0	037A00	037A00	–	–	
HIGH	104B00	10.5	7.9/9.6	040A00	040A00	–	–	
	102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–	
	101A00	4.4	3.3/4.0	–	–	–	–	
	102A00	6.5	4.9/6.0	–	–	–	–	
208/ 230–3–60	DD–STD	103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		101A00	4.4	3.3/4.0	–	–	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
	STD	103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		101A00	4.4	3.3/4.0	–	–	–	–
	MED	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
105A00		16.0	12.0/14.7	037A00	037A00	038A00	038A00	
HIGH	101A00	4.4	3.3/4.0	–	–	–	–	
	102A00	6.5	4.9/6.0	–	–	–	–	
	103B00	8.7	6.5/8.0	–	–	–	–	
	104B00	10.5	7.9/9.6	–	–	–	–	
460–3–60	DD–STD	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	STD	109A00	14.0	12.9	–	–	–	–
		106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	MED	109A00	14.0	12.9	–	–	–	–
		106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	HIGH	109A00	14.0	12.9	–	–	–	–
		106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
575–3–60	DD–STD	109A00	14.0	12.9	–	–	–	–
		297A00	9.2	9.2	–	–	–	–
	STD	298A00	13.8	13.8	–	–	–	–
		297A00	9.2	9.2	–	–	–	–
	MED	298A00	13.8	13.8	–	–	–	–
		297A00	9.2	9.2	–	–	–	–
	HIGH	298A00	13.8	13.8	–	–	–	–
		297A00	9.2	9.2	–	–	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.

## ELECTRICAL INFORMATION (cont.)

Table 67 – 50HC–A05

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO PE.	w/PE. (pwrd fr/unit)	NO PE.	w/PE. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
		104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
	STD	101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
	MED	104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		101A00	4.4	3.3/4.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
102A00,102A00		13.0	9.8/11.9	040A00	040A00	–	–	
208/ 230–3–60	DD–STD	103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
		104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
	STD	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
	MED	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	–	–	–	–
HIGH	105A00	16.0	12.0/14.7	037A00	038A00	038A00	038A00	
	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00	
	102A00	6.5	4.9/6.0	–	–	–	–	
	103B00	8.7	6.5/8.0	–	–	–	–	
460–3–60	DD–STD	105A00	16.0	12.0/14.7	037A00	038A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	STD	109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	MED	109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
HIGH	109A00	14.0	12.9	–	–	–	–	
	108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
	106A00	6.0	5.5	–	–	–	–	
	108A00	11.5	10.6	–	–	–	–	
575–3–60	DD–STD	109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
	STD	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	MED	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	HIGH	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.



## ELECTRICAL INFORMATION (cont.)

Table 68 – 50HC–A06

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

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO PE.	w/PE. (pwrd fr/unit)	NO PE.	w/PE. (pwrd fr/unit)
208/ 230–1–60	DD–STD	102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
	STD	104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
	MED	103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
		104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		102A00	6.5	4.9/6.0	–	–	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
	STD	104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
		102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
	MED	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
		102A00	6.5	4.9/6.0	–	–	–	–
		104B00	10.5	7.9/9.6	–	–	–	–
HIGH	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00	
	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00	
	104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00	
	102A00	6.5	4.9/6.0	–	–	–	–	
460–3–60	DD–STD	104B00	10.5	7.9/9.6	–	–	–	–
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
	STD	108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	MED	109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
		106A00	6.0	5.5	–	–	–	–
HIGH	108A00	11.5	10.6	–	–	–	–	
	109A00	14.0	12.9	–	–	–	–	
	108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
	108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00	
575–3–60	DD–STD	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
	STD	109A00	14.0	12.9	–	–	–	–
		298A00	13.8	13.8	037A00	037A00	037A00	037A00
	MED	301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
	HIGH	301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
		301A00	23.0	23.0	037A00	037A00	037A00	

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.

## ELECTRICAL INFORMATION (cont.)

Table 69 – 50HC–A04

### ELECTRIC HEAT – ELECTRICAL DATA SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		102A00	6.5	4.9/6.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		104B00	10.5	7.9/9.6	040A00	040A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
	STD	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		102A00	6.5	4.9/6.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		104B00	10.5	7.9/9.6	040A00	040A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
	MED	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		102A00	6.5	4.9/6.0	037A00	037A00	–	–
103B00		8.7	6.5/8.0	037A00	037A00	–	–	
104B00		10.5	7.9/9.6	040A00	040A00	–	–	
102A00,102A00		13.0	9.8/11.9	040A00	040A00	–	–	
208/ 230–3–60	DD–STD	101A00	4.4	3.3/4.0	037A00	037A00	037A00	037A00
		102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
	STD	101A00	4.4	3.3/4.0	037A00	037A00	037A00	037A00
		102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
	MED	101A00	4.4	3.3/4.0	037A00	037A00	037A00	037A00
		102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
HIGH	101A00	4.4	3.3/4.0	037A00	037A00	037A00	037A00	
	102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00	
	103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00	
	104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00	
	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00	
460–3–60	DD–STD	106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
	STD	106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
	MED	106A00	6.0	5.5	–	–	–	–
		107A00	8.8	8.1	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
HIGH	106A00	6.0	5.5	–	–	–	–	
	107A00	8.8	8.1	–	–	–	–	
	108A00	11.5	10.6	–	–	–	–	
	109A00	14.0	12.9	–	–	–	–	
575–3–60	DD–STD	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	STD	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	MED	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	HIGH	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–

**NOTE:** STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.

## ELECTRICAL INFORMATION (cont.)

Table 70 – 50HC–A05

### ELECTRIC HEAT – ELECTRICAL DATA SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY-INSTALLED NON-FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–1–60	DD–STD	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
	STD	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
	MED	101A00	4.4	3.3/4.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
208/ 230–3–60	DD–STD	102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	03A007
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
	STD	102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
	MED	102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
HIGH	102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00	
	103B00	8.7	6.5/8.0	037A00	037A00	037A00	037A00	
	105A00	16.0	12.0/14.7	037A00	038A00	038A00	038A00	
	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00	
460–3–60	DD–STD	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
	STD	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
	MED	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
HIGH	106A00	6.0	5.5	–	–	–	–	
	108A00	11.5	10.6	–	–	–	–	
	109A00	14.0	12.9	–	–	–	–	
	108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
575–3–60	DD–STD	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	STD	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	MED	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–
	HIGH	297A00	9.2	9.2	–	–	–	–
		298A00	13.8	13.8	–	–	–	–

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.

## ELECTRICAL INFORMATION (cont.)

Table 71 – 50HC–A06

### ELECTRIC HEAT – ELECTRICAL DATA SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/RE. (pwrd fr/unit)
208/ 230–1–60	DD–STD	102A00	6.5	4.9/6.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
		104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
	STD	102A00	6.5	4.9/6.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
		102A00,102A00	13.0	9.8/11.9	040A00	040A00	–	–
		103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
	MED	104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		102A00	6.5	4.9/6.0	037A00	037A00	–	–
		103B00	8.7	6.5/8.0	037A00	037A00	–	–
102A00,102A00		13.0	9.8/11.9	040A00	040A00	–	–	
208/ 230–3–60	DD–STD	103B00,103B00	17.4	13.1/16.0	040A00	040A00	–	–
		104B00,104B00	21.0	15.8/19.3	040A00	040A00	–	–
		102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00
		105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
	STD	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
		102A00	6.5	4.9/6.0	037A00	037A00	037A00	037A00
		104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00
	MED	105A00	16.0	12.0/14.7	037A00	037A00	038A00	038A00
		104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00
		104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00
102A00		6.5	4.9/6.0	037A00	037A00	037A00	037A00	
HIGH	104B00	10.5	7.9/9.6	037A00	037A00	037A00	037A00	
	105A00	16.0	12.0/14.7	037A00	038A00	038A00	038A00	
	104B00,104B00	21.0	15.8/19.3	038A00	038A00	038A00	038A00	
	104B00,105A00	26.5	19.9/24.3	038A00	038A00	038A00	038A00	
460–3–60	DD–STD	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
	STD	106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
		109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
	MED	108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
		106A00	6.0	5.5	–	–	–	–
		108A00	11.5	10.6	–	–	–	–
109A00		14.0	12.9	–	–	–	–	
HIGH	108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00	
	108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00	
	106A00	6.0	5.5	–	–	–	–	
	108A00	11.5	10.6	–	–	–	–	
575–3–60	DD–STD	109A00	14.0	12.9	–	–	–	–
		108A00,108A00	23.0	21.1	037A00	037A00	037A00	037A00
		108A00,109A00	25.5	23.4	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
	STD	301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
		301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
	MED	301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
		301A00	23.0	23.0	037A00	037A00	037A00	037A00
		298A00	13.8	13.8	–	–	–	–
HIGH	301A00	23.0	23.0	037A00	037A00	037A00	037A00	
	298A00	13.8	13.8	–	–	–	–	
	301A00	23.0	23.0	037A00	037A00	037A00	037A00	
	298A00	13.8	13.8	–	–	–	–	

NOTE: STD and MED IFM type are belt drive for 1 phase HC w/Humidi–MiZer® system. HC 1 phase w/o Humidi–MiZer system must use DD–STD IFM type only.

## ELECTRICAL INFORMATION (cont.)

Table 72 – 50HC–A07

### ELECTRIC HEAT – ELECTRICAL DATA SINGLE STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00				
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.		
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)	
208/ 230–3–60	STD	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00	
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00	
		110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00	
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00	
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00	
	MED	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00	
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00	
		110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00	
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00	
	HIGH	110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00	
		264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00	
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00	
460–3–60	STD	110A00	16.0	12.0/14.7	043A00	043A00	043A00	043A00	
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00	
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00	
		264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00	
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00	
	MED	110A00	16.0	12.0/14.7	043A00	043A00	043A00	043A00	
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00	
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00	
		264A00	6.0	5.5	042A00	042A00	042A00	042A00	
	HIGH	117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00	
		266A00	11.5	10.6	042A00	042A00	042A00	042A00	
		267A00	14.0	12.9	042A00	042A00	042A00	042A00	
		268A00	23.0	21.1	042A00	042A00	042A00	042A00	
		269A00	25.5	23.4	042A00	042A00	042A00	042A00	
	575–3–60	STD	265A00	6.0	5.5	042A00	042A00	042A00	042A00
			266A00	11.5	10.6	042A00	042A00	042A00	042A00
			267A00	14.0	12.9	042A00	042A00	042A00	042A00
			268A00	23.0	21.1	042A00	042A00	042A00	042A00
269A00			25.5	23.4	042A00	042A00	042A00	042A00	
MED		265A00	6.0	5.5	042A00	042A00	042A00	042A00	
		266A00	11.5	10.6	042A00	042A00	042A00	042A00	
		267A00	14.0	12.9	042A00	042A00	042A00	042A00	
		268A00	23.0	21.1	042A00	042A00	042A00	042A00	
HIGH		269A00	25.5	23.4	042A00	042A00	042A00	042A00	
		118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		299A00	25.7	25.7	042A00	042A00	042A00	042A00	
575–3–60	MED	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		299A00	25.7	25.7	042A00	042A00	042A00	042A00	
	HIGH	118A00	17.0	17.0	042A00	042A00	042A00	042A00	
		299A00	25.7	25.7	042A00	042A00	042A00	042A00	

## ELECTRICAL INFORMATION (cont.)

Table 73 – 50HC–D07

### ELECTRIC HEAT – ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY-INSTALLED NON-FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E.	w/P.E. (pwrd fr/unit)
208/ 230–3–60	STD	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	MED	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00
		117A00,117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00,117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	HIGH	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
110A00		16.0	12.0/14.7	043A00	043A00	043A00	043A00	
117A00,117A00		21.0	15.8/19.3	043A00	043A00	043A00	043A00	
110A00,117A00		26.5	19.9/24.3	043A00	043A00	043A00	043A00	
460–3–60	STD	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	MED	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	HIGH	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
575–3–60	STD	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		299A00	28.0	25.7	042A00	042A00	042A00	042A00
	MED	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		299A00	28.0	25.7	042A00	042A00	042A00	042A00
	HIGH	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		299A00	28.0	25.7	042A00	042A00	042A00	042A00

## ELECTRICAL INFORMATION (cont.)

Table 74 – 50HC–D08

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/PE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
HIGH	112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00	
	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00	
	110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00	
	111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00	
460–3–60	STD	112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	MED	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	HIGH	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
575–3–60	STD	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00

## ELECTRICAL INFORMATION (cont.)

Table 75 – 50HC–D09

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
HIGH	112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00	
	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00	
	110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00	
	111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00	
460–3–60	STD	112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	MED	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	HIGH	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
575–3–60	STD	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00



## ELECTRICAL INFORMATION (cont.)

Table 76 – 50HC–D11

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	049A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
112A00		32.0	24.0/29.4	049A00	049A00	049A00	049A00	
112A00,117A00		42.4	31.8/38.9	051A00	051A00	051A00	051A00	
112A00,110A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
	MED	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
	HIGH	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	047A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–
	MED	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	047A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–
	HIGH	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	050A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–

## ELECTRICAL INFORMATION (cont.)

Table 77 – 50HC–D12

### ELECTRIC HEAT – ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY-INSTALLED NON-FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
112A00		32.0	24.0/29.4	049A00	049A00	049A00	049A00	
112A00,117A00		42.4	31.8/38.9	051A00	051A00	051A00	051A00	
112A00,110A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
	MED	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	HIGH	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	050A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00

## ELECTRICAL INFORMATION (cont.)

Table 78 – 50HC–D14

### ELECTRIC HEAT – ELECTRICAL DATA 2-STAGE COOLING SINGLE SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY-INSTALLED NON-FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD 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	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
294A00		33.5	25.2/30.8	049A00	049A00	049A00	049A00	
288A00,294A00		43.5	32.7/40.0	051A00	051A00	051A00	051A00	
291A00,294A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
295A00		33.5	30.8	050A00	050A00	050A00	050A00	
289A00,295A00		43.5	40.0	050A00	050A00	050A00	050A00	
292A00,295A00		50.0	45.9	050A00	050A00	050A00	050A00	
575–3–60	STD	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	047A00
	MED	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	047A00
	HIGH	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
296A00		33.5	30.8	047A00	047A00	047A00	047A00	
290A00,296A00		43.5	40.0	050A00	050A00	050A00	050A00	
293A00,296A00		50.0	45.9	050A00	050A00	050A00	050A00	

## ELECTRICAL INFORMATION (cont.)

Table 79 – 50HC–D07

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/PE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	042A00	043A00	043A00
		117A00, 117A00	21.0	15.8/19.3	043A00	043A00	043A00	043A00
		110A00, 117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	MED	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
		110A00	16.0	12.0/14.7	042A00	043A00	043A00	043A00
		117A00, 117A00	21.0	24.0/29.4	043A00	043A00	043A00	043A00
		110A00, 117A00	26.5	19.9/24.3	043A00	043A00	043A00	043A00
	HIGH	264A00	6.5	4.9/6.0	042A00	042A00	042A00	042A00
		117A00	10.4	7.8/9.6	042A00	042A00	042A00	042A00
110A00		16.0	12.0/14.7	043A00	043A00	043A00	043A00	
117A00, 117A00		21.0	24.0/29.4	043A00	043A00	043A00	043A00	
110A00, 117A00		26.5	19.9/24.3	043A00	043A00	043A00	043A00	
460–3–60	STD	265A00	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	MED	265A0	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A00	25.5	23.4	042A00	042A00	042A00	042A00
	HIGH	265A0	6.0	5.5	042A00	042A00	042A00	042A00
		266A00	11.5	10.6	042A00	042A00	042A00	042A00
		267A00	14.0	12.9	042A00	042A00	042A00	042A00
		268A00	23.0	21.1	042A00	042A00	042A00	042A00
		269A000	25.5	23.4	042A00	042A00	042A00	042A00
575–3–60	STD	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		119A00	28.0	25.7	042A00	042A00	042A00	042A00
	MED	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		119A00	28.0	25.7	042A00	042A00	042A00	042A00
	HIGH	118A00	18.0	16.5	042A00	042A00	042A00	042A00
		119A00	28.0	25.7	042A00	042A00	042A00	042A00

## ELECTRICAL INFORMATION (cont.)

Table 80 – 50HC–D08

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD 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	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
HIGH	112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00	
	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00	
	110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00	
	111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00	
460–3–60	STD	112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	MED	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	HIGH	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
575–3–60	STD	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00

## ELECTRICAL INFORMATION (cont.)

Table 81 – 50HC–D09

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	047A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
HIGH	112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00	
	117A00	10.4	7.8/9.6	047A00	047A00	047A00	047A00	
	110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00	
	111A00	24.8	18.6/22.8	049A00	049A00	049A00	049A00	
460–3–60	STD	112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	MED	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
	HIGH	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
		116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
575–3–60	STD	114B00	27.8	25.5	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	047A00	047A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00

## ELECTRICAL INFORMATION (cont.)

Table 82 – 50HC–D11

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	049A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
112A00		32.0	24.0/29.4	049A00	049A00	049A00	049A00	
112A00,117A00		42.4	31.8/38.9	051A00	051A00	051A00	051A00	
112A00,110A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
	MED	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
	HIGH	116B00	13.9	12.8	047A00	047A00	–	–
		113B00	16.5	15.2	047A00	047A00	–	–
		115B00	33.0	30.3	047A00	047A00	–	–
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	050A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–
	MED	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	050A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–
	HIGH	118A00	17.0	17.0	047A00	047A00	–	–
		119A00	34.0	34.0	047A00	050A00	–	–
		118A00,119A00	51.0	51.0	050A00	050A00	–	–

## ELECTRICAL INFORMATION (cont.)

Table 83 – 50HC–D12

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD C.O.		w/PWRD C.O.	
					NO RE.	w/RE. (pwrd fr/unit)	NO RE.	w/PE. (pwrd fr/unit)
208/ 230–3–60	STD	117A00	10.4	7.8/9.6	047A00	047A00	047A00	049A00
		110A00	16.0	12.0/14.7	047A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
		112A00	32.0	24.0/29.4	049A00	049A00	049A00	049A00
		112A00,117A00	42.4	31.8/38.9	051A00	051A00	051A00	051A00
		112A00,110A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	117A00	10.4	7.8/9.6	047A00	049A00	049A00	049A00
		110A00	16.0	12.0/14.7	049A00	049A00	049A00	049A00
112A00		32.0	24.0/29.4	049A00	049A00	049A00	049A00	
112A00,117A00		42.4	31.8/38.9	051A00	051A00	051A00	051A00	
112A00,110A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	047A00
	MED	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	047A00	050A00
	HIGH	116B00	13.9	12.8	047A00	047A00	047A00	047A00
		113B00	16.5	15.2	047A00	047A00	047A00	047A00
		115B00	33.0	30.3	047A00	047A00	050A00	050A00
575–3–60	STD	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	MED	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	047A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00
	HIGH	118A00	17.0	17.0	047A00	047A00	047A00	047A00
		119A00	34.0	34.0	047A00	050A00	050A00	050A00
		118A00,119A00	51.0	51.0	050A00	050A00	050A00	050A00



## ELECTRICAL INFORMATION (cont.)

Table 84 – 50HC–D14

### ELECTRIC HEAT – ELECTRICAL DATA 2–STAGE COOLING 2–SPEED INDOOR FAN MOTOR WITH AND WITHOUT FACTORY–INSTALLED NON–FUSED DISCONNECT SWITCH

NOM. V–PH–Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER CRHEATER****00	NOM PWR (kW)	APP PWR (kW)	SINGLE POINT KIT PART NUMBER CRSINGLE***A00			
					NO C.O. or UNPWRD 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	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	MED	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
		294A00	33.5	25.2/30.8	049A00	049A00	049A00	049A00
		288A00,294A00	43.5	32.7/40.0	051A00	051A00	051A00	051A00
		291A00,294A00	50.0	37.6/45.9	051A00	051A00	051A00	051A00
	HIGH	291A00	16.5	12.4/15.2	049A00	049A00	049A00	049A00
		288A00,291A00	26.5	19.9/24.3	049A00	049A00	049A00	049A00
294A00		33.5	25.2/30.8	049A00	049A00	049A00	049A00	
288A00,294A00		43.5	32.7/40.0	051A00	051A00	051A00	051A00	
291A00,294A00		50.0	37.6/45.9	051A00	051A00	051A00	051A00	
460–3–60	STD	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	MED	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
		295A00	33.5	30.8	047A00	047A00	047A00	050A00
		289A00,295A00	43.5	40.0	050A00	050A00	050A00	050A00
		292A00,295A00	50.0	45.9	050A00	050A00	050A00	050A00
	HIGH	292A00	16.5	15.2	–	–	–	–
		289A00,292A00	26.5	24.3	047A00	047A00	047A00	047A00
295A00		33.5	30.8	050A00	050A00	050A00	050A00	
289A00,295A00		43.5	40.0	050A00	050A00	050A00	050A00	
292A00,295A00		50.0	45.9	050A00	050A00	050A00	050A00	
575–3–60	STD	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	050A00
	MED	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
		296A00	33.5	30.8	047A00	047A00	047A00	047A00
		290A00,296A00	43.5	40.0	047A00	050A00	047A00	050A00
		293A00,296A00	50.0	45.9	047A00	047A00	047A00	050A00
	HIGH	293A00	16.5	15.2	–	–	–	–
		290A00,293A00	26.5	24.3	047A00	047A00	047A00	047A00
296A00		33.5	30.8	047A00	047A00	047A00	047A00	
290A00,296A00		43.5	40.0	050A00	050A00	050A00	050A00	
293A00,296A00		50.0	45.9	050A00	050A00	050A00	050A00	

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR**

UNIT	NOM. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*AO4	208/230 – 1 – 60	DD – STD	NONE	–	–	30	45	29	88	32	45	31	90	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	30/33	45/45	29/30	88/88	32/35	45/45	31/32	90/90	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	39/44	45/45	36/40	88/88	41/46	45/50	38/42	90/90	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	49/55	50/60	45/50	88/88	51/57	60/60	47/52	90/90	–	–	–	–	–	–	–	–
			104B	7.9/10.5	37.9/43.8	57/64	60/70	52/59	88/88	59/67	60/70	54/61	90/90	–	–	–	–	–	–	–	–
		102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	88/88	71/80	80/80	65/73	90/90	–	–	–	–	–	–	–	–	
		STD	NONE	–	–	27	40	26	93	29	45	28	95	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	27/29	40/40	26/27	93/93	29/32	45/45	28/29	95/95	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	93/93	38/43	45/45	35/39	95/95	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	93/93	48/54	50/60	44/50	95/95	–	–	–	–	–	–	–	–
			104B	7.9/10.5	37.9/43.8	54/61	60/70	49/56	93/93	56/64	60/70	51/58	95/95	–	–	–	–	–	–	–	–
		102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	93/93	68/77	70/80	62/70	95/95	–	–	–	–	–	–	–	–	
		MED	NONE	–	–	27	40	26	93	29	45	28	95	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	27/29	40/40	26/27	93/93	29/32	45/45	28/29	95/95	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	36/40	40/45	33/37	93/93	38/43	45/45	35/39	95/95	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	93/93	48/54	50/60	44/50	95/95	–	–	–	–	–	–	–	–
			104B	7.9/10.5	37.9/43.8	54/61	60/70	49/56	93/93	56/64	60/70	51/58	95/95	–	–	–	–	–	–	–	–
		102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	93/93	68/77	70/80	62/70	95/95	–	–	–	–	–	–	–	–	
50HC*AO4	208/230 – 3 – 60	DD – STD	NONE	–	–	22	30	22	82	24	30	24	84	27	30	27	87	29	35	29	89
			101A	3.3/4.4	9.2/10.6	22/23	30/30	22/22	82/82	24/25	30/30	24/24	84/84	27/29	30/30	27/27	87/87	30/31	35/35	29/29	89/89
			102A	4.9/6.5	13.6/15.6	27/29	30/30	24/26	82/82	29/32	30/35	26/29	84/84	33/35	35/35	30/32	87/87	35/38	35/40	32/34	89/89
			103B	6.5/8.7	18.1/20.9	32/36	35/40	29/33	82/82	35/38	35/40	32/35	84/84	38/42	40/45	35/38	87/87	41/44	45/45	37/40	89/89
			104B	7.9/10.5	21.9/25.3	37/41	40/45	34/38	82/82	39/44	40/45	36/40	84/84	43/47	45/50	39/43	87/87	45/50	50/50	41/45	89/89
		105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	82/82	54/60	60/60	49/55	84/84	57/64	60/70	52/58	87/87	60/66	60/70	55/60	89/89	
		STD	NONE	–	–	20	25	19	94	22	30	21	96	24	30	25	99	26	30	27	101
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	94/94	22/23	30/30	21/21	96/96	24/26	30/30	25/25	99/99	27/29	30/30	27/27	101/101
			102A	4.9/6.5	13.6/15.6	24/26	25/30	22/24	94/94	26/29	30/30	24/26	96/96	30/32	30/35	27/29	99/99	32/35	35/35	29/32	101/101
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	94/94	32/35	35/40	29/32	96/96	36/39	40/40	32/36	99/99	38/41	40/45	35/38	101/101
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	94/94	37/41	40/45	33/37	96/96	40/45	40/45	37/41	99/99	43/47	45/50	39/43	101/101
		105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	94/94	51/57	60/60	47/52	96/96	55/61	60/70	50/56	99/99	57/63	60/70	52/58	101/101	
		MED	NONE	–	–	20/19	25/25	19/19	111	22/21	30/30	21/21	113	24/24	30/30	25/24	116	26/26	30/30	27/26	118
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	111/111	22/22	30/30	21/21	113/113	24/26	30/30	25/24	116/116	27/28	30/30	27/26	118/118
			102A	4.9/6.5	13.6/15.6	24/26	25/30	22/24	111/111	26/28	30/30	24/26	113/113	30/32	30/35	27/29	116/116	32/34	35/35	29/31	118/118
			103B	6.5/8.7	18.1/20.9	30/33	30/35	27/30	111/111	32/35	35/35	29/32	113/113	36/39	40/40	32/35	116/116	38/41	40/45	35/37	118/118
			104B	7.9/10.5	21.9/25.3	34/39	35/40	31/35	111/111	37/41	40/45	33/37	113/113	40/44	40/45	37/40	116/116	43/47	45/50	39/42	118/118
		105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	111/111	51/57	60/60	47/52	113/113	55/61	60/70	50/55	116/116	57/63	60/70	52/58	118/118	
HIGH	NONE	–	–	23/23	30/30	23/23	147	25/25	30/30	25/25	149	28/28	30/30	28/28	152	30/29	35/35	30/30	154		
	101A	3.3/4.4	9.2/10.6	23/24	30/30	23/23	147/147	25/26	30/30	25/25	149/149	28/30	30/30	28/28	152/152	31/32	35/35	30/30	154/154		
	102A	4.9/6.5	13.6/15.6	28/30	30/30	25/27	147/147	30/33	30/35	27/30	149/149	34/36	35/40	31/33	152/152	36/39	40/40	33/35	154/154		
	103B	6.5/8.7	18.1/20.9	34/37	35/40	30/34	147/147	36/39	40/40	33/36	149/149	40/43	40/45	36/39	152/152	42/45	45/45	38/41	154/154		
	104B	7.9/10.5	21.9/25.3	38/42	40/45	35/39	147/147	41/45	45/45	37/41	149/149	44/48	45/50	40/44	152/152	47/51	50/60	43/46	154/154		
105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	147/147	55/61	60/70	60/70	149/149	59/65	60/70	54/59	152/152	61/67	70/70	56/62	154/154			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A04	460-3-60	DD-STD	NONE	—	—	12	15	12	43	13	15	13	44	14	20	14	45	15	20	16	46
			106A	6.0	7.2	14	15	13	43	16	20	14	44	17	20	15	45	18	20	17	46
			107A	8.8	10.6	19	20	17	43	20	20	18	44	21	25	19	45	23	25	20	46
			108A	11.5	13.8	23	25	20	43	24	25	22	44	25	25	23	45	27	30	24	46
			109A	14.0	16.8	26	30	24	43	28	30	25	44	29	30	26	45	30	30	28	46
		STD	NONE	—	—	11	15	10	48	12	15	11	49	13	15	13	50	14	20	14	51
			106A	6.0	7.2	13	15	11	48	14	15	12	49	15	15	14	50	17	20	15	51
			107A	8.8	10.6	17	20	15	48	18	20	16	49	20	20	18	50	21	25	19	51
			108A	11.5	13.8	21	25	19	48	22	25	20	49	24	25	21	50	25	25	23	51
			109A	14.0	16.8	25	25	22	48	26	30	23	49	27	30	25	50	29	30	26	51
		MED	NONE	—	—	11	15	10	57	12	15	11	58	13	15	13	59	14	15	14	60
			106A	6.0	7.2	13	15	11	57	14	15	12	58	15	15	14	59	17	20	15	60
	107A		8.8	10.6	17	20	15	57	18	20	16	58	20	20	18	59	21	25	19	60	
	108A		11.5	13.8	21	25	19	57	22	25	20	58	24	25	21	59	25	25	23	60	
	109A		14.0	16.8	25	25	22	57	26	30	23	58	27	30	25	59	29	30	26	60	
	HIGH	NONE	—	—	12	15	12	75	13	15	13	76	15	20	15	77	16	20	16	78	
		106A	6.0	7.2	15	15	13	75	16	20	14	76	17	20	16	77	19	20	17	78	
		107A	8.8	10.6	19	20	17	75	20	20	18	76	22	25	20	77	23	25	21	78	
		108A	11.5	13.8	23	25	21	75	24	25	22	76	26	25	23	77	27	30	24	78	
		109A	14.0	16.8	27	30	24	75	28	30	25	76	29	30	27	77	31	35	28	78	
575-3-60	DD-STD	NONE	—	—	10	15	10	42	12	15	12	44	11	15	12	44	13	15	14	46	
		297A	10.0	9.6	17	20	16	42	20	20	18	44	20	20	18	44	22	25	20	46	
		298A	15.0	14.4	23	25	21	42	26	30	23	44	26	30	23	44	28	30	25	46	
	STD	NONE	—	—	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49	
		297A	10.0	9.6	14	15	12	45	16	20	15	47	16	20	14	47	18	20	17	49	
		298A	15.0	14.4	20	20	18	45	22	25	20	47	22	25	20	47	24	25	22	49	
	MED	NONE	—	—	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49	
		297A	10.0	9.6	14	15	12	45	16	20	15	47	16	20	14	47	18	20	17	49	
		298A	15.0	14.4	20	20	18	45	22	25	20	47	22	25	20	47	24	25	22	49	
	HIGH	NONE	—	—	8	15	7	49	10	15	9	51	9	15	9	51	11	15	11	53	
		297A	10.0	9.6	15	15	13	49	17	20	16	51	17	20	15	51	19	20	17	53	
		298A	15.0	14.4	21	25	19	49	23	25	21	51	23	25	21	51	25	25	23	53	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A05	208/230-1-60	DD-STD	NONE	—	—	37	50	35	127	38	50	37	129	—	—	—	—	—	—	—	—
			101A	3.3/4.4	15.9/18.3	37/37	50/50	35/35	127/127	38/38	50/50	37/37	129/129	—	—	—	—	—	—	—	—
			103B	6.5/8.7	31.4/36.3	49/55	50/60	45/50	127/127	51/57	60/60	47/52	129/129	—	—	—	—	—	—	—	—
			102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	127/127	71/80	80/80	65/73	129/129	—	—	—	—	—	—	—	—
			103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	81/92	127/127	91/103	100/110	83/94	129/129	—	—	—	—	—	—	—	—
			104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	96/109	127/127	107/121	110/125	98/111	129/129	—	—	—	—	—	—	—	—
		STD	NONE	—	—	34	50	32	132	36	50	35	134	—	—	—	—	—	—	—	—
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	132/132	36/36	50/50	35/35	134/134	—	—	—	—	—	—	—	—
			103B	6.5/8.7	31.4/36.3	46/52	50/60	42/47	132/132	48/54	50/60	44/50	134/134	—	—	—	—	—	—	—	—
	MED	102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	132/132	68/77	70/80	62/70	134/134	—	—	—	—	—	—	—	—	
		103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	132/132	87/100	90/100	80/91	134/134	—	—	—	—	—	—	—	—	
		104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	132/132	104/118	110/125	95/108	134/134	—	—	—	—	—	—	—	—	
	208/230-3-60	DD-STD	NONE	—	—	26	30	26	93	28	40	28	95	31	40	31	98	33	45	34	100
			102A	4.9/6.5	13.6/15.6	27/29	30/30	26/26	93/93	29/32	40/40	28/29	95/95	33/35	40/40	31/32	98/98	35/38	45/45	34/34	100/100
			103B	6.5/8.7	18.1/20.9	32/36	35/40	29/33	93/93	35/38	40/40	32/35	95/95	38/42	40/45	35/38	98/98	41/44	45/45	37/40	100/100
			105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	93/93	54/60	60/60	49/55	95/95	57/64	60/70	52/58	98/98	60/66	60/70	55/60	100/100
			104B+104B	15.8/21.0	43.8/50.5	64/73	70/80	59/67	93/93	67/75	70/80	61/69	95/95	70/79	80/80	64/72	98/98	73/81	80/90	67/74	100/100
			STD	NONE	—	—	24	30	23	105	26	30	26	107	29	40	29	110	31	40	31
102A		4.9/6.5		13.6/15.6	24/26	30/30	23/24	105/105	26/29	30/30	26/26	107/107	30/32	40/40	29/29	110/110	32/35	40/40	31/32	112/112	
103B		6.5/8.7		18.1/20.9	30/33	30/35	27/30	105/105	32/35	35/40	29/32	107/107	36/39	40/40	32/36	110/110	38/41	40/45	35/38	112/112	
MED		105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	105/105	51/57	60/60	47/52	107/107	55/61	60/70	50/56	110/110	57/63	60/70	52/58	112/112	
	104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	105/105	64/72	70/80	59/66	107/107	68/76	70/80	62/70	110/110	70/78	70/80	64/72	112/112		
	HIGH	NONE	—	—	24/24	30/30	23/23	122	26/26	30/30	26/25	124	29/29	40/40	29/29	127	31/31	40/40	31/31	129	
102A		4.9/6.5	13.6/15.6	24/26	30/30	23/24	122/122	26/28	30/30	26/26	124/124	30/32	40/40	29/29	127/127	32/34	40/40	31/31	129/129		
103B		6.5/8.7	18.1/20.9	30/33	30/35	27/30	122/122	32/35	35/35	29/32	124/124	36/39	40/40	32/35	127/127	38/41	40/45	35/37	129/129		
HIGH	105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	122/122	51/57	60/60	47/52	124/124	55/61	60/70	50/55	127/127	57/63	60/70	52/58	129/129		
	104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	122/122	64/72	70/80	59/66	124/124	68/76	70/80	62/69	127/127	70/78	70/80	64/71	129/129		
	HIGH	NONE	—	—	27/27	40/40	27/27	158	29/29	40/40	29/29	160	32/32	45/45	33/32	163	34/34	45/45	35/35	165	
102A		4.9/6.5	13.6/15.6	28/30	40/40	27/27	158/158	30/33	40/40	29/30	160/160	34/36	45/45	33/33	163/163	36/39	45/45	35/35	165/165		
103B		6.5/8.7	18.1/20.9	34/37	40/40	30/34	158/158	36/39	40/40	33/36	160/160	40/43	45/45	36/39	163/163	42/45	45/45	38/41	165/165		
HIGH	105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	158/158	55/61	60/70	50/56	160/160	59/65	60/70	54/59	163/163	61/67	70/70	56/62	165/165		
	104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	158/158	68/76	70/80	62/70	160/160	72/80	80/80	66/73	163/163	74/82	80/90	68/75	165/165		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*405	460-3-60	DD-STD	NONE	–	–	13	15	13	47	14	20	14	48	15	20	15	49	16	20	16	50
			106A	6.0	7.2	14	15	13	47	16	20	14	48	17	20	15	49	18	20	17	50
			108A	11.5	13.8	23	25	20	47	24	25	22	48	25	25	23	49	27	30	24	50
			109A	14.0	16.8	26	30	24	47	28	30	25	48	29	30	26	49	30	30	28	50
			108A+108A	23.0	27.7	40	40	36	47	41	45	38	48	43	45	39	49	44	45	40	50
		STD	NONE	–	–	12	15	11	52	13	15	12	53	14	20	14	54	15	20	15	55
			106A	6.0	7.2	13	15	11	52	14	15	12	53	15	20	14	54	17	20	15	55
			108A	11.5	13.8	21	25	19	52	22	25	20	53	24	25	21	54	25	25	23	55
			109A	14.0	16.8	25	25	22	52	26	30	23	53	27	30	25	54	29	30	26	55
			108A+108A	23.0	27.7	38	40	35	52	40	40	36	53	41	45	37	54	42	45	39	55
		MED	NONE	–	–	12	15	11	61	13	15	12	62	14	15	14	63	15	20	15	64
			106A	6.0	7.2	13	15	11	61	14	15	12	62	15	15	14	63	17	20	15	64
	108A		11.5	13.8	21	25	19	61	22	25	20	62	24	25	21	63	25	25	22	64	
	109A		14.0	16.8	25	25	22	61	26	30	23	62	27	30	25	63	29	30	26	64	
	108A+108A		23.0	27.7	38	40	35	61	39	40	36	62	41	45	37	63	42	45	38	64	
	HIGH	NONE	–	–	13	15	13	79	14	20	14	80	16	20	16	81	17	20	17	82	
		106A	6.0	7.2	15	15	13	79	16	20	14	80	17	20	16	81	19	20	17	82	
		108A	11.5	13.8	23	25	21	79	24	25	22	80	26	30	23	81	27	30	24	82	
		109A	14.0	16.8	27	30	24	79	28	30	25	80	29	30	27	81	31	35	28	82	
		108A+108A	23.0	27.7	40	40	37	79	42	45	38	80	43	45	39	81	44	45	40	82	
575-3-60	DD-STD	NONE	–	–	11	15	11	39	13	15	13	41	13	15	13	41	15	20	15	43	
		297A	10.0	9.6	17	20	16	39	20	20	18	41	20	20	18	41	22	25	20	43	
		298A	15.0	14.4	23	25	21	39	26	30	23	41	26	30	23	41	28	30	25	43	
	STD	NONE	–	–	9	15	8	42	10	15	10	44	10	15	10	44	12	15	12	46	
		297A	10.0	9.6	14	15	12	42	16	20	15	44	16	20	14	44	18	20	17	46	
		298A	15.0	14.4	20	20	18	42	22	25	20	44	22	25	20	44	24	25	22	46	
	MED	NONE	–	–	9	15	8	42	11	15	11	44	11	15	10	44	13	15	13	46	
		297A	10.0	9.6	14	15	13	42	17	20	15	44	17	20	15	44	19	20	17	46	
		298A	15.0	14.4	20	25	18	42	23	25	21	44	23	25	20	44	25	25	23	46	
	HIGH	NONE	–	–	10	15	10	57	12	15	12	59	12	15	12	59	14	15	14	61	
		297A	10.0	9.6	16	20	14	57	18	20	16	59	18	20	16	59	20	25	18	61	
		298A	15.0	14.4	22	25	20	57	24	25	22	59	24	25	22	59	26	30	24	61	

See “Legend and Notes for Tables 85 – 88” on page 139

# ELECTRICAL INFORMATION (cont.)

Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)

UNIT	NOM. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.								
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA	
208/230-1-60	DD–STD	NONE	–	–	41	60	39	144	42	60	41	146	–	–	–	–	–	–	–	–	–	–
		102A	4.9/6.5	23.5/27.1	41/44	60/60	39/40	144/144	42/46	60/60	41/42	146/146	–	–	–	–	–	–	–	–	–	–
		103B	6.5/8.7	31.4/36.3	49/55	60/60	45/50	144/144	51/57	60/60	47/52	146/146	–	–	–	–	–	–	–	–	–	–
		102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/71	144/144	71/80	60/80	65/73	146/146	–	–	–	–	–	–	–	–	–	–
		103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	81/92	144/144	91/103	100/110	83/94	146/146	–	–	–	–	–	–	–	–	–	–
		104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	96/109	144/144	107/121	110/125	98/111	146/146	–	–	–	–	–	–	–	–	–	–
	STD	NONE	–	–	38	60	36	149	40	60	38	151	–	–	–	–	–	–	–	–	–	–
		102A	4.9/6.5	23.5/27.1	38/40	60/60	36/37	149/149	40/43	60/60	38/39	151/151	–	–	–	–	–	–	–	–	–	–
		103B	6.5/8.7	31.4/36.3	46/52	60/60	42/47	149/149	48/54	60/60	44/50	151/151	–	–	–	–	–	–	–	–	–	–
		102A+102A	9.8/13.0	46.9/54.2	65/74	70/80	60/68	149/149	68/77	70/80	62/70	151/151	–	–	–	–	–	–	–	–	–	–
		103B+103B	13.1/17.4	62.8/72.5	85/97	90/100	78/89	149/149	87/100	90/100	80/91	151/151	–	–	–	–	–	–	–	–	–	–
		104B+104B	15.8/21.0	75.8/87.5	101/116	110/125	93/106	149/149	104/118	110/125	95/108	151/151	–	–	–	–	–	–	–	–	–	–
MED	NONE	–	–	40	60	38	174	42	60	41	176	–	–	–	–	–	–	–	–	–	–	
	102A	4.9/6.5	23.5/27.1	40/43	60/60	38/39	174/174	42/45	60/60	41/41	176/176	–	–	–	–	–	–	–	–	–	–	
	103B	6.5/8.7	31.4/36.3	48/55	60/60	44/50	174/174	51/57	60/60	46/52	176/176	–	–	–	–	–	–	–	–	–	–	
	102A+102A	9.8/13.0	46.9/54.2	68/77	70/80	62/70	174/174	70/79	70/80	64/73	176/176	–	–	–	–	–	–	–	–	–	–	
	103B+103B	13.1/17.4	62.8/72.5	88/100	90/100	80/91	174/174	90/102	90/110	82/94	176/176	–	–	–	–	–	–	–	–	–	–	
	104B+104B	15.8/21.0	75.8/87.5	104/119	110/125	95/109	174/174	106/121	110/125	97/111	176/176	–	–	–	–	–	–	–	–	–	–	
50HC*AO6	DD–STD	NONE	–	–	29	40	28	120	31	45	31	122	34	45	34	125	36	50	36	127	127	
		102A	4.9/6.5	13.6/15.6	29/29	40/40	28/28	120/120	31/32	45/45	31/31	122/122	34/35	45/45	34/34	125/125	36/38	50/50	36/36	127/127	127/127	
		104B	7.9/10.5	21.9/25.3	37/41	40/45	34/38	120/120	39/44	45/45	36/40	122/122	43/47	45/50	39/43	125/125	45/50	50/50	41/45	127/127	127/127	
		105A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	120/120	54/60	60/60	49/55	122/122	57/64	60/70	52/58	125/125	60/66	60/70	55/60	127/127	127/127	
		104B+104B	15.8/21.0	43.8/50.5	64/73	70/80	59/67	120/120	67/75	70/80	61/69	122/122	70/79	80/80	64/72	125/125	73/81	80/90	67/74	127/127	127/127	
		104B+105A	19.9/26.5	55.2/63.8	79/89	80/90	72/82	120/120	81/92	90/100	74/84	122/122	85/95	90/100	78/87	125/125	87/98	90/100	80/90	127/127	127/127	
	STD	NONE	–	–	27	40	26	132	29	40	28	134	32	45	31	137	34	45	34	139	139	
		102A	4.9/6.5	13.6/15.6	27/27	40/40	26/26	132/132	29/29	40/40	28/28	134/134	32/32	45/45	31/31	137/137	34/35	45/45	34/34	139/139	139/139	
		104B	7.9/10.5	21.9/25.3	34/39	40/40	31/35	132/132	37/41	40/45	33/37	134/134	40/45	45/45	37/41	137/137	43/47	45/50	39/43	139/139	139/139	
		105A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	132/132	51/57	60/60	47/52	134/134	55/61	60/70	50/56	137/137	57/63	60/70	52/58	139/139	139/139	
		104B+104B	15.8/21.0	43.8/50.5	62/70	70/70	56/64	132/132	64/72	70/80	59/66	134/134	68/76	70/80	62/70	137/137	70/78	70/80	64/72	139/139	139/139	
		104B+105A	19.9/26.5	55.2/63.8	76/87	80/90	69/79	132/132	78/89	80/90	72/82	134/134	82/93	90/100	75/85	137/137	84/95	90/100	77/87	139/139	139/139	
MED	NONE	–	–	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192	192		
	102A	4.9/6.5	13.6/15.6	30/30	45/45	30/29	185/185	33/33	45/45	32/32	187/187	35/36	50/50	35/35	190/190	37/39	50/50	37/37	192/192	192/192		
	104B	7.9/10.5	21.9/25.3	38/42	45/45	35/39	185/185	41/45	45/45	37/41	187/187	44/48	50/50	40/44	190/190	47/51	50/60	43/46	192/192	192/192		
	105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	185/185	55/61	60/70	50/56	187/187	59/65	60/70	54/59	190/190	61/67	70/70	56/62	192/192	192/192		
	104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	185/185	68/76	70/80	62/70	187/187	72/80	80/80	66/73	190/190	74/82	80/90	68/75	192/192	192/192		
	104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	185/185	82/93	90/100	75/85	187/187	86/97	90/100	79/88	190/190	88/99	90/100	81/91	192/192	192/192		
HIGH	NONE	–	–	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192	192		
	102A	4.9/6.5	13.6/15.6	30/30	45/45	30/29	185/185	32/33	45/45	32/32	187/187	35/36	50/50	35/35	190/190	37/39	50/50	37/37	192/192	192/192		
	104B	7.9/10.5	21.9/25.3	38/42	45/45	35/39	185/185	41/45	45/45	37/41	187/187	44/48	50/50	40/44	190/190	47/51	50/60	43/46	192/192	192/192		
	105A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	185/185	55/61	60/70	50/56	187/187	59/65	60/70	54/59	190/190	61/67	70/70	56/62	192/192	192/192		
	104B+104B	15.8/21.0	43.8/50.5	66/74	70/80	60/68	185/185	68/76	70/80	62/70	187/187	72/80	80/80	66/73	190/190	74/82	80/90	68/75	192/192	192/192		
	104B+105A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	185/185	82/93	90/100	75/85	187/187	86/97	90/100	79/88	190/190	88/99	90/100	81/91	192/192	192/192		

See “Legend and Notes for Tables 85 – 88” on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*AO6	460–3–60	DD–STD	NONE	–	–	14	20	14	58	15	20	15	59	16	20	16	60	17	20	17	61
			106A	6.0	7.2	14	20	14	58	16	20	15	59	17	20	16	60	18	20	17	61
			108A	11.5	13.8	23	25	20	58	24	25	22	59	25	25	23	60	27	30	24	61
			109A	14.0	16.8	26	30	24	58	28	30	25	59	29	30	26	60	30	30	28	61
			108A+108A	23.0	27.7	40	40	36	58	41	45	38	59	43	45	39	60	44	45	40	61
			108A+109A	25.5	30.7	44	45	40	58	45	45	41	59	47	50	42	60	48	50	44	61
		STD	NONE	–	–	13	15	12	63	14	20	13	64	15	20	15	65	16	20	16	66
			106A	6.0	7.2	13	15	12	63	14	20	13	64	15	20	15	65	17	20	16	66
			108A	11.5	13.8	21	25	19	63	22	25	20	64	24	25	21	65	25	25	23	66
			109A	14.0	16.8	25	25	22	63	26	30	23	64	27	30	25	65	29	30	26	66
	108A+108A		23.0	27.7	38	40	35	63	40	40	36	64	41	45	37	65	42	45	39	66	
	108A+109A		25.5	30.7	42	45	38	63	43	45	39	64	45	45	41	65	46	50	42	66	
	MED	NONE	–	–	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93	
		106A	6.0	7.2	15	20	14	90	16	20	15	91	17	20	16	92	19	20	18	93	
		108A	11.5	13.8	23	25	21	90	24	25	22	91	26	30	23	92	27	30	24	93	
		109A	14.0	16.8	27	30	24	90	28	30	25	91	29	30	27	92	31	35	28	93	
		108A+108A	23.0	27.7	40	40	37	90	42	45	38	91	43	45	39	92	44	45	40	93	
		108A+109A	25.5	30.7	44	45	40	90	45	45	41	91	47	50	43	92	48	50	44	93	
	HIGH	NONE	–	–	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93	
		106A	6.0	7.2	15	20	14	90	16	20	15	91	17	20	16	92	19	20	18	93	
108A		11.5	13.8	23	25	21	90	24	25	22	91	26	30	23	92	27	30	24	93		
109A		14.0	16.8	27	30	24	90	28	30	25	91	29	30	27	92	31	35	28	93		
108A+108A		23.0	27.7	40	40	37	90	42	45	38	91	43	45	39	92	44	45	40	93		
108A+109A		25.5	30.7	44	45	40	90	45	45	41	91	47	50	43	92	48	50	44	93		
575–3–60	DD–STD	NONE	–	–	12	15	12	46	14	15	14	48	13	15	13	48	15	20	16	50	
		298A	15.0	14.4	23	25	21	46	26	30	23	48	26	30	23	48	28	30	25	50	
		301A	25.0	24.1	36	40	32	46	38	40	35	48	38	40	34	48	40	40	36	50	
	STD	NONE	–	–	9	15	8	49	11	15	10	51	11	15	10	51	13	15	12	53	
		298A	15.0	14.4	20	20	18	49	22	25	20	51	22	25	20	51	24	25	22	53	
		301A	25.0	24.1	32	35	29	49	34	35	31	51	34	35	31	51	37	40	33	53	
	MED	NONE	–	–	10	15	9	53	12	15	11	55	11	15	11	55	13	15	13	57	
		298A	15.0	14.4	21	20	19	53	23	25	21	55	23	25	21	55	25	30	23	57	
		301A	25.0	24.1	33	35	30	53	35	40	32	55	35	35	32	55	38	40	34	57	
	HIGH	NONE	–	–	11	15	10	64	12	15	12	66	12	15	12	66	14	15	14	68	
		298A	15.0	14.4	22	25	20	64	24	25	22	66	24	25	22	66	26	30	24	68	
		301A	25.0	24.1	34	35	31	64	36	40	33	66	36	40	33	66	39	40	35	68	

See “Legend and Notes for Tables 85 – 88” on page 139

## ELECTRICAL INFORMATION (cont.)

Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							w/ PWRD C.O.								
			CRHEATER****00	Nom (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)			NO PE.				w/ PE. (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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	—	—	33	50	32	161	37	50	36	165	38	50	37	166	42	60	42	170	
		264A	4.9/6.5	13.6/15.6	33/33	50/50	32/32	161/161	37/37	50/50	36/36	165/165	38/38	50/50	37/37	166/166	42/42	60/60	42/42	170/170	
		117A	7.8/10.4	21.7/25.0	34/38	50/50	32/35	161/161	39/43	50/50	36/39	165/165	40/44	50/50	37/40	166/166	45/49	60/60	42/45	170/170	
		110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	161/161	53/60	60/60	49/55	165/165	55/61	60/70	50/56	166/166	59/66	60/70	54/60	170/170	
		117A+117A	15.8/21.0	43.8/50.5	62/70	70/70	56/64	161/161	66/75	70/80	61/68	165/165	68/76	70/80	62/70	166/166	72/81	80/90	66/74	170/170	
	110A+117A	19.9/26.5	55.2/63.8	76/87	80/90	69/79	161/161	81/91	90/100	74/84	165/165	82/93	90/100	75/85	166/166	87/97	90/100	79/89	170/170		
	MED	NONE	—	—	36/36	50/50	36/36	214	40/40	50/50	40/40	218	41/41	60/60	41/41	219	45/45	60/60	46/45	223	
		264A	4.9/6.5	13.6/15.6	36/36	50/50	36/36	214/214	40/40	50/50	40/40	218/218	41/41	60/60	41/41	219/219	45/45	60/60	46/45	223/223	
		117A	7.8/10.4	21.7/25.0	38/42	50/50	36/38	214/214	43/47	50/50	40/43	218/218	44/48	60/60	41/44	219/219	49/53	60/60	46/48	223/223	
		110A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	214/214	57/64	60/70	52/58	218/218	59/65	60/70	54/59	219/219	63/70	70/70	58/64	223/223	
		117A+117A	15.8/21.0	43.8/50.5	66/74	70/80	60/68	214/214	70/79	80/80	64/72	218/218	72/80	80/80	66/73	219/219	76/85	80/90	70/78	223/223	
	110A+117A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	214/214	85/95	90/100	78/87	218/218	86/97	90/100	79/88	219/219	91/101	100/110	83/93	223/223		
HIGH	NONE	—	—	42/41	60/50	42/41	230	45/44	60/60	46/45	234	46/45	60/60	47/46	235	50/49	60/60	52/50	239		
	264A	4.9/6.5	13.6/15.6	42/41	60/50	42/41	230/230	45/44	60/60	46/45	234/234	46/45	60/60	47/46	235/235	50/49	60/60	52/50	239/239		
	117A	7.8/10.4	21.7/25.0	45/48	60/50	42/43	230/230	49/52	60/60	46/48	234/234	51/54	60/60	47/49	235/235	55/58	60/60	52/53	239/239		
	110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	230/230	64/69	70/70	58/63	234/234	65/70	70/70	60/64	235/235	70/75	70/80	64/69	239/239		
	117A+117A	15.8/21.0	43.8/50.5	72/79	80/80	66/73	230/230	77/84	80/90	70/77	234/234	78/85	80/90	72/78	235/235	83/90	90/90	76/83	239/239		
110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	230/230	91/101	100/110	83/92	234/234	92/102	100/110	85/93	235/235	97/107	100/110	89/98	239/239			
50HC*AD7	STD	NONE	—	—	15	20	14	79	17	20	16	81	17	20	17	81	19	25	19	83	
		265A	6.0	7.2	15	20	14	79	17	20	16	81	17	20	17	81	19	25	19	83	
		266A	11.5	13.8	21	25	19	79	23	25	21	81	24	25	21	81	26	30	23	83	
		267A	14.0	16.8	25	25	22	79	27	30	24	81	27	30	25	81	30	30	27	83	
		268A	23.0	27.7	38	40	35	79	41	45	37	81	41	45	37	81	43	45	39	83	
	269A	25.5	30.7	42	45	38	79	44	45	40	81	45	45	41	81	47	50	43	83		
	MED	NONE	—	—	17	20	16	106	18	25	18	108	19	25	19	108	21	25	21	110	
		265A	6.0	7.2	17	20	16	106	18	25	18	108	19	25	19	108	21	25	21	110	
		266A	11.5	13.8	23	25	21	106	25	25	23	108	26	30	23	108	28	30	25	110	
		267A	14.0	16.8	27	30	24	106	29	30	26	108	29	30	27	108	32	35	29	110	
		268A	23.0	27.7	40	40	37	106	43	45	39	108	43	45	39	108	45	45	41	110	
	269A	25.5	30.7	44	45	40	106	46	50	42	108	47	50	43	108	49	50	45	110		
	HIGH	NONE	—	—	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
267A		14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118		
268A		23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118		
269A	25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118			
575-3-60	STD	NONE	—	—	12	15	11	66	15	20	15	70	13	15	13	68	17	20	17	72	
		118A	18.0	17.3	24	25	22	66	29	30	26	70	26	30	24	68	31	35	28	72	
		299A	28.0	26.9	36	40	33	66	41	45	37	70	38	40	35	68	43	45	39	72	
	MED	NONE	—	—	13	15	12	81	17	20	17	85	14	20	14	83	18	20	19	87	
		118A	18.0	17.3	26	30	23	81	30	30	27	85	28	30	25	83	32	35	29	87	
		299A	28.0	26.9	38	40	34	81	42	45	39	85	40	40	36	83	44	45	40	87	
	HIGH	NONE	—	—	16	20	15	95	19	25	20	99	17	20	17	97	21	25	22	101	
		118A	18.0	17.3	29	30	26	95	34	35	31	99	31	35	28	97	36	40	33	101	
		299A	28.0	26.9	41	45	37	95	46	50	42	99	43	45	39	97	48	50	44	101	

See "Legend and Notes for Tables 85 – 88" on page 139



# ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
		CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	—	—	31	45	30	161	34	50	34	165	35	50	35	166	39	50	39	170
		264A	4.9/6.5	13.6/15.6	31/31	45/45	30/30	161/161	34/34	50/50	34/34	165/165	35/35	50/50	35/35	166/166	39/39	50/50	39/39	170/170
		117A	7.8/10.4	21.7/25.0	34/38	45/45	31/35	161/161	39/43	50/50	35/39	165/165	40/44	50/50	36/40	166/166	45/49	50/50	41/45	170/170
		110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	161/161	53/60	60/60	49/55	165/165	55/61	60/70	50/56	166/166	59/66	60/70	54/60	170/170
		117A+117A	15.8/21.0	43.8/50.5	62/70	70/70	56/64	161/161	66/75	70/80	61/68	165/165	68/76	70/80	62/70	166/166	72/81	80/90	66/74	170/170
	110A+117A	19.9/26.5	55.2/63.8	76/87	80/90	69/79	161/161	81/91	90/100	74/84	165/165	82/93	90/100	75/85	166/166	87/97	90/100	79/89	170/170	
	MED	NONE	—	—	34/34	50/50	33/33	214	38/37	50/50	38/37	218	39/38	50/50	39/39	219	42/42	50/50	43/43	223
		264A	4.9/6.5	13.6/15.6	34/34	50/50	33/33	214/214	38/37	50/50	38/37	218/218	39/38	50/50	39/39	219/219	42/42	50/50	43/43	223/223
		117A	7.8/10.4	21.7/25.0	38/42	50/50	35/38	214/214	43/47	50/50	39/43	218/218	44/48	50/50	40/44	219/219	49/53	50/60	45/48	223/223
		110A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	214/214	57/64	60/70	52/58	218/218	59/65	60/70	54/59	219/219	63/70	70/70	58/64	223/223
		117A+117A	15.8/21.0	43.8/50.5	66/74	70/80	60/68	214/214	70/79	80/80	64/72	218/218	72/80	80/80	66/73	219/219	76/85	80/90	70/78	223/223
	110A+117A	19.9/26.5	55.2/63.8	80/91	80/100	73/83	214/214	85/95	90/100	78/87	218/218	86/97	90/100	79/88	219/219	91/101	100/110	83/93	223/223	
HIGH	NONE	—	—	39/38	50/50	39/38	230	43/42	50/50	44/43	234	44/43	60/50	45/44	235	48/47	60/60	49/48	239	
	264A	4.9/6.5	13.6/15.6	39/38	50/50	39/38	230/230	43/42	50/50	44/43	234/234	44/43	60/50	45/44	235/235	48/47	60/60	49/48	239/239	
	117A	7.8/10.4	21.7/25.0	45/48	50/50	41/43	230/230	49/52	50/60	45/48	234/234	51/54	60/60	46/49	235/235	55/58	60/60	50/53	239/239	
	110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	230/230	64/69	70/70	58/63	234/234	65/70	70/70	60/64	235/235	70/75	70/80	64/69	239/239	
	117A+117A	15.8/21.0	43.8/50.5	72/79	80/80	66/73	230/230	77/84	80/90	70/77	234/234	78/85	80/90	72/78	235/235	83/90	90/90	76/83	239/239	
110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	230/230	91/101	100/110	83/92	234/234	92/102	100/110	85/93	235/235	97/107	100/110	89/98	239/239		
50HC*D07	STD	NONE	—	—	15	20	14	79	17	20	17	81	17	25	17	81	19	25	19	83
		265A	6.0	7.2	15	20	14	79	17	20	17	81	17	25	17	81	19	25	19	83
		266A	11.5	13.8	21	25	19	79	23	25	21	81	24	25	21	81	26	30	23	83
		267A	14.0	16.8	25	25	22	79	27	30	24	81	27	30	25	81	30	30	27	83
		268A	23.0	27.7	38	40	35	79	41	45	37	81	41	45	37	81	43	45	39	83
	269A	25.5	30.7	42	45	38	79	44	45	40	81	45	45	41	81	47	50	43	83	
	MED	NONE	—	—	17	20	16	106	19	25	18	108	19	25	19	108	21	25	21	110
		265A	6.0	7.2	17	20	16	106	19	25	18	108	19	25	19	108	21	25	21	110
		266A	11.5	13.8	23	25	21	106	25	25	23	108	26	30	23	108	28	30	25	110
		267A	14.0	16.8	27	30	24	106	29	30	26	108	29	30	27	108	32	35	29	110
		268A	23.0	27.7	40	40	37	106	43	45	39	108	43	45	39	108	45	45	41	110
	269A	25.5	30.7	44	45	40	106	46	50	42	108	47	50	43	108	49	50	45	110	
HIGH	NONE	—	—	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
	265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
	266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
	267A	14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
	268A	23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118	
269A	25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118		
575-3-60	STD	NONE	—	—	11	15	10	66	15	20	15	70	13	15	12	68	17	20	17	72
		118A	18.0	17.3	24	25	22	66	29	30	26	70	26	30	24	68	31	35	28	72
		299A	28.0	26.9	36	40	33	66	41	45	37	70	38	40	35	68	43	45	39	72
	MED	NONE	—	—	12	15	12	81	16	20	16	85	14	20	14	83	18	20	18	87
		118A	18.0	17.3	26	30	23	81	30	30	27	85	28	30	25	83	32	35	29	87
		299A	28.0	26.9	38	40	34	81	42	45	39	85	40	40	36	83	44	45	40	87
	HIGH	NONE	—	—	15	20	15	95	19	25	19	99	17	20	17	97	21	25	21	101
		118A	18.0	17.3	29	30	26	95	34	35	31	99	31	35	28	97	36	40	33	101
		299A	28.0	26.9	41	45	37	95	46	50	42	99	43	45	39	97	48	50	44	101

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.								
		CRHEATER****00	Nom (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				NO PE.				w/ PE. (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	LRA			FLA	LRA			FLA	LRA			FLA	LRA	
50HC*D08	208/230-3-60	STD	NONE	-	-	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/41	191/191	43/43	50/50	45/45	195/195	44/44	50/50	46/46	196/196	48/49	60/60	51/51	200/200
			110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	191/191	53/60	60/60	49/55	195/195	55/61	60/70	50/56	196/196	59/66	60/70	54/60	200/200
			111A	18.6/24.8	51.7/59.7	72/82	80/90	65/75	191/191	76/86	80/90	70/79	195/195	78/88	80/90	71/80	196/196	82/92	90/100	75/85	200/200
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/95	191/191	95/108	100/110	87/99	195/195	96/109	100/110	88/100	196/196	101/114	110/125	93/104	200/200
	112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	191/191	122/139	125/150	112/128	195/195	123/140	125/150	113/129	196/196	128/145	150/150	118/133	200/200		
	MED	NONE	-	-	41/41	50/50	43/42	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/49	60/60	53/52	238	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	43/42	229/229	45/45	50/50	47/47	233/233	46/46	50/50	48/48	234/234	50/51	60/60	53/52	238/238	
		110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	229/229	56/62	60/70	51/56	233/233	57/63	60/70	52/58	234/234	62/68	70/70	56/62	238/238	
		111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	229/229	78/88	80/90	72/81	233/233	80/89	80/90	73/82	234/234	84/94	90/100	77/86	238/238	
		112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	229/229	97/110	100/110	89/101	233/233	98/111	100/125	90/102	234/234	103/116	110/125	95/106	238/238	
	112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	229/229	124/141	125/150	114/129	233/233	126/142	150/150	115/131	234/234	130/147	150/150	119/135	238/238		
HIGH	NONE	-	-	45	50	47	258	48	60	51	262	49	60	52	263	53	60	57	267		
	117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	48/50	60/60	51/51	262/262	49/51	60/60	52/52	263/263	53/56	60/60	57/57	267/267		
	110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	258/258	60/67	60/70	55/61	262/262	61/68	70/70	56/62	263/263	66/73	70/80	60/66	267/267		
	111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	258/258	83/93	90/100	76/85	262/262	84/94	90/100	77/86	263/263	89/99	90/100	82/91	267/267		
	112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	258/258	102/115	110/125	93/105	262/262	103/116	110/125	94/106	263/263	108/121	110/125	99/111	267/267		
112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	258/258	129/146	150/150	118/134	262/262	130/147	150/150	119/135	263/263	135/152	150/175	124/139	267/267			
460-3-60	STD	NONE	-	-	18	20	19	95	20	25	21	97	21	25	21	97	22	25	23	99	
		116B	13.9	16.7	25	25	22	95	27	30	24	97	27	30	25	97	30	30	27	99	
		113B	16.5	19.8	28	30	26	95	31	35	28	97	31	35	28	97	33	35	30	99	
		114B	27.8	33.4	45	50	41	95	48	50	43	97	48	50	44	97	50	60	46	99	
		115B	33.0	39.7	53	60	49	95	56	60	51	97	56	60	51	97	58	60	53	99	
	MED	NONE	-	-	19	25	20	114	21	25	22	116	21	25	22	116	23	25	24	118	
		116B	13.9	16.7	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
		113B	16.5	19.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
		114B	27.8	33.4	46	50	42	114	49	50	44	116	49	50	45	116	51	60	47	118	
		115B	33.0	39.7	54	60	50	114	57	60	52	116	57	60	52	116	59	60	54	118	
	HIGH	NONE	-	-	21	25	22	129	23	25	24	131	23	25	24	131	25	30	27	133	
		116B	13.9	16.7	28	30	25	129	30	30	27	131	31	35	28	131	33	35	30	133	
		113B	16.5	19.8	32	35	29	129	34	35	31	131	35	35	31	131	37	40	33	133	
		114B	27.8	33.4	49	50	45	129	51	60	47	131	52	60	47	131	54	60	49	133	
		115B	33.0	39.7	57	60	52	129	59	60	54	131	59	60	54	131	62	70	56	133	
575-3-60	STD	NONE	-	-	13	15	13	77	17	20	17	81	14	15	15	79	18	20	19	83	
		118A	18.0	17.3	24	25	22	77	29	30	26	81	26	30	24	79	31	35	28	83	
		119A	36.0	34.6	46	50	42	77	50	60	46	81	48	50	44	79	53	60	48	83	
	MED	NONE	-	-	13	15	13	81	17	20	18	85	15	20	15	83	19	20	20	87	
		118A	18.0	17.3	25	25	22	81	29	30	27	85	27	30	24	83	31	35	29	87	
		119A	36.0	34.6	46	50	42	81	51	60	46	85	48	50	44	83	53	60	48	87	
HIGH	NONE	-	-	14	15	14	92	18	20	19	96	16	20	16	94	19	25	21	98		
	118A	18.0	17.3	26	30	23	92	30	30	27	96	28	30	25	94	32	35	29	98		
	119A	36.0	34.6	47	50	43	92	52	60	47	96	49	50	45	94	54	60	49	98		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)

UNIT	NOM. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				NO PE.				w/ PE. (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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	-	-	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200	
		117A	7.8/10.4	21.7/25.0	39/39	50/50	41/41	191/191	43/43	50/50	45/45	195/195	44/44	50/50	46/46	196/196	48/49	60/60	51/51	200/200	
		110A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	191/191	53/60	60/60	49/55	195/195	55/61	60/70	50/56	196/196	59/66	60/70	54/60	200/200	
		111A	18.6/24.8	51.7/59.7	72/82	80/90	65/75	191/191	76/86	80/90	70/79	195/195	78/88	80/90	71/80	196/196	82/92	90/100	75/85	200/200	
		112A	24.0/32.0	66.7/77.0	90/103	90/110	83/95	191/191	95/108	100/110	87/99	195/195	96/109	100/110	88/100	196/196	101/114	110/125	93/104	200/200	
	112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	191/191	122/139	125/150	112/128	195/195	123/140	125/150	113/129	196/196	128/145	150/150	118/133	200/200		
	MED	NONE	-	-	41/41	50/50	43/43	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/50	60/60	53/53	238	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	229/229	45/45	50/50	47/47	233/233	46/46	50/50	48/48	234/234	50/51	60/60	53/53	238/238	
		110A	12.0/16.0	33.4/38.5	51/57	60/60	46/52	229/229	56/62	60/70	51/56	233/233	57/63	60/70	52/58	234/234	62/68	70/70	56/62	238/238	
		111A	18.6/24.8	51.7/59.7	74/83	80/90	67/76	229/229	78/88	80/90	72/81	233/233	80/89	80/90	73/82	234/234	84/94	90/100	77/86	238/238	
		112A	24.0/32.0	66.7/77.0	92/105	100/110	85/96	229/229	97/110	100/110	89/101	233/233	98/111	100/125	90/102	234/234	103/116	110/125	95/106	238/238	
	112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	229/229	124/141	125/150	114/129	233/233	126/142	150/150	115/131	234/234	130/147	150/150	119/135	238/238		
HIGH	NONE	-	-	45	50	47	258	49	60	52	262	50	60	53	263	53	60	57	267		
	117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	49/50	60/60	52/52	262/262	50/51	60/60	53/53	263/263	53/56	60/60	57/57	267/267		
	110A	12.0/16.0	33.4/38.5	55/62	60/70	51/56	258/258	60/67	60/70	55/61	262/262	61/68	70/70	56/62	263/263	66/73	70/80	60/66	267/267		
	111A	18.6/24.8	51.7/59.7	78/88	80/90	72/81	258/258	83/93	90/100	76/85	262/262	84/94	90/100	77/86	263/263	89/99	90/100	82/91	267/267		
	112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	258/258	102/115	110/125	93/105	262/262	103/116	110/125	94/106	263/263	108/121	110/125	99/111	267/267		
112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	258/258	129/146	150/150	118/134	262/262	130/147	150/150	119/135	263/263	135/152	150/175	124/139	267/267			
460-3-60	STD	NONE	-	-	19	20	19	95	20	25	21	97	21	25	22	97	23	25	24	99	
		116B	13.9	16.7	25	25	22	95	27	30	24	97	27	30	25	97	30	30	27	99	
		113B	16.5	19.8	28	30	26	95	31	35	28	97	31	35	28	97	33	35	30	99	
		114B	27.8	33.4	45	50	41	95	48	50	43	97	48	50	44	97	50	60	46	99	
		115B	33.0	39.7	53	60	49	95	56	60	51	97	56	60	51	97	58	60	53	99	
	MED	NONE	-	-	19	25	20	114	21	25	22	116	22	25	23	116	23	25	25	118	
		116B	13.9	16.7	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
		113B	16.5	19.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
		114B	27.8	33.4	46	50	42	114	49	50	44	116	49	50	45	116	51	60	47	118	
		115B	33.0	39.7	54	60	50	114	57	60	52	116	57	60	52	116	59	60	54	118	
	HIGH	NONE	-	-	21	25	22	129	23	25	24	131	24	25	25	131	25	30	27	133	
		116B	13.9	16.7	28	30	25	129	30	30	27	131	31	35	28	131	33	35	30	133	
113B		16.5	19.8	32	35	29	129	34	35	31	131	35	35	31	131	37	40	33	133		
114B		27.8	33.4	49	50	45	129	51	60	47	131	52	60	47	131	54	60	49	133		
115B		33.0	39.7	57	60	52	129	59	60	54	131	59	60	54	131	62	70	56	133		
575-3-60	STD	NONE	-	-	14	15	14	77	18	20	19	81	16	20	16	79	20	25	21	83	
		118A	18.0	17.3	24	25	22	77	29	30	26	81	26	30	24	79	31	35	28	83	
		119A	36.0	34.6	46	50	42	77	50	60	46	81	48	50	44	79	53	60	48	83	
	MED	NONE	-	-	14	20	15	81	18	20	19	85	16	20	17	83	20	25	21	87	
		118A	18.0	17.3	25	25	22	81	29	30	27	85	27	30	24	83	31	35	29	87	
		119A	36.0	34.6	46	50	42	81	51	60	46	85	48	50	44	83	53	60	48	87	
HIGH	NONE	-	-	15	20	16	92	19	20	20	96	17	20	18	94	21	25	22	98		
	118A	18.0	17.3	26	30	23	92	30	30	27	96	28	30	25	94	32	35	29	98		
	119A	36.0	34.6	47	50	43	92	52	60	47	96	49	50	45	94	54	60	49	98		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
801	208/230-3-60	STD	NONE	—	—	49	60	51	257	53	60	55	261	54	60	57	262	57	70	61	266
			117A	7.8/10.4	21.7/25.0	49/49	60/60	51/51	257/257	53/53	60/60	55/55	261/261	54/54	60/60	57/57	262/262	57/57	70/70	61/61	266/266
			110A	12.0/16.0	33.4/38.5	49/55	60/60	51/51	257/257	53/60	60/60	55/55	261/261	55/61	60/70	57/57	262/262	59/66	70/70	61/61	266/266
			112A	24.0/32.0	66.7/77.0	90/103	90/110	83/95	257/257	95/108	100/110	87/99	261/261	96/109	100/110	88/100	262/262	101/114	110/125	93/104	266/266
			112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	257/257	122/139	125/150	112/128	261/261	123/140	125/150	113/129	262/262	128/145	150/150	118/133	266/266
		112A+110A	37.6/50.0	104.2/120.3	137/127	150/150	126/144	257/257	142/132	150/150	130/149	261/261	143/133	150/150	131/150	262/262	148/138	150/150	136/154	266/266	
		MED	NONE	—	—	54	60	57	313	58	70	62	317	59	70	63	318	63	70	67	322
			117A	7.8/10.4	21.7/25.0	54/54	60/60	57/57	313/313	58/58	70/70	62/62	317/317	59/59	70/70	63/63	318/318	63/63	70/70	67/67	322/322
			110A	12.0/16.0	33.4/38.5	55/62	60/70	57/57	313/313	60/67	70/70	62/62	317/317	61/68	70/70	63/63	318/318	66/73	70/80	67/67	322/322
			112A	24.0/32.0	66.7/77.0	97/110	100/110	89/101	313/313	102/115	110/125	93/105	317/317	103/116	110/125	94/106	318/318	108/121	110/125	99/111	322/322
			112A+117A	31.8/42.4	88.4/102.0	124/141	125/150	114/129	313/313	129/146	150/150	118/134	317/317	130/147	150/150	119/135	318/318	135/152	150/175	124/139	322/322
		112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	313/313	149/139	150/150	136/155	317/317	150/140	150/150	138/156	318/318	155/145	175/175	142/160	322/322	
		HIGH	NONE	—	—	57/56	70/60	61/60	315	61/60	70/70	65/64	319	62/61	70/70	66/65	320	66/65	80/80	71/70	324
			117A	7.8/10.4	21.7/25.0	57/56	70/60	61/60	315/315	61/60	70/70	65/64	319/319	62/61	70/70	66/65	320/320	66/65	80/80	71/70	324/324
			110A	12.0/16.0	33.4/38.5	59/64	70/70	61/60	315/315	64/69	70/70	65/64	319/319	65/70	70/70	66/65	320/320	70/75	80/80	71/70	324/324
112A	24.0/32.0		66.7/77.0	101/113	110/125	92/103	315/315	106/117	110/125	97/108	319/319	107/119	110/125	98/109	320/320	112/123	125/125	102/113	324/324		
112A+117A	31.8/42.4		88.4/102.0	128/144	150/150	117/132	315/315	133/149	150/150	122/136	319/319	134/150	150/150	123/137	320/320	139/155	150/175	127/142	324/324		
112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	315/315	152/141	175/175	140/157	319/319	154/143	175/175	141/158	320/320	158/147	175/175	145/163	324/324			
50HC*D11	460-3-60	STD	NONE	—	—	22	25	23	123	24	30	25	125	—	—	—	—	—	—	—	
			116B	13.9	16.7	25	25	23	123	27	30	25	125	—	—	—	—	—	—	—	
			113B	16.5	19.8	28	30	26	123	31	35	28	125	—	—	—	—	—	—	—	
		115B	33.0	39.7	53	60	49	123	56	60	51	125	—	—	—	—	—	—	—		
		MED	NONE	—	—	25	30	26	151	27	30	28	153	—	—	—	—	—	—	—	
			116B	13.9	16.7	28	30	26	151	30	30	28	153	—	—	—	—	—	—	—	
			113B	16.5	19.8	32	35	29	151	34	35	31	153	—	—	—	—	—	—	—	
		115B	33.0	39.7	57	60	52	151	59	60	54	153	—	—	—	—	—	—	—		
		HIGH	NONE	—	—	26	30	28	152	28	30	30	154	—	—	—	—	—	—	—	
			116B	13.9	16.7	29	30	28	152	32	35	30	154	—	—	—	—	—	—	—	
			113B	16.5	19.8	33	35	30	152	35	35	32	154	—	—	—	—	—	—	—	
		115B	33.0	39.7	58	60	53	152	60	60	55	154	—	—	—	—	—	—	—		
		575-3-60	STD	NONE	—	—	18	20	18	95	21	25	23	99	—	—	—	—	—	—	—
				118A	18.0	17.3	25	25	22	95	29	30	27	99	—	—	—	—	—	—	—
				119A	36.0	34.6	46	50	42	95	51	60	46	99	—	—	—	—	—	—	—
118A+119A	54.0		52.0	55	60	62	95	60	60	66	99	—	—	—	—	—	—	—	—		
MED	NONE		—	—	18	20	19	106	22	25	23	110	—	—	—	—	—	—	—		
	118A		18.0	17.3	26	30	23	106	30	30	27	110	—	—	—	—	—	—	—		
	119A		36.0	34.6	47	50	43	106	52	60	47	110	—	—	—	—	—	—	—		
118A+119A	54.0		52.0	56	60	63	106	61	70	67	110	—	—	—	—	—	—	—	—		
HIGH	NONE		—	—	21	25	22	120	25	30	27	124	—	—	—	—	—	—	—		
	118A	18.0	17.3	29	30	26	120	34	35	31	124	—	—	—	—	—	—	—			
	119A	36.0	34.6	51	60	46	120	55	60	51	124	—	—	—	—	—	—	—			
118A+119A	54.0	52.0	59	70	66	120	64	70	71	124	—	—	—	—	—	—	—	—			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.									
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA		
601	50HC*D12	208/230-3-60	STD	NONE	–	–	48	60	50	282	51	60	54	286	52	60	55	287	56	60	60	291	
				117A	7.8/10.4	21.7/25.0	48/48	60/60	50/50	282/282	51/51	60/60	54/54	286/286	52/52	60/60	55/55	287/287	56/56	60/60	60/60	60/60	291/291
				110A	12.0/16.0	33.4/38.5	49/55	60/60	50/50	282/282	53/60	60/60	54/55	286/286	55/61	60/70	55/56	287/287	59/66	60/70	60/60	60/60	291/291
				112A	24.0/32.0	66.7/77.0	90/103	90/110	83/95	282/282	95/108	100/110	87/99	286/286	96/109	100/110	88/100	287/287	101/114	110/125	93/104	291/291	
				112A+117A	31.8/42.4	88.4/102.0	117/134	125/150	108/123	282/282	122/139	125/150	112/128	286/286	123/140	125/150	113/129	287/287	128/145	150/150	118/133	291/291	
			112A+110A	37.6/50.0	104.2/120.3	137/127	150/150	126/144	282/282	142/132	150/150	130/149	286/286	143/133	150/150	131/150	287/287	148/138	150/150	136/154	291/291		
			MED	NONE	–	–	53	60	56	338	57	70	60	342	58	70	61	343	62	70	66	70	347
				117A	7.8/10.4	21.7/25.0	53/53	60/60	56/56	338/338	57/57	70/70	60/60	342/342	58/58	70/70	61/61	343/343	62/62	70/70	66/66	70/80	347/347
				110A	12.0/16.0	33.4/38.5	55/62	60/70	56/56	338/338	60/67	70/70	60/61	342/342	61/68	70/70	61/62	343/343	66/73	70/80	66/66	66/66	347/347
		112A		24.0/32.0	66.7/77.0	97/110	100/110	89/101	338/338	102/115	110/125	93/105	342/342	103/116	110/125	94/106	343/343	108/121	110/125	99/111	99/111	347/347	
		112A+117A		31.8/42.4	88.4/102.0	124/141	125/150	114/129	338/338	129/146	150/150	118/134	342/342	130/147	150/150	119/135	343/343	135/152	150/175	124/139	347/347		
		112A+110A	37.6/50.0	104.2/120.3	144/134	150/150	132/151	338/338	149/139	150/150	136/155	342/342	150/140	150/150	138/156	343/343	155/145	175/175	142/160	347/347			
		HIGH	NONE	–	–	56/55	60/60	59/58	340	60/59	70/70	64/63	344	61/60	70/70	65/64	345	65/64	80/70	69/68	349		
			117A	7.8/10.4	21.7/25.0	56/55	60/60	59/58	340/340	60/59	70/70	64/63	344/344	61/60	70/70	65/64	345/345	65/64	80/70	69/68	349/349		
			110A	12.0/16.0	33.4/38.5	59/64	60/70	59/59	340/340	64/69	70/70	64/63	344/344	65/70	70/70	65/64	345/345	70/75	80/80	69/69	349/349		
			112A	24.0/32.0	66.7/77.0	101/113	110/125	92/103	340/340	106/117	110/125	97/108	344/344	107/119	110/125	98/109	345/345	112/123	125/125	102/113	349/349		
			112A+117A	31.8/42.4	88.4/102.0	128/144	150/150	117/132	340/340	133/149	150/150	122/136	344/344	134/150	150/150	123/137	345/345	139/155	150/175	127/142	349/349		
		112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	340/340	152/141	175/175	140/157	344/344	154/143	175/175	141/158	345/345	158/147	175/175	145/163	349/349			
50HC*D12	460-3-60	STD	NONE	–	–	23	30	24	135	25	30	26	137	26	30	27	137	27	30	29	139		
			116B	13.9	16.7	25	30	24	135	27	30	26	137	27	30	27	137	30	30	29	139		
			113B	16.5	19.8	28	30	26	135	31	35	28	137	31	35	28	137	33	35	30	139		
		MED	115B	33.0	39.7	53	60	49	135	56	60	51	137	56	60	51	137	58	60	53	139		
			NONE	–	–	26	30	27	163	28	30	29	165	28	30	30	165	30	35	32	167		
			116B	13.9	16.7	28	30	27	163	30	30	29	165	31	35	30	165	33	35	32	167		
		HIGH	113B	16.5	19.8	32	35	29	163	34	35	31	165	35	35	31	165	37	40	33	167		
			115B	33.0	39.7	57	60	52	163	59	60	54	165	59	60	54	165	62	70	56	167		
			NONE	–	–	27	30	29	164	29	35	31	166	29	35	31	166	31	35	33	168		
		50HC*D12	575-3-60	STD	116B	13.9	16.7	29	30	29	164	32	35	31	166	32	35	31	166	34	35	33	168
					113B	16.5	19.8	33	35	30	164	35	35	32	166	36	40	33	166	38	40	35	168
					115B	33.0	39.7	58	60	53	164	60	60	55	166	61	70	56	166	63	70	58	168
NONE	–				–	18	20	18	105	22	25	23	109	19	25	20	107	23	25	25	111		
MED	118A			18.0	17.3	25	25	22	105	29	30	27	109	27	30	24	107	31	35	29	111		
	119A			36.0	34.6	46	50	42	105	51	60	46	109	48	50	44	107	53	60	48	111		
	118A+119A			54.0	52.0	55	60	62	105	60	60	66	109	57	60	64	107	62	70	68	111		
	NONE			–	–	19	20	19	116	22	25	24	120	20	25	21	118	24	30	26	122		
HIGH	118A			18.0	17.3	26	30	23	116	30	30	27	120	28	30	25	118	32	35	29	122		
	119A			36.0	34.6	47	50	43	116	52	60	47	120	49	50	45	118	54	60	49	122		
	118A+119A			54.0	52.0	56	60	63	116	61	70	67	120	58	60	65	118	63	70	69	122		
	NONE			–	–	21	25	22	130	25	30	27	134	23	25	24	132	27	30	29	136		
HIGH	118A	18.0	17.3	29	30	26	130	34	35	31	134	31	35	28	132	36	40	33	136				
	119A	36.0	34.6	51	60	46	130	55	60	51	134	53	60	48	132	58	60	53	136				
	118A+119A	54.0	52.0	59	70	66	130	64	70	71	134	62	70	68	132	66	70	73	136				

See “Legend and Notes for Tables 85 – 88” on page 139

# ELECTRICAL INFORMATION (cont.)

**Table 85 – UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V – Ph – Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14	208/230-3-60	STD	NONE	–	–	57	70	59	340	60	70	63	344	61	80	64	345	65	80	69	349
			291A	12.4/16.5	34.4/39.7	57/59	70/70	59/59	340/340	60/64	70/70	63/63	344/344	61/65	80/80	64/64	345/345	65/70	80/80	69/69	349/349
			288A+291A	19.9/26.5	55.3/63.8	79/90	80/90	72/82	340/340	84/94	90/100	77/86	344/344	85/96	90/100	78/88	345/345	90/100	90/100	82/92	349/349
			294A	25.2/33.5	69.9/80.6	97/111	100/125	89/101	340/340	102/115	110/125	93/106	344/344	103/117	110/125	95/107	345/345	108/121	110/125	99/111	349/349
			288A+294A	32.7/43.5	90.7/104.7	123/141	125/150	113/129	340/340	128/145	150/150	117/133	344/344	129/147	150/150	118/135	345/345	134/151	150/175	123/139	349/349
		291A+294A	37.6/50.0	104.3/120.3	140/130	150/150	129/147	340/340	145/135	150/150	133/151	344/344	146/136	150/150	134/152	345/345	151/141	175/150	138/157	349/349	
		MED	NONE	–	–	60	70	62	370	63	80	67	374	64	80	68	375	68	80	72	379
			291A	12.4/16.5	34.4/39.7	60/63	70/70	62/62	370/370	63/68	80/80	67/67	374/374	64/69	80/80	68/68	375/375	68/74	80/80	72/72	379/379
			288A+291A	19.9/26.5	55.3/63.8	83/93	90/100	76/86	370/370	88/98	90/100	80/90	374/374	89/99	90/100	81/91	375/375	94/104	100/110	86/95	379/379
			294A	25.2/33.5	69.9/80.6	101/114	110/125	93/105	370/370	106/119	110/125	97/109	374/374	107/120	110/125	98/110	375/375	112/125	125/125	102/115	379/379
			288A+294A	32.7/43.5	90.7/104.7	127/145	150/150	116/133	370/370	132/149	150/150	121/137	374/374	133/151	150/175	122/138	375/375	138/155	150/175	126/142	379/379
		291A+294A	37.6/50.0	104.3/120.3	144/134	150/150	132/151	370/370	149/139	150/150	137/155	374/374	150/140	150/150	138/156	375/375	155/145	175/175	142/160	379/379	
		HIGH	NONE	–	–	70	80	74	376	73	80	78	380	74	80	79	381	78	90	84	385
			291A	12.4/16.5	34.4/39.7	70/76	80/80	74/74	376/376	74/80	80/80	78/78	380/380	75/82	80/90	79/79	381/381	80/86	90/90	84/84	385/385
			288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	376/376	100/110	100/125	91/101	380/380	101/112	110/125	93/102	381/381	106/116	110/125	97/107	385/385
294A	25.2/33.5		69.9/80.6	113/127	125/150	104/116	376/376	118/131	125/150	108/121	380/380	119/133	125/150	109/122	381/381	124/137	125/150	114/126	385/385		
288A+294A	32.7/43.5		90.7/104.7	139/157	150/175	128/144	376/376	144/162	150/175	132/148	380/380	145/163	150/175	133/149	381/381	150/168	150/175	138/154	385/385		
291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	148/162	376/376	161/151	175/175	148/166	380/380	162/152	175/175	149/167	381/381	167/157	175/175	153/172	385/385			
50HC*D14	460-3-60	STD	NONE	–	–	25	30	26	166	27	30	28	168	27	30	28	168	29	35	30	170
			292A	16.5	19.9	30	30	27	166	32	35	29	168	32	35	29	168	35	35	31	170
			289A+292A	26.5	31.9	45	45	41	166	47	50	43	168	47	50	43	168	50	50	45	170
			295A	33.5	40.3	55	60	50	166	57	60	52	168	58	60	53	168	60	60	55	170
			289A+295A	43.5	52.3	70	70	64	166	72	80	66	168	73	80	67	168	75	80	69	170
		292A+295A	50.0	60.2	65	70	73	166	67	75	75	168	68	80	76	168	70	80	78	170	
		MED	NONE	–	–	27	30	28	181	28	35	30	183	29	35	30	183	31	35	32	185
			292A	16.5	19.9	32	35	29	181	34	35	31	183	35	35	32	183	37	40	34	185
			289A+292A	26.5	31.9	47	50	43	181	49	50	45	183	50	50	45	183	52	60	47	185
			295A	33.5	40.3	57	60	52	181	60	60	55	183	60	60	55	183	62	70	57	185
			289A+295A	43.5	52.3	72	80	66	181	75	80	68	183	75	80	69	183	77	80	71	185
		292A+295A	50.0	60.2	67	80	75	181	70	80	77	183	70	80	78	183	72	80	80	185	
		HIGH	NONE	–	–	32	40	33	184	34	40	35	186	34	40	36	186	36	45	38	188
			292A	16.5	19.9	38	40	35	184	40	40	37	186	41	45	37	186	43	45	39	188
			289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	56	60	51	186	58	60	53	188
295A	33.5		40.3	64	70	58	184	66	70	60	186	66	70	61	186	69	70	63	188		
289A+295A	43.5		52.3	79	80	72	184	81	90	74	186	81	90	74	186	84	90	76	188		
292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	76	80	83	186	78	80	86	188			
50HC*D14	575-3-60	STD	NONE	–	–	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
			293A	16.5	15.9	24	25	22	138	29	30	26	142	22	25	23	140	31	35	28	144
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142	38	40	35	140	43	45	39	144
			296A	33.5	32.2	44	45	40	138	49	50	45	142	46	50	42	140	51	60	47	144
			290A+296A	43.5	41.9	56	60	51	138	61	70	56	142	58	60	53	140	63	70	58	144
		293A+296A	50.0	48.1	52	60	59	138	57	60	63	142	54	60	60	140	59	60	65	144	
		MED	NONE	–	–	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
			293A	16.5	15.9	24	25	22	138	29	30	26	142	22	25	23	140	31	35	28	144
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142	38	40	35	140	43	45	39	144
			296A	33.5	32.2	44	45	40	138	49	50	45	142	46	50	42	140	51	60	47	144
			290A+296A	43.5	41.9	56	60	51	138	61	70	56	142	58	60	53	140	63	70	58	144
		293A+296A	50.0	48.1	52	60	59	138	57	60	63	142	54	60	60	140	59	60	65	144	
		HIGH	NONE	–	–	27	30	28	150	31	35	32	154	29	35	30	152	33	40	34	156
			293A	16.5	15.9	32	35	29	150	36	40	33	154	34	35	31	152	38	40	35	156
			290A+293A	26.5	25.5	44	45	40	150	48	50	44	154	46	50	42	152	50	60	46	156
296A	33.5		32.2	52	60	47	150	57	60	52	154	54	60	49	152	59	60	54	156		
290A+296A	43.5		41.9	64	70	59	150	69	70	63	154	66	70	60	152	71	80	65	156		
293A+296A	50.0	48.1	60	70	66	150	65	70	70	154	62	70	68	152	67	70	72	156			

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR**

UNIT	NOM. V—Ph—HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*AO4	208/230—1—60	DD—STD	NONE	—	—	30	45	29	88	32	45	31	90	—	—	—	—	—	—	—	—
			101A	3.3/4.4	15.9/18.3	33/33	45/45	29/30	88/88	35/35	45/45	31/32	90/90	—	—	—	—	—	—	—	—
			102A	4.9/6.5	23.5/27.1	44/44	45/45	36/40	88/88	46/46	50/50	38/42	90/90	—	—	—	—	—	—	—	—
			103B	6.5/8.7	31.4/36.3	55/55	60/60	45/50	88/88	57/57	60/60	47/52	90/90	—	—	—	—	—	—	—	—
			104B	7.9/10.5	37.9/43.8	64/64	70/70	52/59	88/88	67/67	70/70	54/61	90/90	—	—	—	—	—	—	—	—
			102A+102A	9.8/13.0	46.9/54.2	77/77	80/80	62/71	88/88	80/80	80/80	65/73	90/90	—	—	—	—	—	—	—	—
		STD	NONE	—	—	27	40	26	93	29	45	28	95	—	—	—	—	—	—	—	—
			101A	3.3/4.4	15.9/18.3	29/29	40/40	26/27	93/93	32/32	45/45	28/29	95/95	—	—	—	—	—	—	—	—
			102A	4.9/6.5	23.5/27.1	40/40	45/45	33/37	93/93	43/43	45/45	35/39	95/95	—	—	—	—	—	—	—	—
			103B	6.5/8.7	31.4/36.3	52/52	60/60	42/47	93/93	54/54	60/60	44/50	95/95	—	—	—	—	—	—	—	—
			104B	7.9/10.5	37.9/43.8	61/61	70/70	49/56	93/93	64/64	70/70	51/58	95/95	—	—	—	—	—	—	—	—
			102A+102A	9.8/13.0	46.9/54.2	74/74	80/80	60/68	93/93	77/77	80/80	62/70	95/95	—	—	—	—	—	—	—	—
		MED	NONE	—	—	27	40	26	93	29	45	28	95	—	—	—	—	—	—	—	—
			101A	3.3/4.4	15.9/18.3	29/29	40/40	26/27	93/93	32/32	45/45	28/29	95/95	—	—	—	—	—	—	—	—
			102A	4.9/6.5	23.5/27.1	40/40	45/45	33/37	93/93	43/43	45/45	35/39	95/95	—	—	—	—	—	—	—	—
103B	6.5/8.7		31.4/36.3	52/52	60/60	42/47	93/93	54/54	60/60	44/50	95/95	—	—	—	—	—	—	—	—		
104B	7.9/10.5		37.9/43.8	61/61	70/70	49/56	93/93	64/64	70/70	51/58	95/95	—	—	—	—	—	—	—	—		
102A+102A	9.8/13.0		46.9/54.2	74/74	80/80	60/68	93/93	77/77	80/80	62/70	95/95	—	—	—	—	—	—	—	—		
50HC*AO4	208/230—3—60	DD—STD	NONE	—	—	22	30	22	82	24	30	24	84	27	30	27	87	29	35	29	89
			101A	3.3/4.4	9.2/10.6	23/23	30/30	22/22	82/82	25/25	30/30	24/24	84/84	29/29	30/30	27/27	87/87	31/31	35/35	29/29	89/89
			102A	4.9/6.5	13.6/15.6	29/29	30/30	24/26	82/82	32/32	35/35	26/29	84/84	35/35	35/35	30/32	87/87	38/38	40/40	32/34	89/89
			103B	6.5/8.7	18.1/20.9	36/36	40/40	29/33	82/82	38/38	40/40	32/35	84/84	42/42	45/45	35/38	87/87	44/44	45/45	37/40	89/89
			104B	7.9/10.5	21.9/25.3	41/41	45/45	34/38	82/82	44/44	45/45	36/40	84/84	47/47	50/50	39/43	87/87	50/50	41/45	89/89	
			105A	12.0/16.0	33.4/38.5	58/58	60/60	47/53	82/82	60/60	60/60	49/55	84/84	64/64	70/70	52/58	87/87	66/66	70/70	55/60	89/89
		STD	NONE	—	—	20	25	19	94	22	30	21	96	24	30	25	99	26	30	27	101
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	94/94	23/23	30/30	21/21	96/96	26/26	30/30	25/25	99/99	29/29	30/30	27/27	101/101
			102A	4.9/6.5	13.6/15.6	26/26	30/30	22/24	94/94	29/29	30/30	24/26	96/96	32/32	35/35	27/29	99/99	35/35	35/35	29/32	101/101
			103B	6.5/8.7	18.1/20.9	33/33	35/35	27/30	94/94	35/35	40/40	29/32	96/96	39/39	40/40	32/36	99/99	41/41	45/45	35/38	101/101
			104B	7.9/10.5	21.9/25.3	39/39	40/40	31/35	94/94	41/41	45/45	33/37	96/96	45/45	45/45	37/41	99/99	47/47	50/50	39/43	101/101
			105A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	94/94	57/57	60/60	47/52	96/96	61/61	70/70	50/56	99/99	63/63	70/70	52/58	101/101
		MED	NONE	—	—	20/20	25/25	19/19	111	22/22	30/30	21/21	113	24/24	30/30	25/24	116	26/26	30/30	27/26	118
			101A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	111/111	22/22	30/30	21/21	113/113	26/26	30/30	25/24	116/116	28/28	30/30	27/26	118/118
			102A	4.9/6.5	13.6/15.6	26/26	30/30	22/24	111/111	28/28	30/30	24/26	113/113	32/32	35/35	27/29	116/116	34/34	35/35	29/31	118/118
103B	6.5/8.7		18.1/20.9	33/33	35/35	27/30	111/111	35/35	35/35	29/32	113/113	39/39	40/40	32/35	116/116	41/41	45/45	35/37	118/118		
104B	7.9/10.5		21.9/25.3	38/38	40/40	31/35	111/111	41/41	45/45	33/37	113/113	44/44	45/45	37/40	116/116	47/47	50/50	39/42	118/118		
105A	12.0/16.0		33.4/38.5	55/55	60/60	44/50	111/111	57/57	60/60	47/52	113/113	61/61	70/70	50/56	116/116	63/63	70/70	52/58	118/118		
HIGH	NONE	—	—	23/23	30/30	23/23	147	25/25	30/30	25/25	149	28/28	30/30	28/28	152	30/30	35/35	30/30	154		
	101A	3.3/4.4	9.2/10.6	24/24	30/30	23/23	147/147	26/26	30/30	25/25	149/149	30/30	30/30	28/28	152/152	32/32	35/35	30/30	154/154		
	102A	4.9/6.5	13.6/15.6	30/30	30/30	25/27	147/147	33/33	35/35	27/30	149/149	36/36	40/40	31/33	152/152	39/39	40/40	33/35	154/154		
	103B	6.5/8.7	18.1/20.9	37/37	40/40	30/34	147/147	39/39	40/40	33/36	149/149	43/43	45/45	36/39	152/152	45/45	45/45	38/41	154/154		
	104B	7.9/10.5	21.9/25.3	42/42	45/45	35/39	147/147	45/45	45/45	37/41	149/149	48/48	50/50	40/44	152/152	51/51	50/50	43/46	154/154		
	105A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	147/147	61/61	70/70	50/56	149/149	65/65	70/70	54/59	152/152	67/67	70/70	56/62	154/154		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A04	460-3-60	DD-STD	NONE	-	-	12	15	12	43	13	15	13	44	14	20	14	45	15	20	16	46
			106A	6.0	7.2	14	15	13	43	16	20	14	44	17	20	15	45	18	20	17	46
			107A	8.8	10.6	19	20	17	43	20	20	18	44	21	25	19	45	23	25	20	46
			108A	11.5	13.8	23	25	20	43	24	25	22	44	25	25	23	45	27	30	24	46
			109A	14.0	16.8	26	30	24	43	28	30	25	44	29	30	26	45	30	30	28	46
		STD	NONE	-	-	11	15	10	48	12	15	11	49	13	15	13	50	14	20	14	51
			106A	6.0	7.2	13	15	11	48	14	15	12	49	15	15	14	50	17	20	15	51
			107A	8.8	10.6	17	20	15	48	18	20	16	49	20	20	18	50	21	25	19	51
			108A	11.5	13.8	21	25	19	48	22	25	20	49	24	25	21	50	25	25	23	51
			109A	14.0	16.8	25	25	22	48	26	30	23	49	27	30	25	50	29	30	26	51
		MED	NONE	-	-	11	15	10	57	12	15	11	58	13	15	13	59	14	15	14	60
			106A	6.0	7.2	13	15	11	57	14	15	12	58	15	15	14	59	17	20	15	60
	107A		8.8	10.6	17	20	15	57	18	20	16	58	20	20	18	59	21	25	19	60	
	108A		11.5	13.8	21	25	19	57	22	25	20	58	24	25	21	59	25	25	23	60	
	109A		14.0	16.8	25	25	22	57	26	30	23	58	27	30	25	59	29	30	26	60	
	HIGH	NONE	-	-	12	15	12	75	13	15	13	76	15	20	15	77	16	20	16	78	
		106A	6.0	7.2	15	15	13	75	16	20	14	76	17	20	16	77	19	20	17	78	
		107A	8.8	10.6	19	20	17	75	20	20	18	76	22	25	20	77	23	25	21	78	
		108A	11.5	13.8	23	25	21	75	24	25	22	76	26	30	23	77	27	30	24	78	
		109A	14.0	16.8	27	30	24	75	28	30	25	76	29	30	27	77	31	35	28	78	
575-3-60	DD-STD	NONE	-	-	10	15	10	42	12	15	12	44	11	15	12	44	13	15	14	46	
		297A	10.0	9.6	17	20	16	42	20	20	18	44	20	20	18	44	22	25	20	46	
		298A	15.0	14.4	23	25	21	42	26	30	23	44	26	30	23	44	28	30	25	46	
	STD	NONE	-	-	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49	
		297A	10.0	9.6	14	15	12	45	16	20	15	47	16	20	14	47	18	20	17	49	
		298A	15.0	14.4	20	20	18	45	22	25	20	47	22	25	20	47	24	25	22	49	
	MED	NONE	-	-	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49	
		297A	10.0	9.6	14	15	12	45	16	20	15	47	16	20	14	47	18	20	17	49	
		298A	15.5	14.4	20	20	18	45	22	25	20	47	22	25	20	47	24	25	22	49	
	HIGH	NONE	-	-	8	15	7	49	10	15	9	51	9	15	9	51	11	15	11	53	
		297A	10.0	9.6	15	15	13	49	17	20	16	51	17	20	15	51	19	20	17	53	
		298A	15.0	14.4	21	25	19	49	23	25	21	51	23	25	21	51	25	30	23	53	

See "Legend and Notes for Tables 85 – 88" on page 139



## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V – Ph – HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A05	208/230-1-60	DD-STD	NONE	–	–	37	50	35	127	38	50	37	129	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	37/37	50/50	35/35	127/127	38/38	50/50	37/37	129/129	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	55/55	60/60	45/50	127/127	57/57	60/60	47/52	129/129	–	–	–	–	–	–	–	–
			102A+102A	9.8/13.0	46.9/54.2	77/77	80/80	62/71	127/127	80/80	60/80	65/73	129/129	–	–	–	–	–	–	–	–
			103B+103B	13.1/17.4	62.8/72.5	100/100	100/100	81/92	127/127	103/103	110/110	83/94	129/129	–	–	–	–	–	–	–	–
			104B+104B	15.8/21.0	75.8/87.5	119/119	125/125	96/109	127/127	121/121	125/125	98/111	129/129	–	–	–	–	–	–	–	–
		STD	NONE	–	–	34	50	32	132	36	50	35	134	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	132/132	36/36	50/50	35/35	134/134	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	52/52	60/60	42/47	132/132	54/54	60/60	44/50	134/134	–	–	–	–	–	–	–	–
			102A+102A	9.8/13.0	46.9/54.2	74/74	80/80	60/68	132/132	77/77	80/80	62/70	134/134	–	–	–	–	–	–	–	–
			103B+103B	13.1/17.4	62.8/72.5	97/97	100/100	78/89	132/132	100/100	100/100	80/91	134/134	–	–	–	–	–	–	–	–
			104B+104B	15.8/21.0	75.8/87.5	116/116	125/125	93/106	132/132	118/118	125/125	95/108	134/134	–	–	–	–	–	–	–	–
		MED	NONE	–	–	34	50	32	132	36	50	35	134	–	–	–	–	–	–	–	–
			101A	3.3/4.4	15.9/18.3	34/34	50/50	32/32	132/132	36/36	50/50	35/35	134/134	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	52/52	60/60	42/47	132/132	54/54	60/60	44/50	134/134	–	–	–	–	–	–	–	–
102A+102A	9.8/13.0		46.9/54.2	74/74	80/80	60/68	132/132	77/77	80/80	62/70	134/134	–	–	–	–	–	–	–	–		
103B+103B	13.1/17.4		62.8/72.5	97/97	100/100	78/89	132/132	100/100	100/100	80/91	134/134	–	–	–	–	–	–	–	–		
104B+104B	15.8/21.0		75.8/87.5	116/116	125/125	93/106	132/132	118/118	125/125	95/108	134/134	–	–	–	–	–	–	–	–		
50HC*A05	208/230-3-60	DD-STD	NONE	–	–	26	30	26	93	28	40	28	95	31	40	31	98	33	45	34	100
			102A	4.9/6.5	13.6/15.6	29/29	30/30	26/26	93/93	32/32	40/40	28/29	95/95	35/35	40/40	31/32	98/98	38/38	45/45	34/34	100/100
			103B	6.5/8.7	18.1/20.9	36/36	40/40	29/33	93/93	38/38	40/40	32/35	95/95	42/42	45/45	35/38	98/98	44/44	45/45	37/40	100/100
			105A	12.0/16.0	33.4/38.5	58/58	60/60	47/53	93/93	60/60	60/60	49/55	95/95	64/64	70/70	52/58	98/98	66/66	70/70	55/60	100/100
			104B+104B	15.8/21.0	43.8/50.5	73/73	80/80	59/67	93/93	75/75	80/80	61/69	95/95	79/79	80/80	64/72	98/98	81/81	90/90	67/74	100/100
			NONE	–	–	24	30	23	105	26	30	26	107	29	40	29	110	31	40	31	112
		STD	102A	4.9/6.5	13.6/15.6	26/26	30/30	23/24	105/105	29/29	30/30	26/26	107/107	32/32	40/40	29/29	110/110	35/35	40/40	31/32	112/112
			103B	6.5/8.7	18.1/20.9	33/33	35/35	27/30	105/105	35/35	40/40	29/32	107/107	39/39	40/40	32/36	110/110	41/41	45/45	35/38	112/112
			105A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	105/105	57/57	60/60	47/52	107/107	61/61	70/70	50/56	110/110	63/63	70/70	52/58	112/112
			104B+104B	15.8/21.0	43.8/50.5	70/70	70/70	56/64	105/105	72/72	80/80	59/66	107/107	76/76	80/80	62/70	110/110	78/78	80/80	64/72	112/112
		MED	NONE	–	–	24/24	30/30	23/23	122	26/26	30/30	26/25	124	29/29	40/40	29/29	127	31/31	40/40	31/31	129
			102A	4.9/6.5	13.6/15.6	26/26	30/30	23/24	122/122	28/28	30/30	26/26	124/124	32/32	40/40	29/29	127/127	34/34	40/40	31/31	129/129
			103B	6.5/8.7	18.1/20.9	33/33	35/35	27/30	122/122	35/35	35/35	29/32	124/124	39/39	40/40	32/35	127/127	41/41	45/45	35/37	129/129
			105A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	122/122	57/57	60/60	47/52	124/124	61/61	70/70	50/55	127/127	63/63	70/70	52/58	129/129
			104B+104B	15.8/21.0	43.8/50.5	70/70	70/70	56/64	122/122	72/72	80/80	59/66	124/124	76/76	80/80	62/69	127/127	78/78	80/80	64/71	129/129
HIGH	NONE	–	–	27/27	40/40	27/27	158	29/29	40/40	29/29	160	32/32	45/45	33/32	163	34/34	45/45	35/35	165		
	102A	4.9/6.5	13.6/15.6	30/30	40/40	27/27	158/158	33/33	40/40	29/30	160/160	36/36	45/45	33/33	163/163	39/39	45/45	35/35	165/165		
	103B	6.5/8.7	18.1/20.9	37/37	40/40	30/34	158/158	39/39	40/40	33/36	160/160	43/43	45/45	36/39	163/163	45/45	45/45	38/41	165/165		
	105A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	158/158	61/61	70/70	50/56	160/160	65/65	70/70	54/59	163/163	67/67	70/70	56/62	165/165		
	104B+104B	15.8/21.0	43.8/50.5	74/74	80/80	60/68	158/158	76/76	80/80	62/70	160/160	80/80	80/80	66/73	163/163	82/82	90/90	68/75	165/165		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.		w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)					
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*405	460-3-60	DD-STD	NONE	—	—	13	15	13	47	14	20	14	48	15	20	15	49	16	20	16	50
			106A	6.0	7.2	14	15	13	47	16	20	14	48	17	20	15	49	18	20	17	50
			108A	11.5	13.8	23	25	20	47	24	25	22	48	25	25	23	49	27	30	24	50
			109A	14.0	16.8	26	30	24	47	28	30	25	48	29	30	26	49	30	30	28	50
			108A+108A	23.0	27.7	40	40	36	47	41	45	38	48	43	45	39	49	44	45	40	50
		STD	NONE	—	—	12	15	11	52	13	15	12	53	14	20	14	54	15	20	15	55
			106A	6.0	7.2	13	15	11	52	14	15	12	53	15	20	14	54	17	20	15	55
			108A	11.5	13.8	21	25	19	52	22	25	20	53	24	25	21	54	25	25	23	55
			109A	14.0	16.8	25	25	22	52	26	30	23	53	27	30	25	54	29	30	26	55
			108A+108A	23.0	27.7	38	40	35	52	40	40	36	53	41	45	37	54	42	45	39	55
		MED	NONE	—	—	12	15	11	61	13	15	12	62	14	15	14	63	15	20	15	64
			106A	6.0	7.2	13	15	11	61	14	15	12	62	15	15	14	63	17	20	15	64
	108A		11.5	13.8	21	25	19	61	22	25	20	62	24	25	21	63	25	25	22	64	
	109A		14.0	16.8	25	25	22	61	26	30	23	62	27	30	25	63	29	30	26	64	
	108A+108A		23.0	27.7	38	40	35	61	39	40	36	62	41	45	37	63	42	45	38	64	
	HIGH	NONE	—	—	13	15	13	79	14	20	14	80	16	20	16	81	17	20	17	82	
		106A	6.0	7.2	15	15	13	79	16	20	14	80	17	20	16	81	19	20	17	82	
		108A	11.5	13.8	23	25	21	79	24	25	22	80	26	30	23	81	27	30	24	82	
		109A	14.0	16.8	27	30	24	79	28	30	25	80	29	30	27	81	31	35	28	82	
		108A+108A	23.0	27.7	40	40	37	79	42	45	38	80	43	45	39	81	44	45	40	82	
575-3-60	DD-STD	NONE	—	—	11	15	11	39	13	15	13	41	13	15	13	41	15	20	15	43	
		297A	10.0	9.6	17	20	16	39	20	20	18	41	20	20	18	41	22	25	20	43	
		298A	15.0	14.4	23	25	21	39	26	30	23	41	26	30	23	41	28	30	25	43	
	STD	NONE	—	—	9	15	8	42	10	15	10	44	10	15	10	44	12	15	12	46	
		297A	10.0	9.6	14	15	12	42	16	20	15	44	16	20	14	44	18	20	17	46	
		298A	15.0	14.4	20	20	18	42	22	25	20	44	22	25	20	44	24	25	22	46	
	MED	NONE	—	—	9	15	8	42	11	15	11	44	11	15	10	44	13	15	13	46	
		297A	10.0	9.6	14	15	13	42	17	20	15	44	17	20	15	44	19	20	17	46	
		298A	15.0	14.4	20	25	18	42	23	25	21	44	23	25	20	44	25	25	23	46	
	HIGH	NONE	—	—	10	15	10	57	12	15	12	59	12	15	12	59	14	15	14	61	
		297A	10.0	9.6	16	20	14	57	18	20	16	59	18	20	16	59	20	25	18	61	
		298A	15.0	14.4	22	25	20	57	24	25	22	59	24	25	22	59	26	30	24	61	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V – Ph – Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A06	208/230-1-60	DD-STD	NONE	–	–	41	60	39	144	42	60	41	146	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	44/44	60/60	39/40	144/144	46/46	60/60	41/42	146/146	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	55/55	60/60	45/50	144/144	57/57	60/60	47/52	146/146	–	–	–	–	–	–	–	–
			102A+102A	9.8/13.0	46.9/54.2	77/77	80/80	62/71	144/144	80/80	60/60	65/73	146/146	–	–	–	–	–	–	–	–
			103B+103B	13.1/17.4	62.8/72.5	100/100	100/100	81/92	144/144	103/103	110/110	83/94	146/146	–	–	–	–	–	–	–	–
			104B+104B	15.8/21.0	75.8/87.5	119/119	125/125	96/109	144/144	121/121	125/125	98/111	146/146	–	–	–	–	–	–	–	–
		STD	NONE	–	–	38	60	36	149	40	60	38	151	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	40/40	60/60	36/37	149/149	43/43	60/60	38/39	151/151	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	52/52	60/60	42/47	149/149	54/54	60/60	44/50	151/151	–	–	–	–	–	–	–	–
			102A+102A	9.8/13.0	46.9/54.2	74/74	80/80	60/68	149/149	77/77	80/80	62/70	151/151	–	–	–	–	–	–	–	–
			103B+103B	13.1/17.4	62.8/72.5	97/97	100/100	78/89	149/149	100/100	100/100	80/91	151/151	–	–	–	–	–	–	–	–
			104B+104B	15.8/21.0	75.8/87.5	116/116	125/125	93/106	149/149	118/118	125/125	95/108	151/151	–	–	–	–	–	–	–	–
		MED	NONE	–	–	40	60	38	174	42	60	41	176	–	–	–	–	–	–	–	–
			102A	4.9/6.5	23.5/27.1	43/43	60/60	38/39	174/174	45/45	60/60	41/41	176/176	–	–	–	–	–	–	–	–
			103B	6.5/8.7	31.4/36.3	55/55	60/60	44/50	174/174	57/57	60/60	46/52	176/176	–	–	–	–	–	–	–	–
			102A+102A	9.8/13.0	46.9/54.2	77/77	80/80	62/70	174/174	79/79	80/80	64/73	176/176	–	–	–	–	–	–	–	–
			103B+103B	13.1/17.4	62.8/72.5	100/100	100/100	80/91	174/174	102/102	110/110	82/94	176/176	–	–	–	–	–	–	–	–
			104B+104B	15.8/21.0	75.8/87.5	119/119	125/125	95/109	174/174	121/121	125/125	97/111	176/176	–	–	–	–	–	–	–	–
50HC*A06	208/230-3-60	DD-STD	NONE	–	–	29	40	28	120	31	45	31	122	34	45	34	125	36	50	36	127
			102A	4.9/6.5	13.6/15.6	29/29	40/40	28/28	120/120	32/32	45/45	31/31	122/122	35/35	45/45	34/34	125/125	38/38	50/50	36/36	127/127
			104B	7.9/10.5	21.9/25.3	41/41	45/45	34/38	120/120	44/44	45/45	36/40	122/122	47/47	50/50	39/43	125/125	50/50	50/50	41/45	127/127
			105A	12.0/16.0	33.4/38.5	58/58	60/60	47/53	120/120	60/60	60/60	49/55	122/122	64/64	70/70	52/58	125/125	66/66	70/70	55/60	127/127
			104B+104B	15.8/21.0	43.8/50.5	73/73	80/80	59/67	120/120	75/75	80/80	61/69	122/122	79/79	80/80	64/72	125/125	81/81	90/90	67/74	127/127
			104B+105A	19.9/26.5	55.2/63.8	89/89	90/90	72/82	120/120	92/92	100/100	74/84	122/122	95/95	100/100	78/87	125/125	98/98	100/100	80/90	127/127
		STD	NONE	–	–	27	40	26	132	29	40	28	134	32	45	31	137	34	45	34	139
			102A	4.9/6.5	13.6/15.6	27/27	40/40	26/26	132/132	29/29	40/40	28/28	134/134	32/32	45/45	31/31	137/137	35/35	45/45	34/34	139/139
			104B	7.9/10.5	21.9/25.3	39/39	40/40	31/35	132/132	41/41	45/45	33/37	134/134	45/45	45/45	37/41	137/137	47/47	50/50	39/43	139/139
			105A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	132/132	57/57	60/60	47/52	134/134	61/61	70/70	50/56	137/137	63/63	70/70	52/58	139/139
			104B+104B	15.8/21.0	43.8/50.5	70/70	70/70	56/64	132/132	72/72	80/80	59/66	134/134	76/76	80/80	62/70	137/137	78/78	80/80	64/72	139/139
			104B+105A	19.9/26.5	55.2/63.8	87/87	90/90	69/79	132/132	89/89	90/90	72/82	134/134	93/93	100/100	75/85	137/137	95/95	100/100	77/87	139/139
		MED	NONE	–	–	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192
			102A	4.9/6.5	13.6/15.6	30/30	45/45	30/29	185/185	33/33	45/45	32/32	187/187	36/36	50/50	35/35	190/190	39/39	50/50	37/37	192/192
			104B	7.9/10.5	21.9/25.3	42/42	45/45	35/39	185/185	45/45	45/45	37/41	187/187	48/48	50/50	40/44	190/190	51/51	60/60	43/46	192/192
			105A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	185/185	61/61	70/70	50/56	187/187	65/65	70/70	54/59	190/190	67/67	70/70	56/62	192/192
			104B+104B	15.8/21.0	43.8/50.5	74/74	80/80	60/68	185/185	76/76	80/80	62/70	187/187	80/80	80/80	66/73	190/190	82/82	90/90	68/75	192/192
			104B+105A	19.9/26.5	55.2/63.8	91/91	100/100	73/83	185/185	93/93	100/100	75/85	187/187	97/97	100/100	79/88	190/190	99/99	100/100	81/91	192/192
HIGH	NONE	–	–	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192		
	102A	4.9/6.5	13.6/15.6	30/30	45/45	30/29	185/185	33/33	45/45	32/32	187/187	36/36	50/50	35/35	190/190	39/39	50/50	37/37	192/192		
	104B	7.9/10.5	21.9/25.3	42/42	45/45	35/39	185/185	45/45	45/45	37/41	187/187	48/48	50/50	40/44	190/190	51/51	60/60	43/46	192/192		
	105A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	185/185	61/61	70/70	50/56	187/187	65/65	70/70	54/59	190/190	67/67	70/70	56/62	192/192		
	104B+104B	15.8/21.0	43.8/50.5	74/74	80/80	60/68	185/185	76/76	80/80	62/70	187/187	80/80	80/80	66/73	190/190	82/82	90/90	68/75	192/192		
	104B+105A	19.9/26.5	55.2/63.8	91/91	100/100	73/83	185/185	93/93	100/100	75/85	187/187	97/97	100/100	79/88	190/190	99/99	100/100	81/91	192/192		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A06	460-3-60	DD-STD	NONE	-	-	14	20	14	58	15	20	15	59	16	20	16	60	17	20	17	61
			106A	6.0	7.2	14	20	14	58	16	20	15	59	17	20	16	60	18	20	17	61
			108A	11.5	13.8	23	25	20	58	24	25	22	59	25	25	23	60	27	30	24	61
			109A	14.0	16.8	26	30	24	58	28	30	25	59	29	30	26	60	30	30	28	61
			108A+108A	23.0	27.7	40	40	36	58	41	45	38	59	43	45	39	60	44	45	40	61
			108A+109A	25.5	30.7	44	45	40	58	45	45	41	59	47	50	42	60	48	50	44	61
		STD	NONE	-	-	13	15	12	63	14	20	13	64	15	20	15	65	16	20	16	66
			106A	6.0	7.2	13	15	12	63	14	20	13	64	15	20	15	65	17	20	16	66
			108A	11.5	13.8	21	25	19	63	22	25	20	64	24	25	21	65	25	25	23	66
			109A	14.0	16.8	25	25	22	63	26	30	23	64	27	30	25	65	29	30	26	66
	108A+108A		23.0	27.7	38	40	35	63	40	40	36	64	41	45	37	65	42	45	39	66	
	108A+109A		25.5	30.7	42	45	38	63	43	45	39	64	45	45	41	65	46	50	42	66	
	MED	NONE	-	-	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93	
		106A	6.0	7.2	15	20	14	90	16	20	15	91	17	20	16	92	19	20	18	93	
		108A	11.5	13.8	23	25	21	90	24	25	22	91	26	30	23	92	27	30	24	93	
		109A	14.0	16.8	27	30	24	90	28	30	25	91	29	30	27	92	31	35	28	93	
		108A+108A	23.0	27.7	40	40	37	90	42	45	38	91	43	45	39	92	44	45	40	93	
		108A+109A	25.5	30.7	44	45	40	90	45	45	41	91	47	50	43	92	48	50	44	93	
	HIGH	NONE	-	-	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93	
		106A	6.0	7.2	15	20	14	90	16	20	15	91	17	20	16	92	19	20	18	93	
108A		11.5	13.8	23	25	21	90	24	25	22	91	26	30	23	92	27	30	24	93		
109A		14.0	16.8	27	30	24	90	28	30	25	91	29	30	27	92	31	35	28	93		
108A+108A		23.0	27.7	40	40	37	90	42	45	38	91	43	45	39	92	44	45	40	93		
108A+109A		25.5	30.7	44	45	40	90	45	45	41	91	47	50	43	92	48	50	44	93		
575-3-60	DD-STD	NONE	-	-	12	15	12	46	14	15	14	48	13	15	13	48	15	20	16	50	
		298A	15.0	14.4	23	25	21	46	26	30	23	48	26	30	23	48	28	30	25	50	
		301A	25.0	24.1	36	40	32	46	38	40	35	48	38	40	34	48	40	40	36	50	
	STD	NONE	-	-	9	15	8	49	11	15	10	51	11	15	10	51	13	15	12	53	
		298A	15.0	14.4	20	20	18	49	22	25	20	51	22	25	20	51	24	25	22	53	
		301A	25.0	24.1	32	35	29	49	34	35	31	51	34	35	31	51	37	40	33	53	
	MED	NONE	-	-	10	15	9	53	12	15	11	55	11	15	11	55	13	15	13	57	
		298A	15.0	14.4	21	25	19	53	23	25	21	55	23	25	21	55	25	30	23	57	
		301A	25.0	24.1	33	35	30	53	35	40	32	55	35	35	32	55	38	40	34	57	
	HIGH	NONE	-	-	11	15	10	64	12	15	12	66	12	15	12	66	14	15	14	68	
		298A	15.0	14.4	22	25	20	64	24	25	22	66	24	25	22	66	26	30	24	68	
		301A	25.0	24.1	34	35	31	64	36	40	33	66	36	40	33	66	39	40	35	68	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NO M. V.–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				NO PE.				w/ PE. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A07	208/230-3-60	STD	NONE	—	—	33	50	32	161	37	50	36	165	38	50	37	166	42	60	42	170
			264A	4.9/6.5	13.6/15.6	33/33	50/50	32/32	161/161	37/37	50/50	36/36	165/165	38/38	50/50	37/37	166/166	42/42	60/60	42/42	170/170
			117A	7.8/10.4	21.7/25.0	38/38	50/50	32/35	161/161	43/43	50/50	36/39	165/165	44/44	50/50	37/40	166/166	49/49	60/60	42/45	170/170
			110A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	161/161	60/60	60/60	49/55	165/165	61/61	70/70	50/56	166/166	66/66	70/70	54/60	170/170
			117A+117A	15.8/21.0	43.8/50.5	70/70	70/70	56/64	161/161	75/75	80/80	61/68	165/165	76/76	80/80	62/70	166/166	81/81	90/90	66/74	170/170
		110A+117A	19.9/26.5	55.2/63.8	87/87	90/90	69/79	161/161	91/91	100/100	74/84	165/165	93/93	100/100	75/85	166/166	97/97	100/100	79/89	170/170	
		MED	NONE	—	—	36/36	50/50	36/36	214	40/40	50/50	40/40	218	41/41	60/60	41/41	219	45/45	60/60	46/45	223
			264A	4.9/6.5	13.6/15.6	36/36	50/50	36/36	214/214	40/40	50/50	40/40	218/218	41/41	60/60	41/41	219/219	45/45	60/60	46/45	223/223
			117A	7.8/10.4	21.7/25.0	42/42	50/50	36/38	214/214	47/47	50/50	40/43	218/218	48/48	60/60	41/44	219/219	53/53	60/60	46/48	223/223
			110A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	214/214	64/64	70/70	52/58	218/218	65/65	70/70	54/59	219/219	70/70	70/70	58/64	223/223
			117A+117A	15.8/21.0	43.8/50.5	74/74	80/80	60/68	214/214	79/79	80/80	64/72	218/218	80/80	80/80	66/73	219/219	85/85	90/90	70/78	223/223
		110A+117A	19.9/26.5	55.2/63.8	91/91	100/100	73/83	214/214	95/95	100/100	78/87	218/218	97/97	100/100	79/88	219/219	101/101	110/110	83/93	223/223	
	HIGH	NONE	—	—	42/42	60/60	42/41	230	45/45	60/60	46/45	234	46/46	60/60	47/46	235	50/50	60/60	52/50	239	
		264A	4.9/6.5	13.6/15.6	42/42	60/60	42/41	230/230	45/45	60/60	46/45	234/234	46/46	60/60	47/46	235/235	50/50	60/60	52/50	239/239	
		117A	7.8/10.4	21.7/25.0	48/48	60/60	42/43	230/230	52/52	60/60	46/48	234/234	54/54	60/60	47/49	235/235	58/58	60/60	52/53	239/239	
		110A	12.0/16.0	33.4/38.5	64/64	70/70	54/59	230/230	69/69	70/70	58/63	234/234	70/70	80/70	60/64	235/235	75/75	80/80	64/69	239/239	
		117A+117A	15.8/21.0	43.8/50.5	79/79	80/80	66/73	230/230	84/84	90/90	70/77	234/234	85/85	90/90	72/78	235/235	90/90	90/90	76/83	239/239	
	110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	230/230	101/101	110/110	83/92	234/234	102/102	110/110	85/93	235/235	107/107	110/110	89/98	239/239		
	460-3-60	STD	NONE	—	—	15	20	14	79	17	20	16	81	17	20	17	81	19	25	19	83
			265A	6.0	7.2	15	20	14	79	17	20	16	81	17	20	17	81	19	25	19	83
			266A	11.5	13.8	21	25	19	79	23	25	21	81	24	25	21	81	26	30	23	83
			267A	14.0	16.8	25	25	22	79	27	30	24	81	27	30	25	81	30	30	27	83
			268A	23.0	27.7	38	40	35	79	41	45	37	81	41	45	37	81	43	45	39	83
		269A	25.5	30.7	42	45	38	79	44	45	40	81	45	45	41	81	47	50	43	83	
MED		NONE	—	—	17	20	16	106	18	25	18	108	19	25	19	108	21	25	21	110	
		265A	6.0	7.2	17	20	16	106	18	25	18	108	19	25	19	108	21	25	21	110	
		266A	11.5	13.8	23	25	21	106	25	25	23	108	26	30	23	108	28	30	25	110	
		267A	14.0	16.8	27	30	24	106	29	30	26	108	29	30	27	108	32	35	29	110	
		268A	23.0	27.7	40	40	37	106	43	45	39	108	43	45	39	108	45	45	41	110	
269A		25.5	30.7	44	45	40	106	46	50	42	108	47	50	43	108	49	50	45	110		
HIGH		NONE	—	—	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
		267A	14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
		268A	23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118	
269A		25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118		
575-3-60	STD	NONE	—	—	12	15	11	66	15	20	15	70	13	15	13	68	17	20	17	72	
		118A	18.0	17.3	24	25	22	66	29	30	26	70	26	30	24	68	31	35	28	72	
		299A	28.0	26.9	36	40	33	66	41	45	37	70	38	40	35	68	43	45	39	72	
	MED	NONE	—	—	13	15	12	81	17	20	17	85	14	20	14	83	18	20	19	87	
		118A	18.0	17.3	26	30	23	81	30	30	27	85	28	30	25	83	32	35	29	87	
		299A	28.0	26.9	38	40	34	81	42	45	39	85	40	40	36	83	44	45	40	87	
	HIGH	NONE	—	—	16	20	15	95	19	25	20	99	17	20	17	97	21	25	22	101	
		118A	18.0	17.3	29	30	26	95	34	35	31	99	31	35	28	97	36	40	33	101	
		299A	28.0	26.9	41	45	37	95	46	50	42	99	43	45	39	97	48	50	44	101	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.								
			CRHEATER****00	Nom (kW)	FLA	NO P.E.			w/ P.E. (pwrd fr/unit)			NO P.E.			w/ P.E. (pwrd fr/unit)					
						MCA	HACR BRKR	DISC. SIZE	MCA	HACR BRKR	DISC. SIZE	MCA	HACR BRKR	DISC. SIZE	MCA	HACR BRKR	DISC. SIZE			
208/230-3-60	STD	NONE	–	–	31	45	30	161	34	50	34	165	35	50	35	166	39	50	39	170
		264A	4.9/6.5	13.6/15.6	31/31	45/45	30/30	161/161	34/34	50/50	34/34	165/165	35/35	50/50	35/35	166/166	39/39	50/50	39/39	170/170
		117A	7.8/10.4	21.7/25.0	38/38	45/45	31/35	161/161	43/43	50/50	35/39	165/165	44/44	50/50	36/40	166/166	49/49	50/50	41/45	170/170
		110A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	161/161	60/60	60/60	49/55	165/165	61/61	70/70	50/56	166/166	66/66	70/70	54/60	170/170
		117A+117A	15.8/21.0	43.8/50.5	70/70	70/70	56/64	161/161	75/75	80/80	61/68	165/165	76/76	80/80	62/70	166/166	81/81	90/90	66/74	170/170
	110A+117A	19.9/26.5	55.2/63.8	87/87	90/90	69/79	161/161	91/91	100/100	74/84	165/165	93/93	100/100	75/85	166/166	97/97	100/100	79/89	170/170	
	MED	NONE	–	–	34/34	50/50	33/33	214	38/38	50/50	38/37	218	39/39	50/50	39/39	219	42/42	50/50	43/43	223
		264A	4.9/6.5	13.6/15.6	34/34	50/50	33/33	214/214	38/38	50/50	38/37	218/218	39/39	50/50	39/39	219/219	42/42	50/50	43/43	223/223
		117A	7.8/10.4	21.7/25.0	42/42	50/50	35/38	214/214	47/47	50/50	39/43	218/218	48/48	50/50	40/44	219/219	53/53	60/60	45/48	223/223
		110A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	214/214	64/64	70/70	52/58	218/218	65/65	70/70	54/59	219/219	70/70	70/70	58/64	223/223
		117A+117A	15.8/21.0	43.8/50.5	74/74	80/80	60/68	214/214	79/79	80/80	64/72	218/218	80/80	80/80	66/73	219/219	85/85	90/90	70/78	223/223
	110A+117A	19.9/26.5	55.2/63.8	91/91	100/100	73/83	214/214	95/95	100/100	78/87	218/218	97/97	100/100	79/88	219/219	101/101	110/110	83/93	223/223	
HIGH	NONE	–	–	39/39	50/50	39/38	230	43/43	50/50	44/43	234	44/44	60/60	45/44	235	48/48	60/60	49/48	239	
	264A	4.9/6.5	13.6/15.6	39/39	50/50	39/38	230/230	43/43	50/50	44/43	234/234	44/44	60/60	45/44	235/235	48/48	60/60	49/48	239/239	
	117A	7.8/10.4	21.7/25.0	48/48	50/50	41/43	230/230	52/52	60/60	45/48	234/234	54/54	60/60	46/49	235/235	58/58	60/60	50/53	239/239	
	110A	12.0/16.0	33.4/38.5	64/64	70/70	54/59	230/230	69/69	70/70	58/63	234/234	70/70	80/70	60/64	235/235	75/75	80/80	64/69	239/239	
	117A+117A	15.8/21.0	43.8/50.5	79/79	80/80	66/73	230/230	84/84	90/90	70/77	234/234	85/85	90/90	72/78	235/235	90/90	90/90	76/83	239/239	
110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	230/230	101/101	110/110	83/92	234/234	102/102	110/110	85/93	235/235	107/107	110/110	89/98	239/239		
460-3-60	STD	NONE	–	–	15	20	14	79	17	20	17	81	17	25	17	81	19	25	19	83
		265A	6.0	7.2	15	20	14	79	17	20	17	81	17	25	17	81	19	25	19	83
		266A	11.5	13.8	21	25	19	79	23	25	21	81	24	25	21	81	26	30	23	83
		267A	14.0	16.8	25	25	22	79	27	30	24	81	27	30	25	81	30	30	27	83
		268A	23.0	27.7	38	40	35	79	41	45	37	81	41	45	37	81	43	45	39	83
	269A	25.5	30.7	42	45	38	79	44	45	40	81	45	45	41	81	47	50	43	83	
	MED	NONE	–	–	17	20	16	106	19	25	18	108	19	25	19	108	21	25	21	110
		265A	6.0	7.2	17	20	16	106	19	25	18	108	19	25	19	108	21	25	21	110
		266A	11.5	13.8	23	25	21	106	25	25	23	108	26	30	23	108	28	30	25	110
		267A	14.0	16.8	27	30	24	106	29	30	26	108	29	30	27	108	32	35	29	110
		268A	23.0	27.7	40	40	37	106	43	45	39	108	43	45	39	108	45	45	41	110
	269A	25.5	30.7	44	45	40	106	46	50	42	108	47	50	43	108	49	50	45	110	
	HIGH	NONE	–	–	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118
		265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118
		266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118
267A		14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
268A		23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118	
269A	25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118		
575-3-60	STD	NONE	–	–	11	15	10	66	15	20	15	70	13	15	12	68	17	20	17	72
		118A	18.0	17.3	24	25	22	66	29	30	26	70	26	30	24	68	31	35	28	72
		299A	28.0	26.9	36	40	33	66	41	45	37	70	38	40	35	68	43	45	39	72
	MED	NONE	–	–	12	15	12	81	16	20	16	85	14	20	14	83	18	20	18	87
		118A	18.0	17.3	26	30	23	81	30	30	27	85	28	30	25	83	32	35	29	87
		299A	28.0	26.9	38	40	34	81	42	45	39	85	40	40	36	83	44	45	40	87
	HIGH	NONE	–	–	15	20	15	95	19	25	19	99	17	20	17	97	21	25	21	101
		118A	18.0	17.3	29	30	26	95	34	35	31	99	31	35	28	97	36	40	33	101
		299A	28.0	26.9	41	45	37	95	46	50	42	99	43	45	39	97	48	50	44	101

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V-PH-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*008	208/230-3-60	STD	NONE	-	-	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/41	191/191	43/43	50/50	45/45	195/195	44/44	50/50	46/46	196/196	49/49	60/60	51/51	200/200
			110A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	191/191	60/60	60/60	49/54	195/195	61/61	70/70	50/56	196/196	66/66	70/70	54/60	200/200
			111A	18.6/24.8	51.7/59.7	82/82	90/90	65/74	191/191	86/86	90/90	70/79	195/195	88/88	90/90	71/80	196/196	92/92	100/100	75/85	200/200
			112A	24.0/32.0	66.7/77.0	103/103	110/110	83/95	191/191	108/108	110/110	87/99	195/195	109/109	110/110	88/100	196/196	114/114	125/125	93/104	200/200
			112A+117A	31.8/42.4	88.4/102.0	134/134	150/150	108/123	191/191	139/139	150/150	112/127	195/195	140/140	150/150	113/129	196/196	145/145	150/150	118/133	200/200
		MED	NONE	-	-	41/41	50/50	43/42	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/50	60/60	53/52	238
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/42	229/229	45/45	50/50	47/47	233/233	46/46	50/50	48/48	234/234	51/51	60/60	53/52	238/238
			110A	12.0/16.0	33.4/38.5	57/57	60/60	46/52	229/229	62/62	70/70	51/56	233/233	63/63	70/70	52/58	234/234	68/68	70/70	56/62	238/238
			111A	18.6/24.8	51.7/59.7	83/83	90/90	67/76	229/229	88/88	90/90	72/81	233/233	89/89	90/90	73/82	234/234	94/94	100/100	77/86	238/238
			112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	229/229	110/110	110/110	89/101	233/233	111/111	125/125	90/102	234/234	116/116	125/125	95/106	238/238
			112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	229/229	141/141	150/150	114/129	233/233	142/142	150/150	115/131	234/234	147/147	150/150	119/135	238/238
		HIGH	NONE	-	-	45	50	47	258	48	60	51	262	49	60	52	263	53	60	57	267
			117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	50/50	60/60	51/51	262/262	51/51	60/60	52/52	263/263	56/56	60/60	57/57	267/267
			110A	12.0/16.0	33.4/38.5	62/62	70/70	51/56	258/258	67/67	70/70	55/61	262/262	68/68	70/70	56/62	263/263	73/73	80/80	60/66	267/267
111A	18.6/24.8		51.7/59.7	88/88	90/90	72/81	258/258	93/93	100/100	76/85	262/262	94/94	100/100	77/86	263/263	99/99	100/100	82/91	267/267		
112A	24.0/32.0		66.7/77.0	110/110	110/110	89/101	258/258	115/115	125/125	93/105	262/262	116/116	125/125	94/106	263/263	121/121	125/125	99/111	267/267		
112A+117A	31.8/42.4		88.4/102.0	141/141	150/150	114/129	258/258	146/146	150/150	118/134	262/262	147/147	150/150	119/135	263/263	152/152	175/175	124/139	267/267		
50HC*008	460-3-60	STD	NONE	-	-	18	20	19	95	20	25	97	21	25	21	97	22	25	23	99	
			116B	13.9	16.7	25	25	22	95	27	30	24	97	27	30	25	97	30	30	27	99
			113B	16.5	19.8	28	30	26	95	31	35	28	97	31	35	28	97	33	35	30	99
			114B	27.8	33.4	45	50	41	95	48	50	43	97	48	50	44	97	50	60	46	99
			115B	33.0	39.7	53	60	49	95	56	60	51	97	56	60	51	97	58	60	53	99
		MED	NONE	-	-	19	25	20	114	21	25	22	116	21	25	22	116	23	25	24	118
			116B	13.9	16.7	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118
			113B	16.5	19.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118
			114B	27.8	33.4	46	50	42	114	49	50	44	116	49	50	45	116	51	60	47	118
			115B	33.0	39.7	54	60	50	114	57	60	52	116	57	60	52	116	59	60	54	118
		HIGH	NONE	-	-	21	25	22	129	23	25	24	131	23	25	24	131	25	30	27	133
			116B	13.9	16.7	28	30	25	129	30	30	27	131	31	35	28	131	33	35	30	133
			113B	16.5	19.8	32	35	29	129	34	35	31	131	35	35	31	131	37	40	33	133
			114B	27.8	33.4	49	50	45	129	51	60	47	131	52	60	47	131	54	60	49	133
			115B	33.0	39.7	57	60	52	129	59	60	54	131	59	60	54	131	62	70	56	133
50HC*008	575-3-60	STD	NONE	-	-	13	15	13	77	17	20	17	81	14	15	15	79	18	20	19	83
			118A	18.0	17.3	24	25	22	77	29	30	26	81	26	30	24	79	31	35	28	83
			119A	36.0	34.6	46	50	42	77	50	60	46	81	48	50	44	79	53	60	48	83
		MED	NONE	-	-	13	15	13	81	17	20	18	85	15	20	15	83	19	20	20	87
			118A	18.0	17.3	25	25	22	81	29	30	27	85	27	30	24	83	31	35	29	87
			119A	36.0	34.6	46	50	42	81	51	60	46	85	48	50	44	83	53	60	48	87
		HIGH	NONE	-	-	14	15	14	92	18	20	19	96	16	20	16	94	19	25	21	98
			118A	18.0	17.3	26	30	23	92	30	30	27	96	28	30	25	94	32	35	29	98
			119A	36.0	34.6	47	50	43	92	52	60	47	96	49	50	45	94	54	60	49	98

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V–Ph–Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.							w/ PWRD C.O.								
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)			NO P.E.				w/ P.E. (pwrd fr/unit)				
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D00	208/230–3–60	STD	NONE	–	–	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200
			117A	7.8/10.4	21.7/25.0	39/39	50/50	41/41	191/191	43/43	50/50	45/45	195/195	44/44	50/50	46/46	196/196	49/49	60/60	51/51	200/200
			110A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	191/191	60/60	60/60	49/55	195/195	61/61	70/70	50/56	196/196	66/66	70/70	54/60	200/200
			111A	18.6/24.8	51.7/59.7	82/82	90/90	65/75	191/191	86/86	90/90	70/79	195/195	88/88	90/90	71/80	196/196	92/92	100/100	75/85	200/200
			112A	24.0/32.0	66.7/77.0	103/103	110/110	83/95	191/191	108/108	110/110	87/99	195/195	109/109	110/110	88/100	196/196	114/114	125/125	93/104	200/200
		112A+117A	31.8/42.4	88.4/102.0	134/134	150/150	108/123	191/191	139/139	150/150	112/128	195/195	140/140	150/150	113/129	196/196	145/145	150/150	118/133	200/200	
		MED	NONE	–	–	41/41	50/50	43/43	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/50	60/60	53/53	238
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	229/229	45/45	50/50	47/47	233/233	46/46	50/50	48/48	234/234	51/51	60/60	53/53	238/238
			110A	12.0/16.0	33.4/38.5	57/57	60/60	46/52	229/229	62/62	70/70	51/56	233/233	63/63	70/70	52/58	234/234	68/68	70/70	56/62	238/238
			111A	18.6/24.8	51.7/59.7	83/83	90/90	67/76	229/229	88/88	90/90	72/81	233/233	89/89	90/90	73/82	234/234	94/94	100/100	77/86	238/238
			112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	229/229	110/110	110/110	89/101	233/233	111/111	125/125	90/102	234/234	116/116	125/125	95/106	238/238
		112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	229/229	141/141	150/150	114/129	233/233	142/142	150/150	115/131	234/234	147/147	150/150	119/135	238/238	
HIGH	NONE	–	–	45	50	47	258	49	60	52	262	50	60	53	263	53	60	57	267		
	117A	7.8/10.4	21.7/25.0	45/45	50/50	47/47	258/258	50/50	60/60	52/52	262/262	51/51	60/60	53/53	263/263	56/56	60/60	57/57	267/267		
	110A	12.0/16.0	33.4/38.5	62/62	70/70	51/56	258/258	67/67	70/70	55/61	262/262	68/68	70/70	56/62	263/263	73/73	80/80	60/66	267/267		
	111A	18.6/24.8	51.7/59.7	88/88	90/90	72/81	258/258	93/93	100/100	76/85	262/262	94/94	100/100	77/86	263/263	99/99	100/100	82/91	267/267		
	112A	24.0/32.0	66.7/77.0	110/110	110/110	89/101	258/258	115/115	125/125	93/105	262/262	116/116	125/125	94/106	263/263	121/121	125/125	99/111	267/267		
112A+117A	31.8/42.4	88.4/102.0	141/141	150/150	114/129	258/258	146/146	150/150	118/134	262/262	147/147	150/150	119/135	263/263	152/152	175/175	124/139	267/267			
460–3–60	STD	NONE	–	–	19	20	19	95	20	25	21	97	21	25	22	97	23	25	24	99	
		116B	13.9	16.7	25	25	22	95	27	30	24	97	27	30	25	97	30	30	27	99	
		113B	16.5	19.8	28	30	26	95	31	35	28	97	31	35	28	97	33	35	30	99	
		114B	27.8	33.4	45	50	41	95	48	50	43	97	48	50	44	97	50	60	46	99	
		115B	33.0	39.7	53	60	49	95	56	60	51	97	56	60	51	97	58	60	53	99	
	MED	NONE	–	–	19	25	20	114	21	25	22	116	22	25	23	116	23	25	25	118	
		116B	13.9	16.7	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
		113B	16.5	19.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
		114B	27.8	33.4	46	50	42	114	49	50	44	116	49	50	45	116	51	60	47	118	
		115B	33.0	39.7	54	60	50	114	57	60	52	116	57	60	52	116	59	60	54	118	
	HIGH	NONE	–	–	21	25	22	129	23	25	24	131	24	25	25	131	25	30	27	133	
		116B	13.9	16.7	28	30	25	129	30	30	27	131	31	35	28	131	33	35	30	133	
		113B	16.5	19.8	32	35	29	129	34	35	31	131	35	35	31	131	37	40	33	133	
		114B	27.8	33.4	49	50	45	129	51	60	47	131	52	60	47	131	54	60	49	133	
		115B	33.0	39.7	57	60	52	129	59	60	54	131	59	60	54	131	62	70	56	133	
575–3–60	STD	NONE	–	–	14	15	14	77	18	20	19	81	16	20	17	83	20	25	21	83	
		118A	18.0	17.3	24	25	24	77	29	30	26	81	26	30	24	79	31	35	28	83	
		119A	36.0	34.6	46	50	44	77	50	60	46	81	48	50	44	79	53	60	48	83	
	MED	NONE	–	–	14	20	15	81	18	20	19	85	16	20	17	83	20	25	21	87	
		118A	18.0	17.3	25	25	22	81	29	30	27	85	27	30	24	83	31	35	29	87	
		119A	36.0	34.6	46	50	42	81	51	60	46	85	48	50	44	83	53	60	48	87	
	HIGH	NONE	–	–	15	20	16	92	19	20	20	96	17	20	18	94	21	25	22	98	
		118A	18.0	17.3	26	30	23	92	30	30	27	96	28	30	25	94	32	35	29	98	
		119A	36.0	34.6	47	50	43	92	52	60	47	96	49	50	45	94	54	60	49	98	

See “Legend and Notes for Tables 85 – 88” on page 139



# ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NOM. V.–PH.–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D11	208/230–3–60	STD	NONE	–	–	49	60	51	257	53	60	55	261	54	60	57	262	57	70	61	266
			117A	7.8/10.4	21.7/25.0	49/49	60/60	51/51	257/257	53/53	60/60	55/55	261/261	54/54	60/60	57/57	262/262	57/57	70/70	61/61	266/266
			110A	12.0/16.0	33.4/38.5	55/55	60/60	51/51	257/257	60/60	60/60	55/55	261/261	61/61	70/70	57/57	262/262	66/66	70/70	61/61	266/266
			112A	24.0/32.0	66.7/77.0	103/103	110/110	83/95	257/257	108/108	110/110	87/99	261/261	109/109	110/110	88/100	262/262	114/114	125/125	93/104	266/266
			112A+117A	31.8/42.4	88.4/102.0	134/134	150/150	108/123	257/257	139/139	150/150	112/128	261/261	140/140	150/150	113/129	262/262	145/145	150/150	118/133	266/266
		112A+110A	37.6/50.0	104.2/120.3	137/137	150/150	126/144	257/257	142/142	150/150	130/149	261/261	143/143	150/150	131/150	262/262	148/148	150/150	136/154	266/266	
		MED	NONE	–	–	54	60	57	313	58	70	62	317	59	70	63	318	63	70	67	322
			117A	7.8/10.4	21.7/25.0	54/54	60/60	57/57	313/313	58/58	70/70	62/62	317/317	59/59	70/70	63/63	318/318	63/63	70/70	67/67	322/322
			110A	12.0/16.0	33.4/38.5	62/62	70/70	57/57	313/313	67/67	70/70	62/62	317/317	68/68	70/70	63/63	318/318	73/73	80/80	67/67	322/322
			112A	24.0/32.0	66.7/77.0	110/110	110/110	89/101	313/313	115/115	125/125	93/105	317/317	116/116	125/125	94/106	318/318	121/121	125/125	99/111	322/322
			112A+117A	31.8/42.4	88.4/102.0	141/141	150/150	114/129	313/313	146/146	150/150	118/134	317/317	147/147	150/150	119/135	318/318	152/152	175/175	124/139	322/322
		112A+110A	37.6/50.0	104.2/120.3	144/144	150/150	132/151	313/313	149/149	150/150	136/155	317/317	150/150	150/150	138/156	318/318	155/155	175/175	142/160	322/322	
		HIGH	NONE	–	–	57/57	70/70	61/60	315	61/61	70/70	65/64	319	62/62	70/70	66/65	320	66/66	80/80	71/70	324
			117A	7.8/10.4	21.7/25.0	57/57	70/70	61/60	315/315	61/61	70/70	65/64	319/319	62/62	70/70	66/65	320/320	66/66	80/80	71/70	324/324
			110A	12.0/16.0	33.4/38.5	64/64	70/70	61/60	315/315	69/69	70/70	65/64	319/319	70/70	80/70	66/65	320/320	75/75	80/80	71/70	324/324
112A	24.0/32.0		66.7/77.0	113/113	125/125	92/103	315/315	117/117	125/125	97/108	319/319	119/119	125/125	98/109	320/320	123/123	125/125	102/113	324/324		
112A+117A	31.8/42.4		88.4/102.0	144/144	150/150	117/132	315/315	149/149	150/150	122/136	319/319	150/150	150/150	123/137	320/320	155/155	175/175	127/142	324/324		
112A+110A	37.6/50.0	104.2/120.3	148/148	150/150	135/153	315/315	152/152	175/175	140/157	319/319	154/154	175/175	141/158	320/320	158/158	175/175	145/163	324/324			
50HC*D11	460–3–60	STD	NONE	–	–	22	25	23	123	24	30	25	125	–	–	–	–	–	–	–	
			116B	13.9	16.7	25	25	23	123	27	30	25	125	–	–	–	–	–	–	–	
			113B	16.5	19.8	28	30	26	123	31	35	28	125	–	–	–	–	–	–	–	
		115B	33.0	39.7	53	60	49	123	56	60	51	125	–	–	–	–	–	–	–		
		MED	NONE	–	–	25	30	26	151	27	30	28	153	–	–	–	–	–	–	–	
			116B	13.9	16.7	28	30	26	151	30	30	28	153	–	–	–	–	–	–	–	
			113B	16.5	19.8	32	35	29	151	34	35	31	153	–	–	–	–	–	–	–	
		115B	33.0	39.7	57	60	52	151	59	60	54	153	–	–	–	–	–	–	–		
		HIGH	NONE	–	–	26	30	28	152	28	30	30	154	–	–	–	–	–	–	–	
			116B	13.9	16.7	29	30	28	152	32	35	30	154	–	–	–	–	–	–	–	
			113B	16.5	19.8	33	35	30	152	35	35	32	154	–	–	–	–	–	–	–	
		115B	33.0	39.7	58	60	53	152	60	60	55	154	–	–	–	–	–	–	–		
		575–3–60	STD	NONE	–	–	18	20	18	95	21	25	23	99	–	–	–	–	–	–	–
				118A	18.0	17.3	25	25	22	95	29	30	27	99	–	–	–	–	–	–	–
				119A	36.0	34.6	46	50	42	95	51	60	46	99	–	–	–	–	–	–	–
118A+119A	54.0		52.0	55	60	62	95	60	60	66	99	–	–	–	–	–	–	–			
MED	NONE		–	–	18	20	19	106	22	25	23	110	–	–	–	–	–	–	–		
	118A		18.0	17.3	26	30	23	106	30	30	27	110	–	–	–	–	–	–	–		
	119A		36.0	34.6	47	50	43	106	52	60	47	110	–	–	–	–	–	–	–		
118A+119A	54.0		52.0	56	60	63	106	61	70	67	110	–	–	–	–	–	–	–			
HIGH	NONE		–	–	21	25	22	120	25	30	27	124	–	–	–	–	–	–	–		
	118A	18.0	17.3	29	30	26	120	34	35	31	124	–	–	–	–	–	–	–			
	119A	36.0	34.6	51	60	46	120	55	60	51	124	–	–	–	–	–	–	–			
118A+119A	54.0	52.0	59	70	66	120	64	70	71	124	–	–	–	–	–	–	–	–			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.								
		CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)				
					MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		
							FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA	
208/230-3-60	STD	NONE	—	—	48	60	50	282	51/51	60/60	54	286	52/52	60/60	55/55	287/287	56/56	60/60	60/60	291/291	
		117A	7.8/10.4	21.7/25.0	48/48	60/60	50/50	282/282	51/51	60/60	54/54	286/286	52/52	60/60	55/55	287/287	56/56	60/60	60/60	291/291	
		110A	12.0/16.0	33.4/38.5	55/55	60/60	50/50	282/282	60/60	60/60	54/55	286/286	61/61	70/70	55/56	287/287	66/66	70/70	60/60	291/291	
		112A	24.0/32.0	66.7/77.0	103/103	110/110	83/95	282/282	108/108	110/110	87/99	286/286	109/109	110/110	88/100	287/287	114/114	125/125	93/104	291/291	
		112A+117A	31.8/42.4	88.4/102.0	134/134	150/150	108/123	282/282	139/139	150/150	112/128	286/286	140/140	150/150	113/129	287/287	145/145	150/150	118/133	291/291	
	112A+110A	37.6/50.0	104.2/120.3	137/137	150/150	126/144	282/282	142/142	150/150	130/149	286/286	143/143	150/150	131/150	287/287	148/148	150/150	136/154	291/291		
	MED	NONE	—	—	53	60	56	338	57	70	60	342	58	70	61	343	62	70	66	347	
		117A	7.8/10.4	21.7/25.0	53/53	60/60	56/56	338/338	57/57	70/70	60/60	342/342	58/58	70/70	61/61	343/343	62/62	70/70	66/66	347/347	
		110A	12.0/16.0	33.4/38.5	62/62	70/70	56/56	338/338	67/67	70/70	60/61	342/342	68/68	70/70	61/62	343/343	73/73	80/80	66/66	347/347	
		112A	24.0/32.0	66.7/77.0	110/110	110/110	89/101	338/338	115/115	125/125	93/105	342/342	116/116	125/125	94/106	343/343	121/121	125/125	99/111	347/347	
		112A+117A	31.8/42.4	88.4/102.0	141/141	150/150	114/129	338/338	146/146	150/150	118/134	342/342	147/147	150/150	119/135	343/343	152/152	175/175	124/139	347/347	
	112A+110A	37.6/50.0	104.2/120.3	144/144	150/150	132/151	338/338	149/149	150/150	136/155	342/342	150/150	150/150	138/156	343/343	155/155	175/175	142/160	347/347		
	HIGH	NONE	—	—	56/56	60/60	59/58	340	60/60	70/70	64/63	344	61/61	70/70	65/64	345	65/65	80/80	69/68	349	
		117A	7.8/10.4	21.7/25.0	56/56	60/60	59/58	340/340	60/60	70/70	64/63	344/344	61/61	70/70	65/64	345/345	65/65	80/80	69/68	349/349	
		110A	12.0/16.0	33.4/38.5	64/64	70/70	59/59	340/340	69/69	70/70	64/63	344/344	70/70	80/70	65/64	345/345	75/75	80/80	69/69	349/349	
112A		24.0/32.0	66.7/77.0	113/113	125/125	92/103	340/340	117/117	125/125	97/108	344/344	119/119	125/125	98/109	345/345	123/123	125/125	102/113	349/349		
112A+117A		31.8/42.4	88.4/102.0	144/144	150/150	117/132	340/340	149/149	150/150	122/136	344/344	150/150	150/150	123/137	345/345	155/155	175/175	127/142	349/349		
112A+110A	37.6/50.0	104.2/120.3	148/148	150/150	135/153	340/340	152/152	175/175	140/157	344/344	154/154	175/175	141/158	345/345	158/158	175/175	145/163	349/349			
50HC*D12	460-3-60	STD	NONE	—	—	23	30	24	135	25	30	26	137	26	30	27	137	27	30	29	139
			116B	13.9	16.7	25	30	24	135	27	30	26	137	27	30	27	137	30	30	29	139
			113B	16.5	19.8	28	30	26	135	31	35	28	137	31	35	28	137	33	35	30	139
			115B	33.0	39.7	53	60	49	135	56	60	51	137	56	60	51	137	58	60	53	139
		MED	NONE	—	—	26	30	27	163	28	30	29	165	28	30	30	165	30	35	32	167
	116B	13.9	16.7	28	30	27	163	30	30	29	165	31	35	30	165	33	35	32	167		
	113B	16.5	19.8	32	35	29	163	34	35	31	165	35	35	31	165	37	40	33	167		
	115B	33.0	39.7	57	60	52	163	59	60	54	165	59	60	54	165	62	70	56	167		
	HIGH	NONE	—	—	27	30	29	164	29	35	31	166	29	35	31	166	31	35	33	168	
		116B	13.9	16.7	29	30	29	164	32	35	31	166	32	35	31	166	34	35	33	168	
		113B	16.5	19.8	33	35	30	164	35	35	32	166	36	40	33	166	38	40	35	168	
		115B	33.0	39.7	58	60	53	164	60	60	55	166	61	70	56	166	63	70	58	168	
	575-3-60	STD	NONE	—	—	18	20	18	105	22	25	23	109	19	25	20	107	23	25	25	111
			118A	18.0	17.3	25	25	22	105	29	30	27	109	27	30	24	107	31	35	29	111
			119A	36.0	34.6	46	50	42	105	51	60	46	109	48	50	44	107	53	60	48	111
118A+119A			54.0	52.0	55	60	62	105	60	60	66	109	57	60	64	107	62	70	68	111	
MED		NONE	—	—	19	20	19	116	22	25	24	120	20	25	21	118	24	30	26	122	
		118A	18.0	17.3	26	30	23	116	30	30	27	120	28	30	25	118	32	35	29	122	
		119A	36.0	34.6	47	50	43	116	52	60	47	120	49	50	45	118	54	60	49	122	
		118A+119A	54.0	52.0	56	60	63	116	61	70	67	120	58	60	65	118	63	70	69	122	
HIGH		NONE	—	—	21	25	22	130	25	30	27	134	23	25	24	132	27	30	29	136	
		118A	18.0	17.3	29	30	26	130	34	35	31	134	31	35	28	132	36	40	33	136	
		119A	36.0	34.6	51	60	46	130	55	60	51	134	53	60	48	132	58	60	53	136	
		118A+119A	54.0	52.0	59	70	66	130	64	70	71	134	62	70	68	132	66	70	73	136	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NO M. V. Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14	208/230-3-60	STD	NONE	—	—	57	70	59	340	60	70	63	344	61	80	64	345	65	80	69	349
			291A	12.4/16.5	34.4/39.7	59/59	70/70	59/59	340/340	64/64	70/70	63/63	344/344	65/65	80/80	64/64	345/345	70/70	80/80	69/69	349/349
			288A+291A	19.9/26.5	55.3/63.8	90/90	90/90	72/82	340/340	94/94	100/100	77/86	344/344	96/96	100/100	78/88	345/345	100/100	100/100	82/92	349/349
			294A	25.2/33.5	69.9/80.6	111/111	125/125	89/101	340/340	115/115	125/125	93/106	344/344	117/117	125/125	95/107	345/345	121/121	125/125	99/111	349/349
			288A+294A	32.7/43.5	90.7/104.7	141/141	150/150	113/129	340/340	145/145	150/150	117/133	344/344	147/147	150/150	118/135	345/345	151/151	175/175	123/139	349/349
		291A+294A	37.6/50.0	104.3/120.3	140/140	150/150	129/147	340/340	145/145	150/150	133/151	344/344	146/146	150/150	134/152	345/345	151/151	175/175	138/157	349/349	
		MED	NONE	—	—	60	70	62	370	63	80	67	374	64	80	68	375	68	80	72	379
			291A	12.4/16.5	34.4/39.7	63/63	70/70	62/62	370/370	68/68	80/80	67/67	374/374	69/69	80/80	68/68	375/375	74/74	80/80	72/72	379/379
			288A+291A	19.9/26.5	55.3/63.8	93/93	100/100	76/86	370/370	98/98	100/100	80/90	374/374	99/99	100/100	81/91	375/375	104/104	110/110	86/95	379/379
			294A	25.2/33.5	69.9/80.6	114/114	125/125	93/105	370/370	119/119	125/125	97/109	374/374	120/120	125/125	98/110	375/375	125/125	125/125	102/115	379/379
			288A+294A	32.7/43.5	90.7/104.7	145/145	150/150	116/133	370/370	149/149	150/150	121/137	374/374	151/151	175/175	122/138	375/375	155/155	175/175	126/142	379/379
		291A+294A	37.6/50.0	104.3/120.3	144/144	150/150	132/151	370/370	149/149	150/150	137/155	374/374	150/150	150/150	138/156	375/375	155/155	175/175	142/160	379/379	
		HIGH	NONE	—	—	70	80	74	376	73	80	78	380	74	80	79	381	78	90	84	385
			291A	12.4/16.5	34.4/39.7	76/76	80/80	74/74	376/376	80/80	80/80	78/78	380/380	82/82	90/90	79/79	381/381	86/86	90/90	84/84	385/385
			288A+291A	19.9/26.5	55.3/63.8	106/106	110/110	87/97	376/376	110/110	125/125	91/101	380/380	112/112	125/125	93/102	381/381	116/116	125/125	97/107	385/385
	294A		25.2/33.5	69.9/80.6	127/127	150/150	104/116	376/376	131/131	150/150	108/121	380/380	133/133	150/150	109/122	381/381	137/137	150/150	114/126	385/385	
	288A+294A		32.7/43.5	90.7/104.7	157/157	175/175	128/144	376/376	162/162	175/175	132/148	380/380	163/163	175/175	133/149	381/381	168/168	175/175	138/154	385/385	
	291A+294A	37.6/50.0	104.3/120.3	156/156	175/175	143/162	376/376	161/161	175/175	148/166	380/380	162/162	175/175	149/167	381/381	167/167	175/175	153/172	385/385		
	460-3-60	STD	NONE	—	—	25	30	26	166	27	30	28	168	27	30	28	168	29	35	30	170
			292A	16.5	19.9	30	30	27	166	32	35	29	168	32	35	29	168	35	35	31	170
289A+292A			26.5	31.9	45	45	41	166	47	50	43	168	47	50	43	168	50	50	45	170	
295A			33.5	40.3	55	60	50	166	57	60	52	168	58	60	53	168	60	60	55	170	
289A+295A			43.5	52.3	70	70	64	166	72	80	66	168	73	80	67	168	75	80	69	170	
292A+295A		50.0	60.2	65	70	73	166	67	70	75	168	68	80	76	168	70	80	78	170		
MED		NONE	—	—	27	30	28	181	28	35	30	183	29	35	30	183	31	35	32	185	
		292A	16.5	19.9	32	35	29	181	34	35	31	183	35	35	32	183	37	40	34	185	
		289A+292A	26.5	31.9	47	50	43	181	49	50	45	183	50	50	45	183	52	60	47	185	
		295A	33.5	40.3	57	60	52	181	60	60	55	183	60	60	55	183	62	70	57	185	
		289A+295A	43.5	52.3	72	80	66	181	75	80	68	183	75	80	69	183	77	80	71	185	
292A+295A		50.0	60.2	67	80	75	181	70	80	77	183	70	80	78	183	72	80	80	185		
HIGH		NONE	—	—	32	40	33	184	34	40	35	186	34	40	36	186	36	45	38	188	
		292A	16.5	19.9	38	40	35	184	40	40	37	186	41	45	37	186	43	45	39	188	
		289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	56	60	51	186	58	60	53	188	
	295A	33.5	40.3	64	70	58	184	66	70	60	186	66	70	61	186	69	70	63	188		
	289A+295A	43.5	52.3	79	80	72	184	81	90	74	186	81	90	74	186	84	90	76	188		
292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	76	80	83	186	78	80	86	188			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 86 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED HACR BREAKER WITH SINGLE SPEED INDOOR FAN MOTOR (cont.)**

UNIT	NO M. V-Ph-HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			CRHEATER****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14	575-3-60	STD	NONE	—	—	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
			293A	16.5	15.9	24	25	22	138	29	30	26	142	26	30	23	140	31	35	28	144
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142	38	40	35	140	43	45	39	144
			296A	33.5	32.2	44	45	40	138	49	50	45	142	46	50	42	140	51	60	47	144
			290A+296A	43.5	41.8	56	60	51	138	61	70	56	142	58	60	53	140	63	70	58	144
			293A+296A	50.0	48.1	52	60	59	138	57	60	63	142	54	60	60	140	59	60	65	144
		MED	NONE	—	—	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
			293A	16.5	15.9	24	25	22	138	29	30	26	142	26	30	23	140	31	35	28	144
			290A+293A	26.5	25.5	36	40	33	138	41	45	37	142	38	40	35	140	43	45	39	144
			296A	33.5	32.2	44	45	40	138	49	50	45	142	46	50	42	140	51	60	47	144
			290A+296A	43.5	41.8	56	60	51	138	61	70	56	142	58	60	53	140	63	70	58	144
			293A+296A	50.0	48.1	52	60	59	138	57	60	63	142	54	60	60	140	59	60	65	144
		HIGH	NONE	—	—	27	30	28	150	31	35	32	154	29	35	30	152	33	40	34	156
			293A	16.5	15.9	32	35	29	150	36	40	33	154	34	35	31	152	38	40	35	156
			290A+293A	26.5	25.5	44	45	40	150	48	50	44	154	46	50	42	152	50	60	46	156
			296A	33.5	32.2	52	60	47	150	57	60	52	154	54	60	49	152	59	60	54	156
			290A+296A	43.5	41.8	64	70	58	150	69	70	63	154	66	70	60	152	71	80	65	156
			293A+296A	50.0	48.1	60	70	66	150	65	70	70	154	62	70	68	152	67	70	72	156

See "Legend and Notes for Tables 85 – 88" on page 139

# ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO PE.				w/ PE. (pwrd fr/unit)				NO PE.				w/ PE. (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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	-	-	31/31	45/45	30/30	165	35/35	50/50	35/34	169	36/36	50/50	36/36	170	40/40	50/50	40/40	174	
		264A	4.9/6.5	13.6/15.6	31/31	45/45	30/30	165/165	35/35	50/50	35/34	169/169	36/36	50/50	36/36	170/170	40/40	50/50	40/40	174/174	
		117A	7.8/10.4	21.7/25.0	35/39	45/45	32/35	165/165	40/43	50/50	36/40	169/169	41/45	50/50	37/41	170/170	46/49	50/50	42/45	174/174	
		110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	165/165	54/60	60/60	49/55	169/169	55/62	60/70	51/56	170/170	60/66	60/70	55/61	174/174	
		117A+117A	15.8/21.0	43.8/50.5	62/71	70/80	57/65	165/165	67/75	70/80	61/69	169/169	68/77	70/80	63/70	170/170	73/81	80/90	67/74	174/174	
		110A+117A	19.9/26.5	55.2/63.8	77/87	80/90	70/80	165/165	81/92	90/100	75/84	169/169	83/93	90/100	76/85	170/170	87/98	90/100	80/90	174/174	
	MED	NONE	-	-	34/33	50/50	33/33	195	38/37	50/50	38/37	199	39/38	50/50	39/38	200	43/42	50/50	43/42	204	
		264A	4.9/6.5	13.6/15.6	34/33	50/50	33/33	195/195	38/37	50/50	38/37	199/199	39/38	50/50	39/38	200/200	43/42	50/50	43/42	204/204	
		117A	7.8/10.4	21.7/25.0	38/41	50/50	35/38	195/195	43/46	50/50	39/42	199/199	44/47	50/50	40/43	200/200	49/52	50/60	45/48	204/204	
		110A	12.0/16.0	33.4/38.5	53/58	60/60	48/53	195/195	58/63	60/70	53/58	199/199	59/64	60/70	54/59	200/200	64/69	70/70	58/63	204/204	
		117A+117A	15.8/21.0	43.8/50.5	66/73	70/80	60/67	195/195	71/78	80/80	65/71	199/199	72/79	80/80	66/73	200/200	77/84	80/90	70/77	204/204	
		110A+117A	19.9/26.5	55.2/63.8	80/90	80/90	73/82	195/195	85/95	90/100	78/87	199/199	86/96	90/100	79/88	200/200	91/101	100/110	83/92	204/204	
HIGH	NONE	-	-	39/38	50/50	39/38	230	43/42	50/50	44/43	234	44/43	60/50	45/44	235	48/47	60/60	49/48	239		
	264A	4.9/6.5	13.6/15.6	39/38	50/50	39/38	230/230	43/42	50/50	44/43	234/234	44/43	60/50	45/44	235/235	48/47	60/60	49/48	239/239		
	117A	7.8/10.4	21.7/25.0	45/48	50/50	41/43	230/230	49/52	50/60	45/48	234/234	51/54	60/60	46/49	235/235	55/58	60/60	50/53	239/239		
	110A	12.0/16.0	33.4/38.5	59/64	60/70	54/59	230/230	64/69	70/70	58/63	234/234	65/70	70/70	60/64	235/235	70/75	70/80	64/69	239/239		
	117A+117A	15.8/21.0	43.8/50.5	72/79	80/80	66/73	230/230	77/84	80/90	70/77	234/234	78/85	80/90	72/78	235/235	83/90	90/90	76/83	239/239		
	110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	230/230	91/101	100/110	83/92	234/234	92/102	100/110	85/93	235/235	97/107	100/110	89/98	239/239		
50HC*D07	460-3-60	STD	NONE	-	-	15	20	15	81	17	25	17	83	18	25	17	83	19	25	19	85
			265A	6.0	7.2	15	20	15	81	17	25	17	83	18	25	17	83	19	25	19	85
			266A	11.5	13.8	21	25	19	81	24	25	21	83	24	25	22	83	26	30	24	85
			267A	14.0	16.8	25	25	23	81	27	30	25	83	28	30	25	83	30	30	27	85
			268A	23.0	27.7	39	40	35	81	41	45	37	83	41	45	38	83	44	45	40	85
			269A	25.5	30.7	42	45	39	81	45	45	41	83	45	45	41	83	47	50	43	85
	MED	NONE	-	-	16	20	16	97	18	25	18	99	19	25	18	99	20	25	20	101	
		265A	6.0	7.2	16	20	16	97	18	25	18	99	19	25	18	99	20	25	20	101	
		266A	11.5	13.8	22	25	20	97	25	25	22	99	25	25	23	99	27	30	25	101	
		267A	14.0	16.8	26	30	24	97	28	30	26	99	29	30	26	99	31	35	28	101	
		268A	23.0	27.7	40	40	36	97	42	45	38	99	43	45	39	99	45	45	41	101	
		269A	25.5	30.7	44	45	40	97	46	50	42	99	46	50	42	99	49	50	44	101	
	HIGH	NONE	-	-	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
		267A	14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118	
		268A	23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118	
		269A	25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118	
575-3-60	STD	NONE	-	-	12	15	12	68	16	20	16	72	14	20	14	70	18	20	18	74	
		118A	18.0	17.3	26	30	23	68	30	30	27	72	28	30	25	70	32	35	29	74	
		299A	28.0	26.9	38	40	34	68	42	45	39	72	40	40	36	70	44	45	40	74	
	MED	NONE	-	-	14	20	14	81	18	20	18	85	16	20	16	83	20	25	20	87	
		118A	18.0	17.3	28	30	25	81	32	35	29	85	30	30	27	83	35	35	31	87	
		299A	28.0	26.9	40	40	36	81	44	45	40	85	42	45	38	83	47	50	42	87	
	HIGH	NONE	-	-	16	20	16	95	20	25	20	99	17	20	18	97	21	25	22	101	
		118A	18.0	17.3	30	30	27	95	35	35	31	99	32	35	29	97	37	40	33	101	
		299A	28.0	26.9	42	45	38	95	47	50	42	99	44	45	40	97	49	50	44	101	

See "Legend and Notes for Tables 85 – 88" on page 139

# ELECTRICAL INFORMATION (cont.)

Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	—	—	40/40	50/50	41/41	195	44/43	50/50	46/46	199	45/44	50/50	47/47	200	48/48	60/60	51/51	204	
		117A	7.8/10.4	21.7/25.0	40/40	50/50	41/41	195/195	44/43	50/50	46/46	199/199	45/45	50/50	47/47	200/200	48/49	60/60	51/51	204/204	
		110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	195/195	54/60	60/60	49/55	199/199	55/62	60/70	51/56	200/200	60/66	60/70	55/61	204/204	
		111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	195/195	77/87	80/90	70/79	199/199	78/88	80/90	72/81	200/200	83/93	90/100	76/85	204/204	
		112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	195/195	96/108	100/110	88/99	199/199	97/110	100/110	89/101	200/200	102/114	110/125	93/105	204/204	
		112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	195/195	123/140	125/150	113/128	199/199	124/141	125/150	114/129	200/200	129/146	150/150	118/134	204/204	
	MED	NONE	—	—	41/41	50/50	43/43	199	45/45	50/50	47/47	203	46/46	50/50	48/48	204	50/49	60/60	53/52	208	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203	46/46	50/50	48/48	204/204	50/51	60/60	53/52	208/208	
		110A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	199/199	56/62	60/70	51/56	203/203	57/63	60/70	52/58	204/204	62/68	70/70	56/62	208/208	
		111A	18.6/24.8	51.7/59.7	74/84	80/90	68/76	199/199	79/88	80/90	72/81	203/203	80/90	80/90	73/82	204/204	85/94	90/100	78/86	208/208	
		112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	199/199	97/110	100/110	89/101	203/203	99/111	100/125	90/102	204/204	103/116	110/125	95/106	208/208	
		112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	199/199	125/141	125/150	114/129	203/203	126/142	150/150	115/131	204/204	131/147	150/150	120/135	208/208	
	HIGH	NONE	—	—	45/44	50/50	47/46	249	49/48	60/60	52/50	253	50/49	60/60	53/52	254	53/52	60/60	57/56	258	
		117A	7.8/10.4	21.7/25.0	45/44	50/50	47/46	249/249	49/49	60/60	52/50	253/253	50/50	60/60	53/52	254/254	53/55	60/60	57/56	258/258	
		110A	12.0/16.0	33.4/38.5	56/61	60/70	51/56	249/249	60/66	60/70	55/60	253/253	62/67	70/70	56/61	254/254	66/72	70/80	61/65	258/258	
111A		18.6/24.8	51.7/59.7	79/87	80/90	72/80	249/249	83/92	90/100	76/84	253/253	85/93	90/100	77/85	254/254	89/98	90/100	82/90	258/258		
112A		24.0/32.0	66.7/77.0	97/109	100/110	89/100	249/249	102/114	110/125	93/104	253/253	103/115	110/125	95/105	254/254	108/120	110/125	99/110	258/258		
112A+117A		31.8/42.4	88.4/102.0	124/140	125/150	114/129	249/249	129/145	150/150	118/133	253/253	130/146	150/150	120/134	254/254	135/151	150/175	124/138	258/258		
460-3-60	STD	NONE	—	—	19	20	19	97	20	25	21	99	21	25	22	99	23	25	24	101	
		116B	13.9	16.7	25	25	23	97	27	30	25	99	28	30	25	99	30	30	27	101	
		113B	16.5	19.8	29	30	26	97	31	35	28	99	32	35	29	99	34	35	31	101	
		114B	27.8	33.4	46	50	42	97	48	50	44	99	49	50	44	99	51	60	46	101	
		115B	33.0	39.7	54	60	49	97	56	60	51	99	56	60	52	99	59	60	54	101	
	MED	NONE	—	—	20	25	20	100	21	25	22	102	22	25	23	102	24	25	25	104	
		116B	13.9	16.7	26	30	24	100	28	30	26	102	29	30	26	102	31	35	28	104	
		113B	16.5	19.8	30	30	27	100	32	35	29	102	33	35	30	102	35	35	32	104	
		114B	27.8	33.4	47	50	43	100	49	50	45	102	50	50	45	102	52	60	47	104	
		115B	33.0	39.7	55	60	50	100	57	60	52	102	58	60	53	102	60	60	55	104	
	HIGH	NONE	—	—	21	25	22	125	22	25	24	127	23	25	24	127	25	30	26	129	
		116B	13.9	16.7	27	30	25	125	30	30	27	127	30	30	27	127	32	35	29	129	
		113B	16.5	19.8	31	35	28	125	34	35	30	127	34	35	31	127	36	40	33	129	
		114B	27.8	33.4	48	50	44	125	51	60	46	127	51	60	47	127	53	60	49	129	
		115B	33.0	39.7	56	60	51	125	58	60	53	127	59	60	54	127	61	70	56	129	
575-3-60	STD	NONE	—	—	14	15	14	79	18	20	19	83	16	20	16	81	19	25	21	85	
		118A	17.0	20.4	29	30	27	79	34	35	31	83	32	35	29	81	36	40	33	85	
		119A	34.0	40.9	55	60	50	79	60	60	55	83	57	60	52	81	62	70	57	85	
	MED	NONE	—	—	15	20	15	83	18	20	19	87	16	20	17	85	20	25	21	89	
		118A	17.0	20.4	30	30	27	83	35	35	32	87	32	35	29	85	37	40	34	89	
		119A	34.0	40.9	56	60	51	83	61	70	55	87	58	60	53	85	63	70	57	89	
	HIGH	NONE	—	—	16	20	16	92	19	25	21	96	17	20	18	94	21	25	23	98	
		118A	17.0	20.4	32	35	29	92	36	40	33	96	34	35	31	94	38	40	35	98	
		119A	34.0	40.9	57	60	52	92	62	70	57	96	59	60	54	94	64	70	59	98	

See “Legend and Notes for Tables 85 – 88” on page 139

# ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	-	-	40/40	50/50	42/41	195	44/44	50/50	46/46	199	45/45	50/50	47/47	200	49/48	60/60	52/51	204	
		117A	7.8/10.4	21.7/25.0	40/40	50/50	42/41	195/195	44/44	50/50	46/46	199/199	45/45	50/50	47/47	200/200	49/49	60/60	52/51	204/204	
		110A	12.0/16.0	33.4/38.5	49/56	50/60	45/51	195/195	54/60	60/60	49/55	199/199	55/62	60/70	51/56	200/200	60/66	60/70	55/61	204/204	
		111A	18.6/24.8	51.7/59.7	72/82	80/90	66/75	195/195	77/87	80/90	70/79	199/199	78/88	80/90	72/81	200/200	83/93	90/100	76/85	204/204	
		112A	24.0/32.0	66.7/77.0	91/104	100/110	83/95	195/195	96/108	100/110	88/99	199/199	97/110	100/110	89/101	200/200	102/114	110/125	93/105	204/204	
	112A+117A	31.8/42.4	88.4/102.0	118/135	125/150	108/124	195/195	123/140	125/150	113/128	199/199	124/141	125/150	114/129	200/200	129/146	150/150	118/134	204/204		
	MED	NONE	-	-	41/41	50/50	43/43	199	45/45	50/50	47/47	203	46/46	50/50	49/48	204	50/50	60/60	53/53	208	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203	46/46	50/50	49/48	204/204	50/51	60/60	53/53	208/208	
		110A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	199/199	56/62	60/70	51/56	203/203	57/63	60/70	52/58	204/204	62/68	70/70	56/62	208/208	
		111A	18.6/24.8	51.7/59.7	74/84	80/90	68/76	199/199	79/88	80/90	72/81	203/203	80/90	80/90	73/82	204/204	85/94	90/100	78/86	208/208	
		112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	199/199	97/110	100/110	89/101	203/203	99/111	100/125	90/102	204/204	103/116	110/125	95/106	208/208	
	112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	199/199	125/141	125/150	114/129	203/203	126/142	150/150	115/131	204/204	131/147	150/150	120/135	208/208		
	HIGH	NONE	-	-	45/44	50/50	47/46	249	49/48	60/60	52/51	253	50/49	60/60	53/52	254	54/53	60/60	57/56	258	
		117A	7.8/10.4	21.7/25.0	45/44	50/50	47/46	249/249	49/49	60/60	52/51	253/253	50/50	60/60	53/52	254/254	54/55	60/60	57/56	258/258	
		110A	12.0/16.0	33.4/38.5	56/61	60/70	51/56	249/249	60/66	60/70	55/60	253/253	62/67	70/70	56/61	254/254	66/72	70/80	61/65	258/258	
111A		18.6/24.8	51.7/59.7	79/87	80/90	72/80	249/249	83/92	90/100	76/84	253/253	85/93	90/100	77/85	254/254	89/98	90/100	82/90	258/258		
112A		24.0/32.0	66.7/77.0	97/109	100/110	89/100	249/249	102/114	110/125	93/104	253/253	103/115	110/125	95/105	254/254	108/120	110/125	99/110	258/258		
112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	249/249	129/145	150/150	118/133	253/253	130/146	150/150	120/134	254/254	135/151	150/175	124/138	258/258			
50HC*DO9	460-3-60	STD	NONE	-	-	19	25	19	97	21	25	22	99	21	25	22	99	23	25	24	101
			116B	13.9	16.7	25	25	23	97	27	30	25	99	28	30	25	99	30	30	27	101
			113B	16.5	19.8	29	30	26	97	31	35	28	99	32	35	29	99	34	35	31	101
			114B	27.8	33.4	46	50	42	97	48	50	44	99	49	50	44	99	51	60	46	101
			115B	33.0	39.7	54	60	49	97	56	60	51	99	56	60	52	99	59	60	54	101
	MED	NONE	-	-	19	25	20	100	21	25	22	102	22	25	23	102	23	25	25	104	
		116B	13.9	16.7	26	30	23	100	28	30	25	102	28	30	26	102	31	35	28	104	
		113B	16.5	19.8	29	30	27	100	32	35	29	102	32	35	29	102	35	35	31	104	
		114B	27.8	33.4	46	50	42	100	49	50	44	102	49	50	45	102	51	60	47	104	
		115B	33.0	39.7	54	60	50	100	57	60	52	102	57	60	52	102	59	60	54	104	
	HIGH	NONE	-	-	21	25	22	125	23	25	24	127	23	25	24	127	25	30	26	129	
		116B	13.9	16.7	27	30	25	125	30	30	27	127	30	30	27	127	32	35	29	129	
		113B	16.5	19.8	31	35	28	125	34	35	30	127	34	35	31	127	36	40	33	129	
		114B	27.8	33.4	48	50	44	125	51	60	46	127	51	60	47	127	53	60	49	129	
		115B	33.0	39.7	56	60	51	125	58	60	53	127	59	60	54	127	61	70	56	129	
575-3-60	STD	NONE	-	-	15	20	16	79	19	20	20	83	17	20	18	81	21	25	22	85	
		118A	18.0	17.3	26	30	23	79	30	30	27	83	28	30	25	81	35	35	29	85	
		119A	36.0	34.6	48	50	43	79	52	60	47	83	49	50	45	81	54	60	49	85	
	MED	NONE	-	-	16	20	16	83	20	25	21	87	18	20	18	85	21	25	23	89	
		118A	18.0	17.3	26	30	24	83	31	35	28	87	29	30	26	85	33	35	30	89	
		119A	36.0	34.6	48	50	44	83	53	60	48	87	50	50	46	85	55	60	50	89	
	HIGH	NONE	-	-	17	20	18	92	21	25	22	96	19	20	20	94	22	25	24	98	
		118A	18.0	17.3	28	30	25	92	32	35	29	96	30	30	27	94	35	35	31	98	
		119A	36.0	34.6	49	50	45	92	54	60	49	96	51	60	47	94	56	60	51	98	

See "Legend and Notes for Tables 85 - 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*DY1	208/230-3-60	STD	NONE	-	-	51/50	60/60	53/53	254	55/54	60/60	58/57	258	56/55	60/60	59/58	259	59/59	70/70	63/63	263
			117A	7.8/10.4	21.7/25.0	51/50	60/60	53/53	254/254	55/54	60/60	58/57	258/258	56/55	60/60	59/58	259/259	59/59	70/70	63/63	263/263
			110A	12.0/16.0	33.4/38.5	51/57	60/60	53/53	254/254	56/62	60/70	58/57	258/258	57/63	60/70	59/58	259/259	62/68	70/70	63/63	263/263
			112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	254/254	97/110	100/110	89/101	258/258	99/111	100/125	90/102	259/259	103/116	110/125	95/106	263/263
			112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	254/254	125/141	125/150	114/129	258/258	126/142	150/150	115/131	259/259	131/147	150/150	120/135	263/263
		112A+110A	37.6/50.0	104.2/120.3	140/129	150/150	128/146	254/254	144/134	150/150	132/151	258/258	146/135	150/150	134/152	259/259	150/140	150/150	138/156	263/263	
		MED	NONE	-	-	54/53	60/60	58/56	304	58/57	70/70	62/61	308	59/58	70/70	63/62	309	63/62	70/70	67/66	313
			117A	7.8/10.4	21.7/25.0	54/53	60/60	58/56	304/304	58/57	70/70	62/61	308/308	59/58	70/70	63/62	309/309	63/62	70/70	67/66	313/313
			110A	12.0/16.0	33.4/38.5	56/61	60/70	58/56	304/304	60/66	70/70	62/61	308/308	62/67	70/70	63/62	309/309	66/72	70/80	67/66	313/313
			112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	304/304	102/114	110/125	93/104	308/308	103/115	110/125	95/105	309/309	108/120	110/125	99/110	313/313
			112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	304/304	129/145	150/150	118/133	308/308	130/146	150/150	120/134	309/309	135/151	150/175	124/138	313/313
		112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	304/304	149/138	150/150	137/154	308/308	150/139	150/150	138/155	309/309	155/144	175/175	142/160	313/313	
		HIGH	NONE	-	-	57/56	70/60	61/60	315	61/60	70/70	65/64	319	62/61	70/70	66/65	320	66/65	80/80	71/70	324
			117A	7.8/10.4	21.7/25.0	57/56	70/60	61/60	315/315	61/60	70/70	65/64	319/319	62/61	70/70	66/65	320/320	66/65	80/80	71/70	324/324
			110A	12.0/16.0	33.4/38.5	59/64	70/70	61/60	315/315	64/69	70/70	65/64	319/319	65/70	70/70	66/65	320/320	70/75	80/80	71/70	324/324
112A	24.0/32.0		66.7/77.0	101/113	110/125	92/103	315/315	106/117	110/125	97/108	319/319	107/119	110/125	98/109	320/320	112/123	125/125	102/113	324/324		
112A+117A	31.8/42.4		88.4/102.0	128/144	150/150	117/132	315/315	133/149	150/150	122/136	319/319	134/150	150/150	123/137	320/320	139/155	150/175	127/142	324/324		
112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	315/315	152/141	150/150	140/157	319/319	154/143	175/175	141/158	320/320	158/147	175/175	145/163	324/324			
50HC*DY1	460-3-60	STD	NONE	-	-	23	25	24	122	25	30	26	124	-	-	-	-	-	-	-	
			116B	13.9	16.7	26	30	24	122	28	30	26	124	-	-	-	-	-	-	-	
			113B	16.5	19.8	29	30	27	122	32	35	29	124	-	-	-	-	-	-	-	
		115B	33.0	39.7	54	60	50	122	57	60	52	124	-	-	-	-	-	-	-		
		MED	NONE	-	-	25	30	26	147	27	30	28	149	-	-	-	-	-	-	-	
			116B	13.9	16.7	27	30	26	147	30	30	28	149	-	-	-	-	-	-	-	
			113B	16.5	19.8	31	35	28	147	34	35	30	149	-	-	-	-	-	-	-	
		115B	33.0	39.7	56	60	51	147	58	60	53	149	-	-	-	-	-	-	-		
		HIGH	NONE	-	-	26	30	28	152	28	30	30	154	-	-	-	-	-	-	-	
			116B	13.9	16.7	29	30	28	152	32	35	30	154	-	-	-	-	-	-	-	
			113B	16.5	19.8	33	35	30	152	35	35	32	154	-	-	-	-	-	-	-	
		115B	33.0	39.7	58	60	53	152	60	60	55	154	-	-	-	-	-	-	-		
		STD	NONE	-	-	19	20	20	97	23	25	24	101	-	-	-	-	-	-	-	
			118A	18.0	17.3	26	30	24	97	31	35	28	101	-	-	-	-	-	-	-	
			119A	36.0	34.6	48	50	44	97	53	60	48	101	-	-	-	-	-	-	-	
118A+119A	54.0	52.0	57	60	64	97	62	70	68	101	-	-	-	-	-	-	-				
MED	NONE	-	-	20	25	21	106	24	25	25	110	-	-	-	-	-	-	-			
	118A	18.0	17.3	28	30	25	106	32	35	29	110	-	-	-	-	-	-	-			
	119A	36.0	34.6	49	50	45	106	54	60	49	110	-	-	-	-	-	-	-			
118A+119A	54.0	39.7	58	60	65	106	63	70	69	110	-	-	-	-	-	-	-				
HIGH	NONE	-	-	22	25	23	120	26	30	27	124	-	-	-	-	-	-	-			
	118A	18.0	17.3	30	30	27	120	35	35	31	124	-	-	-	-	-	-	-			
	119A	36.0	34.6	51	60	47	120	56	60	51	124	-	-	-	-	-	-	-			
118A+119A	54.0	52.0	60	70	67	120	65	70	71	124	-	-	-	-	-	-	-				

See "Legend and Notes for Tables 85 – 88" on page 139



## ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	-	-	50/49	60/60	52/52	279	53/53	60/60	56/56	283	54/54	60/60	57/57	284	58/58	70/70	62/61	288	
		117A	7.8/10.4	21.7/25.0	50/49	60/60	52/52	279/279	53/53	60/60	56/56	283/283	54/54	60/60	57/57	284/284	58/58	70/70	62/61	288/288	
		110A	12.0/16.0	33.4/38.5	51/57	60/60	52/52	279/279	56/62	60/70	56/56	283/283	57/63	60/70	57/58	284/284	62/68	70/70	62/62	288/288	
		112A	24.0/32.0	66.7/77.0	93/105	100/110	85/96	279/279	97/110	100/110	89/101	283/283	99/111	100/125	90/102	284/284	103/116	110/125	95/106	288/288	
		112A+117A	31.8/42.4	88.4/102.0	120/136	125/150	110/125	279/279	125/141	125/150	114/129	283/283	126/142	150/150	115/131	284/284	131/147	150/150	120/135	288/288	
	112A+110A	37.6/50.0	104.2/120.3	140/129	150/150	128/146	279/279	144/134	150/150	132/151	283/283	146/135	150/150	134/152	284/284	150/140	150/150	138/156	288/288		
	MED	NONE	-	-	53/52	60/60	56/55	329	57/56	70/60	60/59	333	58/57	70/70	62/60	334	62/61	70/70	66/65	338	
		117A	7.8/10.4	21.7/25.0	53/52	60/60	56/55	329/329	57/56	70/60	60/59	333/333	58/57	70/70	62/60	334/334	62/61	70/70	66/65	338/338	
		110A	12.0/16.0	33.4/38.5	56/61	60/70	56/56	329/329	60/66	70/70	60/60	333/333	62/67	70/70	62/61	334/334	66/72	70/80	66/65	338/338	
		112A	24.0/32.0	66.7/77.0	97/109	100/110	89/100	329/329	102/114	110/125	93/104	333/333	103/115	110/125	95/105	334/334	108/120	110/125	99/110	338/338	
		112A+117A	31.8/42.4	88.4/102.0	124/140	125/150	114/129	329/329	129/145	150/150	118/133	333/333	130/146	150/150	120/134	334/334	135/151	150/175	124/138	338/338	
	112A+110A	37.6/50.0	104.2/120.3	144/133	150/150	132/150	329/329	149/138	150/150	137/154	333/333	150/139	150/150	138/155	334/334	155/144	175/175	142/160	338/338		
	HIGH	NONE	-	-	56/55	60/60	59/58	340	60/59	70/70	64/63	344	61/60	70/70	65/64	345	65/64	80/70	69/68	349	
		117A	7.8/10.4	21.7/25.0	56/55	60/60	59/58	340/340	60/59	70/70	64/63	344/344	61/60	70/70	65/64	345/345	65/64	80/70	69/68	349/349	
		110A	12.0/16.0	33.4/38.5	59/64	60/70	59/59	340/340	64/69	70/70	64/63	344/344	65/70	70/70	65/64	345/345	70/75	80/80	69/69	349/349	
112A		24.0/32.0	66.7/77.0	101/113	110/125	92/103	340/340	106/117	110/125	97/108	344/344	107/119	110/125	98/109	345/345	112/123	125/125	102/113	349/349		
112A+117A		31.8/42.4	88.4/102.0	128/144	150/150	117/132	340/340	133/149	150/150	122/136	344/344	134/150	150/150	123/137	345/345	139/155	150/175	127/142	349/349		
112A+110A	37.6/50.0	104.2/120.3	148/137	150/150	135/153	340/340	152/141	175/175	140/157	344/344	154/143	175/175	141/158	345/345	158/147	175/175	145/163	349/349			
50HC*D12	460-3-60	STD	NONE	-	-	24	30	25	134	26	30	27	136	26	30	28	136	28	30	30	138
			116B	13.9	16.7	26	30	25	134	28	30	27	136	28	30	28	136	31	35	30	138
			113B	16.5	19.8	29	30	27	134	32	35	29	136	32	35	29	136	34	35	31	138
		115B	33.0	39.7	54	60	50	134	57	60	52	136	57	60	52	136	59	60	54	138	
		MED	NONE	-	-	26	30	27	159	28	30	29	161	28	30	29	161	30	35	32	163
	116B		13.9	16.7	27	30	27	159	30	30	29	161	30	30	29	161	32	35	32	163	
	113B		16.5	19.8	31	35	28	159	34	35	30	161	34	35	31	161	36	40	33	163	
	115B	33.0	39.7	56	60	51	159	58	60	53	161	59	60	54	161	61	70	56	163		
	HIGH	NONE	-	-	27	30	29	164	29	35	31	166	29	35	31	166	31	35	33	168	
		116B	13.9	16.7	29	30	29	164	32	35	31	166	32	35	31	166	34	35	33	168	
		113B	16.5	19.8	33	35	30	164	35	35	32	166	36	40	33	166	38	40	35	168	
		115B	33.0	39.7	58	60	53	164	60	60	55	166	61	70	56	166	63	70	58	168	
	575-3-60	STD	NONE	-	-	19	25	20	107	23	25	24	111	21	25	22	109	25	30	26	113
			118A	18.0	17.3	26	30	24	107	31	35	28	111	29	30	26	109	33	35	30	113
			119A	36.0	34.6	48	50	44	107	53	60	48	111	50	50	46	109	55	60	50	113
118A+119A		54.0	52.0	57	60	64	107	62	70	68	111	59	60	66	109	64	70	70	113		
MED		NONE	-	-	20	25	21	116	24	30	26	120	22	25	23	118	26	30	27	122	
	118A	18.0	17.3	28	30	25	116	32	35	29	120	30	30	27	118	35	35	31	122		
	119A	36.0	34.6	49	50	45	116	54	60	49	120	51	60	47	118	56	60	51	122		
118A+119A	54.0	52.0	58	60	65	116	63	70	69	120	60	70	67	118	65	70	71	122			
HIGH	NONE	-	-	22	25	23	130	26	30	27	134	24	25	25	132	28	30	29	136		
	118A	18.0	17.3	30	30	27	130	35	35	31	134	32	35	29	132	37	40	33	136		
	119A	36.0	34.6	51	60	47	130	56	60	51	134	54	60	49	132	58	60	53	136		
118A+119A	54.0	52.0	60	70	67	130	65	70	71	134	62	70	69	132	67	70	73	136			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*DT4	208/230-3-60	STD	NONE	-	-	58/57	70/70	60/59	337	61/61	80/70	65/64	341	62/62	80/80	66/65	342	60/65	80/80	70/69	346
			291A	12.4/16.5	34.4/39.7	58/60	70/70	60/59	337/337	61/65	70/70	65/64	341/341	62/66	80/80	66/65	342/342	66/71	80/80	70/69	346/346
			288A+291A	19.9/26.5	55.3/63.8	80/90	80/90	73/82	337/337	85/95	90/100	78/87	341/341	86/96	90/100	79/88	342/342	91/101	100/110	83/92	346/346
			294A	25.2/33.5	69.9/80.6	99/111	100/125	90/102	337/337	103/116	110/125	95/106	341/341	105/117	110/125	96/107	342/342	109/122	110/125	100/112	346/346
			288A+294A	32.7/43.5	90.7/104.7	125/141	125/150	114/129	337/337	129/146	150/150	119/134	341/341	131/147	150/150	120/135	342/342	135/152	150/175	124/139	346/346
			291A+294A	37.6/50.0	104.3/120.3	142/131	150/150	130/147	337/337	146/135	150/150	134/152	341/341	148/137	150/150	135/153	342/342	152/141	175/150	140/157	346/346
		MED	NONE	-	-	60/59	70/70	63/62	361	64/63	80/80	67/66	365	65/64	80/80	68/67	366	68/67	80/80	73/71	370
			291A	12.4/16.5	34.4/39.7	60/62	70/70	63/62	361/361	64/67	80/80	67/66	365/365	65/68	80/80	68/67	366/366	68/73	80/80	73/71	370/370
			288A+291A	19.9/26.5	55.3/63.8	83/92	90/100	76/85	361/361	88/97	90/100	80/89	365/365	89/98	90/100	82/90	366/366	94/103	100/110	86/95	370/370
			294A	25.2/33.5	69.9/80.6	101/113	110/125	93/104	361/361	106/118	110/125	97/108	365/365	107/119	110/125	98/109	366/366	112/124	125/125	103/114	370/370
			288A+294A	32.7/43.5	90.7/104.7	127/144	150/150	117/132	361/361	132/148	150/150	121/136	365/365	133/150	150/150	122/137	366/366	138/154	150/175	127/142	370/370
			291A+294A	37.6/50.0	104.3/120.3	144/133	150/150	132/150	361/361	149/138	150/150	137/154	365/365	150/139	150/150	138/155	366/366	155/144	175/175	142/160	370/370
	HIGH	NONE	-	-	70	80	74	376	73	80	78	380	74	80	79	381	78	90	84	385	
		291A	12.4/16.5	34.4/39.7	70/76	80/80	74/74	376/376	74/80	80/80	78/78	380/380	75/82	80/90	79/79	381/381	80/86	90/90	84/84	385/385	
		288A+291A	19.9/26.5	55.3/63.8	95/106	100/110	87/97	376/376	100/110	100/125	91/101	380/380	101/112	110/125	93/102	381/381	106/116	110/125	97/107	385/385	
		294A	25.2/33.5	69.9/80.6	113/127	125/150	104/116	376/376	118/131	125/150	108/121	380/380	119/133	125/150	109/122	381/381	124/137	125/150	114/126	385/385	
		288A+294A	32.7/43.5	90.7/104.7	139/157	150/175	128/144	376/376	144/162	150/175	132/148	380/380	145/163	150/175	133/149	381/381	150/168	150/175	138/154	385/385	
		291A+294A	37.6/50.0	104.3/120.3	156/146	175/175	143/162	376/376	161/151	175/175	148/166	380/380	162/152	175/175	149/167	381/381	167/157	175/175	153/172	385/385	
	460-3-60	STD	NONE	-	-	25	30	26	165	27	30	28	167	27	30	29	167	29	35	31	169
			292A	16.5	19.9	30	30	27	165	32	35	29	167	33	35	30	167	35	35	32	169
			289A+292A	26.5	31.9	45	45	41	165	47	50	43	167	48	50	44	167	50	50	46	169
			295A	33.5	40.3	56	60	51	165	58	60	53	167	58	60	53	167	61	70	55	169
			289A+295A	43.5	52.3	71	80	65	165	73	80	67	167	73	80	67	167	76	80	69	169
			292A+295A	50.0	60.2	65	70	74	165	68	80	76	167	68	80	76	167	70	80	78	169
MED		NONE	-	-	26	30	27	177	28	30	29	179	28	30	30	179	30	35	32	181	
		292A	16.5	19.9	31	35	29	177	34	35	31	179	34	35	31	179	36	40	33	181	
		289A+292A	26.5	31.9	46	50	42	177	49	50	44	179	49	50	45	179	51	60	47	181	
		295A	33.5	40.3	57	60	52	177	59	60	54	179	60	60	55	179	62	70	57	181	
		289A+295A	43.5	52.3	72	80	66	177	74	80	68	179	75	80	68	179	77	80	70	181	
		292A+295A	50.0	60.2	67	80	75	177	69	80	77	179	70	80	77	179	72	80	79	181	
HIGH	NONE	-	-	32	40	33	184	34	40	35	186	34	40	36	186	36	45	38	188		
	292A	16.5	19.9	38	40	35	184	40	40	37	186	41	45	37	186	43	45	39	188		
	289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	56	60	51	186	58	60	53	188		
	295A	33.5	40.3	64	70	58	184	66	70	60	186	66	70	61	186	69	70	63	188		
	289A+295A	43.5	52.3	79	80	72	184	81	90	74	186	81	90	74	186	84	90	76	188		
	292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	76	80	83	186	78	80	86	188		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 87 – UNIT WIRE SIZING DATA WITH FACTORY INSTALLED 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				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	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14	575-3-60	STD	NONE	-	-	22	25	23	138	26	30	27	142	24	25	25	140	27	30	29	144
			293A	16.5	15.9	26	30	23	138	31	35	28	142	28	30	25	140	33	35	30	144
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142	40	40	36	140	45	45	41	144
			296A	33.5	32.2	46	50	42	138	51	60	47	142	48	50	44	140	53	60	49	144
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142	60	60	55	140	65	70	60	144
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142	56	60	62	140	61	70	67	144
		MED	NONE	-	-	22	25	23	138	26	30	27	142	24	25	25	140	27	30	29	144
			293A	16.5	15.9	26	30	23	138	31	35	28	142	28	30	25	140	33	35	30	144
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142	40	40	36	140	45	45	41	144
			296A	33.5	32.2	46	50	42	138	51	60	47	142	48	50	44	140	53	60	49	144
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142	61	70	55	140	65	70	60	144
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142	56	60	62	140	61	70	67	144
	HIGH	NONE	-	-	27	30	28	150	31	35	32	154	29	35	30	152	33	40	34	156	
		293A	16.5	15.9	32	35	29	150	36	40	33	154	34	35	31	152	38	40	35	156	
		290A+293A	26.5	25.5	44	45	40	150	48	50	44	154	46	50	42	152	50	60	46	156	
		296A	33.5	32.2	52	60	47	150	57	60	52	154	54	60	49	152	59	60	54	156	
		290A+296A	43.5	41.8	64	70	58	150	69	70	63	154	66	70	60	152	71	80	65	156	
		293A+296A	50.0	48.1	60	70	66	150	65	70	70	154	62	70	68	152	67	70	72	156	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	–	–	31/31	45/45	30/30	165	35/35	50/50	35/34	169	36/36	50/50	36/36	170	40/40	50/50	40/40	174	
		264A	4.9/6.5	13.6/15.6	31/31	45/45	30/30	165/165	35/35	50/50	35/34	169/169	36/36	50/50	36/36	170/170	40/40	50/50	40/40	174/174	
		117A	7.8/10.4	21.7/25.0	39/39	45/45	32/35	165/165	43/43	50/50	36/40	169/169	45/45	50/50	37/41	170/170	49/49	50/50	42/45	174/174	
		110A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	165/165	60/60	60/60	49/55	169/169	62/62	70/70	51/56	170/170	66/66	70/70	55/61	174/174	
		117A+117A	15.8/21.0	43.8/50.5	71/71	80/80	57/65	165/165	75/75	80/80	61/69	169/169	77/77	80/80	63/70	170/170	81/81	90/90	67/74	174/174	
	110A+117A	19.9/26.5	55.2/63.8	87/87	90/90	70/80	165/165	92/92	100/100	75/84	169/169	93/93	100/100	76/85	170/170	98/98	100/100	80/90	174/174		
	MED	NONE	–	–	34/34	50/50	33/33	195	38/38	50/50	38/37	199	39/39	50/50	39/38	200	43/43	50/50	43/42	204	
		264A	4.9/6.5	13.6/15.6	34/34	50/50	33/33	195/195	38/38	50/50	38/37	199/199	39/39	50/50	39/38	200/200	43/43	50/50	43/42	204/204	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	35/38	195/195	46/46	50/50	39/42	199/199	47/47	50/50	40/43	200/200	52/52	60/60	45/48	204/204	
		110A	12.0/16.0	33.4/38.5	58/58	60/60	48/53	195/195	63/63	70/70	53/58	199/199	64/64	70/70	54/59	200/200	69/69	70/70	58/63	204/204	
		117A+117A	15.8/21.0	43.8/50.5	73/73	80/80	60/67	195/195	78/78	80/80	65/71	199/199	79/79	80/80	66/73	200/200	84/84	90/90	70/77	204/204	
	110A+117A	19.9/26.5	55.2/63.8	90/90	90/90	73/82	195/195	95/95	100/100	78/87	199/199	96/96	100/100	79/88	200/200	101/101	110/110	83/92	204/204		
HIGH	NONE	–	–	39/39	50/50	39/38	230	43/43	50/50	44/43	234	44/44	60/60	45/44	235	48/48	60/60	49/48	239		
	264A	4.9/6.5	13.6/15.6	39/39	50/50	39/38	230/230	43/43	50/50	44/43	234/234	44/44	60/60	45/44	235/235	48/48	60/60	49/48	239/239		
	117A	7.8/10.4	21.7/25.0	48/48	50/50	41/43	230/230	52/52	60/60	45/48	234/234	54/54	60/60	46/49	235/235	58/58	60/60	50/53	239/239		
	110A	12.0/16.0	33.4/38.5	64/64	70/70	54/59	230/230	69/69	70/70	58/63	234/234	70/70	80/70	60/64	235/235	75/75	80/80	64/69	239/239		
	117A+117A	15.8/21.0	43.8/50.5	79/79	80/80	66/73	230/230	84/84	90/90	70/77	234/234	85/85	90/90	72/78	235/235	90/90	90/90	76/83	239/239		
110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	230/230	101/101	110/110	83/92	234/234	102/102	110/110	85/93	235/235	107/107	110/110	89/98	239/239			
50HC+D07	STD	NONE	–	–	15	20	15	81	17	25	17	83	18	25	17	83	19	25	19	85	
		265A	6.0	7.2	15	20	15	81	17	25	17	83	18	25	17	83	19	25	19	85	
		266A	11.5	13.8	21	25	19	81	24	25	21	83	24	25	22	83	26	30	24	85	
		267A	14.0	16.8	25	25	23	81	27	30	25	83	28	30	25	83	30	30	27	85	
		268A	23.0	27.7	39	40	35	81	41	45	37	83	41	45	38	83	44	45	40	85	
	269A	25.5	30.7	42	45	39	81	45	45	41	83	45	45	41	83	47	50	43	85		
	MED	NONE	–	–	16	20	16	97	18	25	18	99	19	25	18	99	20	25	20	101	
		265A	6.0	7.2	16	20	16	97	18	25	18	99	19	25	18	99	20	25	20	101	
		266A	11.5	13.8	22	25	20	97	25	25	22	99	25	25	23	99	27	30	25	101	
		267A	14.0	16.8	26	30	24	97	28	30	26	99	29	30	26	99	31	35	28	101	
		268A	23.0	27.7	40	40	36	97	42	45	38	99	43	45	39	99	45	45	41	101	
	269A	25.5	30.7	44	45	40	97	46	50	42	99	46	50	42	99	49	50	44	101		
	HIGH	NONE	–	–	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		265A	6.0	7.2	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118	
		266A	11.5	13.8	26	30	23	114	28	30	25	116	28	30	26	116	31	35	28	118	
267A		14.0	16.8	29	30	27	114	32	35	29	116	32	35	29	116	34	35	31	118		
268A		23.0	27.7	43	45	39	114	45	45	41	116	46	50	42	116	48	50	44	118		
269A	25.5	30.7	47	50	43	114	49	50	45	116	50	50	45	116	52	60	47	118			
575-3-60	STD	NONE	–	–	12	15	12	68	16	20	16	72	14	20	14	70	18	20	18	74	
		118A	18.0	17.3	26	30	23	68	30	30	27	72	28	30	25	70	32	35	29	74	
		299A	28.0	26.9	38	40	34	68	42	45	39	72	40	40	36	70	44	45	40	74	
	MED	NONE	–	–	14	20	14	81	18	20	18	85	16	20	16	83	20	25	20	87	
		118A	18.0	17.3	28	30	25	81	32	35	29	85	30	30	27	83	35	35	31	87	
		299A	28.0	26.9	40	40	36	81	44	45	40	85	42	45	38	83	47	50	42	87	
	HIGH	NONE	–	–	16	20	16	95	20	25	20	99	17	20	18	97	21	25	22	101	
		118A	18.0	17.3	30	30	27	95	35	35	31	99	32	35	29	97	37	40	33	101	
		299A	28.0	26.9	42	45	38	95	47	50	42	99	44	45	40	97	49	50	44	101	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*008	208/230—3—60	STD	NONE	—	—	40/40	50/50	41/41	195	44/44	50/50	46/46	199	45/45	50/50	47/47	200	48/48	60/60	51/51	204
			117A	7.8/10.4	21.7/25.0	40/40	50/50	41/41	195/195	44/44	50/50	46/46	199/199	45/45	50/50	47/47	200/200	49/49	60/60	51/51	204/204
			110A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	195/195	60/60	60/60	49/55	199/199	62/62	70/70	51/56	200/200	66/66	70/70	55/61	204/204
			111A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	195/195	87/87	90/90	70/79	199/199	88/88	90/90	72/81	200/200	93/93	100/100	76/85	204/204
			112A	24.0/32.0	66.7/77.0	104/104	110/110	83/95	195/195	108/108	110/110	88/99	199/199	110/110	110/110	89/101	200/200	114/114	125/125	93/105	204/204
			112A+117A	31.8/42.4	88.4/102.0	135/135	150/150	108/124	195/195	140/140	150/150	113/128	199/199	141/141	150/150	114/129	200/200	146/146	150/150	118/134	204/204
		MED	NONE	—	—	41/41	50/50	43/43	199	45/45	50/50	47/47	203	46/46	50/50	48/48	204	50/50	60/60	53/52	208
			117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203	46/46	50/50	48/48	204/204	51/51	60/60	53/52	208/208
			110A	12.0/16.0	33.4/38.5	57/57	60/60	47/52	199/199	62/62	70/70	51/56	203/203	63/63	70/70	52/58	204/204	68/68	70/70	56/62	208/208
			111A	18.6/24.8	51.7/59.7	84/84	90/90	68/76	199/199	88/88	90/90	72/81	203/203	90/90	90/90	73/82	204/204	94/94	100/100	78/86	208/208
			112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	199/199	110/110	110/110	89/101	203/203	111/111	125/125	90/102	204/204	116/116	125/125	95/106	208/208
			112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	199/199	141/141	150/150	114/129	203/203	142/142	150/150	115/131	204/204	147/147	150/150	120/135	208/208
		HIGH	NONE	—	—	45/45	50/50	47/46	249	49/49	60/60	52/50	253	50/50	60/60	53/52	254	53/53	60/60	57/56	258
			117A	7.8/10.4	21.7/25.0	45/45	50/50	47/46	249/249	49/49	60/60	52/50	253/253	50/50	60/60	53/52	254/254	55/55	60/60	57/56	258/258
			110A	12.0/16.0	33.4/38.5	61/61	70/70	51/56	249/249	66/66	70/70	55/60	253/253	67/67	70/70	56/61	254/254	72/72	80/80	61/65	258/258
111A	18.6/24.8		51.7/59.7	87/87	90/90	72/80	249/249	92/92	100/100	76/84	253/253	93/93	100/100	77/85	254/254	98/98	100/100	82/90	258/258		
112A	24.0/32.0		66.7/77.0	109/109	110/110	89/100	249/249	114/114	125/125	93/104	253/253	115/115	125/125	95/105	254/254	120/120	125/125	99/110	258/258		
112A+117A	31.8/42.4		88.4/102.0	140/140	150/150	114/129	249/249	145/145	150/150	118/133	253/253	146/146	150/150	120/134	254/254	151/151	175/175	124/138	258/258		
50HC*008	460—3—60	STD	NONE	—	—	19	20	19	97	20	25	21	99	21	25	22	99	23	25	24	101
			116B	13.9	16.7	25	25	23	97	27	30	25	99	28	30	25	99	30	30	27	101
			113B	16.5	19.8	29	30	26	97	31	35	28	99	32	35	29	99	34	35	31	101
			114B	27.8	33.4	46	50	42	97	48	50	44	99	49	50	44	99	51	60	46	101
			115B	33.0	39.7	54	60	49	97	56	60	51	99	56	60	52	99	59	60	54	101
		MED	NONE	—	—	19	25	20	100	21	25	22	102	21	25	22	102	23	25	24	104
			116B	13.9	16.7	26	30	23	100	28	30	25	102	28	30	26	102	31	35	28	104
			113B	16.5	19.8	29	30	27	100	32	35	29	102	32	35	29	102	34	35	31	104
			114B	27.8	33.4	46	50	42	100	49	50	44	102	49	50	45	102	51	60	47	104
			115B	33.0	39.7	54	60	50	100	57	60	52	102	57	60	52	102	59	60	54	104
		HIGH	NONE	—	—	21	25	22	125	22	25	24	127	23	25	24	127	25	30	26	129
			116B	13.9	16.7	27	30	25	125	30	30	27	127	30	30	27	127	32	35	29	129
			113B	16.5	19.8	31	35	28	125	34	35	30	127	34	35	31	127	36	40	33	129
			114B	27.8	33.4	48	50	44	125	51	60	46	127	51	60	47	127	53	60	49	129
			115B	33.0	39.7	56	60	51	125	58	60	53	127	59	60	54	127	61	70	56	129
575—3—60	STD	NONE	—	—	14	15	14	79	18	20	19	83	16	20	16	81	19	25	21	85	
		118A	18.0	17.3	26	30	23	79	30	30	27	83	28	30	25	81	32	35	29	85	
		119A	36.0	34.6	47	50	43	79	52	60	47	83	49	50	45	81	54	60	49	85	
	MED	NONE	—	—	15	20	15	83	18	20	19	87	16	20	17	85	20	25	21	89	
		118A	18.0	17.3	26	30	24	83	31	35	28	87	29	30	26	85	33	35	30	89	
		119A	36.0	34.6	48	50	44	83	53	60	48	87	50	50	46	85	55	60	50	89	
	HIGH	NONE	—	—	16	20	16	92	19	25	21	96	17	20	18	94	21	25	23	98	
		118A	18.0	17.3	28	30	25	92	32	35	29	96	30	30	27	94	35	35	31	98	
		119A	36.0	34.6	49	50	45	92	54	60	49	96	51	60	47	94	56	60	51	98	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
208/230-3-60	STD	NONE	–	–	40/40	50/50	42/41	195	44/44	50/50	46/46	199	45/45	50/50	47/47	200	49/49	60/60	52/51	204	
		117A	7.8/10.4	21.7/25.0	40/40	50/50	42/41	195/195	44/44	50/50	46/46	199/199	45/45	50/50	47/47	200/200	49/49	60/60	52/51	204/204	
		110A	12.0/16.0	33.4/38.5	56/56	60/60	45/51	195/195	60/60	60/60	49/55	199/199	62/62	70/70	51/56	200/200	66/66	70/70	55/61	204/204	
		111A	18.6/24.8	51.7/59.7	82/82	90/90	66/75	195/195	87/87	90/90	70/79	199/199	88/88	90/90	72/81	200/200	93/93	100/100	76/85	204/204	
		112A	24.0/32.0	66.7/77.0	104/104	110/110	83/95	195/195	108/108	110/110	88/99	199/199	110/110	110/110	89/101	200/200	114/114	125/125	93/105	204/204	
		112A+117A	31.8/42.4	88.4/102.0	135/135	150/150	108/124	195/195	140/140	150/150	113/128	199/199	141/141	150/150	114/129	200/200	146/146	150/150	118/134	204/204	
	MED	NONE	–	–	41/41	50/50	43/43	199	45/45	50/50	47/47	203	46/46	50/50	49/48	204	50/50	60/60	53/53	208	
		117A	7.8/10.4	21.7/25.0	41/41	50/50	43/43	199/199	45/45	50/50	47/47	203/203	46/46	50/50	49/48	204/204	51/51	60/60	53/53	208/208	
		110A	12.0/16.0	33.4/38.5	57/57	60/60	47/52	199/199	62/62	70/70	51/56	203/203	63/63	70/70	52/58	204/204	68/68	70/70	56/62	208/208	
		111A	18.6/24.8	51.7/59.7	84/84	90/90	68/76	199/199	88/88	90/90	72/81	203/203	90/90	90/90	73/82	204/204	94/94	100/100	78/86	208/208	
		112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	199/199	110/110	110/110	89/101	203/203	111/111	125/125	90/102	204/204	116/116	125/125	95/106	208/208	
		112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	199/199	141/141	150/150	114/129	203/203	142/142	150/150	115/131	204/204	147/147	150/150	120/135	208/208	
	HIGH	NONE	–	–	45/45	50/50	47/46	249	49/49	60/60	52/51	253	50/50	60/60	53/52	254	54/54	60/60	57/56	258	
		117A	7.8/10.4	21.7/25.0	45/45	50/50	47/46	249/249	49/49	60/60	52/51	253/253	50/50	60/60	53/52	254/254	55/55	60/60	57/56	258/258	
		110A	12.0/16.0	33.4/38.5	61/61	70/70	51/56	249/249	66/66	70/70	55/60	253/253	67/67	70/70	56/61	254/254	72/72	80/80	61/65	258/258	
111A		18.6/24.8	51.7/59.7	87/87	90/90	72/80	249/249	92/92	100/100	76/84	253/253	93/93	100/100	77/85	254/254	98/98	100/100	82/90	258/258		
112A		24.0/32.0	66.7/77.0	109/109	110/110	89/100	249/249	114/114	125/125	93/104	253/253	115/115	125/125	95/105	254/254	120/120	125/125	99/110	258/258		
112A+117A		31.8/42.4	88.4/102.0	140/140	150/150	114/129	249/249	145/145	150/150	118/133	253/253	146/146	150/150	120/134	254/254	151/151	175/175	124/138	258/258		
460-3-60	STD	NONE	–	–	19	25	19	97	21	25	22	99	21	25	22	99	23	25	24	101	
		116B	13.9	16.7	25	25	23	97	27	30	25	99	28	30	25	99	30	30	27	101	
		113B	16.5	19.8	29	30	26	97	31	35	28	99	32	35	29	99	34	35	31	101	
		114B	27.8	33.4	46	50	42	97	48	50	44	99	49	50	44	99	51	60	46	101	
		115B	33.0	39.7	54	60	49	97	56	60	51	99	56	60	52	99	59	60	54	101	
	MED	NONE	–	–	19	25	20	100	21	25	22	102	22	25	23	102	23	25	25	104	
		116B	13.9	16.7	26	30	23	100	28	30	25	102	28	30	26	102	31	35	28	104	
		113B	16.5	19.8	29	30	27	100	32	35	29	102	32	35	29	102	34	35	31	104	
		114B	27.8	33.4	46	50	42	100	49	50	44	102	49	50	45	102	51	60	47	104	
		115B	33.0	39.7	54	60	50	100	57	60	52	102	57	60	52	102	59	60	54	104	
	HIGH	NONE	–	–	21	25	22	125	23	25	24	127	23	25	24	127	25	30	26	129	
		116B	13.9	16.7	27	30	25	125	30	30	27	127	30	30	27	127	32	35	29	129	
		113B	16.5	19.8	31	35	28	125	34	35	30	127	34	35	31	127	36	40	33	129	
		114B	27.8	33.4	48	50	44	125	51	60	46	127	51	60	47	127	53	60	49	129	
		115B	33.0	39.7	56	60	51	125	58	60	53	127	59	60	54	127	61	70	56	129	
575-3-60	STD	NONE	–	–	15	20	16	79	19	20	20	83	17	20	18	81	21	25	22	85	
		118A	18.0	17.3	26	30	23	79	30	30	27	83	28	30	25	81	32	35	29	85	
		119A	36.0	34.6	47	50	43	79	52	60	47	83	49	50	45	81	54	60	49	85	
	MED	NONE	–	–	16	20	16	83	20	25	21	87	18	20	18	85	21	25	23	89	
		118A	18.0	17.3	26	30	24	83	31	35	28	87	29	30	26	85	33	35	30	89	
		119A	36.0	34.6	48	50	44	83	53	60	48	87	50	50	46	85	55	60	50	89	
	HIGH	NONE	–	–	17	20	18	92	21	25	22	96	19	20	20	94	22	25	24	98	
		118A	18.0	17.3	28	30	25	92	32	35	29	96	30	30	27	94	35	35	31	98	
		119A	36.0	34.6	49	50	45	92	54	60	49	96	51	60	47	94	56	60	51	98	

See “Legend and Notes for Tables 85 – 88” on page 139

## ELECTRICAL INFORMATION (cont.)

Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D11	208/230—3—60	STD	NONE	—	—	51/51	60/60	53/53	254	55/55	60/60	58/57	258	56/56	60/60	59/58	259	59/59	70/70	63/63	263
			117A	7.8/10.4	21.7/25.0	51/51	60/60	53/53	254/254	55/55	60/60	58/57	258/258	56/56	60/60	59/58	259/259	59/59	70/70	63/63	263/263
			110A	12.0/16.0	33.4/38.5	57/57	60/60	53/53	254/254	62/62	70/70	58/57	258/258	63/63	70/70	59/58	259/259	68/68	70/70	63/63	263/263
			112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	254/254	110/110	110/110	89/101	258/258	111/111	125/125	90/102	259/259	116/116	125/125	95/106	263/263
			112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	254/254	141/141	150/150	114/129	258/258	142/142	150/150	115/131	259/259	147/147	150/150	120/135	263/263
		112A+110A	37.6/50.0	104.2/120.3	140/140	150/150	128/146	254/254	144/144	150/150	132/151	258/258	146/146	150/150	134/152	259/259	150/150	150/150	138/156	263/263	
		MED	NONE	—	—	54/54	60/60	58/56	304	58/58	70/70	62/61	308	59/59	70/70	63/62	309	63/63	70/70	67/66	313
			117A	7.8/10.4	21.7/25.0	54/54	60/60	58/56	304/304	58/58	70/70	62/61	308/308	59/59	70/70	63/62	309/309	63/63	70/70	67/66	313/313
			110A	12.0/16.0	33.4/38.5	61/61	70/70	58/56	304/304	66/66	70/70	62/61	308/308	67/67	70/70	63/62	309/309	72/72	80/80	67/66	313/313
			112A	24.0/32.0	66.7/77.0	109/109	110/110	89/100	304/304	114/114	125/125	93/104	308/308	115/115	125/125	95/105	309/309	120/120	125/125	99/110	313/313
			112A+117A	31.8/42.4	88.4/102.0	140/140	150/150	114/129	304/304	145/145	150/150	118/133	308/308	146/146	150/150	120/134	309/309	151/151	175/175	124/138	313/313
		112A+110A	37.6/50.0	104.2/120.3	144/144	150/150	132/150	304/304	149/149	150/150	137/154	308/308	150/150	150/150	138/155	309/309	155/155	175/175	142/160	313/313	
	HIGH	NONE	—	—	57/57	70/70	61/60	315	61/61	70/70	65/64	319	62/62	70/70	66/65	320	66/66	80/80	71/70	324	
		117A	7.8/10.4	21.7/25.0	57/57	70/70	61/60	315/315	61/61	70/70	65/64	319/319	62/62	70/70	66/65	320/320	66/66	80/80	71/70	324/324	
		110A	12.0/16.0	33.4/38.5	64/64	70/70	61/60	315/315	69/69	70/70	65/64	319/319	70/70	80/70	66/65	320/320	75/75	80/80	71/70	324/324	
		112A	24.0/32.0	66.7/77.0	113/113	125/125	92/103	315/315	117/117	125/125	97/108	319/319	119/119	125/125	98/109	320/320	123/123	125/125	102/113	324/324	
		112A+117A	31.8/42.4	88.4/102.0	144/144	150/150	117/132	315/315	149/149	150/150	122/136	319/319	150/150	150/150	123/137	320/320	155/155	175/175	127/142	324/324	
	112A+110A	37.6/50.0	104.2/120.3	148/148	150/150	135/153	315/315	152/152	175/175	140/157	319/319	154/154	175/175	141/158	320/320	158/158	175/175	145/163	324/324		
	460—3—60	STD	NONE	—	—	23	25	24	122	25	30	26	124	—	—	—	—	—	—	—	
			116B	13.9	16.7	26	30	24	122	28	30	26	124	—	—	—	—	—	—	—	
			113B	16.5	19.8	29	30	27	122	32	35	29	124	—	—	—	—	—	—	—	
			115B	33.0	39.7	54	60	50	122	57	60	52	124	—	—	—	—	—	—	—	
		MED	NONE	—	—	25	30	26	147	27	30	28	149	—	—	—	—	—	—	—	
			116B	13.9	16.7	27	30	26	147	30	30	28	149	—	—	—	—	—	—	—	
113B			16.5	19.8	31	35	28	147	34	35	30	149	—	—	—	—	—	—	—		
115B		33.0	39.7	56	60	51	147	58	60	53	149	—	—	—	—	—	—	—	—		
HIGH		NONE	—	—	26	30	28	152	28	30	30	154	—	—	—	—	—	—	—		
		116B	13.9	16.7	29	30	28	152	32	35	30	154	—	—	—	—	—	—	—		
		113B	16.5	19.8	33	35	30	152	35	35	32	154	—	—	—	—	—	—	—		
		115B	33.0	39.7	58	60	53	152	60	60	55	154	—	—	—	—	—	—	—	—	
STD	NONE	—	—	19	20	20	97	23	25	24	101	—	—	—	—	—	—	—			
	118A	18.0	17.3	26	30	24	97	31	35	28	101	—	—	—	—	—	—	—			
	119A	36.0	34.6	48	50	44	97	53	60	48	101	—	—	—	—	—	—	—			
	118A+119A	54.0	52.0	57	60	64	97	62	70	68	101	—	—	—	—	—	—	—	—		
MED	NONE	—	—	20	25	21	106	24	25	25	110	—	—	—	—	—	—	—			
	118A	18.0	17.3	28	30	25	106	32	35	29	110	—	—	—	—	—	—	—			
	119A	36.0	34.6	49	50	45	106	54	60	49	110	—	—	—	—	—	—	—			
	118A+119A	54.0	52.0	58	60	65	106	63	70	69	110	—	—	—	—	—	—	—	—		
HIGH	NONE	—	—	22	25	23	120	26	30	27	124	—	—	—	—	—	—	—			
	118A	18.0	17.3	30	30	27	120	35	35	31	124	—	—	—	—	—	—	—	—		
	119A	36.0	34.6	51	60	47	120	56	60	51	124	—	—	—	—	—	—	—	—		
	118A+119A	54.0	52.0	60	70	67	120	65	70	71	124	—	—	—	—	—	—	—	—		

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D12	208/230-3-60	STD	NONE	—	—	50/50	60/60	52/52	279	53/53	60/60	56/56	283	54/54	60/60	57/57	284	58/58	70/70	62/61	288
			117A	7.8/10.4	21.7/25.0	50/50	60/60	52/52	279/279	53/53	60/60	56/56	283/283	54/54	60/60	57/57	284/284	58/58	70/70	62/61	288/288
			110A	12.0/16.0	33.4/38.5	57/57	60/60	52/52	279/279	62/62	70/70	56/56	283/283	63/63	70/70	57/58	284/284	68/68	70/70	62/62	288/288
			112A	24.0/32.0	66.7/77.0	105/105	110/110	85/96	279/279	110/110	110/110	89/101	283/283	111/111	125/125	90/102	284/284	116/116	125/125	95/106	288/288
			112A+117A	31.8/42.4	88.4/102.0	136/136	150/150	110/125	279/279	141/141	150/150	114/129	283/283	142/142	150/150	115/131	284/284	147/147	150/150	120/135	288/288
		112A+110A	37.6/50.0	104.2/120.3	140/140	150/150	128/146	279/279	144/144	150/150	132/151	283/283	146/146	150/150	134/152	284/284	150/150	150/150	138/156	288/288	
		MED	NONE	—	—	53/53	60/60	56/55	329	57/57	70/70	60/59	333	58/58	70/70	62/60	334	62/62	70/70	66/65	338
			117A	7.8/10.4	21.7/25.0	53/53	60/60	56/55	329/329	57/57	70/70	60/59	333/333	58/58	70/70	62/60	334/334	62/62	70/70	66/65	338/338
			110A	12.0/16.0	33.4/38.5	61/61	70/70	56/56	329/329	66/66	70/70	60/60	333/333	67/67	70/70	62/61	334/334	72/72	80/80	66/65	338/338
			112A	24.0/32.0	66.7/77.0	109/109	110/110	89/100	329/329	114/114	125/125	93/104	333/333	115/115	125/125	95/105	334/334	120/120	125/125	99/110	338/338
			112A+117A	31.8/42.4	88.4/102.0	140/140	150/150	114/129	329/329	145/145	150/150	118/133	333/333	146/146	150/150	120/134	334/334	151/151	175/175	124/138	338/338
		112A+110A	37.6/50.0	104.2/120.3	144/144	150/150	132/150	329/329	149/149	150/150	137/154	333/333	150/150	150/150	138/155	334/334	155/155	175/175	142/160	338/338	
		HIGH	NONE	—	—	56/56	60/60	59/58	340	60/60	70/70	64/63	344	61/61	70/70	65/64	345	65/65	80/80	69/68	349
			117A	7.8/10.4	21.7/25.0	56/56	60/60	59/58	340/340	60/60	70/70	64/63	344/344	61/61	70/70	65/64	345/345	65/65	80/80	69/68	349/349
			110A	12.0/16.0	33.4/38.5	64/64	70/70	59/59	340/340	69/69	70/70	64/63	344/344	70/70	80/70	65/64	345/345	75/75	80/80	69/69	349/349
112A	24.0/32.0		66.7/77.0	113/113	125/125	92/103	340/340	117/117	125/125	97/108	344/344	119/119	125/125	98/109	345/345	123/123	125/125	102/113	349/349		
112A+117A	31.8/42.4		88.4/102.0	144/144	150/150	117/132	340/340	149/149	150/150	122/136	344/344	150/150	150/150	123/137	345/345	155/155	175/175	127/142	349/349		
112A+110A	37.6/50.0	104.2/120.3	148/148	150/150	135/153	340/340	152/152	175/175	140/157	344/344	154/154	175/175	141/158	345/345	158/158	175/175	145/163	349/349			
460-3-60	STD	NONE	—	—	24	30	25	134	26	30	27	136	26	30	28	136	28	30	30	138	
		116B	13.9	16.7	26	30	25	134	28	30	27	136	28	30	28	136	31	35	30	138	
		113B	16.5	19.8	29	30	27	134	32	35	29	136	32	35	29	136	34	35	31	138	
		115B	33.0	39.7	54	60	50	134	57	60	52	136	57	60	52	136	59	60	54	138	
	MED	NONE	—	—	26	30	27	159	28	30	29	161	28	30	29	161	30	35	32	163	
		116B	13.9	16.7	27	30	27	159	30	30	29	161	30	30	29	161	32	35	32	163	
		113B	16.5	19.8	31	35	28	159	34	35	30	161	34	35	31	161	36	40	33	163	
		115B	33.0	39.7	56	60	51	159	58	60	53	161	59	60	54	161	61	70	56	163	
	HIGH	NONE	—	—	27	30	29	164	29	35	31	166	29	35	31	166	31	35	33	168	
		116B	13.9	16.7	29	30	29	164	32	35	31	166	32	35	31	166	34	35	33	168	
		113B	16.5	19.8	33	35	30	164	35	35	32	166	36	40	33	166	38	40	35	168	
		115B	33.0	39.7	58	60	53	164	60	60	55	166	61	70	56	166	63	70	58	168	
	STD	NONE	—	—	19	25	20	107	23	25	24	111	21	25	22	109	25	30	26	113	
		118A	18.0	17.3	26	30	24	107	31	35	28	111	29	30	26	109	33	35	30	113	
		119A	36.0	34.6	48	50	44	107	53	60	48	111	50	50	46	109	55	60	50	113	
118A+119A		54.0	52.0	57	60	64	107	62	70	68	111	59	60	66	109	64	70	70	113		
MED	NONE	—	—	20	25	21	116	24	30	26	120	22	25	23	118	26	30	27	122		
	118A	18.0	17.3	28	30	25	116	32	35	29	120	30	30	27	118	35	35	31	122		
	119A	36.0	34.6	49	50	45	116	54	60	43	120	51	60	47	118	56	60	51	122		
	118A+119A	54.0	52.0	58	60	65	116	63	70	69	120	60	70	67	118	65	70	71	122		
HIGH	NONE	—	—	22	25	23	130	26	30	27	134	24	25	25	132	28	30	29	136		
	118A	18.0	17.3	30	30	27	130	35	35	31	134	32	35	29	132	37	40	33	136		
	119A	36.0	34.6	51	60	47	130	56	60	51	134	54	60	49	132	58	60	53	136		
	118A+119A	54.0	52.0	60	70	67	130	65	70	71	134	62	70	69	132	67	70	73	136		

See "Legend and Notes for Tables 85 – 88" on page 139



## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*DY1	208/230-3-60	STD	NONE	—	—	58/58	70/70	60/59	337	61/61	80/80	65/64	341	62/62	80/80	66/65	342	66/66	80/80	70/69	346
			291A	12.4/16.5	34.4/39.7	60/60	70/70	60/59	337/337	65/65	80/80	65/64	341/341	66/66	80/80	66/65	342/342	71/71	80/80	70/69	346/346
			288A+291A	19.9/26.5	55.3/63.8	90/90	90/90	73/82	337/337	95/95	100/100	78/87	341/341	96/96	100/100	79/88	342/342	101/101	110/110	83/92	346/346
			294A	25.2/33.5	69.9/80.6	111/111	125/125	90/102	337/337	116/116	125/125	95/106	341/341	117/117	125/125	96/107	342/342	122/122	125/125	100/112	346/346
			288A+294A	32.7/43.5	90.7/104.7	141/141	150/150	114/129	337/337	146/146	150/150	119/134	341/341	147/147	150/150	120/135	342/342	152/152	175/175	124/139	346/346
		291A+294A	37.6/50.0	104.3/120.3	142/142	150/150	130/147	337/337	146/146	150/150	134/152	341/341	148/148	150/150	135/153	342/342	152/152	175/175	140/157	346/346	
		MED	NONE	—	—	60/60	70/70	63/62	361	64/64	80/80	67/66	365	65/65	80/80	68/67	366	68/68	80/80	73/71	370
			291A	12.4/16.5	34.4/39.7	62/62	70/70	63/62	361/361	67/67	80/80	67/66	365/365	68/68	80/80	68/67	366/366	73/73	80/80	73/71	370/370
			288A+291A	19.9/26.5	55.3/63.8	92/92	100/100	76/85	361/361	97/97	100/100	80/89	365/365	98/98	100/100	82/90	366/366	103/103	110/110	86/95	370/370
			294A	25.2/33.5	69.9/80.6	113/113	125/125	93/104	361/361	118/118	125/125	97/108	365/365	119/119	125/125	98/109	366/366	124/124	125/125	103/114	370/370
			288A+294A	32.7/43.5	90.7/104.7	144/144	150/150	117/132	361/361	148/148	150/150	121/136	365/365	150/150	150/150	122/137	366/366	154/154	15/175	127/142	370/370
		291A+294A	37.6/50.0	104.3/120.3	144/144	150/150	132/150	361/361	149/149	150/150	137/154	365/365	150/150	150/150	138/155	366/366	155/155	175/175	142/160	370/370	
		HIGH	NONE	—	—	70	80	74	376	73	80	78	380	74	80	79	381	78	90	84	385
			291A	12.4/16.5	34.4/39.7	76/76	80/80	74/74	376/376	80/80	80/80	78/78	380/380	82/82	90/90	79/79	381/381	86/86	90/90	84/84	385/385
			288A+291A	19.9/26.5	55.3/63.8	106/106	110/110	87/97	376/376	110/110	125/125	91/101	380/380	112/112	125/125	93/102	381/381	116/116	125/125	97/107	385/385
	294A		25.2/33.5	69.9/80.6	127/127	150/150	104/116	376/376	131/131	150/150	108/121	380/380	133/133	150/150	109/122	381/381	137/137	150/150	114/126	385/385	
	288A+294A		32.7/43.5	90.7/104.7	157/157	175/175	128/144	376/376	162/162	175/175	132/148	380/380	163/163	175/175	133/149	381/381	168/168	175/175	138/154	385/385	
	291A+294A	37.6/50.0	104.3/120.3	156/156	175/175	143/162	376/376	161/161	175/175	148/166	380/380	162/162	175/175	149/167	381/381	167/167	175/175	153/172	385/385		
	460-3-60	STD	NONE	—	—	25	30	26	165	27	30	28	167	27	30	29	167	29	35	31	169
			292A	16.5	19.9	30	30	27	165	32	35	29	167	33	35	30	167	35	35	32	169
			289A+292A	26.5	31.9	45	45	41	165	47	50	43	167	48	50	44	167	50	50	46	169
			295A	33.5	40.3	56	60	51	165	58	60	53	167	58	60	53	167	61	70	55	169
			289A+295A	43.5	52.3	71	80	65	165	73	80	67	167	73	80	67	167	76	80	69	169
		292A+295A	50.0	60.2	65	70	74	165	68	80	76	167	68	80	76	167	70	80	78	169	
MED		NONE	—	—	26	30	27	177	28	30	29	179	28	30	30	179	30	35	32	181	
		292A	16.5	19.9	31	35	29	177	34	35	31	179	34	35	31	179	36	40	33	181	
		289A+292A	26.5	31.9	46	50	42	177	49	50	44	179	49	50	45	179	51	60	47	181	
		295A	33.5	40.3	57	60	52	177	59	60	54	179	60	60	55	179	62	70	57	181	
		289A+295A	43.5	52.3	72	80	66	177	74	80	68	179	75	80	68	179	77	80	70	181	
292A+295A		50.0	60.2	67	80	75	177	69	80	77	179	70	80	77	179	72	80	79	181		
HIGH		NONE	—	—	32	40	33	184	34	40	35	186	34	40	36	186	36	45	38	188	
		292A	16.5	19.9	38	40	35	184	40	40	37	186	41	45	37	186	43	45	39	188	
		289A+292A	26.5	31.9	53	60	48	184	55	60	50	186	56	60	51	186	58	60	53	188	
	295A	33.5	40.3	64	70	58	184	66	70	60	186	66	70	61	186	69	70	63	188		
	289A+295A	43.5	52.3	79	80	72	184	81	90	74	186	81	90	74	186	84	90	76	188		
292A+295A	50.0	60.2	73	80	81	184	76	80	83	186	76	80	83	186	78	80	86	188			

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

**Table 88 – 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****00	Nom (kW)	FLA	NO P.E.				w/ P.E. (pwrd fr/unit)				NO P.E.				w/ P.E. (pwrd fr/unit)			
						MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14	575—3—60	STD	NONE	—	—	22	25	23	138	26	30	27	142	24	25	25	140	27	30	29	144
			293A	16.5	15.9	26	30	23	138	31	35	28	142	28	30	25	140	33	35	30	144
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142	40	40	36	140	45	45	41	144
			296A	33.5	32.2	46	50	42	138	51	60	47	142	48	50	44	140	53	60	49	144
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142	60	60	55	140	65	70	60	144
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142	56	60	62	140	61	70	67	144
		MED	NONE	—	—	22	25	23	138	26	30	27	142	24	25	25	140	27	30	29	144
			293A	16.5	15.9	26	30	23	138	31	35	28	142	28	30	25	140	33	35	30	144
			290A+293A	26.5	25.5	38	40	35	138	43	45	39	142	40	40	36	140	45	45	41	144
			296A	33.5	32.2	46	50	42	138	51	60	47	142	48	50	44	140	53	60	49	144
			290A+296A	43.5	41.8	58	60	53	138	63	70	58	142	60	60	55	140	65	70	60	144
			293A+296A	50.0	48.1	54	60	60	138	59	60	65	142	56	60	62	140	61	70	67	144
	HIGH	NONE	—	—	27	30	28	150	31	35	32	154	29	35	30	152	33	40	34	156	
		293A	16.5	15.9	32	35	29	150	36	40	33	154	34	35	31	152	38	40	35	156	
		290A+293A	26.5	25.5	44	45	40	150	48	50	44	154	46	50	42	152	50	60	46	156	
		296A	33.5	32.2	52	60	47	150	57	60	52	154	54	60	49	152	59	60	54	156	
		290A+296A	43.5	41.8	64	70	58	150	69	70	63	154	66	70	60	152	71	80	65	156	
		293A+296A	50.0	48.1	60	70	66	150	65	70	70	154	62	70	68	152	67	70	72	156	

See "Legend and Notes for Tables 85 – 88" on page 139

## ELECTRICAL INFORMATION (cont.)

### Legend and Notes for Tables 85 — 88

#### LEGEND:

BRKR	—	Circuit breaker
C.O.	—	Convenience outlet
DD	—	Direct Drive
DISC.	—	Disconnect
FLA	—	Full load amps
LRA	—	Locked rotor amps
MCA	—	Minimum circuit amps
PE.	—	Power exhaust
Pwr'd fr/ unit	—	Powered from unit
PWRD C.O.	—	Powered convenience outlet
UNPWR C.O.	—	Unpowered convenience outlet

#### NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. For 208/230 v units, where one value is shown it is the same for either 208 or 230 volts.
3. **Unbalanced 3-Phase Supply Voltage**  
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

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

Example: Supply voltage is 230-3-60



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

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

Determine maximum deviation from average voltage.

$$(AB) 227 - 224 = 3 \text{ v}$$

$$(BC) 231 - 227 = 4 \text{ v}$$

$$(AC) 227 - 226 = 1 \text{ v}$$

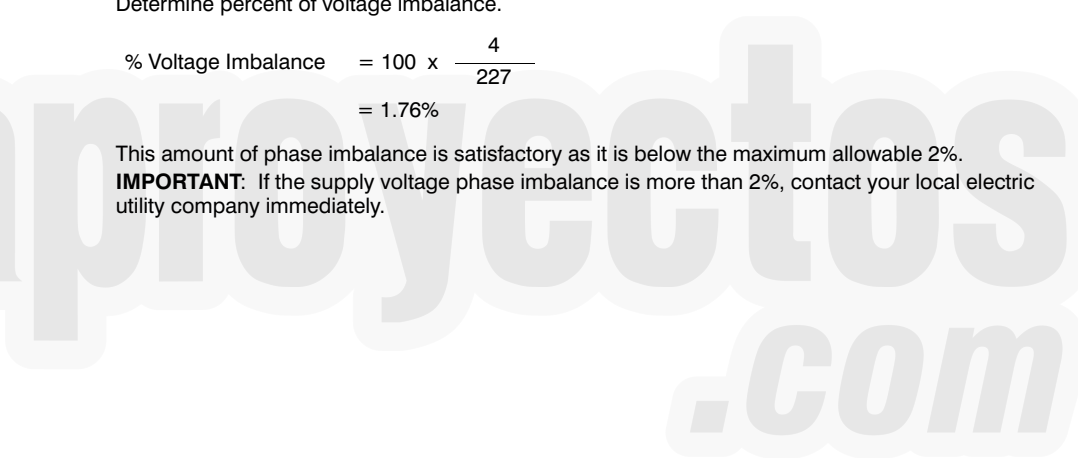
Maximum deviation is 4 v.

Determine percent of voltage imbalance.

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

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

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



# SEQUENCE OF OPERATION

## General

The sequence below describes the sequence of operation for an electro-mechanical unit with and without a factory-installed EconoMiSer 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. On two compressor units, the Y2 signal will energize compressor contactor #2 (C2), causing compressor #2 to start. On 2-Stage 07 units, the Y1 signal energizes the IFC and C1 Contactor, causing the indoor fan and outdoor fan to start and the compressor to operate at 66% capacity. The Y2 signal will energize the compressor loader plug, allowing compressor to operate at 100% capacity. Regardless of the number of stages, the outdoor-fan motor runs continuously while unit is cooling.

#### **Cooling (2-speed indoor fan motor) —**

Per ASHRAE 90.1-2013 standard section 6.4.3.10.b, during the first stage of cooling operation the VFD will adjust the fan motor to provide 66% 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 established for the unit (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 EconoMiSer 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 EconoMiSer 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 EconoMiSer 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 EconoMiSer 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 EconoMiSer IV and X damper to the minimum position.

On the initial power to the EconoMiSer 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 EconoMiSer IV and X damper will be open at maximum position. EconoMiSer 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 66% of the total cfm established.

Refer to the Service and Maintenance manual for further details.

## 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.

### Optional Humidi-MiZer<sup>®</sup> 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<sup>®</sup> 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.

The following diagrams depict piping for Single Stage cooling units (see page 142).

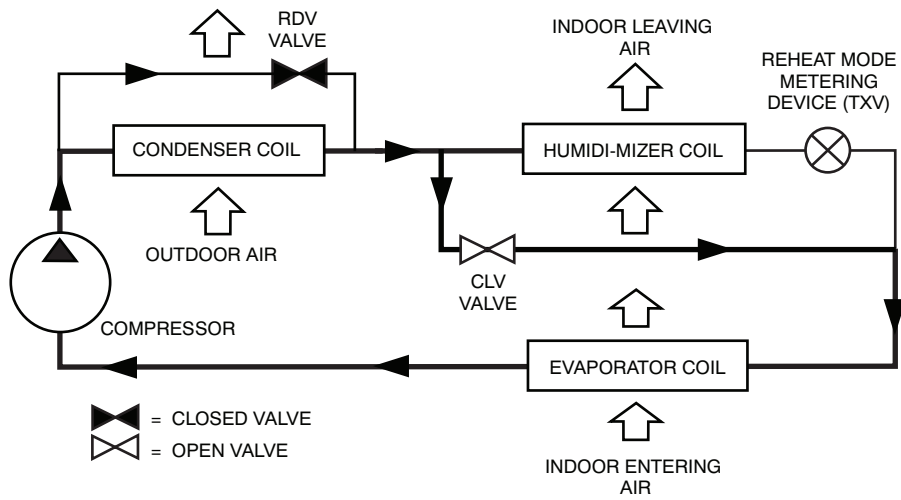
### RTU Open Controller (Factory Option) —

For details on operating 50HC units equipped with the factory-installed RTU Open controller option refer to *Factory Installed RTU Open Multi-Protocol Controller Controls, Start-Up, Operation and Troubleshooting manual*.



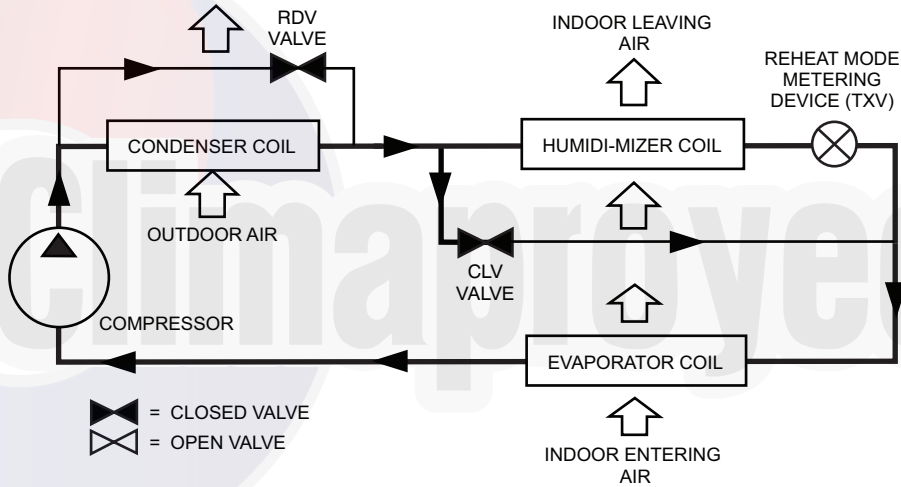
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## SEQUENCE OF OPERATION (cont.)



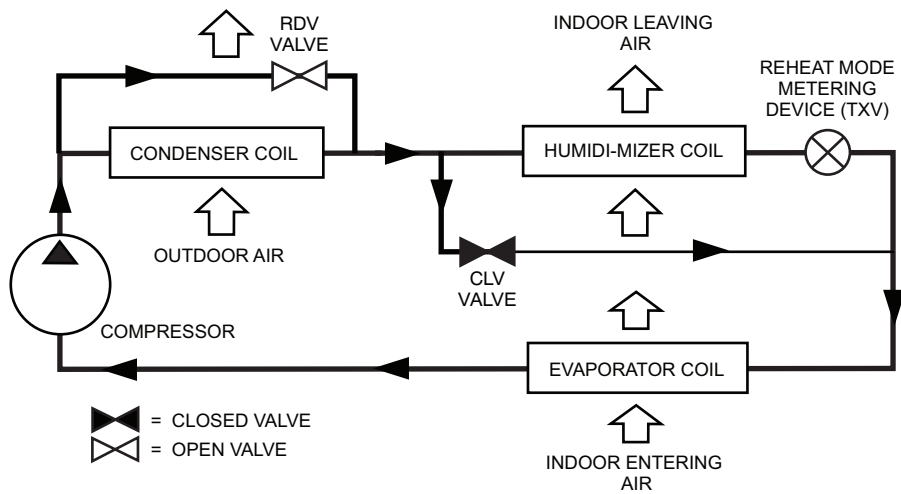
C12702

**Normal Cooling Mode – Humidi-MiZer System with Single Stage Cooling**



C12703

**Subcooling Mode (Reheat 1) – Humidi-MiZer System with Single Stage Cooling**



C12704

**Hot Gas Reheat Mode (Reheat2) – Humidi-MiZer System with Single Stage Cooling**

# GUIDE SPECIFICATIONS – 50HC\*\*04–14

Note about this specification:

This specification is in the “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:** 3 to 12.5 Nominal Tons



<u>Section</u>	<u>Description</u>
----------------	--------------------

<b>23 06 80</b>	<b>Schedules for Decentralized HVAC Equipment</b>
-----------------	---------------------------------------------------

- |                |                                                         |
|----------------|---------------------------------------------------------|
| 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.                                                                                                                                                                                                |
| 3.             | Unit internal insulation linings shall be resistant to mold growth in accordance with “mold growth and humidity” test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the “Erosion Test” in UL 181, as part of ASTM C1071. |
| 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 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 Controlled 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<sup>®</sup> (CCN) protocol, and be compatible with other CCN devices, including ComfortLink and 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 at 20-300 Hz.
17. Shall support a bus length of 4000 ft (1219m) max, 60 devices per 1000 ft (305m) section, and 1 RS-485 repeater per 1000 ft (305m) sections.

\* LonWorks is a registered trademark of Echelon Corporation.

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

1. Shall be ASHRAE 62 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<sup>†</sup> (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.

<sup>†</sup> BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers).

\*\* Modbus is a registered trademark of Schneider Electric.

23 09 23.13.B. ComfortLink Unit Controls shall contain:

1. Four button detailed English scrolling marquee display.
2. CCN (Carrier Comfort Network) capable.
3. Unit control with standard suction pressure transducers and condensing temperature thermistors.
4. Shall provide a 5°F temperature difference between cooling and heating set points to meet ASHRAE 90.1-2013 Energy Standard.
5. Shall provide and display a current alarm list and an alarm history list.
6. Service run test capability.
7. Shall accept input from a CO<sub>2</sub> sensor (both indoor and outdoor).
8. Configurable alarm light shall be provided which activates when certain types of alarms occur.
9. Compressor minimum run time (3 minutes) and minimum off time (5 minutes) are provided.
10. Service diagnostic mode.



11. Economizer control (optional).
12. Control multiple capacity stages
13. Unit shall be complete with self-contained low voltage control circuit.
14. Unit shall have 0°F low ambient cooling operation.

**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 with 2 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. 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 with 2 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.A. 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 an access panel with “no-tool” removal as described in the unit cabinet section of this specification (23 81 19.13.G).

**23 81 19 Self-Contained Air Conditioners**

23 81 19.13 Small-Capacity Self-Contained Air Conditioners (50HC\*\*04-14)

23 81 19.13.A. General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing hermetic scroll compressor(s) for cooling duty and optional electric heat 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 Puron<sup>®</sup> 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 90.1-2013 minimum efficiency requirements.
2. 3 phase units are ENERGY STAR\* certified.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.

\* ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.

4. Unit shall be designed to conform to ASHRAE 15.
5. Unit shall be UL–tested and certified in accordance with ANSI Z21.47 Standards and UL or 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 internal insulation linings shall be resistant to mold growth in accordance with “mold growth and humidity” test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the “Erosion Test” in UL 181, as part of ASTM C1071.
8. Unit casing shall be capable of withstanding 500–hour salt spray exposure per ASTM B117 (scribed specimen).
9. Roof curb shall be designed to conform to NRCA Standards.
10. 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.
11. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
12. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
13. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
14. High Efficiency 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. 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 210/240 or 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 35°F (2°C), ambient outdoor temperatures. Accessory low ambient kits shall be available if operation below 35°F (2°C), is required. See below for head pressure control package or winter start kit.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply and return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required on 04–12 models. Supply duct kit required for 14 size model only.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.F. Electrical Requirements

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
2. Control Panel SCCR (short circuit current rating): 5kA RMS at Rated Symmetrical Voltage

23 81 19.13.G. 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 210/240 or 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. Unit internal insulation linings shall be resistant to mold growth in accordance with “mold growth and humidity” test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the “Erosion Test” in UL 181, as part of ASTM C1071.
5. Base of unit shall have a minimum of four locations for thru–the–base gas and electrical connections (factory–installed or field–installed), standard.
6. Base Rail
  - a. Unit shall have base rails on a minimum of 3 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.
7. Condensate pan and connections:
- a. Shall be an internally 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, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.
8. Top panel:
- a. Shall be a single piece top panel on 04 thru 12 sizes, two piece on 14 size.
9. Electrical Connections
- a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
  - b. Thru-the-base capability
    - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
    - (2.) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
    - (3.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. 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, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
  - 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.H. 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 (3 phase models only):
- 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.
  - d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 6000 hours salt spray per ASTM B117-90.
  - e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
  - f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-fin evaporator and condenser coils (3 phase models only):
- 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 (3 phase models only):
- 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 6000 hours salt spray per ASTM B117–90.

23 81 19.13.I. 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 access port in the top panel of the unit.
2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
  - a. The plug shall be easy to remove and replace.
  - b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
  - c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
  - d. The plug shall be made of a leak proof, UV-resistant, composite material.
3. Compressors
  - a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
  - b. Models shall be available with single compressor/single stage cooling designs on 04 – 07 sizes models, single compressor/2-stage cooling on 07 size, and 2 compressor/2-stage cooling models on 08 – 14 sizes.
  - 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-ampereage 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.J. Filter Section

1. Filters access is specified in the unit cabinet section of this specification.
2. Filters shall be held in place by a pivoting 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.

23 81 19.13.K. Evaporator Fan and Motor

1. Evaporator fan motor:
  - a. Shall have permanently lubricated bearings.
  - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
  - c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
2. Electric Drive (Direct Drive) X13 – 5 Speed/Torque Evaporator Fan:
  - a. Multi speed motor with easy quick adjustment settings.
  - b. Blower fan shall be double-inlet type with forward-curved blades.
  - c. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
  - d. Standard on all 04–06 models with 208/230/1/60 operation without Humidi-MiZer<sup>®</sup> system.
  - e. Standard on all 04–06 3-phase models without Humidi-MiZer system, with optional belt drive.

3. Belt-driven Evaporator Fan:
  - a. Belt drive shall include an adjustable-pitch motor pulley.
  - b. Shall use sealed, permanently lubricated ball-bearing type.
  - 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 04-07 size and 04-06 size models with Humidi-MiZer system. Optional on all 04-06 3-phase models.

23 81 19.13.L. 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 on 04 to 12 models and shaft-up on 14 size with rain shield.
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.M. Special Features, Options and Accessories

1. Staged Air Volume (SAV™) system 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. Factory-supplied VFDs qualify, through ABB for a 24-month warranty from date of commissioning or 30 months from date of sale, whichever occurs first.
  - b. Shall be installed inside the unit cabinet, mounted, wired and tested.
  - c. Shall contain Electromagnetic Interference (EMI) frequency protection.
  - d. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
  - e. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
  - f. RS485 capability standard.
  - g. Electronic thermal overload protection.
  - h. 5% swinging chokes for harmonic reduction and improved power factor.
  - i. All printed circuit boards shall be conformal coated.
3. Integrated EconoMi\$er IV, EconoMi\$er2, and EconoMi\$er X standard leak rate models. (Factory-installed on 3 phase models only. Field-installed on all 3 and 1 phase models)
  - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
  - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical 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 leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
  - g. Economizer controller on EconoMi\$er IV models shall be the 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.) LED indicators for: when free cooling is available, when module is in DCV mode, when exhaust fan contact is closed.
- h. Economizer controller on EconoMiSer X models shall be the Honeywell W7220 that provides:
  - (1.) 2–line LCD interface screen for setup, configuration and troubleshooting
  - (2.) On–board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
  - (3.) Sensor failure loss of communication identification
  - (4.) Automatic sensor detection
  - (5.) Capabilities for use with multiple–speed indoor fan systems
  - (6.) Utilize digital sensors: Dry bulb and Enthalpy
- i. Economizer controller on EconoMiSer 2 models with PremierLink™ controller shall be 4–20mA design and controlled by the PremierLink controller. PremierLink controller does not comply with California Title 24 Fault Detection and Diagnostic (FDD) requirements.
- j. Economizer controller on EconoMiSer 2 models with RTU Open controls shall be a 4–20mA design controlled directly by the RTU Open controller. RTU Open controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
- k. Economizer controller on EconoMiSer 2 models with ComfortLink controls shall be controlled directly by the ComfortLink controller. ComfortLink controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
  - l. Shall be capable of introducing up to 100% outdoor air.
- m. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1–2013 requirements.
- n. Shall be designed to close damper(s) during loss–of–power situations with spring return built into motor.
- o. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory–installed economizers only. 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.
- p. 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%.
- q. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
- r. Dampers shall be completely closed when the unit is in the unoccupied mode.
- s. 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.
- t. Compressor lockout temperature on W7220 is adjustable from –45° F to 80° F, set at a factory default of 32° F. Others shall open at 35° F (2° C) and closes at 50° F (10° C)
- u. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
- v. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
- 4. Integrated EconoMiSer 2, and EconoMiSer X Ultra Low Leak rate models. (Factory–installed on 3 phase models only. Field–installed on all 3 and 1 phase models)
  - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
  - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical 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. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1–2013 requirements of 4 cfm per sq. ft. on the outside air dampers and 10 cfm per sq. ft. on the return dampers.
  - g. Economizer controller on EconoMiSer X models shall be the Honeywell W7220 that provides:
    - (1.) 2–line LCD interface screen for setup, configuration and troubleshooting
    - (2.) On–board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
    - (3.) Sensor failure loss of communication identification

- (4.) Automatic sensor detection
  - (5.) Capabilities for use with multiple-speed indoor fan systems
  - (6.) Utilize digital sensors: Dry bulb and Enthalpy
  - h. Economizer controller on EconoMiSer 2 models with RTU Open controls shall be a 4–20mA design controlled directly by the RTU Open controller. RTU Open controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements
  - i. Economizer controller on EconoMiSer 2 models with ComfortLink controls shall be controlled directly by the ComfortLink controller. ComfortLink controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
  - j. Shall be capable of introducing up to 100% outdoor air.
  - k. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1–2013 requirements.
    - l. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
  - m. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. 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.
  - n. 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%.
  - o. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
  - p. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - q. 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.
  - r. Compressor lockout temperature on W7220 is adjustable from –45 F to 80 F, set at a factory default of 32° F. Others shall open at 35° F (2° C) and closes at 50° F (10° C)
  - s. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
  - t. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
5. Two-Position Damper (Factory-installed on 3 Phase Models Only. Field-installed on all 3 and 1 Phase Models)
- a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %–open setpoint.
  - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
  - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
  - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
  - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
  - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
  - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
  - h. Outside air hood shall include aluminum water entrainment filter.
  - i. Not available with Staged Air Volume (SAV™) models.
6. Manual damper
- a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
  - b. Not available with Staged Air Volume (SAV) models.
7. Humidi-MiZer<sup>®</sup> Adaptive Dehumidification System (3 phase models only):
- a. The Humidi-MiZer Adaptive Dehumidification System shall be factory-installed 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.
8. Head Pressure Control Package (Motormaster<sup>®</sup>)
- 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  $-20^{\circ}\text{F}$  ( $-29^{\circ}\text{C}$ ).
9. Low Ambient Controller (Factory-installed only)
  - 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  $0^{\circ}\text{F}$  ( $-18^{\circ}\text{C}$ ). (Not available on 11 size models as standard unit cooling operation down to  $0^{\circ}\text{F}/-18^{\circ}\text{C}$ .)
10. Condenser Coil Hail Guard Assembly (Factory-installed option on 3 phase models. Field-installed on all 3 and 1 phase models)
  - a. Shall protect against damage from hail.
  - b. Shall be louvered design.
11. Unit-Mounted, Non-Fused Disconnect Switch:
  - a. Switch shall be factory-installed, internally mounted.
  - b. National Electric Code (NEC) and UL or 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.
  - e. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
12. 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.
  - b. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
13. Convenience Outlet:
  - a. Powered convenience outlet (3 phase models only).
    - (1.) Outlet shall be powered from main line power to the rooftop unit.
    - (2.) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL or 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.
14. Thru-the-Bottom Connection Kit:
  - a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
  - b. Minimum of four connection locations per unit.
15. Propeller 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.



16. 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.
17. 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.
18. Condenser Coil Grille:
  - a. Shall protect against damage from hail.
  - b. Shall be of louvered style.
19. 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.
20. 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.
21. 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.
22. Smoke detectors (factory-installed only):
  - 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.
23. Horn/Strobe Annunciator
  - a. Provides an audible/visual signaling device for use with factory-installed option or field-installed accessory smoke detectors.
    - (1.) Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
    - (2.) Requires field-supplied electrical box, North American 1-gang box, 2-in (51 mm) x 4-in (102 mm).
    - (3.) Shall have a clear colored lens.
24. 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).
25. 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.
26. Condensate Overflow Switch (for units with electro-mechanical controls only):
  - a. This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
    - (1.) Indicator light – solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected).

- (2.) 10 second delay to break – eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
  - (3.) Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for Economizer.
27. 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 in the single point box (if applicable) for protection of internal heater circuits not exceeding 48 amps each. Electric heaters other than CRHEATER113B00–116B00 use 24v control side break/auto–reset or line–break/auto–reset limit switches to protect the unit against over–temperature situations. CRHEATER113B00–116B00 electric heater applications use a combination of 24v control side break/auto–reset, line–break/non–resettable “one shot” limit switches to protect the unit against over–temperature situations. All heaters use 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.
28. 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.
29. 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 and communication cable.
  - c. Display Kit can be permanently installed in the unit or used on any SAV™ system VFD controller as needed.
30. Foil faced insulation
  - a. Throughout unit cabinet air stream, non–fibrous and cleanable foil faced insulation is used.
31. Energy Demand System – EDS (field–installed accessory):
  - a. Shall utilize wireless network communication to optimize rooftop unit energy usage, up to 875 yds and up to 49 load controllers for each gateway. A wireless cellular signal shall be utilized to communicate energy information to/from the customer web portal.
  - b. Shall utilize explicit algorithms to minimize rooftop electrical demand charges, customizable to each facility.
  - c. Shall allow scheduling of rooftop units and provide a “staggered start” approach to minimize electrical consumption charges, customized to each facility.
  - d. Scheduling, adjustments, and sub-metered electrical data shall be accessible through a web based customer portal.
  - e. Shall provide demand response capability, including compliance with Open ADR protocol.
  - f. Shall utilize an external 4–pole relay and an internal single pole relay.
  - g. Shall use (2) split core transformers to provide real-time sub-metered electrical usage.



