EnergyX® System
Factory Installed Energy Recovery
48/50HC WeatherMaster® Commercial Rooftop Units
3 to 12.5 Nominal Tons
with Puron® (R−410A) Refrigerant
and *ComfortLINK* Controls

Carrier
turn to the experts

Supplemental Installation Instructions

This document is a supplemental installation instruction for the EnergyX factory installed Energy Recovery Ventilator. It is to be used with the base HC 3 to 12.5 Ton rooftop unit Installation Instructions and ComfortLINK Controls Manual.

NOTE: Read the entire instruction manual before starting the installation

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SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death.

CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage.

NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lock(s) and lockout tag(s). Unit may have more than one power switch. Ensure electrical service to rooftop unit agrees with voltage an amperage listed on the unit rating plate.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may cause equipment damage.

This unit uses a microprocessor-based electronic control system. Do not use jumpers or other tools to short out components or to bypass or otherwise depart from recommended procedures. Any short-to-ground of the control board or accompanying wiring may destroy the electronic modules or electrical components.

⚠ CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses and gloves when handling parts and servicing air conditioning equipment.

GENERAL

This publication contains Installation, Start-Up, Controls, Operation, Troubleshooting and Service information for the EnergyX Energy Recovery System, factory installed on a 48/50HC (3 to 12.5 nominal ton) rooftop unit. This document is a supplemental installation instruction and is to be used in conjunction with the base rooftop unit Installation Instructions and the ComfortLINK Controls, Start-Up, Operation and Troubleshooting Instructions.

The EnergyX Energy Recovery system is designed to pre-condition the outside air prior to it entering the rooftop unit evaporator using building exhaust air as a heat sink / source. The EnergyX system provides latent and sensible energy exchange between the outside ventilation air and the building exhaust air. This preconditioning of air allows higher operating efficiencies, increased comfort control, potential downsizing of the base rooftop unit while still meeting the ASHRAE ventilation requirements. Operational cost savings are realized by the high efficiency Energy Recovery device meeting the cooling and heating call for a larger portion of the operating cycle than just a normal damper or economizer device. This is demonstrated by the EnergyX AHRI Guideline-V Combined Efficiency Factor.

EnergyX HC04-14 units are shipped in the vertical supply and return duct configurations only. A field installed horizontal curb adapter kit is available for horizontal return and supply configuration.

The EnergyX Energy Recovery Wheel is rated in accordance with AHRI 1060 and is UL listed.

See Table 1 for Physical Data.

Table 1 – Physical Data

Model	**48/50HC Size 04 (3 Ton)**	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	200–550	
ERV WHEEL EA (CFM) Range	200–550	
MAX ECONOMIZER OA (CFM)	N/A	1200
MAX ECONOMIZER EA (CFM)		1200
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-1904	
SIZE (Dia. X Depth) (in.)	19–in x 1–in	
NOMINAL DRIVE MOTOR HP	0.1	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	250mm	
NOMINAL MOTOR HP	0.23	
SUPPLY FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	400mm	
NOMINAL MOTOR HP	1.179	
EXHAUST FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(1) 10–in x 20–in x 2–in	
EXHAUST AIR (QTY) - SIZE	(1) 10–in x 20–in x 2–in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(1) 28.75–in x 12.25–in x 1–in	

Table 1 - Physical Data (cont)

Model	48/50HC Sizes 05/06 (4/5 Ton)	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	600 – 1400	
ERV WHEEL EA (CFM) Range	600 – 1400	
MAX ECONOMIZER OA (CFM)	N/A	1600/2000
MAX ECONOMIZER EA (CFM)		1600/200
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-2513C	
SIZE (Dia. X Depth) (in.)	25 – in x 3 – in	
NOMINAL DRIVE MOTOR HP	0.1	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	400mm	
NOMINAL MOTOR HP	1.179	
SUPPLY FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	400mm	
NOMINAL MOTOR HP	1.179	
EXHAUST FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(1) 16 – in x 25 – in x 2 – in	
EXHAUST AIR (QTY) - SIZE	(1) 16 – in x 25 – in x 2 – in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(1) 28.75 – in x 14.75 – in x 1 – in	

Table 1 - Physical Data (cont)

Model	48/50HC Size 07 (6 Ton)	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	600 – 1400	
ERV WHEEL EA (CFM) Range	600 – 1400	
MAX ECONOMIZER OA (CFM)	N/A	2400
MAX ECONOMIZER EA (CFM)		2400
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-2513C	
SIZE (Dia. X Depth) (in.)	25 – in x 3 – in	
NOMINAL DRIVE MOTOR HP	0.1	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	400mm	
NOMINAL MOTOR HP	1.179	
SUPPLY FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	400mm	
NOMINAL MOTOR HP	1.179	
EXHAUST FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(1) 16 – in x 25 – in x 2 – in	
EXHAUST AIR (QTY) - SIZE	(1) 16 – in x 25 – in x 2 – in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(1) 35.75 – in x 14.75 – in x 1 – in	

Table 1 - Physical Data (cont)

Model	48/50HC Sizes 08/09/11/12 (7.5/8.5/10/10 Ton)	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	900 – 2000	
ERV WHEEL EA (CFM) Range	900 – 2000	
MAX ECONOMIZER OA (CFM)	N/A	3000/3400/4000
MAX ECONOMIZER EA (CFM)		3000/3400/4000
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-3019C	
SIZE (Dia. X Depth) (in.)	30 – in x 3 – in	
NOMINAL DRIVE MOTOR HP	0.1	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	400mm	
NOMINAL MOTOR HP	1.179	
SUPPLY FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	500mm	
NOMINAL MOTOR HP	3.619	
EXHAUST FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(2) 16 – in x 16 – in x 2 – in	
EXHAUST AIR (QTY) - SIZE	(2) 16 – in x 16 – in x 2 – in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(1) 35.75 – in x 17.5 – in x 1 – in	

Table 1 - Physical Data (cont)

Model	**48/50HC Size 14 (12.5 Ton)**	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	682 – 3675	
ERV WHEEL EA (CFM) Range	682 – 3675	
MAX ECONOMIZER OA (CFM)	N/A	5000
MAX ECONOMIZER EA (CFM)		5000
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-3628	
SIZE (Dia. X Depth) (in.)	36 – in x 3 – in	
NOMINAL DRIVE MOTOR HP	1/20	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	500mm	
NOMINAL MOTOR HP	3.619	
SUPPLY FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	500mm	
NOMINAL MOTOR HP	3.619	
EXHAUST FAN #2		
QTY - TYPE	N/A	
DRIVE TYPE	N/A	
BLOWER SIZE	N/A	
NOMINAL MOTOR HP	N/A	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(2) 16 – in x 20 – in x 2 – in	
EXHAUST AIR (QTY) - SIZE	(2) 16 – in x 20 – in x 2 – in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(1) 48.219 – in x 17.15 – in x 1 – in	

INSTALLATION

An EnergyX unit is installed as a single piece unit. To install an EnergyX unit, follow the base rooftop unit installation instructions with the following exceptions and additions:

Install Roofcurb

Vertical Airflow Configurations —

The EnergyX unit uses the standard HC base unit roofcurb. No extra curb support rails or extensions are required. See the unit nameplate for model number designation. Refer to the base rooftop installation manual and "Install Hold Down Brackets" below for roofcurb instructions. Ductwork must be attached to the curb.

Horizontal Airflow Applications —

EnergyX units with a horizontal return and supply air configuration require a field installed horizontal curb adapter kit. Refer to the base rooftop installation manual and the horizontal curb adaptor kit manual for roofcurb instructions.

Install Iso-Exhaust Accessory Hood (if applicable) —

If an exhaust isolation hood has been ordered as an accessory to isolate return air that must be exhausted (e.g. bathroom exhaust), install it in the return air portion of the roof curb prior to setting the rooftop unit. The iso-exhaust hood should face with the opening out and the angled hood portion facing the interior of the curb. Refer to the accessory installation instructions for further guidance.

Install Accessory Exhaust Damper (if applicable) —

See Two Position Exhaust Damper Accessory Installation Instructions (Catalog # IIK-CREXDPR0304-01 or later) for details.

Rig and Place Unit on Curb

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

All panels must be in place when rigging. Unit is not designed for handling by fork truck.

Inspect the EnergyX system for damage. File a claim with the shipping company if shipment is incomplete or damaged.

Install Hold Down Brackets —

Units are shipped with hold down brackets for securing the base unit with the ERV option to the roof curb. Install and secure the brackets as shown in Fig. 2.

NOTE: Hold down brackets must be affixed to the curb and rooftop unit prior to removing rigging support.

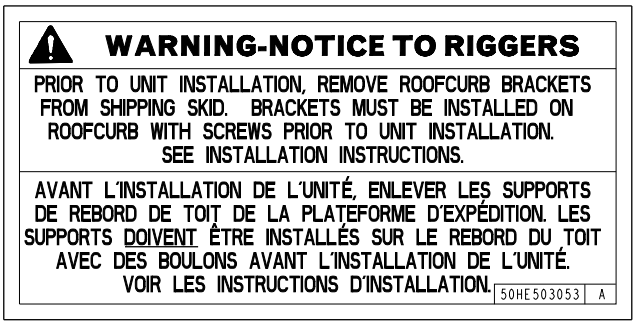

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Fig. 1 - Warning - Notice to Riggers Label

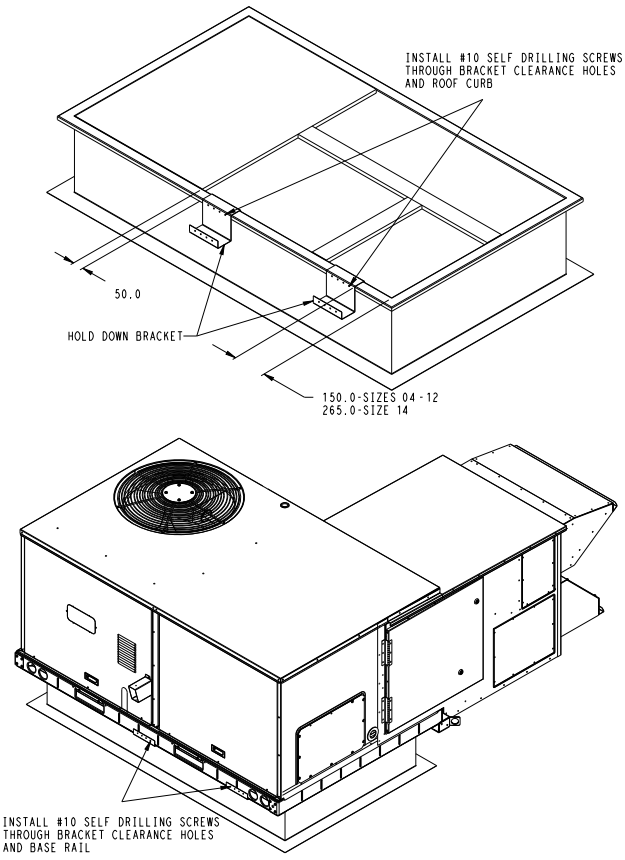

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Fig. 2 - SRT ERV Hold Down Brackets — Location and Installation (48HC*04 shown)

The rigging label (see Fig. 3) is provided for guidance purposes ONLY. The unit's actual weight and center of gravity will vary based on the specific combination of factory options included with the unit. Use prudent judgment when rigging and lifting the unit to account for weight variances and make adjustments for the actual center of gravity as necessary.

Positioning

Maintain unit clearances as listed as shown in Figs. 26 through 41 (see pages 40 through 55) for minimum distance from combustible materials, proper airflow, and service access. Follow all local codes for proper clearances – the local code requirements take precedence over any clearance listed in this document. Contact your

local Carrier representative for clearance obstructions and any potential resulting affect on unit warranty.

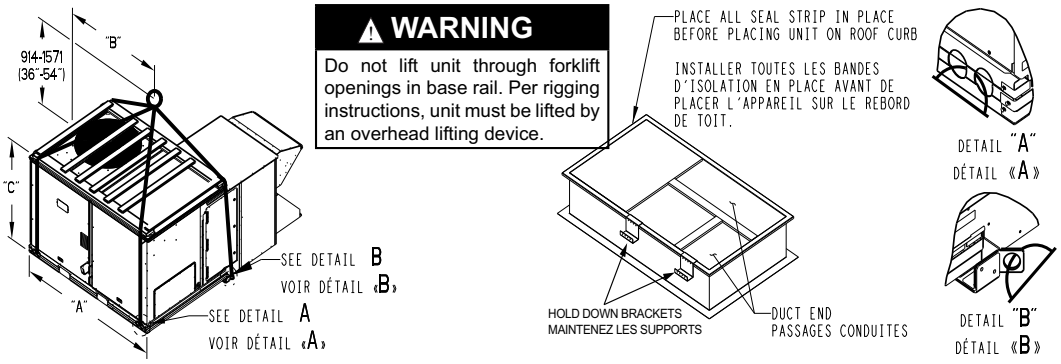
Follow all other curb, rigging, and positioning installation guidance in base rooftop unit installation instructions.

NOTE: Install Fan and Filter Status accessories at this point. Refer to the accessories Installation Instructions for details.

⚠ CAUTION - NOTICE TO RIGGERS:
⚠ AVERTISSEMENT - REMARQUE À L´ATTENTION DES MONTEURS

ALL PANELS MUST BE IN PLACE WHEN RIGGING.
TOUS LES CAPOTS DOIVENT ÊTRE EN PLACE AVANT LE LEVAGE

- Hook rigging shackles through holes in base rail and rigging bracket, as shown in Detail “A” and “B”.
- Use wooden top skid, when rigging, to prevent rigging straps from damaging unit.
- Max weight includes base unit plus shipping pallet plus all available FIOP’s which could be on that size unit.
- “B” dimension is based on base unit (PAC no heat or YAC w/ low heat) plus economizer option only. This dimension may vary slightly with units configured with other FIOP options.
- Spreader bars required to lift and transport the unit.
- Accrochez les manilles aux trous de la traverse de base et du support de gréement tel que montré aux dessins de détail “A” et “B”.
- Utiliser des cales en bois lors du levage pour éviter que les élingues n´endommagent le haut de l´appareil.
- Le poids maximum inclut la configuration de base, le poids de la palette d´expédition, ainsi que toutes les options pouvant être installées en usine (FIOP) pour la plateforme sélectionée.
- La dimension de “B” provient de la configuration de base (PAC sans chauffage ou peut varier légèrement en fonction des différentes options sélectionnées, installées en usine (FIOP).
- Barres d´écartement requises pour soulever et transporter l´unité.



48/50HC 05-14 Units With High CFM ERV

UNIT	Weight (LB)		A		B		C	
	LB	KG	IN	MM	IN	MM	IN	MM
48HC**05 w/ EnergyX	1305	593	74.5	1890	47.7	1212	41.5	1055
48HC**06 w/ EnergyX	1315	598	74.5	1890	47.4	1205	41.5	1055
48HC**07 w/ EnergyX	1525	693	88.0	2235	53.4	1357	41.5	1055
48HC**08-09 w/ EnergyX	1884	856	88.0	2235	54.0	1371	49.5	1255
48HC**11-12 w/ EnergyX	2049	931	88.0	2235	46.1	1171	49.5	1255
48HC**14 w/ EnergyX	2710	1232	116.0	2945	73.4	1864	59.5	1510
50HC**05 w/ EnergyX	1260	573	74.5	1890	47.4	1204	41.5	1055
50HC**06 w/ EnergyX	1265	575	74.5	1890	47.1	1197	41.5	1055
50HC**07 w/ EnergyX	1470	668	88.0	2235	53.3	1354	41.5	1055
50HC**08-09 w/ EnergyX	1819	827	88.0	2235	53.8	1367	49.5	1255
50HC**11-12 w/ EnergyX	1984	902	88.0	2235	45.7	1161	49.5	1255
50HC**14 w/ EnergyX	2640	1200	116.0	2945	73.4	1864	59.5	1510

48TM000725 —

C150096

Fig. 3 - Rigging Label, 48-50HC Size 04-14 Units With High CFM ERV

Outside Air Hood Installation

1. Gasket the entire perimeter of the outside air hood along the flange using gasket provided.
2. Connect the green tubing from the hood to the top quick connect (labeled “HIGH”).
3. Connect yellow tubing from the hood to the bottom quick connect (labeled “LOW”).
4. Attach outside air hood to ERV by fastening the provided seal tek screws around the perimeter of the outside air hood (see Fig. 4).

Exhaust Air Hood Installation

1. Gasket the entire perimeter of the exhaust air hood along the flange using gasket provided.
2. Attach exhaust air hood to ERV by fastening the provided seal tek screws around the perimeter of the exhaust air hood (see Fig. 5).

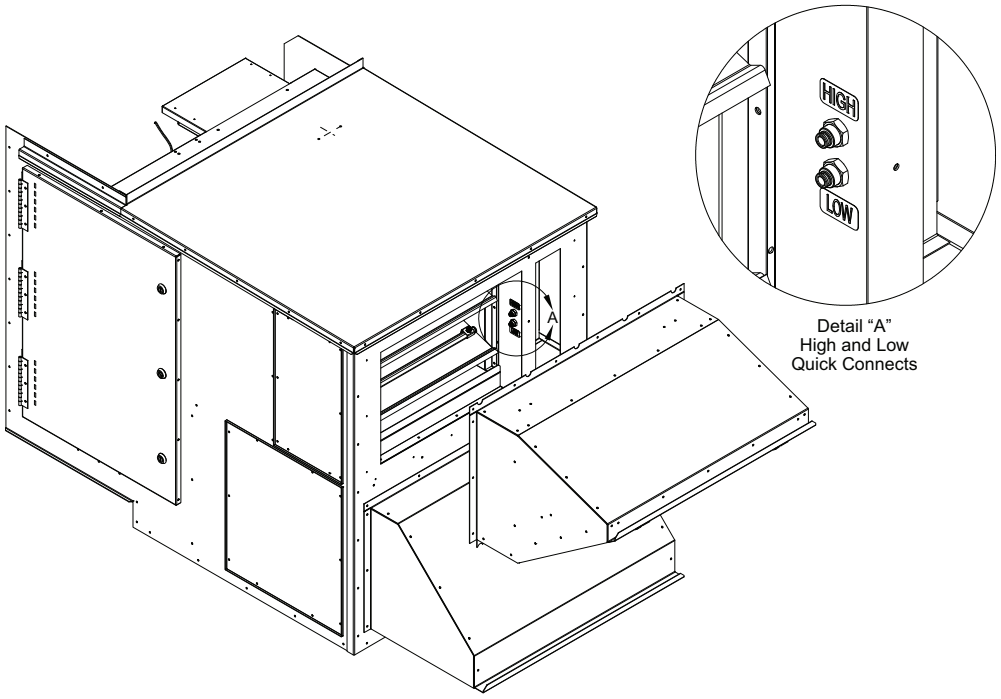


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Fig. 4 - Outside Air Hood Installation

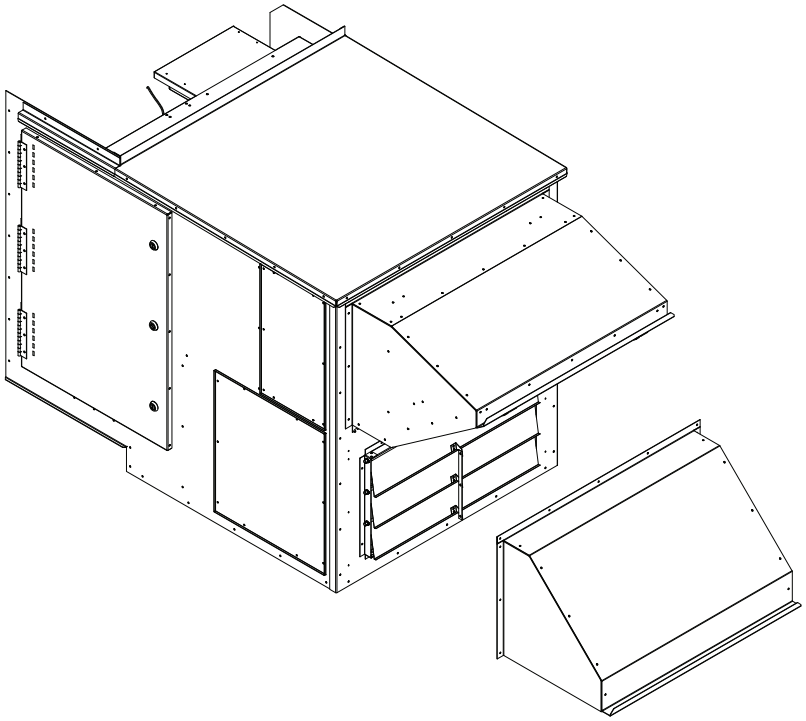

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Fig. 5 - Exhaust Air Hood Installation

Make Electrical Connections

See the base unit name plate for the ETL certified singlepoint electrical values and component electrical information. See the base unit and EnergyX access doors for the electrical wiring diagrams specific to each section.

Main Power —

Follow all base unit installation instructions, using electrical values shown on unit nameplate; only one main power supply is required The EnergyX base rooftop unit and energy recovery module is ETL listed as a single point power supply only.

On some voltage ERV's, there is a step down transformer that is factory supplied to power components that are not line side voltage. Field wiring or alteration of these components is neither required nor desired.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

Some electric heat modules require a dual-point electrical service connection independent from all other electrical circuits in the unit. Consult the unit installation instructions, unit wiring diagrams and/or electric heater installation instructions for verification.

Control Power —

Follow all base unit installation instructions for low voltage wiring. The ERV control board is factory wired into the base unit communications via the protocol converter module. See Fig. 8. All external control wires still connect to the RTU terminal strip as in the base unit installation instructions.

EnergyX modulating units can be equipped with an optional CO_2 sensor for Demand Control Ventilation. If the optional CO_2 sensor is used, install and connect the sensor to the base unit ComfortLINK controller per CO_2 sensor installation instructions. See the base unit ComfortLINK controls manual and the Configuration section of this manual for specific CO_2 sensor configurations.

Base Unit Components

Follow the base unit installation instructions to install all other base unit components, including (but not limited to) flue hoods, condensate trap and other accessory devices.

START UP

The EnergyX unit is operated in coordination with the base rooftop unit. Follow the base unit instructions and Controls book for proper start-up with addition of the following:

Start-Up Check List

Use the EnergyX Start-Up checklist (see page 123) in conjunction with the base unit Start-Up checklist from the base Controls book. Fill in all blank data entries that are applicable to the exact unit being installed. The ERV model and serial numbers are printed in the ERV control box. Save the checklist for future service and maintenance use. It is recommended that a copy of the checklist be left with the unit in the literature slot on the base unit control box access door.

Base Unit Evaporator Fan

First follow the base unit instructions to balance the RTU indoor fan. The ERV fans should be off during base unit fan set-up. Before start-up and testing the ERV, verify that the ComfortLINK minimum damper positions are set to 0 and if not change them to 0. ***Configuration →AIR.Q →AQ.MN*** = 0, and ***Configuration →ECON →MP.MX*** = 0. The ERVs communicate with ComfortLINK therefore the scrolling marquee can be used for test mode and configuration of the ERV. The following sections explain ERV testing and configuration. It is important that these configurations are set correctly in order for the ERV module to properly control the air performance. Finally, with service test disabled run unit under normal operation, verify proper supply airflow with ERV and indoor fan running.

ERV Test Mode —

ERV Test points should be used when starting up an EnergyX unit to verify proper ERV component operation. It can also be used for troubleshooting. To test the ERV, use the Scrolling Marquee to put the ComfortLINK RTU into test mode. Then go to Test Independent outputs (***Service Test →INDP***). Table 2 shows a list of test points that can be tested as independent outputs. There are five ERV tests which can be performed separately or together while in test mode. Use the scrolling marquee to change the value of the test point. Follow the ComfortLINK Controls, Start-Up, Operation, and Troubleshooting manual for testing the base rooftop unit.

The 5 ERV specific test points are OAU 2-position Damper, OAU Wheel Test, OAU OA Fan Speed test, OAU PE Fan Speed Test and OAU Tempering Heater Test. The 2 position damper can be opened and closed with the OA.DM point. The 2-position damper accessory can be installed on the exhaust opening of the ERV. The ERV wheel motor can be turned on and off with the WHL point. The ERV's outside air (OA.OF) and building exhaust air (OA.XF) motors can be ramped up and down during test mode with their corresponding fan speed test points. Table 2 shows the test mode test points in the order they appear under test mode. Communication failures will not allow these ERV test points to be changed. ComfortLINK will show active alarms during test mode.

NOTE: If a 2 position damper is installed, it must be opened in test mode while operating the exhaust test.

Table 2 – Service Test Mode Independent Test Points

ITEM	EXPANSION	RANGE
INDP	Test Independent Outputs	
ECON	Economizer Position Test	0 to 100
E.CAL	Calibrate Economizer	Off/On
PE.1	Power Exhaust 1 Test	Off/On
PE.2	Power Exhaust 2 Test	Off/On
ALRM	Alarm Relay Test	Off/On
CCH	Crankcase Heat Test	Off/On
OA.DM	OAU 2–position Damper	Close/Open
WHL	OAU Wheel Test	0 to 100
OA.OF	OAU OA Fan Speed Test	0 to 100
OA.XF	OAU PE Fan Speed Test	0 to 100
OA.HT	OAU Tempring Heater Test	0 to 100

ERV Configuration —

The ERV configuration menu can be accessed using the Scrolling Marquee. Enter the Outside Air Unit Configurations (***Configuration →OAU***) menu. Table 5 shows the list of complete outside air unit configurations that can be changed and the defaults from the factory. The critical job specific configurations are listed below and should be changed at start up for the specific job site. See the operation section for details all configurations.

OAU Unoccupied Operation (U.RUN) — This allows the ERV to run during the unoccupied period when the rooftop fan is brought on.

Min DCV Outside Air CFM (DCV.M) — This sets the lowest setting for ventilation using outside air. This number sets the absolute minimum for ventilation of contaminants and CO2 generated by sources other than people. This is only accessible if CO2 sensors are installed and ComfortLINK is configured properly.

NOTE: ERV must be equipped with optional economizer to operate with CO2 sensors.

Minimum Outside Air CFM (OA.MN) — This sets the outside air ventilation rate when not using a CO2 sensor to remove contaminants and CO2 generated by all sources in the building space. When using CO2 sensors and running DCV, this sets the maximum amount of outside air allowed for ventilation.

Power Exhaust CFM Offset (PE.OF) — This sets the offset for exhausting building air based on outside air being brought in. A negative setting causes a positive building pressure, and a positive setting causes a negative build pressure.

ERV with Economizer Additional Configurations

There are seven important ComfortLINK configurations that impact the ERV operation when equipped with optional economizer. To change these configuration use the ComfortLINK Scrolling Marquee, Navigator, or a CCN communication tool. Refer to the base unit Controls, Start-up, Operation, and Troubleshooting manual for more information on using these tools. Table 3 shows these ComfortLINK points that impact ERV operation, with brief descriptions. These points can be found on the Scrolling Marquee under the economizer and air quality configuration menus (***Configuration → ECON*** and ***Configuration → AIR.Q***). See operation section for details on individual configurations.

Adjusting ERV Options

The ERV can come with factory installed frost protection and/or an economizer (wheel bypass) damper. Other accessories can be added to the ERV in the field including but not limited to filter status, wheel status, and building pressure control. Refer to the major components section of this manual or the specific accessory literature for more detail on these.

Table 3 – ComfortLINK Configurations

DISPLAY ITEM	EXPANDED TEXT	DEFAULT	RANGE	DESCRIPTION
EC.EN	Economizer Installed	No: no FIOP Yes: FIOP	Yes/No	This tells the ERV that an optional economizer is installed
MP.MX	Econo Min at Max Fanspeed	0	0 to 100%	Must be set to 0 so the base rooftop does not use the economizer for ventilation, only free cooling
AQ.MN	Econo Min IAQ Position	0	0 to 100%	
IA.CF	IAQ Analog Input Config	0: no FIOP 1: FIOP	0=No IAQ 1=DCV 2=Override 3=Ctl Min Pos	This tells the ERV if a CO_2 sensor is installed
IA.FN	IAQ Analog Fan Config	0	0=Never 1=Occupied 2=Always	Tells the ERV if it can run during unoccupied for high CO_2 sensor
II.CF	IAQ Switch Input Config	0	0=No IAQ 1=DCV N/O 2=DCV N/C 3=Override N/O 4=Override N/c	This tells the ERV if a switch is installed for CO_2
II.FN	IAQ Switch Fan Config	0	0=Never 1=Occupied 2=Always	Tells the ERV if it can run during unoccupied for high CO_2 switch
AQD.L	AQ Differential Low	100	0 to 5000	These set the indoor air quality (IAQ) CO_2 DCV operating range. Differential is based off a 400PPM outside CO_2 value.
AQD.H	AQ Differential High	700	0 to 5000	
OVR.P	IAQ Override Position	100%	0–100%	Sets the speed fo the outside air fan during override.

OPERATING SEQUENCE

General

An EnergyX unit is a 48/50HC rooftop unit and energy recovery ventilator (ERV). It operates the ERV module in an integrated manner with the base rooftop unit. The base rooftop unit functions per the base unit sequence of operation, for information regarding ComfortLINK controller operation see the base rooftop unit Controls, Start-Up, Operations, and Troubleshooting manual. The ERV will operate based on communication from the ComfortLINK controller. The following section discusses the ERV operation in detail. In summary, the ERV operates to provide pre-conditioned outside air for ventilation requirements. If equipped with an optional economizer the ERV can provide free cooling when the outside air conditions are satisfactory.

In general the ERV monitors occupancy and indoor fan state of the base unit to determine when to activate. The outside air fan(s) bring in the outside air pass it through the enthalpy wheel and into the rooftop mixing box. The building return air is pulled through the enthalpy wheel by the exhaust fan(s) and released outside. During operation the enthalpy wheel is rotating to use the building air to pre-condition the outside air. When free cooling is desired and allowed the wheel is not needed to pre-condition the air therefore an economizer damper (wheel bypass) is used to bring in the outside air directly to the mixing box.

Communication

The ERV relies on communication with ComfortLINK to operate. The ERV monitors ComfortLINK points to determine operation. The ERV writes to points in ComfortLINK to provide the user with its running status. If communication is lost the ERV will shut down and remain in the Off mode until communication is established. Refer to the troubleshooting section for details on communication failures. Table 4 shows the ComfortLINK points that the ERV monitors for operation and a brief description of their functions. Table 5 shows the ComfortLINK points that the ERV uses for its configurations and a brief description of each. Table 6 shows the ComfortLINK points that the ERV writes to based on its running status.

Table 4 – Inputs - Points the ERV Reads from ComfortLINK

CCN Point	Marquee Point	Expanded Text	Range	Units	Default	Function
NVO_MODE		nvoUnitStatus.mode	xxxx			Determine what mode RTU is in
OCCUPIED	OCC	Currently Occupied	No/Yes			Determine if RTU is occupied
IDFSTATE		Indoor Fan State	Off/On			Determine if the RTU indoor fan is running
FANSPEED	F.SPD	Commanded Fan Speed	xxx	%		Determine if the RTU indoor fan is running
ECONOCMD	EC.CP	Econo Commanded Position	0 to 100	%		Determine if the RTU commands free cooling
IAQ	IAQ	IAQ Level (sensor)	xxxx			Space CO2 sensor level (PPM)
IAQIN	IAQ.S	IAQ Level (switch)	Low/High			Determine if CO2 is high or low
SAT	SAT	Supply Air Temperature	xxx.x	°F		RTU supply air temp
OA_TEMP	OAT	Outdoor Air Temperature	xxx.x	°F		RTU Outdoor Temp
SPACE_T	SPT	Space Temperature	xxx.x	°F		Building Space Air Temp
RETURN_T	RAT	Return Air Temperature	xxx.x	°F		Building Return Air Temp
PE_1	PE.1	Power Exhaust 1 Relay	Off/On			N/A
PE_2	PE.2	Power Exhaust 2 Relay	Off/On			N/A
ECONO	EC.EN	Economizer Installed	No/Yes		No: no FIOP Yes: FIOP	Determine if there is a Economizer damper (wheel Bypass)
IAQANCFG	IA.CF	IAQ Analog Input Config	0=No IAQ 1=DCV 2=Override IAQ 3=Ctrl Min Pos		0: no FIOP 1: FIOP	Tells if a sensor is installed for DCV or override
IAQANFAN	IA.FN	IAQ Analog Fan Config	0=Never 1=Occupied 2=Always		0	Tells if the ERV can run during unoccupied for high CO2
IAQINCFG	II.CF	IAQ Switch Input Config	0=No IAQ 1=DCV N/O 2=DCV N/C 3=Override N/O 4=Override N/C		0	Tells if a switch is installed for DCV or override
IAQINFAN	II.FN	IAQ Switch Fan Config	0=Never 1=Occupied 2=Always		0	Tells if the ERV can run during unoccupied for high CO2
DAQ_LOW	AQD.L	AQ Differential Low	0 to 5000		100	Sets indoor/outdoor PPM difference to start ventilating more
DAQ_HIGH	AQD.H	AQ Differential High	0 to 5000		700	Sets indoor/outdoor PPM at which max vent occurs
IAQOVPOS	OVR.P	IAQ Override Position	0 to 100	%	100	Sets OA fan speed during override
S_OADMPR	OA.DM	OAU 2–position Damper	Close/Open		Close	Test damper while in test mode
S_WHEEL	WHL	OAU Wheel Test	0 to100	%	0	Test wheel while in test mode
S_OAFAN	OA.OF	OAU OA Fan Speed Test	0 to100	%	0	Test intake fan(s) while in test mode
S_EXFAN	OA.XF	OAU PE Fan Speed Test	0 to100	%	0	Test exhaust fan(s) while in test mode
S_OAHEAT	OA.HT	OAU Tempring Heater Test	0 to 100	%	0	Test tempering heater while in test mode

These can be viewed under a variety of menus on the Scrolling Marquee or Navigator

These can be viewed under a variety of CCN tables with a CCN device.

Table 5 – Configurations - ERV Configurations Read from ComfortLINK

CCN Point	Marquee Point	Expanded Text	Range	Units	Default	Function
OAU_TYPE	OA.TY	Outdoor Air Unit Type	0=No OAU 1=ERV Module 2=Economizer 3=Pwr Exhaust 4=OA Monitor 5=100% OA unit 6=EXv1 ERV		0: no FIOP 1: FIOP EXv2	Defines what kind of OAU is installed
OAFANCRV	OA.FC	Outside Air Fan Curve	0 to 999		1: 04 2: 05–06 3: 07 4: 08–12 5: 14 6: 17–20 7: 24–28	Determine what outside air fan curve to use
PEFANCRV	PE.FC	Exhaust Air Fan Curve	0 to 999		1: 04, 1ph, and econ 2: 04, 3ph, and econ 3: 04, 1ph, and no econ 4: 04, 3ph, and no econ 5: 05–06 1ph 6: 05–06 3ph 7: 07 8: 08–12 9: 14 10: 17–20 and econ 11: 17–20 and no econ 12: 24–28	Determine what exhaust air fan curve to use
UNOCCRUN	U.RUN	OAU Unoccupied Operation	No/Yes		NO	Tells OAU to run in unoccupied mode
FATALOAU	OAU.F	Shut Down on Fan Failure	No/Yes		YES	Tells OAU to shut off if one of it's fans fail
MODWHEEL	M.WHL	Modulating Wheel Install	No/Yes		NO	Determine if the OAU's wheel is a modulating one
MINOACFM	OA.MN	Minimum Outside Air CFM	0 to 32000	CFM	375: 04 800: 05–06 1000: 07 2500: 08–12 3000: 14 4000: 17–20 5000: 24–28	Sets Design OA CFM for ventilation
MINDCVSP	DCV.M	Min DCV Outside Air CFM	0 to 32000	CFM	100: 04 250: 05–06 600: 07 1000: 08–12 1500: 14–24 2000: 24–28	Sets absolute minimum OA CFM for ventilation
PEX_CTL	PEX.C	Power Exhaust Control	0=offset CFM 1=BP		0	Determine how to control the exhaust fans
EXOFFSET	PE.OF	Power Exhaust CFM Offset	–17000 to 17000	CFM	–200	Sets offset CFM setpoint of exhaust based on intake
OAU_BPSP	BP.SP	Building Pressure Setpnt	–0.25 to 0.25	inH_2O	0.05	Sets required building pressure
OATEMPER	OA.TM	Outside Air Tempering	Disable/Enable		Disable	Determine if there is tempering heater installed
OATMPLOC	TM.LO	OA Tempring Lockout Temp	0 to 80	°F	60	Sets the outside temp and below to allow tempering
OATMPSPT	TM.SP	OA Tempring SAT Setpoint	35 to 80	°F	55	Sets target Supply air temperature during tempering
OACFM_K	OAC.K	Outside Air CFM k Factor	0.8 to 1.2		1.0	Sets outside air curve correction factor
EXCFM_K	EXC.K	Exhaust Air CFM k Factor	0.8 to 1.2		1.0	Sets exhaust air curve correction factor
EFB_ENBL	EFBE	ERV Fan Boost Enable	No/Yes		NO	Tells RTU to adjust fan speed for low outside air CFM

These can be viewed under Configuration → OAU on the Scrolling Marquee or Navigator.

These can be viewed under the CCN Table OAU_CFG with a CCN device.

Table 6 – Status Points - ERV Writes these points to ComfortLINK

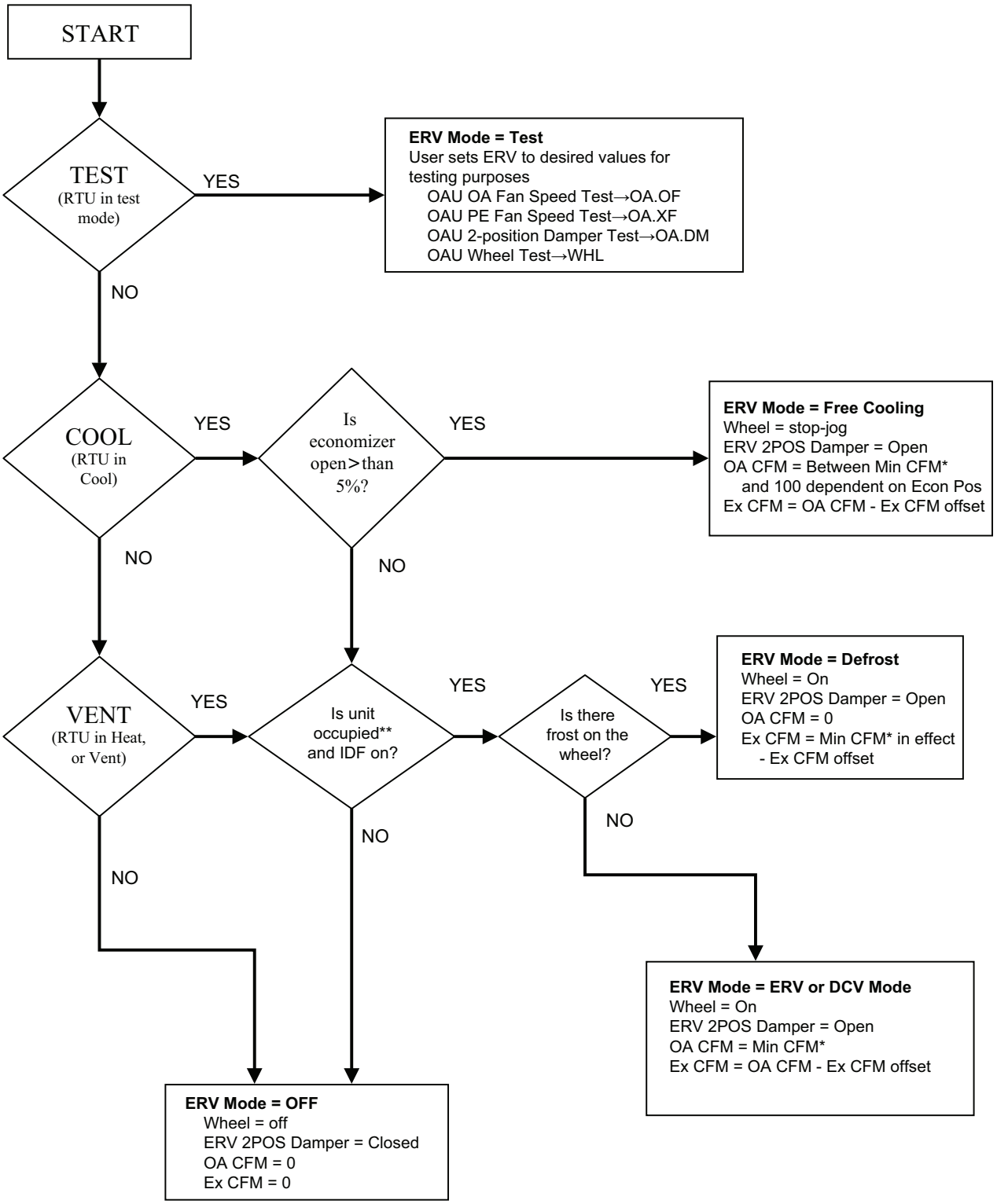
CCN Point	Marquee Point	Expanded Text	Range	Units	Function
OAU_RUN	OA.RN	OAU System Run State	1=AUTO 2=OFF 3=TEST		High level ERV state
OAU_MODE	OA.OP	OAU Operating Mode	0=Off 1=ERV (DCV) 2=Free Cooling 3=OA Tempering 4=Defrost 5=Test 6=Ext. Mode 1 7=Ext. Mode 2 8=Ext. Mode 3		ERV's current operating mode
UPC_VER	UPC	UPC Software Version	0 to 9999		Active UPC software version
OAU_VER	OAU	OA Unit Software Version	0 to 9999		Active EXCB software version
ACTOACFM	A.OA	Actual Outside Air CFM	0 to 32000	CFM	Real Time CFM being brought in
ACTEXCFM	A.EX	Actual Exhaust Air CFM	0 to 32000	CFM	Real Time CFM being exhausted
CMDOACFM	C.OA	Command Outside Air CFM	0 to 32000	CFM	Commanded CFM to bring in
CMDEXCFM	C.EX	Command Exhaust Air CFM	0 to 32000	CFM	Commanded CFM to exhaust
OAU_LAT	LAT	OAU Leaving Air Temp	xxx.x	°F	Air temperature leaving the ERV (RTU intake)
OAU_EXAT	EXAT	OAU Exhaust Air Temp	xxx.x	°F	Air Temperature leaving the ERV (exhaust)
OAU_BP	BP	Building Pressure	–0.25 to 0.25	inH_2O	Current building pressure
OAUDMPR	2P.DM	OAU 2–position Damper	Close/Open		Exhaust damper position status
OAUWHEEL	WHL	OAU Wheel Speed	0 to100	%	Current ERV wheel speed
OAFANSPD	OA.FS	OAU OA Fan Speed	0 to100	%	Current ERV's intake fan(s) speed
OAUPESPD	EX.FS	OAU Exhaust Fan Speed	0 to100	%	Current ERV's exhaust fan(s) speed
OAHEATER	OA.HT	OAU Tempering Heater	0 to 100	%	ERV's SCR heater commanded capacity
OAUALRM1	ALM.1	OAU Motor Failure Alarm	Off/On		ERV's motor failure alarm status
OAUALRM2	ALM.2	OAU Dirty Filter Alarm	Off/On		ERV's dirty filter alarm status
OAUALRM3	ALM.3	OA Low CFM Alarm	Off/On		ERV's low CFM alarm status
OAUALRM4	ALM.4	OAU Alarm	Off/On		ERV's General Alarm status

These can be viewed under Run Status → OAU or Operating Modes → OAU on the Scrolling Marquee or Navigator.

These can be viewed under the CCN tables OAUDISP or OAU_DIAG with a CCN device.

3-12.5 Ton Modulating ERV

The modulating ERV is an intelligent ERV with variable speed fan motors. The ERV can provide a variety of volumes of outside air and offset it with different exhaust speeds. CO_2 sensors can also be tied into it for Demand control ventilation (DCV) operation. The modulating ERV will operate based on occupancy and the rooftop's operating mode, the following sections explain operation in detail. Refer to Figure 6 for the overview flow diagram of a modulating ERV operation.



Notes:

* Min CFM represents the minimum outside air CFM requirement based on CO_2 values and setpoints.

** Occupied also means being in the unoccupied period but configured to run.

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Fig. 6 - Modulating ERV Control & Operation Flow Chart

Occupancy

The ERV will not be allowed to run unless it is determined to be occupied. The ERV monitors the rooftop's occupancy point (***Run Status →MODE →OCC***) to determine when it is occupied. The ERV watches the rooftop's indoor fan state point (***CCN Point = IDFSTATE***) to know when its indoor fan has started. When the rooftop is occupied and its indoor fan is on, the ERV is considered to be occupied and allowed to run.

The ERV can also operate during the rooftop's unoccupied period. If the ERV is configured for unoccupied operation (***Configurations →OAU →U.RUN = YES***), then it will ignore the building occupancy of ComfortLINK and allow occupancy any time the rooftop fan is on. If not configured for unoccupied operation but there is a CO_2 sensor or switch installed and ComfortLINK is configured to turn on its indoor fan for CO_2 ventilation at any time (***Configuration →AIR.Q →IA.FN = 2***, or ***Configuration →AIR.Q →II.FN = 2***), the ERV will be occupied any time the CO_2 needs the fan.

Modes of Operation

The ERV has 3 basic functions: Auto, Off, or Test. These are defined as System run states and displayed in the OAU run status menu (***Run Status →OAU →OA.RN***). The ERV will always operate in one of the following operating modes depending upon the ComfortLINK mode and outside conditions: Off, ERV (DCV) Free Cooling, OA Tempering, Defrost, or Test. The ERV monitors the ComfortLINK CCN point NVO_MODE to determine the rooftops operating mode. The NVO_MODE values tell the ERV what the rooftop operating mode is in a numeric form. The ERV's operating mode is displayed numerically as OAU Operating Mode (***Run Status →OAU →OA.OP***). These modes and their corresponding numbers are described below.

Off Mode (*OA.OP = 0*) —

The ERV will be set to the Off mode whenever the rooftop indoor fan is turned off, ERV is unoccupied, NVO_MODE equals 6, or if communication fails. During Off Mode, the ERV 2 position dampers will be closed and the wheel, outside air fans(s), and exhaust fan(s) will be off.

Test Mode (*OA.OP = 5*) —

If at any time during operation, the rooftop is put in Service Test mode (NVO_MODE equals 7) the ERV will be set to Test Mode. Refer to Start-Up section for Test mode operation.

Free Cooling Mode (*OA.OP = 2*) —

Free Cooling Mode is only available if an optional economizer damper is factory installed in the ERV (***Configuration →ECON →EC.EN = Yes***). Free Cooling Mode will be active when the rooftop unit is in Unoccupied Free Cooling Mode, Free Cooling Mode, or in Cooling Mode and the economizer damper position (***Outputs →ECON →EC.CP***) is greater than 5% (***NVO_MODE = 10 or 3***). ERV occupancy tells the control which speed to start the outside air fan(s) during free cooling, because the outside fan(s) are needed to assist the indoor fan in bringing in outside air.

When in Free Cooling Mode, the ERV's 2 position damper will be open and the wheel will be set to stop/jog operation. The rooftop unit will modulate the economizer damper to provide free cooling as if an ERV was not installed. As the economizer damper opens the ERV outside air fan(s) will maintain a speed that produces minimum outside air CFM. Once the economizer damper position passes that percent fan speed of the outside air fan(s), the fan(s) speed will ramp up directly with the economizer damper position, up to 100%. The exhaust fan(s) will run at a speed equal to the required offset CFM. Refer to Exhaust Control for details on determining offset CFM.

IMPORTANT: Refer to the base unit Controls, Start Up, operation, and Troubleshooting manual for details on how the rooftop unit modulates the economizer damper for free cooling.

Defrost Mode (OA.OP = 4) —

Defrost Mode is only available when the optional Frost Protection is factory installed in the ERV. The ERV will be set to defrost mode any time the ERV wheel is running and frost is detected on the wheel. The EXCB D14 LED will turn on to indicate the frost switch is active. Defrost Mode runs for at least 2 minutes but continues to run until the frost is removed. The frost protection device senses a pressure differential across the wheel and trips when that differential is greater than the setpoint (default 2.0 in wc). For information on the frost protection device, refer to the Major Component section.

When in Defrost Mode, the ERV 2 position damper will be open and the wheel will be rotating. The outside air fan(s) will ramp down to 0% speed (shut-off). The exhaust fan(s) will run at a speed equal to the required offset CFM. Refer to Exhaust Control for details on determining offset CFM.

ERV (DCV) Mode (OA.OP = 1) —

General ERV Mode – ERV Mode is the basic operating mode of the ERV. With no options installed on the ERV this will be the only operating mode besides off and test. ERV Mode will be active when the rooftop ComfortLINK mode is Heating, Cooling, Fan Only, or Dehumidification (NVO_MODE = 1, 3, 9, or 14) and the ERV is occupied.

When in ERV mode, the ERV 2 position damper will be open and the wheel will be rotating. The outside air fan(s) will run at a speed that produces a CFM equal to the minimum outside air CFM setpoint (***Configuration →OAU →OA.MN***). The exhaust fan(s) will run at a speed equal to the required offset CFM. Refer to Exhaust Control for details on determining offset CFM.

ERV Mode with DCV – If an optional economizer is factory installed in the ERV (***Configuration →ECON →EC.EN = Yes***) and an optional CO_2 sensor or switch is

installed (***Configuration →AIR.Q →IA.CF = 1 or 2***) or (***Configuration →AIR.Q →II.CF = 1 or 2***), DCV ERV Mode will be active when the rooftop ComfortLINK mode is Heating, Cooling, Fan Only, or Dehumidification (NVO_MODE = 1, 3, 9, or 14) and the ERV is occupied.

When in DCV ERV mode, the ERV 2 position damper will be open and the wheel will be rotating. The outside air fan(s) will run at a speed that produces a CFM equal to the minimum outside air CFM determined by Demand Control Ventilation (DCV). The exhaust fan(s) will run at a speed equal to the required offset CFM. Refer to Exhaust Control for details on determining offset CFM.

Sensor Demand Control Ventilation (DCV) uses the indoor air quality levels (CO_2 PPM) to determine how much outside air is required for ventilation. The ERV monitors the IAQ (***Inputs →AIR.Q →IAQ***) reading from the rooftop's installed CO_2 sensor and compares it to a hard coded outside air value of 400PPM. The difference is then weighed on scale between AQ Differential Low (***Configuration →AIR.Q →AQD.L***) and AQ Differential High (***Configuration →AIR.Q →AQD.H***) to determine the minimum outside air CFM required for ventilation. The minimum outside air CFM can be equal to or between the Min DCV outside air CFM (***Configuration →OAU →DCV.M***) setpoint and the minimum outside air CFM (***Configuration →OAU →OA.MN***) setpoint. As the CO2 differential rises from AQD.L to AQD.H, the ERV outside air CFM requirement will rise from DCV.M to OA.MN. The outside air fan(s) will ramp its speed % up or down to produce the required CFM. If at any time the CO_2 sensor fails or IAQ reads 0ppm, the DCV minimum outside air requirement will be forced to the maximum value (OA.MN). Fig. 7 shows the DCV minimum outside air CFM determination curve.

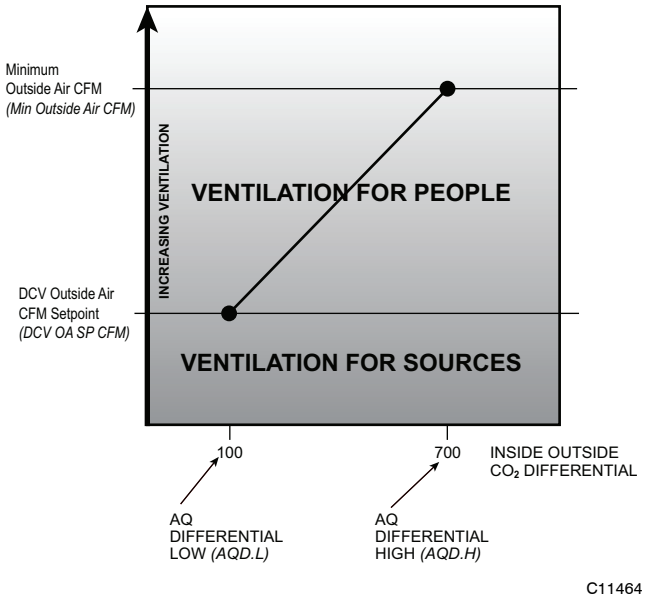

Fig. 7 - IAQ DCV Control

Switch Demand Control Ventilation (DCV) uses the indoor air quality levels (High/Low) to determine how much outside air is required for ventilation. The ERV monitors the IAQ switch (I***nputs →AIR.Q →IAQ.S***) reading from the rooftop's installed CO_2 switch. The minimum outside air CFM will be equal to one of the following: Min DCV outside air CFM (***Configuration →OAU →DCV.M***) setpoint, or the minimum outside air CFM (***Configuration →OAU →OA.MN***) setpoint. If the CO_2 switch reads low the outside air CFM requirement will be DCV.M. If the switch reads high the outside air CFM requirement will be OA.MN. The outside air fan(s) will ramp its speed % up or down to produce the required CFM.

OA Tempering Mode (*OA.OP = 3*) —

OA Tempering Mode is only available when the optional electric heater is field installed in the ERV and enabled (***Configuration →OAU →OA.TM = Enable***). The ERV can only be set to OA Tempering mode when the ERV is occupied and the rooftop is not running cooling or heating. The rooftop must be in Ventilation (Fan-Only) mode (NVO_MODE = 9) and the outside air temperature (***Inputs →AIR.T →OAT***) must be less than the OA Tempering Lockout Temp (***Configuration →OAU →TM.LO***) to allow the ERV to run OA Tempering Mode. The electric heater will then be turned on and modulated 0-100% based on the supply air temperature (***Inputs →AIR.T →SAT***) relative to the OA Tempering SAT setpoint (***Configuration →OAU →TM.SP***).

When in OA Tempering Mode, the ERV runs as standard ERV (DCV) mode: 2 position damper will be open and the wheel will be rotating. The outside air fan(s) will ramp to maintain correct outside air CFM. The exhaust fan(s) will ramp for the required offset CFM. Additionally the ERV's Electric Heater will ramp up 1% every 2 seconds and ramp down 2% every 1 second based on how far the SAT is away from the setpoint. If the SAT equals the setpoint then the Electric heater will remain at current percentage.

Exhaust Control

When the Power Exhaust control is set of Offset CFM (***Configuration →OAU →PEX.C = 0***), the ERV exhaust fan(s) operate to offset the outside air being introduced to the building. The required exhaust offset CFM is determined based on the exhaust offset setpoint (***Configuration →OAU →PE.OF***). The exhaust offset setpoint can be set as a negative or positive number to accommodate a requirement of positive or negative building pressure. A positive setpoint will produce a negative building pressure. A negative setpoint will produce a positive building pressure.

The ERV will determine the required amount of outside air CFM based on setpoints and current mode of operation. The commanded exhaust air CFM (***Run Status →OAU →C.EX***) is then calculated by the sum of the actual outside air CFM (***Run Status →OAU →A.OA***) and the exhaust air offset setpoint (PE.OF). During defrost mode the exhaust will run the same as if the outside air fan(s) were still running.

When the Power Exhaust Control is set for Building pressure control (***Configuration →OAU →PEX.C = 1***), the ERV exhaust fan(s) operate to maintain a building pressure. A building pressure transducer must be purchased separately and properly field installed in the ERV. A desired building pressure is set as Building Pressure Setpoint (***Configuration →OAU →BP.SP***). The actual building pressure (***Run Status →OAU →BP***) is compared to the setpoint (BP.SP). The exhaust fan will then be ramped up and down at the rate of 1% every 2 seconds to try and maintain the desired building pressure. The exhaust fan(s) will slow to increase the building pressure and speed up to decrease the building pressure.

Wheel Stop/Jog

During free cooling the wheel utilizes a "stop-jog" operation to periodically rotate the wheel and minimize potential dirt build-up and excess wear on one section of the wheel. The wheel will rotate for 5 seconds then stop for 5 minutes.

Status Points

The ERV updates points within ComfortLINK to represent its running status. These points are shown in Table 6 and can be viewed on the scrolling marquee or handheld navigator under the run status outside air menu (***Run Status →OAU***). These points include but not limited to: commanded and actual outside air CFM, commanded and actual exhaust air CFM, ERV outputs, software versions, and internal ERV air temperatures.

TROUBLESHOOTING

EnergyX units are a combination of the base rooftop unit and an integrated ERV. The ERV requires communication from the rooftop for operation. This section covers ERV troubleshooting only. For rooftop troubleshooting refer to the base unit's Service manual.

Complete ERV Stoppage

There are several conditions that can cause the ERV to shutdown or appear to be shutdown:

- General power failure.
- Transformer's circuit breaker tripped.
- ERV main power fuses blown.
- Communication failures.
- Active alarm on the base rooftop unit or the ERV preventing operation. Review alarms.
- Programmed occupancy schedule. Rooftop Unoccupied
- Rooftop indoor fan is off.
- The airflow sensor tubing connected to the incorrect high/low sensor ports in the outside air.

Check Alarms

The ERV has 4 possible alarms based on options installed in the ERV. These alarms are described in detail below. They all show up as a T418 alarm in ComfortLINK. Pressing enter and escape together on the scrolling marquee or navigator will expand the text and provide the specific alarm condition. There are 4 status points viewed under Operating Modes on the Scrolling Marquee or Navigator (***Operating Modes → OAU***) for each alarm to help diagnose which alarm caused the T418 in ComfortLINK. These will all reset automatically when the situation has been resolved.

T418 OAU Filter Dirty

The ERV's dirty filter alarm should only occur if the optional Filter Maintenance Switch is installed on the ERV. The dirty filter alarm activates due to an increase in differential pressure across the filters. The EXCB's D16 LED will be turn on and the OAU Dirty Filter Alarm point will be turned to on (***Operating Modes → OAU → ALM.2 = On***). The alarm does not affect unit operation but serves as a warning to replace the filters. It will automatically reset when the pressure differential falls below setpoint. Verify proper operation by partially blocking airflow through the ERV filters and confirming that the alarm does trip.

T418 OAU Motor Failure

This alarm indicates a motor problem in the ERV, any one of the motors can trip this alarm (outside intake, exhaust and/or the wheel motor). The intake and exhaust motors have build in motor diagnostics and the wheel motor status is a field accessory. Since these are feed into the same alarm, it is important to determine which one is having the problem. In test mode run the components individually to determine which is causing the problem. If the Shut Down on fan failure configuration is set to Yes (***Configuration → OAU → OAU.F = Yes***), the ERV will shutdown with this alarm active. If set to no, the ERV will continue to run as if the alarm did not occur, outside air CFM, exhaust CFM, or pre-conditions might not be achievable if a motor fails. The two classes of motor status are explained below.

Intake and Exhaust Motor Status – If any one of the ERV's outside or exhaust motors detects a problem, it will close its build in normally open alarm contact, which will be seen as 24vac at EXCB J8-3. The EXCB's D18 LED will be turn on and the OAU Motor Failure Alarm point will be turned to on (***Operating Modes → OAU → ALM.1 = On***). This alarm will automatically reset when the motor opens its alarm relay. This alarm is tripped by one of the following: phase loss, locked rotor, thermal overload, communication error, incorrect signal, or a fan failure.

Wheel Status – This alarm will occur when the ERV wheel is turned on and the wheel proxy sensor does not detect wheel motion within the set time. It will open its

contact which energizes the normally closed rotation monitor relay. This is seen as 24vac at EXCB J5-3 and causes the alarm. The EXCB's D12 LED will be turned on and the OAU Motor Failure Alarm point will be turned to on (***Operating Modes → OAU → ALM.1 = On***). This alarm will automatically reset when motion is detected. Possible causes of this alarm are: the wheel belt breaking or slipping, wheel motor failure, proxy sensor failure or incorrect setting, or wiring error.

T418 OAU Low CFM

This alarm indicates that the ERV cannot bring in the desired amount of outside air. The alarm occurs when the actual outside air CFM (***Operating Modes → OAU → A.OA***) is less than 10% of the commanded outside air CFM (***Operating Modes → OAU → C.OA***) after 10 minutes. This alarm will not occur in test mode or defrost mode. The Rooftop unit might be able to help by ramping its indoor fan up. Refer to the base controls, start up, operation, and troubleshooting manual for details. The OAU Low CFM Alarm point will be turned to on (***Operating Modes → OAU → ALM.3 = On***). This alarm will automatically reset if the actual CFM is within 10% of the commanded CFM. Possible causes of this are: outside air CFM setpoint set too high, dirty filter or plugged screen, pressure tubing wrong or disconnected, wrong OA CFM curve programmed, or RTU indoor fan speed running too low.

T418 OAU General Alarm

This alarm is not currently used by the ERV.

Check Diagnostic LEDs

Use the on board LEDs to assist in troubleshooting the EnergyX system. The EnergyX Control Board (EXCB) and the Universal Protocol Converter (UPC) each have LEDs that can help in the troubleshooting process. See Tables 7 to 9.

The EXCB has five green LEDs and one red LED. The red LED is for power indication and the green LEDs are status indicators.

The UPC has seven LEDs. There are four communication LEDs and three status LEDs. The communication LEDs indicate if the translator is speaking to the devices on the network and should reflect communication traffic based on the baud rate set. The higher the baud rate, the LEDs would become more solid.

Communication Failures

Communication is critical for ERV operation. It can fail on two different paths; between the UPC and the rooftop (LEN), or between the UPC and the EXCB. This makes the UPC critical to ERV operation. Make sure the UPC DIP switches and rotary switches are set correctly. Make sure the board hardware jumpers are set on EIA 485 and 2W. During normal operation the 4 communication LEDs will flash interchangeably. If all 4 LEDs are not flashing then there is a communication problem. Check connections between Port 1a and rooftop's LEN connection and Port 2 and the EXCB J23 (verify with the proper unit schematic).

The ERVs, LCD screen will show specific communication failures when they occur. Use the LCD screen to help troubleshoot communications failures. If communication is established, the LED shows "communication connected".

Comm Failure1 – UPC to LEN Fail —

This will be displayed if the EXCB can communicate with the UPC, but the UPC does not receive information from ComfortLINK. This will occur if the cable is pinched or disconnected, wired wrong or loose, or if the UPC is configured wrong.

Comm Failure2 – UPC to EXCB Fail —

This will be displayed if the EXCB cannot communicate with the UPC. This will occur if the connection between them is disconnected or pinched. This will also occur if the UPC does not have power or software, or if it has an error or configured wrong.

On-board Pressure Transducers

The EXCB uses on-board pressure transducers to measure the air pressure of the incoming outside air and the building exhaust air. The CFM values are then calculated based on these readings and the fan speed. There is a pressure transducer for the outside air and one for the exhaust air. These are screwed into the EXCB board to J24 and J25 respectively. They have three pins: IN, GND, and OUT. The IN pin is 5vdc input power and GND is the common or ground pin. The OUT pin will be 0.26 to 4.5vdc based on the pressure reading. There are two different transducers used, two inch of water column (inWC) and 5 inWC. Table 10 shows the voltage/pressure characteristics of each.

Table 7 – EXCB LED Indicators

LED	COLOR	DESCRIPTION	STATUS IF LIGHT IS LIT
D9	Red	24vAC board power	Board has power
D2	Green	Run light Flashing	ERV is Running
D12	Green	ERV Wheel Status Alarm	ERV Wheel not rotating when it should be
D14	Green	ERV Wheel Frost Protection	ERV detects frost on the wheel and running in Frost Mode
D16	Green	ERV Dirty Filter Alarm	Dirty Filter
D18	Green	ERV Blower Status Alarm	Fan Failure

Table 8 – EXUPC LED Indicators

LED	COLOR	DESCRIPTION	STATUS IF LIGHT IS LIT
Power	Green	Power Indicator	Lights when power is being supplied to the translator.
Rx1	Green	Port 1 Receiving Data	Lights when the translator receives data from ComfortLINK MBB via LEN
Rx2	Green	Port 2 Receiving Data	Lights when the translator receives data from the Modbus EXCB
Tx1	Green	Port 1 Transmitting Data	Lights when the translator transmits data to the ComfortLINK MBB via LEN
Tx2	Green	Port 2 Transmitting Data	Lights when the translator transmits data to the Modbus EXCB
Run	Green	Run indicator	Lights based on translator health. See Table 9.
Error	Red	Internal Error indicator	Lights based on translator health, See Table 9.

Table 9 – EXUPC LED Flash Code Diagnostics

Run LED Status	Error LED Status	ERV Module Status
2 flashes per second	Off	Normal
2 flashes per second	2 flashes, alternating with Run LED	5 minute auto–restart delay after system error
2 flashes per second	3 flashes then off	Module has just been formatted
2 flashes per second	4 flashes then pause	Two or more devices on this network have the same ARC156 network address
2 flashes per second	1 flash per second	Module is alone on the network
2 flashes per second	On	Operation halted after frequent system errors or control programs halted
5 flashes per second	On	Operation start–up aborted. Boot is running
5 flashes per second	Off	Firmware transfer in progress. Boot is running
7 flashes per second	7 flashes per second, alternating with Run LED	Ten second recovery period after brownout
14 flashes per second	14 flashes per second, alternating with Run LED	Brownout
Alternating with Error	Alternating with Run	Restoring memory from Archive

Table 10 – Transducer/Voltage vs. Pressure

Voltage (vDC)	Pressure (inWC)	
	2” transducer	5” transducer
<=–0.26	0	0
0.5	0.12	0.28
1	0.34	0.87
1.5	0.53	1.46
2	0.82	2.05
2.5	1.06	2.64
3	1.30	3.23
3.5	1.52	3.82
4	1.76	4.41
4.5	2.00	5.00

MAJOR SYSTEM COMPONENTS

An EnergyX unit has a factory installed energy recovery (ERV) device on a 48/50HC rooftop unit. The EnergyX energy recovery unit is integrated into the base rooftop unit construction and is factory wired. The energy recovery unit contains a control box, supply fan(s), exhaust fan(s), and an enthalpy wheel assembly. All control operations of the ERV are based on the rooftop units operation through communication with ComfortLINK. See Fig. 8 and 9 for ERV wiring schematic and component arrangement.

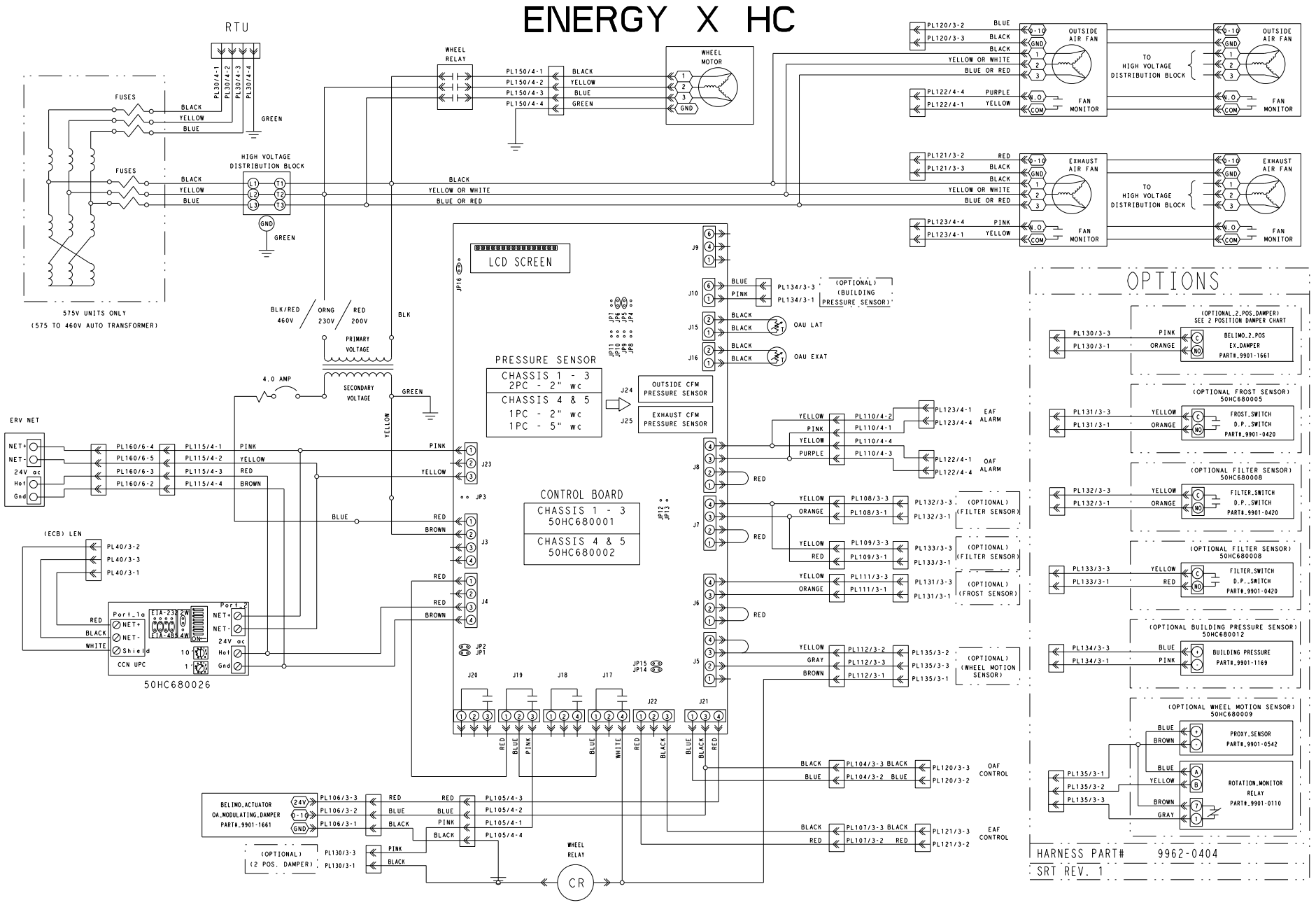

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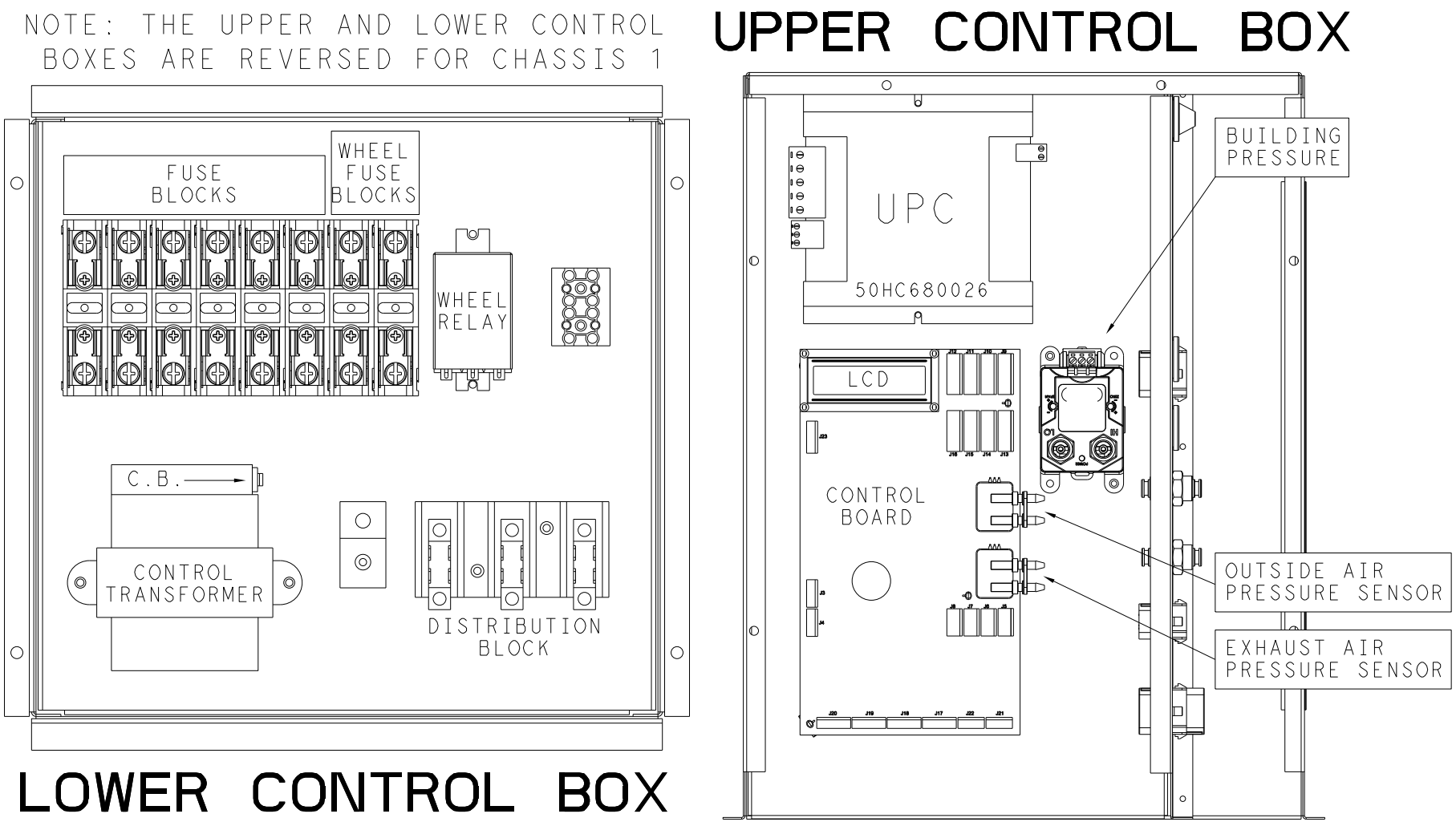
Fig. 8 - Modulating ERV Wiring Schematic



2 POSITION DAMPER CHART	
CHASSIS 1 -	50HC680014
CHASSIS 2 -	50HC680015
CHASSIS 3 -	50HC680016
CHASSIS 4 -	50HC680017
CHASSIS 5 -	50HC680018

AIR FLOW TUBING			
BLUE	FROST PROTECTION	GREEN	OUTSIDE AIR HIGH
BLACK	DIRTY FILTER EX HIGH	YELLOW	OUTSIDE AIR LOW
PRUPLE	DIRTY FILTER EX LOW	RED	EXHAUST AIR HIGH
GRAY	DIRTY FILTER SA HIGH	CLEAR	EXHAUST AIR LOW
ORANGE	DIRTY FILTER SA LOW	WHITE	EzERV SA & EX

C12217

Fig. 9 - EnergyX Component Layout

EnergyX Control Board (EXCB)

See Fig. 10 and Table 11.

The EXCB board is the muscle of the ERV control system. It acts as just an I/O board that does what the UPC commands. The EXCB continuously monitors input/output channel information received from its inputs and from the Universal Protocol Converter (UPC). The EXCB receives inputs from transducers and discrete inputs. See Options and Accessories section. The EXCB has relay analog outputs, and is equipped with a LCD screen. The EXCB communicates with a Modbus protocol and is not a CCN device. The EXCB has a reset button that is used to force all the outputs and reset communication.

NOTE: There are hardware jumpers set throughout the board. Do not change these jumpers.

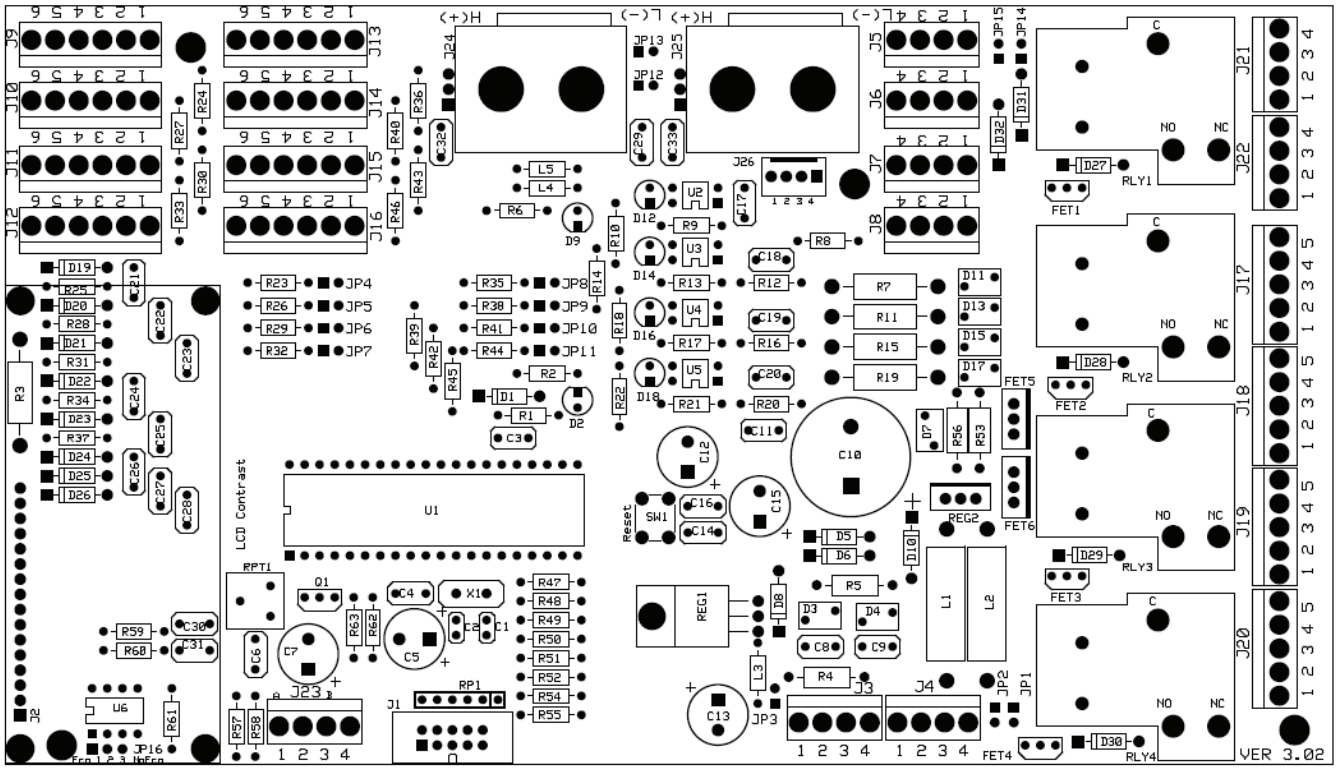


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Fig. 10 - EnergyX Control Board (EXCB)

Table 11 – EXCB Input/Output Connections

POINT DESCRIPTION	SENSOR LOCATION	Input/Output	TYPE OF Input/Output	CONNECTION PIN NUMBER
Download	N/A	Both	Communication	J1
LCD	Low voltage control box	Both	Communication	J2
Power from TRANS	Control box	Input	24VAC	J3, 1 – 2
Power to Relays	Low voltage control box	Output	24VAC	J4, 1
Power to UPC	Low voltage control box	Output	24VDC	J4, 3 – 4
Wheel Rotation Sensor	Attached to scoop	Input	Switch	J5, 2 – 4
Frost Switch	Attached to scoop	Input	Switch	J6, 3 – 4
Filter Status Switch	Attached to scoop and in Exhaust air section	Input	Switch	J7, 3 – 4
Motor Status Switches	Integrated in motors	Input	Switch	J8, 3 – 4
Leaving Air Temp	Scoop section	Input	10K	J15, 1 – 2
Exhaust Air Temp	Exhaust air section	Input	10K	J16, 1 – 2
Wheel Relay	High voltage control box	Output	Relay	J17, 4
2 – position Exhaust damper relay	Exhaust damper assembly	Output	Relay	J19, 4
OA fan speed signal	N/A	Output	2 – 10vdc	J21, 1 – 3
OA Modulating Damper	Intake damper assembly	Output	2 – 10vdc	J21, 1 – 4
EX fan speed signal	N/A	Output	2 – 10dvc	J22, 1 – 3
Modbus to UPC	Control box	Both	Communication	J23, 1 – 3
Outside Air pressure Transducer	Low voltage control box	Input	Digital 0 – 5vdc	J24
Exhaust Air pressure Transducer	Low voltage control box	Input	Digital 0 – 5vdc	J25
Building Pressure Sensor	Low voltage control box	Input	4 – 20mA	J10, 1 – 6

Universal Protocol Converter (UPC)

See Fig. 11 and Table 12.

The UPC board is required to convert CCN into Modbus. It is also the brains behind the ERV. It contains the operating software that runs the ERV logically. The UPC is connected to the ComfortLINK LEN bus on the rooftop unit.

NOTE: The DIP switches should be set as follows: 1=off, 2=off, 3=on, 4=on, 5=off, 6=off, 7=on, and 8=off. The address rotary switches should be set to 01 (10's=0 and 1's=1). **Do not change these settings.**

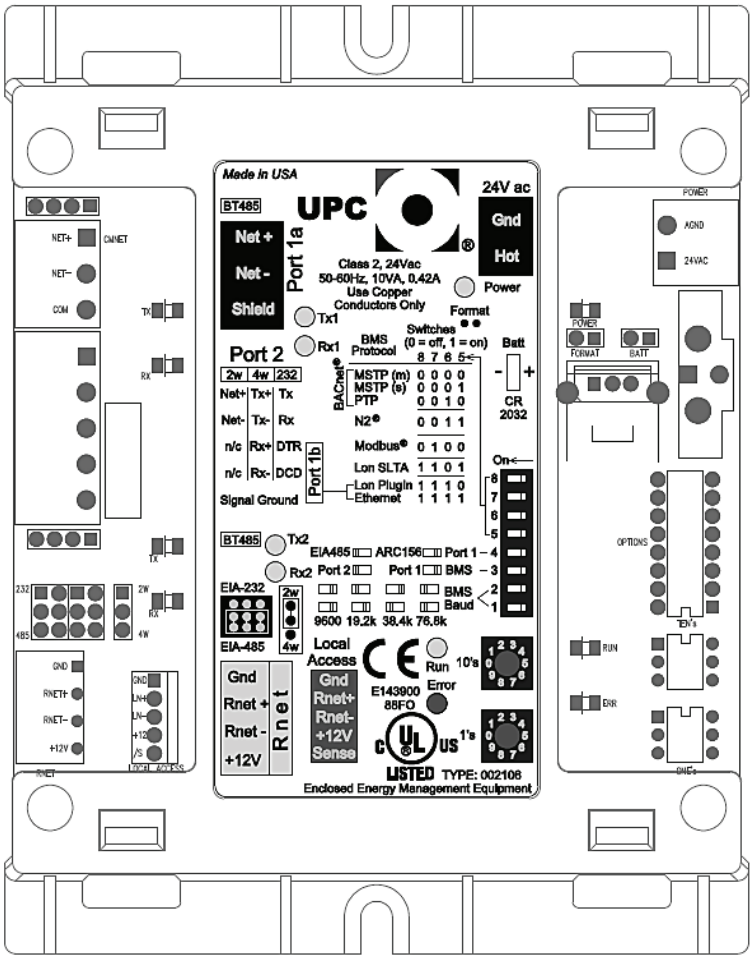

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Fig. 11 - Universal Protocol Converter (UPC)

Table 12 – UPC Input/Output Connections

TERMINAL NAME	DESCRIPTION	Input/Output	TYPE OF Input/Output	CONNECTION PIN NUMBER
24VAC	Supply power to UPC	Input	24VAC	1–2
Port 2	UPC Modbus	both	Communication	1–2
Port 1a	UPC LEN	both	Communication	1–3
Port 1b	Not used	N/A	N/A	N/A
Rnet	BACview User Interface or Download Connection	both	Communication	1–4
Local Access		both	Communication	1–5

User Interface

All ERV set point adjustment, service tests, and monitoring are accomplished through the ComfortLINK scrolling marquee interface. See the ComfortLINK Controls, Start-Up, Operation and Troubleshooting Instructions for further details on ComfortLINK operation. The ERV EXCB board has a LCD screen that can be used to help troubleshoot communication problems. The following are examples of the text that can be seen on the EXCB's LCD screen.

LCD Texts —

Initialize_LEN Communication – This will occur when the ERV is turned on from a power reset.

Communication Connected – This will be displayed when correct communication is established between the RTU and ERV and within the ERV.

Comm Failure1 UPC_to_LEN_Fail – This occurs if there is a communication problem between the UPC and ComfortLINK MBB.

Comm Failure2 UPC_to_EXCB_Fail – This will occur if there is a communication problem between the UPC and the EXCB.

Warning UPC TestMODE_Enabled – This will occur if the UPC was left in a factory Test mode a BACview Handheld is needed to pull the ERV out of this mode back to normal running mode.

Enthalpy Wheel

The enthalpy wheel is the "heat exchangers" of the ERV. It consists of several wheel segments aligned in a cassette assembly. These are not "filters" but made of a desiccant material. The wheel is rotated by a motor and belt, no adjustments required. When the wheel rotates it uses the building exhaust air to pre-conditions the outside air as it passes through the wheel.

Modulating Fan

The modulating ERV is equipped with direct drive variable speed plenum fans for outside air intake and exhaust air. The motors have built in VFDs that accept a 2-10vdc signal from the EXCB. This 2-10vdc signal is used by the VFD to determine the speed to run the motor at (0-100%). Some ERV models are equipped with multiple outside air and/or exhaust air fans. The additional motor's signal is parallel off the first motor through the coupling signal plug. Motor status switches are also paralleled for additional motors.

Each motor is capable of diagnosing problems within the motor to provide fan status. The fan status switches are built into each motor and provide a feedback to the EXCB if a problem is detected. The feedback signal is a discrete input that is normally open, when closed the EXCB will initiate the motor status alarm.

Modulating Outside Air Damper

ERV units include a factory installed modulating outside air damper. This damper is controlled in parallel with the modulating intake fan(s). This damper adds static to the outside air and will be open to the same percentage as the outside air fan(s) is running. The modulating outside air damper will also close in the unoccupied mode to prevent unwanted air from being introduced to the rooftop unit.

Options and Accessories

The modulating ERV has several optional factory installed options and field installed accessories: Frost Protection, Economizer, Wheel Motor Status, Filter Maintenance, horizontal adaptor curb, building pressure sensor, Outside Air Tempering Kit, and 2-Position Exhaust Damper. Refer to Table 11 for where these options wire into the EXCB.

Economizer Damper (factory installed only)

The economizer damper is a factory installed option that provides a wheel bypass damper. This damper is controlled by the base unit rooftop as an economizer for the purpose of free cooling. The damper is installed adjacent to the ERV wheel to allow outside air to flow through it when opened instead of the wheel. The ERV's outside air fan(s) will run as this damper is opened to allow proper airflow.

Frost Protection (factory installed only)

Frost protection is a factory installed pressure sensor device which senses a differential pressure across the wheel. This occurs if frost builds up on the wheel. The sensor closes its contact when the pressure differential is greater than the setpoint. When the EXCB reads the contact closer it will activate defrost mode. The setpoint is a dial on the sensor, is adjustable from 0.2 to 2.0 inWC, and is factory preset to 2.0 inWC. Changing this setting may cause false signal causing defrost mode when not needed.

Wheel Motor Status (field install only)

The wheel motor status accessory can be installed in the field and consists of a wheel motion proxy sensor and a relay. The wheel motion sensor is aimed at the wheel to detect rotation. If the wheel does not rotate at the appropriate speed the sensor will open causing the rotation monitor relay to close a contact to initiate the wheel status alarm. The motion sensor is factory set at the highest speed (clockwise until stop) and should not be changed. Refer to the troubleshooting section for details on the alarms.

Filter Maintenance (field install only)

Filter maintenance consists of two field installed pressure sensor devices which sense differential pressure across the ERV filters. This occurs if dirt builds up on the filters. There is a separate pressure sensor for each filter (outside air and exhaust air). The sensor closes its contact when the

pressure differential is greater than the setpoint. The sensors are wired in parallel, so when the EXCB reads a contact closer from either sensor it will activate the filter alarm. The setpoint is a dial on the sensor, is adjustable from 0.2 to 2.0 inWC, and is factory preset to 2.0 inWC. Changing this setting may cause false signal causing false dirty filter alarms.

Horizontal Transition Curb (field install only)

EnergyX units must receive vertical return. If the application requires horizontal return then a horizontal transition curb must be used. The 3-12.5 ton units cannot be field converted to horizontal supply. To accomplish horizontal supply on a 3-12.5 ton unit a horizontal transition curb must be used.

SERVICE & MAINTENANCE

Refer to base unit's Service manual for base unit service and maintenance. This section contains service and maintenance for just the ERV unit.

Cleaning

Wheel and Segment Cleaning

Wheel cleaning periodicity is application dependent. Field experience shows that offices, schools and other "clean" environments will often go 10 years before any build up of dust and dirt is noticed. Other applications such as restaurants, casinos and factory environments may experience fairly rapid build-up of contaminants and may require multiple cleanings per year to maintain airflow and recovery efficiencies.

All air-to-air energy recovery devices will become dirty over time, even with well-maintained filtration. Proper filtration usage and changes will improve the life of the wheel transfer segments. Once the wheel is exposed to oils, tars or greases in either the supply or exhaust air streams, these pollutants deposit on the rotary surface which then become "sticky" and begin to attract and hold the dust particles that previously passed thru the wheel. Over time this particle build up can lead to blocked airflow passages, loss of recovery, excessive pressure drop through the wheel and loss of energy savings.

1. Follow steps for wheel and segment removal to remove the affected energy transfer matrix segments. (For one-piece wheels 25 inches in diameter and smaller, remove the entire wheel from the cassette.)
2. Gently brush the wheel face to remove loose accumulated dirt.
3. Wash the segments with a non-acid based (evaporator) coil cleaner or alkaline detergent solution. Non-acid based coil cleaner such as KMP Acti-Clean AK-1 concentrate in a 5% solution has been demonstrated to provide excellent results. **DO NOT** use acid based cleaners, aromatic solvents, temperatures in excess of 170°F or steam! Damage to the wheel will result.
4. Soak the wheel and/or segments in the cleaning solution until all grease and tar deposits are loosened. An overnight soak may be required to adequately loosen heavy deposits of tar and oil based contaminants.
5. Internal heat exchange surfaces may be examined by separating the polymer strips by hand. (Note: some staining of the desiccant may remain and is not harmful to performance.)
6. After soaking, rinse the dirty solution from the wheel segments until the water runs clear.
7. Allow excess water to drain prior to replacing segments in the wheel. A small amount of water remaining in the wheel will be dried out by the airflow.

Filters

Clean or replace at start of each heating and cooling seasons, or more often if operating conditions require (based on filter manufacture recommendation or filter status alarm indication). Refer to Table 1 for type and size of filters.

Outdoor-Air Inlet Screens

Clean screens with steam or hot water and a mild detergent at the beginning of each heating and cooling season. Do not use throwaway filters in place of screens.

Lubrication

All component bearings are sealed and do not require lubrication.

Wheel Drive Adjustment

The wheel motor and drives do not require adjustment. The wheel drive pulley is secured to the drive motor shaft by a set screw. The set screw is secured with removable locktite to prevent loosening. Annually confirm set screw is secure. The wheel drive belt is a urethane stretch belt designed to provide constant tension throughout the life of the belt. Inspect the drive belt annually for proper tracking and tension. A properly tensioned belt will turn the wheel immediately after power is applied with no visible slippage during start-up.

Wheel Air Seal Adjustment

Diameter seals are provided on each wheel cassette to minimize transfer of air between the counter flowing airstreams. Follow below instructions if adjustment is needed.

1. Loosen diameter seal adjusting screws and back seals away from the wheel surface. See Fig. 12.
2. Rotate the wheel clockwise until two opposing spokes are hidden behind the bearing support beam.
3. Using a folded piece of paper as a feeder gauge, position the paper between the seal and wheel surface.
4. Adjust the seal towards wheel surface until a slight friction on the feeder gauge (paper) is detected while moving the gauge along the length of the spoke.

5. Re-tighten adjustment screws and re-check clearance with the feeder gauge.

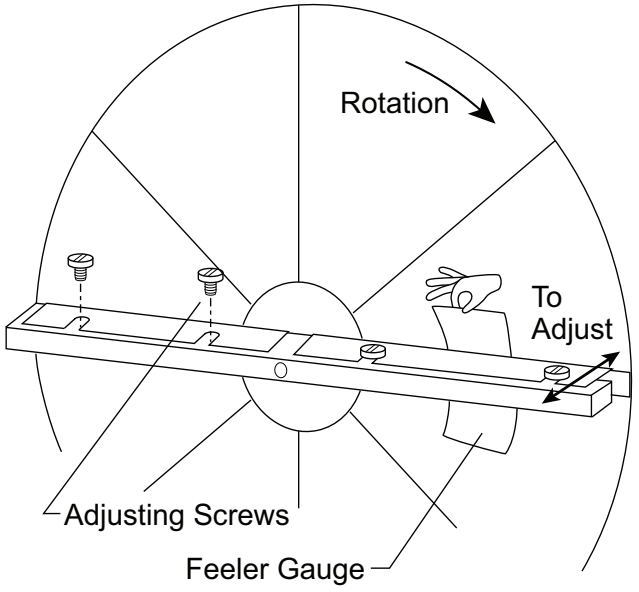

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Fig. 12 - Diameter Seal Adjustment

Wheel and Segment Removal / Installation

The wheel and segments represent a substantial portion of the value of the cassette therefore must be handled with care and never be dropped. Use a suitable crate or harness to lift wheel and segments to a roof surface, never use the shipping cartons for this purpose. Wheel and segments may require “slight” persuasion during installation and removal but never forced or impacted with a hammer or similar tool. The wheel assembly can be removed and installed or the wheel or segments can be removed from the assembly.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

The weight of the wheel assembly must be supported when the assembly is extended from the unit chassis to avoid damage to wheel or unit.

The ERV wheel on 3 ton units is a 19 inch whole wheel assembly. ERV wheels on 4 to 12.5 ton units are segmented wheel assemblies. Follow the correct section below for removing and installing specific wheels from their assemblies. To remove or install the whole assembly, simply side in or out the assembly noting the motor power plug.

Wheel Segment Removal / Installation

1. Turn off, lockout and tag-out electrical power to unit.
2. Open access door to the EnergyX module on back side of the unit.
3. Slide the entire wheel assembly out until the necessary segment(s) of the wheel can be accessed. Support the weight of the wheel assembly as necessary to avoid damage to wheel or unit.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Weight of the installed segment will cause the wheel to accelerate in rotation as segments are removed. Failure to maintain control of the wheel rotation while installing all segments could cause severe injury to fingers or hand caught between revolving spokes and the bearing support beam. The handle of a tool such as a hammer, should be inserted through spokes and above or below bearing support beams to limit rotation of unbalanced wheel. See Fig. 13.

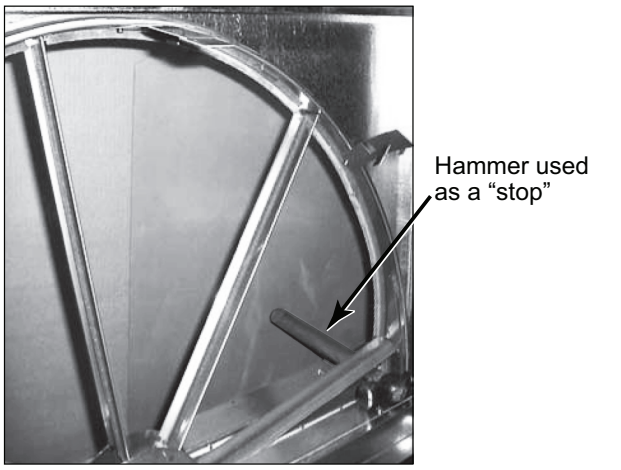

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Fig. 13 - Wheel Stop

4. Position one segment opening at the top of the cassette.
5. Unlock and open the segment retaining brackets on both sides of the selected segment opening. See Fig. 14.

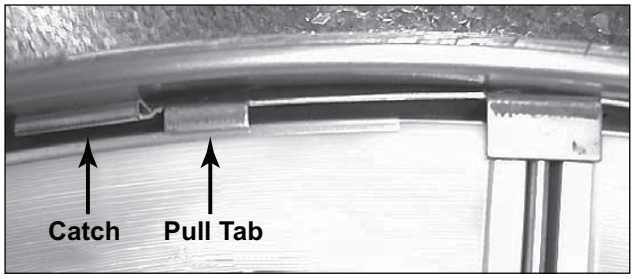

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Fig. 14 - Segment Retaining Brackets

6. Gently lift segment outward.
7. Close segment retaining latches and rotate wheel 180° to remove next segment. Follow this pattern to remove all segments and keep wheel balanced.
8. To install the wheel segments, hold the segment as vertically as possible and centered between spokes,

insert nose of segment downward between the hub plates. See Fig. 15.

NOTE: The face of the segment, with the imbedded stiffener (vertical support between nose and rim end of segment) must face the motor side of the cassette. See Fig. 16.

C11472

Fig. 15 - Segment Removal

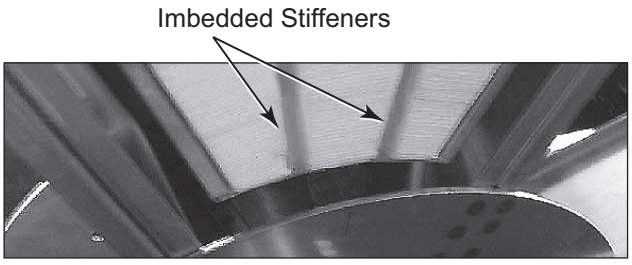

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Fig. 16 - Imbedded Wheel Stiffeners
(shown from motor side of wheel assembly)

9. Ease the segment downward until its outer rim clears the inside of the wheel rim. Press the segment inward against the spoke flanges.
10. Close and latch segment retaining brackets to the position shown in Fig. 14 Make certain the retaining bracket is fully engaged under the catch.
11. Slowly rotate, by hand, the first installed segment to the bottom of the cassette, and then install the second segment opposite the first. Repeat this sequence with the two installed segments rotated to the horizontal position to balance the weight of installed segments.
12. Continue this sequence with the remaining segments as necessary.
13. When complete, close access door and remove lockout and tag-out to apply power to unit.

Whole Wheel Removal / Installation (19" wheel)

These wheels are secured to the shaft and bearing support beam by a Philips head screw and hub cover. Follow the steps below for removal and reverse for installation. See Fig. 17.

1. Turn off, lockout and tag-out electrical power to unit.
2. Open access door to the EnergyX module on back side of the unit.
3. Remove front seal assembly (pulley side of the cassette) if present.
4. Remove belt from pulley and position temporarily around wheel rim.
5. Remove the hub cover from the wheel.

NOTE: The wheel to shaft alignment pin under the hub cover. Insure this pin engages the notch at the end of the shaft when reinstalling the wheel.

6. Pull the wheel straight off the shaft. Handle with care.

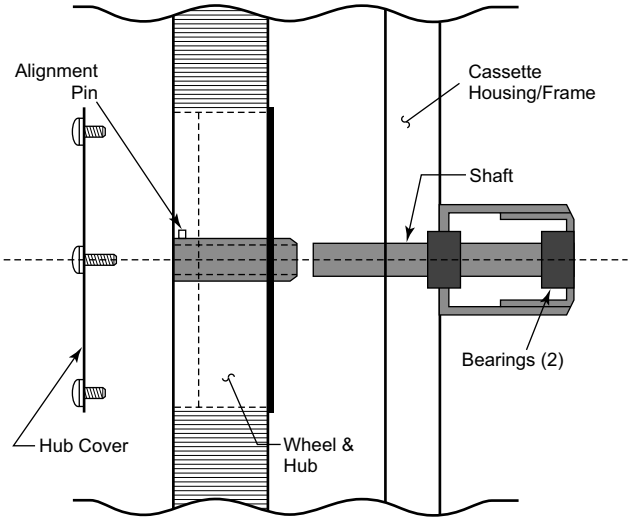

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Fig. 17 - 19" Wheel Mount

Whole Wheel Removal/Installation (25" & 36" wheels)

These wheels include the shaft and are secured to two wheel support beams by two flange bearings with locking collars.

Follow the steps below for removal and reverse for installation. See Fig. 18.

1. Loosen the two set screws on each to the two wheel bearings.
2. Remove belt from pulley and position temporarily around wheel rim.
3. Remove pulley side wheel support beam with bearing, by removing four support beam screws.
4. Pull the wheel with the shaft straight out of the motor side wheel support beam and bearing. Handle wheel with care.

5. When replacing wheel be certain to tighten four bearing set screws. Premature bearing failure can occur if not set tightly.

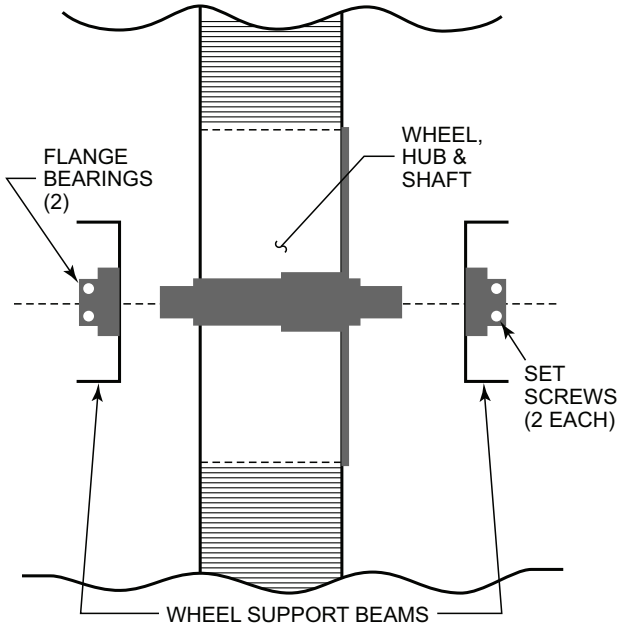


Fig. 18 - 25" & 36" Wheel Mount

Outside Air and Exhaust Air Hood Removal

Outside Air Hood Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove the hood by removing the seal-tek screws along the perimeter of the hood. See Fig. 19.

NOTE: Even after all screws have been removed from entire perimeter of hood, it will still be difficult to remove due to the gasket applied from original installation. Take care not to damage the gasket. If damage occurs use equivalent gasket to replace before reattaching the hood.

3. Disconnect the green (HIGH) and yellow (LOW) tubes attached to the quick connects located inside the ERV. Do NOT damage the tubes.

Exhaust Air Hood Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove the hood by removing the seal-tek screws along the perimeter of the hood.

NOTE: Even after all screws have been removed from entire perimeter of hood, it will still be difficult to remove due to the gasket applied from original installation. Take care not to damage the gasket. If damage occurs use equivalent gasket to replace before reattaching the hood.

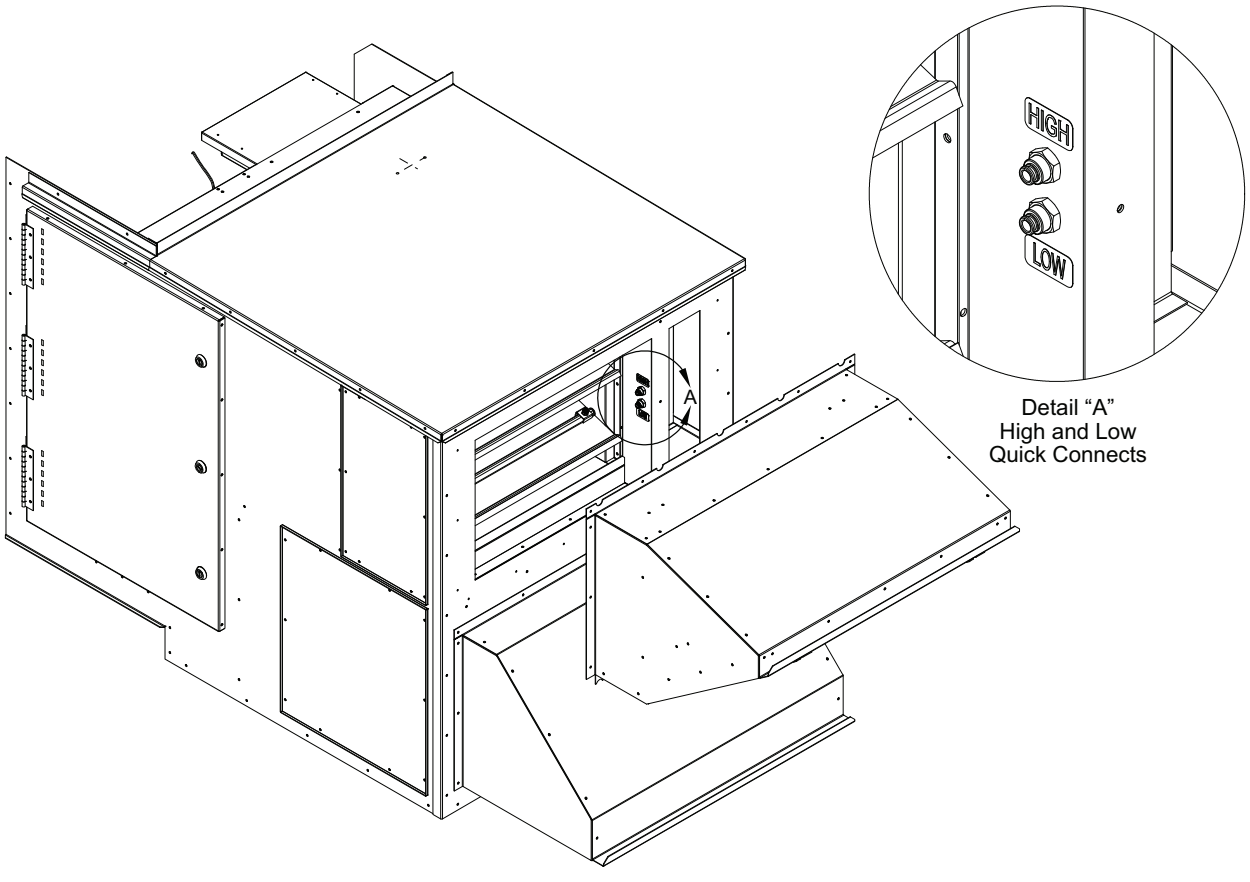
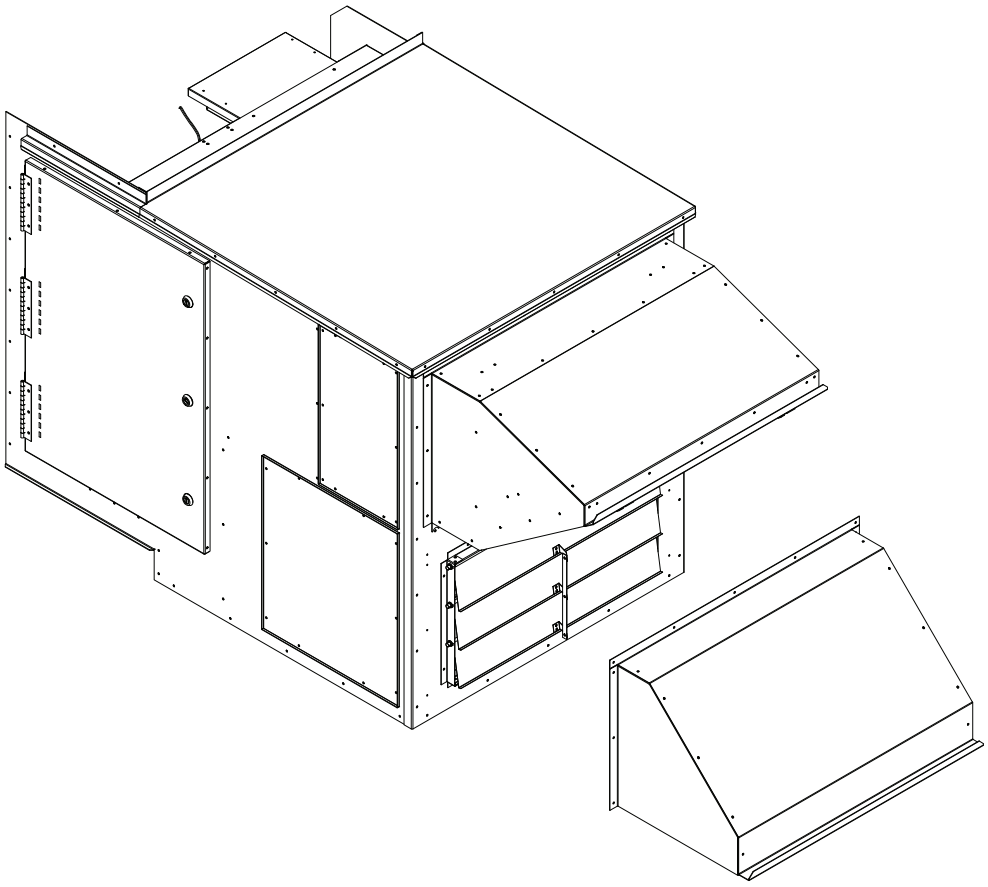


Fig. 19 - Outside Air Hood Removal



C11492

Fig. 20 - Exhaust Air Hood Removal

Outside Air Motorized Damper Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove the outside air motorized damper access panel by removing the seal-tek screws around the perimeter (see Fig. 20).

NOTE: Even after all of the screws have been removed from the panel it still may be difficult to remove due to the gasket applied from the original installation. Take care not to damage the gasket. If damage occurs use 9430-2300 gasket to replace before reattaching the panel.

3. Disconnect the connector labeled PL06 for the damper motor from the wiring harness inside the air chamber of the EnergyX unit.
4. Slide out the outside air motorized damper by pulling it along the track guides. See Fig. 20.

Outside Air and Exhaust Fan Replacement

Outside Air Fan Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove outside air hood (see procedure on page 33).
3. Remove outside air motorized damper (see procedure on page 34).
4. Remove the lower and upper guides for the outside air motorized damper by removing the screws along the length of the flanges connecting them to the inside fo the ERV unit.
5. Disconnect the connector PL121, PL123 and the power wires for the exhaust fan motor from the wiring harness inside the air chamber fo the EnergyX.
6. Remove the fasteners at each corner of the outside air fan that secure the outside air fan front panel to the dividing wall by access through the hood opening of the ERV. See Fig. 22.

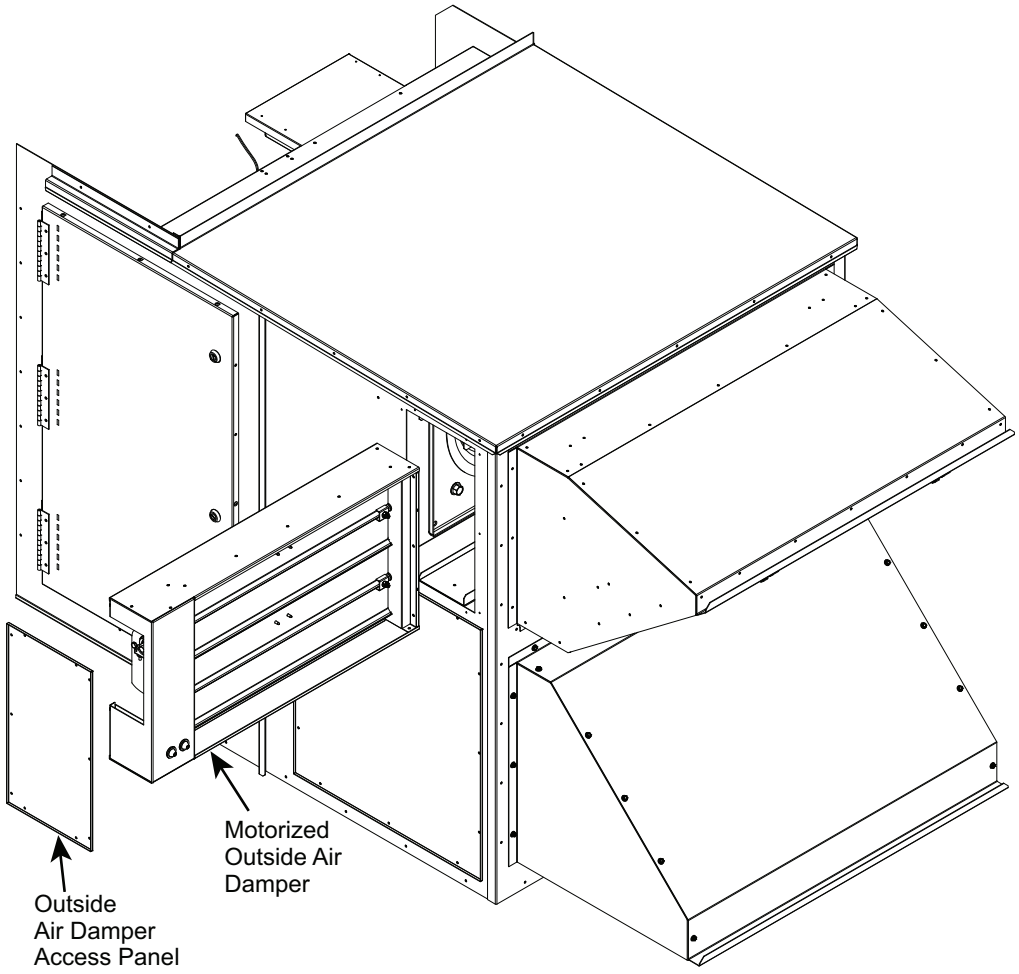
NOTE: See instructions for removing the wheel and supply filters if more room is needed to access the outside air fan through the door for better maneuverability.

7. Remove the four bolts holding the front fan panel onto the rest of the outside air fan assembly. Completely remove this panel from the EVR.

NOTE: Tilt the fan assembly front panel to fit it through the hood opening.

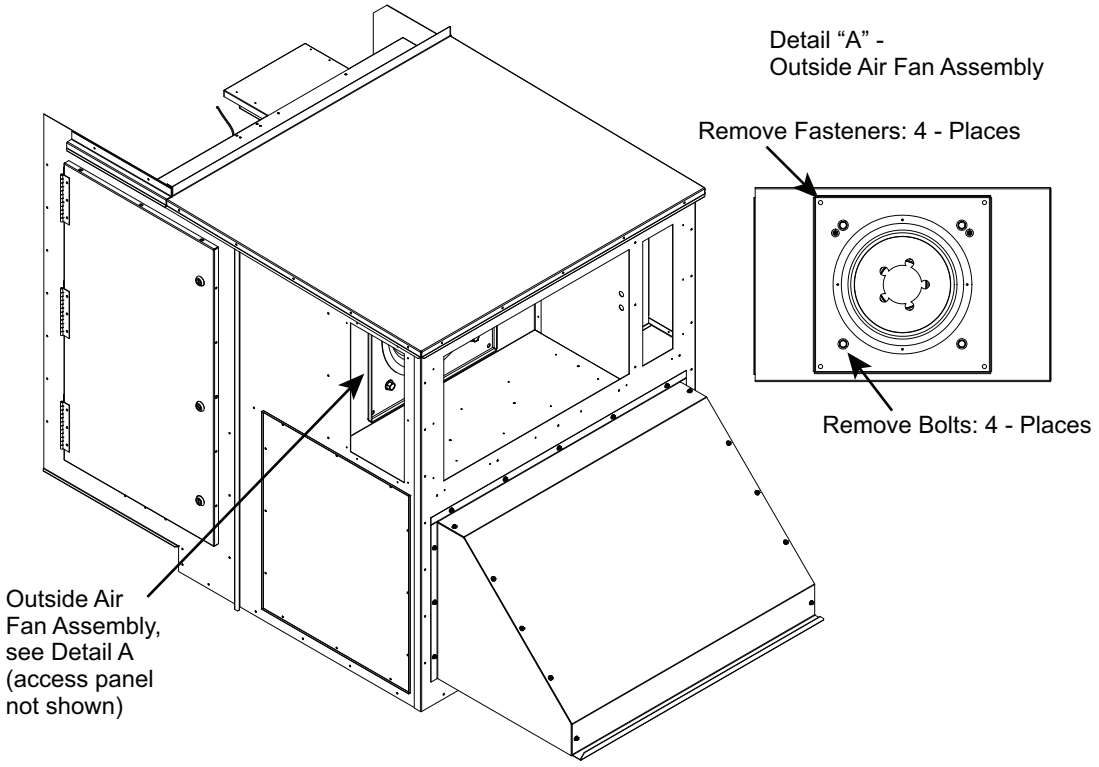
8. Pull the outside air fan out through the hood opening. See Fig. 23.

NOTE: Tilt the fan assembly to fit its back panel through the opening in the dividing wall.



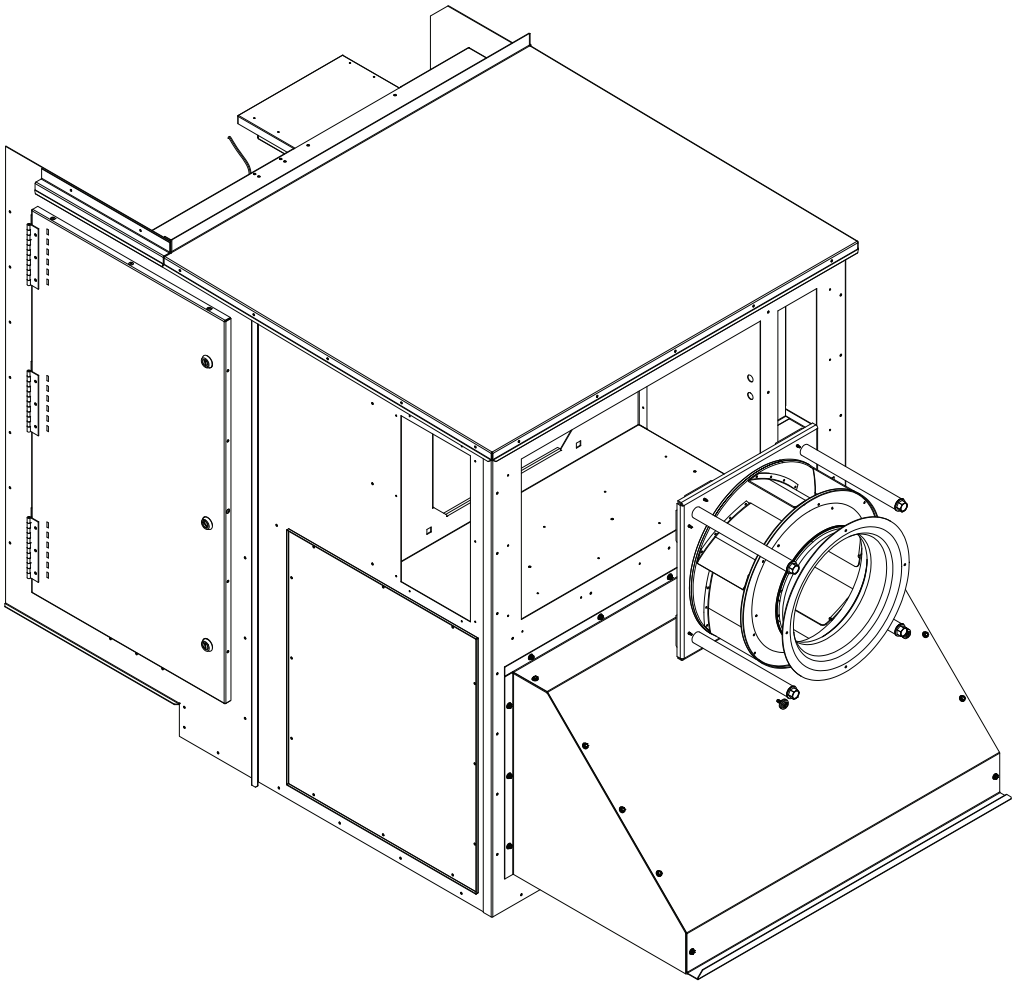
C11493

Fig. 21 - Outside Air Motorized Damper Removal



C11495

Fig. 22 - Remove Fasteners from Corners of Outside Air Fan Assemble



C11496

Fig. 23 - Outside Air Fan Removal

Exhaust Fan Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove the exhaust fan access panel by removing the seal-tek screws around the perimeter (see Fig. 21).

NOTE: Even after all of the screws have been removed from the panel it still may be difficult to remove due to the gasket applied from the original installation. Take care not to damage the gasket. If damage occurs use 9430-2300 gasket to replace before reattaching the panel.

3. Open the door to the EnergyX unit in order to gain access to the exhaust fan front panel.

NOTE: See instructions for removing the wheel and exhaust filters if more room is needed to access the exhaust fan front panel.

4. If installed, remove the exhaust motorized damper.
5. Remove the fasteners around the perimeter of the exhaust fan that secure the exhaust fan front panel to the dividing wall by access through the door of the unit. See Fig. 24.
6. Disconnect connectors PL120 and PL122 as well as the power wires for the exhaust fan motor from the wiring harness inside the air chamber of the EnergyX unit.
7. Remove the exhaust fan by moving it back and then out the side of the unit through the exhaust motorized damper access panel. See Fig. 25.

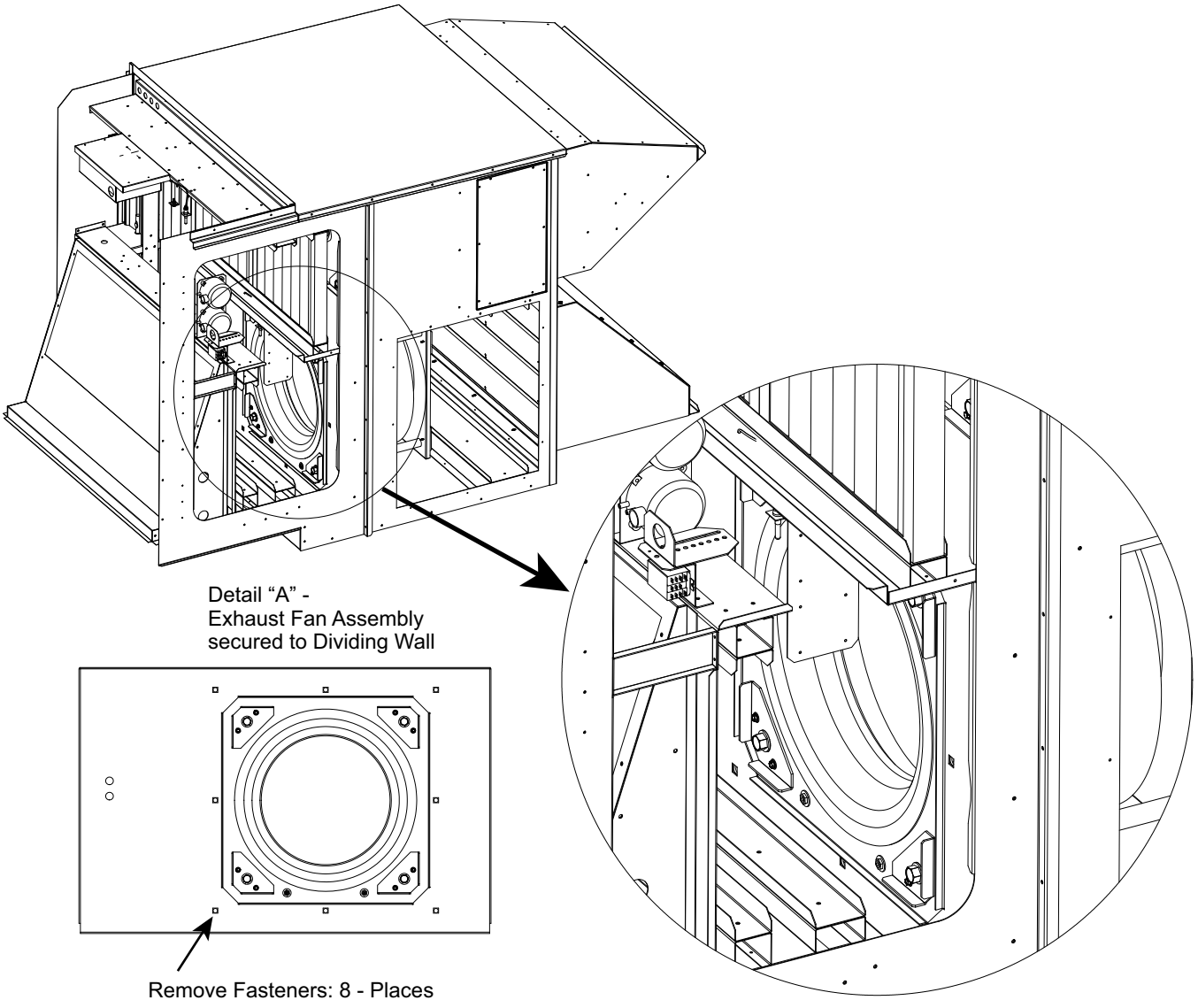
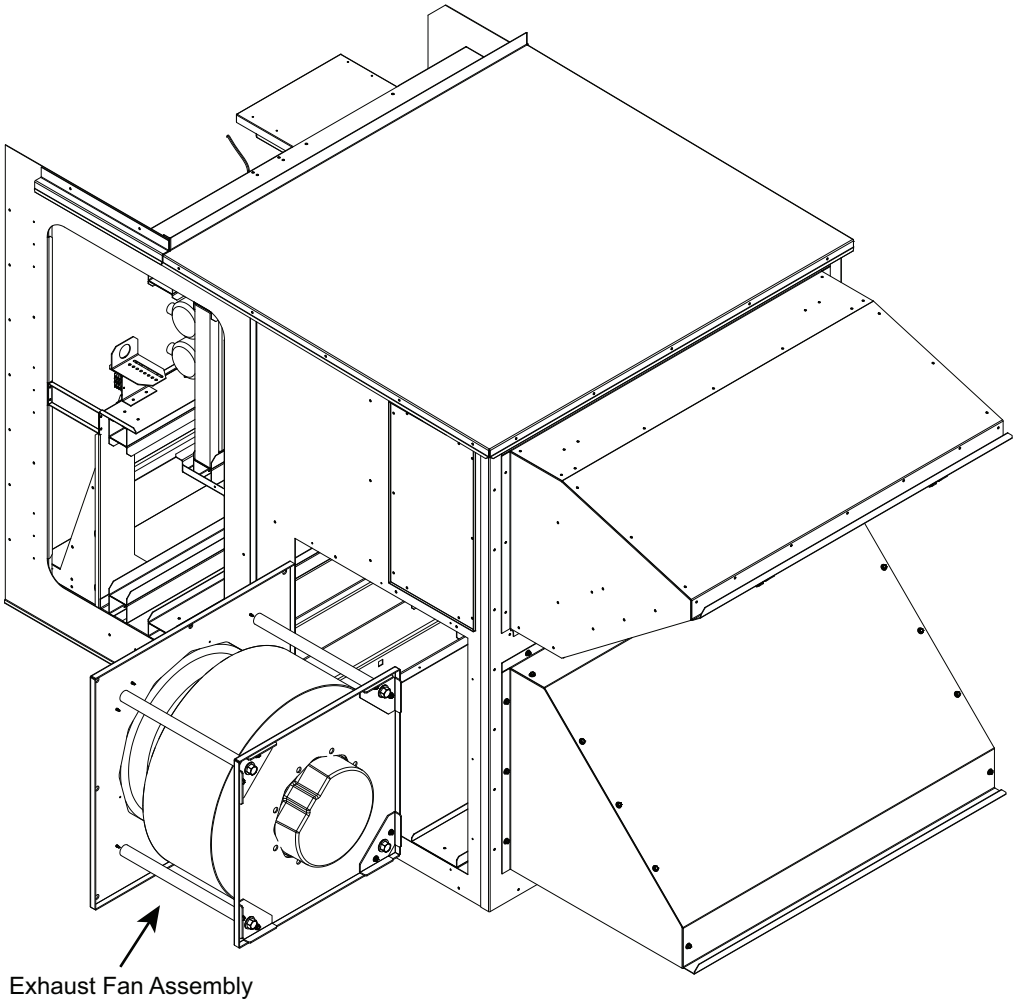


Fig. 24 - Exhaust Fan Assembly - Fastener Locations



C11498

Fig. 25 - Exhaust Fan Assembly - Removal

APPENDIX

Appendix A — Certified Dimension Drawings

Appendix B — Exhaust Fan Performance Curves

EnergyX Modulating Volume 3 - 12.5 Ton Units

Appendix C — Electrical Data for Units Produced on or After July 30, 2012:

Table 13 - 48HC with ERV: Unit Wire/Fuse or HACR Breaker Sizing Data

Table 14 - 48HC with ERV and Factory-Installed HACR Breaker

Table 15 - 48HC with ERV and Factory-Installed 2-Speed Indoor Fan Option

Table 16 - 48HC with ERV, Factory-Installed HACR Breaker and 2-Speed Indoor Fan Option

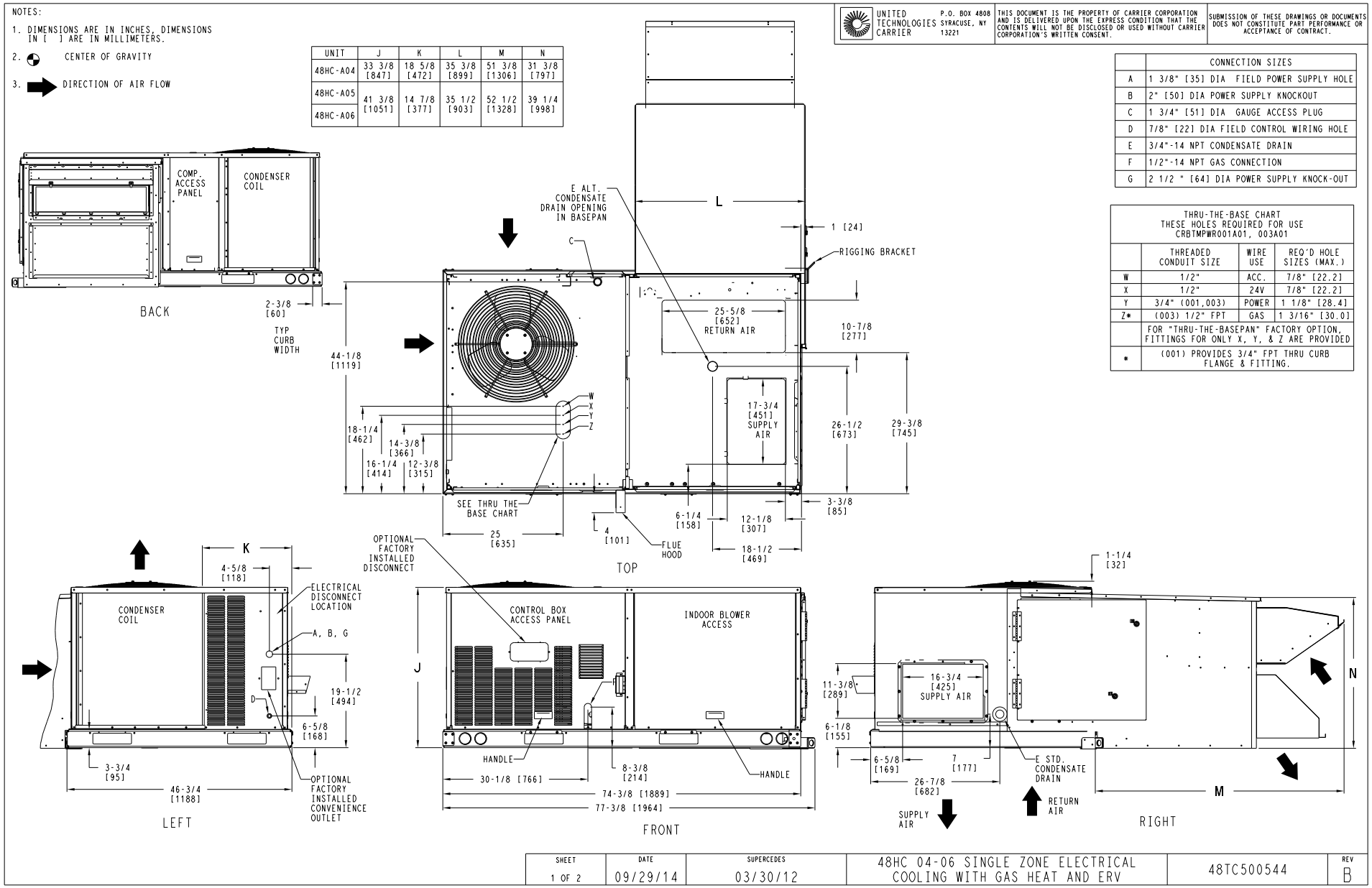
Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker

Table 19 - 50HC with Electric Heat, ERV and 2-Speed Indoor Fan Option

Table 20 - 50HC with Electric Heat, ERV, Factory-Installed HACR Breaker and 2-Speed Indoor Fan Option

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150098

Fig. 26 - 48HC-04-06 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48HC-A04	HIGH CFM	969	440	317	144	529	241	77	35	46	21	46 1/2 (1181)	5 7/8 (151)	19 (483)
48HC-A05	HIGH CFM	1240	564	415	189	742	337	53	24	30	13	47 3/4 (1212)	3 1/8 (79)	20 1/8 (511)
48HC-A06	HIGH CFM	1250	568	422	192	742	337	55	25	31	14	47 3/8 (1205)	3 1/4 (82)	19 1/2 (496)
48HC-A05	LOW CFM	1084	492	334	151	556	252	121	55	73	33	46 1/2 (1181)	8 3/8 (213)	20 1/8 (512)
48HC-A06	LOW CFM	1094	496	337	153	558	253	124	56	75	34	46 3/8 (1179)	8 1/2 (216)	20 1/8 (512)

*- STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTINS AND ACCESSORIES REFER TO THE PRODUCT DATA CATALOG.

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NOTE:
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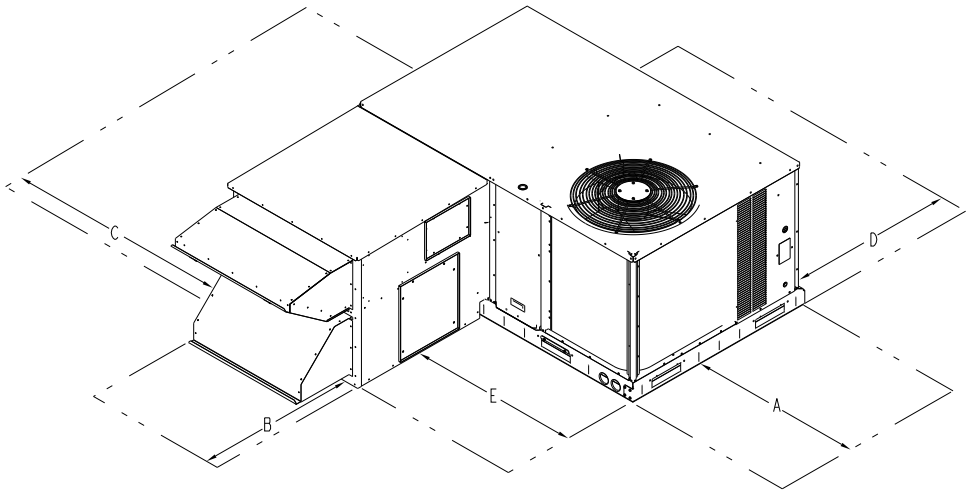
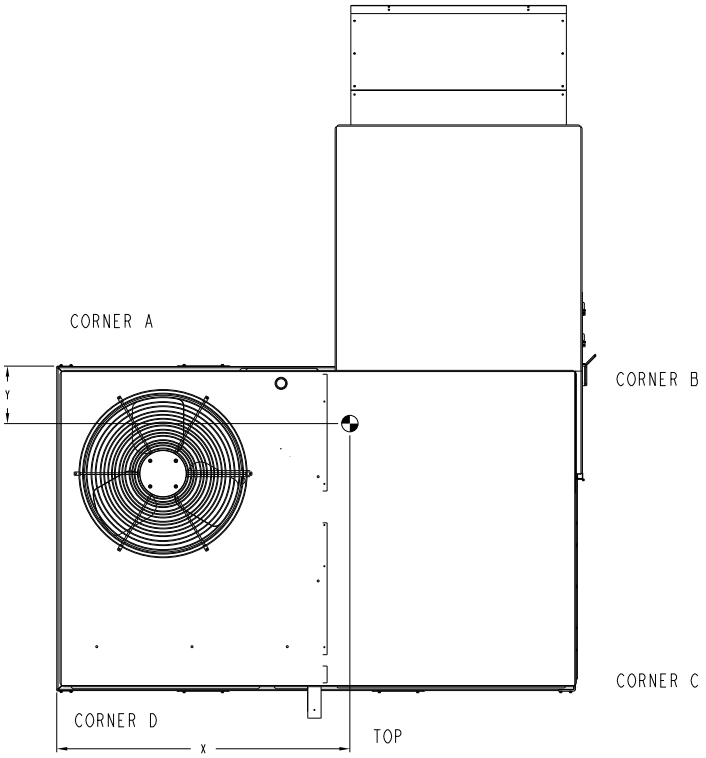
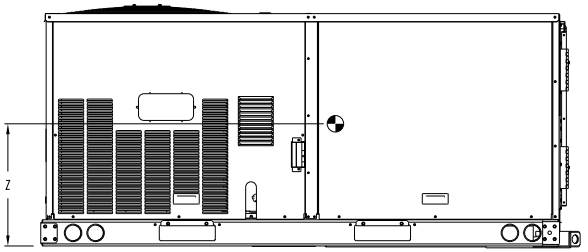






CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	36 (914)	RECOMMENDED SERVICE CLEARANCE
D	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
	SPECIAL	CHECK FOR ADJACENT UNITS OR BUILDING FRESH AIR INTAKES WITHIN 10 FT (3 M) OF THIS UNIT'S FLUE OUTLET
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

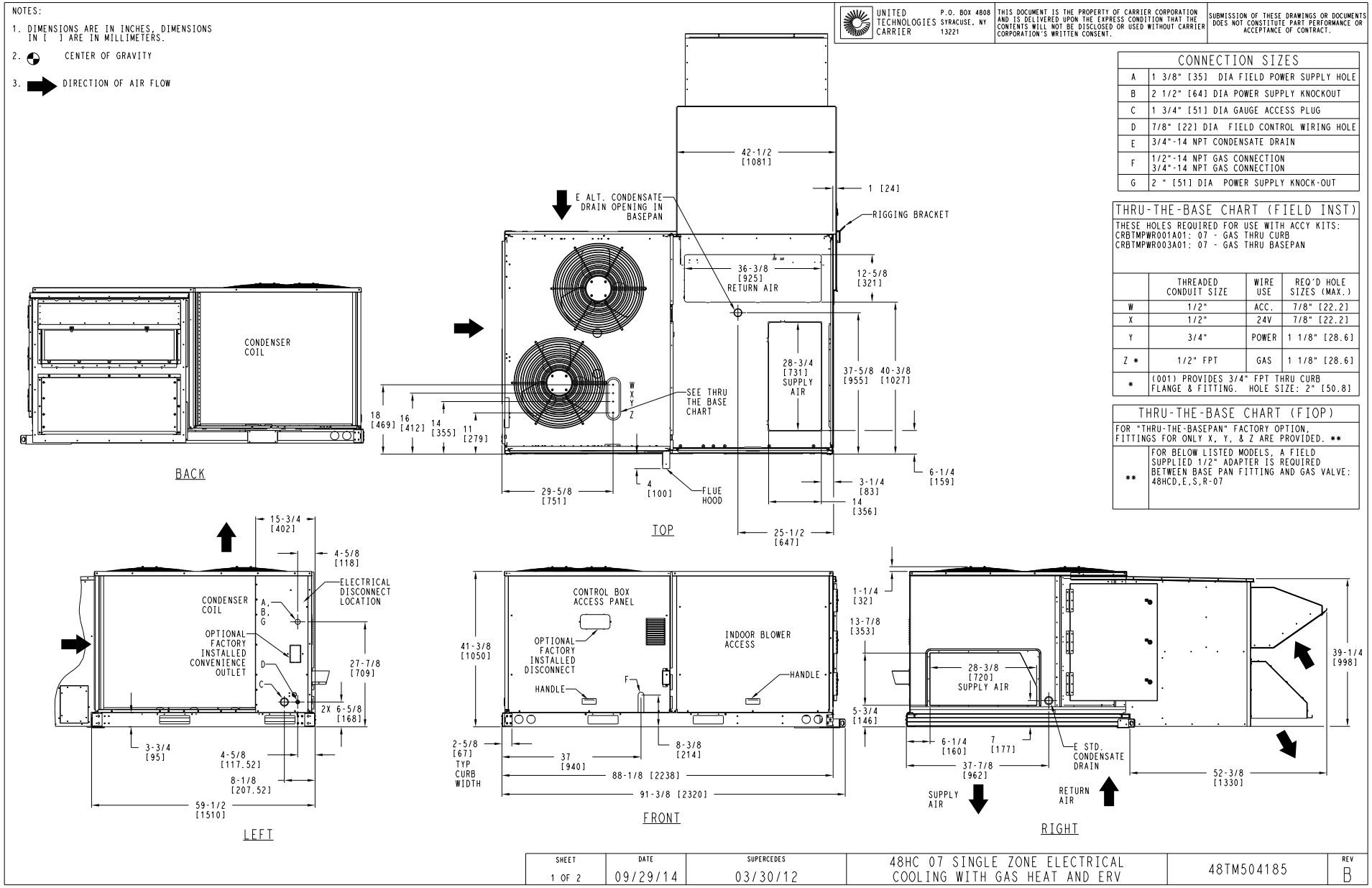
WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE

SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	48HC 04-06 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT AND ERV	48TC500544	B

C150099

Fig. 27 - 48HC-04-06 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150100

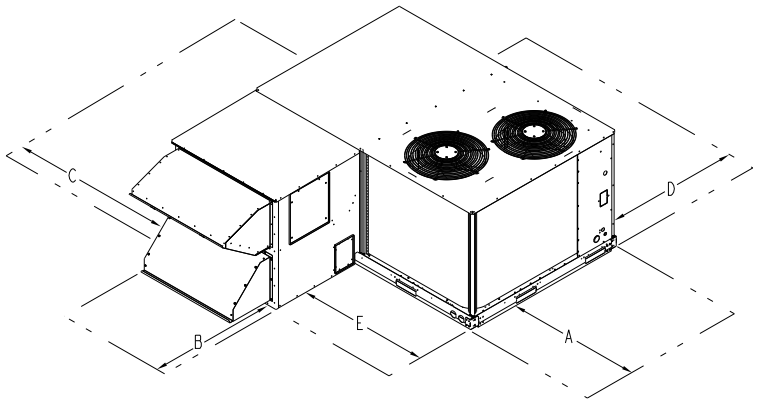
Fig. 28 - 48HC-07 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48HC-A07	HIGH CFM	1435	652	441	200	679	309	191	87	124	56	53 3/8 (1357)	13 (332)	19 7/8 (505)
48HC-A07	LOW CFM	1241	563	358	162	527	239	212	96	144	65	52 1/2 (1333)	17 (433)	20 1/8 (510)

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

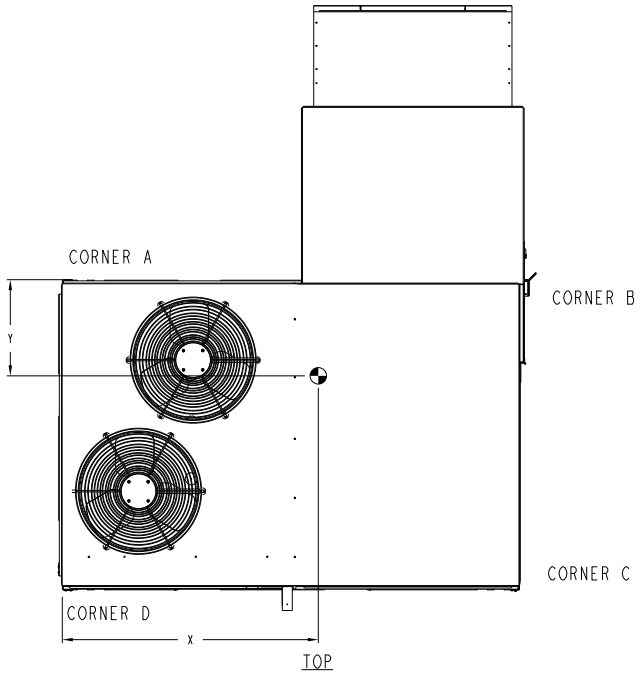
NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.

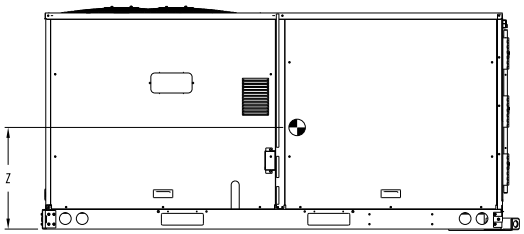


CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	42 (1067)	RECOMMENDED SERVICE CLEARANCE
D	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
	SPECIAL	CHECK FOR ADJACENT UNITS OR BUILDING FRESH AIR INTAKES WITHIN 10 FT (3 M) OF THIS UNIT'S FLUE OUTLET
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE





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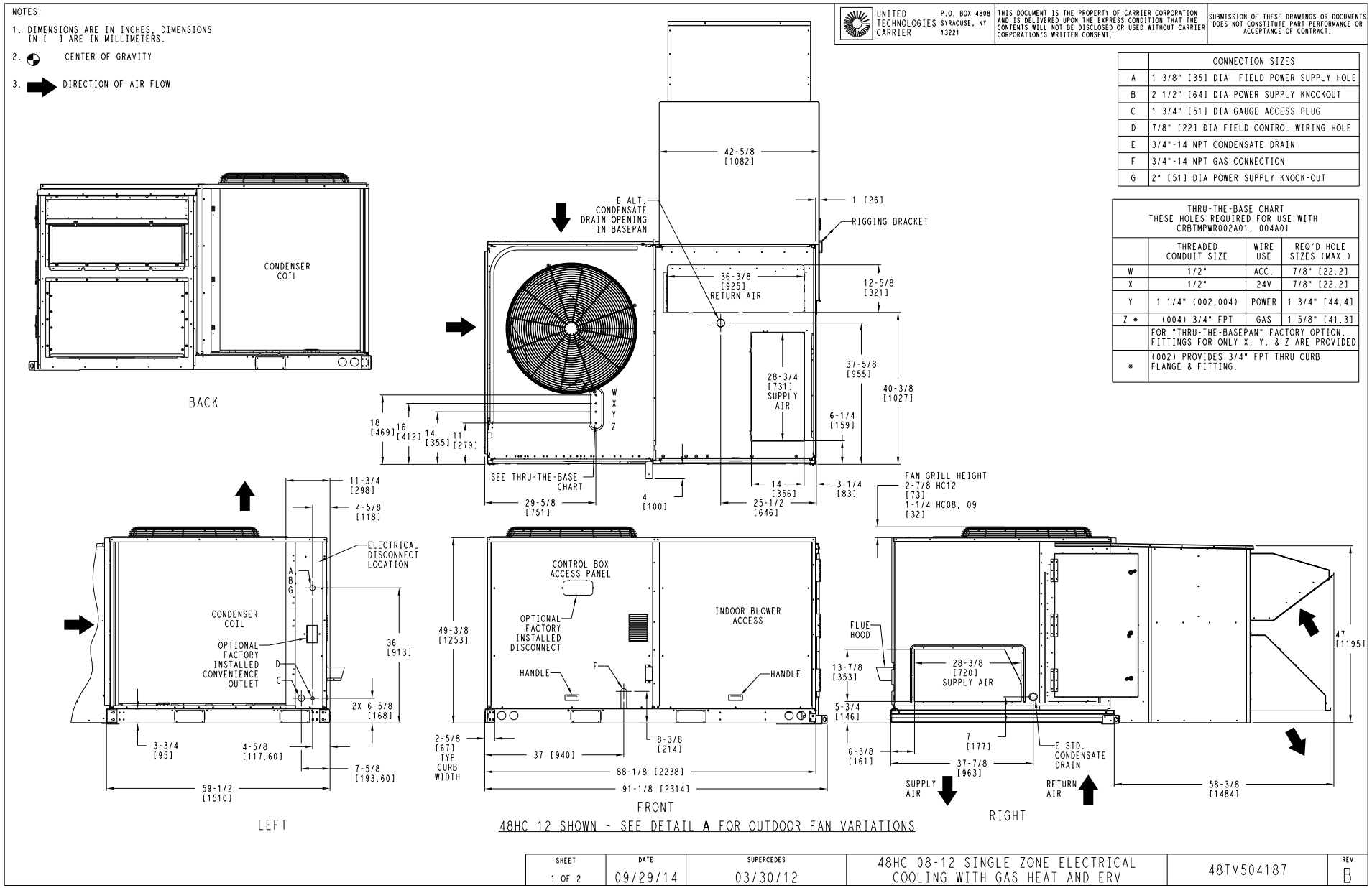
SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	48HC 07 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT AND ERV	48TM504185	B

C150101

Fig. 29 - 48HC-07 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150102

Fig. 30 - 48HC-08-12 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48HC-D08	HIGH CFM	1794	815	598	272	946	430	153	70	97	44	54 (1371)	8 1/4 (211)	22 7/8 (582)
48HC-D09	HIGH CFM	1794	815	598	272	946	430	153	70	97	44	54 (1371)	8 1/4 (211)	22 7/8 (582)
48HC-D11	HIGH CFM	1959	890	773	352	849	386	176	80	161	73	46 1/8 (1171)	10 1/4 (260)	20 3/4 (528)
48HC-D12	HIGH CFM	1959	890	773	352	849	386	176	80	161	73	46 1/8 (1171)	10 1/4 (260)	20 3/4 (528)
48HC-D08	LOW CFM	1583	718	467	212	732	332	234	106	149	68	53 7/8 (1367)	14 3/8 (367)	23 (584)
48HC-D09	LOW CFM	1583	718	467	212	732	332	234	106	149	68	53 7/8 (1367)	14 3/8 (367)	23 (584)
48HC-D11	LOW CFM	1748	793	690	313	758	344	157	71	144	65	45 (1142)	16 (406)	21 3/4 (551)
48HC-D12	LOW CFM	1748	793	690	313	758	344	157	71	144	65	45 (1142)	16 (406)	21 3/4 (551)

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NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.

WARNING:
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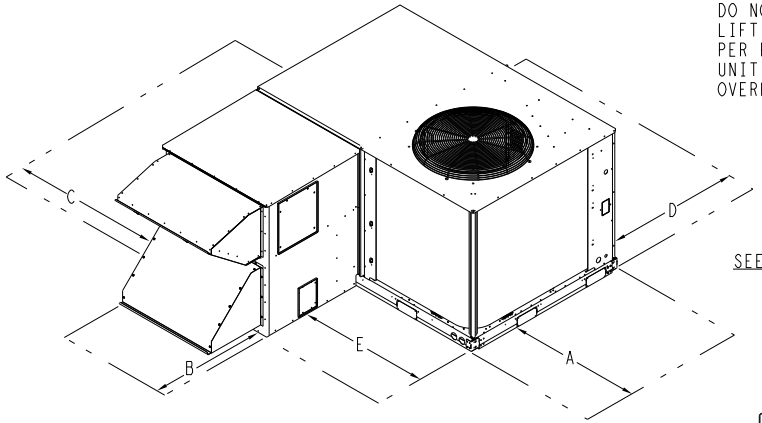
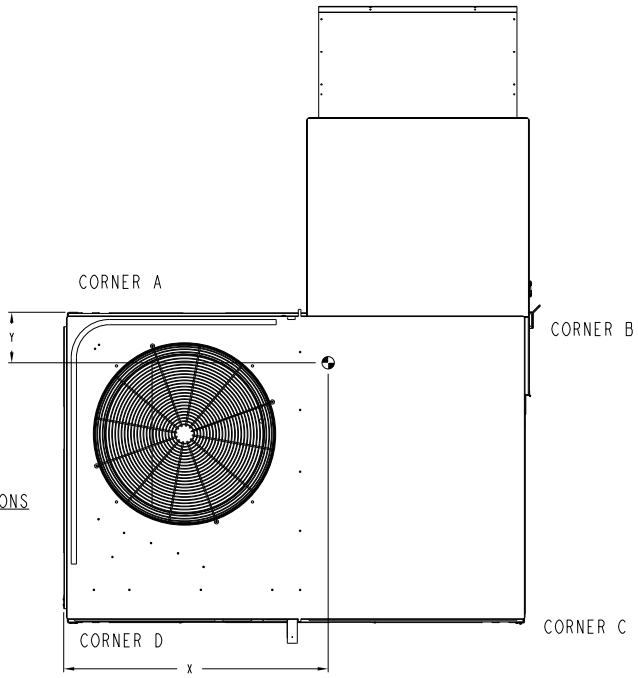


48HC 12 SHOWN -
SEE DETAIL A FOR OUTDOOR FAN VARIATIONS



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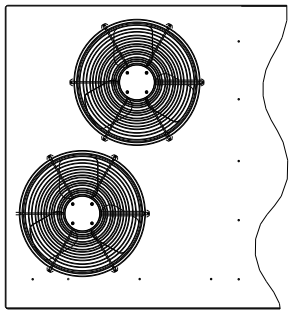
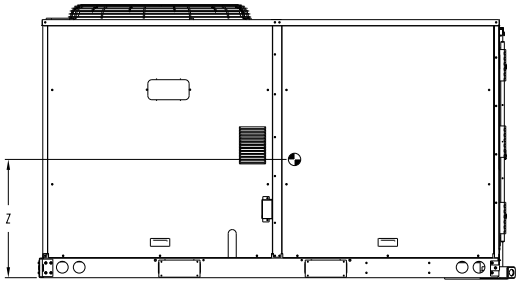


DETAIL A
48HC 08,09



FRONT

CLEARANCES

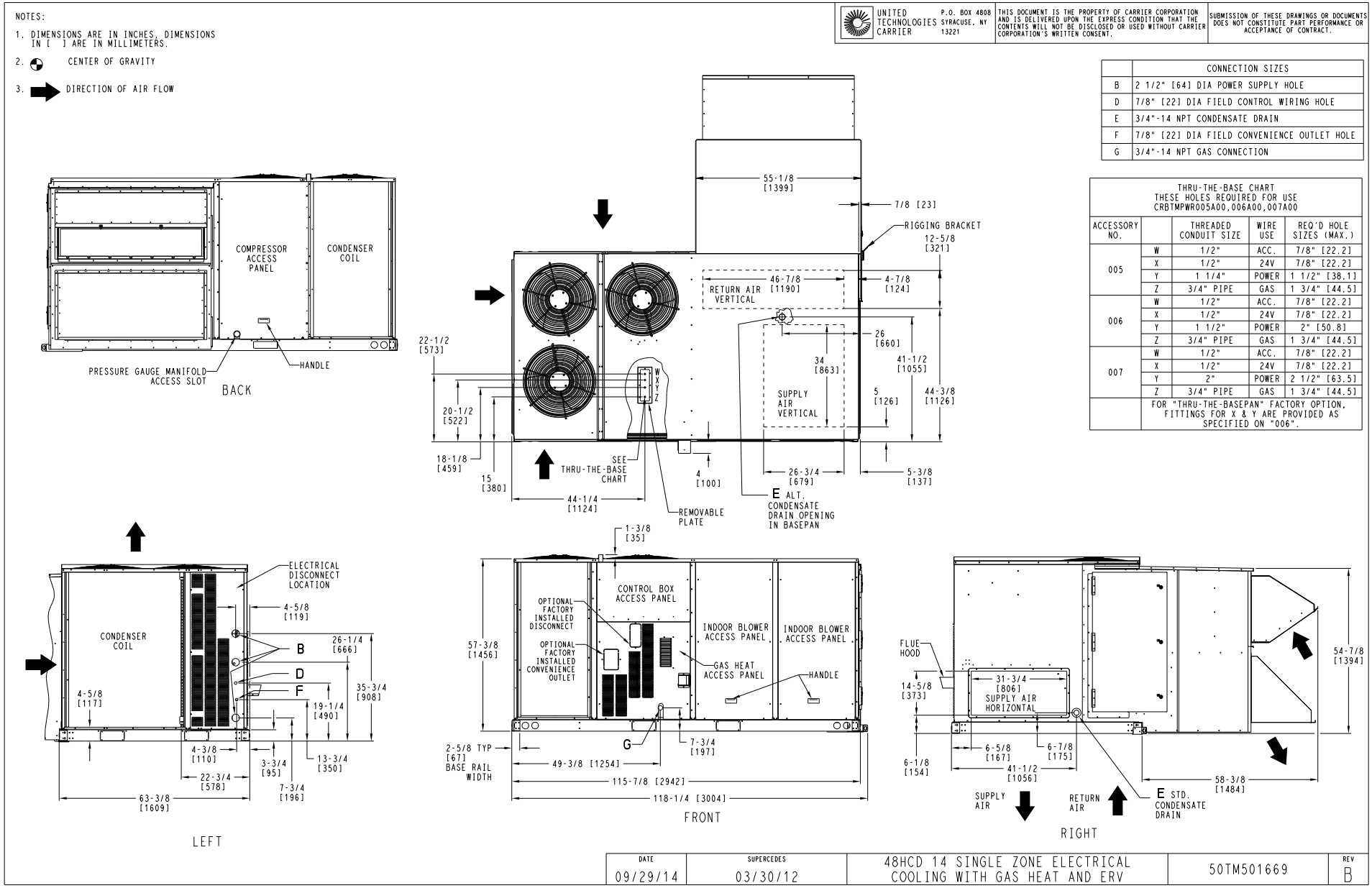
LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	42 (1067)	RECOMMENDED SERVICE CLEARANCE
D	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
	SPECIAL	CHECK FOR ADJACENT UNITS OR BUILDING FRESH AIR INTAKES WITHIN 10 FT (3 M) OF THIS UNIT'S FLUE OUTLET
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	48HC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT AND ERV	48TM504187	B

C150103

Fig. 31 - 48HC-08-12 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150104

Fig. 32 - 48HC-14 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48HCD 14	HIGH CFM	2585	1175	800	364	1379	627	257	117	149	68	73 3/8 (1864)	10 (253)	20 5/8 (525)
48HCD 14	LOW CFM	2386	1082	671	305	1183	537	339	154	192	87	73 7/8 (1878)	14 1/8 (358)	23 1/2 (596)

STANDARD UNIT WEIGHT IS WITH LOW HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

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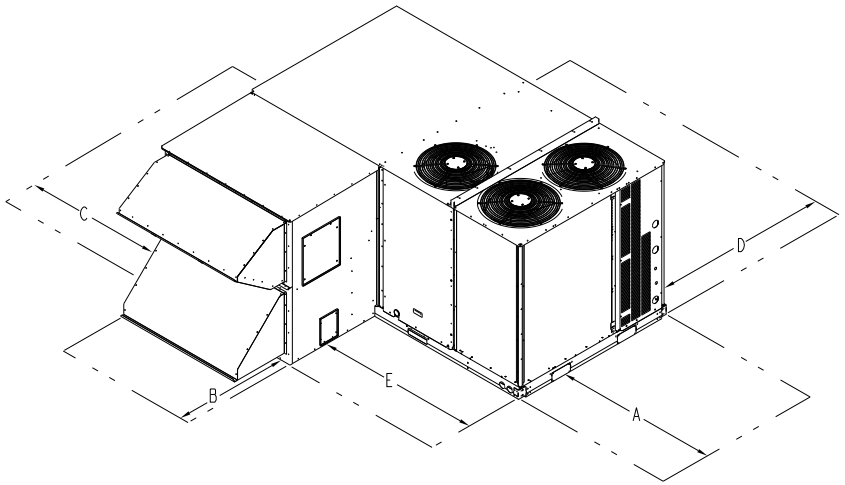
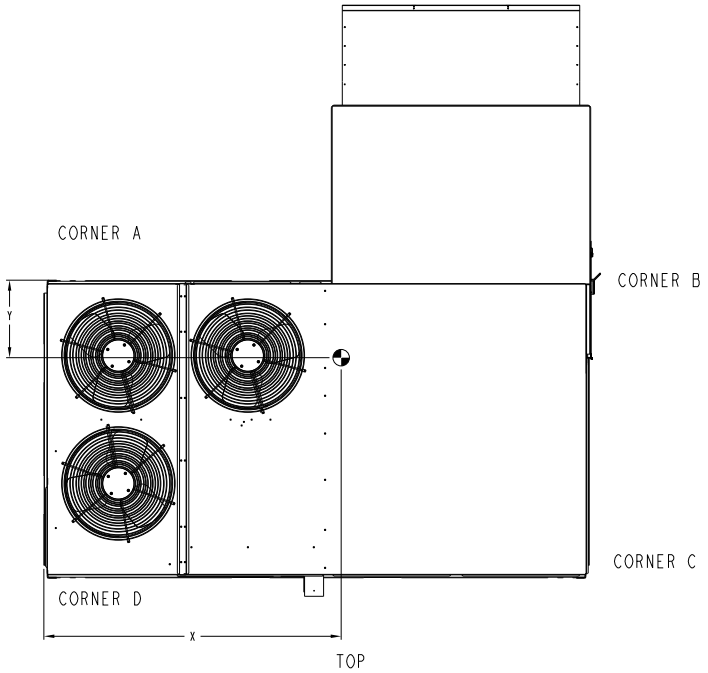
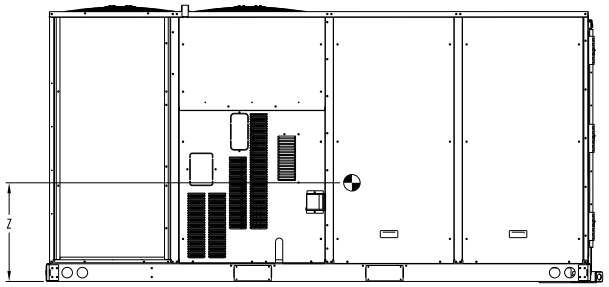






CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	54 (1372)	RECOMMENDED SERVICE CLEARANCE
D	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
	SPECIAL	CHECK FOR ADJACENT UNITS OR BUILDING FRESH AIR INTAKES WITHIN 10 FT (3 M) OF THIS UNIT'S FLUE OUTLET
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

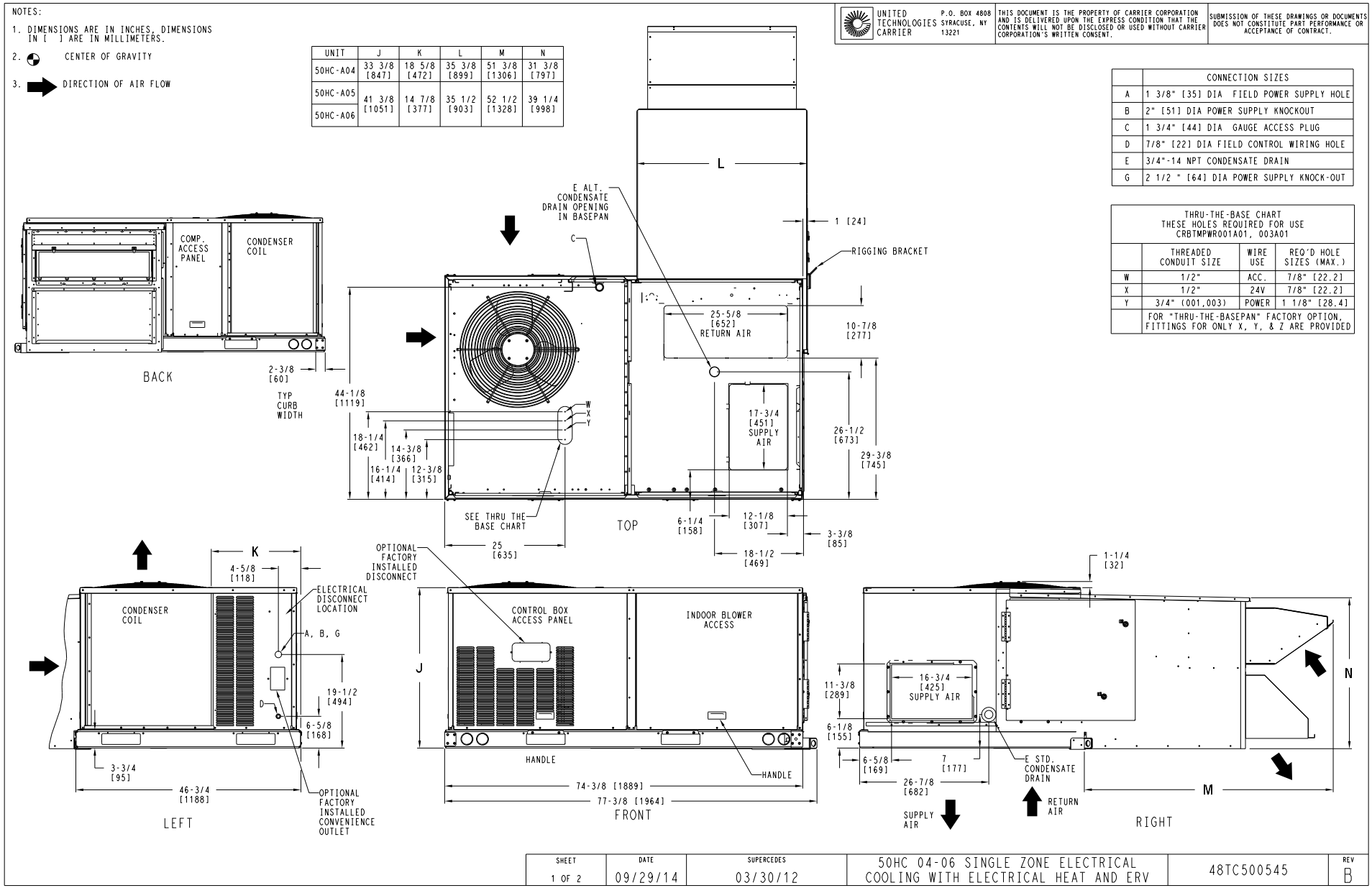
WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE

DATE	SUPERCEDES			REV
09/29/14	03/30/12	48HCD 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT AND ERV	50TM501669	B

C150105

Fig. 33 - 48HC-14 Single Zone Electric Cooling with Gas Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150106

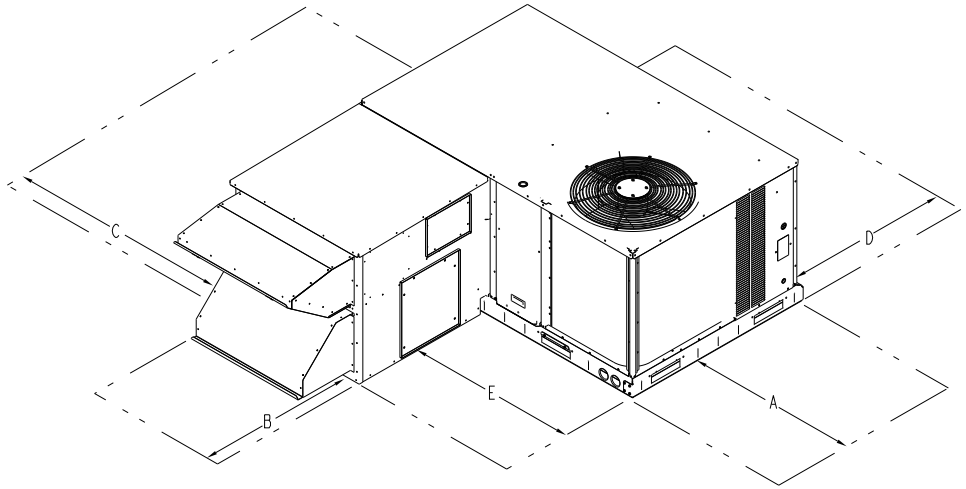
Fig. 34 - 50HC-04-06 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC-A04	HIGH CFM	922	419	320	146	521	237	50	23	31	14	46 (1170)	4 1/8 (104)	19 3/4 (503)
50HC-A05	HIGH CFM	1195	543	419	190	735	334	26	12	15	7	47 3/8 (1204)	1 5/8 (41)	20 7/8 (530)
50HC-A06	HIGH CFM	1200	545	424	193	734	334	27	12	16	7	47 1/8 (1197)	1 5/8 (42)	20 1/4 (514)
50HC-A05	LOW CFM	1039	471	320	145	547	248	108	49	63	29	47 (1192)	7 3/4 (196)	20 1/8 (512)
50HC-A06	LOW CFM	1044	474	321	146	548	249	110	50	64	29	46 7/8 (1191)	7 3/4 (196)	20 1/8 (512)

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

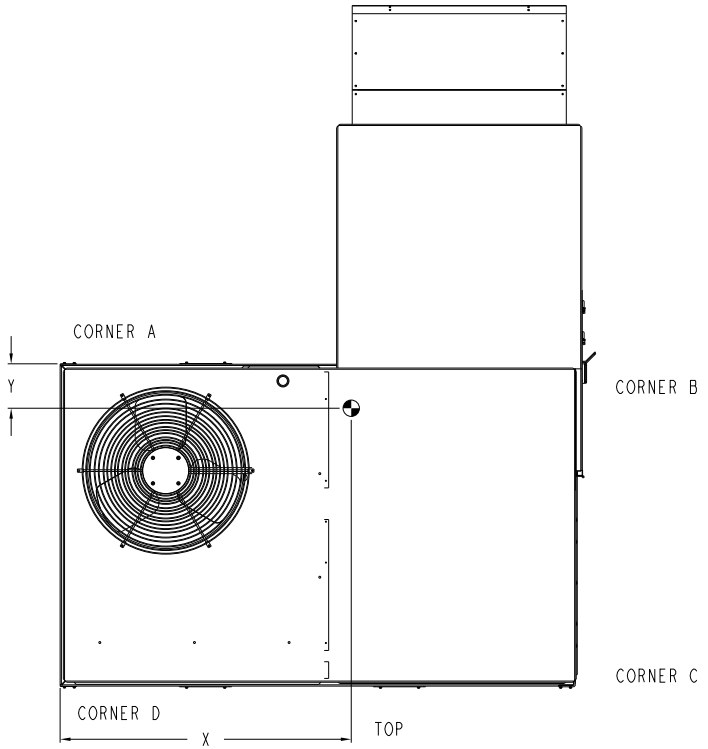
NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.

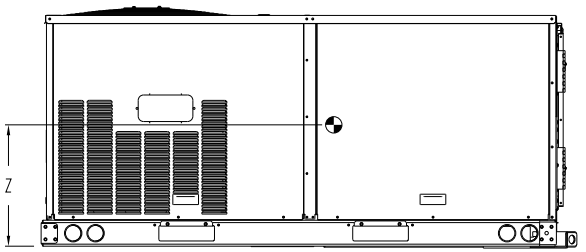


CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	36 (914)	RECOMMENDED SERVICE CLEARANCE
D	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE





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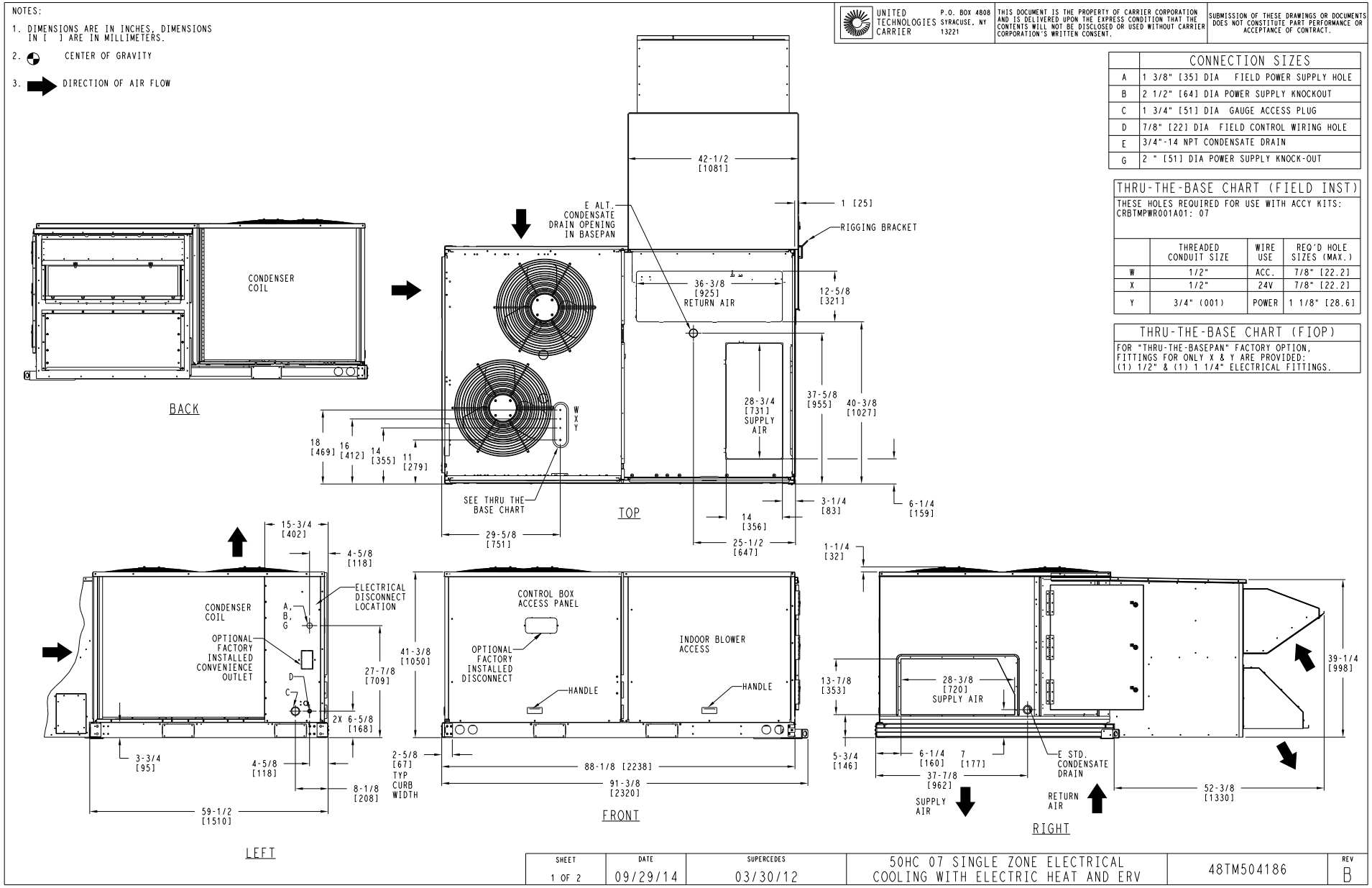
SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	50HC 04-06 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRICAL HEAT AND ERV	48TC500545	B

C150107

Fig. 35 - 50HC-04-06 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150108

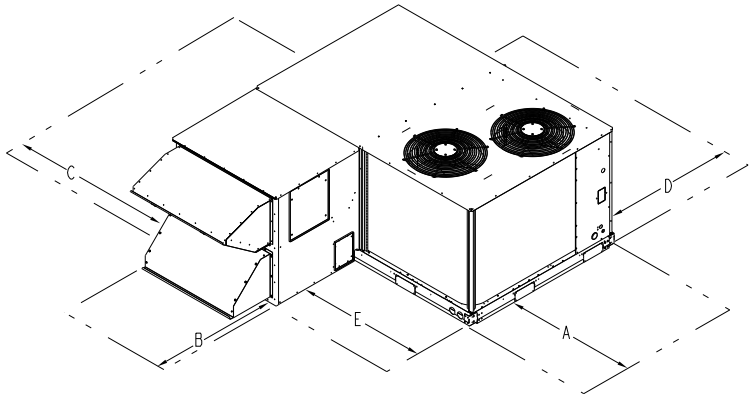
Fig. 36 - 50HC-07 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC-A07	HIGH CFM	1385	630	437	198	669	304	169	77	110	50	53 3/8 (1354)	12 (305)	20 1/2 (520)
50HC-A07	LOW CFM	1191	540	354	161	517	234	190	86	130	59	52 1/4 (1328)	16 (407)	20 1/2 (520)

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

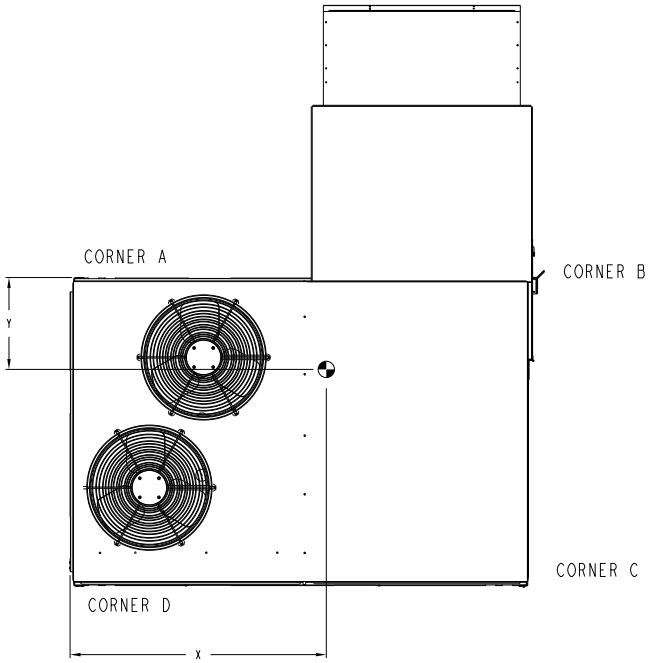
NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.



CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	42 (1067)	RECOMMENDED SERVICE CLEARANCE
D	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE



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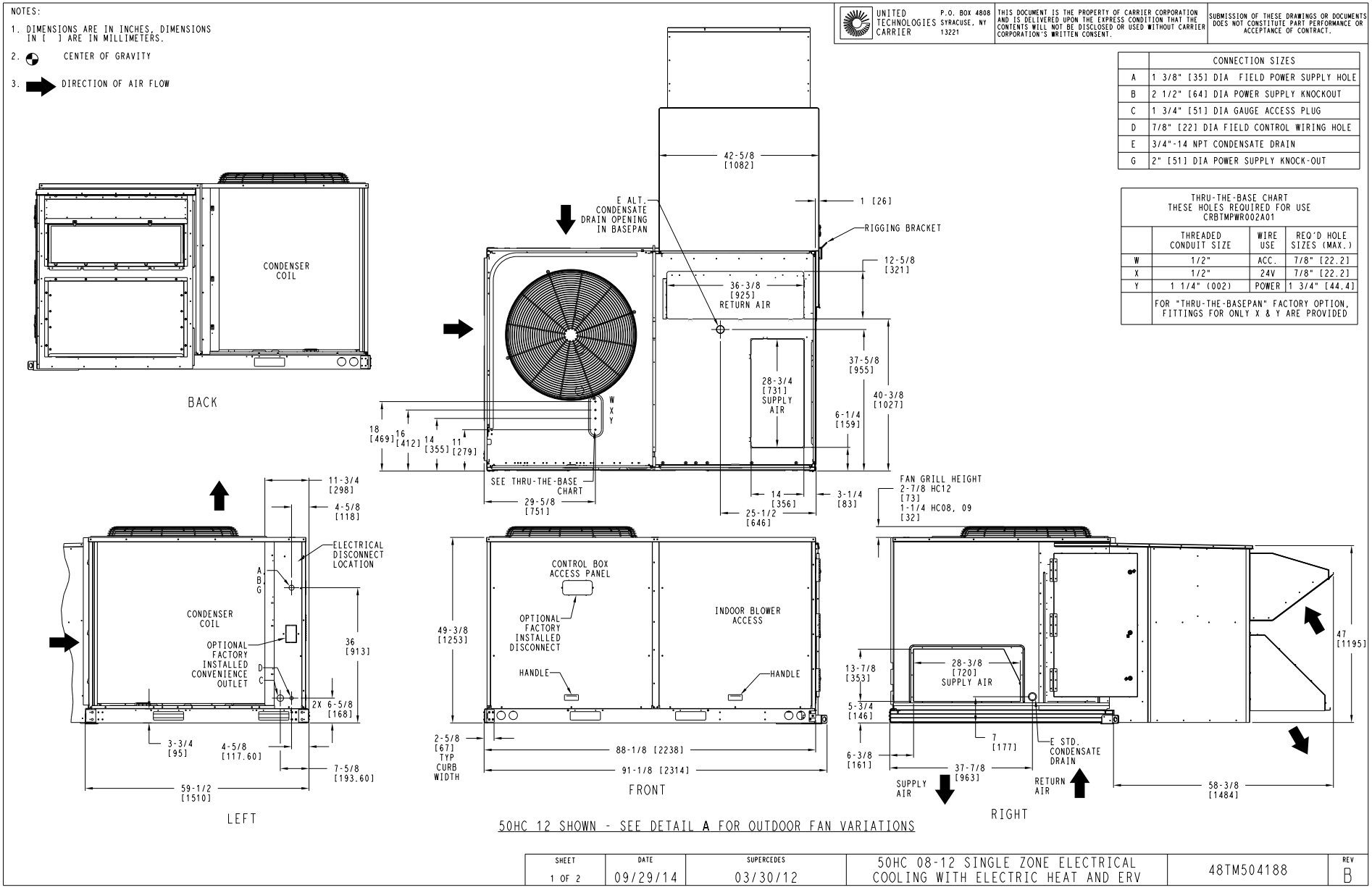
SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	50HC 07 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT AND ERV	48TM504186	B

C150109

Fig. 37 - 50HC-07 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150110

Fig. 38 - 50HC-08-12 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 1 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HC-D08	HIGH CFM	1729	786	594	270	931	423	125	57	80	36	53 7/8 (1367)	7 (179)	23 3/4 (603)
50HC-D09	HIGH CFM	1729	786	594	270	931	423	125	57	80	36	53 7/8 (1367)	7 (179)	23 3/4 (603)
50HC-D11	HIGH CFM	1894	861	772	351	831	378	151	69	140	64	45 3/4 (1161)	9 1/8 (232)	21 3/8 (543)
50HC-D12	HIGH CFM	1894	861	772	351	831	378	151	69	140	64	45 3/4 (1161)	9 1/8 (232)	21 3/8 (543)
50HC-D08	LOW CFM	1518	689	463	210	718	326	205	93	132	60	53 5/8 (1361)	13 1/4 (336)	23 1/2 (598)
50HC-D09	LOW CFM	1518	689	463	210	718	326	205	93	132	60	53 5/8 (1361)	13 1/4 (336)	23 1/2 (598)
50HC-D11	LOW CFM	1683	763	624	283	635	288	214	97	210	95	44 1/2 (1130)	15 (381)	22 1/8 (562)
50HC-D12	LOW CFM	1683	763	624	283	635	288	214	97	210	95	44 1/2 (1130)	15 (381)	22 1/8 (562)

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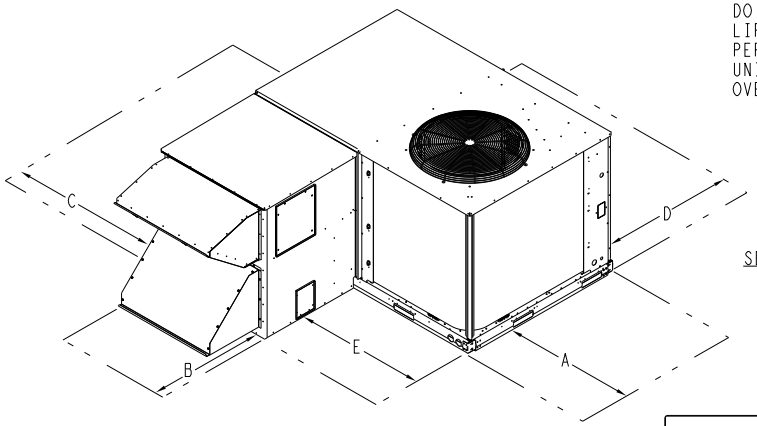
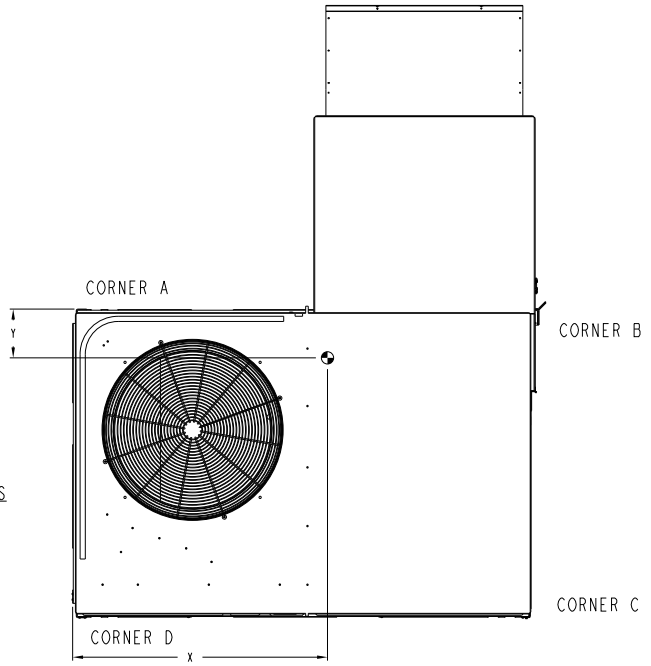
* STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

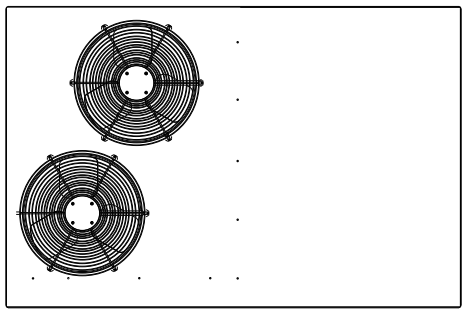
NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.

WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE

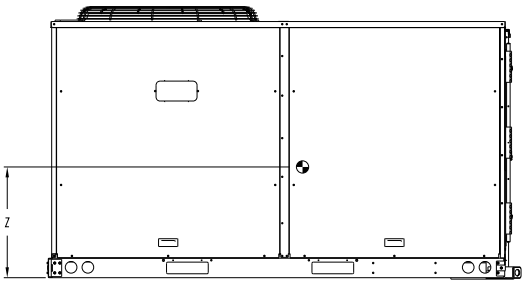


50HC 12 SHOWN -
SEE DETAIL A FOR OUTDOOR FAN VARIATIONS





DETAIL A
50HC 08,09



CLEARANCES

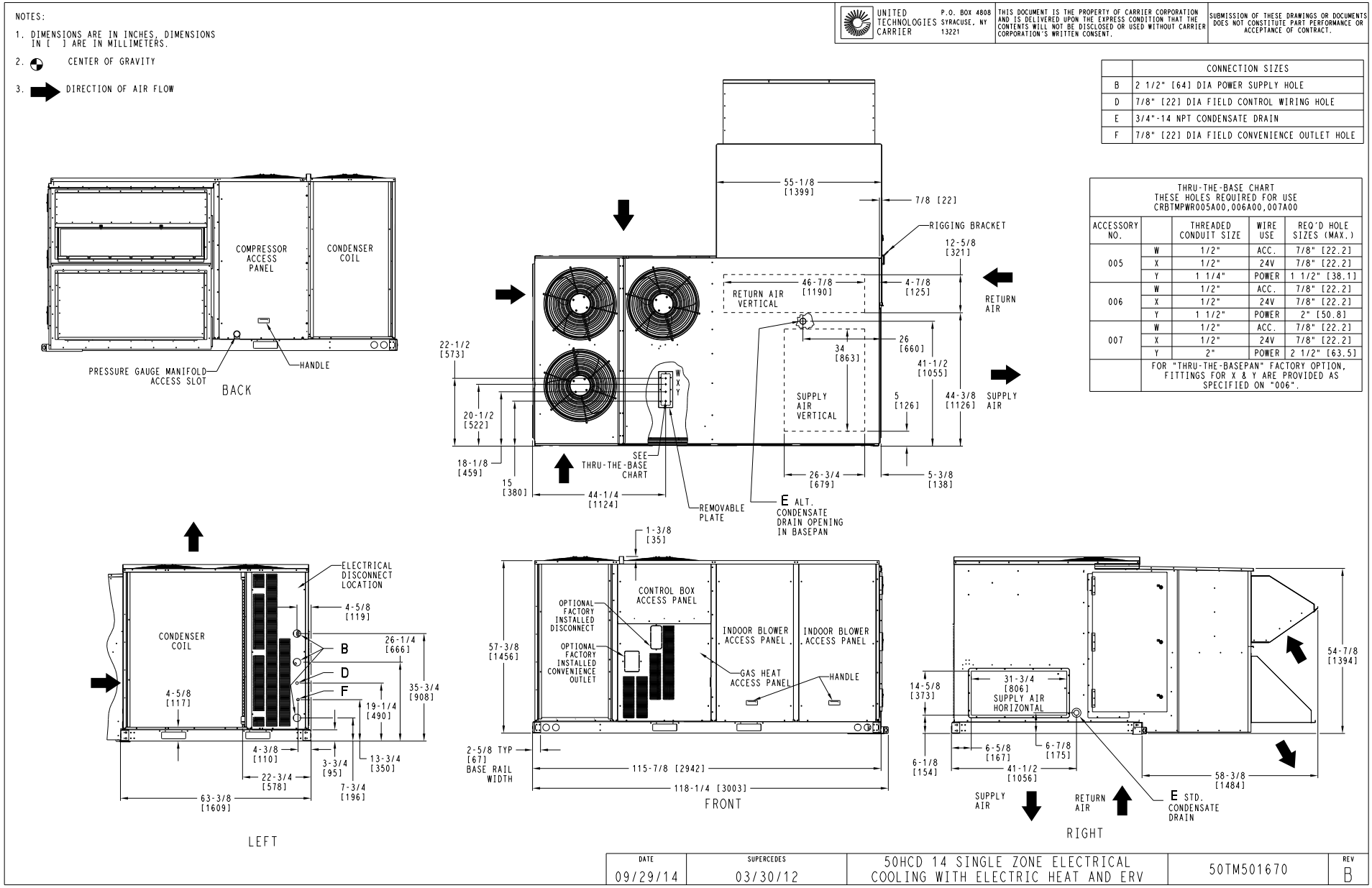
LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	42 (1067)	RECOMMENDED SERVICE CLEARANCE
D	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

SHEET	DATE	SUPERCEDES			REV
2 OF 2	09/29/14	03/30/12	50HC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT AND ERV	48TM504188	B

C150111

Fig. 39 - 50HC-08-12 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 2 of 2)

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



C150112

Fig. 40 - 50HC-14 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 1 of 2)

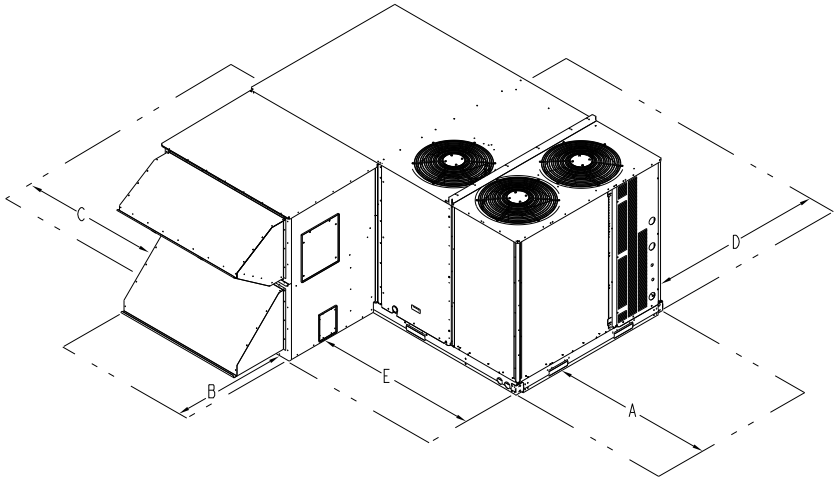
APPENDIX A — CERTIFIED DIMENSION DRAWINGS

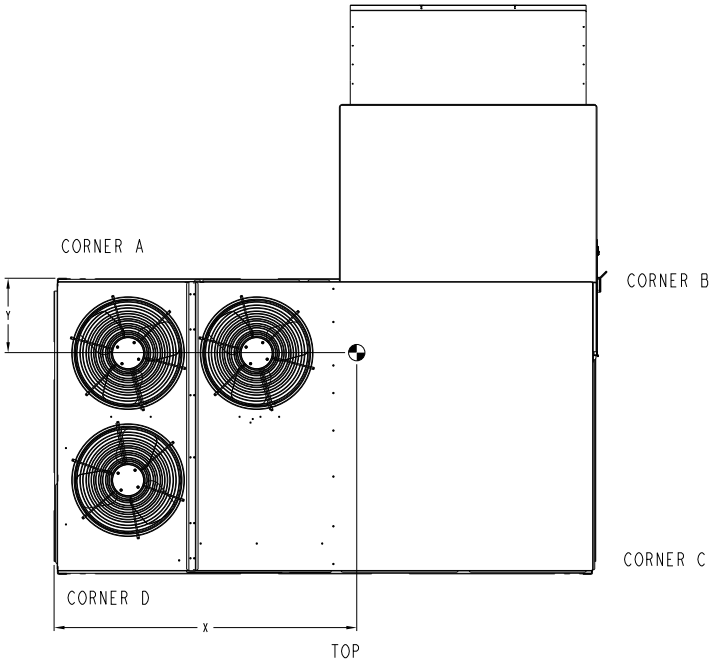
UNIT	ERV	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HCD 14	HIGH CFM	2515	1143	792	360	1363	620	228	104	132	60	73 3/8 (1864)	9 1/8 (231)	21 1/8 (537)
50HCD 14	LOW CFM	2316	1051	662	300	1168	530	310	141	176	80	74 (1879)	13 1/4 (338)	23 7/8 (606)

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

UNITED TECHNOLOGIES CARRIER P.O. BOX 4808 SYRACUSE, NY 13221

NOTE:
UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.

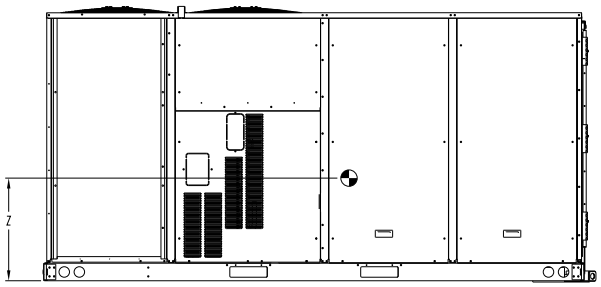




CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
	12 (305)	MINIMUM CLEARANCE
B	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	54 (1372)	RECOMMENDED SERVICE CLEARANCE
D	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICER IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS)
E	36 (914)	RECOMMENDED SERVICE CLEARANCE

WARNING:
DO NOT LIFT UNIT THROUGH FORK LIFT OPENINGS IN UNIT BASERAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE



FRONT

DATE	SUPERCEDES			REV
09/29/14	03/30/12	50HCD 14 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT AND ERV	50TM501670	B

C150113

Fig. 41 - 50HC-14 Single Zone Electric Cooling with Electric Heat and ERV (Sheet 2 of 2)

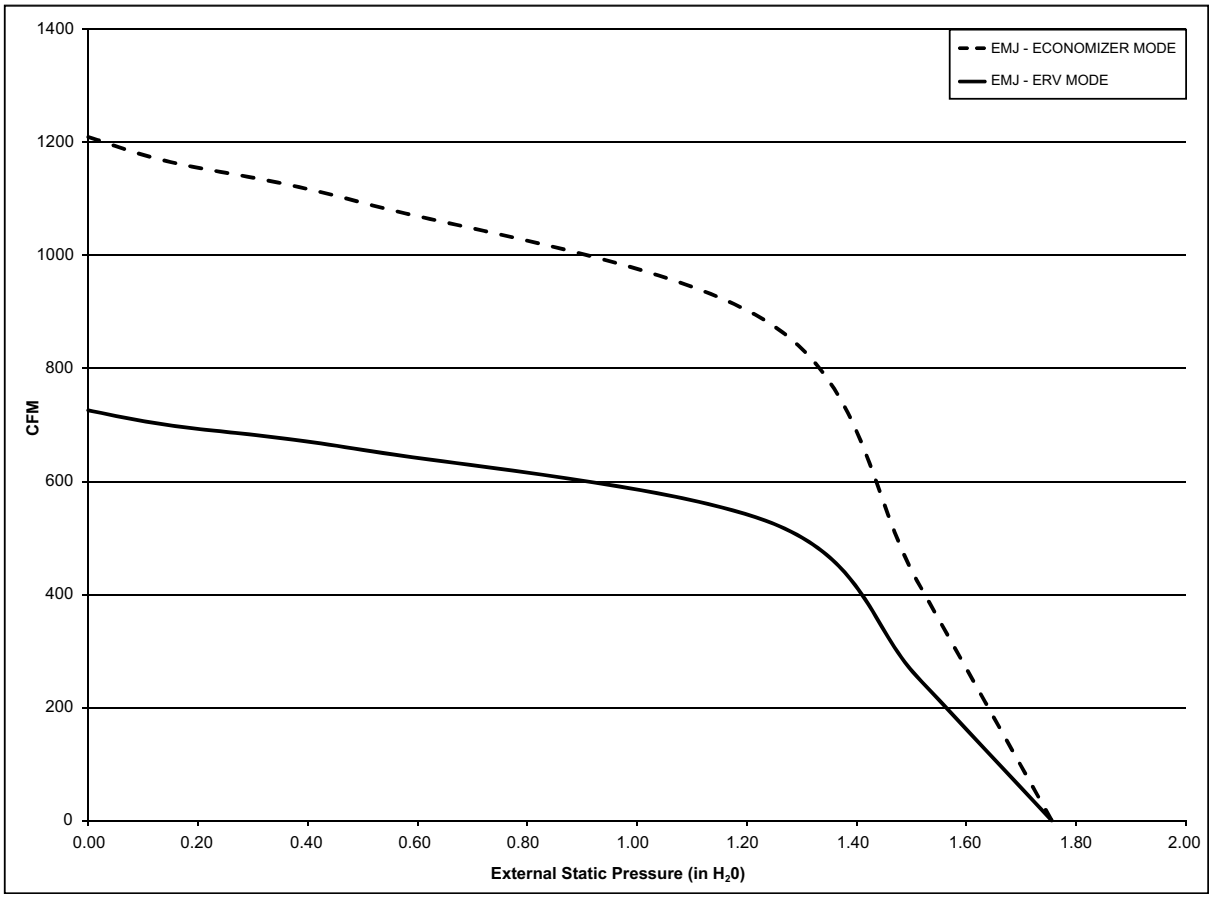
APPENDIX B — EXHAUST FAN PERFORMANCE

Many applications that utilize energy recovery incorporate ducted return/exhaust air paths. In these applications it is important to consider the duct pressure of the return/exhaust just as a designer would consider the effects of the supply duct static pressure on the airflow of the rooftop unit itself.

EnergyX Modulating Volume 3-12.5 Ton Units

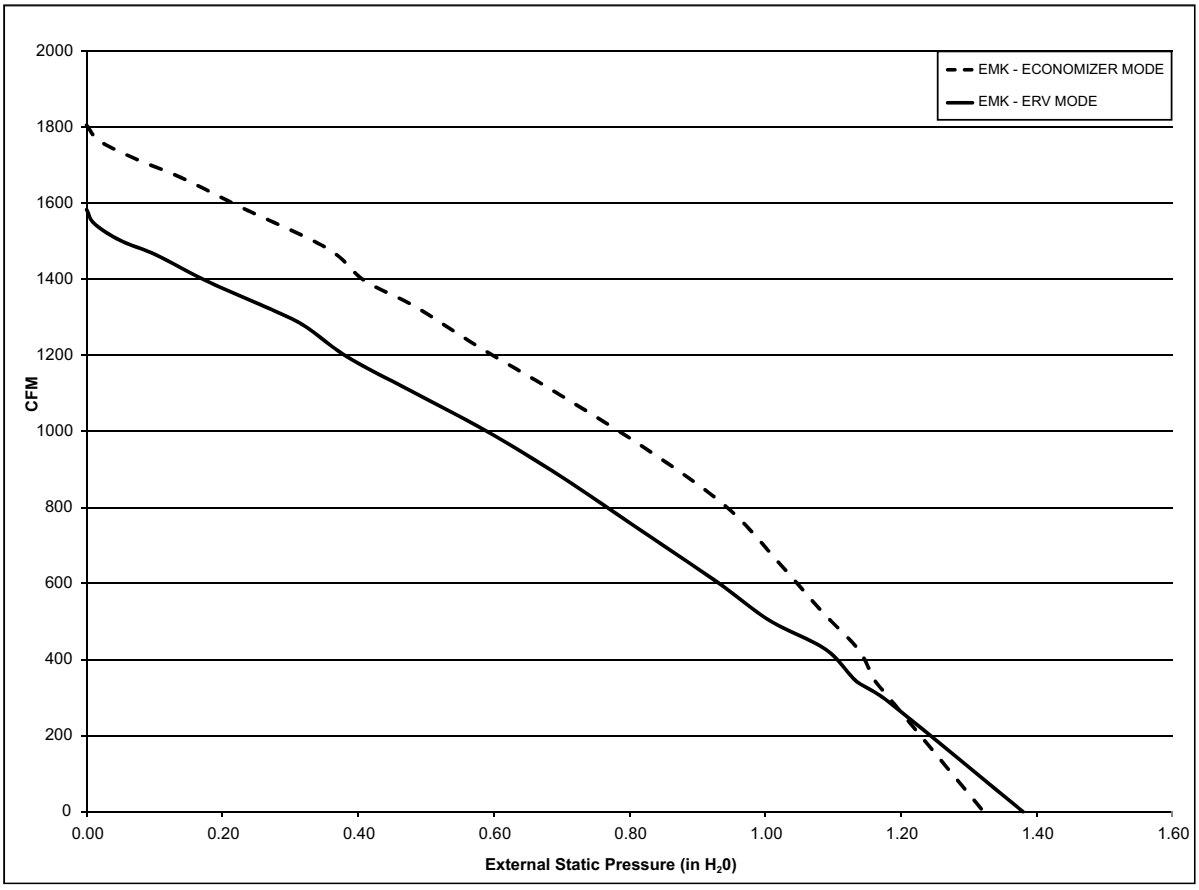
The exhaust fan in the Modulated Volume EnergyX unit will assist the rooftop unit fan in pulling air through the exhaust/return duct. These exhaust fans are backwards curved impeller designs which are capable of significant more static pressure operation than typical forward curved fan designs. The following exhaust fan performance curves are provided for additional guidance when considering return/exhaust duct design.

NOTE: If application designs require two separate ducts (one for exhaust air, one for return air) contact your Carrier Sales Engineer for additional guidance prior to specification or ordering.



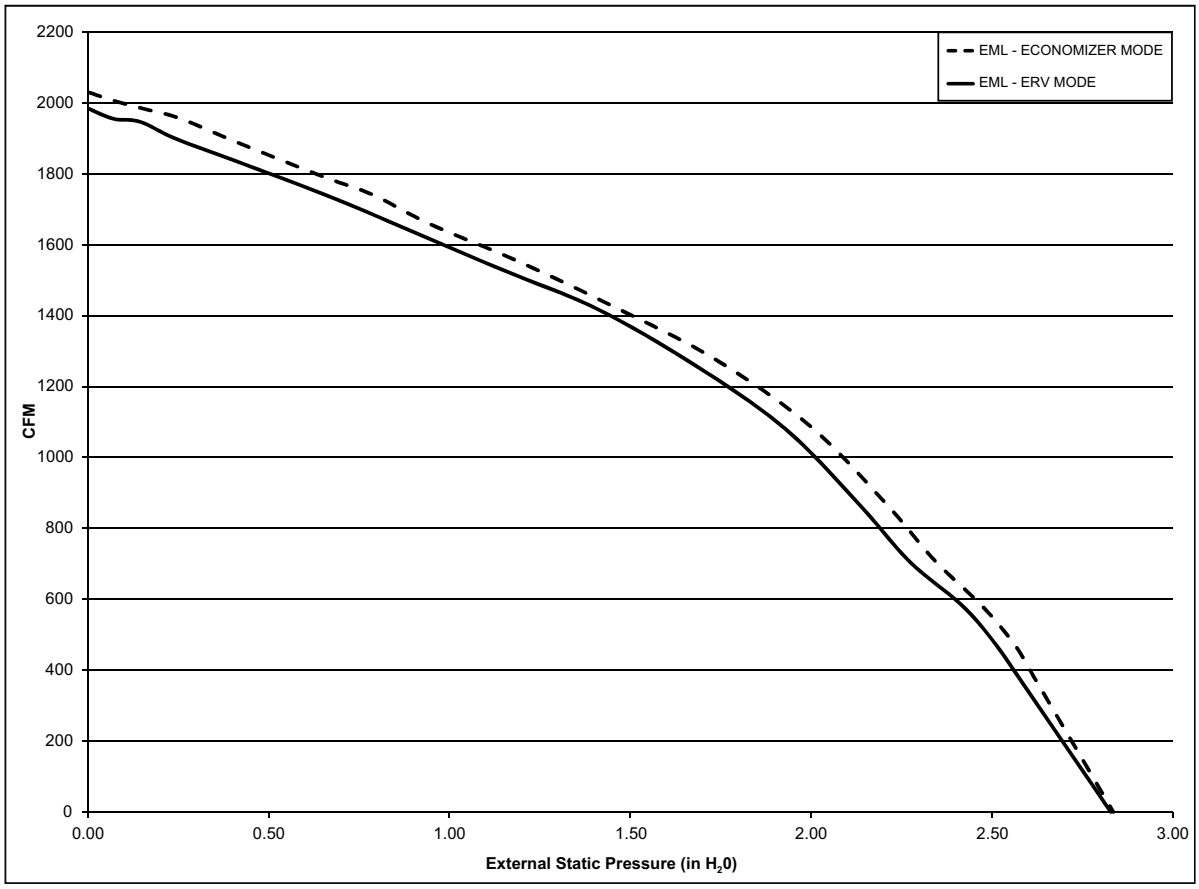
C12206

Fig. 42 - 3 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves



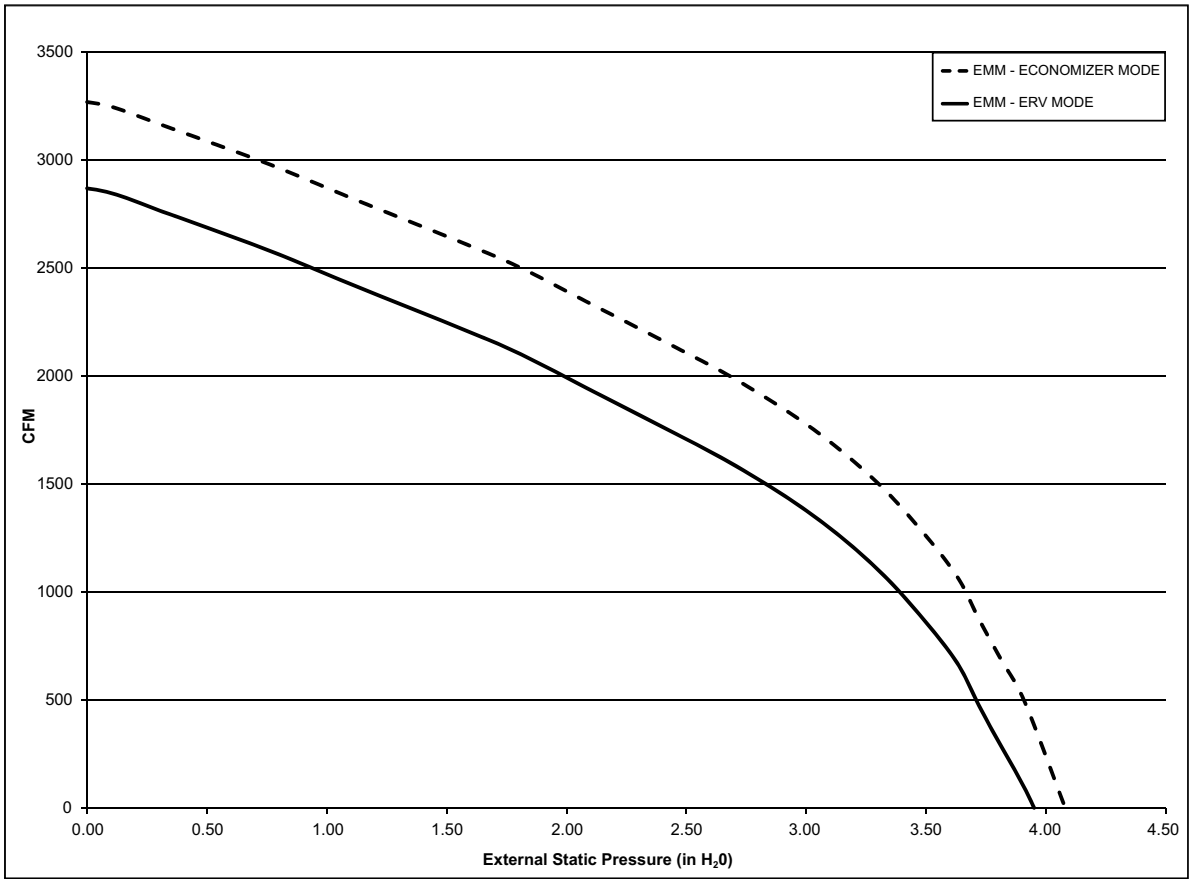
C12207

Fig. 43 - 4-5 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves



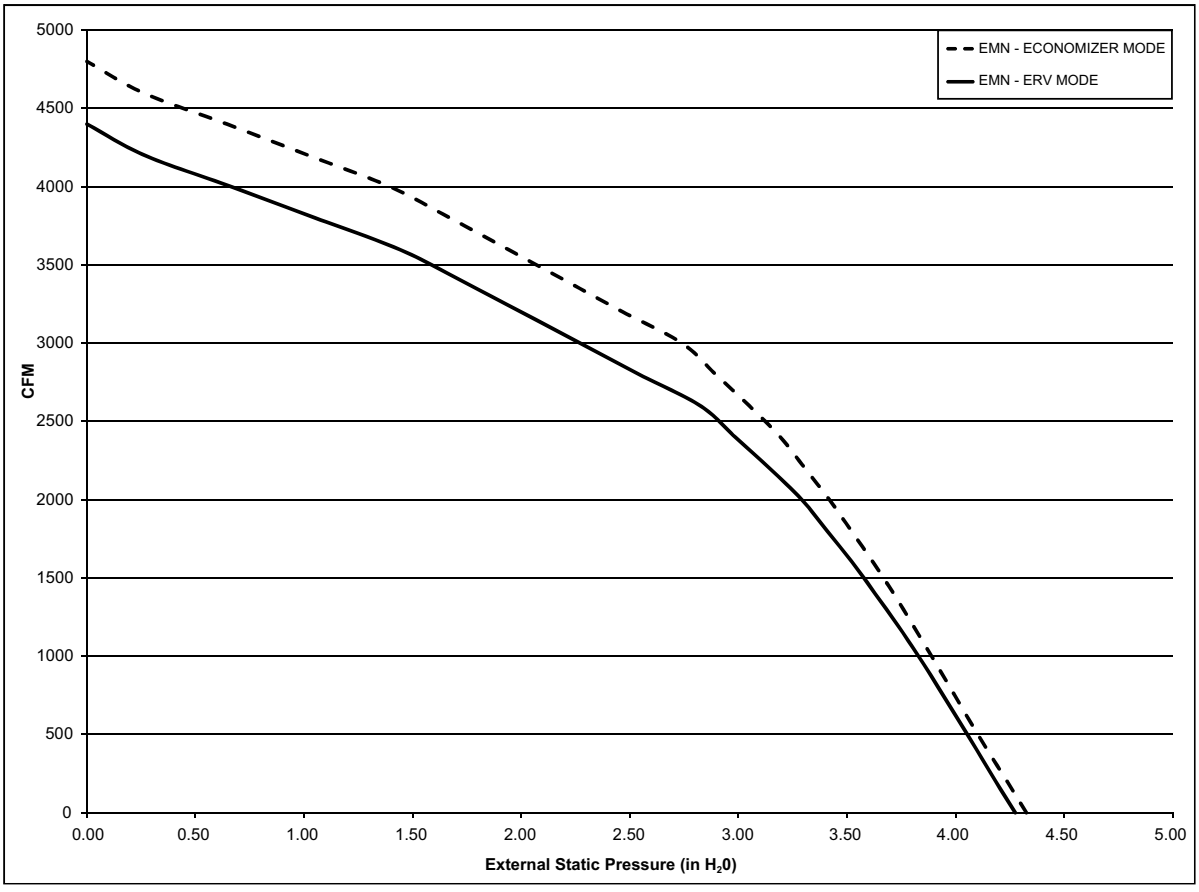
C12208

Fig. 44 - 6 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves



C12209

Fig. 45 - 7.5, 8.5 & 10 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves



C12210

Fig. 46 - 12.5 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

ELECTRICAL DATA

Legend and Notes for Tables 13 - 20

LEGEND:

BRKR	–	Circuit breaker
CO	–	Convenient outlet
DD	–	Direct drive indoor fan motor
DISC	–	Disconnect
FLA	–	Full load amps
IFM	–	Indoor Fan Motor
LRA	–	Locked rotor amps
MCA	–	Minimum circuit amps
MOCP	–	MAX FUSE or HACR Breaker
PE	–	Power exhaust
PWRD CO	–	Powered convenient outlet
UNPWR CO	–	Unpowered convenient outlet

NOTES:

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

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

Example: Supply voltage is 230-3-60

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

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3}$$

$$= 227$$

Determine maximum deviation from average voltage.
(AB) 227 – 224 = 3 v
(BC) 231 – 227 = 4 v
(AC) 227 – 226 = 1 v
Maximum deviation is 4 v.
Determine percent of voltage imbalance.

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

$$= 1.76\%$$

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.

EnergyX

APPENDIX C — ELECTRICAL DATA

Table 13 – 48HC with ERV: Unit Wire/Fuse or HACR Breaker Sizing Data

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*A04	208/230–1–60	DD–STD	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
		STD	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		MED	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
	208/230–3–60	DD–STD	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
		STD	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
		MED	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
		HIGH	27/27	30/30	28/27	138	27/27	30/30	28/27	138	32/32	40/40	33/33	143	32/32	40/40	33/33	143
	460–3–60	DD–STD	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
		STD	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
		MED	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
		HIGH	15	20	15	71	15	20	15	71	17	20	18	73	17	20	18	73
	575–3–60	DD–STD	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
		STD	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
		MED	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
		HIGH	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
48HC*A05	208/230–1–60	DD–STD	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
		STD	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		MED	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
	208/230–3–60	DD–STD	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
		STD	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
		MED	32/32	45/45	33/32	130	32/32	45/45	33/32	130	37/37	50/50	38/38	135	37/37	50/50	38/38	135
		HIGH	35/35	45/45	36/36	166	35/35	45/45	36/36	166	40/40	50/50	42/42	171	40/40	50/50	42/42	171
	460–3–60	DD–STD	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
		STD	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
		MED	15	20	15	65	15	20	15	65	18	20	18	67	18	20	18	67
		HIGH	17	20	17	83	17	20	17	83	19	25	20	85	19	25	20	85
	575–3–60	DD–STD	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
		STD	12	15	12	46	12	15	12	46	14	15	14	48	14	15	14	48
		MED	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
		HIGH	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 13 - 48HC with ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*A06	208/230–1–60	DD–STD	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
		STD	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
		MED	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
	208/230–3–60	DD–STD	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
		STD	35	50	35	140	35	50	35	140	40	50	41	145	40	50	41	145
		MED	37/37	50/50	37/37	178	37/37	50/50	37/37	178	42/41	50/50	43/42	183	42/41	50/50	43/42	183
		HIGH	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198	43/43	50/50	44/44	198
	460–3–60	DD–STD	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
		STD	17	20	16	67	17	20	16	67	19	25	19	69	19	25	19	69
		MED	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
		HIGH	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96
	575–3–60	DD–STD	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
		STD	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55
		MED	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
		HIGH	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
48HC*A07 Units Produced on or after 02/16/2015	208/230–3–60	STD	41/41	60/60	41/41	186	41/41	60/60	41/41	186	46/46	60/60	47/46	191	46/46	60/60	47/46	191
		MED	44/44	60/60	45/45	222	44/44	60/60	45/45	222	49/49	60/60	50/50	227	49/49	60/60	50/50	227
		HIGH	50/49	60/60	51/50	238	50/49	60/60	51/50	238	54/54	60/60	56/55	243	54/54	60/60	56/55	243
	460–3–60	STD	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
		MED	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
	575–3–60	STD	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72
		MED	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87
		HIGH	19	25	20	99	19	25	20	99	21	25	22	101	21	25	22	101
48HC*A07 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	40/40	50/50	41/40	173	40/40	50/50	41/40	173	45/45	60/60	46/46	178	45/45	60/60	46/46	178
		MED	44/44	60/60	44/44	209	44/44	60/60	44/44	209	48/48	60/60	50/50	214	48/48	60/60	50/50	214
		HIGH	49/48	60/60	50/49	225	49/48	60/60	50/49	225	54/53	60/60	56/55	230	54/53	60/60	56/55	230
	460–3–60	STD	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
		MED	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
		HIGH	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
	575–3–60	STD	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
		MED	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
		HIGH	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96

See: “Legend and Notes for Tables 13 – 20” on page 59

APPENDIX C — ELECTRICAL DATA

Table 13 - 48HC with ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D08	208/230–3–60	STD	51/51	60/60	54/54	220	51/51	60/60	54/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
		MED	53/53	60/60	56/56	241	53/53	60/60	56/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275
	460–3–60	STD	24	25	25	110	24	25	25	110	26	30	28	112	26	30	28	112
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
		HIGH	27	30	28	135	27	30	28	135	29	30	31	137	29	30	31	137
	575–3–60	STD	18	20	19	83	18	20	19	83	20	25	21	85	20	25	21	85
		MED	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
		HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
48HC*D09	208/230–3–60	STD	51/51	60/60	55/54	220	51/51	60/60	55/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
		MED	53/53	60/60	57/56	241	53/53	60/60	57/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275
	460–3–60	STD	24	30	25	110	24	30	25	110	26	30	28	112	26	30	28	112
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
		HIGH	27	30	28	135	27	30	28	135	29	35	31	137	29	35	31	137
	575–3–60	STD	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85
		MED	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
		HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
48HC*D11	208/230–3–60	STD	62/62	70/70	67/67	296	62/62	70/70	67/67	296	67/67	80/80	72/72	301	67/67	80/80	72/72	301
		MED	66	80	71	325	66	80	71	325	71	80	77	330	71	80	77	330
		HIGH	69/68	80/80	74/73	327	69/68	80/80	74/73	327	74/73	80/80	80/79	332	74/73	80/80	80/79	332
	460–3–60	STD	29	30	30	142	29	30	30	142	31	35	33	144	31	35	33	144
		MED	31	35	33	157	31	35	33	157	33	35	35	159	33	35	35	159
		HIGH	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
	575–3–60	STD	23	25	24	101	23	25	24	101	25	30	26	103	25	30	26	103
		MED	24	25	25	112	24	25	25	112	25	30	27	114	25	30	27	114
		HIGH	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128
48HC*D12	208/230–3–60	STD	61/61	70/70	65/65	321	61/61	70/70	65/65	321	66/66	80/80	71/71	326	66/66	80/80	71/71	326
		MED	65	80	70	350	65	80	70	350	70	80	75	355	70	80	75	355
		HIGH	68/67	80/80	73/72	352	68/67	80/80	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
	460–3–60	STD	30	35	31	154	30	35	31	154	32	35	34	156	32	35	34	156
		MED	32	35	34	169	32	35	34	169	34	40	36	171	34	40	36	171
		HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
	575–3–60	STD	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
		MED	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
		HIGH	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 13 - 48HC with ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D14 Units Produced on or after 02/16/2015	208/230–3–60	STD	74/74	80/80	78/78	372	74/74	80/80	78/78	372	78/78	90/90	84/84	377	78/78	90/90	84/84	377
		MED	76	90	81	386	76	90	81	386	81	90	87	391	81	90	87	391
		HIGH	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
	460–3–60	STD	33	40	35	181	33	40	35	181	35	40	37	183	35	40	37	183
		MED	34	40	36	188	34	40	36	188	36	40	38	190	36	40	38	190
		HIGH	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
	575–3–60	STD	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
		MED	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
		HIGH	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
48HC*D14 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	72/72	80/80	77/77	346	72/72	80/80	77/77	346	77/77	90/90	83/83	351	77/77	90/90	83/83	351
		MED	74	80	80	360	74	80	80	360	79	90	85	365	79	90	85	365
		HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
	460–3–60	STD	36	45	38	173	36	45	38	173	38	45	41	175	38	45	41	175
		MED	37	45	39	180	37	45	39	180	39	45	42	182	39	45	42	182
		HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
	575–3–60	STD	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		MED	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 14 – 48HC with ERV and Factory Installed HACR Breaker

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/o Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*A04	208/230–1–60	DD–STD	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
		STD	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
		MED	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
	208/230–3–60	DD–STD	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
		STD	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
		MED	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
		HIGH	27/27	30/30	28/27	138	27/27	30/30	28/27	138	32/32	40/40	33/33	143	32/32	40/40	33/33	143
	460–3–60	DD–STD	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
		STD	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
		MED	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
		HIGH	15	20	15	71	15	20	15	71	17	20	18	73	17	20	18	73
	575–3–60	DD–STD	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
		STD	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
		MED	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
		HIGH	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
48HC*A05	208/230–1–60	DD–STD	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
		STD	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
		MED	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
	208/230–3–60	DD–STD	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
		STD	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
		MED	32/32	45/45	33/32	130	32/32	45/45	33/32	130	37/37	50/50	38/38	135	37/37	50/50	38/38	135
		HIGH	35/35	45/45	36/36	166	35/35	45/45	36/36	166	40/40	50/50	42/42	171	40/40	50/50	42/42	171
	460–3–60	DD–STD	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
		STD	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
		MED	15	20	15	65	15	20	15	65	18	20	18	67	18	20	18	67
		HIGH	17	20	17	83	17	20	17	83	19	25	20	85	19	25	20	85
	575–3–60	DD–STD	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
		STD	12	15	12	46	12	15	12	46	14	15	14	48	14	15	14	48
		MED	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
		HIGH	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 14 - 48HC with ERV and Factory Installed HACR Breaker (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*A06	208/230–1–60	DD–STD	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
		STD	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
		MED	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
	208/230–3–60	DD–STD	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
		STD	35	50	35	140	35	50	35	140	40	50	41	145	40	50	41	145
		MED	37/37	50/50	37/37	178	37/37	50/50	37/37	178	42/42	50/50	43/42	183	42/42	50/50	43/42	183
		HIGH	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198	43/43	50/50	44/44	198
	460–3–60	DD–STD	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
		STD	17	20	16	67	17	20	16	67	19	25	19	69	19	25	19	69
		MED	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
		HIGH	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96
	575–3–60	DD–STD	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
		STD	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55
		MED	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
		HIGH	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
48HC*A07 Units Produced on or after 02/16/2015	208/230–3–60	STD	41/41	60/60	41/41	186	41/41	60/60	41/41	186	46/46	60/60	47/46	191	46/46	60/60	47/46	191
		MED	44/44	60/60	45/45	222	44/44	60/60	45/45	222	49/49	60/60	50/50	227	49/49	60/60	50/50	227
		HIGH	50/50	60/60	51/50	238	50/50	60/60	51/50	238	54/54	60/60	56/55	243	54/54	60/60	56/55	243
	460–3–60	STD	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
		MED	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
	575–3–60	STD	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72
		MED	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87
		HIGH	19	25	20	99	19	25	20	99	21	25	22	101	21	25	22	101
48HC*A07 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	40/40	50/50	41/40	173	40/40	50/50	41/40	173	45/45	60/60	46/46	178	45/45	60/60	46/46	178
		MED	44/44	60/60	44/44	209	44/44	60/60	44/44	209	48/48	60/60	50/50	214	48/48	60/60	50/50	214
		HIGH	49/49	60/60	50/49	225	49/49	60/60	50/49	225	54/54	60/60	56/55	230	54/54	60/60	56/55	230
	460–3–60	STD	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
		MED	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
		HIGH	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
	575–3–60	STD	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
		MED	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
		HIGH	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 14 - 48HC with ERV and Factory Installed HACR Breaker (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D08	208/230–3–60	STD	51/51	60/60	54/54	220	51/51	60/60	54/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
		MED	53/53	60/60	56/56	241	53/53	60/60	56/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275
	460–3–60	STD	24	25	25	110	24	25	25	110	26	30	28	112	26	30	28	112
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
		HIGH	27	30	28	135	27	30	28	135	29	30	31	137	29	30	31	137
	575–3–60	STD	18	20	19	83	18	20	19	83	20	25	21	85	20	25	21	85
		MED	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
		HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
48HC*D09	208/230–3–60	STD	51/51	60/60	55/54	220	51/51	60/60	55/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
		MED	53/53	60/60	57/56	241	53/53	60/60	57/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275
	460–3–60	STD	24	30	25	110	24	30	25	110	26	30	28	112	26	30	28	112
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
		HIGH	27	30	28	135	27	30	28	135	29	35	31	137	29	35	31	137
	575–3–60	STD	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85
		MED	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
		HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
48HC*D11	208/230–3–60	STD	62/62	70/70	67/67	296	62/62	70/70	67/67	296	67/67	80/80	72/72	301	67/67	80/80	72/72	301
		MED	66	80	71	325	66	80	71	325	71	80	77	330	71	80	77	330
		HIGH	69/69	80/80	74/73	327	69/69	80/80	74/73	327	74/74	80/80	80/79	332	74/74	80/80	80/79	332
	460–3–60	STD	29	30	30	142	29	30	30	142	31	35	33	144	31	35	33	144
		MED	31	35	33	157	31	35	33	157	33	35	35	159	33	35	35	159
		HIGH	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
	575–3–60	STD	23	25	24	101	23	25	24	101	25	30	26	103	25	30	26	103
		MED	24	25	25	112	24	25	25	112	25	30	27	114	25	30	27	114
		HIGH	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 14 - 48HC with ERV and Factory Installed HACR Breaker (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D12	208/230–3–60	STD	61/61	70/70	65/65	321	61/61	70/70	65/65	321	66/66	80/80	71/71	326	66/66	80/80	71/71	326
		MED	65	80	70	350	65	80	70	350	70	80	75	355	70	80	75	355
		HIGH	68/68	80/80	73/72	352	68/68	80/80	73/72	352	73/73	80/80	79/78	357	73/73	80/80	79/78	357
	460–3–60	STD	30	35	31	154	30	35	31	154	32	35	34	156	32	35	34	156
		MED	32	35	34	169	32	35	34	169	34	40	36	171	34	40	36	171
		HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
	575–3–60	STD	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
		MED	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
		HIGH	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138
48HC*D14 Units Produced on or after 02/16/2015	208/230–3–60	STD	74/74	80/80	78/78	372	74/74	80/80	78/78	372	78/78	90/90	84/84	377	78/78	90/90	84/84	377
		MED	76	90	81	386	76	90	81	386	81	90	87	391	81	90	87	391
		HIGH	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
	460–3–60	STD	33	40	35	181	33	40	35	181	35	40	37	183	35	40	37	183
		MED	34	40	36	188	34	40	36	188	36	40	38	190	36	40	38	190
		HIGH	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
	575–3–60	STD	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
		MED	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
		HIGH	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
48HC*D14 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	72/72	80/80	77/77	346	72/72	80/80	77/77	346	77/77	90/90	83/83	351	77/77	90/90	83/83	351
		MED	74	80	80	360	74	80	80	360	79	90	85	365	79	90	85	365
		HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
	460–3–60	STD	36	45	38	173	36	45	38	173	38	45	41	175	38	45	41	175
		MED	37	45	39	180	37	45	39	180	39	45	42	182	39	45	42	182
		HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
	575–3–60	STD	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		MED	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
		HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149

See: “Legend and Notes for Tables 13 – 20” on page 59..

APPENDIX C — ELECTRICAL DATA

Table 15 – 48HC with ERV and Factory Installed 2-Speed Indoor Fan Option

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D08	208/230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/56	60/60	61/60	212	57/56	60/60	61/60	212
		MED	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		HIGH	57/56	60/60	61/60	261	57/56	60/60	61/60	261	62/61	70/70	66/65	266	62/61	70/70	66/65	266
	460–3–60	STD	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
		MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		HIGH	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
	575–3–60	STD	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
		MED	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
		HIGH	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
48HC*D09	208/230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
		MED	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		HIGH	57/56	70/60	61/60	261	57/56	70/60	61/60	261	62/61	70/70	67/66	266	62/61	70/70	67/66	266
	460–3–60	STD	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
		MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		HIGH	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
	575–3–60	STD	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
		MED	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
		HIGH	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
48HC*D11	208/230–3–60	STD	63/62	70/70	67/67	266	63/62	70/70	67/67	266	67/67	80/80	73/72	271	67/67	80/80	73/72	271
		MED	66/65	80/80	71/70	316	66/65	80/80	71/70	316	71/70	80/80	77/76	321	71/70	80/80	77/76	321
		HIGH	69/68	80/80	74/73	327	69/68	80/80	74/73	327	74/73	80/80	80/79	332	74/73	80/80	80/79	332
	460–3–60	STD	29	35	31	128	29	35	31	128	31	35	33	130	31	35	33	130
		MED	30	35	32	153	30	35	32	153	32	35	35	155	32	35	35	155
		HIGH	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
	575–3–60	STD	24	30	26	103	24	30	26	103	26	30	28	105	26	30	28	105
		MED	25	30	27	112	25	30	27	112	27	30	29	114	27	30	29	114
		HIGH	27	30	29	126	27	30	29	126	29	35	31	128	29	35	31	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 15 - 48HC with ERV and Factory Installed 2-Speed Indoor Fan Option (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			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
48HC*D12	208/230–3–60	STD	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
		MED	65/64	80/70	70/69	341	65/64	80/70	70/69	341	70/69	80/80	75/74	346	70/69	80/80	75/74	346
		HIGH	68/67	80/80	73/72	352	68/67	80/80	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
	460–3–60	STD	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
		MED	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
		HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
	575–3–60	STD	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
		MED	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
		HIGH	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
48HC*D14 Units Produced on or after 02/16/2015	208/230–3–60	STD	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/76	90/90	83/82	332	77/76	90/90	83/82	332
		MED	75/74	80/80	80/79	351	75/74	80/80	80/79	351	79/78	90/90	85/84	356	79/78	90/90	85/84	356
		HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
	460–3–60	STD	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
		MED	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
		HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
	575–3–60	STD	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		MED	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
48HC*D14 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/76	90/90	83/82	332	77/76	90/90	83/82	332
		MED	75/74	80/80	80/79	351	75/74	80/80	80/79	351	79/78	90/90	85/84	356	79/78	90/90	85/84	356
		HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
	460–3–60	STD	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
		MED	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
		HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
	575–3–60	STD	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		MED	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 16 – 48HC with ERV, Factory Installed HACR Breaker and 2-Speed Indoor Fan Option

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			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
48HC*D08	208/230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/60	212	57/57	60/60	61/60	212
		MED	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		HIGH	57/57	60/60	61/60	261	57/57	60/60	61/60	261	62/62	70/70	66/65	266	62/62	70/70	66/65	266
	460–3–60	STD	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
		MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		HIGH	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
	575–3–60	STD	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
		MED	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
		HIGH	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
48HC*D09	208/230–3–60	STD	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
		MED	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
		HIGH	57/57	70/70	61/60	261	57/57	70/70	61/60	261	62/62	70/70	67/66	266	62/62	70/70	67/66	266
	460–3–60	STD	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
		MED	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
		HIGH	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
	575–3–60	STD	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
		MED	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
		HIGH	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
48HC*D11	208/230–3–60	STD	63/63	70/70	67/67	266	63/63	70/70	67/67	266	67/67	80/80	73/72	271	67/67	80/80	73/72	271
		MED	66/66	80/80	71/70	316	66/66	80/80	71/70	316	71/71	80/80	77/76	321	71/71	80/80	77/76	321
		HIGH	69/69	80/80	74/73	327	69/69	80/80	74/73	327	74/74	80/80	80/79	332	74/74	80/80	80/79	332
	460–3–60	STD	29	35	31	128	29	35	31	128	31	35	33	130	31	35	33	130
		MED	30	35	32	153	30	35	32	153	32	35	35	155	32	35	35	155
		HIGH	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
	575–3–60	STD	24	30	26	103	24	30	26	103	26	30	28	105	26	30	28	105
		MED	25	30	27	112	25	30	27	112	27	30	29	114	27	30	29	114
		HIGH	27	30	29	126	27	30	29	126	29	35	31	128	29	35	31	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 16 - 48HC with ERV, Factory Installed HACR Breaker and 2-Speed Indoor Fan Option (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
			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
48HC*D12	208/230–3–60	STD	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
		MED	65/65	80/80	70/69	341	65/65	80/80	70/69	341	70/70	80/80	75/74	346	70/70	80/80	75/74	346
		HIGH	68/68	80/80	73/72	352	68/68	80/80	73/72	352	73/73	80/80	79/78	357	73/73	80/80	79/78	357
	460–3–60	STD	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
		MED	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
		HIGH	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
	575–3–60	STD	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
		MED	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
		HIGH	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
48HC*D14 Units Produced on or after 02/16/2015	208/230–3–60	STD	74/74	80/80	79/78	353	74/74	80/80	79/78	353	79/79	90/90	84/83	358	79/79	90/90	84/83	358
		MED	76/76	90/90	81/80	377	76/76	90/90	81/80	377	81/81	90/90	87/86	382	81/81	90/90	87/86	382
		HIGH	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
	460–3–60	STD	32	35	34	172	32	35	34	172	34	40	37	174	34	40	37	174
		MED	33	40	35	184	33	40	35	184	35	40	38	186	35	40	38	186
		HIGH	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
	575–3–60	STD	29	35	31	145	29	35	31	145	31	35	33	147	31	35	33	147
		MED	29	35	31	145	29	35	31	145	31	35	33	147	31	35	33	147
		HIGH	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
48HC*D14 Units Produced on or prior to 02/15/2015	208/230–3–60	STD	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/77	90/90	83/82	332	77/77	90/90	83/82	332
		MED	75/75	80/80	80/79	351	75/75	80/80	80/79	351	79/79	90/90	85/84	356	79/79	90/90	85/84	356
		HIGH	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
	460–3–60	STD	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
		MED	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
		HIGH	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
	575–3–60	STD	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		MED	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
		HIGH	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 – 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A04	208/230–1–60	DD–STD	NONE	–	–	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
			101A	3.3/4.4	15.9/18.3	36/39	50/50	35/36	94/94	36/39	50/50	35/36	94/94	42/45	50/50	41/41	99/99	42/45	50/50	41/41	99/99
			102A	4.9/6.5	23.5/27.1	46/50	50/50	42/46	94/94	46/50	50/50	42/46	94/94	52/56	60/60	47/51	99/99	52/56	60/60	47/51	99/99
			103B	6.5/8.7	31.4/36.3	56/62	60/70	51/57	94/94	56/62	60/70	51/57	94/94	62/68	70/70	56/62	99/99	62/68	70/70	56/62	99/99
			104B	7.9/10.5	37.9/43.8	64/71	70/80	58/65	94/94	64/71	70/80	58/65	94/94	70/77	70/80	64/71	99/99	70/77	70/80	64/71	99/99
			102A+102A	9.8/13.0	46.9/54.2	75/84	80/90	69/77	94/94	75/84	80/90	69/77	94/94	81/90	90/90	74/83	99/99	81/90	90/90	74/83	99/99
		STD	NONE	–	–	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
			101A	3.3/4.4	15.9/18.3	33/36	45/45	32/33	99/99	33/36	45/45	32/33	99/99	39/42	50/50	38/38	104/104	39/42	50/50	38/38	104/104
			102A	4.9/6.5	23.5/27.1	43/47	45/50	39/43	99/99	43/47	45/50	39/43	99/99	49/53	50/60	44/49	104/104	49/53	50/60	44/49	104/104
			103B	6.5/8.7	31.4/36.3	53/59	60/60	48/54	99/99	53/59	60/60	48/54	99/99	59/65	60/70	54/59	104/104	59/65	60/70	54/59	104/104
			104B	7.9/10.5	37.9/43.8	61/68	70/70	56/62	99/99	61/68	70/70	56/62	99/99	67/74	70/80	61/68	104/104	67/74	70/80	61/68	104/104
			102A+102A	9.8/13.0	46.9/54.2	72/81	80/90	66/74	99/99	72/81	80/90	66/74	99/99	78/87	80/90	71/80	104/104	78/87	80/90	71/80	104/104
		MED	NONE	–	–	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
			101A	3.3/4.4	15.9/18.3	33/36	45/45	32/33	99/99	33/36	45/45	32/33	99/99	39/42	50/50	38/38	104/104	39/42	50/50	38/38	104/104
			102A	4.9/6.5	23.5/27.1	43/47	45/50	39/43	99/99	43/47	45/50	39/43	99/99	49/53	50/60	44/49	104/104	49/53	50/60	44/49	104/104
			103B	6.5/8.7	31.4/36.3	53/59	60/60	48/54	99/99	53/59	60/60	48/54	99/99	59/65	60/70	54/59	104/104	59/65	60/70	54/59	104/104
			104B	7.9/10.5	37.9/43.8	61/68	70/70	56/62	99/99	61/68	70/70	56/62	99/99	67/74	70/80	61/68	104/104	67/74	70/80	61/68	104/104
			102A+102A	9.8/13.0	46.9/54.2	72/81	80/90	66/74	99/99	72/81	80/90	66/74	99/99	78/87	80/90	71/80	104/104	78/87	80/90	71/80	104/104
	208/230–3–60	DD–STD	NONE	–	–	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
			101A	3.3/4.4	9.2/10.6	28/30	30/30	28/28	88/88	28/30	30/30	28/28	88/88	34/36	40/40	34/34	93/93	34/36	40/40	34/34	93/93
			102A	4.9/6.5	13.6/15.6	34/36	35/40	31/33	88/88	34/36	35/40	31/33	88/88	40/42	40/45	36/38	93/93	40/42	40/45	36/38	93/93
			103B	6.5/8.7	18.1/20.9	39/43	40/45	36/39	88/88	39/43	40/45	36/39	88/88	45/49	45/50	41/45	93/93	45/49	45/50	41/45	93/93
			104B	7.9/10.5	21.9/25.3	44/48	45/50	40/44	88/88	44/48	45/50	40/44	88/88	50/54	50/60	46/50	93/93	50/54	50/60	46/50	93/93
			105A	12.0/16.0	33.4/38.5	58/65	60/70	53/59	88/88	58/65	60/70	53/59	88/88	64/71	70/80	59/65	93/93	64/71	70/80	59/65	93/93
		STD	NONE	–	–	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
			101A	3.3/4.4	9.2/10.6	25/27	30/30	26/26	100/100	25/27	30/30	26/26	100/100	31/33	40/40	31/31	105/105	31/33	40/40	31/31	105/105
			102A	4.9/6.5	13.6/15.6	31/33	35/35	28/30	100/100	31/33	35/35	28/30	100/100	37/39	40/40	34/36	105/105	37/39	40/40	34/36	105/105
			103B	6.5/8.7	18.1/20.9	37/40	40/40	33/36	100/100	37/40	40/40	33/36	100/100	43/46	45/50	39/42	105/105	43/46	45/50	39/42	105/105
			104B	7.9/10.5	21.9/25.3	41/46	45/50	38/42	100/100	41/46	45/50	38/42	100/100	47/52	50/60	43/47	105/105	47/52	50/60	43/47	105/105
			105A	12.0/16.0	33.4/38.5	56/62	60/70	51/57	100/100	56/62	60/70	51/57	100/100	62/68	70/70	56/62	105/105	62/68	70/70	56/62	105/105
		MED	NONE	–	–	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
			101A	3.3/4.4	9.2/10.6	25/27	30/30	26/26	100/100	25/27	30/30	26/26	100/100	31/33	40/40	31/31	105/105	31/33	40/40	31/31	105/105
			102A	4.9/6.5	13.6/15.6	31/33	35/35	28/30	100/100	31/33	35/35	28/30	100/100	37/39	40/40	34/36	105/105	37/39	40/40	34/36	105/105
			103B	6.5/8.7	18.1/20.9	37/40	40/40	33/36	100/100	37/40	40/40	33/36	100/100	43/46	45/50	39/42	105/105	43/46	45/50	39/42	105/105
			104B	7.9/10.5	21.9/25.3	41/46	45/50	38/42	100/100	41/46	45/50	38/42	100/100	47/52	50/60	43/47	105/105	47/52	50/60	43/47	105/105
			105A	12.0/16.0	33.4/38.5	56/62	60/70	51/57	100/100	56/62	60/70	51/57	100/100	62/68	70/70	56/62	105/105	62/68	70/70	56/62	105/105
		HIGH	NONE	–	–	27/27	30/30	28/27	138	27/27	30/30	28/27	138	32/32	40/40	33/33	143	32/32	40/40	33/33	143
			101A	3.3/4.4	9.2/10.6	28/29	30/30	28/27	138/138	28/29	30/30	28/27	138/138	34/35	40/40	33/33	143/143	34/35	40/40	33/33	143/143
			102A	4.9/6.5	13.6/15.6	33/35	35/35	30/32	138/138	33/35	35/35	30/32	138/138	39/41	40/45	36/38	143/143	39/41	40/45	36/38	143/143
			103B	6.5/8.7	18.1/20.9	39/42	40/45	35/38	138/138	39/42	40/45	35/38	138/138	45/48	45/50	41/44	143/143	45/48	45/50	41/44	143/143
			104B	7.9/10.5	21.9/25.3	43/47	45/50	40/43	138/138	43/47	45/50	40/43	138/138	49/53	50/60	45/49	143/143	49/53	50/60	45/49	143/143
			105A	12.0/16.0	33.4/38.5	58/64	60/70	53/58	138/138	58/64	60/70	53/58	138/138	64/70	70/70	58/64	143/143	64/70	70/70	58/64	143/143

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A04	460–3–60	DD–STD	NONE	–	–	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
			106A	6.0	7.2	19	20	17	47	19	20	17	47	22	25	19	49	22	25	19	49
			107A	8.8	10.6	23	25	21	47	23	25	21	47	26	30	23	49	26	30	23	49
			108A	11.5	13.8	27	30	24	47	27	30	24	47	30	30	27	49	30	30	27	49
			109A	14.0	16.8	31	35	28	47	31	35	28	47	34	35	30	49	34	35	30	49
		STD	NONE	–	–	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
			106A	6.0	7.2	17	20	15	52	17	20	15	52	20	20	18	54	20	20	18	54
			107A	8.8	10.6	21	25	19	52	21	25	19	52	24	25	22	54	24	25	22	54
			108A	11.5	13.8	25	25	23	52	25	25	23	52	28	30	25	54	28	30	25	54
			109A	14.0	16.8	29	30	26	52	29	30	26	52	32	35	29	54	32	35	29	54
		MED	NONE	–	–	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
			106A	6.0	7.2	17	20	15	52	17	20	15	52	20	20	18	54	20	20	18	54
			107A	8.8	10.6	21	25	19	52	21	25	19	52	24	25	22	54	24	25	22	54
			108A	11.5	13.8	25	25	23	52	25	25	23	52	28	30	25	54	28	30	25	54
			109A	14.0	16.8	29	30	26	52	29	30	26	52	32	35	29	54	32	35	29	54
		HIGH	NONE	–	–	15	20	15	71	15	20	15	71	17	20	18	73	17	20	18	73
			106A	6.0	7.2	18	20	16	71	18	20	16	71	21	25	19	73	21	25	19	73
			107A	8.8	10.6	22	25	20	71	22	25	20	71	25	25	23	73	25	25	23	73
			108A	11.5	13.8	26	30	24	71	26	30	24	71	29	30	26	73	29	30	26	73
			109A	14.0	16.8	30	30	27	71	30	30	27	71	33	35	30	73	33	35	30	73
	575–3–60	DD–STD	NONE	–	–	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
			297A	9.2	9.2	24	25	21	47	24	25	21	47	26	30	23	49	26	30	23	49
			298A	13.8	13.8	29	30	27	47	29	30	27	47	31	35	28	49	31	35	28	49
		STD	NONE	–	–	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
			297A	9.2	9.2	20	20	18	50	20	20	18	50	22	25	20	52	22	25	20	52
			298A	13.8	13.8	26	30	23	50	26	30	23	50	28	30	25	52	28	30	25	52
		MED	NONE	–	–	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
			297A	9.2	9.2	20	20	18	50	20	20	18	50	22	25	20	52	22	25	20	52
			298A	13.8	13.8	26	30	23	50	26	30	23	50	28	30	25	52	28	30	25	52
		HIGH	NONE	–	–	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
			297A	9.2	9.2	21	25	19	54	21	25	19	54	23	25	21	56	23	25	21	56
			298A	13.8	13.8	27	30	24	54	27	30	24	54	29	30	26	56	29	30	26	56

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A05	208/230–1–60	DD–STD	NONE	–	–	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
			101A	3.3/4.4	15.9/18.3	44/44	60/60	44/44	135/135	44/44	60/60	44/44	135/135	49/49	60/60	50/50	140/140	49/49	60/60	50/50	140/140
			103B	6.5/8.7	31.4/36.3	59/65	60/70	54/59	135/135	59/65	60/70	54/59	135/135	65/71	70/80	59/65	140/140	65/71	70/80	59/65	140/140
			102A+102A	9.8/13.0	46.9/54.2	78/87	80/90	71/80	135/135	78/87	80/90	71/80	135/135	84/93	90/100	77/85	140/140	84/93	90/100	77/85	140/140
			103B+103B	13.1/17.4	62.8/72.5	98/110	100/110	90/101	135/135	98/110	100/110	90/101	135/135	104/116	110/125	95/106	140/140	104/116	110/125	95/106	140/140
			104B+104B	15.8/21.0	75.8/87.5	114/129	125/150	105/118	135/135	114/129	125/150	105/118	135/135	120/135	125/150	110/124	140/140	120/135	125/150	110/124	140/140
		STD	NONE	–	–	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
			101A	3.3/4.4	15.9/18.3	42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
			103B	6.5/8.7	31.4/36.3	56/62	60/70	51/56	140/140	56/62	60/70	51/56	140/140	62/68	70/70	56/62	145/145	62/68	70/70	56/62	145/145
			102A+102A	9.8/13.0	46.9/54.2	75/84	80/90	68/77	140/140	75/84	80/90	68/77	140/140	81/90	90/90	74/82	145/145	81/90	90/90	74/82	145/145
			103B+103B	13.1/17.4	62.8/72.5	95/107	100/110	87/98	140/140	95/107	100/110	87/98	140/140	101/113	110/125	92/103	145/145	101/113	110/125	92/103	145/145
			104B+104B	15.8/21.0	75.8/87.5	111/126	125/150	102/115	140/140	111/126	125/150	102/115	140/140	117/132	125/150	107/121	145/145	117/132	125/150	107/121	145/145
		MED	NONE	–	–	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
			101A	3.3/4.4	15.9/18.3	42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
			103B	6.5/8.7	31.4/36.3	56/62	60/70	51/56	140/140	56/62	60/70	51/56	140/140	62/68	70/70	56/62	145/145	62/68	70/70	56/62	145/145
			102A+102A	9.8/13.0	46.9/54.2	75/84	80/90	68/77	140/140	75/84	80/90	68/77	140/140	81/90	90/90	74/82	145/145	81/90	90/90	74/82	145/145
			103B+103B	13.1/17.4	62.8/72.5	95/107	100/110	87/98	140/140	95/107	100/110	87/98	140/140	101/113	110/125	92/103	145/145	101/113	110/125	92/103	145/145
			104B+104B	15.8/21.0	75.8/87.5	111/126	125/150	102/115	140/140	111/126	125/150	102/115	140/140	117/132	125/150	107/121	145/145	117/132	125/150	107/121	145/145
	208/230–3–60	DD–STD	NONE	–	–	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
			102A	4.9/6.5	13.6/15.6	37/39	45/45	35/36	101/101	37/39	45/45	35/36	101/101	43/45	50/50	41/41	106/106	43/45	50/50	41/41	106/106
			103B	6.5/8.7	18.1/20.9	42/46	45/50	39/42	101/101	42/46	45/50	39/42	101/101	48/52	50/60	44/47	106/106	48/52	50/60	44/47	106/106
			105A	12.0/16.0	33.4/38.5	62/68	70/70	56/62	101/101	62/68	70/70	56/62	101/101	68/74	70/80	62/68	106/106	68/74	70/80	62/68	106/106
			104B+104B	15.8/21.0	43.8/50.5	75/83	80/90	68/76	101/101	75/83	80/90	68/76	101/101	81/89	90/90	74/81	106/106	81/89	90/90	74/81	106/106
		STD	NONE	–	–	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
			102A	4.9/6.5	13.6/15.6	34/37	45/45	33/33	113/113	34/37	45/45	33/33	113/113	40/43	50/50	38/39	118/118	40/43	50/50	38/39	118/118
			103B	6.5/8.7	18.1/20.9	40/43	45/45	36/39	113/113	40/43	45/45	36/39	113/113	46/49	50/50	42/45	118/118	46/49	50/50	42/45	118/118
			105A	12.0/16.0	33.4/38.5	59/65	60/70	54/60	113/113	59/65	60/70	54/60	113/113	65/71	70/80	59/65	118/118	65/71	70/80	59/65	118/118
			104B+104B	15.8/21.0	43.8/50.5	72/80	80/80	66/73	113/113	72/80	80/80	66/73	113/113	78/86	80/90	71/79	118/118	78/86	80/90	71/79	118/118
		MED	NONE	–	–	32/32	45/45	33/32	130	32/32	45/45	33/32	130	37/37	50/50	38/38	135	37/37	50/50	38/38	135
			102A	4.9/6.5	13.6/15.6	34/36	45/45	33/33	130/130	34/36	45/45	33/33	130/130	40/42	50/50	38/38	135/135	40/42	50/50	38/38	135/135
			103B	6.5/8.7	18.1/20.9	40/43	45/45	36/39	130/130	40/43	45/45	36/39	130/130	46/49	50/50	42/44	135/135	46/49	50/50	42/44	135/135
			105A	12.0/16.0	33.4/38.5	59/65	60/70	54/59	130/130	59/65	60/70	54/59	130/130	65/71	70/80	59/65	135/135	65/71	70/80	59/65	135/135
			104B+104B	15.8/21.0	43.8/50.5	72/80	80/80	66/73	130/130	72/80	80/80	66/73	130/130	78/86	80/90	71/79	135/135	78/86	80/90	71/79	135/135
		HIGH	NONE	–	–	35/35	45/45	36/36	166	35/35	45/45	36/36	166	40/40	50/50	42/42	171	40/40	50/50	42/42	171
			102A	4.9/6.5	13.6/15.6	38/40	45/45	36/37	166/166	38/40	45/45	36/37	166/166	44/46	50/50	42/42	171/171	44/46	50/50	42/42	171/171
			103B	6.5/8.7	18.1/20.9	44/47	45/50	40/43	166/166	44/47	45/50	40/43	166/166	50/53	50/60	45/48	171/171	50/53	50/60	45/48	171/171
			105A	12.0/16.0	33.4/38.5	63/69	70/70	57/63	166/166	63/69	70/70	57/63	166/166	69/75	70/80	63/69	171/171	69/75	70/80	63/69	171/171
			104B+104B	15.8/21.0	43.8/50.5	76/84	80/90	69/77	166/166	76/84	80/90	69/77	166/166	82/90	90/90	75/82	171/171	82/90	90/90	75/82	171/171

See: “Legend and Notes for Tables 13 – 20” on page 59..

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A05	460–3–60	DD–STD	NONE	–	–	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
			106A	6.0	7.2	19	20	17	51	19	20	17	51	22	25	20	53	22	25	20	53
			108A	11.5	13.8	27	30	25	51	27	30	25	51	30	30	27	53	30	30	27	53
			109A	14.0	16.8	31	35	28	51	31	35	28	51	34	35	31	53	34	35	31	53
			108A+108A	23.0	27.7	45	45	41	51	45	45	41	51	48	50	43	53	48	50	43	53
		STD	NONE	–	–	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
			106A	6.0	7.2	17	20	16	56	17	20	16	56	20	20	18	58	20	20	18	58
			108A	11.5	13.8	26	30	23	56	26	30	23	56	28	30	26	58	28	30	26	58
			109A	14.0	16.8	29	30	27	56	29	30	27	56	32	35	29	58	32	35	29	58
			108A+108A	23.0	27.7	43	45	39	56	43	45	39	56	46	50	42	58	46	50	42	58
		MED	NONE	–	–	15	20	15	65	15	20	15	65	18	20	18	67	18	20	18	67
			106A	6.0	7.2	17	20	16	65	17	20	16	65	20	20	18	67	20	20	18	67
			108A	11.5	13.8	26	30	23	65	26	30	23	65	28	30	26	67	28	30	26	67
			109A	14.0	16.8	29	30	27	65	29	30	27	65	32	35	29	67	32	35	29	67
			108A+108A	23.0	27.7	43	45	39	65	43	45	39	65	46	50	42	67	46	50	42	67
		HIGH	NONE	–	–	17	20	17	83	17	20	17	83	19	25	20	85	19	25	20	85
			106A	6.0	7.2	19	20	18	83	19	20	18	83	22	25	20	85	22	25	20	85
			108A	11.5	13.8	28	30	25	83	28	30	25	83	30	35	28	85	30	35	28	85
			109A	14.0	16.8	31	35	29	83	31	35	29	83	34	35	31	85	34	35	31	85
			108A+108A	23.0	27.7	45	45	41	83	45	45	41	83	48	50	44	85	48	50	44	85
	575–3–60	DD–STD	NONE	–	–	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
			297A	9.2	9.2	22	25	20	43	22	25	20	43	24	25	22	45	24	25	22	45
			298A	13.8	13.8	27	30	25	43	27	30	25	43	30	30	27	45	30	30	27	45
		STD	NONE	–	–	12	15	12	46	12	15	12	46	14	15	14	48	14	15	14	48
			297A	9.2	9.2	18	20	16	46	18	20	16	46	20	20	18	48	20	20	18	48
			298A	13.8	13.8	24	25	22	46	24	25	22	46	26	30	24	48	26	30	24	48
		MED	NONE	–	–	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
			297A	9.2	9.2	19	20	17	46	19	20	17	46	21	25	19	48	21	25	19	48
			298A	13.8	13.8	24	25	22	46	24	25	22	46	27	30	24	48	27	30	24	48
		HIGH	NONE	–	–	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63
			297A	9.2	9.2	20	20	18	61	20	20	18	61	22	25	20	63	22	25	20	63
			298A	13.8	13.8	26	30	23	61	26	30	23	61	28	30	25	63	28	30	25	63

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A06	208/230–1–60	DD–STD	NONE	–	–	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
			102A	4.9/6.5	23.5/27.1	49/53	60/60	48/49	152/152	49/53	60/60	48/49	152/152	55/59	60/60	53/54	157/157	55/59	60/60	53/54	157/157
			103B	6.5/8.7	31.4/36.3	59/65	60/70	54/59	152/152	59/65	60/70	54/59	152/152	65/71	70/80	59/65	157/157	65/71	70/80	59/65	157/157
			102A+102A	9.8/13.0	46.9/54.2	78/87	80/90	71/80	152/152	78/87	80/90	71/80	152/152	84/93	90/100	77/85	157/157	84/93	90/100	77/85	157/157
			103B+103B	13.1/17.4	62.8/72.5	98/110	100/110	90/101	152/152	98/110	100/110	90/101	152/152	104/116	110/125	95/106	157/157	104/116	110/125	95/106	157/157
			104B+104B	15.8/21.0	75.8/87.5	114/129	125/150	105/118	152/152	114/129	125/150	105/118	152/152	120/135	125/150	110/124	157/157	120/135	125/150	110/124	157/157
		STD	NONE	–	–	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
			102A	4.9/6.5	23.5/27.1	46/50	60/60	45/46	157/157	46/50	60/60	45/46	157/157	52/56	60/60	50/51	162/162	52/56	60/60	50/51	162/162
			103B	6.5/8.7	31.4/36.3	56/62	60/70	51/56	157/157	56/62	60/70	51/56	157/157	62/68	70/70	56/62	162/162	62/68	70/70	56/62	162/162
			102A+102A	9.8/13.0	46.9/54.2	75/84	80/90	68/77	157/157	75/84	80/90	68/77	157/157	81/90	90/90	74/82	162/162	81/90	90/90	74/82	162/162
			103B+103B	13.1/17.4	62.8/72.5	95/107	100/110	87/98	157/157	95/107	100/110	87/98	157/157	101/113	110/125	92/103	162/162	101/113	110/125	92/103	162/162
			104B+104B	15.8/21.0	75.8/87.5	111/126	125/150	102/115	157/157	111/126	125/150	102/115	157/157	117/132	125/150	107/121	162/162	117/132	125/150	107/121	162/162
		MED	NONE	–	–	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
			102A	4.9/6.5	23.5/27.1	48/53	60/60	47/48	182/182	48/53	60/60	47/48	182/182	54/59	60/60	53/54	187/187	54/59	60/60	53/54	187/187
			103B	6.5/8.7	31.4/36.3	58/64	60/70	53/59	182/182	58/64	60/70	53/59	182/182	64/70	70/70	59/64	187/187	64/70	70/70	59/64	187/187
			102A+102A	9.8/13.0	46.9/54.2	78/87	80/90	71/79	182/182	78/87	80/90	71/79	182/182	84/93	90/100	76/85	187/187	84/93	90/100	76/85	187/187
			103B+103B	13.1/17.4	62.8/72.5	97/110	100/110	89/100	182/182	97/110	100/110	89/100	182/182	103/116	110/125	95/106	187/187	103/116	110/125	95/106	187/187
			104B+104B	15.8/21.0	75.8/87.5	114/128	125/150	104/118	182/182	114/128	125/150	104/118	182/182	120/134	125/150	110/123	187/187	120/134	125/150	110/123	187/187
	208/230–3–60	DD–STD	NONE	–	–	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
			102A	4.9/6.5	13.6/15.6	37/39	50/50	38/38	128/128	37/39	50/50	38/38	128/128	43/45	50/50	43/43	133/133	43/45	50/50	43/43	133/133
			104B	7.9/10.5	21.9/25.3	47/51	50/60	43/47	128/128	47/51	50/60	43/47	128/128	53/57	60/60	49/52	133/133	53/57	60/60	49/52	133/133
			105A	12.0/16.0	33.4/38.5	62/68	70/70	56/62	128/128	62/68	70/70	56/62	128/128	68/74	70/80	62/68	133/133	68/74	70/80	62/68	133/133
			104B+104B	15.8/21.0	43.8/50.5	75/83	80/90	68/76	128/128	75/83	80/90	68/76	128/128	81/89	90/90	74/81	133/133	81/89	90/90	74/81	133/133
			104B+105A	19.9/26.5	55.2/63.8	89/100	90/100	81/91	128/128	89/100	90/100	81/91	128/128	95/106	100/110	87/97	133/133	95/106	100/110	87/97	133/133
		STD	NONE	–	–	35	50	35	140	35	50	35	140	40	50	41	145	40	50	41	145
			102A	4.9/6.5	13.6/15.6	35/37	50/50	35/35	140/140	35/37	50/50	35/35	140/140	40/43	50/50	41/41	145/145	40/43	50/50	41/41	145/145
			104B	7.9/10.5	21.9/25.3	44/49	50/50	40/44	140/140	44/49	50/50	40/44	140/140	50/55	50/60	46/50	145/145	50/55	50/60	46/50	145/145
			105A	12.0/16.0	33.4/38.5	59/65	60/70	54/60	140/140	59/65	60/70	54/60	140/140	65/71	70/80	59/65	145/145	65/71	70/80	59/65	145/145
			104B+104B	15.8/21.0	43.8/50.5	72/80	80/80	66/73	140/140	72/80	80/80	66/73	140/140	78/86	80/90	71/79	145/145	78/86	80/90	71/79	145/145
			104B+105A	19.9/26.5	55.2/63.8	86/97	90/100	79/89	140/140	86/97	90/100	79/89	140/140	92/103	100/110	84/94	145/145	92/103	100/110	84/94	145/145
		MED	NONE	–	–	37/37	50/50	37/37	178	37/37	50/50	37/37	178	42/41	50/50	43/42	183	42/41	50/50	43/42	183
			102A	4.9/6.5	13.6/15.6	37/38	50/50	37/37	178/178	37/38	50/50	37/37	178/178	42/44	50/50	43/42	183/183	42/44	50/50	43/42	183/183
			104B	7.9/10.5	21.9/25.3	47/51	50/60	42/46	178/178	47/51	50/60	42/46	178/178	53/57	60/60	48/52	183/183	53/57	60/60	48/52	183/183
			105A	12.0/16.0	33.4/38.5	61/67	70/70	56/61	178/178	61/67	70/70	56/61	178/178	67/73	70/80	61/67	183/183	67/73	70/80	61/67	183/183
			104B+104B	15.8/21.0	43.8/50.5	74/82	80/90	68/75	178/178	74/82	80/90	68/75	178/178	80/88	80/90	73/81	183/183	80/88	80/90	73/81	183/183
			104B+105A	19.9/26.5	55.2/63.8	88/99	90/100	81/90	178/178	88/99	90/100	81/90	178/178	94/105	100/110	86/96	183/183	94/105	100/110	86/96	183/183
		HIGH	NONE	–	–	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198	43/43	50/50	44/44	198
			102A	4.9/6.5	13.6/15.6	38/40	50/50	39/39	193/193	38/40	50/50	39/39	193/193	44/46	50/50	44/44	198/198	44/46	50/50	44/44	198/198
			104B	7.9/10.5	21.9/25.3	48/53	50/60	44/48	193/193	48/53	50/60	44/48	193/193	54/59	60/60	50/53	198/198	54/59	60/60	50/53	198/198
			105A	12.0/16.0	33.4/38.5	63/69	70/70	57/63	193/193	63/69	70/70	57/63	193/193	69/75	70/80	63/69	198/198	69/75	70/80	63/69	198/198
			104B+104B	15.8/21.0	43.8/50.5	76/84	80/90	69/77	193/193	76/84	80/90	69/77	193/193	82/90	90/90	75/82	198/198	82/90	90/90	75/82	198/198
			104B+105A	19.9/26.5	55.2/63.8	90/101	90/110	82/92	193/193	90/101	90/110	82/92	193/193	96/107	100/110	88/98	198/198	96/107	100/110	88/98	198/198

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*A06	460–3–60	DD–STD	NONE	–	–	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
			106A	6.0	7.2	19	20	18	62	19	20	18	62	22	25	21	64	22	25	21	64
			108A	11.5	13.8	27	30	25	62	27	30	25	62	30	30	27	64	30	30	27	64
			109A	14.0	16.8	31	35	28	62	31	35	28	62	34	35	31	64	34	35	31	64
			108A+108A	23.0	27.7	45	45	41	62	45	45	41	62	48	50	43	64	48	50	43	64
			108A+109A	25.5	30.7	49	50	44	62	49	50	44	62	51	60	47	64	51	60	47	64
		STD	NONE	–	–	17	20	16	67	17	20	16	67	19	25	19	69	19	25	19	69
			106A	6.0	7.2	17	20	16	67	17	20	16	67	20	25	19	69	20	25	19	69
			108A	11.5	13.8	26	30	23	67	26	30	23	67	28	30	26	69	28	30	26	69
			109A	14.0	16.8	29	30	27	67	29	30	27	67	32	35	29	69	32	35	29	69
			108A+108A	23.0	27.7	43	45	39	67	43	45	39	67	46	50	42	69	46	50	42	69
			108A+109A	25.5	30.7	47	50	43	67	47	50	43	67	50	50	45	69	50	50	45	69
		MED	NONE	–	–	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
			106A	6.0	7.2	18	20	17	86	18	20	17	86	21	25	20	88	21	25	20	88
			108A	11.5	13.8	27	30	24	86	27	30	24	86	29	30	27	88	29	30	27	88
			109A	14.0	16.8	30	35	28	86	30	35	28	86	33	35	30	88	33	35	30	88
			108A+108A	23.0	27.7	44	45	40	86	44	45	40	86	47	50	43	88	47	50	43	88
			108A+109A	25.5	30.7	48	50	44	86	48	50	44	86	51	60	46	88	51	60	46	88
		HIGH	NONE	–	–	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96
			106A	6.0	7.2	19	20	18	94	19	20	18	94	22	25	21	96	22	25	21	96
			108A	11.5	13.8	28	30	25	94	28	30	25	94	30	35	28	96	30	35	28	96
			109A	14.0	16.8	31	35	29	94	31	35	29	94	34	35	31	96	34	35	31	96
			108A+108A	23.0	27.7	45	45	41	94	45	45	41	94	48	50	44	96	48	50	44	96
			108A+109A	25.5	30.7	49	50	45	94	49	50	45	94	52	60	47	96	52	60	47	96
	575–3–60	DD–STD	NONE	–	–	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
			298A	13.8	13.8	27	30	25	50	27	30	25	50	30	30	27	52	30	30	27	52
			301A	23.0	23.1	39	40	36	50	39	40	36	50	41	45	38	52	41	45	38	52
		STD	NONE	–	–	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55
			298A	13.8	13.8	24	25	22	53	24	25	22	53	26	30	24	55	26	30	24	55
			301A	23.0	23.1	36	40	32	53	36	40	32	53	38	40	34	55	38	40	34	55
		MED	NONE	–	–	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
			298A	13.8	13.8	25	25	23	57	25	25	23	57	27	30	25	59	27	30	25	59
			301A	23.0	23.1	37	40	33	57	37	40	33	57	39	40	35	59	39	40	35	59
		HIGH	NONE	–	–	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
			298A	13.8	13.8	26	30	23	68	26	30	23	68	28	30	25	70	28	30	25	70
			301A	23.0	23.1	38	40	34	68	38	40	34	68	40	40	36	70	40	40	36	70

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*07A – – Units produced on or after 02/16/2015	208/230–3–60	STD	NONE	–	–	41/41	60/60	41/41	186	41/41	60/60	41/41	186	46/46	60/60	47/46	191	46/46	60/60	47/46	191
			264A	4.9/6.5	13.6/15.6	41/41	60/60	41/41	186/186	41/41	60/60	41/41	186/186	46/46	60/60	47/46	191/191	46/46	60/60	47/46	191/191
			117A	7.8/10.4	21.7/25.0	44/48	60/60	41/44	186/186	44/48	60/60	41/44	186/186	50/54	60/60	47/49	191/191	50/54	60/60	47/49	191/191
			110A	12.0/16.0	33.4/38.5	59/65	60/70	54/59	186/186	59/65	60/70	54/59	186/186	65/71	70/80	59/65	191/191	65/71	70/80	59/65	191/191
			117A+117A	15.8/21.0	43.8/50.5	72/80	80/80	66/73	186/186	72/80	80/80	66/73	186/186	78/86	80/90	71/79	191/191	78/86	80/90	71/79	191/191
			110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	186/186	86/96	90/100	79/88	186/186	92/102	100/110	84/94	191/191	92/102	100/110	84/94	191/191
		MED	NONE	–	–	44/44	60/60	45/45	222	44/44	60/60	45/45	222	49/49	60/60	50/50	227	49/49	60/60	50/50	227
			264A	4.9/6.5	13.6/15.6	44/44	60/60	45/45	222/222	44/44	60/60	45/45	222/222	49/49	60/60	50/50	227/227	49/49	60/60	50/50	227/227
			117A	7.8/10.4	21.7/25.0	48/52	60/60	45/48	222/222	48/52	60/60	45/48	222/222	54/58	60/60	50/53	227/227	54/58	60/60	50/53	227/227
			110A	12.0/16.0	33.4/38.5	63/69	70/70	57/63	222/222	63/69	70/70	57/63	222/222	69/75	70/80	63/69	227/227	69/75	70/80	63/69	227/227
			117A+117A	15.8/21.0	43.8/50.5	76/84	80/90	69/77	222/222	76/84	80/90	69/77	222/222	82/90	90/90	75/82	227/227	82/90	90/90	75/82	227/227
			110A+117A	19.9/26.5	55.2/63.8	90/101	90/110	82/92	222/222	90/101	90/110	82/92	222/222	96/107	100/110	88/98	227/227	96/107	100/110	88/98	227/227
		HIGH	NONE	–	–	50/49	60/60	51/50	238	50/49	60/60	51/50	238	54/54	60/60	56/55	243	54/54	60/60	56/55	243
			264A	4.9/6.5	13.6/15.6	50/49	60/60	51/50	238/238	50/49	60/60	51/50	238/238	54/54	60/60	56/55	243/243	54/54	60/60	56/55	243/243
			117A	7.8/10.4	21.7/25.0	55/58	60/60	51/53	238/238	55/58	60/60	51/53	238/238	61/64	70/70	56/58	243/243	61/64	70/70	56/58	243/243
			110A	12.0/16.0	33.4/38.5	69/75	70/80	63/68	238/238	69/75	70/80	63/68	238/238	75/81	80/90	69/74	243/243	75/81	80/90	69/74	243/243
			117A+117A	15.8/21.0	43.8/50.5	82/90	90/90	75/82	238/238	82/90	90/90	75/82	238/238	88/96	90/100	81/87	243/243	88/96	90/100	81/87	243/243
			110A+117A	19.9/26.5	55.2/63.8	97/106	100/110	88/97	238/238	97/106	100/110	88/97	238/238	103/112	110/125	94/103	243/243	103/112	110/125	94/103	243/243
	460–3–60	STD	NONE	–	–	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
			265A	6.0	7.2	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
			266A	11.5	13.8	26	30	23	92	26	30	23	92	28	30	26	94	28	30	26	94
			267A	14.0	16.8	29	30	27	92	29	30	27	92	32	35	29	94	32	35	29	94
			268A	23.0	27.7	43	45	39	92	43	45	39	92	46	50	42	94	46	50	42	94
			269A	25.5	30.7	47	50	43	92	47	50	43	92	49	50	45	94	49	50	45	94
		MED	NONE	–	–	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
			265A	6.0	7.2	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
			266A	11.5	13.8	28	30	25	110	28	30	25	110	30	35	28	112	30	35	28	112
			267A	14.0	16.8	31	35	29	110	31	35	29	110	34	35	31	112	34	35	31	112
			268A	23.0	27.7	45	45	41	110	45	45	41	110	48	50	44	112	48	50	44	112
			269A	25.5	30.7	49	50	45	110	49	50	45	110	52	60	47	112	52	60	47	112
		HIGH	NONE	–	–	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
			265A	6.0	7.2	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
			266A	11.5	13.8	30	35	28	118	30	35	28	118	33	35	30	120	33	35	30	120
			267A	14.0	16.8	34	35	31	118	34	35	31	118	37	40	34	120	37	40	34	120
			268A	23.0	27.7	48	50	44	118	48	50	44	118	51	60	46	120	51	60	46	120
			269A	25.5	30.7	52	60	47	118	52	60	47	118	54	60	50	120	54	60	50	120
	575–3–60	STD	NONE	–	–	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72
			118A	17.0	20.4	33	35	30	70	33	35	30	70	35	35	32	72	35	35	32	72
			299A	25.7	25.8	39	40	36	70	39	40	36	70	42	45	38	72	42	45	38	72
		MED	NONE	–	–	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87
			118A	17.0	20.4	34	35	31	85	34	35	31	85	36	40	33	87	36	40	33	87
			299A	25.7	25.8	41	45	37	85	41	45	37	85	43	45	39	87	43	45	39	87
		HIGH	NONE	–	–	19	25	20	99	19	25	20	99	21	25	22	101	21	25	22	101
			118A	17.0	20.4	38	40	34	99	38	40	34	99	40	40	36	101	40	40	36	101
			299A	25.7	25.8	44	45	41	99	44	45	41	99	47	50	42	101	47	50	42	101

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*07A — Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	40/40	50/50	41/40	173	40/40	50/50	41/40	173	45/45	60/60	46/46	178	45/45	60/60	46/46	178
			264A	4.9/6.5	13.6/15.6	40/40	50/50	41/40	173/173	40/40	50/50	41/40	173/173	45/45	60/60	46/46	178/178	45/45	60/60	46/46	178/178
			117A	7.8/10.4	21.7/25.0	44/48	50/50	41/44	173/173	44/48	50/50	41/44	173/173	50/54	60/60	46/49	178/178	50/54	60/60	46/49	178/178
			110A	12.0/16.0	33.4/38.5	59/65	60/70	54/59	173/173	59/65	60/70	54/59	173/173	65/71	70/80	59/65	178/178	65/71	70/80	59/65	178/178
			117A+117A	15.8/21.0	43.8/50.5	72/80	80/80	66/73	173/173	72/80	80/80	66/73	173/173	78/86	80/90	71/79	178/178	78/86	80/90	71/79	178/178
			110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/88	173/173	86/96	90/100	79/88	173/173	92/102	100/110	84/94	178/178	92/102	100/110	84/94	178/178
		MED	NONE	–	–	44/44	60/60	44/44	209	44/44	60/60	44/44	209	48/48	60/60	50/50	214	48/48	60/60	50/50	214
			264A	4.9/6.5	13.6/15.6	44/44	60/60	44/44	209/209	44/44	60/60	44/44	209/209	48/48	60/60	50/50	214/214	48/48	60/60	50/50	214/214
			117A	7.8/10.4	21.7/25.0	48/52	60/60	44/48	209/209	48/52	60/60	44/48	209/209	54/58	60/60	50/53	214/214	54/58	60/60	50/53	214/214
			110A	12.0/16.0	33.4/38.5	63/69	70/70	57/63	209/209	63/69	70/70	57/63	209/209	69/75	70/80	63/69	214/214	69/75	70/80	63/69	214/214
			117A+117A	15.8/21.0	43.8/50.5	76/84	80/90	69/77	209/209	76/84	80/90	69/77	209/209	82/90	90/90	75/82	214/214	82/90	90/90	75/82	214/214
			110A+117A	19.9/26.5	55.2/63.8	90/101	90/110	82/92	209/209	90/101	90/110	82/92	209/209	96/107	100/110	88/98	214/214	96/107	100/110	88/98	214/214
		HIGH	NONE	–	–	49/48	60/60	50/49	225	49/48	60/60	50/49	225	54/53	60/60	56/55	230	54/53	60/60	56/55	230
			264A	4.9/6.5	13.6/15.6	49/48	60/60	50/49	225/225	49/48	60/60	50/49	225/225	54/53	60/60	56/55	230/230	54/53	60/60	56/55	230/230
			117A	7.8/10.4	21.7/25.0	55/58	60/60	50/53	225/225	55/58	60/60	50/53	225/225	61/64	70/70	56/58	230/230	61/64	70/70	56/58	230/230
			110A	12.0/16.0	33.4/38.5	69/75	70/80	63/68	225/225	69/75	70/80	63/68	225/225	75/81	80/90	69/74	230/230	75/81	80/90	69/74	230/230
			117A+117A	15.8/21.0	43.8/50.5	82/90	90/90	75/82	225/225	82/90	90/90	75/82	225/225	88/96	90/100	81/87	230/230	88/96	90/100	81/87	230/230
			110A+117A	19.9/26.5	55.2/63.8	97/106	100/110	88/97	225/225	97/106	100/110	88/97	225/225	103/112	110/125	94/103	230/230	103/112	110/125	94/103	230/230
	460–3–60	STD	NONE	–	–	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
			265A	6.0	7.2	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
			266A	11.5	13.8	26	30	23	88	26	30	23	88	28	30	26	90	28	30	26	90
			267A	14.0	16.8	29	30	27	88	29	30	27	88	32	35	29	90	32	35	29	90
			268A	23.0	27.7	43	45	39	88	43	45	39	88	46	50	42	90	46	50	42	90
			269A	25.5	30.7	47	50	43	88	47	50	43	88	49	50	45	90	49	50	45	90
		MED	NONE	–	–	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
			265A	6.0	7.2	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
			266A	11.5	13.8	28	30	25	106	28	30	25	106	30	35	28	108	30	35	28	108
			267A	14.0	16.8	31	35	29	106	31	35	29	106	34	35	31	108	34	35	31	108
			268A	23.0	27.7	45	45	41	106	45	45	41	106	48	50	44	108	48	50	44	108
			269A	25.5	30.7	49	50	45	106	49	50	45	106	52	60	47	108	52	60	47	108
		HIGH	NONE	–	–	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
			265A	6.0	7.2	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
			266A	11.5	13.8	30	35	28	114	30	35	28	114	33	35	30	116	33	35	30	116
			267A	14.0	16.8	34	35	31	114	34	35	31	114	37	40	34	116	37	40	34	116
			268A	23.0	27.7	48	50	44	114	48	50	44	114	51	60	46	116	51	60	46	116
			269A	25.5	30.7	52	60	47	114	52	60	47	114	54	60	50	116	54	60	50	116
	575–3–60	STD	NONE	–	–	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
			118A	17.0	20.4	33	35	30	65	33	35	30	65	35	35	32	67	35	35	32	67
			299A	25.7	25.8	39	40	36	65	39	40	36	65	42	45	38	67	42	45	38	67
		MED	NONE	–	–	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
			118A	17.0	20.4	34	35	31	80	34	35	31	80	36	40	33	82	36	40	33	82
			299A	25.7	25.8	41	45	37	80	41	45	37	80	43	45	39	82	43	45	39	82
		HIGH	NONE	–	–	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96
			118A	17.0	20.4	38	40	34	94	38	40	34	94	40	40	36	96	40	40	36	96
			299A	25.7	25.8	44	45	41	94	44	45	41	94	47	50	42	96	47	50	42	96

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D08	208/230–3–60	STD	NONE	–	–	51/51	60/60	54/54	220	51/51	60/60	54/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
			117A	7.8/10.4	21.7/25.0	51/53	60/60	54/54	220/220	51/53	60/60	54/54	220/220	56/59	60/60	60/60	225/225	56/59	60/60	60/60	225/225
			110A	12.0/16.0	33.4/38.5	64/70	70/70	58/64	220/220	64/70	70/70	58/64	220/220	70/76	70/80	64/69	225/225	70/76	70/80	64/69	225/225
			111A	18.6/24.8	51.7/59.7	87/96	90/100	79/88	220/220	87/96	90/100	79/88	220/220	93/102	100/110	85/94	225/225	93/102	100/110	85/94	225/225
			112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	220/220	105/118	110/125	96/108	220/220	111/124	125/125	102/113	225/225	111/124	125/125	102/113	225/225
			112A+117A	31.8/42.4	88.4/102.0	132/149	150/150	121/137	220/220	132/149	150/150	121/137	220/220	138/155	150/175	127/142	225/225	138/155	150/175	127/142	225/225
		MED	NONE	–	–	53/53	60/60	56/56	241	53/53	60/60	56/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
			117A	7.8/10.4	21.7/25.0	53/55	60/60	56/56	241/241	53/55	60/60	56/56	241/241	58/61	70/70	62/62	246/246	58/61	70/70	62/62	246/246
			110A	12.0/16.0	33.4/38.5	66/72	70/80	60/66	241/241	66/72	70/80	60/66	241/241	72/78	80/80	66/71	246/246	72/78	80/80	66/71	246/246
			111A	18.6/24.8	51.7/59.7	89/98	90/100	81/90	241/241	89/98	90/100	81/90	241/241	95/104	100/110	87/96	246/246	95/104	100/110	87/96	246/246
			112A	24.0/32.0	66.7/77.0	107/120	110/125	98/110	241/241	107/120	110/125	98/110	241/241	113/126	125/150	104/116	246/246	113/126	125/150	104/116	246/246
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	123/139	241/241	135/151	150/175	123/139	241/241	141/157	150/175	129/144	246/246	141/157	150/175	129/144	246/246
		HIGH	NONE	–	–	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275
			117A	7.8/10.4	21.7/25.0	57/60	60/60	61/61	270/270	57/60	60/60	61/61	270/270	62/66	70/70	66/66	275/275	62/66	70/70	66/66	275/275
			110A	12.0/16.0	33.4/38.5	70/77	70/80	64/70	270/270	70/77	70/80	64/70	270/270	76/83	80/90	70/76	275/275	76/83	80/90	70/76	275/275
			111A	18.6/24.8	51.7/59.7	93/103	100/110	85/95	270/270	93/103	100/110	85/95	270/270	99/109	100/110	91/100	275/275	99/109	100/110	91/100	275/275
			112A	24.0/32.0	66.7/77.0	112/125	125/125	103/115	270/270	112/125	125/125	103/115	270/270	118/131	125/150	108/120	275/275	118/131	125/150	108/120	275/275
			112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/143	270/270	139/156	150/175	128/143	270/270	145/162	150/175	133/149	275/275	145/162	150/175	133/149	275/275
	460–3–60	STD	NONE	–	–	24	25	25	110	24	25	25	110	26	30	28	112	26	30	28	112
			116A	13.9	16.7	31	35	28	110	31	35	28	110	34	35	31	112	34	35	31	112
			113A	16.5	19.8	35	35	32	110	35	35	32	110	38	40	34	112	38	40	34	112
			114A	27.8	33.4	52	60	48	110	52	60	48	110	55	60	50	112	55	60	50	112
			115A	33.0	39.7	60	60	55	110	60	60	55	110	63	70	57	112	63	70	57	112
			114A+116A	41.7	50.2	73	80	67	110	73	80	67	110	76	80	69	112	76	80	69	112
		MED	NONE	–	–	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
			116A	13.9	16.7	32	35	29	120	32	35	29	120	35	35	32	122	35	35	32	122
			113A	16.5	19.8	36	40	33	120	36	40	33	120	39	40	35	122	39	40	35	122
			114A	27.8	33.4	53	60	49	120	53	60	49	120	56	60	51	122	56	60	51	122
			115A	33.0	39.7	61	70	56	120	61	70	56	120	64	70	58	122	64	70	58	122
			114A+116A	41.7	50.2	74	80	68	120	74	80	68	120	77	80	70	122	77	80	70	122
		HIGH	NONE	–	–	27	30	28	135	27	30	28	135	29	30	31	137	29	30	31	137
			116A	13.9	16.7	35	35	32	135	35	35	32	135	38	40	34	137	38	40	34	137
			113A	16.5	19.8	39	40	35	135	39	40	35	135	41	45	38	137	41	45	38	137
			114A	27.8	33.4	56	60	51	135	56	60	51	135	58	60	53	137	58	60	53	137
			115A	33.0	39.7	64	70	58	135	64	70	58	135	66	70	61	137	66	70	61	137
			114A+116A	41.7	50.2	77	80	70	135	77	80	70	135	79	80	73	137	79	80	73	137
	575–3–60	STD	NONE	–	–	18	20	19	83	18	20	19	83	20	25	21	85	20	25	21	85
			118A	17.0	20.4	35	35	32	83	35	35	32	83	37	40	34	85	37	40	34	85
			119A	34.0	40.9	60	60	55	83	60	60	55	83	63	70	57	85	63	70	57	85
		MED	NONE	–	–	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
			118A	17.0	20.4	35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
			119A	34.0	40.9	61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
		HIGH	NONE	–	–	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
			118A	17.0	20.4	36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
			119A	34.0	40.9	62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D09	208/230–3–60	STD	NONE	–	–	51/51	60/60	55/54	220	51/51	60/60	55/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
			117A	7.8/10.4	21.7/25.0	51/53	60/60	55/54	220/220	51/53	60/60	55/54	220/220	56/59	60/60	60/60	225/225	56/59	60/60	60/60	225/225
			110A	12.0/16.0	33.4/38.5	64/70	70/70	58/64	220/220	64/70	70/70	58/64	220/220	70/76	70/80	64/69	225/225	70/76	70/80	64/69	225/225
			111A	18.6/24.8	51.7/59.7	87/96	90/100	79/88	220/220	87/96	90/100	79/88	220/220	93/102	100/110	85/94	225/225	93/102	100/110	85/94	225/225
			112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	220/220	105/118	110/125	96/108	220/220	111/124	125/125	102/113	225/225	111/124	125/125	102/113	225/225
			112A+117A	31.8/42.4	88.4/102.0	132/149	150/150	121/137	220/220	132/149	150/150	121/137	220/220	138/155	150/175	127/142	225/225	138/155	150/175	127/142	225/225
		MED	NONE	–	–	53/53	60/60	57/56	241	53/53	60/60	57/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
			117A	7.8/10.4	21.7/25.0	53/55	60/60	57/56	241/241	53/55	60/60	57/56	241/241	58/61	70/70	62/62	246/246	58/61	70/70	62/62	246/246
			110A	12.0/16.0	33.4/38.5	66/72	70/80	60/66	241/241	66/72	70/80	60/66	241/241	72/78	80/80	66/71	246/246	72/78	80/80	66/71	246/246
			111A	18.6/24.8	51.7/59.7	89/98	90/100	81/90	241/241	89/98	90/100	81/90	241/241	95/104	100/110	87/96	246/246	95/104	100/110	87/96	246/246
			112A	24.0/32.0	66.7/77.0	107/120	110/125	98/110	241/241	107/120	110/125	98/110	241/241	113/126	125/150	104/116	246/246	113/126	125/150	104/116	246/246
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	123/139	241/241	135/151	150/175	123/139	241/241	141/157	150/175	129/144	246/246	141/157	150/175	129/144	246/246
		HIGH	NONE	–	–	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275
			117A	7.8/10.4	21.7/25.0	57/60	60/60	61/61	270/270	57/60	60/60	61/61	270/270	62/66	70/70	66/66	275/275	62/66	70/70	66/66	275/275
			110A	12.0/16.0	33.4/38.5	70/77	70/80	64/70	270/270	70/77	70/80	64/70	270/270	76/83	80/90	70/76	275/275	76/83	80/90	70/76	275/275
			111A	18.6/24.8	51.7/59.7	93/103	100/110	85/95	270/270	93/103	100/110	85/95	270/270	99/109	100/110	91/100	275/275	99/109	100/110	91/100	275/275
			112A	24.0/32.0	66.7/77.0	112/125	125/125	103/115	270/270	112/125	125/125	103/115	270/270	118/131	125/150	108/120	275/275	118/131	125/150	108/120	275/275
			112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/143	270/270	139/156	150/175	128/143	270/270	145/162	150/175	133/149	275/275	145/162	150/175	133/149	275/275
	460–3–60	STD	NONE	–	–	24	30	25	110	24	30	25	110	26	30	28	112	26	30	28	112
			116A	13.9	16.7	31	35	28	110	31	35	28	110	34	35	31	112	34	35	31	112
			113A	16.5	19.8	35	35	32	110	35	35	32	110	38	40	34	112	38	40	34	112
			114A	27.8	33.4	52	60	48	110	52	60	48	110	55	60	50	112	55	60	50	112
			115A	33.0	39.7	60	60	55	110	60	60	55	110	63	70	57	112	63	70	57	112
			114A+116A	41.7	50.2	73	80	67	110	73	80	67	110	76	80	69	112	76	80	69	112
		MED	NONE	–	–	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
			116A	13.9	16.7	32	35	29	120	32	35	29	120	35	35	32	122	35	35	32	122
			113A	16.5	19.8	36	40	33	120	36	40	33	120	39	40	35	122	39	40	35	122
			114A	27.8	33.4	53	60	49	120	53	60	49	120	56	60	51	122	56	60	51	122
			115A	33.0	39.7	61	70	56	120	61	70	56	120	64	70	58	122	64	70	58	122
			114A+116A	41.7	50.2	74	80	68	120	74	80	68	120	77	80	70	122	77	80	70	122
		HIGH	NONE	–	–	27	30	28	135	27	30	28	135	29	35	31	137	29	35	31	137
			116A	13.9	16.7	35	35	32	135	35	35	32	135	38	40	34	137	38	40	34	137
			113A	16.5	19.8	39	40	35	135	39	40	35	135	41	45	38	137	41	45	38	137
			114A	27.8	33.4	56	60	51	135	56	60	51	135	58	60	53	137	58	60	53	137
			115A	33.0	39.7	64	70	58	135	64	70	58	135	66	70	61	137	66	70	61	137
			114A+116A	41.7	50.2	77	80	70	135	77	80	70	135	79	80	73	137	79	80	73	137
	575–3–60	STD	NONE	–	–	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85
			118A	17.0	20.4	35	35	32	83	35	35	32	83	37	40	34	85	37	40	34	85
			119A	34.0	40.9	60	60	55	83	60	60	55	83	63	70	57	85	63	70	57	85
		MED	NONE	–	–	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
			118A	17.0	20.4	35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
			119A	34.0	40.9	61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
		HIGH	NONE	–	–	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
			118A	17.0	20.4	36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
			119A	34.0	40.9	62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEAT-ER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D11	208/230–3–60	STD	NONE	–	–	62/62	70/70	67/67	296	62/62	70/70	67/67	296	67/67	80/80	72/72	301	67/67	80/80	72/72	301
			117A	7.8/10.4	21.7/25.0	62/62	70/70	67/67	296/296	62/62	70/70	67/67	296/296	67/67	80/80	72/72	301/301	67/67	80/80	72/72	301/301
			110A	12.0/16.0	33.4/38.5	66/72	70/80	67/67	296/296	66/72	70/80	67/67	296/296	72/78	80/80	72/72	301/301	72/78	80/80	72/72	301/301
			112A	24.0/32.0	66.7/77.0	107/120	110/125	98/110	296/296	107/120	110/125	98/110	296/296	113/126	125/150	104/116	301/301	113/126	125/150	104/116	301/301
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	123/139	296/296	135/151	150/175	123/139	296/296	141/157	150/175	129/144	301/301	141/157	150/175	129/144	301/301
			112A+110A	37.6/50.0	104.2/120.3	154/144	175/150	142/160	296/296	154/144	175/150	142/160	296/296	160/150	175/175	147/165	301/301	160/150	175/175	147/165	301/301
		MED	NONE	–	–	66	80	71	325	66	80	71	325	71	80	77	330	71	80	77	330
			117A	7.8/10.4	21.7/25.0	66/66	80/80	71/71	325/325	66/66	80/80	71/71	325/325	71/71	80/80	77/77	330/330	71/71	80/80	77/77	330/330
			110A	12.0/16.0	33.4/38.5	70/77	80/80	71/71	325/325	70/77	80/80	71/71	325/325	76/83	80/90	77/77	330/330	76/83	80/90	77/77	330/330
			112A	24.0/32.0	66.7/77.0	112/125	125/125	103/115	325/325	112/125	125/125	103/115	325/325	118/131	125/150	108/120	330/330	118/131	125/150	108/120	330/330
			112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/143	325/325	139/156	150/175	128/143	325/325	145/162	150/175	133/149	330/330	145/162	150/175	133/149	330/330
			112A+110A	37.6/50.0	104.2/120.3	159/149	175/175	146/164	325/325	159/149	175/175	146/164	325/325	165/155	175/175	151/170	330/330	165/155	175/175	151/170	330/330
		HIGH	NONE	–	–	69/68	80/80	74/73	327	69/68	80/80	74/73	327	74/73	80/80	80/79	332	74/73	80/80	80/79	332
			117A	7.8/10.4	21.7/25.0	69/68	80/80	74/73	327/327	69/68	80/80	74/73	327/327	74/73	80/80	80/79	332/332	74/73	80/80	80/79	332/332
			110A	12.0/16.0	33.4/38.5	74/79	80/80	74/73	327/327	74/79	80/80	74/73	327/327	80/85	80/90	80/79	332/332	80/85	80/90	80/79	332/332
			112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	327/327	116/128	125/150	106/117	327/327	122/134	125/150	112/122	332/332	122/134	125/150	112/122	332/332
			112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	327/327	143/159	150/175	131/146	327/327	149/165	150/175	137/151	332/332	149/165	150/175	137/151	332/332
			112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	327/327	163/152	175/175	149/167	327/327	169/158	175/175	155/172	332/332	169/158	175/175	155/172	332/332
	460–3–60	STD	NONE	–	–	29	30	30	142	29	30	30	142	31	35	33	144	31	35	33	144
			116A	13.9	16.7	32	35	30	142	32	35	30	142	35	35	33	144	35	35	33	144
			113A	16.5	19.8	36	40	33	142	36	40	33	142	39	40	35	144	39	40	35	144
			115A	33.0	39.7	61	70	56	142	61	70	56	142	64	70	58	144	64	70	58	144
			114A+116A	41.7	50.2	74	80	68	142	74	80	68	142	77	80	70	144	77	80	70	144
			115A+113A	50.0	60.1	72	80	79	142	72	80	79	142	74	80	82	144	74	80	82	144
		MED	NONE	–	–	31	35	33	157	31	35	33	157	33	35	35	159	33	35	35	159
			116A	13.9	16.7	35	35	33	157	35	35	33	157	38	40	35	159	38	40	35	159
			113A	16.5	19.8	39	40	35	157	39	40	35	157	41	45	38	159	41	45	38	159
			115A	33.0	39.7	64	70	58	157	64	70	58	157	66	70	61	159	66	70	61	159
			114A+116A	41.7	50.2	77	80	70	157	77	80	70	157	79	80	73	159	79	80	73	159
			115A+113A	50.0	60.1	74	80	81	157	74	80	81	157	77	80	84	159	77	80	84	159
		HIGH	NONE	–	–	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
			116A	13.9	16.7	36	40	34	158	36	40	34	158	39	40	36	160	39	40	36	160
			113A	16.5	19.8	40	40	36	158	40	40	36	158	43	45	39	160	43	45	39	160
			115A	33.0	39.7	65	70	59	158	65	70	59	158	68	70	62	160	68	70	62	160
			114A+116A	41.7	50.2	78	80	71	158	78	80	71	158	81	90	74	160	81	90	74	160
			115A+113A	50.0	60.1	75	80	83	158	75	80	83	158	78	80	85	160	78	80	85	160
	575–3–60	STD	NONE	–	–	23	25	24	101	23	25	24	101	25	30	26	103	25	30	26	103
			118A	17.0	20.4	35	35	32	101	35	35	32	101	37	40	34	103	37	40	34	103
			119A	34.0	40.9	61	70	56	101	61	70	56	101	63	70	58	103	63	70	58	103
			118A+119A	51.0	61.3	71	80	79	101	71	80	79	101	73	80	81	103	73	80	81	103
		MED	NONE	–	–	24	25	25	112	24	25	25	112	25	30	27	114	25	30	27	114
			118A	17.0	20.4	36	40	33	112	36	40	33	112	38	40	35	114	38	40	35	114
			119A	34.0	40.9	62	70	57	112	62	70	57	112	64	70	58	114	64	70	58	114
			118A+119A	51.0	61.3	72	80	80	112	72	80	80	112	74	80	82	114	74	80	82	114
		HIGH	NONE	–	–	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128
			118A	17.0	20.4	40	40	36	126	40	40	36	126	42	45	38	128	42	45	38	128
			119A	34.0	40.9	65	70	60	126	65	70	60	126	68	70	62	128	68	70	62	128
			118A+119A	51.0	61.3	76	80	83	126	76	80	83	126	78	80	85	128	78	80	85	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEAT-ER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D12	208/230–3–60	STD	NONE	–	–	61/61	70/70	65/65	321	61/61	70/70	65/65	321	66/66	80/80	71/71	326	66/66	80/80	71/71	326
			117A	7.8/10.4	21.7/25.0	61/61	70/70	65/65	321/321	61/61	70/70	65/65	321/321	66/66	80/80	71/71	326/326	66/66	80/80	71/71	326/326
			110A	12.0/16.0	33.4/38.5	66/72	70/80	65/66	321/321	66/72	70/80	65/66	321/321	72/78	80/80	71/71	326/326	72/78	80/80	71/71	326/326
			112A	24.0/32.0	66.7/77.0	107/120	110/125	98/110	321/321	107/120	110/125	98/110	321/321	113/126	125/150	104/116	326/326	113/126	125/150	104/116	326/326
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	123/139	321/321	135/151	150/175	123/139	321/321	141/157	150/175	129/144	326/326	141/157	150/175	129/144	326/326
			112A+110A	37.6/50.0	104.2/120.3	154/144	175/150	142/160	321/321	154/144	175/150	142/160	321/321	160/150	175/175	147/165	326/326	160/150	175/175	147/165	326/326
		MED	NONE	–	–	65	80	70	350	65	80	70	350	70	80	75	355	70	80	75	355
			117A	7.8/10.4	21.7/25.0	65/65	80/80	70/70	350/350	65/65	80/80	70/70	350/350	70/70	80/80	75/75	355/355	70/70	80/80	75/75	355/355
			110A	12.0/16.0	33.4/38.5	70/77	80/80	70/70	350/350	70/77	80/80	70/70	350/350	76/83	80/90	75/76	355/355	76/83	80/90	75/76	355/355
			112A	24.0/32.0	66.7/77.0	112/125	125/125	103/115	350/350	112/125	125/125	103/115	350/350	118/131	125/150	108/120	355/355	118/131	125/150	108/120	355/355
			112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/143	350/350	139/156	150/175	128/143	350/350	145/162	150/175	133/149	355/355	145/162	150/175	133/149	355/355
			112A+110A	37.6/50.0	104.2/120.3	159/149	175/175	146/164	350/350	159/149	175/175	146/164	350/350	165/155	175/175	151/170	355/355	165/155	175/175	151/170	355/355
		HIGH	NONE	–	–	68/67	80/80	73/72	352	68/67	80/80	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
			117A	7.8/10.4	21.7/25.0	68/67	80/80	73/72	352/352	68/67	80/80	73/72	352/352	73/72	80/80	79/78	357/357	73/72	80/80	79/78	357/357
			110A	12.0/16.0	33.4/38.5	74/79	80/80	73/73	352/352	74/79	80/80	73/73	352/352	80/85	80/90	79/78	357/357	80/85	80/90	79/78	357/357
			112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	352/352	116/128	125/150	106/117	352/352	122/134	125/150	112/122	357/357	122/134	125/150	112/122	357/357
			112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	352/352	143/159	150/175	131/146	352/352	149/165	150/175	137/151	357/357	149/165	150/175	137/151	357/357
			112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	352/352	163/152	175/175	149/167	352/352	169/158	175/175	155/172	357/357	169/158	175/175	155/172	357/357
	460–3–60	STD	NONE	–	–	30	35	31	154	30	35	31	154	32	35	34	156	32	35	34	156
			116A	13.9	16.7	32	35	31	154	32	35	31	154	35	35	34	156	35	35	34	156
			113A	16.5	19.8	36	40	33	154	36	40	33	154	39	40	35	156	39	40	35	156
			115A	33.0	39.7	61	70	56	154	61	70	56	154	64	70	58	156	64	70	58	156
			114A+116A	41.7	50.2	74	80	68	154	74	80	68	154	77	80	70	156	77	80	70	156
			115A+113A	50.0	60.1	72	80	79	154	72	80	79	154	74	80	82	156	74	80	82	156
		MED	NONE	–	–	32	35	34	169	32	35	34	169	34	40	36	171	34	40	36	171
			116A	13.9	16.7	35	35	34	169	35	35	34	169	38	40	36	171	38	40	36	171
			113A	16.5	19.8	39	40	35	169	39	40	35	169	41	45	38	171	41	45	38	171
			115A	33.0	39.7	64	70	58	169	64	70	58	169	66	70	61	171	66	70	61	171
			114A+116A	41.7	50.2	77	80	70	169	77	80	70	169	79	80	73	171	79	80	73	171
			115A+113A	50.0	60.1	74	80	81	169	74	80	81	169	77	80	84	171	77	80	84	171
		HIGH	NONE	–	–	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
			116A	13.9	16.7	36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
			113A	16.5	19.8	40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
			115A	33.0	39.7	65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
			114A+116A	41.7	50.2	78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
			115A+113A	50.0	60.1	75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
	575–3–60	STD	NONE	–	–	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
			118A	17.0	20.4	35	35	32	111	35	35	32	111	37	40	34	113	37	40	34	113
			119A	34.0	40.9	61	70	56	111	61	70	56	111	63	70	58	113	63	70	58	113
			118A+119A	51.0	61.3	71	80	79	111	71	80	79	111	73	80	81	113	73	80	81	113
		MED	NONE	–	–	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
			118A	17.0	20.4	36	40	33	122	36	40	33	122	38	40	35	124	38	40	35	124
			119A	34.0	40.9	62	70	57	122	62	70	57	122	64	70	58	124	64	70	58	124
			118A+119A	51.0	61.3	72	80	80	122	72	80	80	122	74	80	82	124	74	80	82	124
		HIGH	NONE	–	–	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138
			118A	17.0	20.4	40	40	36	136	40	40	36	136	42	45	38	138	42	45	38	138
			119A	34.0	40.9	65	70	60	136	65	70	60	136	68	70	62	138	68	70	62	138
			118A+119A	51.0	61.3	76	80	83	136	76	80	83	136	78	80	85	138	78	80	85	138

See: "Legend and Notes for Tables 13 – 20" on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or after 02/16/2015	208/230–3–60	STD	NONE	–	–	74/74	80/80	78/78	372	74/74	80/80	78/78	372	78/78	90/90	84/84	377	78/78	90/90	84/84	377
			291A	12.4/16.5	34.4/39.7	74/81	80/90	78/78	372/372	74/81	80/90	78/78	372/372	80/87	90/90	84/84	377/377	80/87	90/90	84/84	377/377
			288A+291A	19.9/26.5	55.3/63.8	100/111	100/125	92/101	372/372	100/111	100/125	92/101	372/372	106/117	110/125	97/107	377/377	106/117	110/125	97/107	377/377
			294A	25.2/33.5	69.9/80.6	119/132	125/150	109/121	372/372	119/132	125/150	109/121	372/372	125/138	125/150	114/126	377/377	125/138	125/150	114/126	377/377
			288A+294A	32.7/43.5	90.7/104.7	145/162	150/175	133/149	372/372	145/162	150/175	133/149	372/372	151/168	175/175	138/154	377/377	151/168	175/175	138/154	377/377
			291A+294A	37.6/50.0	104.3/120.3	162/151	175/175	148/166	372/372	162/151	175/175	148/166	372/372	168/157	175/175	154/172	377/377	168/157	175/175	154/172	377/377
		MED	NONE	–	–	76	90	81	386	76	90	81	386	81	90	87	391	81	90	87	391
			291A	12.4/16.5	34.4/39.7	77/84	90/90	81/81	386/386	77/84	90/90	81/81	386/386	83/90	90/90	87/87	391/391	83/90	90/90	87/87	391/391
			288A+291A	19.9/26.5	55.3/63.8	103/114	110/125	94/104	386/386	103/114	110/125	94/104	386/386	109/120	110/125	100/110	391/391	109/120	110/125	100/110	391/391
			294A	25.2/33.5	69.9/80.6	121/135	125/150	111/123	386/386	121/135	125/150	111/123	386/386	127/141	150/150	117/129	391/391	127/141	150/150	117/129	391/391
			288A+294A	32.7/43.5	90.7/104.7	147/165	150/175	135/151	386/386	147/165	150/175	135/151	386/386	153/171	175/175	141/157	391/391	153/171	175/175	141/157	391/391
			291A+294A	37.6/50.0	104.3/120.3	164/154	175/175	151/169	386/386	164/154	175/175	151/169	386/386	170/160	175/175	156/175	391/391	170/160	175/175	156/175	391/391
		HIGH	NONE	–	–	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
			291A	12.4/16.5	34.4/39.7	89/96	100/100	92/92	392/392	89/96	100/100	92/92	392/392	95/102	100/110	98/98	397/397	95/102	100/110	98/98	397/397
			288A+291A	19.9/26.5	55.3/63.8	115/126	125/150	106/115	392/392	115/126	125/150	106/115	392/392	121/132	125/150	111/121	397/397	121/132	125/150	111/121	397/397
			294A	25.2/33.5	69.9/80.6	134/147	150/150	122/135	392/392	134/147	150/150	122/135	392/392	140/153	150/175	128/140	397/397	140/153	150/175	128/140	397/397
			288A+294A	32.7/43.5	90.7/104.7	160/177	175/200	146/162	392/392	160/177	175/200	146/162	392/392	166/183	175/200	152/168	397/397	166/183	175/200	152/168	397/397
			291A+294A	37.6/50.0	104.3/120.3	177/166	200/175	162/180	392/392	177/166	200/175	162/180	392/392	183/172	200/175	168/186	397/397	183/172	200/175	168/186	397/397
	460–3–60	STD	NONE	–	–	33	40	35	181	33	40	35	181	35	40	37	183	35	40	37	183
			292A	16.5	19.9	39	40	36	181	39	40	36	181	42	45	38	183	42	45	38	183
			289A+292A	26.5	31.9	54	60	50	181	54	60	50	181	57	60	52	183	57	60	52	183
			295A	33.5	40.3	65	70	59	181	65	70	59	181	68	70	62	183	68	70	62	183
			289A+295A	43.5	52.3	80	80	73	181	80	80	73	181	83	90	76	183	83	90	76	183
			292A+295A	50.0	60.2	75	80	82	181	75	80	82	181	77	80	85	183	77	80	85	183
		MED	NONE	–	–	34	40	36	188	34	40	36	188	36	40	38	190	36	40	38	190
			292A	16.5	19.9	41	45	37	188	41	45	37	188	43	45	40	190	43	45	40	190
			289A+292A	26.5	31.9	56	60	51	188	56	60	51	188	58	60	53	190	58	60	53	190
			295A	33.5	40.3	66	70	61	188	66	70	61	188	69	70	63	190	69	70	63	190
			289A+295A	43.5	52.3	81	90	74	188	81	90	74	188	84	90	77	190	84	90	77	190
			292A+295A	50.0	60.2	76	80	83	188	76	80	83	188	79	80	86	190	79	80	86	190
		HIGH	NONE	–	–	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
			292A	16.5	19.9	47	50	43	191	47	50	43	191	50	50	45	193	50	50	45	193
			289A+292A	26.5	31.9	62	70	56	191	62	70	56	191	65	70	59	193	65	70	59	193
			295A	33.5	40.3	72	80	66	191	72	80	66	191	75	80	69	193	75	80	69	193
			289A+295A	43.5	52.3	87	90	80	191	87	90	80	191	90	90	82	193	90	90	82	193
			292A+295A	50.0	60.2	82	90	89	191	82	90	89	191	85	90	92	193	85	90	92	193

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units Produced on or after 02/16/2015	575–3–60	STD	NONE	–	–	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147
			290A+296A	43.5	41.8	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147
			293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147
		MED	NONE	–	–	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147
			290A+296A	43.5	41.8	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147
			293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147
		HIGH	NONE	–	–	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
			293A	16.5	15.9	40	40	37	157	40	40	37	157	42	45	39	159	42	45	39	159
			290A+293A	26.5	25.5	52	60	48	157	52	60	48	157	54	60	50	159	54	60	50	159
			296A	33.5	32.2	61	70	55	157	61	70	55	157	63	70	57	159	63	70	57	159
			290A+296A	43.5	41.8	73	80	67	157	73	80	67	157	75	80	68	159	75	80	68	159
			293A+296A	50.0	48.1	69	70	74	157	69	70	74	157	71	80	76	159	71	80	76	159

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	72/72	80/80	77/77	346	72/72	80/80	77/77	346	77/77	90/90	83/83	351	77/77	90/90	83/83	351
			291A	12.4/16.5	34.4/39.7	74/81	80/90	77/77	346/346	74/81	80/90	77/77	346/346	80/87	90/90	83/83	351/351	80/87	90/90	83/83	351/351
			288A+291A	19.9/26.5	55.3/63.8	100/111	100/125	92/101	346/346	100/111	100/125	92/101	346/346	106/117	110/125	97/107	351/351	106/117	110/125	97/107	351/351
			294A	25.2/33.5	69.9/80.6	119/132	125/150	109/121	346/346	119/132	125/150	109/121	346/346	125/138	125/150	114/126	351/351	125/138	125/150	114/126	351/351
			288A+294A	32.7/43.5	90.7/104.7	145/162	150/175	133/149	346/346	145/162	150/175	133/149	346/346	151/168	175/175	138/154	351/351	151/168	175/175	138/154	351/351
			291A+294A	37.6/50.0	104.3/120.3	162/151	175/175	148/166	346/346	162/151	175/175	148/166	346/346	168/157	175/175	154/172	351/351	168/157	175/175	154/172	351/351
		MED	NONE	–	–	74	80	80	360	74	80	80	360	79	90	85	365	79	90	85	365
			291A	12.4/16.5	34.4/39.7	77/84	80/90	80/80	360/360	77/84	80/90	80/80	360/360	83/90	90/90	85/85	365/365	83/90	90/90	85/85	365/365
			288A+291A	19.9/26.5	55.3/63.8	103/114	110/125	94/104	360/360	103/114	110/125	94/104	360/360	109/120	110/125	100/110	365/365	109/120	110/125	100/110	365/365
			294A	25.2/33.5	69.9/80.6	121/135	125/150	111/123	360/360	121/135	125/150	111/123	360/360	127/141	150/150	117/129	365/365	127/141	150/150	117/129	365/365
			288A+294A	32.7/43.5	90.7/104.7	147/165	150/175	135/151	360/360	147/165	150/175	135/151	360/360	153/171	175/175	141/157	365/365	153/171	175/175	141/157	365/365
			291A+294A	37.6/50.0	104.3/120.3	164/154	175/175	151/169	360/360	164/154	175/175	151/169	360/360	170/160	175/175	156/175	365/365	170/160	175/175	156/175	365/365
		HIGH	NONE	–	–	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
			291A	12.4/16.5	34.4/39.7	89/96	100/100	91/91	366/366	89/96	100/100	91/91	366/366	95/102	100/110	96/96	371/371	95/102	100/110	96/96	371/371
			288A+291A	19.9/26.5	55.3/63.8	115/126	125/150	106/115	366/366	115/126	125/150	106/115	366/366	121/132	125/150	111/121	371/371	121/132	125/150	111/121	371/371
			294A	25.2/33.5	69.9/80.6	134/147	150/150	122/135	366/366	134/147	150/150	122/135	366/366	140/153	150/175	128/140	371/371	140/153	150/175	128/140	371/371
			288A+294A	32.7/43.5	90.7/104.7	160/177	175/200	146/162	366/366	160/177	175/200	146/162	366/366	166/183	175/200	152/168	371/371	166/183	175/200	152/168	371/371
			291A+294A	37.6/50.0	104.3/120.3	177/166	200/175	162/180	366/366	177/166	200/175	162/180	366/366	183/172	200/175	168/186	371/371	183/172	200/175	168/186	371/371
	460–3–60	STD	NONE	–	–	36	45	38	173	36	45	38	173	38	45	41	175	38	45	41	175
			292A	16.5	19.9	39	45	38	173	39	45	38	173	42	45	41	175	42	45	41	175
			289A+292A	26.5	31.9	54	60	50	173	54	60	50	173	57	60	52	175	57	60	52	175
			295A	33.5	40.3	65	70	59	173	65	70	59	173	68	70	62	175	68	70	62	175
			289A+295A	43.5	52.3	80	80	73	173	80	80	73	173	83	90	76	175	83	90	76	175
			292A+295A	50.0	60.2	75	80	82	173	75	80	82	173	77	80	85	175	77	80	85	175
		MED	NONE	–	–	37	45	39	180	37	45	39	180	39	45	42	182	39	45	42	182
			292A	16.5	19.9	41	45	39	180	41	45	39	180	43	45	42	182	43	45	42	182
			289A+292A	26.5	31.9	56	60	51	180	56	60	51	180	58	60	53	182	58	60	53	182
			295A	33.5	40.3	66	70	61	180	66	70	61	180	69	70	63	182	69	70	63	182
			289A+295A	43.5	52.3	81	90	74	180	81	90	74	180	84	90	77	182	84	90	77	182
			292A+295A	50.0	60.2	76	80	83	180	76	80	83	180	79	80	86	182	79	80	86	182
		HIGH	NONE	–	–	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
			292A	16.5	19.9	47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
			289A+292A	26.5	31.9	62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
			295A	33.5	40.3	72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
			289A+295A	43.5	52.3	87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
			292A+295A	50.0	60.2	82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 17 - 50HC with Electric Heat and ERV: Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units Produced on or prior to 02/15/2015	575–3–60	STD	NONE	–	–	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
			293A	16.5	15.9	33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
			290A+293A	26.5	25.5	45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
			296A	33.5	32.2	53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
			290A+296A	43.5	41.8	65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
			293A+296A	50.0	48.1	61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
		MED	NONE	–	–	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
			293A	16.5	15.9	33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
			290A+293A	26.5	25.5	45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
			296A	33.5	32.2	53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
			290A+296A	43.5	41.8	65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
			293A+296A	50.0	48.1	61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
		HIGH	NONE	–	–	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
			293A	16.5	15.9	40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
			290A+293A	26.5	25.5	52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
			296A	33.5	32.2	61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
			290A+296A	43.5	41.8	73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
			293A+296A	50.0	48.1	69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 – 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	208/230–1–60	DD–STD	NONE	–	–	35	50	35	94	35	50	35	94	40	50	41	99	40	50	41	99
			101A	3.3/4.4	15.9/18.3	39/39	50/50	35/36	94/94	39/39	50/50	35/36	94/94	45/45	50/50	41/41	99/99	45/45	50/50	41/41	99/99
			102A	4.9/6.5	23.5/27.1	50/50	50/50	42/46	94/94	50/50	50/50	42/46	94/94	56/56	60/60	47/51	99/99	56/56	60/60	47/51	99/99
			103B	6.5/8.7	31.4/36.3	62/62	70/70	51/57	94/94	62/62	70/70	51/57	94/94	68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99
			104B	7.9/10.5	37.9/43.8	71/71	80/80	58/65	94/94	71/71	80/80	58/65	94/94	77/77	80/80	64/71	99/99	77/77	80/80	64/71	99/99
			102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	69/77	94/94	84/84	90/90	69/77	94/94	90/90	90/90	74/83	99/99	90/90	90/90	74/83	99/99
		STD	NONE	–	–	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
			101A	3.3/4.4	15.9/18.3	36/36	45/45	32/33	99/99	36/36	45/45	32/33	99/99	42/42	50/50	38/38	104/104	42/42	50/50	38/38	104/104
			102A	4.9/6.5	23.5/27.1	47/47	50/50	39/43	99/99	47/47	50/50	39/43	99/99	53/53	60/60	44/49	104/104	53/53	60/60	44/49	104/104
			103B	6.5/8.7	31.4/36.3	59/59	60/60	48/54	99/99	59/59	60/60	48/54	99/99	65/65	70/70	54/59	104/104	65/65	70/70	54/59	104/104
			104B	7.9/10.5	37.9/43.8	68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99	74/74	80/80	61/68	104/104	74/74	80/80	61/68	104/104
			102A+102A	9.8/13.0	46.9/54.2	81/81	90/90	66/74	99/99	81/81	90/90	66/74	99/99	87/87	90/90	71/80	104/104	87/87	90/90	71/80	104/104
		MED	NONE	–	–	33	45	32	99	33	45	32	99	37	50	38	104	37	50	38	104
			101A	3.3/4.4	15.9/18.3	36/36	45/45	32/33	99/99	36/36	45/45	32/33	99/99	42/42	50/50	38/38	104/104	42/42	50/50	38/38	104/104
			102A	4.9/6.5	23.5/27.1	47/47	50/50	39/43	99/99	47/47	50/50	39/43	99/99	53/53	60/60	44/49	104/104	53/53	60/60	44/49	104/104
			103B	6.5/8.7	31.4/36.3	59/59	60/60	48/54	99/99	59/59	60/60	48/54	99/99	65/65	70/70	54/59	104/104	65/65	70/70	54/59	104/104
			104B	7.9/10.5	37.9/43.8	68/68	70/70	56/62	99/99	68/68	70/70	56/62	99/99	74/74	80/80	61/68	104/104	74/74	80/80	61/68	104/104
			102A+102A	9.8/13.0	46.9/54.2	81/81	90/90	66/74	99/99	81/81	90/90	66/74	99/99	87/87	90/90	71/80	104/104	87/87	90/90	71/80	104/104
	208/230–3–60	DD–STD	NONE	–	–	27	30	28	88	27	30	28	88	32	40	34	93	32	40	34	93
			101A	3.3/4.4	9.2/10.6	30/30	30/30	28/28	88/88	30/30	30/30	28/28	88/88	36/36	40/40	34/34	93/93	36/36	40/40	34/34	93/93
			102A	4.9/6.5	13.6/15.6	36/36	40/40	31/33	88/88	36/36	40/40	31/33	88/88	42/42	45/45	36/38	93/93	42/42	45/45	36/38	93/93
			103B	6.5/8.7	18.1/20.9	43/43	45/45	36/39	88/88	43/43	45/45	36/39	88/88	49/49	50/50	41/45	93/93	49/49	50/50	41/45	93/93
			104B	7.9/10.5	21.9/25.3	48/48	50/50	40/44	88/88	48/48	50/50	40/44	88/88	54/54	60/60	46/50	93/93	54/54	60/60	46/50	93/93
			105A	12.0/16.0	33.4/38.5	65/65	70/70	53/59	88/88	65/65	70/70	53/59	88/88	71/71	80/80	59/65	93/93	71/71	80/80	59/65	93/93
		STD	NONE	–	–	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
			101A	3.3/4.4	9.2/10.6	27/27	30/30	26/26	100/100	27/27	30/30	26/26	100/100	33/33	40/40	31/31	105/105	33/33	40/40	31/31	105/105
			102A	4.9/6.5	13.6/15.6	33/33	35/35	28/30	100/100	33/33	35/35	28/30	100/100	39/39	40/40	34/36	105/105	39/39	40/40	34/36	105/105
			103B	6.5/8.7	18.1/20.9	40/40	40/40	33/36	100/100	40/40	40/40	33/36	100/100	46/46	50/50	39/42	105/105	46/46	50/50	39/42	105/105
			104B	7.9/10.5	21.9/25.3	46/46	50/50	38/42	100/100	46/46	50/50	38/42	100/100	52/52	60/60	43/47	105/105	52/52	60/60	43/47	105/105
			105A	12.0/16.0	33.4/38.5	62/62	70/70	51/57	100/100	62/62	70/70	51/57	100/100	68/68	70/70	56/62	105/105	68/68	70/70	56/62	105/105
		MED	NONE	–	–	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105
			101A	3.3/4.4	9.2/10.6	27/27	30/30	26/26	100/100	27/27	30/30	26/26	100/100	33/33	40/40	31/31	105/105	33/33	40/40	31/31	105/105
			102A	4.9/6.5	13.6/15.6	33/33	35/35	28/30	100/100	33/33	35/35	28/30	100/100	39/39	40/40	34/36	105/105	39/39	40/40	34/36	105/105
			103B	6.5/8.7	18.1/20.9	40/40	40/40	33/36	100/100	40/40	40/40	33/36	100/100	46/46	50/50	39/42	105/105	46/46	50/50	39/42	105/105
			104B	7.9/10.5	21.9/25.3	46/46	50/50	38/42	100/100	46/46	50/50	38/42	100/100	52/52	60/60	43/47	105/105	52/52	60/60	43/47	105/105
			105A	12.0/16.0	33.4/38.5	62/62	70/70	51/57	100/100	62/62	70/70	51/57	100/100	68/68	70/70	56/62	105/105	68/68	70/70	56/62	105/105
		HIGH	NONE	–	–	27/27	30/30	28/27	138	27/27	30/30	28/27	138	32/32	40/40	33/33	143	32/32	40/40	33/33	143
			101A	3.3/4.4	9.2/10.6	29/29	30/30	28/27	138/138	29/29	30/30	28/27	138/138	35/35	40/40	33/33	143/143	35/35	40/40	33/33	143/143
			102A	4.9/6.5	13.6/15.6	35/35	35/35	30/32	138/138	35/35	35/35	30/32	138/138	41/41	45/45	36/38	143/143	41/41	45/45	36/38	143/143
			103B	6.5/8.7	18.1/20.9	42/42	45/45	35/38	138/138	42/42	45/45	35/38	138/138	48/48	50/50	41/44	143/143	48/48	50/50	41/44	143/143
			104B	7.9/10.5	21.9/25.3	47/47	50/50	40/43	138/138	47/47	50/50	40/43	138/138	53/53	60/60	45/49	143/143	53/53	60/60	45/49	143/143
			105A	12.0/16.0	33.4/38.5	64/64	70/70	53/58	138/138	64/64	70/70	53/58	138/138	70/70	70/70	58/64	143/143	70/70	70/70	58/64	143/143

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	16	20	16	47	16	20	16	47	18	20	18	49	18	20	18	49
			106A	6.0	7.2	19	20	17	47	19	20	17	47	22	25	19	49	22	25	19	49
			107A	8.8	10.6	23	25	21	47	23	25	21	47	26	30	23	49	26	30	23	49
			108A	11.5	13.8	27	30	24	47	27	30	24	47	30	30	27	49	30	30	27	49
			109A	14.0	16.8	31	35	28	47	31	35	28	47	34	35	30	49	34	35	30	49
		STD	NONE	–	–	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
			106A	6.0	7.2	17	20	15	52	17	20	15	52	20	20	18	54	20	20	18	54
			107A	8.8	10.6	21	25	19	52	21	25	19	52	24	25	22	54	24	25	22	54
			108A	11.5	13.8	25	25	23	52	25	25	23	52	28	30	25	54	28	30	25	54
			109A	14.0	16.8	29	30	26	52	29	30	26	52	32	35	29	54	32	35	29	54
		MED	NONE	–	–	14	20	14	52	14	20	14	52	17	20	17	54	17	20	17	54
			106A	6.0	7.2	17	20	15	52	17	20	15	52	20	20	18	54	20	20	18	54
			107A	8.8	10.6	21	25	19	52	21	25	19	52	24	25	22	54	24	25	22	54
			108A	11.5	13.8	25	25	23	52	25	25	23	52	28	30	25	54	28	30	25	54
			109A	14.0	16.8	29	30	26	52	29	30	26	52	32	35	29	54	32	35	29	54
		HIGH	NONE	–	–	15	20	15	71	15	20	15	71	17	20	18	73	17	20	18	73
			106A	6.0	7.2	18	20	16	71	18	20	16	71	21	25	19	73	21	25	19	73
			107A	8.8	10.6	22	25	20	71	22	25	20	71	25	25	23	73	25	25	23	73
			108A	11.5	13.8	26	30	24	71	26	30	24	71	29	30	26	73	29	30	26	73
			109A	14.0	16.8	30	30	27	71	30	30	27	71	33	35	30	73	33	35	30	73
	575–3–60	DD–STD	NONE	–	–	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49
			297A	9.2	9.2	24	25	21	47	24	25	21	47	26	30	23	49	26	30	23	49
			298A	13.8	13.8	29	30	27	47	29	30	27	47	31	35	28	49	31	35	28	49
		STD	NONE	–	–	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
			297A	9.2	9.2	20	20	18	50	20	20	18	50	22	25	20	52	22	25	20	52
			298A	13.8	13.8	26	30	23	50	26	30	23	50	28	30	25	52	28	30	25	52
		MED	NONE	–	–	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52
			297A	9.2	9.2	20	20	18	50	20	20	18	50	22	25	20	52	22	25	20	52
			298A	13.8	13.8	26	30	23	50	26	30	23	50	28	30	25	52	28	30	25	52
		HIGH	NONE	–	–	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56
			297A	9.2	9.2	21	25	19	54	21	25	19	54	23	25	21	56	23	25	21	56
			298A	13.8	13.8	27	30	24	54	27	30	24	54	29	30	26	56	29	30	26	56

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140
			101A	3.3/4.4	15.9/18.3	44/44	60/60	44/44	135/135	44/44	60/60	44/44	135/135	49/49	60/60	50/50	140/140	49/49	60/60	50/50	140/140
			103B	6.5/8.7	31.4/36.3	65/65	70/70	54/59	135/135	65/65	70/70	54/59	135/135	71/71	80/80	59/65	140/140	71/71	80/80	59/65	140/140
			102A+102A	9.8/13.0	46.9/54.2	87/87	90/90	71/80	135/135	87/87	90/90	71/80	135/135	93/93	100/100	77/85	140/140	93/93	100/100	77/85	140/140
			103B+103B	13.1/17.4	62.8/72.5	110/110	110/110	90/101	135/135	110/110	110/110	90/101	135/135	116/116	125/125	95/106	140/140	116/116	125/125	95/106	140/140
			104B+104B	15.8/21.0	75.8/87.5	129/129	150/150	105/118	135/135	129/129	150/150	105/118	135/135	135/135	150/150	110/124	140/140	135/135	150/150	110/124	140/140
		STD	NONE	–	–	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
			101A	3.3/4.4	15.9/18.3	42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
			103B	6.5/8.7	31.4/36.3	62/62	70/70	51/56	140/140	62/62	70/70	51/56	140/140	68/68	70/70	56/62	145/145	68/68	70/70	56/62	145/145
			102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	68/77	140/140	84/84	90/90	68/77	140/140	90/90	90/90	74/82	145/145	90/90	90/90	74/82	145/145
			103B+103B	13.1/17.4	62.8/72.5	107/107	110/110	87/98	140/140	107/107	110/110	87/98	140/140	113/113	125/125	92/103	145/145	113/113	125/125	92/103	145/145
			104B+104B	15.8/21.0	75.8/87.5	126/126	150/150	102/115	140/140	126/126	150/150	102/115	140/140	132/132	150/150	107/121	145/145	132/132	150/150	107/121	145/145
		MED	NONE	–	–	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145
			101A	3.3/4.4	15.9/18.3	42/42	60/60	41/41	140/140	42/42	60/60	41/41	140/140	47/47	60/60	47/47	145/145	47/47	60/60	47/47	145/145
			103B	6.5/8.7	31.4/36.3	62/62	70/70	51/56	140/140	62/62	70/70	51/56	140/140	68/68	70/70	56/62	145/145	68/68	70/70	56/62	145/145
			102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	68/77	140/140	84/84	90/90	68/77	140/140	90/90	90/90	74/82	145/145	90/90	90/90	74/82	145/145
			103B+103B	13.1/17.4	62.8/72.5	107/107	110/110	87/98	140/140	107/107	110/110	87/98	140/140	113/113	125/125	92/103	145/145	113/113	125/125	92/103	145/145
			104B+104B	15.8/21.0	75.8/87.5	126/126	150/150	102/115	140/140	126/126	150/150	102/115	140/140	132/132	150/150	107/121	145/145	132/132	150/150	107/121	145/145
	208/230–3–60	DD–STD	NONE	–	–	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106
			102A	4.9/6.5	13.6/15.6	39/39	45/45	35/36	101/101	39/39	45/45	35/36	101/101	45/45	50/50	41/41	106/106	45/45	50/50	41/41	106/106
			103B	6.5/8.7	18.1/20.9	46/46	50/50	39/42	101/101	46/46	50/50	39/42	101/101	52/52	60/60	44/47	106/106	52/52	60/60	44/47	106/106
			105A	12.0/16.0	33.4/38.5	68/68	70/70	56/62	101/101	68/68	70/70	56/62	101/101	74/74	80/80	62/68	106/106	74/74	80/80	62/68	106/106
			104B+104B	15.8/21.0	43.8/50.5	83/83	90/90	68/76	101/101	83/83	90/90	68/76	101/101	89/89	90/90	74/81	106/106	89/89	90/90	74/81	106/106
		STD	NONE	–	–	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118
			102A	4.9/6.5	13.6/15.6	37/37	45/45	33/33	113/113	37/37	45/45	33/33	113/113	43/43	50/50	38/39	118/118	43/43	50/50	38/39	118/118
			103B	6.5/8.7	18.1/20.9	43/43	45/45	36/39	113/113	43/43	45/45	36/39	113/113	49/49	50/50	42/45	118/118	49/49	50/50	42/45	118/118
			105A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	113/113	65/65	70/70	54/60	113/113	71/71	80/80	59/65	118/118	71/71	80/80	59/65	118/118
			104B+104B	15.8/21.0	43.8/50.5	80/80	80/80	66/73	113/113	80/80	80/80	66/73	113/113	86/86	90/90	71/79	118/118	86/86	90/90	71/79	118/118
		MED	NONE	–	–	32/32	45/45	33/32	130	32/32	45/45	33/32	130	37/37	50/50	38/38	135	37/37	50/50	38/38	135
			102A	4.9/6.5	13.6/15.6	36/36	45/45	33/33	130/130	36/36	45/45	33/33	130/130	42/42	50/50	38/38	135/135	42/42	50/50	38/38	135/135
			103B	6.5/8.7	18.1/20.9	43/43	45/45	36/39	130/130	43/43	45/45	36/39	130/130	49/49	50/50	42/44	135/135	49/49	50/50	42/44	135/135
			105A	12.0/16.0	33.4/38.5	65/65	70/70	54/59	130/130	65/65	70/70	54/59	130/130	71/71	80/80	59/65	135/135	71/71	80/80	59/65	135/135
			104B+104B	15.8/21.0	43.8/50.5	80/80	80/80	66/73	130/130	80/80	80/80	66/73	130/130	86/86	90/90	71/79	135/135	86/86	90/90	71/79	135/135
		HIGH	NONE	–	–	35/35	45/45	36/36	166	35/35	45/45	36/36	166	40/40	50/50	42/42	171	40/40	50/50	42/42	171
			102A	4.9/6.5	13.6/15.6	40/40	45/45	36/37	166/166	40/40	45/45	36/37	166/166	46/46	50/50	42/42	171/171	46/46	50/50	42/42	171/171
			103B	6.5/8.7	18.1/20.9	47/47	50/50	40/43	166/166	47/47	50/50	40/43	166/166	53/53	60/60	45/48	171/171	53/53	60/60	45/48	171/171
			105A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	166/166	69/69	70/70	57/63	166/166	75/75	80/80	63/69	171/171	75/75	80/80	63/69	171/171
			104B+104B	15.8/21.0	43.8/50.5	84/84	90/90	69/77	166/166	84/84	90/90	69/77	166/166	90/90	90/90	75/82	171/171	90/90	90/90	75/82	171/171

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	460–3–60	DD–STD	NONE	–	–	17	20	17	51	17	20	17	51	19	25	20	53	19	25	20	53
			106A	6.0	7.2	19	20	17	51	19	20	17	51	22	25	20	53	22	25	20	53
			108A	11.5	13.8	27	30	25	51	27	30	25	51	30	30	27	53	30	30	27	53
			109A	14.0	16.8	31	35	28	51	31	35	28	51	34	35	31	53	34	35	31	53
			108A+108A	23.0	27.7	45	45	41	51	45	45	41	51	48	50	43	53	48	50	43	53
		STD	NONE	–	–	16	20	16	56	16	20	16	56	18	20	18	58	18	20	18	58
			106A	6.0	7.2	17	20	16	56	17	20	16	56	20	20	18	58	20	20	18	58
			108A	11.5	13.8	26	30	23	56	26	30	23	56	28	30	26	58	28	30	26	58
			109A	14.0	16.8	29	30	27	56	29	30	27	56	32	35	29	58	32	35	29	58
			108A+108A	23.0	27.7	43	45	39	56	43	45	39	56	46	50	42	58	46	50	42	58
		MED	NONE	–	–	15	20	15	65	15	20	15	65	18	20	18	67	18	20	18	67
			106A	6.0	7.2	17	20	16	65	17	20	16	65	20	20	18	67	20	20	18	67
			108A	11.5	13.8	26	30	23	65	26	30	23	65	28	30	26	67	28	30	26	67
			109A	14.0	16.8	29	30	27	65	29	30	27	65	32	35	29	67	32	35	29	67
			108A+108A	23.0	27.7	43	45	39	65	43	45	39	65	46	50	42	67	46	50	42	67
		HIGH	NONE	–	–	17	20	17	83	17	20	17	83	19	25	20	85	19	25	20	85
			106A	6.0	7.2	19	20	18	83	19	20	18	83	22	25	20	85	22	25	20	85
			108A	11.5	13.8	28	30	25	83	28	30	25	83	30	35	28	85	30	35	28	85
			109A	14.0	16.8	31	35	29	83	31	35	29	83	34	35	31	85	34	35	31	85
			108A+108A	23.0	27.7	45	45	41	83	45	45	41	83	48	50	44	85	48	50	44	85
	575–3–60	DD–STD	NONE	–	–	15	20	16	43	15	20	16	43	17	20	18	45	17	20	18	45
			297A	9.2	9.2	22	25	20	43	22	25	20	43	24	25	22	45	24	25	22	45
			298A	13.8	13.8	27	30	25	43	27	30	25	43	30	30	27	45	30	30	27	45
		STD	NONE	–	–	12	15	12	46	12	15	12	46	14	15	14	48	14	15	14	48
			297A	9.2	9.2	18	20	16	46	18	20	16	46	20	20	18	48	20	20	18	48
			298A	13.8	13.8	24	25	22	46	24	25	22	46	26	30	24	48	26	30	24	48
		MED	NONE	–	–	13	15	13	46	13	15	13	46	14	20	15	48	14	20	15	48
			297A	9.2	9.2	19	20	17	46	19	20	17	46	21	25	19	48	21	25	19	48
			298A	13.8	13.8	24	25	22	46	24	25	22	46	27	30	24	48	27	30	24	48
		HIGH	NONE	–	–	14	15	14	61	14	15	14	61	16	20	16	63	16	20	16	63
			297A	9.2	9.2	20	20	18	61	20	20	18	61	22	25	20	63	22	25	20	63
			298A	13.8	13.8	26	30	23	61	26	30	23	61	28	30	25	63	28	30	25	63

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	48	60	48	152	48	60	48	152	53	60	53	157	53	60	53	157
			102A	4.9/6.5	23.5/27.1	53/53	60/60	48/49	152/152	53/53	60/60	48/49	152/152	59/59	60/60	53/54	157/157	59/59	60/60	53/54	157/157
			103B	6.5/8.7	31.4/36.3	65/65	70/70	54/59	152/152	65/65	70/70	54/59	152/152	71/71	80/80	59/65	157/157	71/71	80/80	59/65	157/157
			102A+102A	9.8/13.0	46.9/54.2	87/87	90/90	71/80	152/152	87/87	90/90	71/80	152/152	93/93	100/100	77/85	157/157	93/93	100/100	77/85	157/157
			103B+103B	13.1/17.4	62.8/72.5	110/110	110/110	90/101	152/152	110/110	110/110	90/101	152/152	116/116	125/125	95/106	157/157	116/116	125/125	95/106	157/157
			104B+104B	15.8/21.0	75.8/87.5	129/129	150/150	105/118	152/152	129/129	150/150	105/118	152/152	135/135	150/150	110/124	157/157	135/135	150/150	110/124	157/157
		STD	NONE	–	–	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162
			102A	4.9/6.5	23.5/27.1	50/50	60/60	45/46	157/157	50/50	60/60	45/46	157/157	56/56	60/60	50/51	162/162	56/56	60/60	50/51	162/162
			103B	6.5/8.7	31.4/36.3	62/62	70/70	51/56	157/157	62/62	70/70	51/56	157/157	68/68	70/70	56/62	162/162	68/68	70/70	56/62	162/162
			102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	68/77	157/157	84/84	90/90	68/77	157/157	90/90	90/90	74/82	162/162	90/90	90/90	74/82	162/162
			103B+103B	13.1/17.4	62.8/72.5	107/107	110/110	87/98	157/157	107/107	110/110	87/98	157/157	113/113	125/125	92/103	162/162	113/113	125/125	92/103	162/162
			104B+104B	15.8/21.0	75.8/87.5	126/126	150/150	102/115	157/157	126/126	150/150	102/115	157/157	132/132	150/150	107/121	162/162	132/132	150/150	107/121	162/162
		MED	NONE	–	–	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187
			102A	4.9/6.5	23.5/27.1	53/53	60/60	47/48	182/182	53/53	60/60	47/48	182/182	59/59	60/60	53/54	187/187	59/59	60/60	53/54	187/187
			103B	6.5/8.7	31.4/36.3	64/64	70/70	53/59	182/182	64/64	70/70	53/59	182/182	70/70	70/70	59/64	187/187	70/70	70/70	59/64	187/187
			102A+102A	9.8/13.0	46.9/54.2	87/87	90/90	71/79	182/182	87/87	90/90	71/79	182/182	93/93	100/100	76/85	187/187	93/93	100/100	76/85	187/187
			103B+103B	13.1/17.4	62.8/72.5	110/110	110/110	89/100	182/182	110/110	110/110	89/100	182/182	116/116	125/125	95/106	187/187	116/116	125/125	95/106	187/187
			104B+104B	15.8/21.0	75.8/87.5	128/128	150/150	104/118	182/182	128/128	150/150	104/118	182/182	134/134	150/150	110/123	187/187	134/134	150/150	110/123	187/187
	208/230–3–60	DD–STD	NONE	–	–	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133
			102A	4.9/6.5	13.6/15.6	39/39	50/50	38/38	128/128	39/39	50/50	38/38	128/128	45/45	50/50	43/43	133/133	45/45	50/50	43/43	133/133
			104B	7.9/10.5	21.9/25.3	51/51	60/60	43/47	128/128	51/51	60/60	43/47	128/128	57/57	60/60	49/52	133/133	57/57	60/60	49/52	133/133
			105A	12.0/16.0	33.4/38.5	68/68	70/70	56/62	128/128	68/68	70/70	56/62	128/128	74/74	80/80	62/68	133/133	74/74	80/80	62/68	133/133
			104B+104B	15.8/21.0	43.8/50.5	83/83	90/90	68/76	128/128	83/83	90/90	68/76	128/128	89/89	90/90	74/81	133/133	89/89	90/90	74/81	133/133
			104B+105A	19.9/26.5	55.2/63.8	100/100	100/100	81/91	128/128	100/100	100/100	81/91	128/128	106/106	110/110	87/97	133/133	106/106	110/110	87/97	133/133
		STD	NONE	–	–	35	50	35	140	35	50	35	140	40	50	41	145	40	50	41	145
			102A	4.9/6.5	13.6/15.6	37/37	50/50	35/35	140/140	37/37	50/50	35/35	140/140	43/43	50/50	41/41	145/145	43/43	50/50	41/41	145/145
			104B	7.9/10.5	21.9/25.3	49/49	50/50	40/44	140/140	49/49	50/50	40/44	140/140	55/55	60/60	46/50	145/145	55/55	60/60	46/50	145/145
			105A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	140/140	65/65	70/70	54/60	140/140	71/71	80/80	59/65	145/145	71/71	80/80	59/65	145/145
			104B+104B	15.8/21.0	43.8/50.5	80/80	80/80	66/73	140/140	80/80	80/80	66/73	140/140	86/86	90/90	71/79	145/145	86/86	90/90	71/79	145/145
			104B+105A	19.9/26.5	55.2/63.8	97/97	100/100	79/89	140/140	97/97	100/100	79/89	140/140	103/103	110/110	84/94	145/145	103/103	110/110	84/94	145/145
		MED	NONE	–	–	37/37	50/50	37/37	178	37/37	50/50	37/37	178	42/42	50/50	43/42	183	42/42	50/50	43/42	183
			102A	4.9/6.5	13.6/15.6	38/38	50/50	37/37	178/178	38/38	50/50	37/37	178/178	44/44	50/50	43/42	183/183	44/44	50/50	43/42	183/183
			104B	7.9/10.5	21.9/25.3	51/51	60/60	42/46	178/178	51/51	60/60	42/46	178/178	57/57	60/60	48/52	183/183	57/57	60/60	48/52	183/183
			105A	12.0/16.0	33.4/38.5	67/67	70/70	56/61	178/178	67/67	70/70	56/61	178/178	73/73	80/80	61/67	183/183	73/73	80/80	61/67	183/183
			104B+104B	15.8/21.0	43.8/50.5	82/82	90/90	68/75	178/178	82/82	90/90	68/75	178/178	88/88	90/90	73/81	183/183	88/88	90/90	73/81	183/183
			104B+105A	19.9/26.5	55.2/63.8	99/99	100/100	81/90	178/178	99/99	100/100	81/90	178/178	105/105	110/110	86/96	183/183	105/105	110/110	86/96	183/183
		HIGH	NONE	–	–	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198	43/43	50/50	44/44	198
			102A	4.9/6.5	13.6/15.6	40/40	50/50	39/39	193/193	40/40	50/50	39/39	193/193	46/46	50/50	44/44	198/198	46/46	50/50	44/44	198/198
			104B	7.9/10.5	21.9/25.3	53/53	60/60	44/48	193/193	53/53	60/60	44/48	193/193	59/59	60/60	50/53	198/198	59/59	60/60	50/53	198/198
			105A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	193/193	69/69	70/70	57/63	193/193	75/75	80/80	63/69	198/198	75/75	80/80	63/69	198/198
			104B+104B	15.8/21.0	43.8/50.5	84/84	90/90	69/77	193/193	84/84	90/90	69/77	193/193	90/90	90/90	75/82	198/198	90/90	90/90	75/82	198/198
			104B+105A	19.9/26.5	55.2/63.8	101/101	110/110	82/92	193/193	101/101	110/110	82/92	193/193	107/107	110/110	88/98	198/198	107/107	110/110	88/98	198/198

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64
			106A	6.0	7.2	19	20	18	62	19	20	18	62	22	25	21	64	22	25	21	64
			108A	11.5	13.8	27	30	25	62	27	30	25	62	30	30	27	64	30	30	27	64
			109A	14.0	16.8	31	35	28	62	31	35	28	62	34	35	31	64	34	35	31	64
			108A+108A	23.0	27.7	45	45	41	62	45	45	41	62	48	50	43	64	48	50	43	64
			108A+109A	25.5	30.7	49	50	44	62	49	50	44	62	51	60	47	64	51	60	47	64
		STD	NONE	–	–	17	20	16	67	17	20	16	67	19	25	19	69	19	25	19	69
			106A	6.0	7.2	17	20	16	67	17	20	16	67	20	25	19	69	20	25	19	69
			108A	11.5	13.8	26	30	23	67	26	30	23	67	28	30	26	69	28	30	26	69
			109A	14.0	16.8	29	30	27	67	29	30	27	67	32	35	29	69	32	35	29	69
			108A+108A	23.0	27.7	43	45	39	67	43	45	39	67	46	50	42	69	46	50	42	69
			108A+109A	25.5	30.7	47	50	43	67	47	50	43	67	50	50	45	69	50	50	45	69
		MED	NONE	–	–	17	20	17	86	17	20	17	86	20	25	20	88	20	25	20	88
			106A	6.0	7.2	18	20	17	86	18	20	17	86	21	25	20	88	21	25	20	88
			108A	11.5	13.8	27	30	24	86	27	30	24	86	29	30	27	88	29	30	27	88
			109A	14.0	16.8	30	35	28	86	30	35	28	86	33	35	30	88	33	35	30	88
			108A+108A	23.0	27.7	44	45	40	86	44	45	40	86	47	50	43	88	47	50	43	88
			108A+109A	25.5	30.7	48	50	44	86	48	50	44	86	51	60	46	88	51	60	46	88
		HIGH	NONE	–	–	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96
			106A	6.0	7.2	19	20	18	94	19	20	18	94	22	25	21	96	22	25	21	96
			108A	11.5	13.8	28	30	25	94	28	30	25	94	30	35	28	96	30	35	28	96
			109A	14.0	16.8	31	35	29	94	31	35	29	94	34	35	31	96	34	35	31	96
			108A+108A	23.0	27.7	45	45	41	94	45	45	41	94	48	50	44	96	48	50	44	96
			108A+109A	25.5	30.7	49	50	45	94	49	50	45	94	52	60	47	96	52	60	47	96
	575–3–60	DD–STD	NONE	–	–	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52
			298A	13.8	13.8	27	30	25	50	27	30	25	50	30	30	27	52	30	30	27	52
			301A	23.0	23.1	39	40	36	50	39	40	36	50	41	45	38	52	41	45	38	52
		STD	NONE	–	–	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55
			298A	13.8	13.8	24	25	22	53	24	25	22	53	26	30	24	55	26	30	24	55
			301A	23.0	23.1	36	40	32	53	36	40	32	53	38	40	34	55	38	40	34	55
		MED	NONE	–	–	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59
			298A	13.8	13.8	25	25	23	57	25	25	23	57	27	30	25	59	27	30	25	59
			301A	23.0	23.1	37	40	33	57	37	40	33	57	39	40	35	59	39	40	35	59
		HIGH	NONE	–	–	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70
			298A	13.8	13.8	26	30	23	68	26	30	23	68	28	30	25	70	28	30	25	70
			301A	23.0	23.1	38	40	34	68	38	40	34	68	40	40	36	70	40	40	36	70

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on after 02/16/2015	208/230–3–60	STD	NONE	–	–	41/41	60/60	41/41	186	41/41	60/60	41/41	186	46/46	60/60	47/46	191	46/46	60/60	47/46	191
			264A	4.9/6.5	13.6/15.6	41/41	60/60	41/41	186/186	41/41	60/60	41/41	186/186	46/46	60/60	47/46	191/191	46/46	60/60	47/46	191/191
			117A	7.8/10.4	21.7/25.0	48/48	60/60	41/44	186/186	48/48	60/60	41/44	186/186	54/54	60/60	47/49	191/191	54/54	60/60	47/49	191/191
			110A	12.0/16.0	33.4/38.5	65/65	70/70	54/59	186/186	65/65	70/70	54/59	186/186	71/71	80/80	59/65	191/191	71/71	80/80	59/65	191/191
			117A+117A	15.8/21.0	43.8/50.5	80/80	80/80	66/73	186/186	80/80	80/80	66/73	186/186	86/86	90/90	71/79	191/191	86/86	90/90	71/79	191/191
			110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	186/186	96/96	100/100	79/88	186/186	102/102	110/110	84/94	191/191	102/102	110/110	84/94	191/191
		MED	NONE	–	–	44/44	60/60	45/45	222	44/44	60/60	45/45	222	49/49	60/60	50/50	227	49/49	60/60	50/50	227
			264A	4.9/6.5	13.6/15.6	44/44	60/60	45/45	222/222	44/44	60/60	45/45	222/222	49/49	60/60	50/50	227/227	49/49	60/60	50/50	227/227
			117A	7.8/10.4	21.7/25.0	52/52	60/60	45/48	222/222	52/52	60/60	45/48	222/222	58/58	60/60	50/53	227/227	58/58	60/60	50/53	227/227
			110A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	222/222	69/69	70/70	57/63	222/222	75/75	80/80	63/69	227/227	75/75	80/80	63/69	227/227
			117A+117A	15.8/21.0	43.8/50.5	84/84	90/90	69/77	222/222	84/84	90/90	69/77	222/222	90/90	90/90	75/82	227/227	90/90	90/90	75/82	227/227
			110A+117A	19.9/26.5	55.2/63.8	101/101	110/110	82/92	222/222	101/101	110/110	82/92	222/222	107/107	110/110	88/98	227/227	107/107	110/110	88/98	227/227
		HIGH	NONE	–	–	50/50	60/60	51/50	238	50/50	60/60	51/50	238	54/54	60/60	56/55	243	54/54	60/60	56/55	243
			264A	4.9/6.5	13.6/15.6	50/50	60/60	51/50	238/238	50/50	60/60	51/50	238/238	54/54	60/60	56/55	243/243	54/54	60/60	56/55	243/243
			117A	7.8/10.4	21.7/25.0	58/58	60/60	51/53	238/238	58/58	60/60	51/53	238/238	64/64	70/70	56/58	243/243	64/64	70/70	56/58	243/243
			110A	12.0/16.0	33.4/38.5	75/75	80/80	63/68	238/238	75/75	80/80	63/68	238/238	81/81	90/90	69/74	243/243	81/81	90/90	69/74	243/243
			117A+117A	15.8/21.0	43.8/50.5	90/90	90/90	75/82	238/238	90/90	90/90	75/82	238/238	96/96	100/100	81/87	243/243	96/96	100/100	81/87	243/243
			110A+117A	19.9/26.5	55.2/63.8	106/106	110/110	88/97	238/238	106/106	110/110	88/97	238/238	112/112	125/125	94/103	243/243	112/112	125/125	94/103	243/243
	460–3–60	STD	NONE	–	–	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
			265A	6.0	7.2	19	25	19	92	19	25	19	92	21	25	21	94	21	25	21	94
			266A	11.5	13.8	26	30	23	92	26	30	23	92	28	30	26	94	28	30	26	94
			267A	14.0	16.8	29	30	27	92	29	30	27	92	32	35	29	94	32	35	29	94
			268A	23.0	27.7	43	45	39	92	43	45	39	92	46	50	42	94	46	50	42	94
			269A	25.5	30.7	47	50	43	92	47	50	43	92	49	50	45	94	49	50	45	94
		MED	NONE	–	–	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
			265A	6.0	7.2	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112
			266A	11.5	13.8	28	30	25	110	28	30	25	110	30	35	28	112	30	35	28	112
			267A	14.0	16.8	31	35	29	110	31	35	29	110	34	35	31	112	34	35	31	112
			268A	23.0	27.7	45	45	41	110	45	45	41	110	48	50	44	112	48	50	44	112
			269A	25.5	30.7	49	50	45	110	49	50	45	110	52	60	47	112	52	60	47	112
		HIGH	NONE	–	–	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
			265A	6.0	7.2	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120
			266A	11.5	13.8	30	35	28	118	30	35	28	118	33	35	30	120	33	35	30	120
			267A	14.0	16.8	34	35	31	118	34	35	31	118	37	40	34	120	37	40	34	120
			268A	23.0	27.7	48	50	44	118	48	50	44	118	51	60	46	120	51	60	46	120
			269A	25.5	30.7	52	60	47	118	52	60	47	118	54	60	50	120	54	60	50	120
	575–3–60	STD	NONE	–	–	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72
			118A	17.0	20.4	33	35	30	70	33	35	30	70	35	35	32	72	35	35	32	72
			299A	25.7	25.8	39	40	36	70	39	40	36	70	42	45	38	72	42	45	38	72
		MED	NONE	–	–	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87
			118A	17.0	20.4	34	35	31	85	34	35	31	85	36	40	33	87	36	40	33	87
			299A	25.7	25.8	41	45	37	85	41	45	37	85	43	45	39	87	43	45	39	87
		HIGH	NONE	–	–	19	25	20	99	19	25	20	99	21	25	22	101	21	25	22	101
			118A	17.0	20.4	38	40	34	99	38	40	34	99	40	40	36	101	40	40	36	101
			299A	25.7	25.8	44	45	41	99	44	45	41	99	47	50	42	101	47	50	42	101

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	40/40	50/50	41/40	173	40/40	50/50	41/40	173	45/45	60/60	46/46	178	45/45	60/60	46/46	178
			264A	4.9/6.5	13.6/15.6	40/40	50/50	41/40	173/173	40/40	50/50	41/40	173/173	45/45	60/60	46/46	178/178	45/45	60/60	46/46	178/178
			117A	7.8/10.4	21.7/25.0	48/48	50/50	41/44	173/173	48/48	50/50	41/44	173/173	54/54	60/60	46/49	178/178	54/54	60/60	46/49	178/178
			110A	12.0/16.0	33.4/38.5	65/65	70/70	54/59	173/173	65/65	70/70	54/59	173/173	71/71	80/80	59/65	178/178	71/71	80/80	59/65	178/178
			117A+117A	15.8/21.0	43.8/50.5	80/80	80/80	66/73	173/173	80/80	80/80	66/73	173/173	86/86	90/90	71/79	178/178	86/86	90/90	71/79	178/178
			110A+117A	19.9/26.5	55.2/63.8	96/96	100/100	79/88	173/173	96/96	100/100	79/88	173/173	102/102	110/110	84/94	178/178	102/102	110/110	84/94	178/178
		MED	NONE	–	–	44/44	60/60	44/44	209	44/44	60/60	44/44	209	48/48	60/60	50/50	214	48/48	60/60	50/50	214
			264A	4.9/6.5	13.6/15.6	44/44	60/60	44/44	209/209	44/44	60/60	44/44	209/209	48/48	60/60	50/50	214/214	48/48	60/60	50/50	214/214
			117A	7.8/10.4	21.7/25.0	52/52	60/60	44/48	209/209	52/52	60/60	44/48	209/209	58/58	60/60	50/53	214/214	58/58	60/60	50/53	214/214
			110A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	209/209	69/69	70/70	57/63	209/209	75/75	80/80	63/69	214/214	75/75	80/80	63/69	214/214
			117A+117A	15.8/21.0	43.8/50.5	84/84	90/90	69/77	209/209	84/84	90/90	69/77	209/209	90/90	90/90	75/82	214/214	90/90	90/90	75/82	214/214
			110A+117A	19.9/26.5	55.2/63.8	101/101	110/110	82/92	209/209	101/101	110/110	82/92	209/209	107/107	110/110	88/98	214/214	107/107	110/110	88/98	214/214
		HIGH	NONE	–	–	49/49	60/60	50/49	225	49/49	60/60	50/49	225	54/54	60/60	56/55	230	54/54	60/60	56/55	230
			264A	4.9/6.5	13.6/15.6	49/49	60/60	50/49	225/225	49/49	60/60	50/49	225/225	54/54	60/60	56/55	230/230	54/54	60/60	56/55	230/230
			117A	7.8/10.4	21.7/25.0	58/58	60/60	50/53	225/225	58/58	60/60	50/53	225/225	64/64	70/70	56/58	230/230	64/64	70/70	56/58	230/230
			110A	12.0/16.0	33.4/38.5	75/75	80/80	63/68	225/225	75/75	80/80	63/68	225/225	81/81	90/90	69/74	230/230	81/81	90/90	69/74	230/230
			117A+117A	15.8/21.0	43.8/50.5	90/90	90/90	75/82	225/225	90/90	90/90	75/82	225/225	96/96	100/100	81/87	230/230	96/96	100/100	81/87	230/230
			110A+117A	19.9/26.5	55.2/63.8	106/106	110/110	88/97	225/225	106/106	110/110	88/97	225/225	112/112	125/125	94/103	230/230	112/112	125/125	94/103	230/230
	460–3–60	STD	NONE	–	–	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
			265A	6.0	7.2	20	25	20	88	20	25	20	88	23	30	23	90	23	30	23	90
			266A	11.5	13.8	26	30	23	88	26	30	23	88	28	30	26	90	28	30	26	90
			267A	14.0	16.8	29	30	27	88	29	30	27	88	32	35	29	90	32	35	29	90
			268A	23.0	27.7	43	45	39	88	43	45	39	88	46	50	42	90	46	50	42	90
			269A	25.5	30.7	47	50	43	88	47	50	43	88	49	50	45	90	49	50	45	90
		MED	NONE	–	–	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
			265A	6.0	7.2	22	30	22	106	22	30	22	106	24	30	25	108	24	30	25	108
			266A	11.5	13.8	28	30	25	106	28	30	25	106	30	35	28	108	30	35	28	108
			267A	14.0	16.8	31	35	29	106	31	35	29	106	34	35	31	108	34	35	31	108
			268A	23.0	27.7	45	45	41	106	45	45	41	106	48	50	44	108	48	50	44	108
			269A	25.5	30.7	49	50	45	106	49	50	45	106	52	60	47	108	52	60	47	108
		HIGH	NONE	–	–	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
			265A	6.0	7.2	24	30	25	114	24	30	25	114	27	30	27	116	27	30	27	116
			266A	11.5	13.8	30	35	28	114	30	35	28	114	33	35	30	116	33	35	30	116
			267A	14.0	16.8	34	35	31	114	34	35	31	114	37	40	34	116	37	40	34	116
			268A	23.0	27.7	48	50	44	114	48	50	44	114	51	60	46	116	51	60	46	116
			269A	25.5	30.7	52	60	47	114	52	60	47	114	54	60	50	116	54	60	50	116
	575–3–60	STD	NONE	–	–	16	20	16	65	16	20	16	65	18	20	18	67	18	20	18	67
			118A	17.0	20.4	33	35	30	65	33	35	30	65	35	35	32	67	35	35	32	67
			299A	25.7	25.8	39	40	36	65	39	40	36	65	42	45	38	67	42	45	38	67
		MED	NONE	–	–	18	20	18	80	18	20	18	80	19	25	19	82	19	25	19	82
			118A	17.0	20.4	34	35	31	80	34	35	31	80	36	40	33	82	36	40	33	82
			299A	25.7	25.8	41	45	37	80	41	45	37	80	43	45	39	82	43	45	39	82
		HIGH	NONE	–	–	20	25	21	94	20	25	21	94	22	25	23	96	22	25	23	96
			118A	17.0	20.4	38	40	34	94	38	40	34	94	40	40	36	96	40	40	36	96
			299A	25.7	25.8	44	45	41	94	44	45	41	94	47	50	42	96	47	50	42	96

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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*D08	208/230–3–60	STD	NONE	–	–	51/51	60/60	54/54	220	51/51	60/60	54/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
			117A	7.8/10.4	21.7/25.0	53/53	60/60	54/54	220/220	53/53	60/60	54/54	220/220	59/59	60/60	60/60	225/225	59/59	60/60	60/60	225/225
			110A	12.0/16.0	33.4/38.5	70/70	70/70	58/64	220/220	70/70	70/70	58/64	220/220	76/76	80/80	64/69	225/225	76/76	80/80	64/69	225/225
			111A	18.6/24.8	51.7/59.7	96/96	100/100	79/88	220/220	96/96	100/100	79/88	220/220	102/102	110/110	85/94	225/225	102/102	110/110	85/94	225/225
			112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	220/220	118/118	125/125	96/108	220/220	124/124	125/125	102/113	225/225	124/124	125/125	102/113	225/225
			112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	220/220	149/149	150/150	121/137	220/220	155/155	175/175	127/142	225/225	155/155	175/175	127/142	225/225
		MED	NONE	–	–	53/53	60/60	56/56	241	53/53	60/60	56/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
			117A	7.8/10.4	21.7/25.0	55/55	60/60	56/56	241/241	55/55	60/60	56/56	241/241	61/61	70/70	62/62	246/246	61/61	70/70	62/62	246/246
			110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	241/241	72/72	80/80	60/66	241/241	78/78	80/80	66/71	246/246	78/78	80/80	66/71	246/246
			111A	18.6/24.8	51.7/59.7	98/98	100/100	81/90	241/241	98/98	100/100	81/90	241/241	104/104	110/110	87/96	246/246	104/104	110/110	87/96	246/246
			112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	241/241	120/120	125/125	98/110	241/241	126/126	150/150	104/116	246/246	126/126	150/150	104/116	246/246
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	241/241	151/151	175/175	123/139	241/241	157/157	175/175	129/144	246/246	157/157	175/175	129/144	246/246
		HIGH	NONE	–	–	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275
			117A	7.8/10.4	21.7/25.0	60/60	60/60	61/61	270/270	60/60	60/60	61/61	270/270	66/66	70/70	66/66	275/275	66/66	70/70	66/66	275/275
			110A	12.0/16.0	33.4/38.5	77/77	80/80	64/70	270/270	77/77	80/80	64/70	270/270	83/83	90/90	70/76	275/275	83/83	90/90	70/76	275/275
			111A	18.6/24.8	51.7/59.7	103/103	110/110	85/95	270/270	103/103	110/110	85/95	270/270	109/109	110/110	91/100	275/275	109/109	110/110	91/100	275/275
			112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	270/270	125/125	125/125	103/115	270/270	131/131	150/150	108/120	275/275	131/131	150/150	108/120	275/275
			112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	270/270	156/156	175/175	128/143	270/270	162/162	175/175	133/149	275/275	162/162	175/175	133/149	275/275
	460–3–60	STD	NONE	–	–	24	25	25	110	24	25	25	110	26	30	28	112	26	30	28	112
			116A	13.9	16.7	31	35	28	110	31	35	28	110	34	35	31	112	34	35	31	112
			113A	16.5	19.8	35	35	32	110	35	35	32	110	38	40	34	112	38	40	34	112
			114A	27.8	33.4	52	60	48	110	52	60	48	110	55	60	50	112	55	60	50	112
			115A	33.0	39.7	60	60	55	110	60	60	55	110	63	70	57	112	63	70	57	112
			114A+116A	41.7	50.2	73	80	67	110	73	80	67	110	76	80	69	112	76	80	69	112
		MED	NONE	–	–	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
			116A	13.9	16.7	32	35	29	120	32	35	29	120	35	35	32	122	35	35	32	122
			113A	16.5	19.8	36	40	33	120	36	40	33	120	39	40	35	122	39	40	35	122
			114A	27.8	33.4	53	60	49	120	53	60	49	120	56	60	51	122	56	60	51	122
			115A	33.0	39.7	61	70	56	120	61	70	56	120	64	70	58	122	64	70	58	122
			114A+116A	41.7	50.2	74	80	68	120	74	80	68	120	77	80	70	122	77	80	70	122
		HIGH	NONE	–	–	27	30	28	135	27	30	28	135	29	30	31	137	29	30	31	137
			116A	13.9	16.7	35	35	32	135	35	35	32	135	38	40	34	137	38	40	34	137
			113A	16.5	19.8	39	40	35	135	39	40	35	135	41	45	38	137	41	45	38	137
			114A	27.8	33.4	56	60	51	135	56	60	51	135	58	60	53	137	58	60	53	137
			115A	33.0	39.7	64	70	58	135	64	70	58	135	66	70	61	137	66	70	61	137
			114A+116A	41.7	50.2	77	80	70	135	77	80	70	135	79	80	73	137	79	80	73	137
	575–3–60	STD	NONE	–	–	18	20	19	83	18	20	19	83	20	25	21	85	20	25	21	85
			118A	17.0	20.4	35	35	32	83	35	35	32	83	37	40	34	85	37	40	34	85
			119A	34.0	40.9	60	60	55	83	60	60	55	83	63	70	57	85	63	70	57	85
		MED	NONE	–	–	19	20	20	87	19	20	20	87	20	25	22	89	20	25	22	89
			118A	17.0	20.4	35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
			119A	34.0	40.9	61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
		HIGH	NONE	–	–	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100
			118A	17.0	20.4	36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
			119A	34.0	40.9	62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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*D09	208/230–3–60	STD	NONE	–	–	51/51	60/60	55/54	220	51/51	60/60	55/54	220	56/56	60/60	60/60	225	56/56	60/60	60/60	225
			117A	7.8/10.4	21.7/25.0	53/53	60/60	55/54	220/220	53/53	60/60	55/54	220/220	59/59	60/60	60/60	225/225	59/59	60/60	60/60	225/225
			110A	12.0/16.0	33.4/38.5	70/70	70/70	58/64	220/220	70/70	70/70	58/64	220/220	76/76	80/80	64/69	225/225	76/76	80/80	64/69	225/225
			111A	18.6/24.8	51.7/59.7	96/96	100/100	79/88	220/220	96/96	100/100	79/88	220/220	102/102	110/110	85/94	225/225	102/102	110/110	85/94	225/225
			112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	220/220	118/118	125/125	96/108	220/220	124/124	125/125	102/113	225/225	124/124	125/125	102/113	225/225
			112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	220/220	149/149	150/150	121/137	220/220	155/155	175/175	127/142	225/225	155/155	175/175	127/142	225/225
		MED	NONE	–	–	53/53	60/60	57/56	241	53/53	60/60	57/56	241	58/58	70/70	62/62	246	58/58	70/70	62/62	246
			117A	7.8/10.4	21.7/25.0	55/55	60/60	57/56	241/241	55/55	60/60	57/56	241/241	61/61	70/70	62/62	246/246	61/61	70/70	62/62	246/246
			110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	241/241	72/72	80/80	60/66	241/241	78/78	80/80	66/71	246/246	78/78	80/80	66/71	246/246
			111A	18.6/24.8	51.7/59.7	98/98	100/100	81/90	241/241	98/98	100/100	81/90	241/241	104/104	110/110	87/96	246/246	104/104	110/110	87/96	246/246
			112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	241/241	120/120	125/125	98/110	241/241	126/126	150/150	104/116	246/246	126/126	150/150	104/116	246/246
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	241/241	151/151	175/175	123/139	241/241	157/157	175/175	129/144	246/246	157/157	175/175	129/144	246/246
		HIGH	NONE	–	–	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275
			117A	7.8/10.4	21.7/25.0	60/60	60/60	61/61	270/270	60/60	60/60	61/61	270/270	66/66	70/70	66/66	275/275	66/66	70/70	66/66	275/275
			110A	12.0/16.0	33.4/38.5	77/77	80/80	64/70	270/270	77/77	80/80	64/70	270/270	83/83	90/90	70/76	275/275	83/83	90/90	70/76	275/275
			111A	18.6/24.8	51.7/59.7	103/103	110/110	85/95	270/270	103/103	110/110	85/95	270/270	109/109	110/110	91/100	275/275	109/109	110/110	91/100	275/275
			112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	270/270	125/125	125/125	103/115	270/270	131/131	150/150	108/120	275/275	131/131	150/150	108/120	275/275
			112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	270/270	156/156	175/175	128/143	270/270	162/162	175/175	133/149	275/275	162/162	175/175	133/149	275/275
	460–3–60	STD	NONE	–	–	24	30	25	110	24	30	25	110	26	30	28	112	26	30	28	112
			116A	13.9	16.7	31	35	28	110	31	35	28	110	34	35	31	112	34	35	31	112
			113A	16.5	19.8	35	35	32	110	35	35	32	110	38	40	34	112	38	40	34	112
			114A	27.8	33.4	52	60	48	110	52	60	48	110	55	60	50	112	55	60	50	112
			115A	33.0	39.7	60	60	55	110	60	60	55	110	63	70	57	112	63	70	57	112
			114A+116A	41.7	50.2	73	80	67	110	73	80	67	110	76	80	69	112	76	80	69	112
		MED	NONE	–	–	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122
			116A	13.9	16.7	32	35	29	120	32	35	29	120	35	35	32	122	35	35	32	122
			113A	16.5	19.8	36	40	33	120	36	40	33	120	39	40	35	122	39	40	35	122
			114A	27.8	33.4	53	60	49	120	53	60	49	120	56	60	51	122	56	60	51	122
			115A	33.0	39.7	61	70	56	120	61	70	56	120	64	70	58	122	64	70	58	122
			114A+116A	41.7	50.2	74	80	68	120	74	80	68	120	77	80	70	122	77	80	70	122
		HIGH	NONE	–	–	27	30	28	135	27	30	28	135	29	35	31	137	29	35	31	137
			116A	13.9	16.7	35	35	32	135	35	35	32	135	38	40	34	137	38	40	34	137
			113A	16.5	19.8	39	40	35	135	39	40	35	135	41	45	38	137	41	45	38	137
			114A	27.8	33.4	56	60	51	135	56	60	51	135	58	60	53	137	58	60	53	137
			115A	33.0	39.7	64	70	58	135	64	70	58	135	66	70	61	137	66	70	61	137
			114A+116A	41.7	50.2	77	80	70	135	77	80	70	135	79	80	73	137	79	80	73	137
	575–3–60	STD	NONE	–	–	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85
			118A	17.0	20.4	35	35	32	83	35	35	32	83	37	40	34	85	37	40	34	85
			119A	34.0	40.9	60	60	55	83	60	60	55	83	63	70	57	85	63	70	57	85
		MED	NONE	–	–	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89
			118A	17.0	20.4	35	35	32	87	35	35	32	87	37	40	34	89	37	40	34	89
			119A	34.0	40.9	61	70	56	87	61	70	56	87	63	70	58	89	63	70	58	89
		HIGH	NONE	–	–	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100
			118A	17.0	20.4	36	40	33	98	36	40	33	98	38	40	35	100	38	40	35	100
			119A	34.0	40.9	62	70	57	98	62	70	57	98	64	70	58	100	64	70	58	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–PH–Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	62/62	70/70	67/67	296	62/62	70/70	67/67	296	67/67	80/80	72/72	301	67/67	80/80	72/72	301
			117A	7.8/10.4	21.7/25.0	62/62	70/70	67/67	296/296	62/62	70/70	67/67	296/296	67/67	80/80	72/72	301/301	67/67	80/80	72/72	301/301
			110A	12.0/16.0	33.4/38.5	72/72	80/80	67/67	296/296	72/72	80/80	67/67	296/296	78/78	80/80	72/72	301/301	78/78	80/80	72/72	301/301
			112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	296/296	120/120	125/125	98/110	296/296	126/126	150/150	104/116	301/301	126/126	150/150	104/116	301/301
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	296/296	151/151	175/175	123/139	296/296	157/157	175/175	129/144	301/301	157/157	175/175	129/144	301/301
			112A+110A	37.6/50.0	104.2/120.3	154/154	175/175	142/160	296/296	154/154	175/175	142/160	296/296	160/160	175/175	147/165	301/301	160/160	175/175	147/165	301/301
		MED	NONE	–	–	66	80	71	325	66	80	71	325	71	80	77	330	71	80	77	330
			117A	7.8/10.4	21.7/25.0	66/66	80/80	71/71	325/325	66/66	80/80	71/71	325/325	71/71	80/80	77/77	330/330	71/71	80/80	77/77	330/330
			110A	12.0/16.0	33.4/38.5	77/77	80/80	71/71	325/325	77/77	80/80	71/71	325/325	83/83	90/90	77/77	330/330	83/83	90/90	77/77	330/330
			112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	325/325	125/125	125/125	103/115	325/325	131/131	150/150	108/120	330/330	131/131	150/150	108/120	330/330
			112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	325/325	156/156	175/175	128/143	325/325	162/162	175/175	133/149	330/330	162/162	175/175	133/149	330/330
			112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/164	325/325	159/159	175/175	146/164	325/325	165/165	175/175	151/170	330/330	165/165	175/175	151/170	330/330
		HIGH	NONE	–	–	69/69	80/80	74/73	327	69/69	80/80	74/73	327	74/74	80/80	80/79	332	74/74	80/80	80/79	332
			117A	7.8/10.4	21.7/25.0	69/69	80/80	74/73	327/327	69/69	80/80	74/73	327/327	74/74	80/80	80/79	332/332	74/74	80/80	80/79	332/332
			110A	12.0/16.0	33.4/38.5	79/79	80/80	74/73	327/327	79/79	80/80	74/73	327/327	85/85	90/90	80/79	332/332	85/85	90/90	80/79	332/332
			112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	327/327	128/128	150/150	106/117	327/327	134/134	150/150	112/122	332/332	134/134	150/150	112/122	332/332
			112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	327/327	159/159	175/175	131/146	327/327	165/165	175/175	137/151	332/332	165/165	175/175	137/151	332/332
			112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	327/327	163/163	175/175	149/167	327/327	169/169	175/175	155/172	332/332	169/169	175/175	155/172	332/332
	460–3–60	STD	NONE	–	–	29	30	30	142	29	30	30	142	31	35	33	144	31	35	33	144
			116A	13.9	16.7	32	35	30	142	32	35	30	142	35	35	33	144	35	35	33	144
			113A	16.5	19.8	36	40	33	142	36	40	33	142	39	40	35	144	39	40	35	144
			115A	33.0	39.7	61	70	56	142	61	70	56	142	64	70	58	144	64	70	58	144
			114A+116A	41.7	50.2	74	80	68	142	74	80	68	142	77	80	70	144	77	80	70	144
			115A+113A	50.0	60.1	72	80	79	142	72	80	79	142	74	80	82	144	74	80	82	144
		MED	NONE	–	–	31	35	33	157	31	35	33	157	33	35	35	159	33	35	35	159
			116A	13.9	16.7	35	35	33	157	35	35	33	157	38	40	35	159	38	40	35	159
			113A	16.5	19.8	39	40	35	157	39	40	35	157	41	45	38	159	41	45	38	159
			115A	33.0	39.7	64	70	58	157	64	70	58	157	66	70	61	159	66	70	61	159
			114A+116A	41.7	50.2	77	80	70	157	77	80	70	157	79	80	73	159	79	80	73	159
			115A+113A	50.0	60.1	74	80	81	157	74	80	81	157	77	80	84	159	77	80	84	159
		HIGH	NONE	–	–	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
			116A	13.9	16.7	36	40	34	158	36	40	34	158	39	40	36	160	39	40	36	160
			113A	16.5	19.8	40	40	36	158	40	40	36	158	43	45	39	160	43	45	39	160
			115A	33.0	39.7	65	70	59	158	65	70	59	158	68	70	62	160	68	70	62	160
			114A+116A	41.7	50.2	78	80	71	158	78	80	71	158	81	90	74	160	81	90	74	160
			115A+113A	50.0	60.1	75	80	83	158	75	80	83	158	78	80	85	160	78	80	85	160
	575–3–60	STD	NONE	–	–	23	25	24	101	23	25	24	101	25	30	26	103	25	30	26	103
			118A	17.0	20.4	35	35	32	101	35	35	32	101	37	40	34	103	37	40	34	103
			119A	34.0	40.9	61	70	56	101	61	70	56	101	63	70	58	103	63	70	58	103
			118A+119A	51.0	61.3	71	80	79	101	71	80	79	101	73	80	81	103	73	80	81	103
		MED	NONE	–	–	24	25	25	112	24	25	25	112	25	30	27	114	25	30	27	114
			118A	17.0	20.4	36	40	33	112	36	40	33	112	38	40	35	114	38	40	35	114
			119A	34.0	40.9	62	70	57	112	62	70	57	112	64	70	58	114	64	70	58	114
			118A+119A	51.0	61.3	72	80	80	112	72	80	80	112	74	80	82	114	74	80	82	114
		HIGH	NONE	–	–	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128
			118A	17.0	20.4	40	40	36	126	40	40	36	126	42	45	38	128	42	45	38	128
			119A	34.0	40.9	65	70	60	126	65	70	60	126	68	70	62	128	68	70	62	128
			118A+119A	51.0	61.3	76	80	83	126	76	80	83	126	78	80	85	128	78	80	85	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–Hz	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	61/61	70/70	65/65	321	61/61	70/70	65/65	321	66/66	80/80	71/71	326	66/66	80/80	71/71	326
			117A	7.8/10.4	21.7/25.0	61/61	70/70	65/65	321/321	61/61	70/70	65/65	321/321	66/66	80/80	71/71	326/326	66/66	80/80	71/71	326/326
			110A	12.0/16.0	33.4/38.5	72/72	80/80	65/66	321/321	72/72	80/80	65/66	321/321	78/78	80/80	71/71	326/326	78/78	80/80	71/71	326/326
			112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	321/321	120/120	125/125	98/110	321/321	126/126	150/150	104/116	326/326	126/126	150/150	104/116	326/326
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	321/321	151/151	175/175	123/139	321/321	157/157	175/175	129/144	326/326	157/157	175/175	129/144	326/326
			112A+110A	37.6/50.0	104.2/120.3	154/154	175/175	142/160	321/321	154/154	175/175	142/160	321/321	160/160	175/175	147/165	326/326	160/160	175/175	147/165	326/326
		MED	NONE	–	–	65	80	70	350	65	80	70	350	70	80	75	355	70	80	75	355
			117A	7.8/10.4	21.7/25.0	65/65	80/80	70/70	350/350	65/65	80/80	70/70	350/350	70/70	80/80	75/75	355/355	70/70	80/80	75/75	355/355
			110A	12.0/16.0	33.4/38.5	77/77	80/80	70/70	350/350	77/77	80/80	70/70	350/350	83/83	90/90	75/76	355/355	83/83	90/90	75/76	355/355
			112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	350/350	125/125	125/125	103/115	350/350	131/131	150/150	108/120	355/355	131/131	150/150	108/120	355/355
			112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	350/350	156/156	175/175	128/143	350/350	162/162	175/175	133/149	355/355	162/162	175/175	133/149	355/355
			112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/164	350/350	159/159	175/175	146/164	350/350	165/165	175/175	151/170	355/355	165/165	175/175	151/170	355/355
		HIGH	NONE	–	–	68/68	80/80	73/72	352	68/68	80/80	73/72	352	73/73	80/80	79/78	357	73/73	80/80	79/78	357
			117A	7.8/10.4	21.7/25.0	68/68	80/80	73/72	352/352	68/68	80/80	73/72	352/352	73/73	80/80	79/78	357/357	73/73	80/80	79/78	357/357
			110A	12.0/16.0	33.4/38.5	79/79	80/80	73/73	352/352	79/79	80/80	73/73	352/352	85/85	90/90	79/78	357/357	85/85	90/90	79/78	357/357
			112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	352/352	128/128	150/150	106/117	352/352	134/134	150/150	112/122	357/357	134/134	150/150	112/122	357/357
			112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	352/352	159/159	175/175	131/146	352/352	165/165	175/175	137/151	357/357	165/165	175/175	137/151	357/357
			112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	352/352	163/163	175/175	149/167	352/352	169/169	175/175	155/172	357/357	169/169	175/175	155/172	357/357
	460–3–60	STD	NONE	–	–	30	35	31	154	30	35	31	154	32	35	34	156	32	35	34	156
			116A	13.9	16.7	32	35	31	154	32	35	31	154	35	35	34	156	35	35	34	156
			113A	16.5	19.8	36	40	33	154	36	40	33	154	39	40	35	156	39	40	35	156
			115A	33.0	39.7	61	70	56	154	61	70	56	154	64	70	58	156	64	70	58	156
			114A+116A	41.7	50.2	74	80	68	154	74	80	68	154	77	80	70	156	77	80	70	156
			115A+113A	50.0	60.1	72	80	79	154	72	80	79	154	74	80	82	156	74	80	82	156
		MED	NONE	–	–	32	35	34	169	32	35	34	169	34	40	36	171	34	40	36	171
			116A	13.9	16.7	35	35	34	169	35	35	34	169	38	40	36	171	38	40	36	171
			113A	16.5	19.8	39	40	35	169	39	40	35	169	41	45	38	171	41	45	38	171
			115A	33.0	39.7	64	70	58	169	64	70	58	169	66	70	61	171	66	70	61	171
			114A+116A	41.7	50.2	77	80	70	169	77	80	70	169	79	80	73	171	79	80	73	171
			115A+113A	50.0	60.1	74	80	81	169	74	80	81	169	77	80	84	171	77	80	84	171
		HIGH	NONE	–	–	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
			116A	13.9	16.7	36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
			113A	16.5	19.8	40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
			115A	33.0	39.7	65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
			114A+116A	41.7	50.2	78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
			115A+113A	50.0	60.1	75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
	575–3–60	STD	NONE	–	–	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113
			118A	17.0	20.4	35	35	32	111	35	35	32	111	37	40	34	113	37	40	34	113
			119A	34.0	40.9	61	70	56	111	61	70	56	111	63	70	58	113	63	70	58	113
			118A+119A	51.0	61.3	71	80	79	111	71	80	79	111	73	80	81	113	73	80	81	113
		MED	NONE	–	–	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124
			118A	17.0	20.4	36	40	33	122	36	40	33	122	38	40	35	124	38	40	35	124
			119A	34.0	40.9	62	70	57	122	62	70	57	122	64	70	58	124	64	70	58	124
			118A+119A	51.0	61.3	72	80	80	122	72	80	80	122	74	80	82	124	74	80	82	124
		HIGH	NONE	–	–	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138
			118A	17.0	20.4	40	40	36	136	40	40	36	136	42	45	38	138	42	45	38	138
			119A	34.0	40.9	65	70	60	136	65	70	60	136	68	70	62	138	68	70	62	138
			118A+119A	51.0	61.3	76	80	83	136	76	80	83	136	78	80	85	138	78	80	85	138

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – UniUnits produced on or after 02/16/2015	208/230–3–60	STD	NONE	–	–	74/74	80/80	78/78	372	74/74	80/80	78/78	372	78/78	90/90	84/84	377	78/78	90/90	84/84	377
			291A	12.4/16.5	34.4/39.7	81/81	90/90	78/78	372/372	81/81	90/90	78/78	372/372	87/87	90/90	84/84	377/377	87/87	90/90	84/84	377/377
			288A+291A	19.9/26.5	55.3/63.8	111/111	125/125	92/101	372/372	111/111	125/125	92/101	372/372	117/117	125/125	97/107	377/377	117/117	125/125	97/107	377/377
			294A	25.2/33.5	69.9/80.6	132/132	150/150	109/121	372/372	132/132	150/150	109/121	372/372	138/138	150/150	114/126	377/377	138/138	150/150	114/126	377/377
			288A+294A	32.7/43.5	90.7/104.7	162/162	175/175	133/149	372/372	162/162	175/175	133/149	372/372	168/168	175/175	138/154	377/377	168/168	175/175	138/154	377/377
			291A+294A	37.6/50.0	104.3/120.3	162/162	175/175	148/166	372/372	162/162	175/175	148/166	372/372	168/168	175/175	154/172	377/377	168/168	175/175	154/172	377/377
		MED	NONE	–	–	76	90	81	386	76	90	81	386	81	90	87	391	81	90	87	391
			291A	12.4/16.5	34.4/39.7	84/84	90/90	81/81	386/386	84/84	90/90	81/81	386/386	90/90	90/90	87/87	391/391	90/90	90/90	87/87	391/391
			288A+291A	19.9/26.5	55.3/63.8	114/114	125/125	94/104	386/386	114/114	125/125	94/104	386/386	120/120	125/125	100/110	391/391	120/120	125/125	100/110	391/391
			294A	25.2/33.5	69.9/80.6	135/135	150/150	111/123	386/386	135/135	150/150	111/123	386/386	141/141	150/150	117/129	391/391	141/141	150/150	117/129	391/391
			288A+294A	32.7/43.5	90.7/104.7	165/165	175/175	135/151	386/386	165/165	175/175	135/151	386/386	171/171	175/175	141/157	391/391	171/171	175/175	141/157	391/391
			291A+294A	37.6/50.0	104.3/120.3	164/164	175/175	151/169	386/386	164/164	175/175	151/169	386/386	170/170	175/175	156/175	391/391	170/170	175/175	156/175	391/391
		HIGH	NONE	–	–	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
			291A	12.4/16.5	34.4/39.7	96/96	100/100	92/92	392/392	96/96	100/100	92/92	392/392	102/102	110/110	98/98	397/397	102/102	110/110	98/98	397/397
			288A+291A	19.9/26.5	55.3/63.8	126/126	150/150	106/115	392/392	126/126	150/150	106/115	392/392	132/132	150/150	111/121	397/397	132/132	150/150	111/121	397/397
			294A	25.2/33.5	69.9/80.6	147/147	150/150	122/135	392/392	147/147	150/150	122/135	392/392	153/153	175/175	128/140	397/397	153/153	175/175	128/140	397/397
			288A+294A	32.7/43.5	90.7/104.7	177/177	200/200	146/162	392/392	177/177	200/200	146/162	392/392	183/183	200/200	152/168	397/397	183/183	200/200	152/168	397/397
			291A+294A	37.6/50.0	104.3/120.3	177/177	200/200	162/180	392/392	177/177	200/200	162/180	392/392	183/183	200/200	168/186	397/397	183/183	200/200	168/186	397/397
	460–3–60	STD	NONE	–	–	33	40	35	181	33	40	35	181	35	40	37	183	35	40	37	183
			292A	16.5	19.9	39	40	36	181	39	40	36	181	42	45	38	183	42	45	38	183
			289A+292A	26.5	31.9	54	60	50	181	54	60	50	181	57	60	52	183	57	60	52	183
			295A	33.5	40.3	65	70	59	181	65	70	59	181	68	70	62	183	68	70	62	183
			289A+295A	43.5	52.3	80	80	73	181	80	80	73	181	83	90	76	183	83	90	76	183
			292A+295A	50.0	60.2	75	80	82	181	75	80	82	181	77	80	85	183	77	80	85	183
		MED	NONE	–	–	34	40	36	188	34	40	36	188	36	40	38	190	36	40	38	190
			292A	16.5	19.9	41	45	37	188	41	45	37	188	43	45	40	190	43	45	40	190
			289A+292A	26.5	31.9	56	60	51	188	56	60	51	188	58	60	53	190	58	60	53	190
			295A	33.5	40.3	66	70	61	188	66	70	61	188	69	70	63	190	69	70	63	190
			289A+295A	43.5	52.3	81	90	74	188	81	90	74	188	84	90	77	190	84	90	77	190
			292A+295A	50.0	60.2	76	80	83	188	76	80	83	188	79	80	86	190	79	80	86	190
		HIGH	NONE	–	–	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
			292A	16.5	19.9	47	50	43	191	47	50	43	191	50	50	45	193	50	50	45	193
			289A+292A	26.5	31.9	62	70	56	191	62	70	56	191	65	70	59	193	65	70	59	193
			295A	33.5	40.3	72	80	66	191	72	80	66	191	75	80	69	193	75	80	69	193
			289A+295A	43.5	52.3	87	90	80	191	87	90	80	191	90	90	82	193	90	90	82	193
			292A+295A	50.0	60.2	82	90	89	191	82	90	89	191	85	90	92	193	85	90	92	193

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on or after 02/16/2015	575–3–60	STD	NONE	–	–	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147
			290A+296A	43.5	41.8	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147
			293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147
		MED	NONE	–	–	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147
			290A+296A	43.5	41.8	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147
			293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147
		HIGH	NONE	–	–	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
			293A	16.5	15.9	40	40	37	157	40	40	37	157	42	45	39	159	42	45	39	159
			290A+293A	26.5	25.5	52	60	48	157	52	60	48	157	54	60	50	159	54	60	50	159
			296A	33.5	32.2	61	70	55	157	61	70	55	157	63	70	57	159	63	70	57	159
			290A+296A	43.5	41.8	73	80	67	157	73	80	67	157	75	80	68	159	75	80	68	159
			293A+296A	50.0	48.1	69	70	74	157	69	70	74	157	71	80	76	159	71	80	76	159

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – UnitUnits produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	72/72	80/80	77/77	346	72/72	80/80	77/77	346	77/77	90/90	83/83	351	77/77	90/90	83/83	351
			291A	12.4/16.5	34.4/39.7	81/81	90/90	77/77	346/346	81/81	90/90	77/77	346/346	87/87	90/90	83/83	351/351	87/87	90/90	83/83	351/351
			288A+291A	19.9/26.5	55.3/63.8	111/111	125/125	92/101	346/346	111/111	125/125	92/101	346/346	117/117	125/125	97/107	351/351	117/117	125/125	97/107	351/351
			294A	25.2/33.5	69.9/80.6	132/132	150/150	109/121	346/346	132/132	150/150	109/121	346/346	138/138	150/150	114/126	351/351	138/138	150/150	114/126	351/351
			288A+294A	32.7/43.5	90.7/104.7	162/162	175/175	133/149	346/346	162/162	175/175	133/149	346/346	168/168	175/175	138/154	351/351	168/168	175/175	138/154	351/351
			291A+294A	37.6/50.0	104.3/120.3	162/162	175/175	148/166	346/346	162/162	175/175	148/166	346/346	168/168	175/175	154/172	351/351	168/168	175/175	154/172	351/351
		MED	NONE	–	–	74	80	80	360	74	80	80	360	79	90	85	365	79	90	85	365
			291A	12.4/16.5	34.4/39.7	84/84	90/90	80/80	360/360	84/84	90/90	80/80	360/360	90/90	90/90	85/85	365/365	90/90	90/90	85/85	365/365
			288A+291A	19.9/26.5	55.3/63.8	114/114	125/125	94/104	360/360	114/114	125/125	94/104	360/360	120/120	125/125	100/110	365/365	120/120	125/125	100/110	365/365
			294A	25.2/33.5	69.9/80.6	135/135	150/150	111/123	360/360	135/135	150/150	111/123	360/360	141/141	150/150	117/129	365/365	141/141	150/150	117/129	365/365
			288A+294A	32.7/43.5	90.7/104.7	165/165	175/175	135/151	360/360	165/165	175/175	135/151	360/360	171/171	175/175	141/157	365/365	171/171	175/175	141/157	365/365
			291A+294A	37.6/50.0	104.3/120.3	164/164	175/175	151/169	360/360	164/164	175/175	151/169	360/360	170/170	175/175	156/175	365/365	170/170	175/175	156/175	365/365
		HIGH	NONE	–	–	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
			291A	12.4/16.5	34.4/39.7	96/96	100/100	91/91	366/366	96/96	100/100	91/91	366/366	102/102	110/110	96/96	371/371	102/102	110/110	96/96	371/371
			288A+291A	19.9/26.5	55.3/63.8	126/126	150/150	106/115	366/366	126/126	150/150	106/115	366/366	132/132	150/150	111/121	371/371	132/132	150/150	111/121	371/371
			294A	25.2/33.5	69.9/80.6	147/147	150/150	122/135	366/366	147/147	150/150	122/135	366/366	153/153	175/175	128/140	371/371	153/153	175/175	128/140	371/371
			288A+294A	32.7/43.5	90.7/104.7	177/177	200/200	146/162	366/366	177/177	200/200	146/162	366/366	183/183	200/200	152/168	371/371	183/183	200/200	152/168	371/371
			291A+294A	37.6/50.0	104.3/120.3	177/177	200/200	162/180	366/366	177/177	200/200	162/180	366/366	183/183	200/200	168/186	371/371	183/183	200/200	168/186	371/371
	460–3–60	STD	NONE	–	–	36	45	38	173	36	45	38	173	38	45	41	175	38	45	41	175
			292A	16.5	19.9	39	45	38	173	39	45	38	173	42	45	41	175	42	45	41	175
			289A+292A	26.5	31.9	54	60	50	173	54	60	50	173	57	60	52	175	57	60	52	175
			295A	33.5	40.3	65	70	59	173	65	70	59	173	68	70	62	175	68	70	62	175
			289A+295A	43.5	52.3	80	80	73	173	80	80	73	173	83	90	76	175	83	90	76	175
			292A+295A	50.0	60.2	75	80	82	173	75	80	82	173	77	80	85	175	77	80	85	175
		MED	NONE	–	–	37	45	39	180	37	45	39	180	39	45	42	182	39	45	42	182
			292A	16.5	19.9	41	45	39	180	41	45	39	180	43	45	42	182	43	45	42	182
			289A+292A	26.5	31.9	56	60	51	180	56	60	51	180	58	60	53	182	58	60	53	182
			295A	33.5	40.3	66	70	61	180	66	70	61	180	69	70	63	182	69	70	63	182
			289A+295A	43.5	52.3	81	90	74	180	81	90	74	180	84	90	77	182	84	90	77	182
			292A+295A	50.0	60.2	76	80	83	180	76	80	83	180	79	80	86	182	79	80	86	182
		HIGH	NONE	–	–	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
			292A	16.5	19.9	47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
			289A+292A	26.5	31.9	62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
			295A	33.5	40.3	72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
			289A+295A	43.5	52.3	87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
			292A+295A	50.0	60.2	82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 18 - 50HC with Electric Heat, ERV and Factory-Installed HACR Breaker Sizing Data (cont)

UNIT	NOM. V–Ph–HZ	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.								w/ PWRD C.O.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on or prior to 02/15/2015	575–3–60	STD	NONE	–	–	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
			293A	16.5	15.9	33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
			290A+293A	26.5	25.5	45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
			296A	33.5	32.2	53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
			290A+296A	43.5	41.8	65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
			293A+296A	50.0	48.1	61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
		MED	NONE	–	–	29	35	31	135	29	35	31	135	31	35	33	137	31	35	33	137
			293A	16.5	15.9	33	35	31	135	33	35	31	135	35	35	33	137	35	35	33	137
			290A+293A	26.5	25.5	45	45	41	135	45	45	41	135	47	50	43	137	47	50	43	137
			296A	33.5	32.2	53	60	48	135	53	60	48	135	55	60	50	137	55	60	50	137
			290A+296A	43.5	41.8	65	70	59	135	65	70	59	135	67	70	61	137	67	70	61	137
			293A+296A	50.0	48.1	61	70	67	135	61	70	67	135	63	70	69	137	63	70	69	137
		HIGH	NONE	–	–	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
			293A	16.5	15.9	40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
			290A+293A	26.5	25.5	52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
			296A	33.5	32.2	61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
			290A+296A	43.5	41.8	73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
			293A+296A	50.0	48.1	69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 – 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D08	208/230–3–60	STD	NONE	–	–	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/56	60/60	61/60	212	57/56	60/60	61/60	212
			117A	7.8/10.4	21.7/25.0	52/54	60/60	55/55	207/207	52/54	60/60	55/55	207/207	57/60	60/60	61/60	212/212	57/60	60/60	61/60	212/212
			110A	12.0/16.0	33.4/38.5	64/71	70/80	59/64	207/207	64/71	70/80	59/64	207/207	70/77	70/80	64/70	212/212	70/77	70/80	64/70	212/212
			111A	18.6/24.8	51.7/59.7	87/97	90/100	80/89	207/207	87/97	90/100	80/89	207/207	93/103	100/110	85/94	212/212	93/103	100/110	85/94	212/212
			112A	24.0/32.0	66.7/77.0	106/119	110/125	97/109	207/207	106/119	110/125	97/109	207/207	112/125	125/125	103/114	212/212	112/125	125/125	103/114	212/212
			112A+117A	31.8/42.4	88.4/102.0	133/150	150/150	122/138	207/207	133/150	150/150	122/138	207/207	139/156	150/175	128/143	212/212	139/156	150/175	128/143	212/212
		MED	NONE	–	–	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
			117A	7.8/10.4	21.7/25.0	53/55	60/60	57/56	211/211	53/55	60/60	57/56	211/211	58/61	70/70	62/62	216/216	58/61	70/70	62/62	216/216
			110A	12.0/16.0	33.4/38.5	66/72	70/80	60/66	211/211	66/72	70/80	60/66	211/211	72/78	80/80	66/71	216/216	72/78	80/80	66/71	216/216
			111A	18.6/24.8	51.7/59.7	89/99	90/100	81/90	211/211	89/99	90/100	81/90	211/211	95/105	100/110	87/96	216/216	95/105	100/110	87/96	216/216
			112A	24.0/32.0	66.7/77.0	108/120	110/125	99/110	211/211	108/120	110/125	99/110	211/211	114/126	125/150	104/116	216/216	114/126	125/150	104/116	216/216
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	124/139	211/211	135/151	150/175	124/139	211/211	141/157	150/175	129/144	216/216	141/157	150/175	129/144	216/216
		HIGH	NONE	–	–	57/56	60/60	61/60	261	57/56	60/60	61/60	261	62/61	70/70	66/65	266	62/61	70/70	66/65	266
			117A	7.8/10.4	21.7/25.0	57/59	60/60	61/60	261/261	57/59	60/60	61/60	261/261	62/65	70/70	66/65	266/266	62/65	70/70	66/65	266/266
			110A	12.0/16.0	33.4/38.5	71/76	80/80	65/69	261/261	71/76	80/80	65/69	261/261	77/82	80/90	70/75	266/266	77/82	80/90	70/75	266/266
			111A	18.6/24.8	51.7/59.7	94/102	100/110	86/94	261/261	94/102	100/110	86/94	261/261	100/108	100/110	91/99	266/266	100/108	100/110	91/99	266/266
			112A	24.0/32.0	66.7/77.0	112/124	125/125	103/114	261/261	112/124	125/125	103/114	261/261	118/130	125/150	108/119	266/266	118/130	125/150	108/119	266/266
			112A+117A	31.8/42.4	88.4/102.0	139/155	150/175	128/142	261/261	139/155	150/175	128/142	261/261	145/161	150/175	133/148	266/266	145/161	150/175	133/148	266/266
	460–3–60	STD	NONE	–	–	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
			116A	13.9	16.7	32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
			113A	16.5	19.8	36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
			114A	27.8	33.4	53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
			115A	33.0	39.7	61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
			114A+116A	41.7	50.2	74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
		MED	NONE	–	–	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
			116A	13.9	16.7	33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
			113A	16.5	19.8	37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
			114A	27.8	33.4	54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
			115A	33.0	39.7	62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
			114A+116A	41.7	50.2	75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
		HIGH	NONE	–	–	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
			116A	13.9	16.7	34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
			113A	16.5	19.8	38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
			114A	27.8	33.4	55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
			115A	33.0	39.7	63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
			114A+116A	41.7	50.2	76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
	575–3–60	STD	NONE	–	–	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
			118A	17.0	20.4	36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
			119A	34.0	40.9	62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
		MED	NONE	–	–	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
			118A	17.0	20.4	37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
			119A	34.0	40.9	63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
		HIGH	NONE	–	–	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
			118A	17.0	20.4	38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
			119A	34.0	40.9	64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D09	208/230–3–60	STD	NONE	–	–	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
			117A	7.8/10.4	21.7/25.0	52/54	60/60	55/55	207/207	52/54	60/60	55/55	207/207	57/60	60/60	61/61	212/212	57/60	60/60	61/61	212/212
			110A	12.0/16.0	33.4/38.5	64/71	70/80	59/64	207/207	64/71	70/80	59/64	207/207	70/77	70/80	64/70	212/212	70/77	70/80	64/70	212/212
			111A	18.6/24.8	51.7/59.7	87/97	90/100	80/89	207/207	87/97	90/100	80/89	207/207	93/103	100/110	85/94	212/212	93/103	100/110	85/94	212/212
			112A	24.0/32.0	66.7/77.0	106/119	110/125	97/109	207/207	106/119	110/125	97/109	207/207	112/125	125/125	103/114	212/212	112/125	125/125	103/114	212/212
			112A+117A	31.8/42.4	88.4/102.0	133/150	150/150	122/138	207/207	133/150	150/150	122/138	207/207	139/156	150/175	128/143	212/212	139/156	150/175	128/143	212/212
		MED	NONE	–	–	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
			117A	7.8/10.4	21.7/25.0	53/55	60/60	57/57	211/211	53/55	60/60	57/57	211/211	58/61	70/70	62/62	216/216	58/61	70/70	62/62	216/216
			110A	12.0/16.0	33.4/38.5	66/72	70/80	60/66	211/211	66/72	70/80	60/66	211/211	72/78	80/80	66/71	216/216	72/78	80/80	66/71	216/216
			111A	18.6/24.8	51.7/59.7	89/99	90/100	81/90	211/211	89/99	90/100	81/90	211/211	95/105	100/110	87/96	216/216	95/105	100/110	87/96	216/216
			112A	24.0/32.0	66.7/77.0	108/120	110/125	99/110	211/211	108/120	110/125	99/110	211/211	114/126	125/150	104/116	216/216	114/126	125/150	104/116	216/216
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	124/139	211/211	135/151	150/175	124/139	211/211	141/157	150/175	129/144	216/216	141/157	150/175	129/144	216/216
		HIGH	NONE	–	–	57/56	70/60	61/60	261	57/56	70/60	61/60	261	62/61	70/70	67/66	266	62/61	70/70	67/66	266
			117A	7.8/10.4	21.7/25.0	57/59	70/60	61/60	261/261	57/59	70/60	61/60	261/261	62/65	70/70	67/66	266/266	62/65	70/70	67/66	266/266
			110A	12.0/16.0	33.4/38.5	71/76	80/80	65/69	261/261	71/76	80/80	65/69	261/261	77/82	80/90	70/75	266/266	77/82	80/90	70/75	266/266
			111A	18.6/24.8	51.7/59.7	94/102	100/110	86/94	261/261	94/102	100/110	86/94	261/261	100/108	100/110	91/99	266/266	100/108	100/110	91/99	266/266
			112A	24.0/32.0	66.7/77.0	112/124	125/125	103/114	261/261	112/124	125/125	103/114	261/261	118/130	125/150	108/119	266/266	118/130	125/150	108/119	266/266
			112A+117A	31.8/42.4	88.4/102.0	139/155	150/175	128/142	261/261	139/155	150/175	128/142	261/261	145/161	150/175	133/148	266/266	145/161	150/175	133/148	266/266
	460–3–60	STD	NONE	–	–	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
			116A	13.9	16.7	32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
			113A	16.5	19.8	36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
			114A	27.8	33.4	53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
			115A	33.0	39.7	61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
			114A+116A	41.7	50.2	74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
		MED	NONE	–	–	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
			116A	13.9	16.7	33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
			113A	16.5	19.8	37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
			114A	27.8	33.4	54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
			115A	33.0	39.7	62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
			114A+116A	41.7	50.2	75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
		HIGH	NONE	–	–	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
			116A	13.9	16.7	34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
			113A	16.5	19.8	38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
			114A	27.8	33.4	55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
			115A	33.0	39.7	63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
			114A+116A	41.7	50.2	76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
	575–3–60	STD	NONE	–	–	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
			118A	17.0	20.4	36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
			119A	34.0	40.9	62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
		MED	NONE	–	–	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
			118A	17.0	20.4	37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
			119A	34.0	40.9	63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
		HIGH	NONE	–	–	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
			118A	17.0	20.4	38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
			119A	34.0	40.9	64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D11	208/230–3–60	STD	NONE	–	–	63/62	70/70	67/67	266	63/62	70/70	67/67	266	67/67	80/80	73/72	271	67/67	80/80	73/72	271
			117A	7.8/10.4	21.7/25.0	63/62	70/70	67/67	266/266	63/62	70/70	67/67	266/266	67/67	80/80	73/72	271/271	67/67	80/80	73/72	271/271
			110A	12.0/16.0	33.4/38.5	66/72	70/80	67/67	266/266	66/72	70/80	67/67	266/266	72/78	80/80	73/72	271/271	72/78	80/80	73/72	271/271
			112A	24.0/32.0	66.7/77.0	108/120	110/125	99/110	266/266	108/120	110/125	99/110	266/266	114/126	125/150	104/116	271/271	114/126	125/150	104/116	271/271
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	124/139	266/266	135/151	150/175	124/139	266/266	141/157	150/175	129/144	271/271	141/157	150/175	129/144	271/271
			112A+110A	37.6/50.0	104.2/120.3	155/144	175/150	142/160	266/266	155/144	175/150	142/160	266/266	161/150	175/175	147/165	271/271	161/150	175/175	147/165	271/271
		MED	NONE	–	–	66/65	80/80	71/70	316	66/65	80/80	71/70	316	71/70	80/80	77/76	321	71/70	80/80	77/76	321
			117A	7.8/10.4	21.7/25.0	66/65	80/80	71/70	316/316	66/65	80/80	71/70	316/316	71/70	80/80	77/76	321/321	71/70	80/80	77/76	321/321
			110A	12.0/16.0	33.4/38.5	71/76	80/80	71/70	316/316	71/76	80/80	71/70	316/316	77/82	80/90	77/76	321/321	77/82	80/90	77/76	321/321
			112A	24.0/32.0	66.7/77.0	112/124	125/125	103/114	316/316	112/124	125/125	103/114	316/316	118/130	125/150	108/119	321/321	118/130	125/150	108/119	321/321
			112A+117A	31.8/42.4	88.4/102.0	139/155	150/175	128/142	316/316	139/155	150/175	128/142	316/316	145/161	150/175	133/148	321/321	145/161	150/175	133/148	321/321
			112A+110A	37.6/50.0	104.2/120.3	159/148	175/175	146/163	316/316	159/148	175/175	146/163	316/316	165/154	175/175	152/169	321/321	165/154	175/175	152/169	321/321
		HIGH	NONE	–	–	69/68	80/80	74/73	327	69/68	80/80	74/73	327	74/73	80/80	80/79	332	74/73	80/80	80/79	332
			117A	7.8/10.4	21.7/25.0	69/68	80/80	74/73	327/327	69/68	80/80	74/73	327/327	74/73	80/80	80/79	332/332	74/73	80/80	80/79	332/332
			110A	12.0/16.0	33.4/38.5	74/79	80/80	74/73	327/327	74/79	80/80	74/73	327/327	80/85	80/90	80/79	332/332	80/85	80/90	80/79	332/332
			112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	327/327	116/128	125/150	106/117	327/327	122/134	125/150	112/122	332/332	122/134	125/150	112/122	332/332
			112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	327/327	143/159	150/175	131/146	327/327	149/165	150/175	137/151	332/332	149/165	150/175	137/151	332/332
			112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	327/327	163/152	175/175	149/167	327/327	169/158	175/175	155/172	332/332	169/158	175/175	155/172	332/332
	460–3–60	STD	NONE	–	–	29	35	31	128	29	35	31	128	31	35	33	130	31	35	33	130
			116A	13.9	16.7	33	35	31	128	33	35	31	128	36	40	33	130	36	40	33	130
			113A	16.5	19.8	37	40	33	128	37	40	33	128	40	40	36	130	40	40	36	130
			115A	33.0	39.7	62	70	56	128	62	70	56	128	64	70	59	130	64	70	59	130
			114A+116A	41.7	50.2	75	80	68	128	75	80	68	128	78	80	71	130	78	80	71	130
			115A+113A	50.0	60.1	72	80	80	128	72	80	80	128	75	80	82	130	75	80	82	130
		MED	NONE	–	–	30	35	32	153	30	35	32	153	32	35	35	155	32	35	35	155
			116A	13.9	16.7	34	35	32	153	34	35	32	153	37	40	35	155	37	40	35	155
			113A	16.5	19.8	38	40	35	153	38	40	35	153	41	45	37	155	41	45	37	155
			115A	33.0	39.7	63	70	58	153	63	70	58	153	66	70	60	155	66	70	60	155
			114A+116A	41.7	50.2	76	80	70	153	76	80	70	153	79	80	72	155	79	80	72	155
			115A+113A	50.0	60.1	73	80	81	153	73	80	81	153	76	80	84	155	76	80	84	155
		HIGH	NONE	–	–	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
			116A	13.9	16.7	36	40	34	158	36	40	34	158	39	40	36	160	39	40	36	160
			113A	16.5	19.8	40	40	36	158	40	40	36	158	43	45	39	160	43	45	39	160
			115A	33.0	39.7	65	70	59	158	65	70	59	158	68	70	62	160	68	70	62	160
			114A+116A	41.7	50.2	78	80	71	158	78	80	71	158	81	90	74	160	81	90	74	160
			115A+113A	50.0	60.1	75	80	83	158	75	80	83	158	78	80	85	160	78	80	85	160
	575–3–60	STD	NONE	–	–	24	30	26	103	24	30	26	103	26	30	28	105	26	30	28	105
			118A	17.0	20.4	37	40	34	103	37	40	34	103	39	40	36	105	39	40	36	105
			119A	34.0	40.9	63	70	57	103	63	70	57	103	65	70	59	105	65	70	59	105
			118A+119A	51.0	61.3	73	80	81	103	73	80	81	103	75	80	83	105	75	80	83	105
		MED	NONE	–	–	25	30	27	112	25	30	27	112	27	30	29	114	27	30	29	114
			118A	17.0	20.4	38	40	35	112	38	40	35	112	41	45	37	114	41	45	37	114
			119A	34.0	40.9	64	70	58	112	64	70	58	112	66	70	60	114	66	70	60	114
			118A+119A	51.0	61.3	74	80	82	112	74	80	82	112	76	80	84	114	76	80	84	114
		HIGH	NONE	–	–	27	30	29	126	27	30	29	126	29	35	31	128	29	35	31	128
			118A	17.0	20.4	41	45	37	126	41	45	37	126	43	45	39	128	43	45	39	128
			119A	34.0	40.9	66	70	60	126	66	70	60	126	68	70	62	128	68	70	62	128
			118A+119A	51.0	61.3	76	80	84	126	76	80	84	126	78	80	86	128	78	80	86	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D12	208/230–3–60	STD	NONE	–	–	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
			117A	7.8/10.4	21.7/25.0	61/61	70/70	66/65	291/291	61/61	70/70	66/65	291/291	66/66	80/80	71/71	296/296	66/66	80/80	71/71	296/296
			110A	12.0/16.0	33.4/38.5	66/72	70/80	66/66	291/291	66/72	70/80	66/66	291/291	72/78	80/80	71/71	296/296	72/78	80/80	71/71	296/296
			112A	24.0/32.0	66.7/77.0	108/120	110/125	99/110	291/291	108/120	110/125	99/110	291/291	114/126	125/150	104/116	296/296	114/126	125/150	104/116	296/296
			112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	124/139	291/291	135/151	150/175	124/139	291/291	141/157	150/175	129/144	296/296	141/157	150/175	129/144	296/296
			112A+110A	37.6/50.0	104.2/120.3	155/144	175/150	142/160	291/291	155/144	175/150	142/160	291/291	161/150	175/175	147/165	296/296	161/150	175/175	147/165	296/296
		MED	NONE	–	–	65/64	80/70	70/69	341	65/64	80/70	70/69	341	70/69	80/80	75/74	346	70/69	80/80	75/74	346
			117A	7.8/10.4	21.7/25.0	65/64	80/70	70/69	341/341	65/64	80/70	70/69	341/341	70/69	80/80	75/74	346/346	70/69	80/80	75/74	346/346
			110A	12.0/16.0	33.4/38.5	71/76	80/80	70/69	341/341	71/76	80/80	70/69	341/341	77/82	80/90	75/75	346/346	77/82	80/90	75/75	346/346
			112A	24.0/32.0	66.7/77.0	112/124	125/125	103/114	341/341	112/124	125/125	103/114	341/341	118/130	125/150	108/119	346/346	118/130	125/150	108/119	346/346
			112A+117A	31.8/42.4	88.4/102.0	139/155	150/175	128/142	341/341	139/155	150/175	128/142	341/341	145/161	150/175	133/148	346/346	145/161	150/175	133/148	346/346
			112A+110A	37.6/50.0	104.2/120.3	159/148	175/175	146/163	341/341	159/148	175/175	146/163	341/341	165/154	175/175	152/169	346/346	165/154	175/175	152/169	346/346
		HIGH	NONE	–	–	68/67	80/80	73/72	352	68/67	80/80	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
			117A	7.8/10.4	21.7/25.0	68/67	80/80	73/72	352/352	68/67	80/80	73/72	352/352	73/72	80/80	79/78	357/357	73/72	80/80	79/78	357/357
			110A	12.0/16.0	33.4/38.5	74/79	80/80	73/73	352/352	74/79	80/80	73/73	352/352	80/85	80/90	79/78	357/357	80/85	80/90	79/78	357/357
			112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	352/352	116/128	125/150	106/117	352/352	122/134	125/150	112/122	357/357	122/134	125/150	112/122	357/357
			112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	352/352	143/159	150/175	131/146	352/352	149/165	150/175	137/151	357/357	149/165	150/175	137/151	357/357
			112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	352/352	163/152	175/175	149/167	352/352	169/158	175/175	155/172	357/357	169/158	175/175	155/172	357/357
	460–3–60	STD	NONE	–	–	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
			116A	13.9	16.7	33	35	32	140	33	35	32	140	36	40	34	142	36	40	34	142
			113A	16.5	19.8	37	40	33	140	37	40	33	140	40	40	36	142	40	40	36	142
			115A	33.0	39.7	62	70	56	140	62	70	56	140	64	70	59	142	64	70	59	142
			114A+116A	41.7	50.2	75	80	68	140	75	80	68	140	78	80	71	142	78	80	71	142
			115A+113A	50.0	60.1	72	80	80	140	72	80	80	140	75	80	82	142	75	80	82	142
		MED	NONE	–	–	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
			116A	13.9	16.7	34	35	33	165	34	35	33	165	37	40	36	167	37	40	36	167
			113A	16.5	19.8	38	40	35	165	38	40	35	165	41	45	37	167	41	45	37	167
			115A	33.0	39.7	63	70	58	165	63	70	58	165	66	70	60	167	66	70	60	167
			114A+116A	41.7	50.2	76	80	70	165	76	80	70	165	79	80	72	167	79	80	72	167
			115A+113A	50.0	60.1	73	80	81	165	73	80	81	165	76	80	84	167	76	80	84	167
		HIGH	NONE	–	–	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
			116A	13.9	16.7	36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
			113A	16.5	19.8	40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
			115A	33.0	39.7	65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
			114A+116A	41.7	50.2	78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
			115A+113A	50.0	60.1	75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
	575–3–60	STD	NONE	–	–	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
			118A	17.0	20.4	37	40	34	113	37	40	34	113	39	40	36	115	39	40	36	115
			119A	34.0	40.9	63	70	57	113	63	70	57	113	65	70	59	115	65	70	59	115
			118A+119A	51.0	61.3	73	80	81	113	73	80	81	113	75	80	83	115	75	80	83	115
		MED	NONE	–	–	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
			118A	17.0	20.4	38	40	35	122	38	40	35	122	41	45	37	124	41	45	37	124
			119A	34.0	40.9	64	70	58	122	64	70	58	122	66	70	60	124	66	70	60	124
			118A+119A	51.0	61.3	74	80	82	122	74	80	82	122	76	80	84	124	76	80	84	124
		HIGH	NONE	–	–	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
			118A	17.0	20.4	41	45	37	136	41	45	37	136	43	45	39	138	43	45	39	138
			119A	34.0	40.9	66	70	60	136	66	70	60	136	68	70	62	138	68	70	62	138
			118A+119A	51.0	61.3	76	80	84	136	76	80	84	136	78	80	86	138	78	80	86	138

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or after 02/16/2015	208/230–3–60	STD	NONE	–	–	74/73	80/80	79/78	353	74/73	80/80	79/78	353	79/78	90/90	84/83	358	79/78	90/90	84/83	358
			291A	12.4/16.5	34.4/39.7	74/80	80/80	79/78	353/353	74/80	80/80	79/78	353/353	80/86	90/90	84/83	358/358	80/86	90/90	84/83	358/358
			288A+291A	19.9/26.5	55.3/63.8	101/110	110/110	92/101	353/353	101/110	110/110	92/101	353/353	107/116	110/125	98/106	358/358	107/116	110/125	98/106	358/358
			294A	25.2/33.5	69.9/80.6	119/131	125/150	109/120	353/353	119/131	125/150	109/120	353/353	125/137	125/150	114/126	358/358	125/137	125/150	114/126	358/358
			288A+294A	32.7/43.5	90.7/104.7	145/161	150/175	133/148	353/353	145/161	150/175	133/148	353/353	151/167	175/175	138/153	358/358	151/167	175/175	138/153	358/358
			291A+294A	37.6/50.0	104.3/120.3	162/151	175/175	148/166	353/353	162/151	175/175	148/166	353/353	168/157	175/175	154/171	358/358	168/157	175/175	154/171	358/358
		MED	NONE	–	–	76/75	90/80	81/80	377	76/75	90/80	81/80	377	81/80	90/90	87/86	382	81/80	90/90	87/86	382
			291A	12.4/16.5	34.4/39.7	77/83	90/90	81/80	377/377	77/83	90/90	81/80	377/377	83/89	90/90	87/86	382/382	83/89	90/90	87/86	382/382
			288A+291A	19.9/26.5	55.3/63.8	103/113	110/125	95/103	377/377	103/113	110/125	95/103	377/377	109/119	110/125	100/109	382/382	109/119	110/125	100/109	382/382
			294A	25.2/33.5	69.9/80.6	122/134	125/150	111/123	377/377	122/134	125/150	111/123	377/377	128/140	150/150	117/128	382/382	128/140	150/150	117/128	382/382
			288A+294A	32.7/43.5	90.7/104.7	148/164	150/175	135/150	377/377	148/164	150/175	135/150	377/377	154/170	175/175	141/156	382/382	154/170	175/175	141/156	382/382
			291A+294A	37.6/50.0	104.3/120.3	165/153	175/175	151/168	377/377	165/153	175/175	151/168	377/377	171/159	175/175	156/174	382/382	171/159	175/175	156/174	382/382
		HIGH	NONE	–	–	86	100	92	392	86	100	92	392	91	100	98	397	91	100	98	397
			291A	12.4/16.5	34.4/39.7	89/96	100/100	92/92	392/392	89/96	100/100	92/92	392/392	95/102	100/110	98/98	397/397	95/102	100/110	98/98	397/397
			288A+291A	19.9/26.5	55.3/63.8	115/126	125/150	106/115	392/392	115/126	125/150	106/115	392/392	121/132	125/150	111/121	397/397	121/132	125/150	111/121	397/397
			294A	25.2/33.5	69.9/80.6	134/147	150/150	122/135	392/392	134/147	150/150	122/135	392/392	140/153	150/175	128/140	397/397	140/153	150/175	128/140	397/397
			288A+294A	32.7/43.5	90.7/104.7	160/177	175/200	146/162	392/392	160/177	175/200	146/162	392/392	166/183	175/200	152/168	397/397	166/183	175/200	152/168	397/397
			291A+294A	37.6/50.0	104.3/120.3	177/166	200/175	162/180	392/392	177/166	200/175	162/180	392/392	183/172	200/175	168/186	397/397	183/172	200/175	168/186	397/397
	460–3–60	STD	NONE	–	–	32	35	34	172	32	35	34	172	34	40	37	174	34	40	37	174
			292A	16.5	19.9	39	40	35	172	39	40	35	172	42	45	38	174	42	45	38	174
			289A+292A	26.5	31.9	54	60	49	172	54	60	49	172	57	60	52	174	57	60	52	174
			295A	33.5	40.3	64	70	59	172	64	70	59	172	67	70	61	174	67	70	61	174
			289A+295A	43.5	52.3	79	80	73	172	79	80	73	172	82	90	75	174	82	90	75	174
			292A+295A	50.0	60.2	74	80	82	172	74	80	82	172	77	80	84	174	77	80	84	174
		MED	NONE	–	–	33	40	35	184	33	40	35	184	35	40	38	186	35	40	38	186
			292A	16.5	19.9	40	40	37	184	40	40	37	184	43	45	39	186	43	45	39	186
			289A+292A	26.5	31.9	55	60	50	184	55	60	50	184	58	60	53	186	58	60	53	186
			295A	33.5	40.3	66	70	60	184	66	70	60	184	68	70	63	186	68	70	63	186
			289A+295A	43.5	52.3	81	90	74	184	81	90	74	184	83	90	76	186	83	90	76	186
			292A+295A	50.0	60.2	76	80	83	184	76	80	83	184	78	80	85	186	78	80	85	186
		HIGH	NONE	–	–	39	45	41	191	39	45	41	191	41	50	44	193	41	50	44	193
			292A	16.5	19.9	47	50	43	191	47	50	43	191	50	50	45	193	50	50	45	193
			289A+292A	26.5	31.9	62	70	56	191	62	70	56	191	65	70	59	193	65	70	59	193
			295A	33.5	40.3	72	80	66	191	72	80	66	191	75	80	69	193	75	80	69	193
			289A+295A	43.5	52.3	87	90	80	191	87	90	80	191	90	90	82	193	90	90	82	193
			292A+295A	50.0	60.2	82	90	89	191	82	90	89	191	85	90	92	193	85	90	92	193

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – units produced on or after 02/16/2015	575–3–60	STD	NONE	–	–	29	35	31	145	29	35	31	145	31	35	33	147	31	35	33	147
			293A	16.5	15.9	35	35	32	145	35	35	32	145	37	40	33	147	37	40	33	147
			290A+293A	26.5	25.5	47	50	43	145	47	50	43	145	49	50	45	147	49	50	45	147
			296A	33.5	32.2	55	60	50	145	55	60	50	145	57	60	52	147	57	60	52	147
			290A+296A	43.5	41.8	67	70	61	145	67	70	61	145	69	70	63	147	69	70	63	147
			293A+296A	50.0	48.1	63	70	69	145	63	70	69	145	65	70	71	147	65	70	71	147
		MED	NONE	–	–	29	35	31	145	29	35	31	145	31	35	33	147	31	35	33	147
			293A	16.5	15.9	35	35	32	145	35	35	32	145	37	40	33	147	37	40	33	147
			290A+293A	26.5	25.5	47	50	43	145	47	50	43	145	49	50	45	147	49	50	45	147
			296A	33.5	32.2	55	60	50	145	55	60	50	145	57	60	52	147	57	60	52	147
			290A+296A	43.5	41.8	67	70	61	145	67	70	61	145	69	70	63	147	69	70	63	147
			293A+296A	50.0	48.1	63	70	69	145	63	70	69	145	65	70	71	147	65	70	71	147
		HIGH	NONE	–	–	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159
			293A	16.5	15.9	40	40	37	157	40	40	37	157	42	45	39	159	42	45	39	159
			290A+293A	26.5	25.5	52	60	48	157	52	60	48	157	54	60	50	159	54	60	50	159
			296A	33.5	32.2	61	70	55	157	61	70	55	157	63	70	57	159	63	70	57	159
			290A+296A	43.5	41.8	73	80	67	157	73	80	67	157	75	80	68	159	75	80	68	159
			293A+296A	50.0	48.1	69	70	74	157	69	70	74	157	71	80	76	159	71	80	76	159

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/76	90/90	83/82	332	77/76	90/90	83/82	332
			291A	12.4/16.5	34.4/39.7	74/80	80/80	77/76	327/327	74/80	80/80	77/76	327/327	80/86	90/90	83/82	332/332	80/86	90/90	83/82	332/332
			288A+291A	19.9/26.5	55.3/63.8	101/110	110/110	92/101	327/327	101/110	110/110	92/101	327/327	107/116	110/125	98/106	332/332	107/116	110/125	98/106	332/332
			294A	25.2/33.5	69.9/80.6	119/131	125/150	109/120	327/327	119/131	125/150	109/120	327/327	125/137	125/150	114/126	332/332	125/137	125/150	114/126	332/332
			288A+294A	32.7/43.5	90.7/104.7	145/161	150/175	133/148	327/327	145/161	150/175	133/148	327/327	151/167	175/175	138/153	332/332	151/167	175/175	138/153	332/332
			291A+294A	37.6/50.0	104.3/120.3	162/151	175/175	148/166	327/327	162/151	175/175	148/166	327/327	168/157	175/175	154/171	332/332	168/157	175/175	154/171	332/332
		MED	NONE	–	–	75/74	80/80	80/79	351	75/74	80/80	80/79	351	79/78	90/90	85/84	356	79/78	90/90	85/84	356
			291A	12.4/16.5	34.4/39.7	77/83	80/90	80/79	351/351	77/83	80/90	80/79	351/351	83/89	90/90	85/84	356/356	83/89	90/90	85/84	356/356
			288A+291A	19.9/26.5	55.3/63.8	103/113	110/125	95/103	351/351	103/113	110/125	95/103	351/351	109/119	110/125	100/109	356/356	109/119	110/125	100/109	356/356
			294A	25.2/33.5	69.9/80.6	122/134	125/150	111/123	351/351	122/134	125/150	111/123	351/351	128/140	150/150	117/128	356/356	128/140	150/150	117/128	356/356
			288A+294A	32.7/43.5	90.7/104.7	148/164	150/175	135/150	351/351	148/164	150/175	135/150	351/351	154/170	175/175	141/156	356/356	154/170	175/175	141/156	356/356
			291A+294A	37.6/50.0	104.3/120.3	165/153	175/175	151/168	351/351	165/153	175/175	151/168	351/351	171/159	175/175	156/174	356/356	171/159	175/175	156/174	356/356
		HIGH	NONE	–	–	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
			291A	12.4/16.5	34.4/39.7	89/96	100/100	91/91	366/366	89/96	100/100	91/91	366/366	95/102	100/110	96/96	371/371	95/102	100/110	96/96	371/371
			288A+291A	19.9/26.5	55.3/63.8	115/126	125/150	106/115	366/366	115/126	125/150	106/115	366/366	121/132	125/150	111/121	371/371	121/132	125/150	111/121	371/371
			294A	25.2/33.5	69.9/80.6	134/147	150/150	122/135	366/366	134/147	150/150	122/135	366/366	140/153	150/175	128/140	371/371	140/153	150/175	128/140	371/371
			288A+294A	32.7/43.5	90.7/104.7	160/177	175/200	146/162	366/366	160/177	175/200	146/162	366/366	166/183	175/200	152/168	371/371	166/183	175/200	152/168	371/371
			291A+294A	37.6/50.0	104.3/120.3	177/166	200/175	162/180	366/366	177/166	200/175	162/180	366/366	183/172	200/175	168/186	371/371	183/172	200/175	168/186	371/371
	460–3–60	STD	NONE	–	–	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
			292A	16.5	19.9	39	40	38	164	39	40	38	164	42	45	40	166	42	45	40	166
			289A+292A	26.5	31.9	54	60	49	164	54	60	49	164	57	60	52	166	57	60	52	166
			295A	33.5	40.3	64	70	59	164	64	70	59	164	67	70	61	166	67	70	61	166
			289A+295A	43.5	52.3	79	80	73	164	79	80	73	164	82	90	75	166	82	90	75	166
			292A+295A	50.0	60.2	74	80	82	164	74	80	82	164	77	80	84	166	77	80	84	166
		MED	NONE	–	–	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
			292A	16.5	19.9	40	45	39	176	40	45	39	176	43	45	41	178	43	45	41	178
			289A+292A	26.5	31.9	55	60	50	176	55	60	50	176	58	60	53	178	58	60	53	178
			295A	33.5	40.3	66	70	60	176	66	70	60	176	68	70	63	178	68	70	63	178
			289A+295A	43.5	52.3	81	90	74	176	81	90	74	176	83	90	76	178	83	90	76	178
			292A+295A	50.0	60.2	76	80	83	176	76	80	83	176	78	80	85	178	78	80	85	178
		HIGH	NONE	–	–	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
			292A	16.5	19.9	47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
			289A+292A	26.5	31.9	62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
			295A	33.5	40.3	72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
			289A+295A	43.5	52.3	87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
			292A+295A	50.0	60.2	82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 19 - 50HC with Electric Heat, ERV 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – units produced on or prior to 02/15/2015	575–3–60	STD	NONE	–	–	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
			293A	16.5	15.9	35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
			290A+293A	26.5	25.5	47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
			296A	33.5	32.2	55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
			290A+296A	43.5	41.8	67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
			293A+296A	50.0	48.1	63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
		MED	NONE	–	–	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
			293A	16.5	15.9	35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
			290A+293A	26.5	25.5	47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
			296A	33.5	32.2	55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
			290A+296A	43.5	41.8	67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
			293A+296A	50.0	48.1	63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
		HIGH	NONE	–	–	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
			293A	16.5	15.9	40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
			290A+293A	26.5	25.5	52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
			296A	33.5	32.2	61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
			290A+296A	43.5	41.8	73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
			293A+296A	50.0	48.1	69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 – 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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*D08	208/230–3–60	STD	NONE	–	–	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/60	212	57/57	60/60	61/60	212
			117A	7.8/10.4	21.7/25.0	54/54	60/60	55/55	207/207	54/54	60/60	55/55	207/207	60/60	60/60	61/60	212/212	60/60	60/60	61/60	212/212
			110A	12.0/16.0	33.4/38.5	71/71	80/80	59/64	207/207	71/71	80/80	59/64	207/207	77/77	80/80	64/70	212/212	77/77	80/80	64/70	212/212
			111A	18.6/24.8	51.7/59.7	97/97	100/100	80/89	207/207	97/97	100/100	80/89	207/207	103/103	110/110	85/94	212/212	103/103	110/110	85/94	212/212
			112A	24.0/32.0	66.7/77.0	119/119	125/125	97/109	207/207	119/119	125/125	97/109	207/207	125/125	125/125	103/114	212/212	125/125	125/125	103/114	212/212
			112A+117A	31.8/42.4	88.4/102.0	150/150	150/150	122/138	207/207	150/150	150/150	122/138	207/207	156/156	175/175	128/143	212/212	156/156	175/175	128/143	212/212
		MED	NONE	–	–	53/53	60/60	57/56	211	53/53	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
			117A	7.8/10.4	21.7/25.0	55/55	60/60	57/56	211/211	55/55	60/60	57/56	211/211	61/61	70/70	62/62	216/216	61/61	70/70	62/62	216/216
			110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	211/211	72/72	80/80	60/66	211/211	78/78	80/80	66/71	216/216	78/78	80/80	66/71	216/216
			111A	18.6/24.8	51.7/59.7	99/99	100/100	81/90	211/211	99/99	100/100	81/90	211/211	105/105	110/110	87/96	216/216	105/105	110/110	87/96	216/216
			112A	24.0/32.0	66.7/77.0	120/120	125/125	99/110	211/211	120/120	125/125	99/110	211/211	126/126	150/150	104/116	216/216	126/126	150/150	104/116	216/216
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	124/139	211/211	151/151	175/175	124/139	211/211	157/157	175/175	129/144	216/216	157/157	175/175	129/144	216/216
		HIGH	NONE	–	–	57/57	60/60	61/60	261	57/57	60/60	61/60	261	62/62	70/70	66/65	266	62/62	70/70	66/65	266
			117A	7.8/10.4	21.7/25.0	59/59	60/60	61/60	261/261	59/59	60/60	61/60	261/261	65/65	70/70	66/65	266/266	65/65	70/70	66/65	266/266
			110A	12.0/16.0	33.4/38.5	76/76	80/80	65/69	261/261	76/76	80/80	65/69	261/261	82/82	90/90	70/75	266/266	82/82	90/90	70/75	266/266
			111A	18.6/24.8	51.7/59.7	102/102	110/110	86/94	261/261	102/102	110/110	86/94	261/261	108/108	110/110	91/99	266/266	108/108	110/110	91/99	266/266
			112A	24.0/32.0	66.7/77.0	124/124	125/125	103/114	261/261	124/124	125/125	103/114	261/261	130/130	150/150	108/119	266/266	130/130	150/150	108/119	266/266
			112A+117A	31.8/42.4	88.4/102.0	155/155	175/175	128/142	261/261	155/155	175/175	128/142	261/261	161/161	175/175	133/148	266/266	161/161	175/175	133/148	266/266
	460–3–60	STD	NONE	–	–	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105
			116A	13.9	16.7	32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
			113A	16.5	19.8	36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
			114A	27.8	33.4	53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
			115A	33.0	39.7	61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
			114A+116A	41.7	50.2	74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
		MED	NONE	–	–	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
			116A	13.9	16.7	33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
			113A	16.5	19.8	37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
			114A	27.8	33.4	54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
			115A	33.0	39.7	62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
			114A+116A	41.7	50.2	75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
		HIGH	NONE	–	–	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133
			116A	13.9	16.7	34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
			113A	16.5	19.8	38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
			114A	27.8	33.4	55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
			115A	33.0	39.7	63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
			114A+116A	41.7	50.2	76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
	575–3–60	STD	NONE	–	–	19	20	21	85	19	20	21	85	21	25	22	87	21	25	22	87
			118A	17.0	20.4	36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
			119A	34.0	40.9	62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
		MED	NONE	–	–	20	25	21	89	20	25	21	89	22	25	23	91	22	25	23	91
			118A	17.0	20.4	37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
			119A	34.0	40.9	63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
		HIGH	NONE	–	–	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100
			118A	17.0	20.4	38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
			119A	34.0	40.9	64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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*D09	208/230–3–60	STD	NONE	–	–	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/57	60/60	61/61	212	57/57	60/60	61/61	212
			117A	7.8/10.4	21.7/25.0	54/54	60/60	55/55	207/207	54/54	60/60	55/55	207/207	60/60	60/60	61/61	212/212	60/60	60/60	61/61	212/212
			110A	12.0/16.0	33.4/38.5	71/71	80/80	59/64	207/207	71/71	80/80	59/64	207/207	77/77	80/80	64/70	212/212	77/77	80/80	64/70	212/212
			111A	18.6/24.8	51.7/59.7	97/97	100/100	80/89	207/207	97/97	100/100	80/89	207/207	103/103	110/110	85/94	212/212	103/103	110/110	85/94	212/212
			112A	24.0/32.0	66.7/77.0	119/119	125/125	97/109	207/207	119/119	125/125	97/109	207/207	125/125	125/125	103/114	212/212	125/125	125/125	103/114	212/212
			112A+117A	31.8/42.4	88.4/102.0	150/150	150/150	122/138	207/207	150/150	150/150	122/138	207/207	156/156	175/175	128/143	212/212	156/156	175/175	128/143	212/212
		MED	NONE	–	–	53/53	60/60	57/57	211	53/53	60/60	57/57	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216
			117A	7.8/10.4	21.7/25.0	55/55	60/60	57/57	211/211	55/55	60/60	57/57	211/211	61/61	70/70	62/62	216/216	61/61	70/70	62/62	216/216
			110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	211/211	72/72	80/80	60/66	211/211	78/78	80/80	66/71	216/216	78/78	80/80	66/71	216/216
			111A	18.6/24.8	51.7/59.7	99/99	100/100	81/90	211/211	99/99	100/100	81/90	211/211	105/105	110/110	87/96	216/216	105/105	110/110	87/96	216/216
			112A	24.0/32.0	66.7/77.0	120/120	125/125	99/110	211/211	120/120	125/125	99/110	211/211	126/126	150/150	104/116	216/216	126/126	150/150	104/116	216/216
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	124/139	211/211	151/151	175/175	124/139	211/211	157/157	175/175	129/144	216/216	157/157	175/175	129/144	216/216
		HIGH	NONE	–	–	57/57	70/70	61/60	261	57/57	70/70	61/60	261	62/62	70/70	67/66	266	62/62	70/70	67/66	266
			117A	7.8/10.4	21.7/25.0	59/59	70/70	61/60	261/261	59/59	70/70	61/60	261/261	65/65	70/70	67/66	266/266	65/65	70/70	67/66	266/266
			110A	12.0/16.0	33.4/38.5	76/76	80/80	65/69	261/261	76/76	80/80	65/69	261/261	82/82	90/90	70/75	266/266	82/82	90/90	70/75	266/266
			111A	18.6/24.8	51.7/59.7	102/102	110/110	86/94	261/261	102/102	110/110	86/94	261/261	108/108	110/110	91/99	266/266	108/108	110/110	91/99	266/266
			112A	24.0/32.0	66.7/77.0	124/124	125/125	103/114	261/261	124/124	125/125	103/114	261/261	130/130	150/150	108/119	266/266	130/130	150/150	108/119	266/266
			112A+117A	31.8/42.4	88.4/102.0	155/155	175/175	128/142	261/261	155/155	175/175	128/142	261/261	161/161	175/175	133/148	266/266	161/161	175/175	133/148	266/266
	460–3–60	STD	NONE	–	–	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105
			116A	13.9	16.7	32	35	29	103	32	35	29	103	35	35	31	105	35	35	31	105
			113A	16.5	19.8	36	40	32	103	36	40	32	103	38	40	35	105	38	40	35	105
			114A	27.8	33.4	53	60	48	103	53	60	48	103	55	60	51	105	55	60	51	105
			115A	33.0	39.7	61	70	55	103	61	70	55	103	63	70	58	105	63	70	58	105
			114A+116A	41.7	50.2	74	80	67	103	74	80	67	103	76	80	70	105	76	80	70	105
		MED	NONE	–	–	25	30	27	106	25	30	27	106	27	30	29	108	27	30	29	108
			116A	13.9	16.7	33	35	30	106	33	35	30	106	36	40	32	108	36	40	32	108
			113A	16.5	19.8	37	40	33	106	37	40	33	106	40	40	36	108	40	40	36	108
			114A	27.8	33.4	54	60	49	106	54	60	49	106	57	60	52	108	57	60	52	108
			115A	33.0	39.7	62	70	56	106	62	70	56	106	64	70	59	108	64	70	59	108
			114A+116A	41.7	50.2	75	80	68	106	75	80	68	106	78	80	71	108	78	80	71	108
		HIGH	NONE	–	–	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133
			116A	13.9	16.7	34	35	31	131	34	35	31	131	37	40	34	133	37	40	34	133
			113A	16.5	19.8	38	40	35	131	38	40	35	131	41	45	37	133	41	45	37	133
			114A	27.8	33.4	55	60	50	131	55	60	50	131	58	60	53	133	58	60	53	133
			115A	33.0	39.7	63	70	58	131	63	70	58	131	66	70	60	133	66	70	60	133
			114A+116A	41.7	50.2	76	80	70	131	76	80	70	131	79	80	72	133	79	80	72	133
	575–3–60	STD	NONE	–	–	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87
			118A	17.0	20.4	36	40	33	85	36	40	33	85	38	40	35	87	38	40	35	87
			119A	34.0	40.9	62	70	57	85	62	70	57	85	64	70	58	87	64	70	58	87
		MED	NONE	–	–	21	25	23	89	21	25	23	89	23	25	25	91	23	25	25	91
			118A	17.0	20.4	37	40	34	89	37	40	34	89	39	40	36	91	39	40	36	91
			119A	34.0	40.9	63	70	57	89	63	70	57	89	65	70	59	91	65	70	59	91
		HIGH	NONE	–	–	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100
			118A	17.0	20.4	38	40	35	98	38	40	35	98	41	45	37	100	41	45	37	100
			119A	34.0	40.9	64	70	58	98	64	70	58	98	66	70	60	100	66	70	60	100

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	63/63	70/70	67/67	266	63/63	70/70	67/67	266	67/67	80/80	73/72	271	67/67	80/80	73/72	271
			117A	7.8/10.4	21.7/25.0	63/63	70/70	67/67	266/266	63/63	70/70	67/67	266/266	67/67	80/80	73/72	271/271	67/67	80/80	73/72	271/271
			110A	12.0/16.0	33.4/38.5	72/72	80/80	67/67	266/266	72/72	80/80	67/67	266/266	78/78	80/80	73/72	271/271	78/78	80/80	73/72	271/271
			112A	24.0/32.0	66.7/77.0	120/120	125/125	99/110	266/266	120/120	125/125	99/110	266/266	126/126	150/150	104/116	271/271	126/126	150/150	104/116	271/271
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	124/139	266/266	151/151	175/175	124/139	266/266	157/157	175/175	129/144	271/271	157/157	175/175	129/144	271/271
			112A+110A	37.6/50.0	104.2/120.3	155/155	175/175	142/160	266/266	155/155	175/175	142/160	266/266	161/161	175/175	147/165	271/271	161/161	175/175	147/165	271/271
		MED	NONE	–	–	66/66	80/80	71/70	316	66/66	80/80	71/70	316	71/71	80/80	77/76	321	71/71	80/80	77/76	321
			117A	7.8/10.4	21.7/25.0	66/66	80/80	71/70	316/316	66/66	80/80	71/70	316/316	71/71	80/80	77/76	321/321	71/71	80/80	77/76	321/321
			110A	12.0/16.0	33.4/38.5	76/76	80/80	71/70	316/316	76/76	80/80	71/70	316/316	82/82	90/90	77/76	321/321	82/82	90/90	77/76	321/321
			112A	24.0/32.0	66.7/77.0	124/124	125/125	103/114	316/316	124/124	125/125	103/114	316/316	130/130	150/150	108/119	321/321	130/130	150/150	108/119	321/321
			112A+117A	31.8/42.4	88.4/102.0	155/155	175/175	128/142	316/316	155/155	175/175	128/142	316/316	161/161	175/175	133/148	321/321	161/161	175/175	133/148	321/321
			112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/163	316/316	159/159	175/175	146/163	316/316	165/165	175/175	152/169	321/321	165/165	175/175	152/169	321/321
		HIGH	NONE	–	–	69/69	80/80	74/73	327	69/69	80/80	74/73	327	74/74	80/80	80/79	332	74/74	80/80	80/79	332
			117A	7.8/10.4	21.7/25.0	69/69	80/80	74/73	327/327	69/69	80/80	74/73	327/327	74/74	80/80	80/79	332/332	74/74	80/80	80/79	332/332
			110A	12.0/16.0	33.4/38.5	79/79	80/80	74/73	327/327	79/79	80/80	74/73	327/327	85/85	90/90	80/79	332/332	85/85	90/90	80/79	332/332
			112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	327/327	128/128	150/150	106/117	327/327	134/134	150/150	112/122	332/332	134/134	150/150	112/122	332/332
			112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	327/327	159/159	175/175	131/146	327/327	165/165	175/175	137/151	332/332	165/165	175/175	137/151	332/332
			112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	327/327	163/163	175/175	149/167	327/327	169/169	175/175	155/172	332/332	169/169	175/175	155/172	332/332
	460–3–60	STD	NONE	–	–	29	35	31	128	29	35	31	128	31	35	33	130	31	35	33	130
			116A	13.9	16.7	33	35	31	128	33	35	31	128	36	40	33	130	36	40	33	130
			113A	16.5	19.8	37	40	33	128	37	40	33	128	40	40	36	130	40	40	36	130
			115A	33.0	39.7	62	70	56	128	62	70	56	128	64	70	59	130	64	70	59	130
			114A+116A	41.7	50.2	75	80	68	128	75	80	68	128	78	80	71	130	78	80	71	130
			115A+113A	50.0	60.1	72	80	80	128	72	80	80	128	75	80	82	130	75	80	82	130
		MED	NONE	–	–	30	35	32	153	30	35	32	153	32	35	35	155	32	35	35	155
			116A	13.9	16.7	34	35	32	153	34	35	32	153	37	40	35	155	37	40	35	155
			113A	16.5	19.8	38	40	35	153	38	40	35	153	41	45	37	155	41	45	37	155
			115A	33.0	39.7	63	70	58	153	63	70	58	153	66	70	60	155	66	70	60	155
			114A+116A	41.7	50.2	76	80	70	153	76	80	70	153	79	80	72	155	79	80	72	155
			115A+113A	50.0	60.1	73	80	81	153	73	80	81	153	76	80	84	155	76	80	84	155
		HIGH	NONE	–	–	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160
			116A	13.9	16.7	36	40	34	158	36	40	34	158	39	40	36	160	39	40	36	160
			113A	16.5	19.8	40	40	36	158	40	40	36	158	43	45	39	160	43	45	39	160
			115A	33.0	39.7	65	70	59	158	65	70	59	158	68	70	62	160	68	70	62	160
			114A+116A	41.7	50.2	78	80	71	158	78	80	71	158	81	90	74	160	81	90	74	160
			115A+113A	50.0	60.1	75	80	83	158	75	80	83	158	78	80	85	160	78	80	85	160
	575–3–60	STD	NONE	–	–	24	30	26	103	24	30	26	103	26	30	28	105	26	30	28	105
			118A	17.0	20.4	37	40	34	103	37	40	34	103	39	40	36	105	39	40	36	105
			119A	34.0	40.9	63	70	57	103	63	70	57	103	65	70	59	105	65	70	59	105
			118A+119A	51.0	61.3	73	80	81	103	73	80	81	103	75	80	83	105	75	80	83	105
		MED	NONE	–	–	25	30	27	112	25	30	27	112	27	30	29	114	27	30	29	114
			118A	17.0	20.4	38	40	35	112	38	40	35	112	41	45	37	114	41	45	37	114
			119A	34.0	40.9	64	70	58	112	64	70	58	112	66	70	60	114	66	70	60	114
			118A+119A	51.0	61.3	74	80	82	112	74	80	82	112	76	80	84	114	76	80	84	114
		HIGH	NONE	–	–	27	30	29	126	27	30	29	126	29	35	31	128	29	35	31	128
			118A	17.0	20.4	41	45	37	126	41	45	37	126	43	45	39	128	43	45	39	128
			119A	34.0	40.9	66	70	60	126	66	70	60	126	68	70	62	128	68	70	62	128
			118A+119A	51.0	61.3	76	80	84	126	76	80	84	126	78	80	86	128	78	80	86	128

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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	–	–	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/66	80/80	71/71	296	66/66	80/80	71/71	296
			117A	7.8/10.4	21.7/25.0	61/61	70/70	66/65	291/291	61/61	70/70	66/65	291/291	66/66	80/80	71/71	296/296	66/66	80/80	71/71	296/296
			110A	12.0/16.0	33.4/38.5	72/72	80/80	66/66	291/291	72/72	80/80	66/66	291/291	78/78	80/80	71/71	296/296	78/78	80/80	71/71	296/296
			112A	24.0/32.0	66.7/77.0	120/120	125/125	99/110	291/291	120/120	125/125	99/110	291/291	126/126	150/150	104/116	296/296	126/126	150/150	104/116	296/296
			112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	124/139	291/291	151/151	175/175	124/139	291/291	157/157	175/175	129/144	296/296	157/157	175/175	129/144	296/296
			112A+110A	37.6/50.0	104.2/120.3	155/155	175/175	142/160	291/291	155/155	175/175	142/160	291/291	161/161	175/175	147/165	296/296	161/161	175/175	147/165	296/296
		MED	NONE	–	–	65/65	80/80	70/69	341	65/65	80/80	70/69	341	70/70	80/80	75/74	346	70/70	80/80	75/74	346
			117A	7.8/10.4	21.7/25.0	65/65	80/80	70/69	341/341	65/65	80/80	70/69	341/341	70/70	80/80	75/74	346/346	70/70	80/80	75/74	346/346
			110A	12.0/16.0	33.4/38.5	76/76	80/80	70/69	341/341	76/76	80/80	70/69	341/341	82/82	90/90	75/75	346/346	82/82	90/90	75/75	346/346
			112A	24.0/32.0	66.7/77.0	124/124	125/125	103/114	341/341	124/124	125/125	103/114	341/341	130/130	150/150	108/119	346/346	130/130	150/150	108/119	346/346
			112A+117A	31.8/42.4	88.4/102.0	155/155	175/175	128/142	341/341	155/155	175/175	128/142	341/341	161/161	175/175	133/148	346/346	161/161	175/175	133/148	346/346
			112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/163	341/341	159/159	175/175	146/163	341/341	165/165	175/175	152/169	346/346	165/165	175/175	152/169	346/346
		HIGH	NONE	–	–	68/68	80/80	73/72	352	68/68	80/80	73/72	352	73/73	80/80	79/78	357	73/73	80/80	79/78	357
			117A	7.8/10.4	21.7/25.0	68/68	80/80	73/72	352/352	68/68	80/80	73/72	352/352	73/73	80/80	79/78	357/357	73/73	80/80	79/78	357/357
			110A	12.0/16.0	33.4/38.5	79/79	80/80	73/73	352/352	79/79	80/80	73/73	352/352	85/85	90/90	79/78	357/357	85/85	90/90	79/78	357/357
			112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	352/352	128/128	150/150	106/117	352/352	134/134	150/150	112/122	357/357	134/134	150/150	112/122	357/357
			112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	352/352	159/159	175/175	131/146	352/352	165/165	175/175	137/151	357/357	165/165	175/175	137/151	357/357
			112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	352/352	163/163	175/175	149/167	352/352	169/169	175/175	155/172	357/357	169/169	175/175	155/172	357/357
	460–3–60	STD	NONE	–	–	30	35	32	140	30	35	32	140	32	35	34	142	32	35	34	142
			116A	13.9	16.7	33	35	32	140	33	35	32	140	36	40	34	142	36	40	34	142
			113A	16.5	19.8	37	40	33	140	37	40	33	140	40	40	36	142	40	40	36	142
			115A	33.0	39.7	62	70	56	140	62	70	56	140	64	70	59	142	64	70	59	142
			114A+116A	41.7	50.2	75	80	68	140	75	80	68	140	78	80	71	142	78	80	71	142
			115A+113A	50.0	60.1	72	80	80	140	72	80	80	140	75	80	82	142	75	80	82	142
		MED	NONE	–	–	31	35	33	165	31	35	33	165	33	40	36	167	33	40	36	167
			116A	13.9	16.7	34	35	33	165	34	35	33	165	37	40	36	167	37	40	36	167
			113A	16.5	19.8	38	40	35	165	38	40	35	165	41	45	37	167	41	45	37	167
			115A	33.0	39.7	63	70	58	165	63	70	58	165	66	70	60	167	66	70	60	167
			114A+116A	41.7	50.2	76	80	70	165	76	80	70	165	79	80	72	167	79	80	72	167
			115A+113A	50.0	60.1	73	80	81	165	73	80	81	165	76	80	84	167	76	80	84	167
		HIGH	NONE	–	–	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172
			116A	13.9	16.7	36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172
			113A	16.5	19.8	40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172
			115A	33.0	39.7	65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172
			114A+116A	41.7	50.2	78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172
			115A+113A	50.0	60.1	75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172
	575–3–60	STD	NONE	–	–	25	30	26	113	25	30	26	113	26	30	28	115	26	30	28	115
			118A	17.0	20.4	37	40	34	113	37	40	34	113	39	40	36	115	39	40	36	115
			119A	34.0	40.9	63	70	57	113	63	70	57	113	65	70	59	115	65	70	59	115
			118A+119A	51.0	61.3	73	80	81	113	73	80	81	113	75	80	83	115	75	80	83	115
		MED	NONE	–	–	26	30	27	122	26	30	27	122	27	30	29	124	27	30	29	124
			118A	17.0	20.4	38	40	35	122	38	40	35	122	41	45	37	124	41	45	37	124
			119A	34.0	40.9	64	70	58	122	64	70	58	122	66	70	60	124	66	70	60	124
			118A+119A	51.0	61.3	74	80	82	122	74	80	82	122	76	80	84	124	76	80	84	124
		HIGH	NONE	–	–	28	30	29	136	28	30	29	136	29	35	31	138	29	35	31	138
			118A	17.0	20.4	41	45	37	136	41	45	37	136	43	45	39	138	43	45	39	138
			119A	34.0	40.9	66	70	60	136	66	70	60	136	68	70	62	138	68	70	62	138
			118A+119A	51.0	61.3	76	80	84	136	76	80	84	136	78	80	86	138	78	80	86	138

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on or after 02/16/2015	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	175/175	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 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or after 02/16/2016	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 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	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 – Units produced on or prior to 02/15/2015	208/230–3–60	STD	NONE	–	–	72/72	80/80	77/76	327	72/72	80/80	77/76	327	77/77	90/90	83/82	332	77/77	90/90	83/82	332
			291A	12.4/16.5	34.4/39.7	80/80	80/80	77/76	327/327	80/80	80/80	77/76	327/327	86/86	90/90	83/82	332/332	86/86	90/90	83/82	332/332
			288A+291A	19.9/26.5	55.3/63.8	110/110	110/110	92/101	327/327	110/110	110/110	92/101	327/327	116/116	125/125	98/106	332/332	116/116	125/125	98/106	332/332
			294A	25.2/33.5	69.9/80.6	131/131	150/150	109/120	327/327	131/131	150/150	109/120	327/327	137/137	150/150	114/126	332/332	137/137	150/150	114/126	332/332
			288A+294A	32.7/43.5	90.7/104.7	161/161	175/175	133/148	327/327	161/161	175/175	133/148	327/327	167/167	175/175	138/153	332/332	167/167	175/175	138/153	332/332
			291A+294A	37.6/50.0	104.3/120.3	162/162	175/175	148/166	327/327	162/162	175/175	148/166	327/327	168/168	175/175	154/171	332/332	168/168	175/175	154/171	332/332
		MED	NONE	–	–	75/75	80/80	80/79	351	75/75	80/80	80/79	351	79/79	90/90	85/84	356	79/79	90/90	85/84	356
			291A	12.4/16.5	34.4/39.7	83/83	90/90	80/79	351/351	83/83	90/90	80/79	351/351	89/89	90/90	85/84	356/356	89/89	90/90	85/84	356/356
			288A+291A	19.9/26.5	55.3/63.8	113/113	125/125	95/103	351/351	113/113	125/125	95/103	351/351	119/119	125/125	100/109	356/356	119/119	125/125	100/109	356/356
			294A	25.2/33.5	69.9/80.6	134/134	150/150	111/123	351/351	134/134	150/150	111/123	351/351	140/140	150/150	117/128	356/356	140/140	150/150	117/128	356/356
			288A+294A	32.7/43.5	90.7/104.7	164/164	175/175	135/150	351/351	164/164	175/175	135/150	351/351	170/170	175/175	141/156	356/356	170/170	175/175	141/156	356/356
			291A+294A	37.6/50.0	104.3/120.3	165/165	175/175	151/168	351/351	165/165	175/175	151/168	351/351	171/171	175/175	156/174	356/356	171/171	175/175	156/174	356/356
		HIGH	NONE	–	–	85	100	91	366	85	100	91	366	89	100	96	371	89	100	96	371
			291A	12.4/16.5	34.4/39.7	96/96	100/100	91/91	366/366	96/96	100/100	91/91	366/366	102/102	110/110	96/96	371/371	102/102	110/110	96/96	371/371
			288A+291A	19.9/26.5	55.3/63.8	126/126	150/150	106/115	366/366	126/126	150/150	106/115	366/366	132/132	150/150	111/121	371/371	132/132	150/150	111/121	371/371
			294A	25.2/33.5	69.9/80.6	147/147	150/150	122/135	366/366	147/147	150/150	122/135	366/366	153/153	175/175	128/140	371/371	153/153	175/175	128/140	371/371
			288A+294A	32.7/43.5	90.7/104.7	177/177	200/200	146/162	366/366	177/177	200/200	146/162	366/366	183/183	200/200	152/168	371/371	183/183	200/200	152/168	371/371
			291A+294A	37.6/50.0	104.3/120.3	177/177	200/200	162/180	366/366	177/177	200/200	162/180	366/366	183/183	200/200	168/186	371/371	183/183	200/200	168/186	371/371
	460–3–60	STD	NONE	–	–	36	40	38	164	36	40	38	164	38	45	40	166	38	45	40	166
			292A	16.5	19.9	39	40	38	164	39	40	38	164	42	45	40	166	42	45	40	166
			289A+292A	26.5	31.9	54	60	49	164	54	60	49	164	57	60	52	166	57	60	52	166
			295A	33.5	40.3	64	70	59	164	64	70	59	164	67	70	61	166	67	70	61	166
			289A+295A	43.5	52.3	79	80	73	164	79	80	73	164	82	90	75	166	82	90	75	166
			292A+295A	50.0	60.2	74	80	82	164	74	80	82	164	77	80	84	166	77	80	84	166
		MED	NONE	–	–	37	45	39	176	37	45	39	176	39	45	41	178	39	45	41	178
			292A	16.5	19.9	40	45	39	176	40	45	39	176	43	45	41	178	43	45	41	178
			289A+292A	26.5	31.9	55	60	50	176	55	60	50	176	58	60	53	178	58	60	53	178
			295A	33.5	40.3	66	70	60	176	66	70	60	176	68	70	63	178	68	70	63	178
			289A+295A	43.5	52.3	81	90	74	176	81	90	74	176	83	90	76	178	83	90	76	178
			292A+295A	50.0	60.2	76	80	83	176	76	80	83	176	78	80	85	178	78	80	85	178
		HIGH	NONE	–	–	42	50	45	183	42	50	45	183	44	50	47	185	44	50	47	185
			292A	16.5	19.9	47	50	45	183	47	50	45	183	50	50	47	185	50	50	47	185
			289A+292A	26.5	31.9	62	70	56	183	62	70	56	183	65	70	59	185	65	70	59	185
			295A	33.5	40.3	72	80	66	183	72	80	66	183	75	80	69	185	75	80	69	185
			289A+295A	43.5	52.3	87	90	80	183	87	90	80	183	90	90	82	185	90	90	82	185
			292A+295A	50.0	60.2	82	90	89	183	82	90	89	183	85	90	92	185	85	90	92	185

See: “Legend and Notes for Tables 13 – 20” on page 59.

APPENDIX C — ELECTRICAL DATA

Table 20 - 50HC with Electric Heat, ERV, 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.							
						w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer			
			CRHEATER***A00	Nom (kW)	FLA	MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
50HC*D14 – Units produced on or prior to 02/15/2015	575–3–60	STD	NONE	–	–	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
			293A	16.5	15.9	35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
			290A+293A	26.5	25.5	47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
			296A	33.5	32.2	55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
			290A+296A	43.5	41.8	67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
			293A+296A	50.0	48.1	63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
		MED	NONE	–	–	31	35	33	135	31	35	33	135	32	35	35	137	32	35	35	137
			293A	16.5	15.9	35	35	33	135	35	35	33	135	37	40	35	137	37	40	35	137
			290A+293A	26.5	25.5	47	50	43	135	47	50	43	135	49	50	45	137	49	50	45	137
			296A	33.5	32.2	55	60	50	135	55	60	50	135	57	60	52	137	57	60	52	137
			290A+296A	43.5	41.8	67	70	61	135	67	70	61	135	69	70	63	137	69	70	63	137
			293A+296A	50.0	48.1	63	70	69	135	63	70	69	135	65	70	71	137	65	70	71	137
		HIGH	NONE	–	–	36	40	38	147	36	40	38	147	37	45	40	149	37	45	40	149
			293A	16.5	15.9	40	40	38	147	40	40	38	147	42	45	40	149	42	45	40	149
			290A+293A	26.5	25.5	52	60	48	147	52	60	48	147	54	60	50	149	54	60	50	149
			296A	33.5	32.2	61	70	55	147	61	70	55	147	63	70	57	149	63	70	57	149
			290A+296A	43.5	41.8	73	80	67	147	73	80	67	147	75	80	68	149	75	80	68	149
			293A+296A	50.0	48.1	69	70	74	147	69	70	74	147	71	80	76	149	71	80	76	149

See: “Legend and Notes for Tables 13 – 20” on page 59.

Edition Date: 02/15

Catalog No: ERV1–4–14–01SI

Replaces: ERV1–02SI

ENERGYX UNIT START-UP CHECKLIST

(To be used in conjunction with base Rooftop Unit Start-Up Checklist. Remove and Store in Job File)

RTU MODEL NO.:_____ RTU SERIAL NO.:_____

ERV MODEL NO.:_____ ERV SERIAL NO.:_____

DATE:_____ TECHNICIAN:_____

I. PRE-START-UP (insert checkmark in box as each item is completed)

- ☐ VERIFY THAT ALL PACKAGING MATERIALS HAVE BEEN REMOVED FROM UNIT
- ☐ VERIFY INSTALLATION OF OUTDOOR AIR HOODS AND TUBING
- ☐ CHECK THAT AIR FILTERS ARE CLEAN AND IN PLACE ON SUPPLY AND EXHAUST OF ERV WHEEL
- ☐ CHECK THAT OUTDOOR AIR INLET SCREENS ARE IN PLACE
- ☐ VERIFY CONFIGURAITON VALUES FOR ELECTRONIC CONTROLS

II. START-UP (REFER TO UNIT SERVICE/MAINTENANCE MANUAL FOR START-UP INSTRUCTIONS)

ELECTRICAL

SUPPLY VOLTAGE*	L1-L2_____	L2-L3_____	L3-L1_____
ERV SUPPLY FAN-1 AMPS	L1-L2_____	L2-L3_____	L3-L1_____
ERV SUPPLY FAN-2 AMPS	L1-L2_____	L2-L3_____	L3-L1_____
ERV EXHAUST FAN-1 AMPS	L1-L2_____	L2-L3_____	L3-L1_____
ERV EXHAUST FAN-2 AMPS	L1-L2	L2-L3	L3-L1

*Distribution Block on 575v units will be 230v or 460v

TEMPERATURES

OUTDOOR-AIR TEMPERATURE (OAT) _____F dB (Dry Bulb)

RETURN-AIR TEMPERATURE (SPT or RAT) _____F dB/F wB (Dry Bulb/Wet Bulb)

ERV INTAKE LEAVING AIR TEMPERATURE (LAT) _____F

ERV EXHAUST AIR TEMPERATURE (EXAT) _____F

GENERAL

- ☐ COMFORTLINK MINIMUM DAMPER POSITION SET TO “0”
- ☐ ERV MINIMUM VENTILATION POSITION PER JOB REQUIREMENTS
- ☐ VERIFY ENERGY RECOVERY WHEEL IS ROTATING
- ☐ VERIFY SUPPLY AND EXHAUST BLOWER FANS ROTATING IN PROPER DIRECTION
- ☐ VERIFY ALL EXTERNAL PANELS FULLY SHUT AND LATCHED
- ☐ VERIFY NO ACTIVE ALARMS
- ☐ FOLLOW ALL ACCESSORY START-UP PROCEDURES

III. CONFIGURATION (Used in conjunction with Base Unit start-up configurations)

Minimum DCV Outside Air CFM (DCV.M) _____

Minimum Outside Air CFM (OA.MN) _____

Exhaust Air Offset CFM (PE.OF) _____

Building Pressure Setpoint (BP.SP) _____

Frost Protection Dial Setpoint _____

Edition Date: 02/15

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