

EnergyX[®] System
Factory—Installed Energy Recovery Ventilator
48/50HC WeatherMaster[®] Commercial Rooftop Units
3 to 12.5 Nominal Tons
with Puron[®] (R-410A) Refrigerant
and ComfortLink Controls



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 and 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 to 550	
ERV WHEEL EA (CFM) Range	200 to 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 to 1400	
ERV WHEEL EA (CFM) Range	600 to 1400	
MAX ECONOMIZER OA (CFM)	N/A	1600/2000
MAX ECONOMIZER EA (CFM)		1600/2000
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 to 1400	
ERV WHEEL EA (CFM) Range	600 to 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 to 2000	
ERV WHEEL EA (CFM) Range	900 to 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 to 3675	
ERV WHEEL EA (CFM) Range	682 to 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

EnergyX® units are 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 —

EnergyX units use 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.

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 (energy recovery ventilator) 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.

⚠ WARNING-NOTICE TO RIGGERS

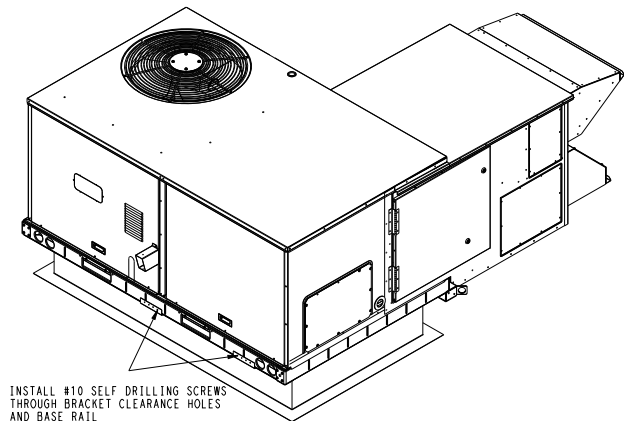
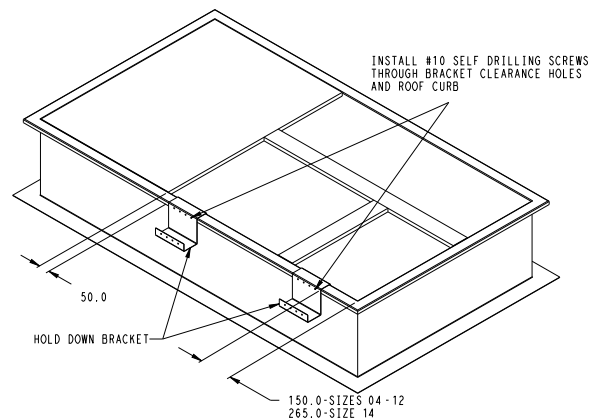
PRIOR TO UNIT INSTALLATION, REMOVE ROOFCURB BRACKETS FROM SHIPPING SKID. BRACKETS MUST BE INSTALLED ON ROOFCURB WITH SCREWS PRIOR TO UNIT INSTALLATION. SEE INSTALLATION INSTRUCTIONS.

AVANT L'INSTALLATION DE L'UNITÉ, ENLEVER LES SUPPORTS DE REBORD DE TOIT DE LA PLATEFORME D'EXPÉDITION. LES SUPPORTS DOIVENT ÊTRE INSTALLÉS SUR LE REBORD DU TOIT AVEC DES BOULONS AVANT L'INSTALLATION DE L'UNITÉ. VOIR LES INSTRUCTIONS D'INSTALLATION.

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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 shown in Fig. 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.

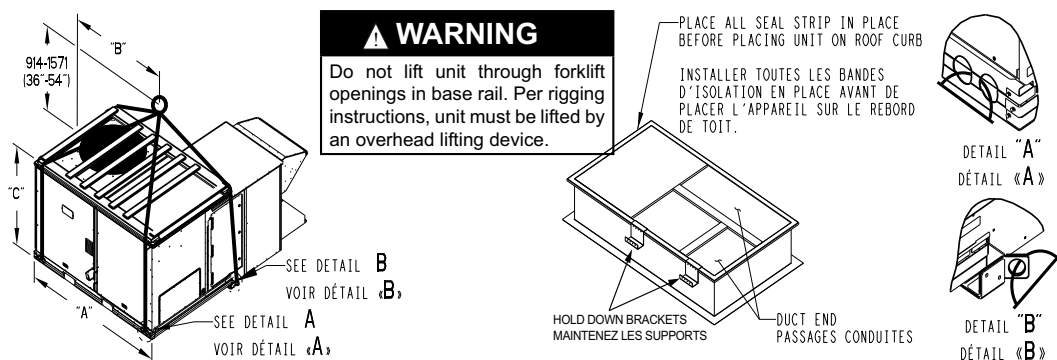
NOTE: Install Fan and Filter Status accessories at this point. Refer to the accessories Installation Instructions for details.

EnergyX

⚠ 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 sélectionnée.
- 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	—

Fig. 3 - Rigging Label, 48/50HC Size 04 to 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).

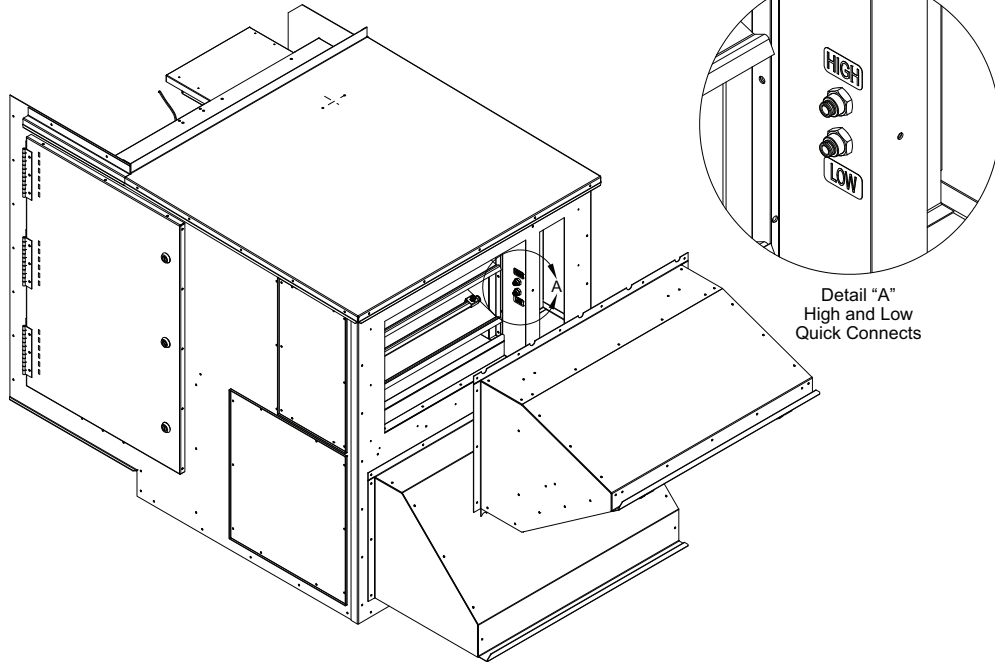


Fig. 4 - Outside Air Hood Installation

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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).

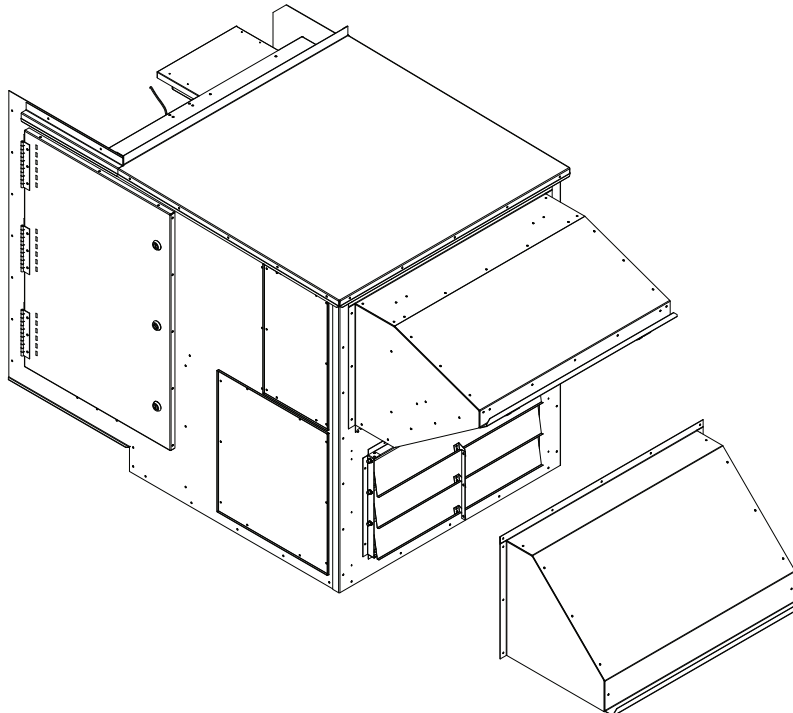


Fig. 5 - Exhaust Air Hood Installation

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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® ERV 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 system (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-installed to power components that are not line side voltage. Field wiring or alteration of these components is not required.

⚠ 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 ERV units can be equipped with an optional CO₂ sensor for demand controlled ventilation. If the optional CO₂ sensor is used, install and connect the sensor to the base unit ComfortLink controller per CO₂ sensor installation instructions. See the ComfortLink Controls, Start-Up, Operation and Troubleshooting Instructions and the Configuration section of this manual for specific CO₂ 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 Unit Start-Up Checklist (see page 115) 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 controller 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 ERV communicates with the ComfortLink controller 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. The ComfortLink controller 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 ComfortLink controller 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 the ComfortLink controller is configured properly.

NOTE: The 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 several important ComfortLink controller configurations that impact the ERV operation when equipped with optional economizer. To change these configurations use the ComfortLink controller scrolling marquee, Navigator™ display, or a CCN communication tool. Refer to the ComfortLink Controls, Start-Up, Operation and Troubleshooting Instructions for more information on using these tools. Table 3 shows the ComfortLink controller 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 Controller Configurations

DISPLAY ITEM	EXPANDED TEXT	DEFAULT	RANGE	DESCRIPTION
EC.EN	Economizer Installed	No: no FIOF Yes: FIOF	Yes/No	This tells the ERV that an optional economizer is installed
MPMX	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 FIOF 1: FIOF	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 to 100%	Sets the speed of 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 ComfortLink Controls, Start-Up, Operations, and Troubleshooting Instructions. 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 the ComfortLink controller to operate. The ERV monitors ComfortLink controller points to determine operation. The ERV writes to points in the ComfortLink controller 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 Controller

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 CO ₂ sensor level (PPM)
IAQIN	IAQ.S	IAQ Level (switch)	Low/High			Determine if CO ₂ 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 CO ₂
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 CO ₂
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™ display.

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

Table 5 – Configurations - ERV Configurations Read from ComfortLink Controller

CCN Point	Marquee Point	Expanded Text	Range	Units	Default	Function
OAU_TYPE	OA.TY	Outdoor Air Unit Type	0=No OAU 1=FIOP EXv2		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 its 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 ₂ O	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™ display.

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

Table 6 – Status Points - ERV Writes these points to ComfortLink Controller

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 ₂ O	Current building pressure
OAUDMPR	2PDM	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™ display.

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

3 to 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. CO₂ sensors can also be tied into it for demand

controlled 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 Fig. 6 for the overview flow diagram of a modulating ERV operation.

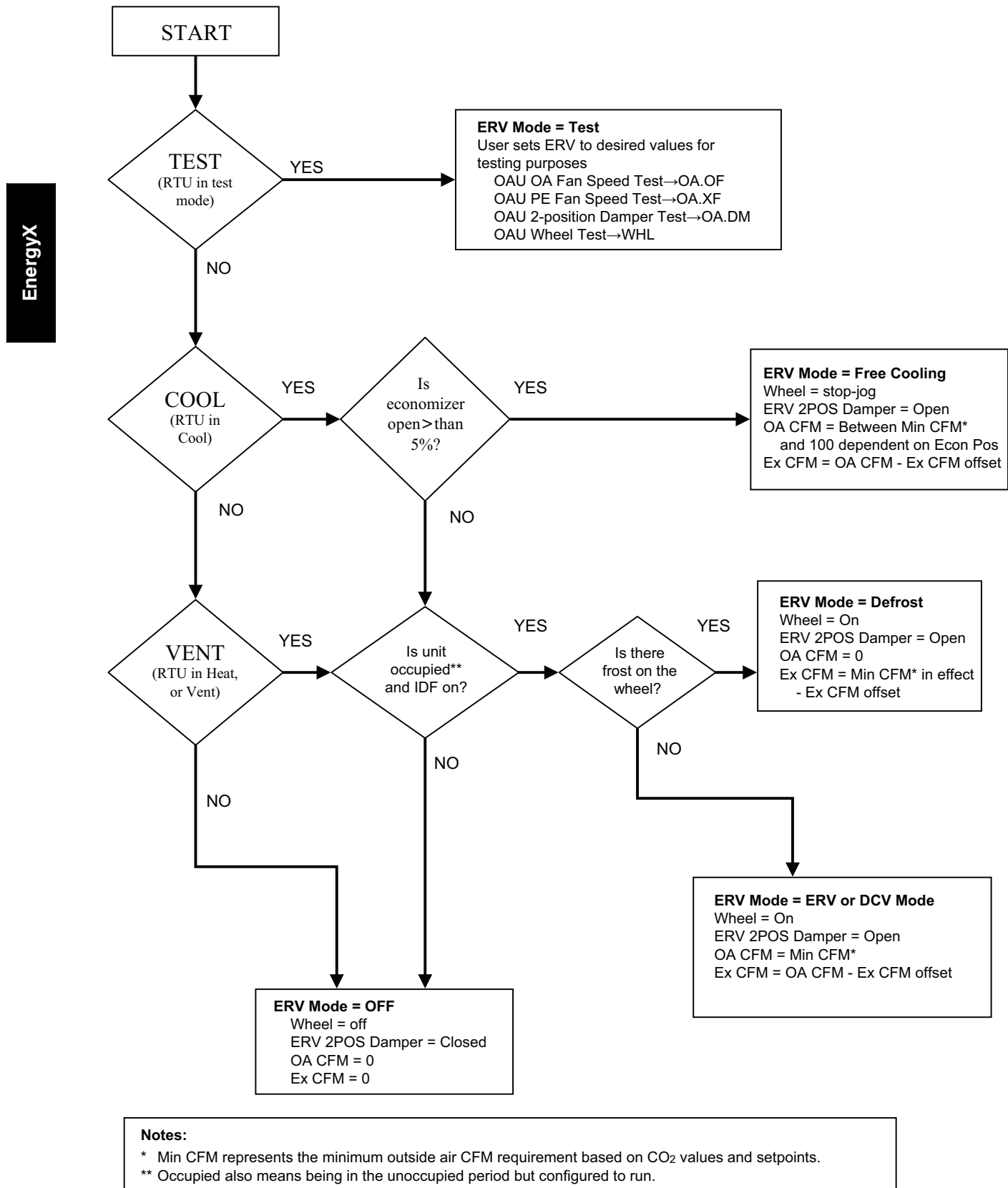


Fig. 6 - Modulating ERV Control and Operation Flow Chart

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 the ComfortLink controller and allow occupancy any time the rooftop fan is on. If not configured for unoccupied operation but there is a CO₂ sensor or switch installed and the ComfortLink controller is configured to turn on its indoor fan for CO₂ 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 CO₂ 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 controller 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 controller 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 CO₂ 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 controller 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 Controlled Ventilation (DCV) uses the indoor air quality levels (CO₂ 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 CO₂ 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 CO₂ 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.

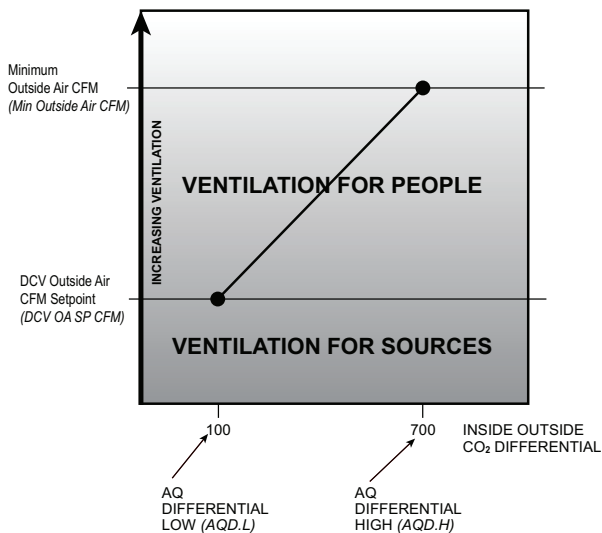


Fig. 7 - IAQ DCV Control

Switch Demand Controlled 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 (*Inputs* → *AIR.Q* → *IAQ.S*)

reading from the rooftop's installed CO₂ 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 CO₂ 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 to 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 the ComfortLink controller to represent its running status. These points are shown in Table 6 and can be viewed on the scrolling marquee or handheld Navigator™ display 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 the ComfortLink controller. Pressing enter and escape together on the scrolling marquee or Navigator display 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 display (*Operating Modes → OAU*) for each alarm to help diagnose which alarm caused the T418 in the ComfortLink controller. 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 the ComfortLink controller. 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 in. transducer	5 in. 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

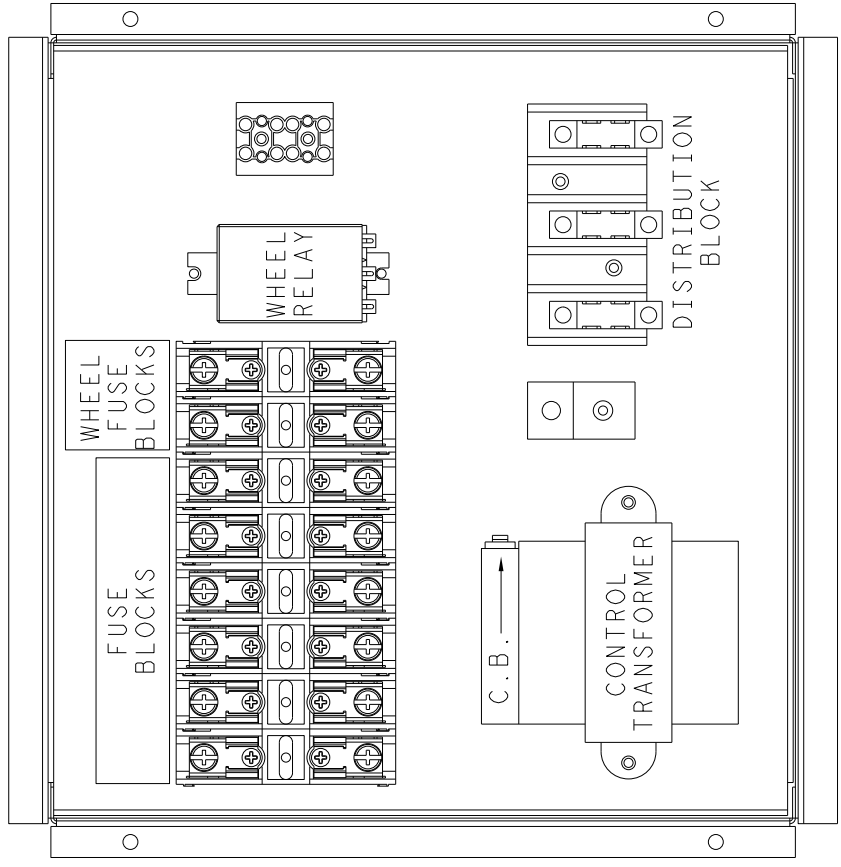
EnergyX[®] units consist of a factory-installed energy recovery ventilator (ERV) device on a 48/50HC rooftop unit. The EnergyX ERV unit is integrated into the base rooftop unit construction and is factory-wired. The ERV unit contains a control box, supply fan(s), exhaust fan(s), and an enthalpy wheel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

* Modbus is a registered trademark of Schneider Electric.



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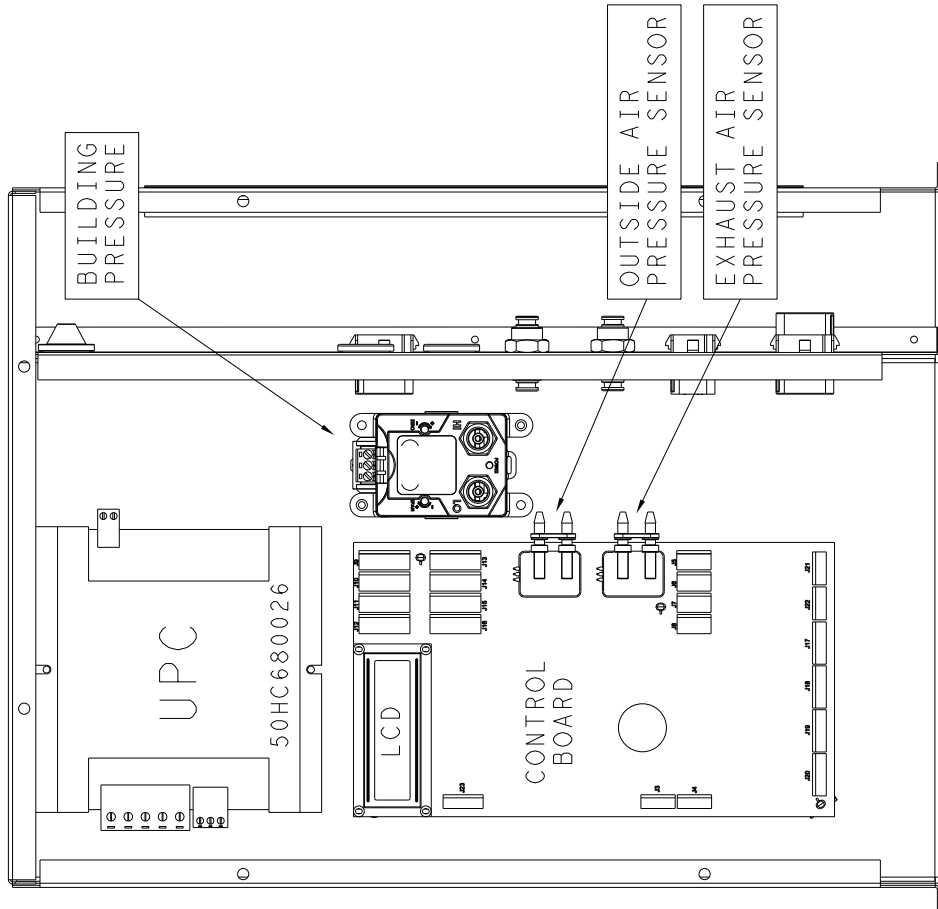
NOTE: THE UPPER AND LOWER CONTROL BOXES ARE REVERSED FOR CHASSIS 1



LOWER CONTROL BOX

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

UPPER CONTROL BOX



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

Fig. 9 - EnergyX® ERV Control Box Component Layouts

EnergyX[®] Control Board (EXCB)

See Fig. 10 and Table 11.

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.

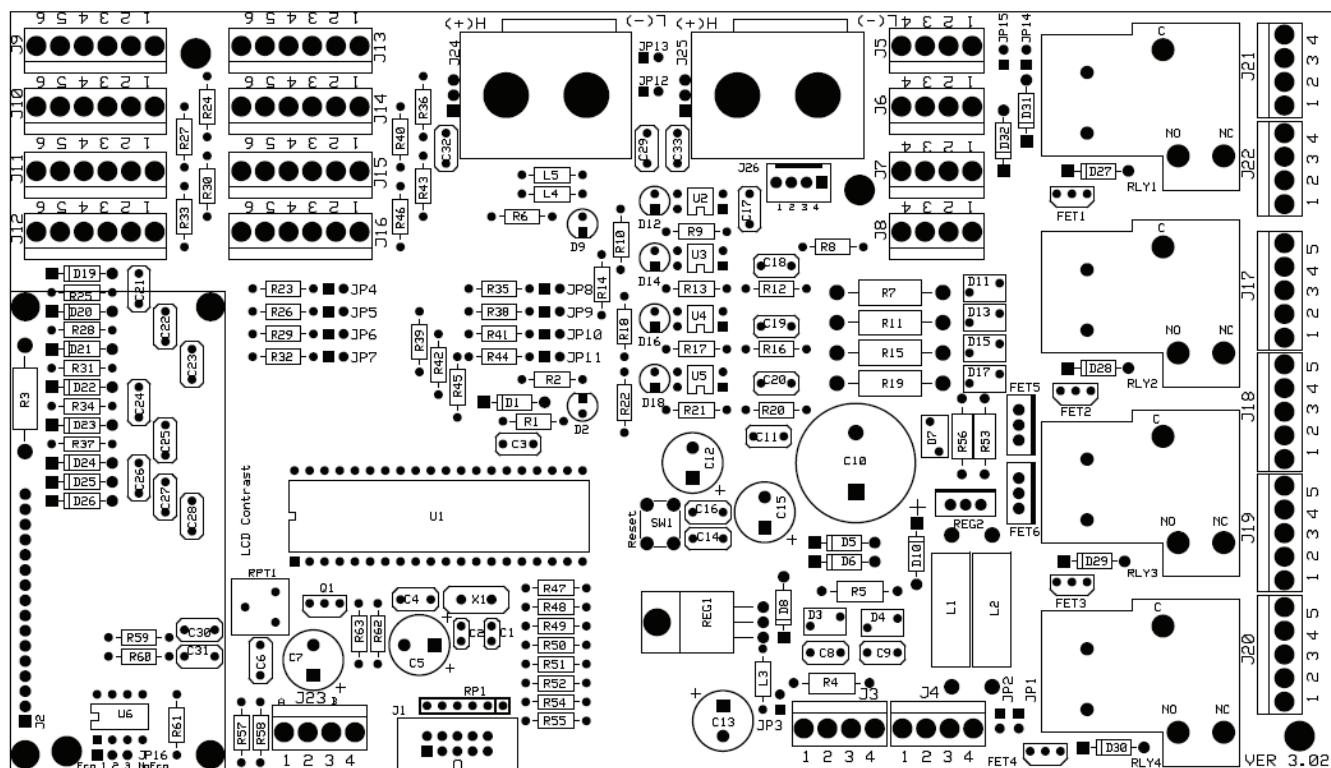


Fig. 10 - EnergyX Control Board (EXCB)

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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 protocol. 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.**

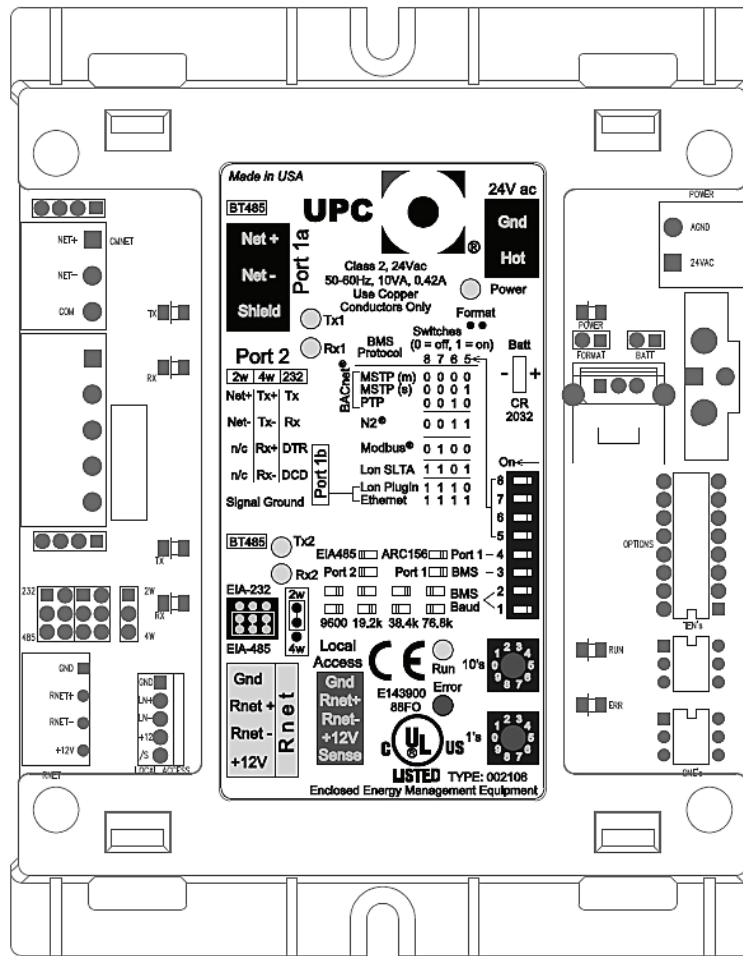


Fig. 11 - Universal Protocol Converter (UPC)

C11468

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 controller scrolling marquee interface. See the ComfortLink Controls, Start-Up, Operation and Troubleshooting Instructions for further details on ComfortLink controller 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 to 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, and Outside Air Tempering Kit. 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-installed 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-installed 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-installed only)

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

SERVICE AND 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

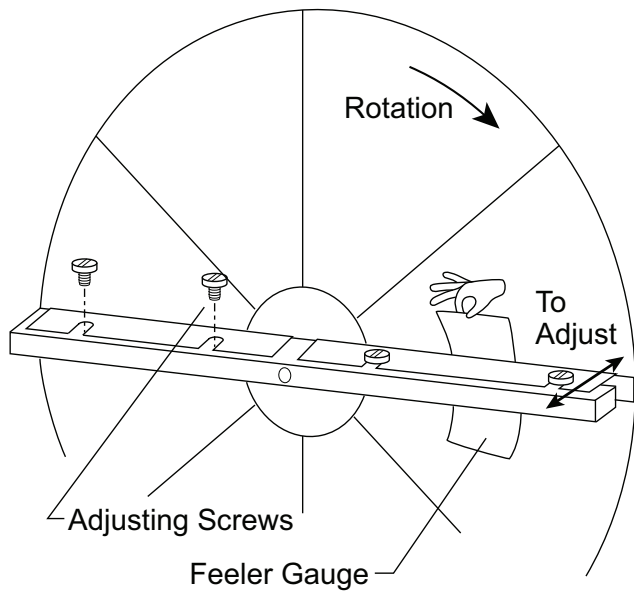
The wheel motor and drives do not require adjustment. The wheel drive pulley is secured to the drive motor shaft by a set screw. The set screw is secured with removable loctite to prevent loosening. Annually confirm set screw is secure. The wheel drive belt is a urethane stretch belt designed to provide 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.



C11469

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

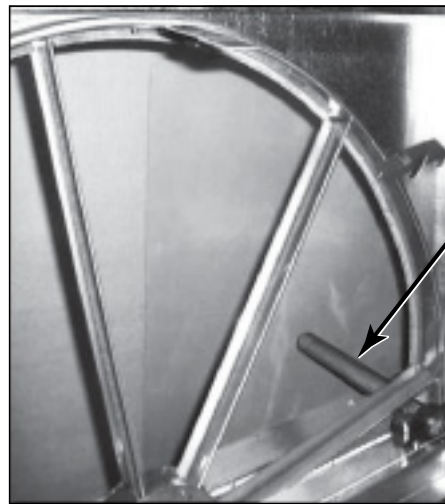
weight of the wheel assembly as necessary to avoid damage to wheel or unit.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

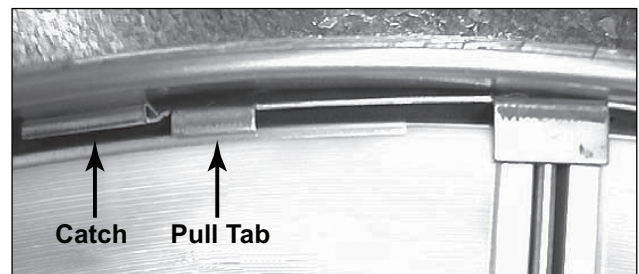
Weight of the installed segment will cause the wheel to accelerate in rotation as segments are removed. Failure to maintain control of the wheel rotation while installing all segments could cause severe injury to fingers or hand caught between revolving spokes and the bearing support beam. The handle 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.



C11470

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.



C11471

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.



Fig. 15 - Segment Removal

C11472

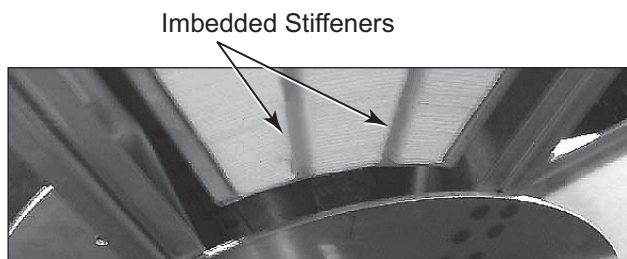


Fig. 16 - Imbedded Wheel Stiffeners
(shown from motor side of wheel assembly)

C11473

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 lock-out and tag-out to apply power to unit.

Whole Wheel Removal / Installation **(19 inch 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.

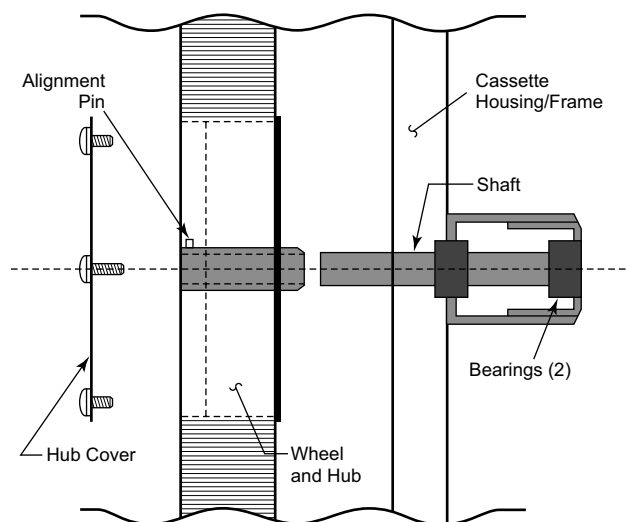


Fig. 17 - 19 Inch Wheel Mount

C12189

Whole Wheel Removal/Installation **(25 and 36 inch 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.

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

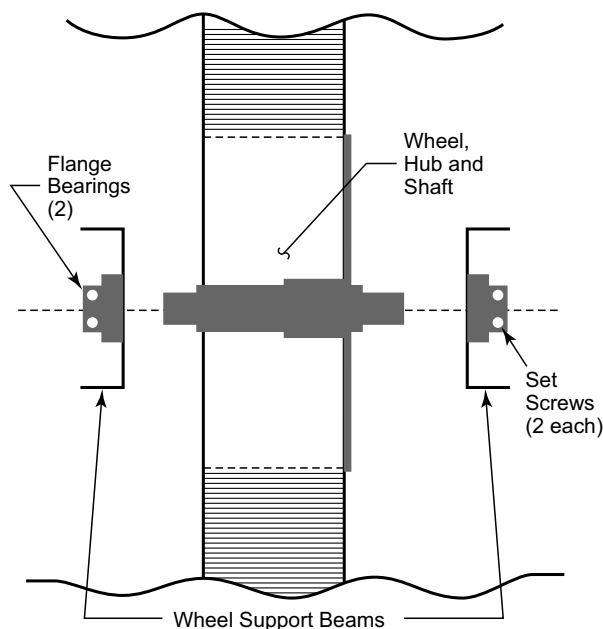


Fig. 18 - 25 and 36 Inch Wheel Mount

C11474

Outside Air and Exhaust Air Hood Removal

Outside Air Hood Removal

- Turn off, lockout and tag-out electrical power to unit.
- Remove the hood by removing the self-sealing 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.

- 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

- Turn off, lockout and tag-out electrical power to unit.
- Remove the hood by removing the self-sealing 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.

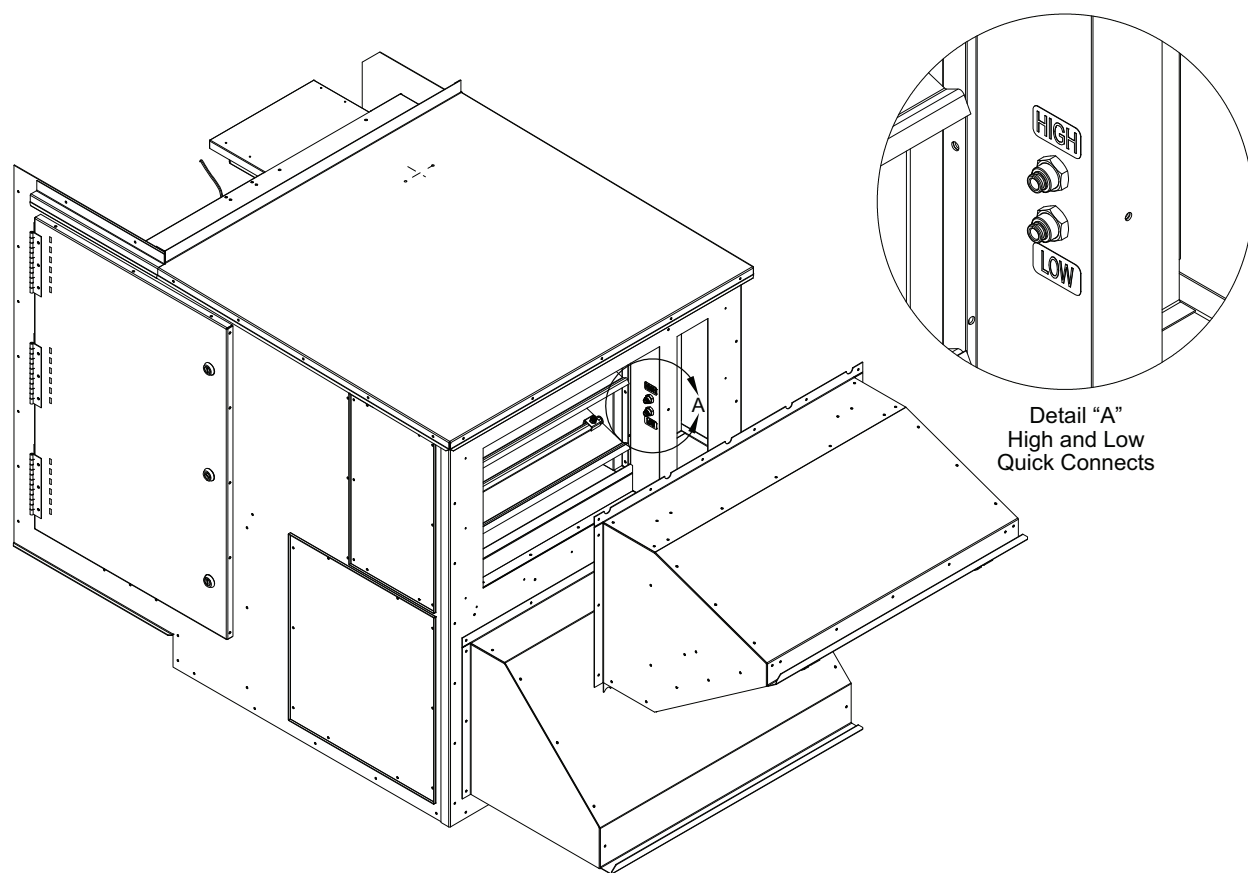


Fig. 19 - Outside Air Hood Removal

C11491

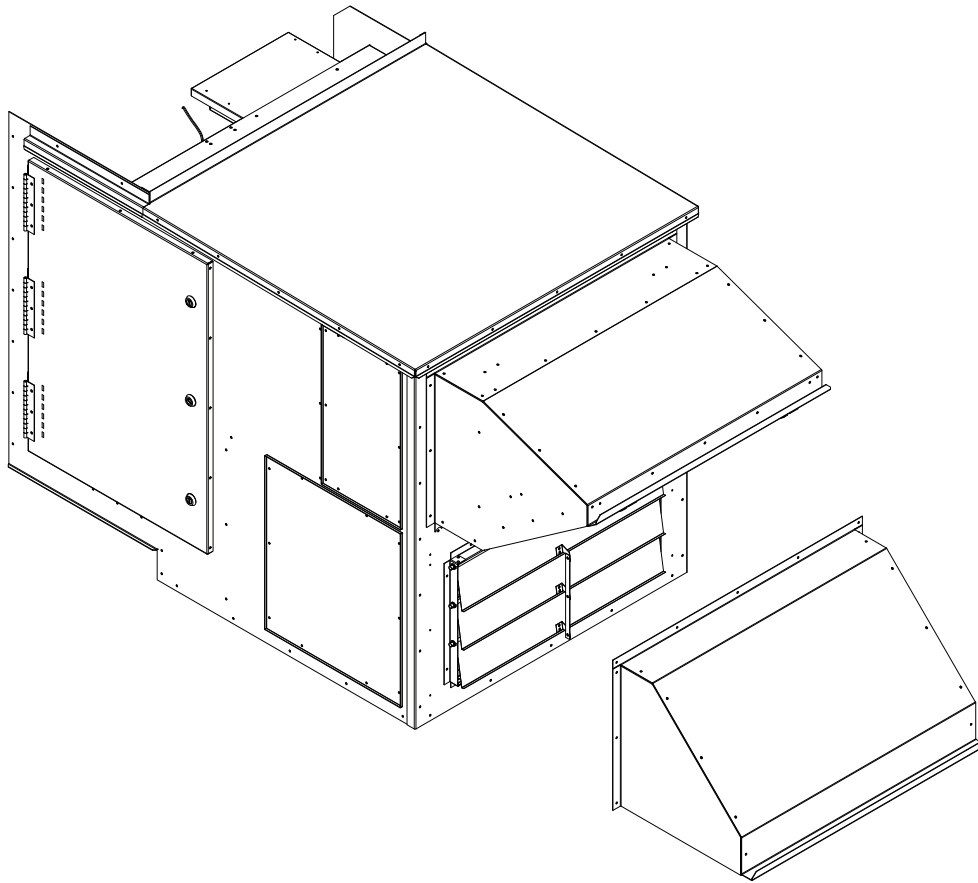


Fig. 20 - Exhaust Air Hood Removal

C11492

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 self-sealing 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 above).

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 of 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 of the EnergyX unit.
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 ERV.

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.

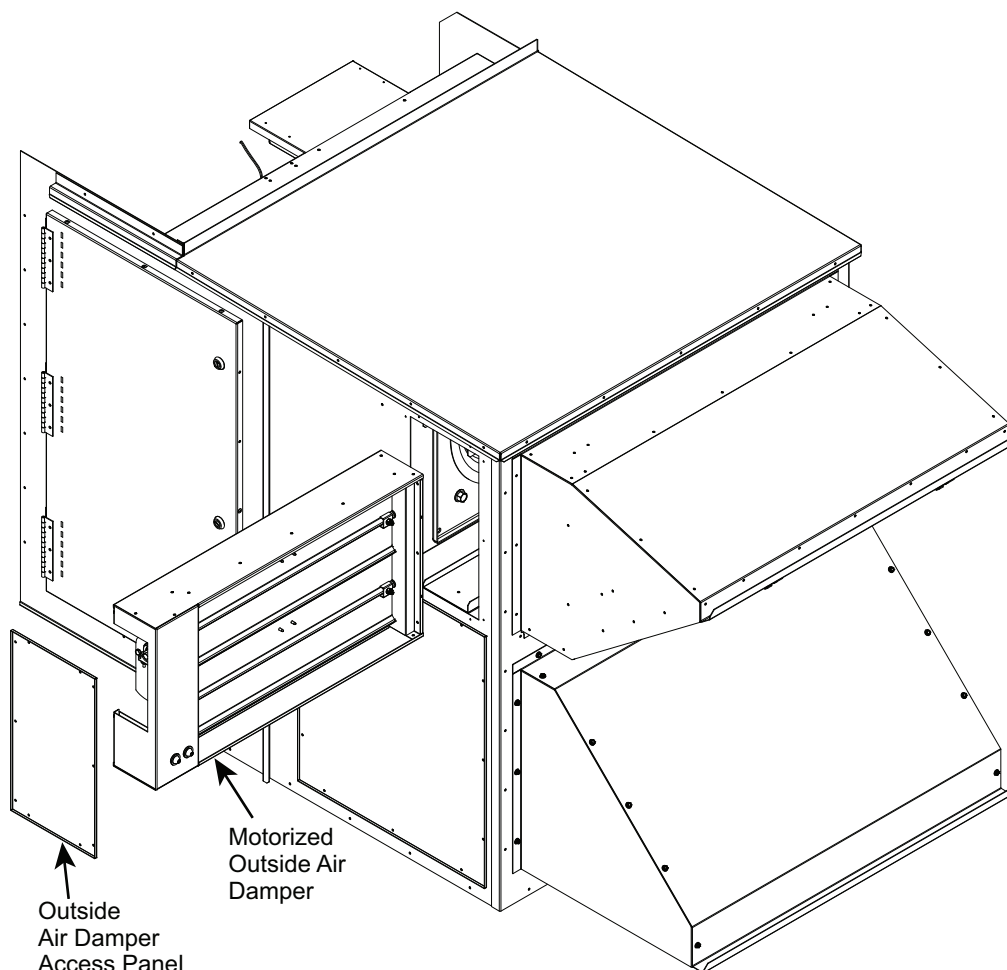


Fig. 21 - Outside Air Motorized Damper Removal

C11493

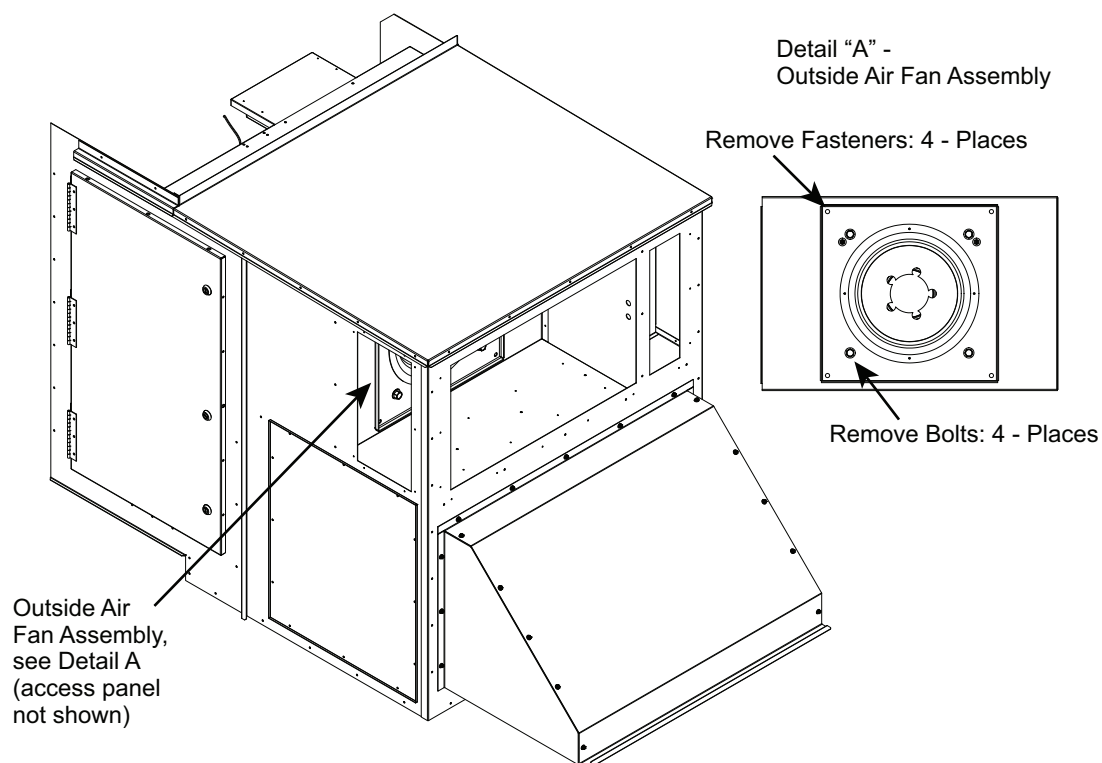


Fig. 22 - Remove Fasteners from Corners of Outside Air Fan Assemble

C11495

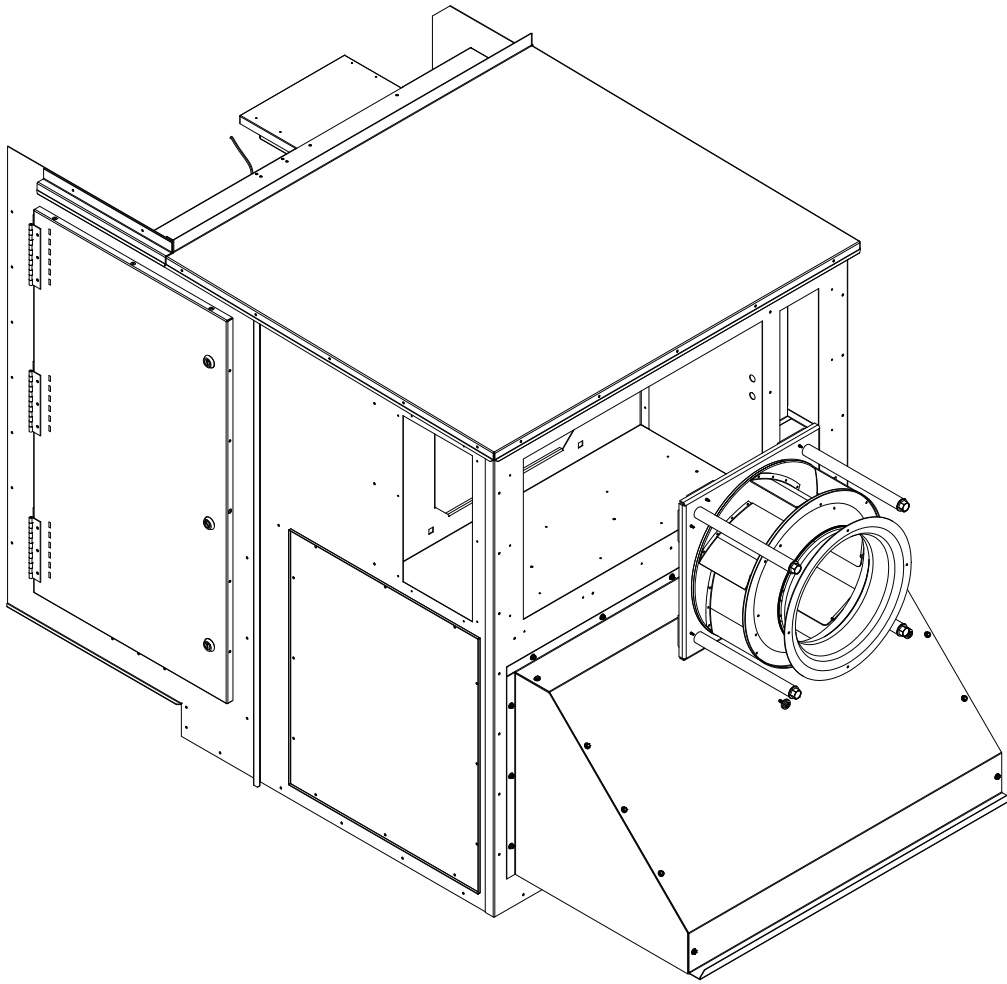


Fig. 23 - Outside Air Fan Removal

C11496

Exhaust Fan Removal

1. Turn off, lockout and tag-out electrical power to unit.
2. Remove the exhaust fan access panel by removing the self-sealing screws around the perimeter (see Fig. 23).

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.

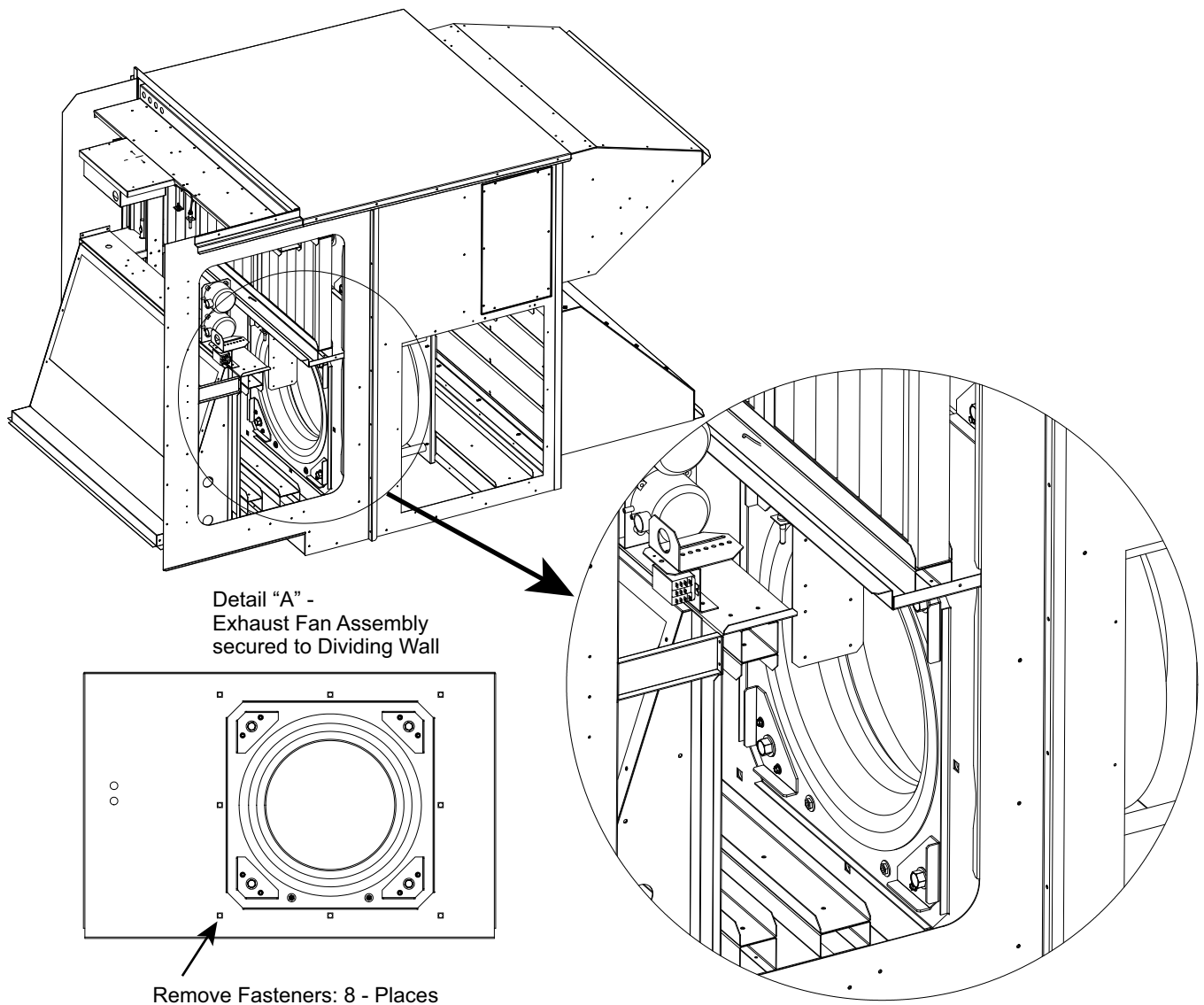
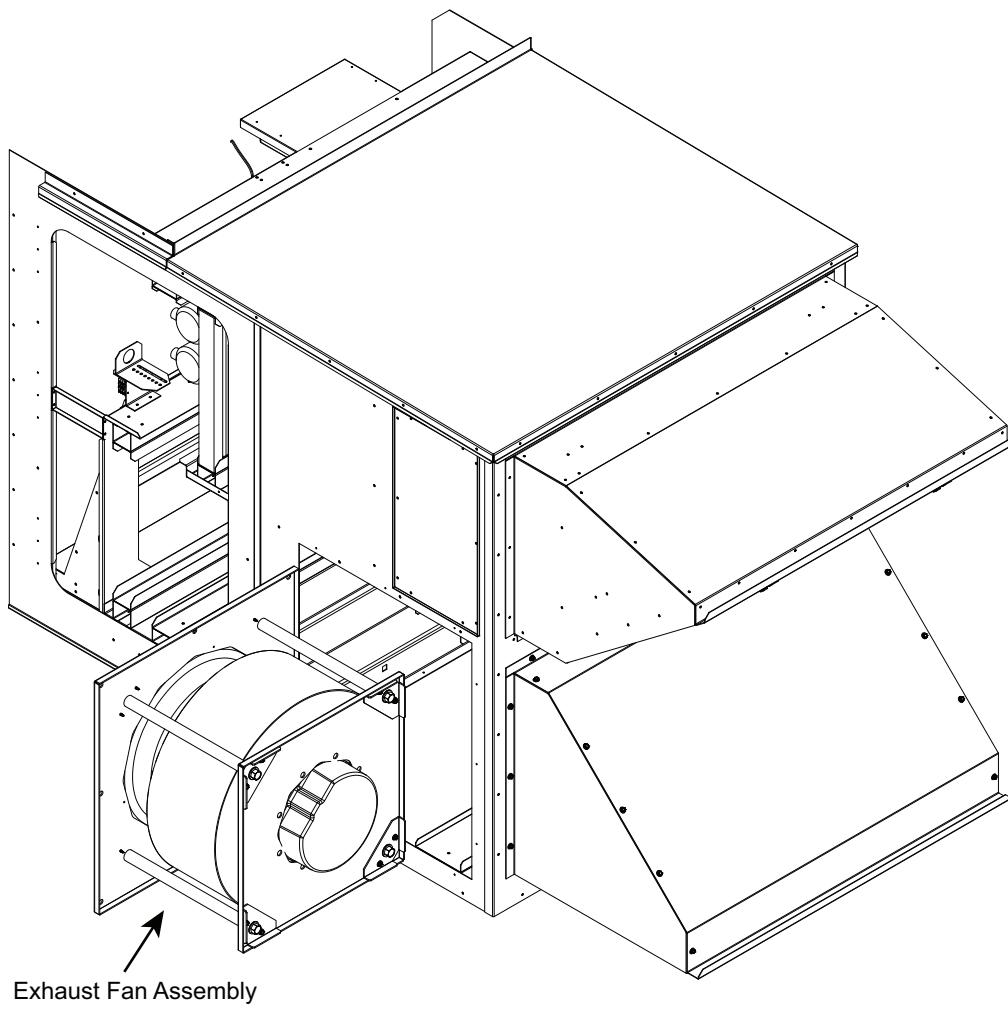


Fig. 24 - Exhaust Fan Assembly - Fastener Locations

C150097



Exhaust Fan Assembly

Fig. 25 - Exhaust Fan Assembly - Removal

C11498

APPENDIX

Appendix A — Certified Dimension Drawings

Appendix B — Exhaust Fan Performance Curves

EnergyX[®] Modulating Volume 3 to 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

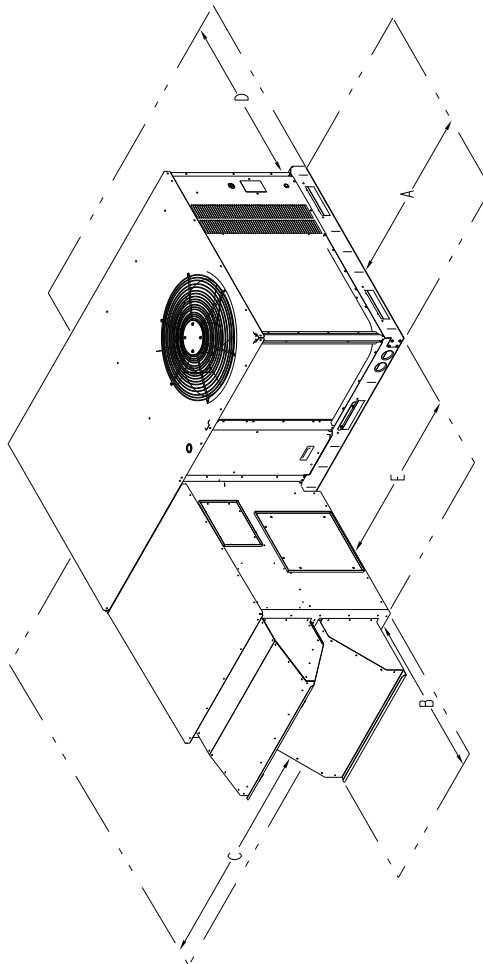


APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	UNIT	STD. UNIT WEIGHT	CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.							
			LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z					
ERV	48HIC-A04 HIGH CFM	969	440	317	144	529	241	77	35	46	21	46 1/2	1181	5	7/8	151	19	483
	48HIC-A05 HIGH CFM	1250	564	415	189	742	337	53	24	13	47 3/4	1212	3	11/8	79	20 1/2	511	
	48HIC-A06 HIGH CFM	1250	564	415	189	742	337	53	25	31	14	47 3/8	1205	3	11/4	82	19 1/2	496
	48HIC-A07 HIGH CFM	1084	496	334	151	556	252	121	55	33	46 1/2	1181	8	3/8	1213	20 1/8	512	
	48HIC-A08 LOW CFM	1084	496	337	153	558	253	124	56	75	34	46 3/8	1179	8	1/2	1216	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.**

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



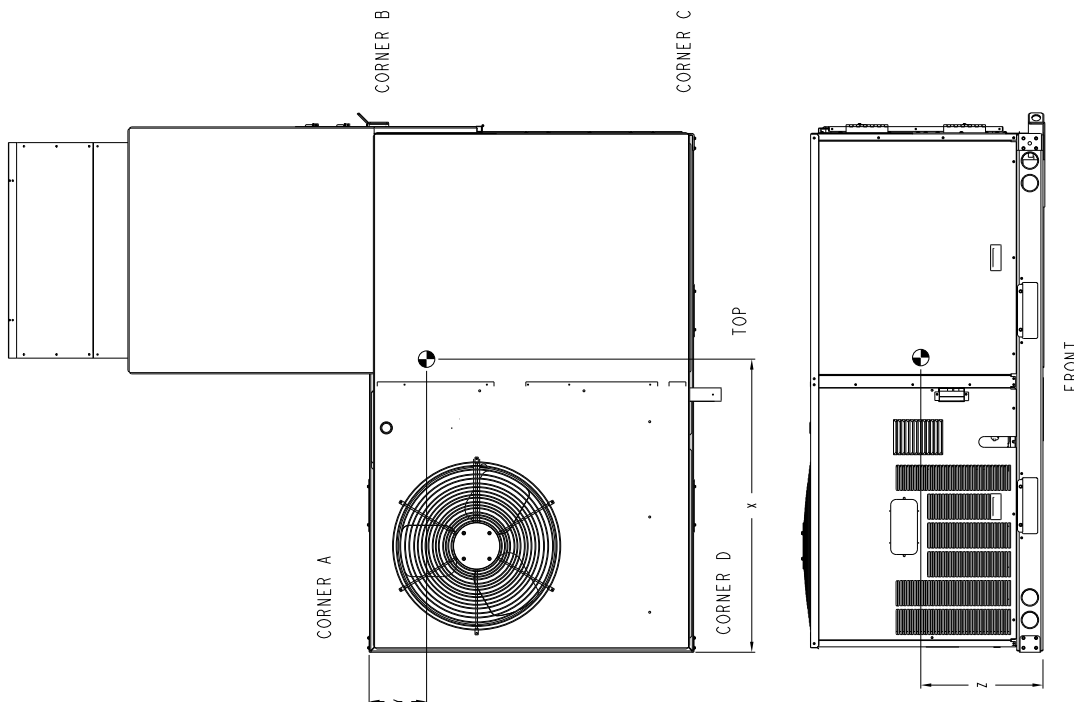
CLEARANCES

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	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
	42 (1067)	SURFACE BEHIND SERVICER IS GROUND (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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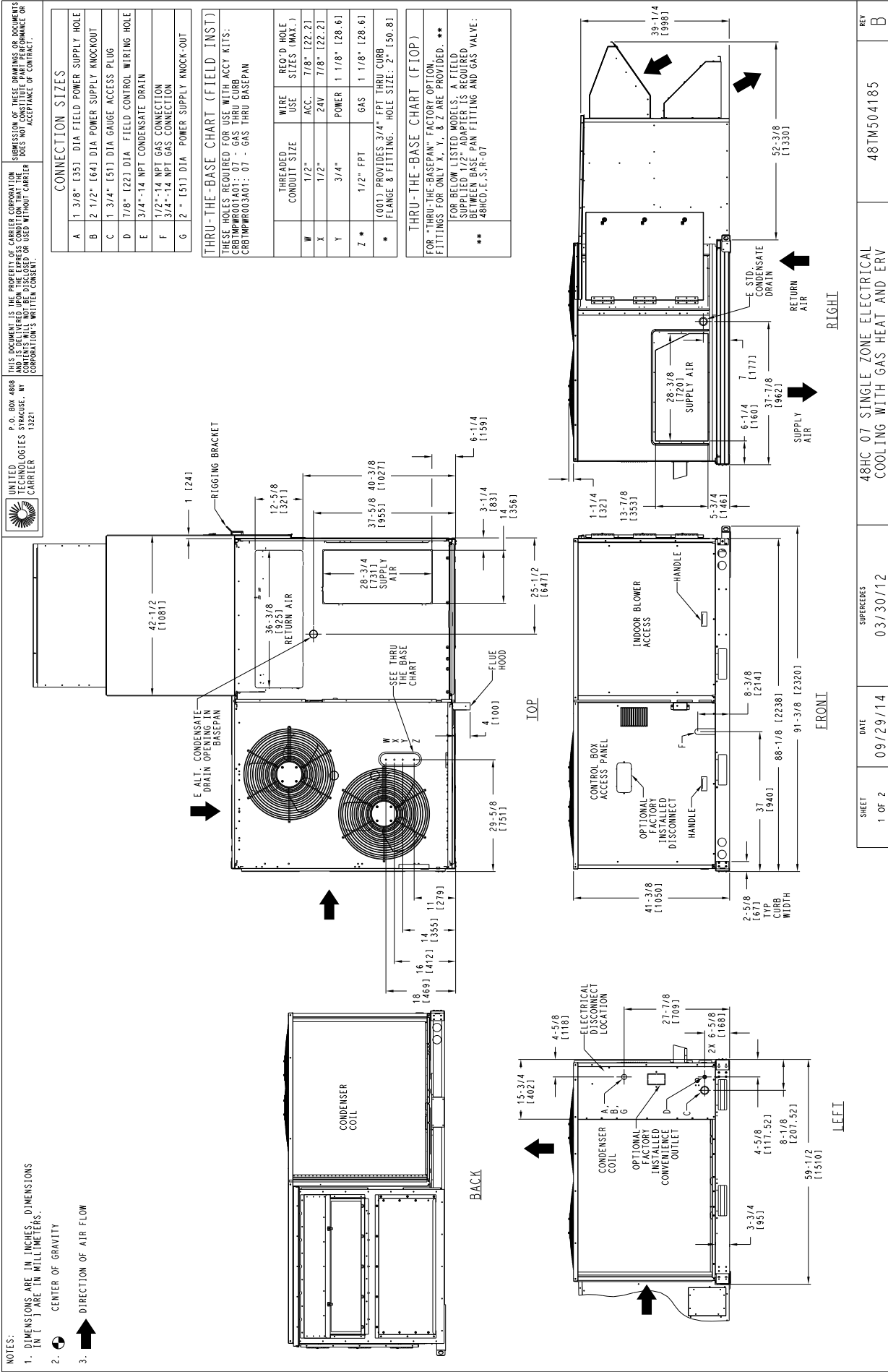
SHEET	DATE	SUPERSEDES	REV
2 OF 2	09/29/14	03130112	48T500544

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

C150099

EnergyX

APPENDIX A — CERTIFIED DIMENSION DRAWINGS



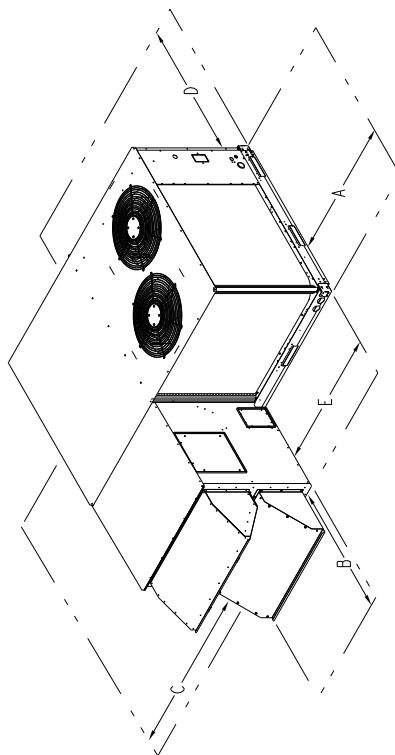
APPENDIX A — CERTIFIED DIMENSION DRAWINGS

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UNIT	ERV	STD. UNIT		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	87	124	65	53 3/8 (1357)	13 (332)		19 1/8 (505)
48HC-A07	LOW CFM	1421	563	358	162	527	239	212	96	144	65	52 1/2 (1333)	1 (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 GROUND (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.
UPPER RIGGING LABEL INSTRUCTIONS,
UNIT MUST BE LIFTED BY AN
OVERHEAD LIFTING DEVICE

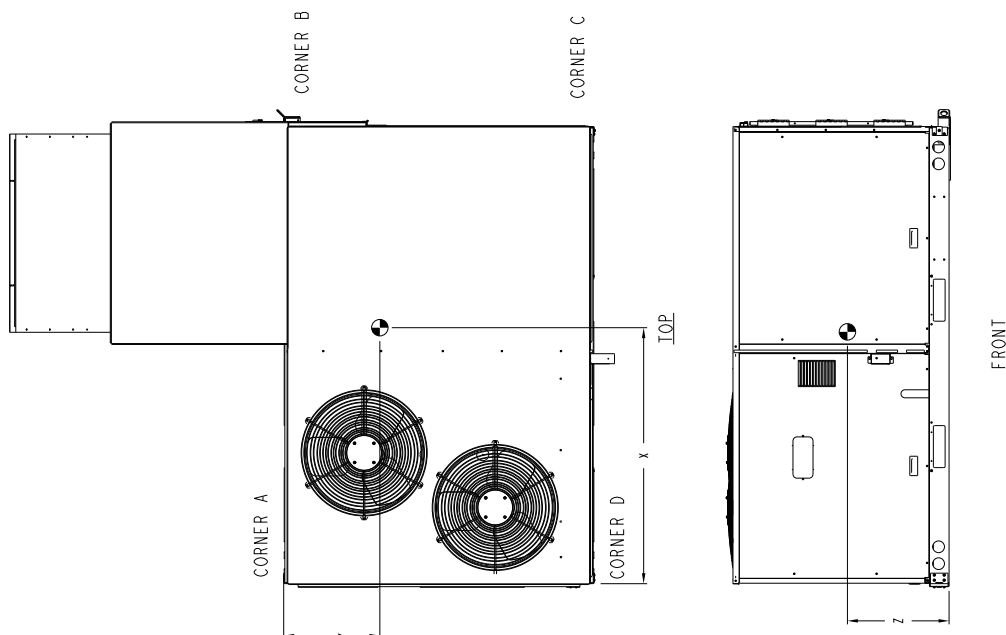


Fig. 29 - 48HC-07 Single Zone Electric Cooling with Gas Heat and ERV (cont)

C150101

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

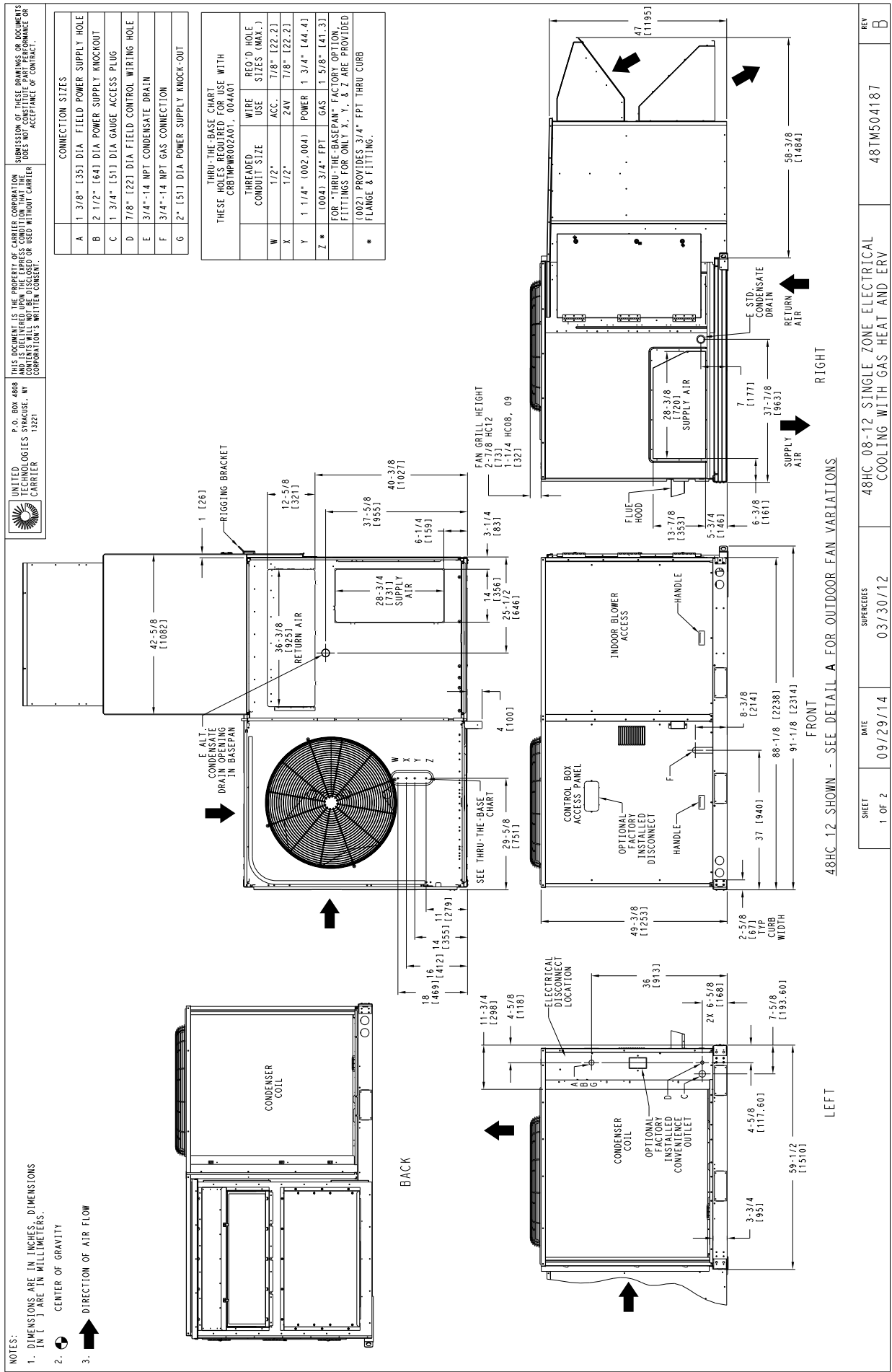


Fig. 30 - 48HC-08-12 Single Zone Electric Cooling with Gas Heat and ERV

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

[illegible]

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

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

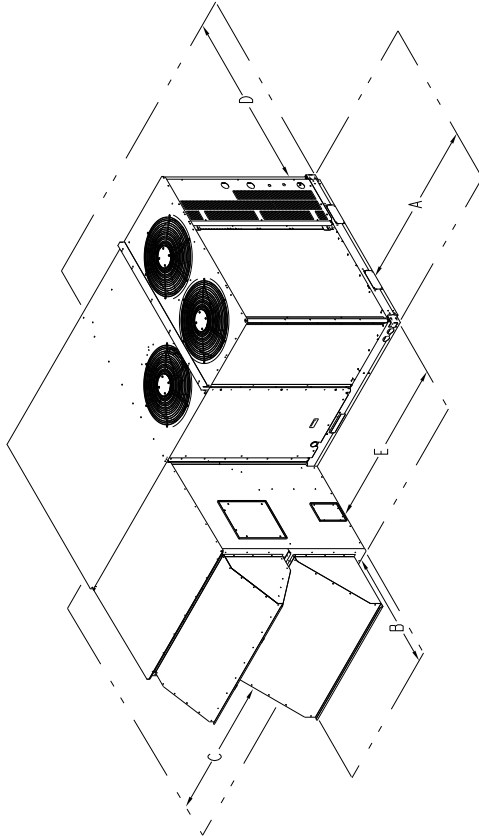


APPENDIX A — CERTIFIED DIMENSION DRAWINGS

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

STANDARD UNIT WEIGHT IS WITH LOW HEAT & WITHOUT PACKAGING.
FOR OPTIONS & 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
B	12 (305)	MINIMUM CLEARANCE
	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	54 (1372)	RECOMMENDED SERVICE CLEARANCE
	48 (1219)	NO FLUE DISCHARGE ACCESSORY INSTALLED, SURFACE IS COMBUSTIBLE MATERIAL
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)
	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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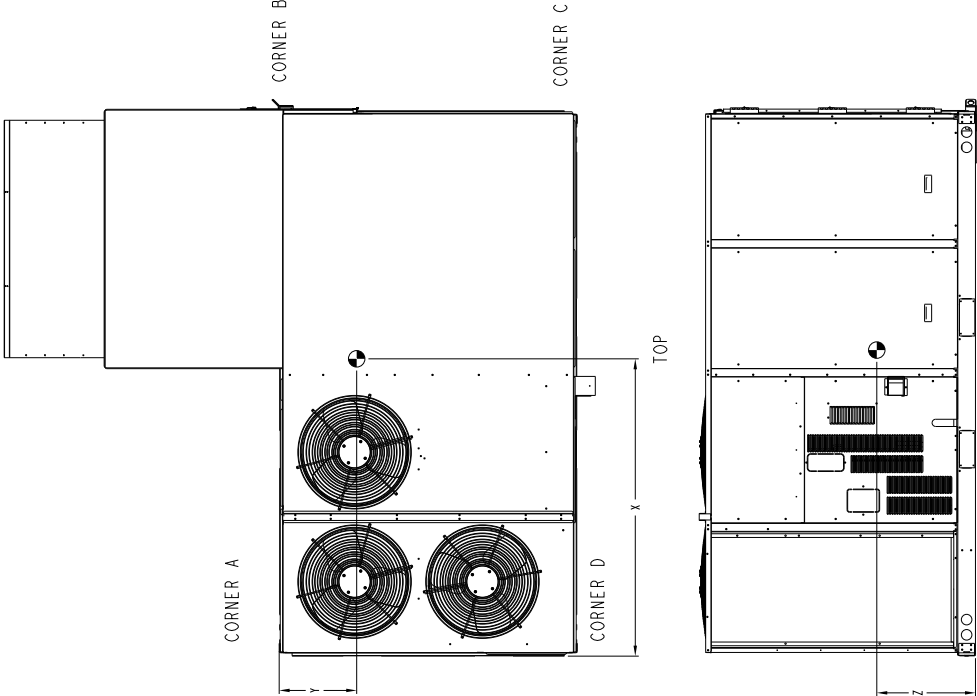
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DATE	SUPPLEDES	48HCD 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT AND ERV	REV
09/29/14	03/30/12	50TM501669	B

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



APPENDIX A — CERTIFIED DIMENSION DRAWINGS

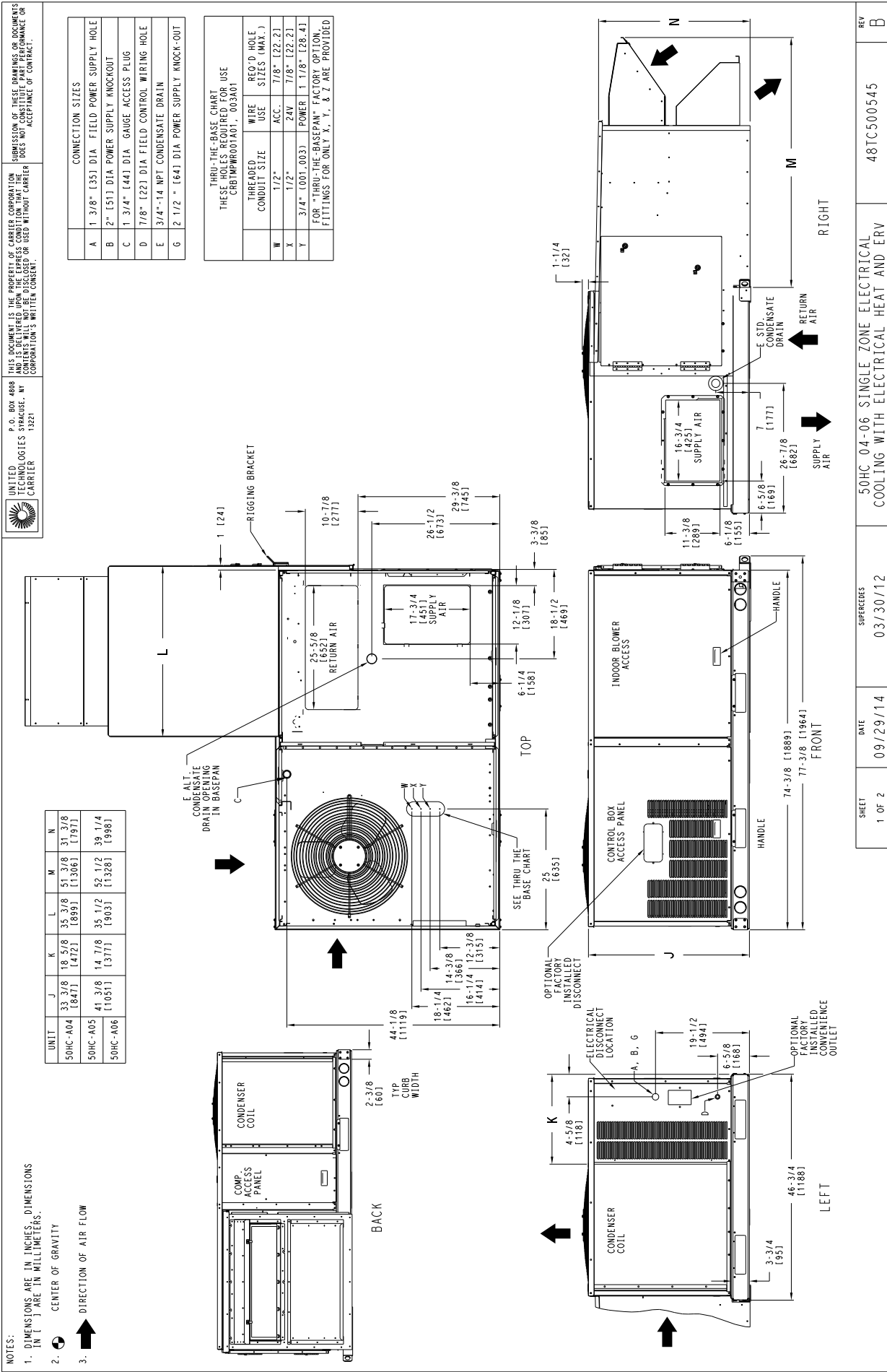


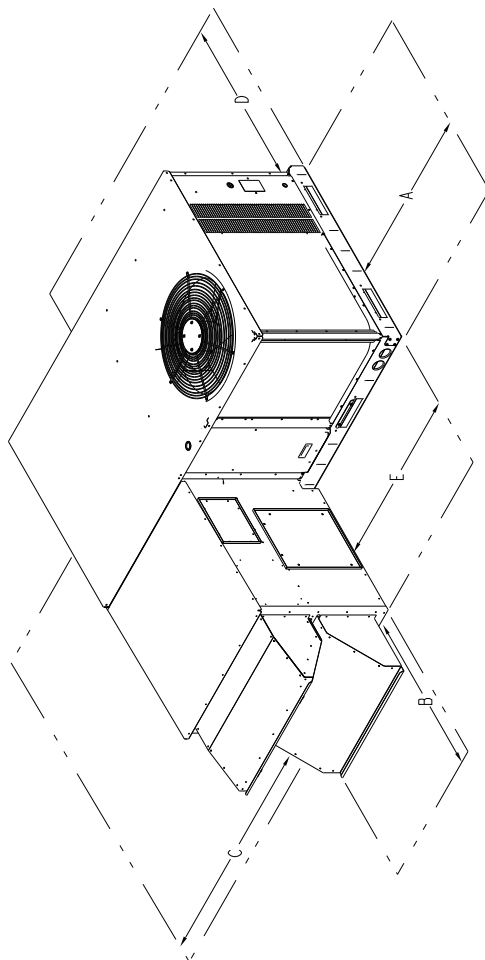
Fig. 34 - 50HC-04-06 Single Zone Electric Cooling with Electric Heat and ERV

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	UNIT	STD. UNIT WEIGHT LBS.	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					
50MC-A04	HIGH CFM	922	419	320	146	521	237	50	23	31	14	46	(1170)	4	1/8	(104)	19	3/4	(503)	
50MC-A05	HIGH CFM	1195	543	419	193	735	334	26	12	5	7	47	3/8	(1204)	1	5/8	(41)	20	7/8	(530)
50MC-A06	HIGH CFM	1200	545	424	193	734	334	27	12	16	7	47	1/8	(1197)	1	5/8	(42)	20	7/8	(514)
50MC-A07	LOW CFM	1039	471	320	145	547	248	108	49	63	29	47	(1192)	7	3/4	(196)	20	1/8	(512)	
50MC-A08	LOW CFM	1039	471	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
	48 (1219)	UNIT DISCONNECT IS MOUNTED ON PANEL
A	18 (457)	NO DISCONNECT, CONVENIENCE OUTLET OPTION
	18 (457)	RECOMMENDED SERVICE CLEARANCE
B	12 (305)	MINIMUM CLEARANCE
	36 (914)	RECOMMENDED SERVICE CLEARANCE
C	36 (914)	RECOMMENDED SERVICE CLEARANCE
	42 (1067)	SURFACE BEHIND SERVICER IS GROUNDED (e.g., METAL, ALUMINUM WALL, ANOTHER UNIT)
D	36 (914)	CONDUCTIVE SURFACE (WOOD, FIBERGLASS)
	36 (914)	RECOMMENDED SERVICE CLEARANCE
E	36 (914)	RECOMMENDED SERVICE CLEARANCE
F	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

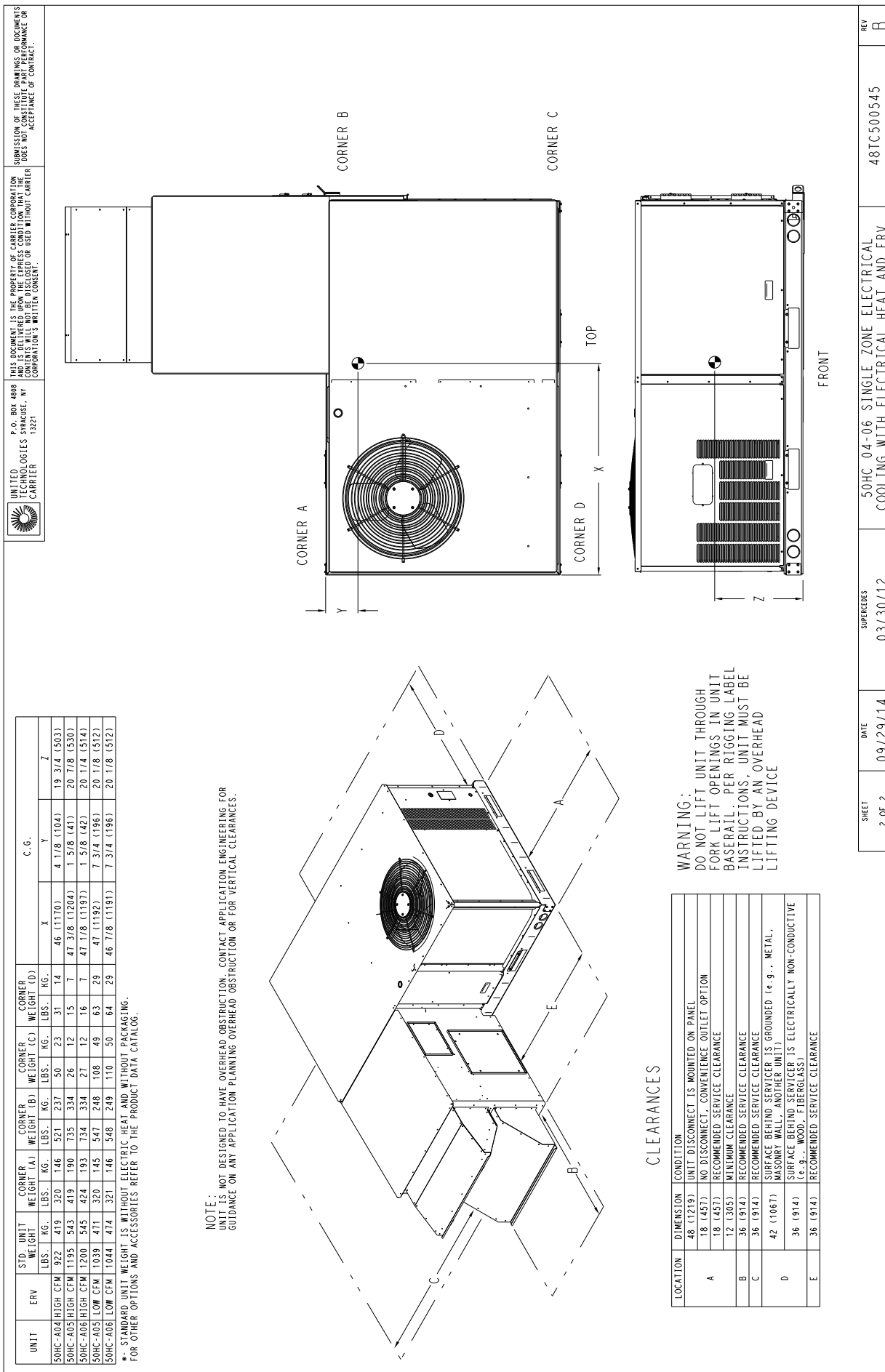


Fig. 35 - 50HC-04-06 Single Zone Electric Cooling with Electric Heat and ERV (cont)

C150107

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

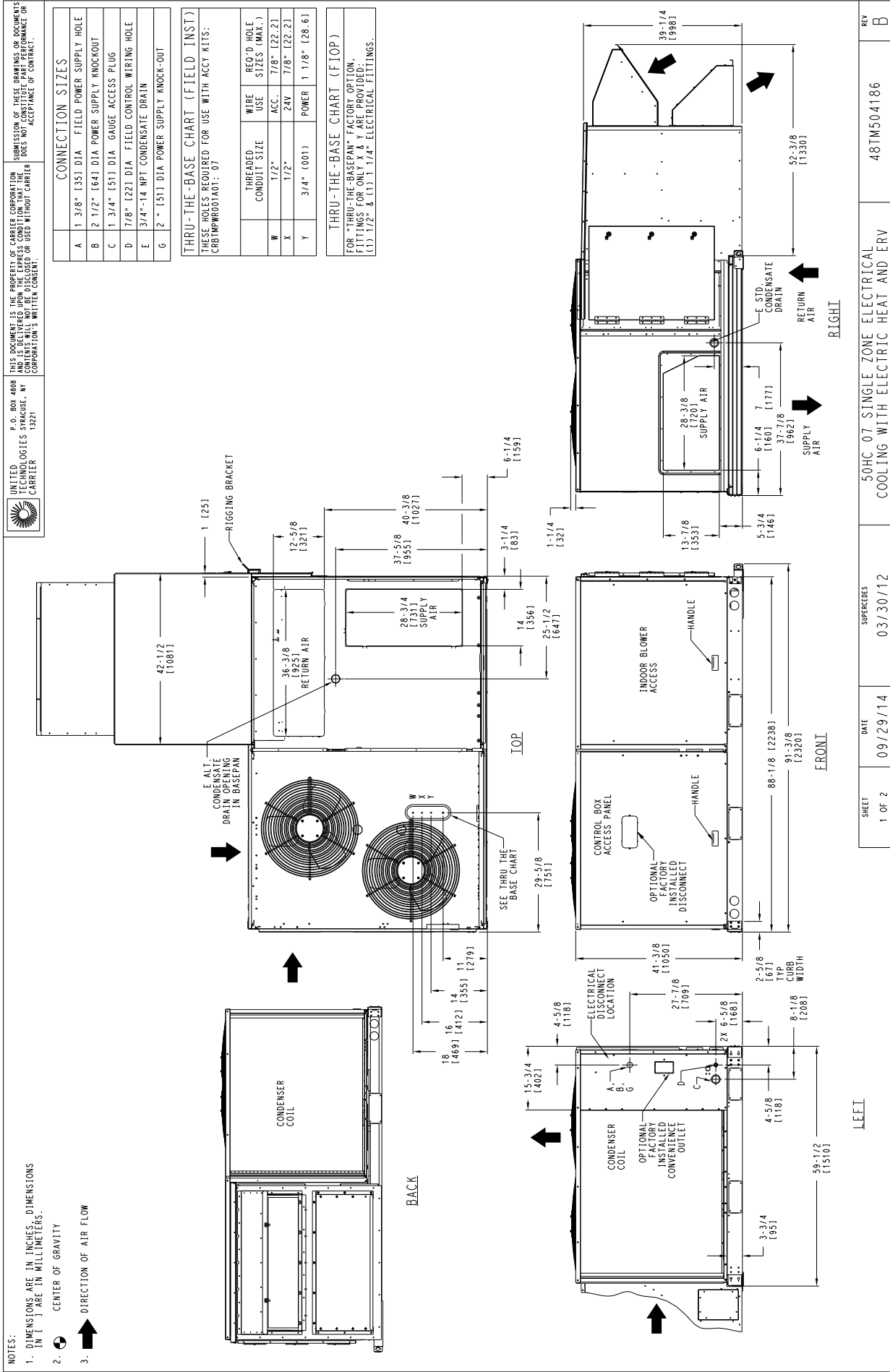


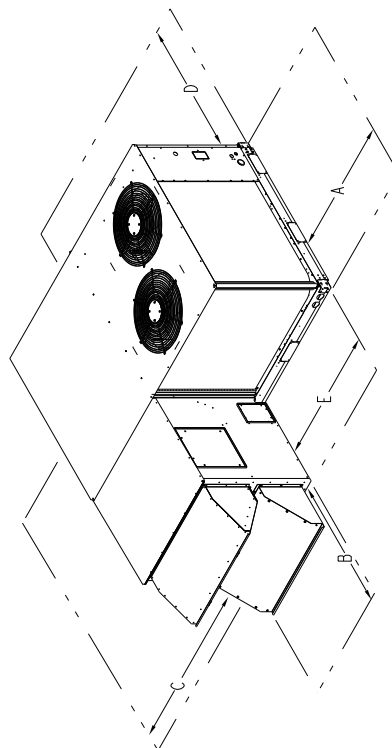
Fig. 36 - 50HC-07 Single Zone Electric Cooling with Electric Heat and ERV

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

UNIT	ERV	STD. UNIT		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	1305	20 1/2	(520)
50HC-A07	LOW CFM	1191	540	354	161	517	234	190	86	130	59	52 1/4	1328	16	1407	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.

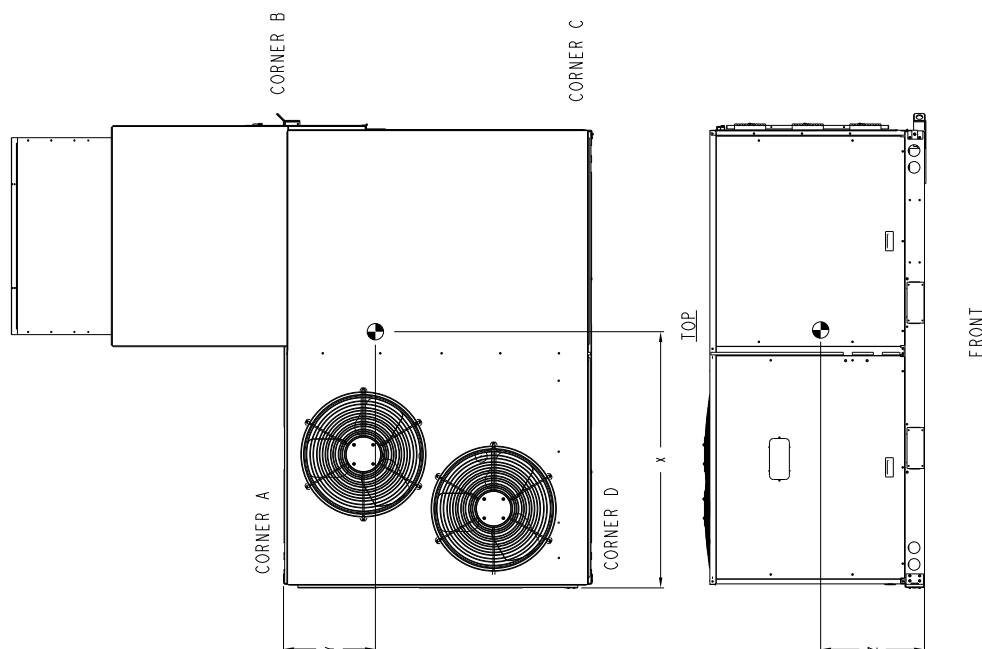
NOTE: UNIT IS NOT DESIGNED TO HAVE OVERHEAD OBSTRUCTION. CONTACT APPLICATION ENGINEERING FOR GUIDANCE ON ANY APPLICATION PLANNING OVERHEAD OBSTRUCTION OR FOR VERTICAL CLEARANCES.



CLEARANCES

LOCATION	DIMENSION	CONDITION
A	48 (12193)	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 SERVICE IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVICE IS ELECTRICALLY NON-CONDUCTIVE (e.g., WOOD, FIBERGLASS CLEARANCE)
	36 (914)	RECOMMENDED SERVICE CLEARANCE

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



SHEET	DATE	SUPERCERS	REV
2 OF 2	09/29/14	03/30/12	48TMS04186

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

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

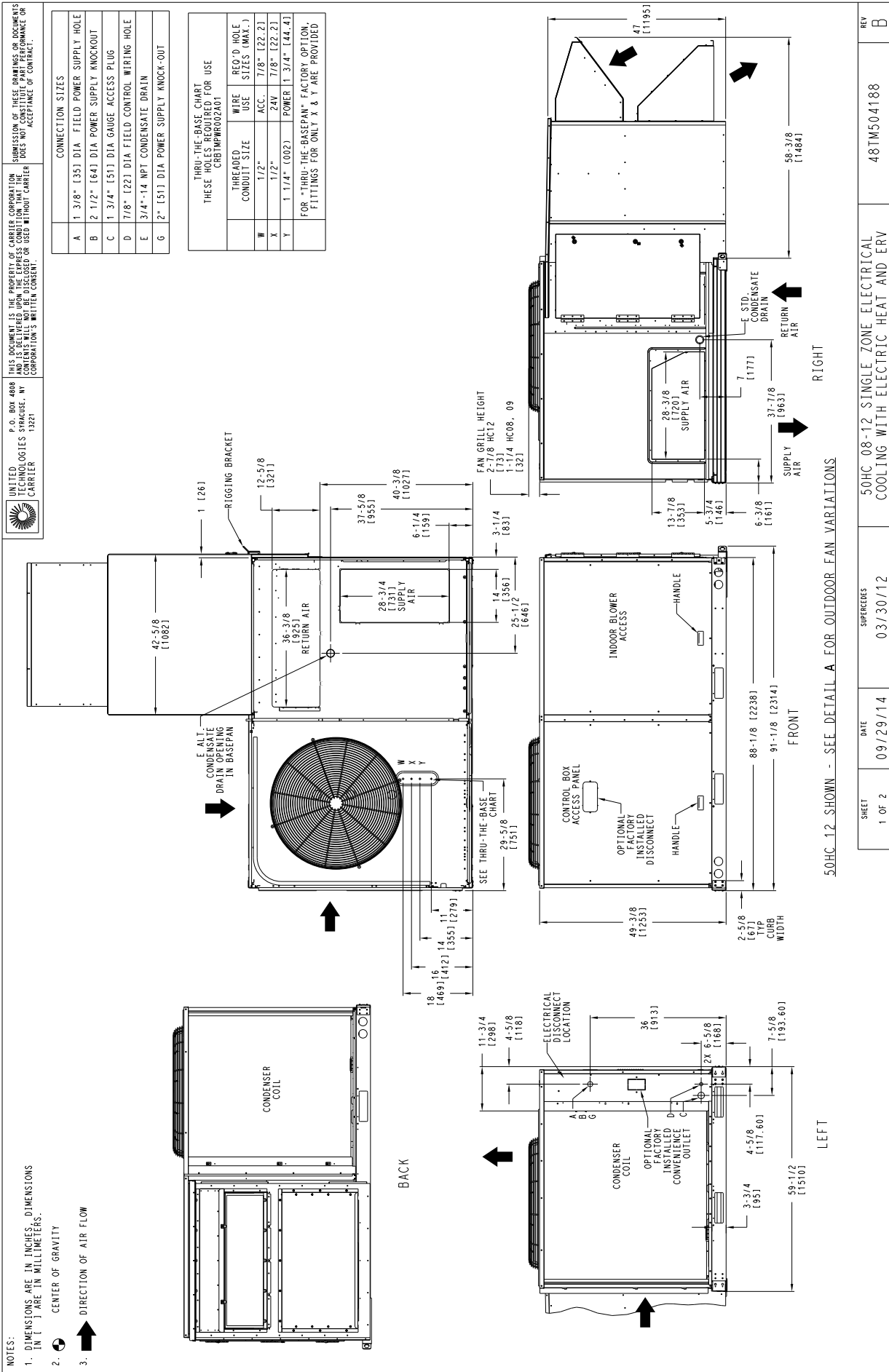


Fig. 38 - 50HC-08-12 Single Zone Electric Cooling with Electric Heat and ERV

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

[illegible]

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

APPENDIX A — CERTIFIED DIMENSION DRAWINGS

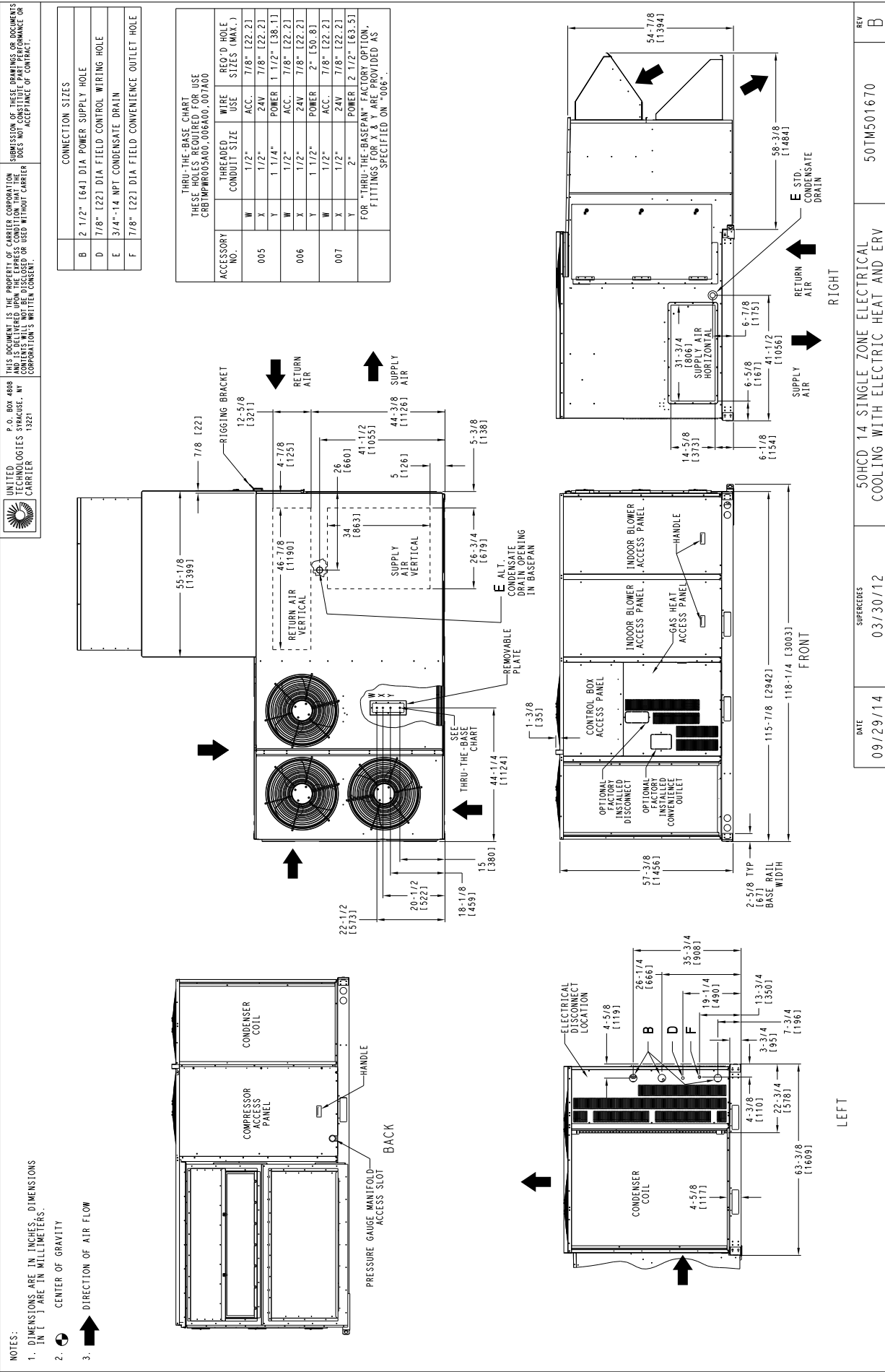


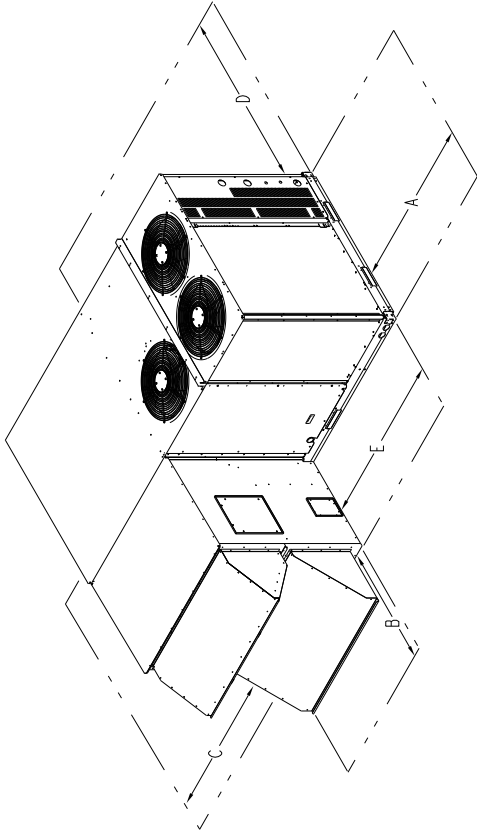
Fig. 40 - 50HC-14 Single Zone Electric Cooling with Electric Heat and ERV

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)	
	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.

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
B	12 (305)	MINIMUM CLEARANCE
C	36 (914)	RECOMMENDED SERVICE CLEARANCE
	54 (1372)	RECOMMENDED SERVICE CLEARANCE
D	42 (1067)	SURFACE BEHIND SERVER IS GROUNDED (e.g., METAL, MASONRY WALL, ANOTHER UNIT)
	36 (914)	SURFACE BEHIND SERVER 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 BASE RAIL. PER RIGGING LABEL INSTRUCTIONS, UNIT MUST BE LIFTED BY AN OVERHEAD LIFTING DEVICE



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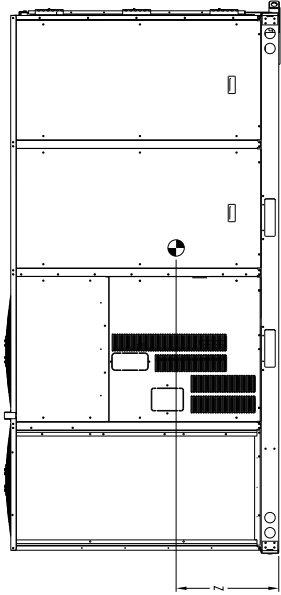
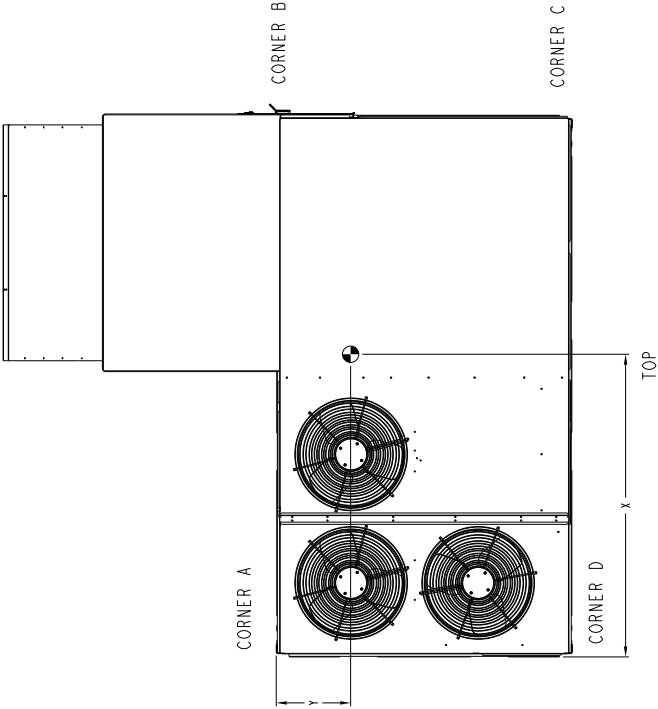
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FRONT

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

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

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 to 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.

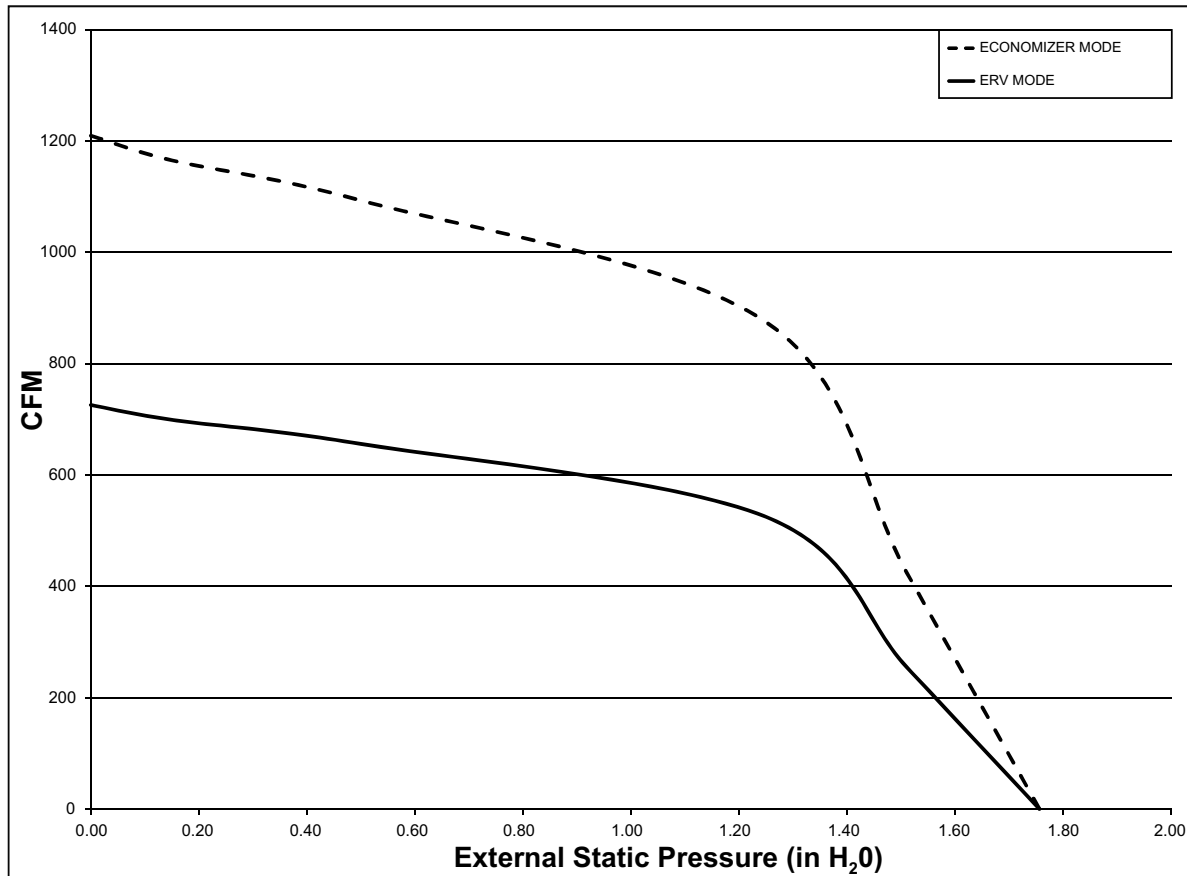


Fig. 42 - 3 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

C12206

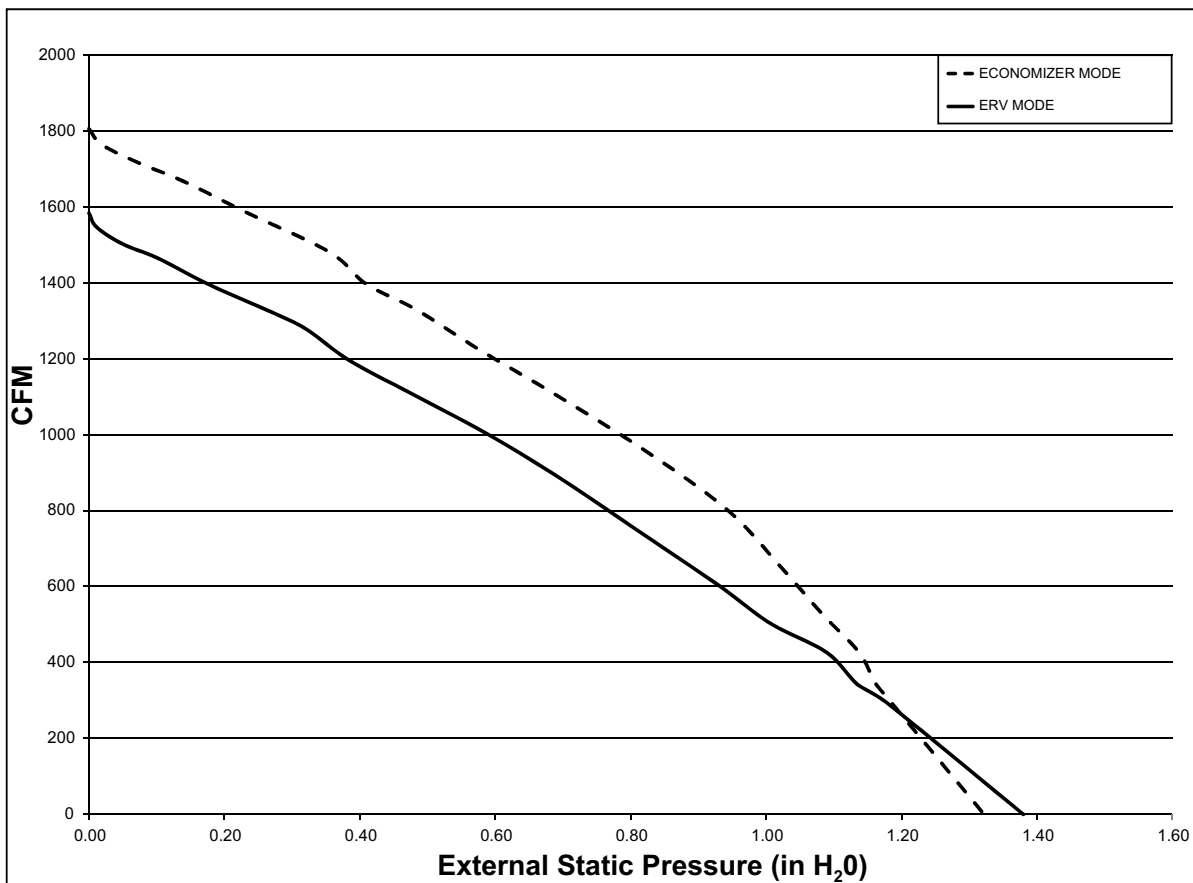


Fig. 43 - 4 and 5 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

C12207

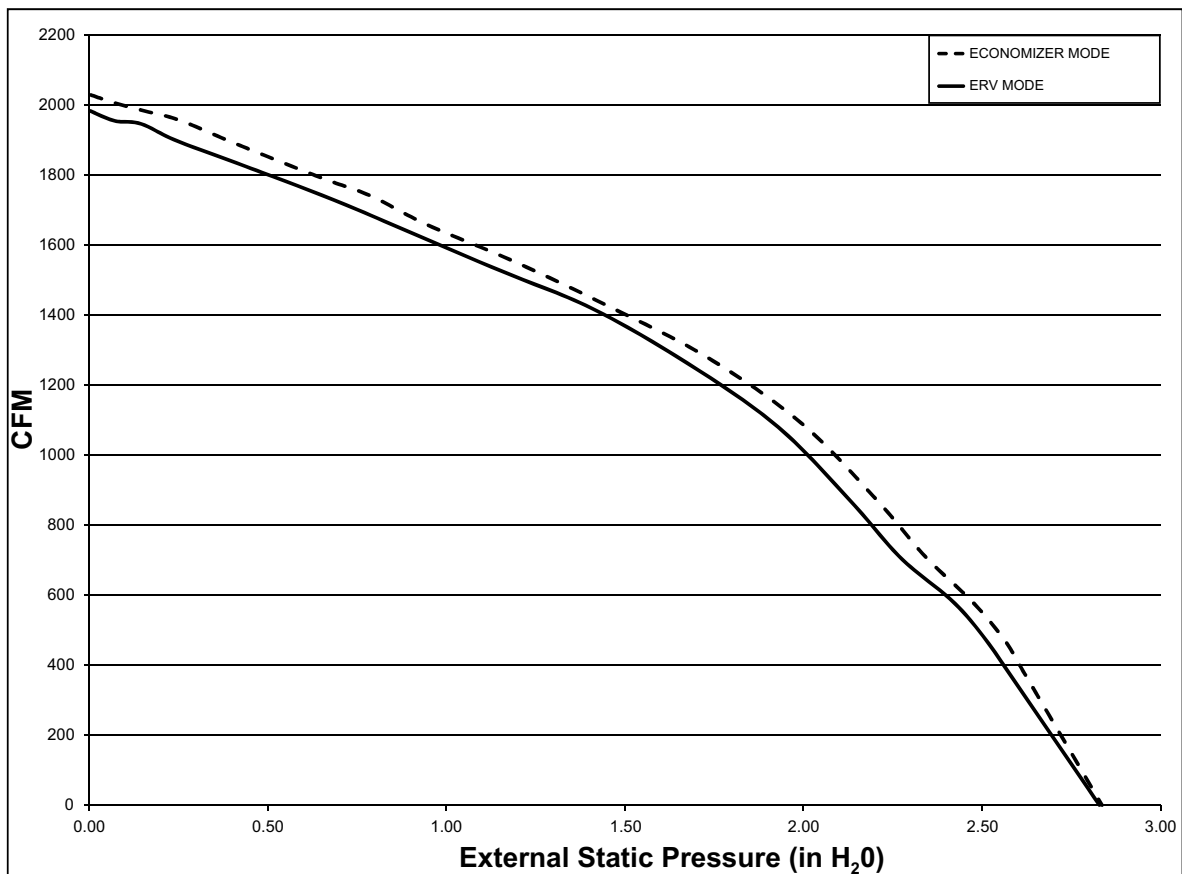


Fig. 44 - 6 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

C12208

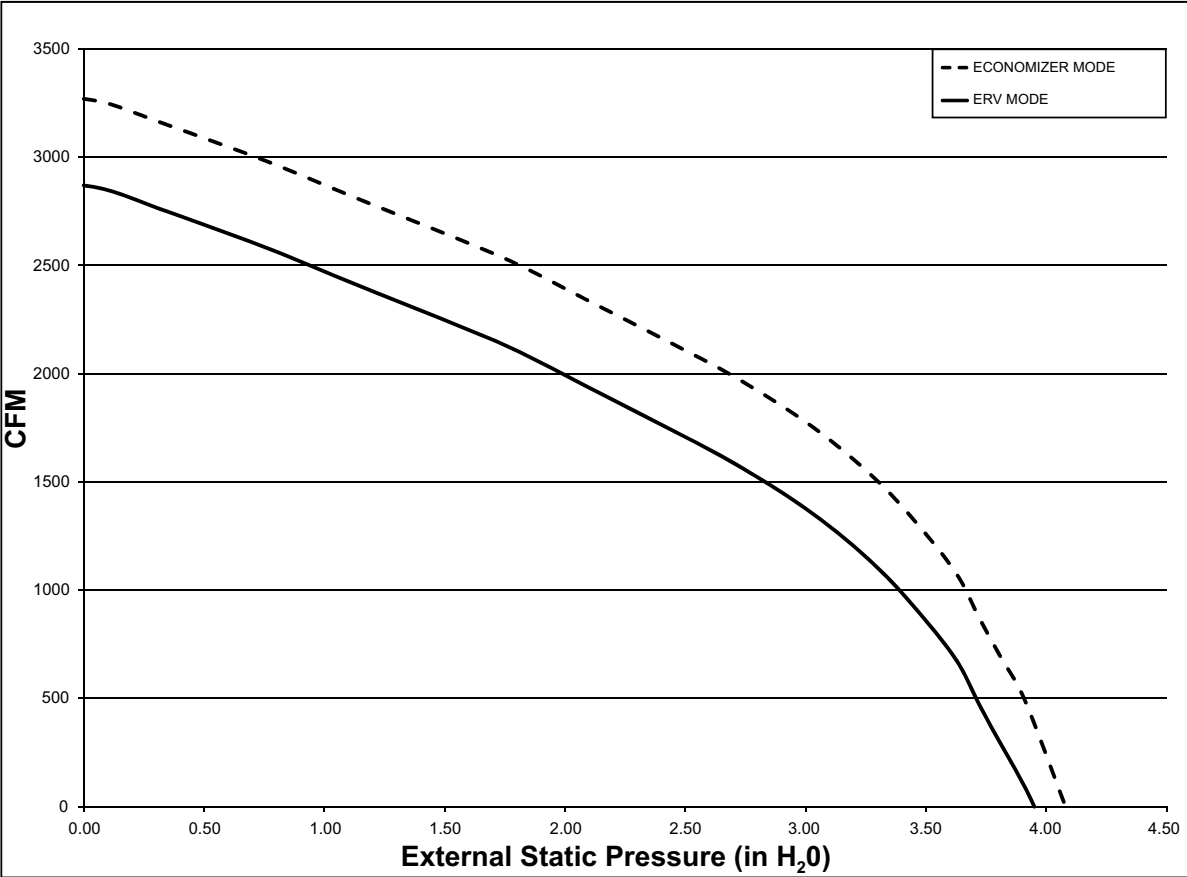


Fig. 45 - 7.5, 8.5 and 10 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

C12209

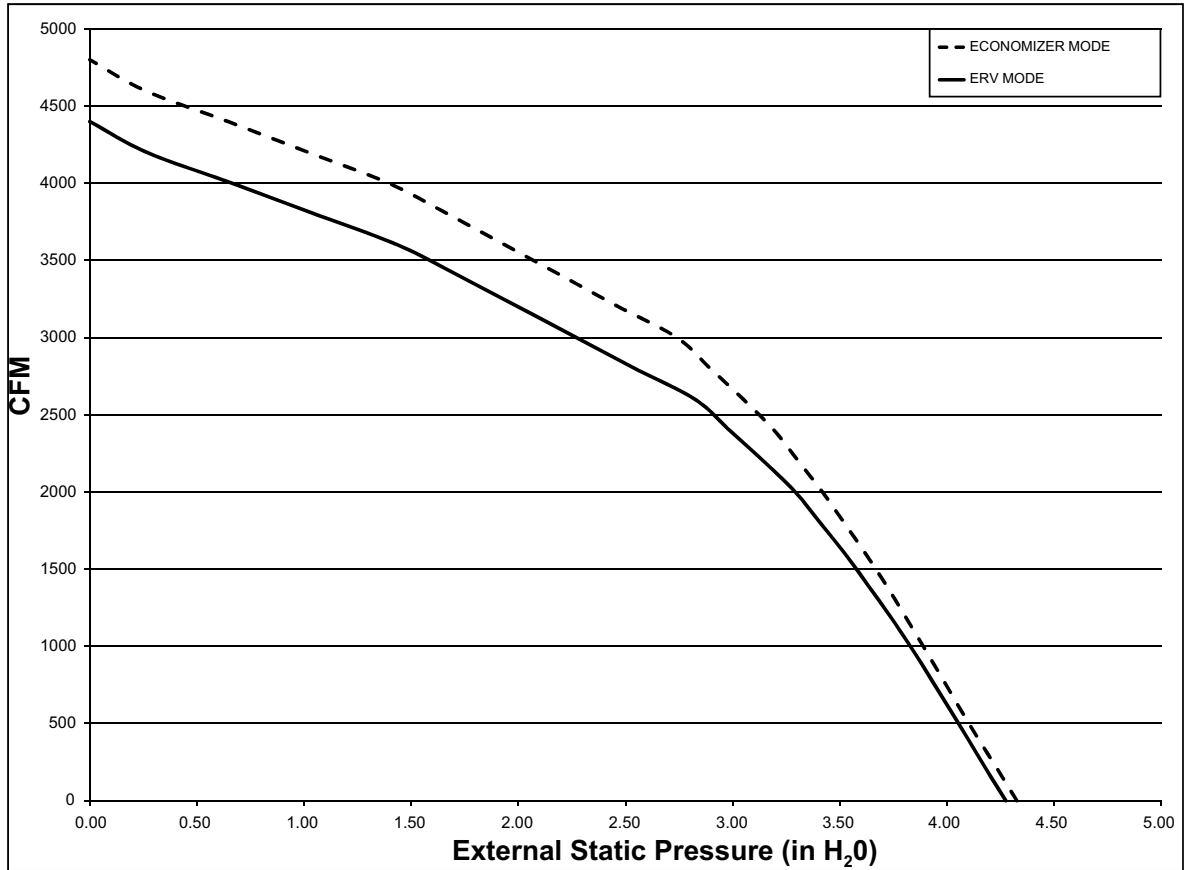


Fig. 46 - 12.5 Ton SRT Unit ERV Supply and Exhaust Fan Performance Curves

C12210

APPENDIX C — ELECTRICAL DATA

Legend and Notes for Tables 13 - 20

LEGEND:

BRKR	–	Circuit breaker
C.O.	–	Convenience 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
MOCB	–	MAX FUSE or HACR Breaker
PE	–	Power exhaust
PWRD C.O.	–	Powered convenience outlet
UNPWR C.O.	–	Unpowered convenience outlet

NOTES:

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

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

Example: Supply voltage is 230-3-60



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

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

Determine maximum deviation from average voltage.

(AB) 227 – 224 = 3 v

(BC) 231 – 227 = 4 v

(AC) 227 – 226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

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

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

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

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		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
					FLA	LRA			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	40	50	41	99
		STD	33	45	32	99	33	45	32	99	37	50	38	104	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	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	32	40	34	93
		STD	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105	30	40	31	105
		MED	25/25	30/30	26/25	117	25/25	30/30	26/25	117	30/30	40/35	31/31	122	30/30	40/35	31/31	122	30/30	40/35	31/31	122
	460-3-60	HIGH	28/28	30/30	29/29	153	28/28	35/35	29/29	153	33/33	40/40	35/35	158	33/33	40/40	35/35	158	33/33	40/40	35/35	158
		DD-STD	16	20	16	47	16	20	16	47	18	20	18	49	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	17	20	17	54
	575-3-60	MED	14	20	14	61	14	20	14	61	16	20	17	63	16	20	17	63	16	20	17	63
		HIGH	16	20	16	79	16	20	16	79	16	20	19	81	16	20	19	81	16	20	19	81
		DD-STD	15	20	16	47	15	20	16	47	17	20	18	49	17	20	18	49	17	20	18	49
48HC*A05	208/230-1-60	STD	12	15	12	50	12	15	12	50	14	15	14	52	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	14	15	14	52
		HIGH	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56	15	20	15	56
	208/230-3-60	DD-STD	44	60	44	135	44	60	44	135	49	60	50	140	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	47	60	47	145
		MED	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145	47	60	47	145
	460-3-60	DD-STD	34	45	35	101	34	45	35	101	39	50	41	106	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	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	37/37	50/50	38/38	135
	575-3-60	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	40/40	50/50	42/42	171
		DD-STD	17	20	17	51	17	20	17	51	19	25	20	53	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	18	20	18	58

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	
					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
		STD	46	60	45	157	45	60	45	157	51	60	50	162
		MED	48	60	47	182	47	60	47	182	53	60	53	187
	208/230-3-60	DD-STD	37	50	38	128	37	50	38	128	42	50	42	133
		STD	35	50	35	140	35	50	35	140	40	50	40	145
		MED	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198
	460-3-60	HIGH	38/38	50/50	39/39	193	38/38	50/50	39/39	193	43/43	50/50	44/44	198
		DD-STD	18	20	18	62	18	20	18	62	20	25	21	64
		STD	17	20	16	67	17	20	16	67	19	25	19	69
	575-3-60	MED	17	20	18	94	18	20	18	94	20	25	21	96
		HIGH	18	20	18	94	18	20	18	94	20	25	21	96
		DD-STD	16	20	16	50	16	20	16	50	17	20	18	52
48HC*A07	208/230-3-60	STD	13	15	13	53	13	15	13	53	14	20	15	55
		MED	14	15	14	57	14	15	14	57	15	20	16	59
		HIGH	14	20	15	68	14	20	15	68	16	20	16	70
	460-3-60	STD	41	60	41	169	41	60	41	169	46	60	47	174
		MED	44/44	60/60	45/45	222	44/44	60/60	45/45	222	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
	575-3-60	STD	19	25	19	83	19	25	19	83	21	25	21	85
		MED	20	25	20	110	20	25	20	110	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	25	30	26	120
	48HC*D07	STD	15	20	15	70	15	20	15	70	17	20	17	72
		MED	17	20	17	85	17	20	17	85	18	20	19	87
		HIGH	19	25	20	99	19	25	20	99	21	25	22	101
48HC*D07	208/230-3-60	STD	39	50	39	169	39	50	39	169	43	60	44	174
		MED	42/42	50/50	43/42	222	42/42	50/50	43/42	222	47/47	60/60	48/48	227
		HIGH	47/46	60/60	49/47	238	47/46	60/60	49/47	238	52/51	60/60	54/53	243
	460-3-60	STD	19	25	19	83	19	25	19	83	21	25	21	85
		MED	21	25	21	110	21	25	21	110	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	25	30	26	120
	575-3-60	STD	15	20	15	70	15	20	15	70	17	20	17	72
		MED	16	20	16	85	16	20	16	85	18	20	18	87
		HIGH	19	25	19	99	19	25	19	99	21	25	21	101

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		MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
48HC*D08	208/230-3-60	STD	51	60	54	203	51	60	54	203	56	60	54	203	56	60	60	2085	56	60	60	208
		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	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275	61	70	66	275
	460-3-60	STD	24	25	25	101	24	25	25	101	26	30	28	103	26	30	28	103	26	30	28	103
		MED	25	30	26	120	25	30	26	120	27	30	29	122	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	29	30	31	137
48HC*D09	208/230-3-60	STD	18	20	19	83	18	20	19	83	20	25	21	85	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	20	25	22	89
		HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100	21	25	22	100
	460-3-60	STD	51	60	55	203	51	60	55	203	56	60	60	208	56	60	60	208	56	60	60	208
		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	58/58	70/70	62/62	246
		HIGH	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275	62	70	66	275
48HC*D11	208/230-3-60	STD	24	30	25	101	24	30	25	101	26	30	28	103	26	30	28	103	26	30	28	103
		MED	25	30	26	120	25	30	26	120	27	30	29	122	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	29	30	31	137
	575-3-60	STD	20	25	21	83	20	25	21	83	21	25	22	85	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	22	25	23	89
		HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100	22	25	24	100
48HC*D12	208/230-3-60	STD	61	70	65	269	61	70	65	269	66	80	70	274	66	80	70	274	66	80	70	274
		MED	66	80	71	325	66	80	71	325	71	80	77	330	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	74/73	80/80	80/79	332
	460-3-60	STD	28	30	29	129	28	30	29	129	30	35	32	131	30	35	32	131	30	35	32	131
		MED	31	35	33	157	31	35	33	157	33	35	35	159	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	34	40	36	160
48HC*D12	575-3-60	STD	23	25	24	101	23	25	24	101	25	30	26	103	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	25	30	27	114
		HIGH	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128	28	30	31	128
	208/230-3-60	STD	60	70	63	294	60	70	63	294	64	70	69	299	64	70	69	299	64	70	69	299
		MED	65	80	70	350	65	80	70	350	70	80	75	355	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	73/72	80/80	79/78	357
48HC*D12	460-3-60	STD	29	35	31	141	29	35	31	141	31	35	33	143	31	35	33	143	31	35	33	143
		MED	32	35	34	169	32	35	34	169	34	40	36	171	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	35	40	37	172
	575-3-60	STD	23	25	25	111	23	25	25	111	25	30	27	113	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	26	30	27	124
		HIGH	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138	29	30	31	138

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

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

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/ 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		MCA	HACR BRKR	DISC. SIZE	
				FLA	LRA			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	40	50	41	99
		STD	33	45	32	99	33	45	32	99	37	50	38	104	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	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	32	40	34	93
		STD	25	30	26	100	25	30	26	100	30	40	31	105	30	40	31	105	30	40	31	105
		MED	25/25	30/30	26/25	117	25/25	30/30	26/25	117	30/30	40/35	31/31	122	30/30	40/35	31/31	122	30/30	40/35	31/31	122
		HIGH	28/28	30/30	29/29	153	28/28	35/35	29/29	153	33/33	40/40	35/35	158	33/33	40/40	35/35	158	33/33	40/40	35/35	158
	460-3-60	DD-STD	16	20	16	47	16	20	16	47	18	20	18	49	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	17	20	17	54
		MED	14	20	14	61	14	20	14	61	16	20	17	63	16	20	17	63	16	20	17	63
	575-3-60	HIGH	16	20	16	79	16	20	16	79	16	20	19	81	16	20	19	81	16	20	19	81
DD-STD		15	20	16	47	15	20	16	47	17	20	18	49	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	14	15	14	52	
MED		12	15	12	50	12	15	12	50	14	15	14	52	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	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	49	60	50	140
		STD	42	60	41	140	42	60	41	140	47	60	47	145	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	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	39	50	41	106
		STD	32	45	33	113	32	45	33	113	37	50	38	118	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	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	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	19	25	20	53
		STD	16	20	16	56	16	20	16	56	18	20	18	58	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	18	20	18	67
		HIGH	17	20	17	83	17	20	17	83	19	25	20	85	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	17	20	18	45	
	STD	12	15	12	46	12	15	12	46	14	15	14	48	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	14	20	15	48	
	HIGH	14	15	14	61	14	15	14	61	16	20	16	63	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		HACR BRKR	MCA	DISC. SIZE	FLA	LRA	MCA	HACR BRKR	DISC. SIZE		FLA	LRA	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	48	60	48	152	53	60	53	157	53	60	53	157	53	60	53	157
		STD	46	60	45	157	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162	51	60	50	162
		MED	48	60	47	182	48	60	47	182	48	60	47	182	53	60	53	187	53	60	53	187	53	60	53	187
	208/230-3-60	DD-STD	37	50	38	128	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133	42	50	43	133
		STD	35	50	35	140	35	50	35	140	35	50	35	140	40	50	41	145	40	50	41	145	40	50	41	145
		MED	38/38	50/50	39/39	193	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	43/43	50/50	44/44	198
	HIGH	38/38	50/50	39/39	193	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	43/43	50/50	44/44	198	
	460-3-60	DD-STD	18	20	18	62	18	20	18	62	18	20	18	62	20	25	21	64	20	25	21	64	20	25	21	64
		STD	17	20	16	67	17	20	16	67	17	20	16	67	19	25	19	69	19	25	19	69	19	25	19	69
MED		17	20	18	94	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96	20	25	21	96	
48HC*A07	208/230-3-60	HIGH	18	20	18	94	18	20	18	94	18	20	18	94	20	25	21	96	20	25	21	96	20	25	21	96
		DD-STD	16	20	16	50	16	20	16	50	16	20	16	50	17	20	18	52	17	20	18	52	17	20	18	52
		STD	13	15	13	53	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55	14	20	15	55
	460-3-60	MED	14	15	14	57	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59	15	20	16	59
		HIGH	14	20	15	68	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	70	16	20	16	70
		STD	41	60	41	169	41	60	41	169	41	60	41	169	46	60	47	174	46	60	47	174	46	60	47	174
	575-3-60	MED	44/44	60/60	45/45	222	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	49/49	60/60	50/50	227
		HIGH	50/49	60/60	51/50	238	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	54/54	60/60	56/55	243
		STD	19	25	19	83	19	25	19	83	19	25	19	83	21	25	21	85	21	25	21	85	21	25	21	85
48HC*D07	208/230-3-60	MED	20	25	20	110	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120	25	30	26	120
		STD	15	20	15	70	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72	17	20	17	72
	460-3-60	MED	17	20	17	85	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87	18	20	19	87
		HIGH	19	25	20	99	19	25	20	99	19	25	20	99	21	25	22	101	21	25	22	101	21	25	22	101
		STD	39	50	39	169	39	50	39	169	39	50	39	169	43	60	44	174	43	60	44	174	43	60	44	174
	575-3-60	MED	42/42	50/50	43/42	222	42/42	50/50	43/42	222	42/42	50/50	43/42	222	47/47	60/60	48/48	227	47/47	60/60	48/48	227	47/47	60/60	48/48	227
		HIGH	47/47	60/60	49/47	238	47/47	60/60	49/47	238	47/47	60/60	49/47	238	52/52	60/60	54/53	243	52/52	60/60	54/53	243	52/52	60/60	54/53	243
		STD	19	25	19	83	19	25	19	83	19	25	19	83	21	25	21	85	21	25	21	85	21	25	21	85
48HC*A07	208/230-3-60	MED	21	25	21	110	21	25	21	110	21	25	21	110	23	30	23	112	23	30	23	112	23	30	23	112
		HIGH	23	30	23	118	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120	25	30	26	120
		STD	15	20	15	70	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72	17	20	17	72
	460-3-60	MED	16	20	16	85	16	20	16	85	16	20	16	85	18	20	18	87	18	20	18	87	18	20	18	87
		HIGH	19	25	19	99	19	25	19	99	19	25	19	99	21	25	21	101	21	25	21	101	21	25	21	101
		STD	41	60	41	169	41	60	41	169	41	60	41	169	46	60	47	174	46	60	47	174	46	60	47	174
	575-3-60	MED	44/44	60/60	45/45	222	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	49/49	60/60	50/50	227
		HIGH	50/49	60/60	51/50	238	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	54/54	60/60	56/55	243
		STD	19	25	19	83	19	25	19	83	19	25	19	83	21	25	21	85	21	25	21	85	21	25	21	85

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								
	208/230-3-60	STD	51	60	54	203	51	60	54	203	56	60	58/58	60	60	208	56	60	60	208						
		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	62/62	246						
		HIGH	57	60	61	270	57	60	61	270	61	70	66	275	61	70	66	275	66	275						
48HC*D08	460-3-60	STD	24	25	25	101	24	25	25	101	26	30	27	30	28	103	26	30	28	103						
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122	29	122						
		HIGH	27	30	28	135	27	30	28	135	29	30	31	137	29	30	31	137	30	137						
	575-3-60	STD	18	20	19	83	18	20	19	83	20	25	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	22	89						
		HIGH	19	20	21	98	19	20	21	98	21	25	22	100	21	25	22	100	22	100						
	208/230-3-60	STD	51	60	55	203	51	60	55	203	56	60	58/58	60	60	208	56	60	60	208						
		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	62/62	246						
		HIGH	57	60	61	270	57	60	61	270	62	70	66	275	62	70	66	275	66	275						
48HC*D09	460-3-60	STD	24	30	25	101	24	30	25	101	26	30	27	30	28	103	26	30	28	103						
		MED	25	30	26	120	25	30	26	120	27	30	29	122	27	30	29	122	29	122						
		HIGH	27	30	28	135	27	30	28	135	29	35	31	137	29	35	31	137	31	137						
	575-3-60	STD	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85	22	85						
		MED	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89	25	89						
		HIGH	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100	25	100						
	208/230-3-60	STD	61	70	65	269	61	70	65	269	66	80	74/74	80	70	274	66	80	70	274						
		MED	66	80	71	325	66	80	71	325	71	80	77	330	71	80	77	330	80	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	80/79	332						
48HC*D11	460-3-60	STD	28	30	29	129	28	30	29	129	30	35	32	131	30	35	32	131	35	131						
		MED	31	35	33	157	31	35	33	157	33	35	35	159	33	35	35	159	35	159						
		HIGH	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160	40	160						
	575-3-60	STD	23	25	24	101	23	25	24	101	25	30	26	103	25	30	26	103	30	103						
		MED	24	25	25	112	24	25	25	112	25	30	27	114	25	30	27	114	30	114						
		HIGH	27	30	29	126	27	30	29	126	28	30	31	128	28	30	31	128	30	128						

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

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

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*D07	208/230-3-60	STD	39/39	50/50	40/39	173	39/39	50/50	40/39	173	44/44	60/60	45/45	178	44/44	60/60	45/45	178	48HC*D07	460-3-60	STD	19	25	19	85	19	25	22	87	21	25	22	87	21	25	22	87
		MED	42/41	50/50	43/42	203	42/41	50/50	43/42	203	47/46	60/60	48/47	208	47/46	60/60	48/47	208			47/46	60/60	48/47	208	47/46	60/60	48/47	208	47/46	60/60	48/47	208					
		HIGH	47/46	60/60	49/47	238	47/46	60/60	49/47	238	52/51	60/60	54/53	243	52/51	60/60	54/53	243			52/51	60/60	54/53	243	52/51	60/60	54/53	243									
	575-3-60	STD	16	20	16	72	16	20	16	72	18	20	18	74	18	20	18	74	48HC*D08	460-3-60	MED	18	20	18	85	18	20	23	103	22	30	23	103	22	30	23	103
		HIGH	20	25	20	99	20	25	20	99	21	25	22	101	21	25	22	101			21	25	22	101	21	25	22	101									
		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			57/56	60/60	61/60	212	57/56	60/60	61/60	212									
48HC*D08	208/230-3-60	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	48HC*D09	460-3-60	HIGH	57/56	60/60	61/60	261	57/56	60/60	61/60	266	62/61	70/70	66/65	266	62/61	70/70	66/65	266
		STD	24	30	25	103	24	30	25	103	26	30	28	105	26	30	28	105			26	30	28	105	26	30	28	105	26	30	28	105					
		MED	25	30	27	106	25	30	26	106	27	30	29	108	27	30	29	108			27	30	29	108	27	30	29	108	27	30	29	108					
	575-3-60	HIGH	26	30	28	131	26	30	28	131	28	30	30	133	28	30	30	133	28	30	30	133	28	30	30	133	28	30	30	133							
		STD	19	20	21	85	19	20	21	85	21	20	21	87	21	25	22	87	21	25	22	87	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	22	25	23	91	22	25	23	91	22	25	23	91							
48HC*D09	208/230-3-60	HIGH	21	25	22	98	21	25	22	98	23	25	24	100	23	25	24	100	23	25	24	100	23	25	24	100	23	25	24	100							
		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	57/57	60/60	61/61	212	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	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216							
	460-3-60	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	62/61	70/70	67/66	266	62/61	70/70	67/66	266	62/61	70/70	67/66	266							
		STD	24	30	26	103	24	30	26	103	27	30	28	105	27	30	28	105	27	30	28	105	27	30	28	105	27	30	28	105							
		MED	25	30	26	106	25	30	26	106	27	30	29	108	27	30	29	108	27	30	29	108	27	30	29	108	27	30	29	108							
575-3-60	HIGH	26	30	28	131	26	30	28	131	29	30	31	133	29	30	31	133	29	30	31	133	29	30	31	133	29	30	31	133								
	STD	21	25	22	85	21	25	22	85	22	25	24	87	22	25	24	87	22	25	24	87	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	23	25	25	91	23	25	25	91	23	25	25	91								
575-3-60	HIGH	22	25	24	98	22	25	24	98	24	25	26	100	24	25	26	100	24	25	26	100	24	25	26	100	24	25	26	100								

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	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA
48HC*D11	208/230-3-60	STD	63/62	70/70	67/67	266	63/62	70/70	67/67	266	67/67	266	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	316	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	327	74/73	327	74/73	80/80	80/79	332	74/73	80/80	80/79	332
	460-3-60	STD	29	30	30	128	29	30	30	128	30	128	30	128	31	35	33	130	31	35	33	130
		MED	30	35	32	153	30	35	32	153	32	153	32	153	32	35	35	155	32	35	35	155
		HIGH	32	35	34	158	32	35	34	158	34	158	34	158	34	40	36	160	34	40	36	160
48HC*D12	575-3-60	STD	24	30	26	103	24	30	26	103	26	103	26	103	26	30	28	105	26	30	28	105
		MED	25	30	27	112	25	30	27	112	27	112	27	112	27	30	29	114	27	30	29	114
		HIGH	27	30	29	126	27	30	29	126	29	126	29	126	29	35	31	128	29	35	31	128
	208/230-3-60	STD	61/61	70/70	66/65	291	61/61	70/70	66/65	291	66/65	291	66/65	291	66/65	80/80	71/71	296	66/65	80/80	71/71	296
		MED	65/64	80/70	70/69	341	65/64	80/70	70/69	341	70/69	341	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	352	73/72	352	73/72	80/80	79/78	357	73/72	80/80	79/78	357
48HC*D14	460-3-60	STD	30	35	31	140	30	35	31	140	31	140	31	140	32	35	34	142	32	35	34	142
		MED	31	35	33	165	31	35	33	165	33	165	33	165	33	40	36	167	33	40	36	167
		HIGH	33	35	35	170	33	35	35	170	35	170	35	170	35	40	37	172	35	40	37	172
	575-3-60	STD	25	30	26	113	25	30	26	113	26	113	26	113	26	30	28	115	26	30	28	115
		MED	26	30	27	122	26	30	27	122	27	122	27	122	27	30	29	124	27	30	29	124
		HIGH	28	30	29	136	28	30	29	136	29	136	29	136	29	35	31	138	29	35	31	138
48HC*D14	208/230-3-60	STD	74/73	80/80	79/78	353	74/73	80/80	79/78	353	79/78	353	79/78	353	79/78	90/90	84/83	358	79/78	90/90	84/83	358
		MED	76/75	90/80	81/80	377	76/75	90/80	81/80	377	81/80	377	81/80	377	81/80	90/90	87/86	382	81/80	90/90	87/86	382
		HIGH	86	100	92	392	86	100	92	392	92	392	92	392	91	100	98	397	91	100	98	397
	460-3-60	STD	32	35	34	172	32	35	34	172	34	172	34	172	34	40	37	174	34	40	37	174
		MED	33	40	35	184	33	40	35	184	35	184	35	184	35	40	38	186	35	40	38	186
		HIGH	39	45	41	191	39	45	41	191	41	191	41	191	41	50	44	193	41	50	44	193
48HC*D14	575-3-60	STD	29	35	31	145	29	35	31	145	31	145	31	145	31	35	33	147	31	35	33	147
		MED	29	35	31	145	29	35	31	145	31	145	31	145	31	35	33	147	31	35	33	147
		HIGH	34	40	36	157	34	40	36	157	36	157	36	157	36	40	38	159	36	40	38	159

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 FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA
48HC*D07	208/230-3-60	STD	39/39	50/50	40/39 173	39/39	50/50	40/39 173	44/44	60/60	45/45 178	44/44	60/60	45/45 178
		MED	42/42	50/50	43/42 203	42/42	50/50	43/42 203	47/47	60/60	48/47 208	47/47	60/60	48/47 208
		HIGH	47/47	60/60	49/47 238	47/47	60/60	49/47 238	52/52	60/60	54/53 243	52/52	60/60	54/53 243
	460-3-60	STD	19	25	19 85	19	25	19 85	21	25	22 87	21	25	22 87
		MED	20	25	20 101	20	25	20 101	22	30	23 103	22	30	23 103
		HIGH	23	30	23 118	23	30	23 118	25	30	26 120	25	30	26 120
48HC*D08	208/230-3-60	STD	16	20	16 72	16	20	16 72	18	20	18 74	18	20	18 74
		MED	18	20	18 85	18	20	18 85	20	25	20 87	20	25	20 87
		HIGH	20	25	20 99	20	25	20 99	21	25	22 101	21	25	22 101
	460-3-60	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
48HC*D09	208/230-3-60	STD	24	30	25 103	24	30	25 103	26	30	28 105	26	30	28 105
		MED	25	30	26 106	25	30	26 106	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
	460-3-60	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	26 106	25	30	26 106	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
48HC*D09	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

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. (pwrdr fr/ unit)					NO P.E.					w/ P.E. (pwrdr fr/ unit)				
			MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
48HC*D11	208/230-3-60	STD	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
		MED	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
		HIGH	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
	460-3-60	STD	29	30	30	128	128	29	30	30	128	128	31	35	33	130	130	31	35	33	130	130
		MED	30	35	32	153	153	30	35	32	153	153	32	35	35	155	155	32	35	35	155	155
		HIGH	32	35	34	158	158	32	35	34	158	158	34	40	36	160	160	34	40	36	160	160
48HC*D12	575-3-60	STD	24	30	26	103	103	24	30	26	103	103	26	30	28	105	105	26	30	28	105	105
		MED	25	30	27	112	112	25	30	27	112	112	27	30	29	114	114	27	30	29	114	114
		HIGH	27	30	29	126	126	27	30	29	126	126	29	35	31	128	128	29	35	31	128	128
	208/230-3-60	STD	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
		MED	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
		HIGH	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
48HC*D14	460-3-60	STD	30	35	31	140	140	30	35	31	140	140	32	35	34	142	142	32	35	34	142	142
		MED	31	35	33	165	165	31	35	33	165	165	33	40	36	167	167	33	40	36	167	167
		HIGH	33	35	35	170	170	33	35	35	170	170	35	40	37	172	172	35	40	37	172	172
	575-3-60	STD	25	30	26	113	113	25	30	26	113	113	26	30	28	115	115	26	30	28	115	115
		MED	26	30	27	122	122	26	30	27	122	122	27	30	29	124	124	27	30	29	124	124
		HIGH	28	30	29	136	136	28	30	29	136	136	29	35	31	138	138	29	35	31	138	138
48HC*D14	208/230-3-60	STD	74/74	80/80	79/78	353	353	74/74	80/80	79/78	353	353	79/79	90/90	84/83	358	358	79/79	90/90	84/83	358	358
		MED	76/76	90/90	81/80	377	377	76/76	90/90	81/80	377	377	81/81	90/90	87/86	382	382	81/81	90/90	87/86	382	382
		HIGH	86	100	92	392	392	86	100	92	392	392	91	100	98	397	397	91	100	98	397	397
	460-3-60	STD	32	35	34	172	172	32	35	34	172	172	34	40	37	174	174	34	40	37	174	174
		MED	33	40	35	184	184	33	40	35	184	184	35	40	38	186	186	35	40	38	186	186
		HIGH	39	45	41	191	191	39	45	41	191	191	41	50	44	193	193	41	50	44	193	193
48HC*D14	575-3-60	STD	29	35	31	145	145	29	35	31	145	145	31	35	33	147	147	31	35	33	147	147
		MED	29	35	31	145	145	29	35	31	145	145	31	35	33	147	147	31	35	33	147	147
		HIGH	34	40	36	157	157	34	40	36	157	157	36	40	38	159	159	36	40	38	159	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

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	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					
50HC+A04	DD--STD	NONE	—	—	35	50	35	94	35	50	35	94	40	50	41	99	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	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	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	70/80	56/62	99/99	62/68	70/70	56/62	99/99	62/68	70/80	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	80/90	64/71	99/99	70/77	80/80	64/71	99/99	70/77	80/80	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	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	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	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	60/60	44/49	104/104	49/53	60/60	44/49	104/104	49/53	60/60	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	70/70	54/59	104/104	59/65	70/70	54/59	104/104	59/65	70/70	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	80/80	61/68	104/104	67/74	80/80	61/68	104/104	67/74	80/80	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	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	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	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	60/60	44/49	104/104	49/53	60/60	44/49	104/104	49/53	60/60	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	70/70	54/59	104/104	59/65	70/70	54/59	104/104	59/65	70/70	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	80/80	61/68	104/104	67/74	80/80	61/68	104/104	67/74	80/80	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	78/87	80/90	71/80	104/104		
DD--STD	NONE	—	—	27	30	28	88	27	30	28	88	32	40	34	93	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	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	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	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	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	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	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	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	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	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	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	62/68	70/70	56/62	105/105		
208/230-3-60	NONE	—	—	25/25	30/30	26/25	117	25/25	30/30	26/25	117	30/30	40/35	31/31	122	30/30	40/35	31/31	122	30/30	40/35	31/31	122	
	101A	3.3/4.4	9.2/10.6	25/27	30/30	26/25	117/117	25/27	30/30	26/25	117/117	31/33	40/35	31/31	122/122	31/33	40/35	31/31	122/122	31/33	40/35	31/31	122/122	
	102A	4.9/6.5	13.6/15.6	31/33	35/35	28/30	117/117	31/33	35/35	28/30	117/117	37/39	40/40	34/36	122/122	37/39	40/40	34/36	122/122	37/39	40/40	34/36	122/122	
	103B	6.5/8.7	18.1/20.9	37/40	40/40	33/36	117/117	37/40	40/40	33/36	117/117	43/46	45/50	39/42	122/122	43/46	45/50	39/42	122/122	43/46	45/50	39/42	122/122	
	104B	7.9/10.5	21.9/25.3	41/46	45/50	38/42	117/117	41/45	45/50	38/41	117/117	47/51	50/60	43/47	122/122	47/51	50/60	43/47	122/122	47/51	50/60	43/47	122/122	
105A	12.0/16.0	33.4/38.5	56/62	60/70	51/57	117/117	56/62	60/70	51/56	117/117	62/68	70/70	56/62	122/122	62/68	70/70	56/62	122/122	62/68	70/70	56/62	122/122		
HIGH	NONE	—	—	28/28	35/35	29/29	153	28/28	35/35	29/29	153	33/33	40/40	35/35	158	33/33	40/40	35/35	158	33/33	40/40	35/35	158	
	101A	3.3/4.4	9.2/10.6	29/31	35/35	29/29	153/153	29/31	35/35	29/29	153/153	35/37	40/40	35/35	158/158	35/37	40/40	35/35	158/158	35/37	40/40	35/35	158/158	
	102A	4.9/6.5	13.6/15.6	35/37	35/40	32/34	153/153	35/37	35/40	32/34	153/153	41/43	45/45	37/39	158/158	41/43	45/45	37/39	158/158	41/43	45/45	37/39	158/158	
	103B	6.5/8.7	18.1/20.9	41/44	45/45	37/40	153/153	41/44	45/45	37/40	153/153	47/50	50/50	42/46	158/158	47/50	50/50	42/46	158/158	47/50	50/50	42/46	158/158	
	104B	7.9/10.5	21.9/25.3	45/49	45/50	41/45	153/153	45/49	45/50	41/45	153/153	51/55	60/60	47/51	158/158	51/55	60/60	47/51	158/158	51/55	60/60	47/51	158/158	
105A	12.0/16.0	33.4/38.5	60/66	60/70	55/60	153/153	60/66	60/70	55/60	153/153	66/72	70/80	60/66	158/158	66/72	70/80	60/66	158/158	66/72	70/80	60/66	158/158		

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.				
			CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ 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	MCA	MAX FUSE or HACR BRKR	DISC. SIZE	
								FLA	LRA			FLA	LRA					FLA	LRA
50HC*A04	460-3-60	DD-STD	NONE	-	-	16	20	16	47	16	20	16	47	16	20	18	20	18	49
			106A	6.0	7.2	19	20	17	47	19	20	17	47	22	25	22	25	19	49
			107A	8.8	10.6	23	25	21	47	23	25	21	47	26	30	26	30	23	49
			108A	11.5	13.8	27	30	24	47	27	30	24	47	30	30	30	30	27	49
50HC*A04	460-3-60	STD	109A	14.0	16.8	31	35	28	47	31	35	28	47	34	35	34	35	30	49
			NONE	-	-	14	20	14	52	14	20	14	52	17	20	17	20	17	54
			106A	6.0	7.2	17	20	15	52	17	20	15	52	20	20	20	20	18	54
			107A	8.8	10.6	21	25	19	52	21	25	19	52	24	25	24	25	22	54
50HC*A04	460-3-60	MED	108A	11.5	13.8	25	25	23	52	25	25	23	52	28	30	28	30	25	54
			109A	14.0	16.8	29	30	26	52	29	30	26	52	32	35	32	35	29	54
			NONE	-	-	14	20	14	61	14	20	14	61	16	20	16	20	17	63
			106A	6.0	7.2	17	20	15	61	17	20	15	61	20	20	20	20	18	63
50HC*A04	460-3-60	HIGH	107A	8.8	10.6	21	25	19	61	21	25	19	61	24	25	24	25	22	63
			108A	11.5	13.8	25	25	23	61	25	25	23	61	28	30	28	30	25	63
			109A	14.0	16.8	29	30	26	61	29	30	26	61	32	35	32	35	29	63
			NONE	-	-	16	20	16	79	16	20	16	79	18	20	18	20	19	81
50HC*A04	575-3-60	DD-STD	106A	6.0	7.2	19	20	17	79	19	20	17	79	22	25	22	25	20	81
			107A	8.8	10.6	23	25	21	79	23	25	21	79	26	30	26	30	24	81
			108A	11.5	13.8	27	30	25	79	27	30	25	79	30	30	30	30	27	81
			109A	14.0	16.8	31	35	28	79	31	35	28	79	34	35	34	35	31	81
50HC*A04	575-3-60	STD	NONE	-	-	15	20	16	47	15	20	16	47	17	20	17	20	18	49
			297A	10.0	9.6	24	25	22	47	24	25	22	47	26	30	26	30	24	49
			298A	15.0	14.4	30	30	27	47	30	30	27	47	32	35	32	35	29	49
			NONE	-	-	12	15	12	50	12	15	12	50	14	15	14	15	14	52
50HC*A04	575-3-60	MED	297A	10.0	9.6	21	25	18	50	21	25	18	50	23	25	23	25	20	52
			298A	15.0	14.4	27	30	24	50	27	30	24	50	29	30	29	30	26	52
			NONE	-	-	12	15	12	50	12	15	12	50	14	15	14	15	14	52
			297A	10.0	9.6	21	25	18	50	21	25	18	50	23	25	23	25	20	52
50HC*A04	575-3-60	HIGH	298A	15.0	14.4	27	30	24	50	27	30	24	50	29	30	29	30	26	52
			NONE	-	-	13	15	13	54	13	15	13	54	15	20	15	20	15	56
			297A	10.0	9.6	22	25	19	54	22	25	19	54	24	25	24	25	21	56
			298A	15.0	14.4	28	30	25	54	28	30	25	54	30	30	30	30	27	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.											
			CRHEATER****00	Nom (kW)	FLA	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		DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		DISC. SIZE		MCA	MAX FUSE or HACR BRKR	DISC. SIZE		DISC. SIZE				
									FLA	LRA							FLA	LRA							FLA	LRA
	DD-STD		NONE	—	—	44	60	44	135	44	60	44	135	49	60	50	140	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	49/49	60/60	50/50	140/140	
			103B	6.5/8.7	31.4/36.3	59/65	80/70	54/59	135/135	59/65	80/70	54/59	135/135	65/71	70/80	59/65	140/140	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	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	104/116	110/125	95/106	140/140	
208/230-1-60			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	120/135	125/150	110/124	140/140	
			NONE	—	—	42	60	41	140	42	60	41	140	47	60	47	145	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	47/47	60/60	47/47	145/145	
			103B	6.5/8.7	31.4/36.3	56/62	80/70	51/56	140/140	56/62	80/70	51/56	140/140	62/68	70/70	56/62	145/145	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	81/90	90/90	74/82	145/145	
50HC*405	208/230-1-60		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	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	117/132	125/150	107/121	145/145	
			NONE	—	—	34	45	35	101	34	45	35	101	39	50	41	106	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	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	48/52	50/60	44/47	106/106	
	DD-STD		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	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	81/89	90/90	74/81	106/106	
			NONE	—	—	32	45	33	113	32	45	33	113	37	50	38	118	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	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	46/49	50/50	42/45	118/118	
	208/230-3-60		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	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	78/86	80/90	71/79	118/118	
			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	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	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	46/49	50/50	42/44	135/135	
	208/230-1-60		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	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	78/86	80/90	71/79	135/135	
			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	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	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	50/53	50/60	45/48	171/171	
	HIGH		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	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	82/90	90/90	75/82	171/171	
			NONE	—	—	34	45	35	101	34	45	35	101	39	50	41	106	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	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	48/52	50/60	44/47	106/106	

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	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/ Economizer				
				MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HCxA05	460-3-60	DD-STD	NONE	17	20	17	51	51	17	20	17	51	51	19	25	20	53	53
			108A	19	20	17	51	51	19	20	17	51	51	22	25	20	53	53
			108A	27	30	25	51	51	27	30	25	51	51	30	30	27	53	53
			108A+108A	31	35	28	51	51	31	35	28	51	51	34	35	31	53	53
		STD	108A+108A	45	45	41	51	51	45	45	41	51	51	48	50	43	53	53
			NONE	16	20	16	56	56	16	20	16	56	56	18	20	18	58	58
			108A	17	20	16	56	56	17	20	16	56	56	20	20	18	58	58
			108A	26	30	23	56	56	26	30	23	56	56	28	30	26	58	58
		MED	108A	29	30	27	56	56	29	30	27	56	56	32	35	29	58	58
			108A+108A	43	45	39	56	56	43	45	39	56	56	46	50	42	58	58
50HCxA05	460-3-60	MED	NONE	15	20	15	65	65	15	20	15	65	65	18	20	18	67	67
			108A	17	20	16	65	65	17	20	16	65	65	20	20	18	67	67
			108A	26	30	23	65	65	26	30	23	65	65	28	30	26	67	67
			108A	29	30	27	65	65	29	30	27	65	65	32	35	29	67	67
		HIGH	108A+108A	43	45	39	65	65	43	45	39	65	65	46	50	42	67	67
			NONE	17	20	17	83	83	17	20	17	83	83	19	25	20	85	85
			108A	19	20	18	83	83	19	20	18	83	83	22	25	20	85	85
			108A	28	30	25	83	83	28	30	25	83	83	30	35	28	85	85
		DD-STD	108A	31	35	29	83	83	31	35	29	83	83	34	35	31	85	85
			108A+108A	45	45	41	83	83	45	45	41	83	83	48	50	44	85	85
50HCxA05	575-3-60	DD-STD	NONE	15	20	16	43	43	15	20	16	43	43	17	20	18	45	45
			297A	22	25	20	43	43	22	25	20	43	43	24	25	22	45	45
			298A	28	30	26	43	43	28	30	26	43	43	30	30	28	45	45
		STD	NONE	12	15	12	46	46	12	15	12	46	46	14	15	14	48	48
			297A	19	20	17	46	46	19	20	17	46	46	21	25	19	48	48
			298A	25	25	22	46	46	25	25	22	46	46	27	30	24	48	48
		MED	NONE	13	15	13	46	46	13	15	13	46	46	14	20	15	48	48
			297A	19	20	17	46	46	19	20	17	46	46	21	25	19	48	48
			298A	25	25	23	46	46	25	25	23	46	46	27	30	25	48	48
		HIGH	NONE	14	15	14	61	61	14	15	14	61	61	16	20	16	63	63
			297A	21	25	19	61	61	21	25	19	61	61	23	25	21	63	63
			298A	27	30	24	61	61	27	30	24	61	61	29	30	26	63	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	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					
208/230-1-60	DD--STD	NONE	—	—	48	60	48	152	48	45	157	46	60	48	152	53	60	53	157	53	157	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	49/53	60/60	48/49	152/152	55/59	60/60	53/54	157/157	55/59	60/60	53/54	
		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	65/71	70/80	59/65	
		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	84/93	90/100	77/85	
	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	104/116	110/125	95/106		
	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	120/135	125/150	110/124		
	NONE	—	—	46	60	45	157	46	60	45	157	51	60	50	162	51	60	50	162	51	60	50		
	102A	4.9/6.5	23.5/27.1	48/50	60/60	45/46	157/157	48/50	60/60	45/46	157/157	52/56	60/60	50/51	162/162	52/56	60/60	50/51	162/162	52/56	60/60	50/51		
	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	62/68	70/70	56/62		
	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	81/90	90/90	74/82		
	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	101/113	110/125	92/103		
	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	117/132	125/150	107/121		
208/230-3-60	DD--STD	NONE	—	—	48	60	47	182	48	60	47	182	48	182	53	60	53	187	53	187	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	54/59	60/60		
		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	64/70	70/70		
		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	84/93	90/100		
	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	103/116	110/125			
	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	120/134	125/150			
	NONE	—	—	37	50	38	128	37	50	38	128	42	50	43	133	42	50	43	133	42	50			
	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	43/45	50/50			
	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	53/57	60/60			
	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	68/74	70/80			
	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	81/89	90/90			
	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	95/106	100/110			
208/230-3-60	STD	NONE	—	—	35	50	35	140	35	50	35	140	40	50	41	40	50	41	145	40	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	40/43	50/50		
		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	60/60	46/50	145/145	50/55	60/60	46/50	145/145	50/55	60/60		
		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	65/71	70/80		
	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	78/86	80/90			
	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	92/103	100/110			
	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	43/43	50/50			
	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	44/46	50/50			
	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	54/59	60/60			
	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	69/75	70/80			
	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	82/90	90/90			
	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	96/107	100/110			
208/230-3-60	MED	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	43/43	50/50		
		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	44/46	50/50		
		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	54/59	60/60		
		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	69/75	70/80		
	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	82/90	90/90			
	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	96/107	100/110			
	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	43/43	50/50			
	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	44/46	50/50			
	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	54/59	60/60			
	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	69/75	70/80			
	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	82/90	90/90			
	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	96/107	100/110			

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	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						
		IFM TYPE	CRHEATER****00	Nom (kW)	FLA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE
50HC+A06	460-3-60	DD-STD	NONE	-	-	18	20	18	62	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	19	20	22	25	21	64	22	25	21	64		
			108A	11.5	13.8	27	30	25	62	27	30	25	62	27	30	30	30	27	64	30	30	27	64		
			109A	14.0	16.8	31	35	28	62	31	35	28	62	31	35	34	35	31	64	34	35	31	64		
			108A+108A	23.0	27.7	45	45	41	62	45	45	41	62	48	50	41	62	43	64	48	50	43	64		
575-3-60	DD-STD	108A+109A	25.5	30.7	49	50	44	62	49	50	44	62	51	60	47	64	51	60	47	64					
		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					
50HC+A06	460-3-60	MED	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				
			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				
575-3-60	DD-STD	HIGH	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				
			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				
575-3-60	DD-STD	STD	108A	15.0	14.4	25	25	22	53	25	25	22	53	27	30	24	55	27	30	24	55				
			298A	25.0	24.1	37	40	33	53	37	40	33	53	39	40	35	55	39	40	35	55				
			301A	25.0	24.1	37	40	33	53	37	40	33	53	39	40	35	55	39	40	35	55				
			NONE	-	-	13	15	13	53	13	15	13	53	14	20	15	55	14	20	15	55				
			298A	15.0	14.4	25	25	22	53	25	25	22	53	27	30	24	55	27	30	24	55				
575-3-60	MED	HIGH	301A	25.0	24.1	37	40	33	53	37	40	33	53	39	40	35	55	39	40	35	55				
			NONE	-	-	14	15	14	57	14	15	14	57	15	20	16	59	15	20	16	59				
			298A	15.0	14.4	26	30	23	57	26	30	23	57	28	30	25	59	28	30	25	59				
			301A	25.0	24.1	38	40	34	57	38	40	34	57	40	40	36	59	40	40	36	59				
			NONE	-	-	14	20	15	68	14	20	15	68	16	20	16	70	16	20	16	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer				w/ ERV, w/o Economizer				w/ ERV, w/o 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		MCA	MAX FUSE or HACR BRKR	FLA	LRA
50HC*07A	STD	NONE	—	—	41	60	41	169	41	60	41	169	46	60	47	174	46	60	47	174	47	174		
		264A	4.9/6.5	13.6/15.6	41/41	60/60	41/41	169/169	44/48	60/60	41/41	169/169	46/46	60/60	47/47	174/174	46/46	60/60	47/47	174/174	47/47	174/174		
		117A	7.8/10.4	21.7/25.0	44/48	60/60	41/44	169/169	44/48	60/60	41/44	169/169	50/54	60/60	47/50	174/174	50/54	60/60	47/50	174/174	47/50	174/174		
		110A	12.0/16.0	33.4/38.5	59/65	60/70	54/60	169/169	59/65	60/70	54/60	169/169	65/71	70/80	59/65	174/174	65/71	70/80	59/65	174/174	59/65	174/174		
		117A+117A	15.8/21.0	43.8/50.5	72/80	80/80	66/73	169/169	72/80	80/80	66/73	169/169	78/86	80/90	71/79	174/174	78/86	80/90	71/79	174/174	71/79	174/174		
	MED	110A+117A	19.9/26.5	55.2/63.8	86/96	90/100	79/89	169/169	86/97	90/100	79/89	169/169	92/103	100/110	84/94	174/174	92/103	100/110	84/94	174/174	84/94	174/174		
		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	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	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	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	63/69	227/227		
HIGH	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	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	88/98	227/227			
	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	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	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	56/58	243/243			
STD	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	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	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	94/103	243/243			
	NONE	—	—	19	25	19	83	19	25	19	83	21	25	21	85	21	25	21	85	21	85			
	265A	6.0	7.2	19	25	19	83	19	25	19	83	21	25	21	85	21	25	21	85	21	85			
MED	266A	11.5	13.8	26	30	23	83	26	30	23	83	28	30	26	85	28	30	26	85	28	85			
	267A	14.0	16.8	29	30	27	83	29	30	27	83	32	35	29	85	32	35	29	85	32	85			
	268A	23.0	27.7	43	45	39	83	43	45	39	83	46	50	42	85	46	50	42	85	42	85			
	269A	25.5	30.7	47	50	43	83	47	50	43	83	50	50	45	85	50	50	45	85	45	85			
	265A	6.0	7.2	20	25	20	110	20	25	20	110	23	30	23	112	23	30	23	112	23	112			
HIGH	266A	11.5	13.8	28	30	25	110	28	30	25	110	30	35	28	112	30	35	28	112	30	112			
	267A	14.0	16.8	31	35	29	110	31	35	29	110	34	35	31	112	34	35	31	112	34	112			
	268A	23.0	27.7	45	45	41	110	45	45	41	110	48	50	44	112	48	50	44	112	44	112			
	269A	25.5	30.7	49	50	45	110	49	50	45	110	52	60	47	112	52	60	47	112	47	112			
	265A	6.0	7.2	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120	26	120			
STD	266A	11.5	13.8	30	35	28	118	30	35	28	118	33	35	30	120	33	35	30	120	30	120			
	267A	14.0	16.8	34	35	31	118	34	35	31	118	37	40	34	120	37	40	34	120	34	120			
	268A	23.0	27.7	48	50	44	118	48	50	44	118	51	60	46	120	51	60	46	120	46	120			
	269A	25.5	30.7	52	60	47	118	52	60	47	118	54	60	50	120	54	60	50	120	50	120			
	265A	6.0	7.2	23	30	23	118	23	30	23	118	25	30	26	120	25	30	26	120	26	120			
575-3-60	NONE	—	—	15	20	15	70	15	20	15	70	17	20	17	72	17	20	17	72	17	72			
	118A	18.0	17.3	29	30	26	70	29	30	26	70	31	35	28	72	31	35	28	72	28	72			
	299A	28.0	26.9	41	45	37	70	41	45	37	70	43	45	39	72	43	45	39	72	39	72			
575-3-60	NONE	—	—	17	20	17	85	17	20	17	85	18	20	19	87	18	20	19	87	19	87			
	118A	18.0	17.3	30	30	28	85	30	30	28	85	32	35	29	87	32	35	29	87	29	87			
	299A	28.0	26.9	42	45	39	85	42	45	39	85	44	45	41	87	44	45	41	87	41	87			
HIGH	NONE	—	—	19	25	19	99	19	25	19	99	21	25	22	101	21	25	22	101	22	101			
	118A	18.0	17.3	34	35	31	99	34	35	31	99	36	40	33	101	36	40	33	101	33	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	IFM TYPE	ELEC. HTR		NO C.O. or UNPWR C.O.										w/ PWRD C.O.					
				w/ ERV, w/o Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					DISC. SIZE
				MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	
50HC*07D	STD	NONE	4.9/6.5	—	—	—	39	39	169	39	50	39	169	43	174	43	60	44	174
				13.6/15.6	39/39	39/39	39/39	39/39	169/169	39/39	50/50	39/39	169/169	43/43	174/174	43/43	60/60	44/44	174/174
				21.7/25.0	44/48	44/48	44/48	44/48	169/169	44/48	50/50	44/48	169/169	50/54	174/174	50/54	60/60	46/50	174/174
				33.4/38.5	59/65	59/65	59/65	59/65	169/169	59/65	60/70	59/65	169/169	65/71	174/174	65/71	70/80	59/65	174/174
				43.8/50.5	72/80	72/80	72/80	72/80	169/169	72/80	80/80	66/73	169/169	78/86	174/174	78/86	80/90	71/79	174/174
				55.2/63.8	86/97	86/97	86/97	86/97	169/169	86/97	90/100	90/100	169/169	92/103	174/174	92/103	100/110	84/94	174/174
				—	42/42	42/42	42/42	42/42	222	42/42	50/50	43/42	222	47/47	227	47/47	60/60	48/48	227
				13.6/15.6	42/42	42/42	42/42	42/42	222/222	42/42	50/50	43/42	222/222	47/47	227/227	47/47	60/60	48/48	227/227
				21.7/25.0	48/52	48/52	48/52	48/52	222/222	48/52	50/60	44/48	222/222	54/58	227/227	54/58	60/60	49/53	227/227
				33.4/38.5	63/69	63/69	63/69	63/69	222/222	63/69	70/70	57/63	222/222	69/75	227/227	69/75	70/80	63/69	227/227
460-3-60	MED	NONE	4.9/6.5	—	47/46	47/46	47/46	47/46	238	47/46	60/60	49/47	238	52/51	243	52/51	60/60	54/53	243
				13.6/15.6	47/46	47/46	47/46	47/46	238/238	47/46	60/60	49/47	238/238	52/52	243/243	52/52	60/60	54/53	243/243
				21.7/25.0	55/58	55/58	55/58	55/58	238/238	55/58	60/60	50/53	238/238	61/64	243/243	61/64	70/70	55/58	243/243
				33.4/38.5	69/75	69/75	69/75	69/75	238/238	69/75	70/80	63/68	238/238	75/81	243/243	75/81	80/90	69/74	243/243
				43.8/50.5	82/90	82/90	82/90	82/90	238/238	82/90	90/90	75/82	238/238	88/96	243/243	88/96	90/100	81/87	243/243
				55.2/63.8	97/106	97/106	97/106	97/106	238/238	97/106	100/110	89/97	238/238	103/112	243/243	103/112	110/125	94/103	243/243
				—	19	19	19	19	83	19	25	19	83	21	85	21	25	21	85
				7.2	19	19	19	19	83	19	25	19	83	21	85	21	25	21	85
				13.8	26	26	26	26	83	26	30	23	83	28	85	28	30	26	85
				16.8	29	27	27	27	83	29	30	27	83	32	85	32	35	29	85
575-3-60	STD	NONE	4.9/6.5	—	47	47	47	47	83	47	50	43	83	50	85	50	50	42	85
				30.7	47	47	47	47	83	47	50	43	83	50	85	50	50	42	85
				—	21	21	21	21	110	21	25	21	110	23	112	23	30	23	112
				7.2	21	21	21	21	110	21	25	21	110	23	112	23	30	23	112
				13.8	28	25	25	25	110	28	30	25	110	30	112	30	35	28	112
				16.8	31	29	29	29	110	31	35	29	110	34	112	34	35	31	112
				23.0	45	41	41	41	110	45	45	41	110	48	112	48	50	44	112
				30.7	49	45	45	45	110	49	50	45	110	52	112	52	60	47	112
				—	23	23	23	23	118	23	30	23	118	25	120	25	30	26	120
				7.2	23	23	23	23	118	23	30	23	118	25	120	25	30	26	120
575-3-60	MED	NONE	4.9/6.5	—	16	16	16	16	85	16	20	16	85	18	87	18	20	18	87
				13.8	30	28	28	28	85	30	35	28	85	32	87	32	35	29	87
				16.8	34	31	31	31	85	34	35	31	85	37	87	37	40	34	87
				23.0	48	45	45	45	85	48	50	44	85	51	87	51	60	46	87
				30.7	52	49	49	49	85	52	60	47	85	54	87	54	60	50	87
				—	15	15	15	15	70	15	20	15	70	17	72	17	20	17	72
				7.2	15	15	15	15	70	15	20	15	70	17	72	17	20	17	72
				13.8	29	26	26	26	70	29	30	26	70	31	72	31	35	28	72
				16.8	41	37	37	37	70	41	45	37	70	43	72	43	45	39	72
				26.9	41	37	37	37	70	41	45	37	70	43	72	43	45	39	72

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



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

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****90	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	
50HC*D08	STD	NONE	—	—	51	60	54	203	203	51	60	54	203	203	56	60	60	208	208	56	60	60	208	
		117A	7.8/10.4	21.7/25.0	51/53	60/60	54/54	203/203	203/203	51/53	60/60	54/54	203/203	203/203	56/59	60/60	60/60	208/208	208/208	56/59	60/60	60/60	208/208	
		110A	12.0/16.0	33.4/38.5	64/70	70/70	58/64	203/203	203/203	64/70	70/70	58/64	203/203	203/203	70/76	70/80	70/80	208/208	208/208	70/76	70/80	64/70	208/208	
		111A	18.6/24.8	51.7/59.7	87/96	90/100	79/88	203/203	203/203	87/97	90/100	79/88	203/203	203/203	93/103	100/110	100/110	208/208	208/208	93/103	100/110	85/94	208/208	
		112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	203/203	203/203	102/118	110/125	96/108	203/203	203/203	111/124	125/125	125/125	208/208	208/208	111/124	125/125	102/114	208/208	
		112A+117A	31.8/42.4	88.4/102.0	132/149	150/150	121/137	203/203	203/203	132/149	150/150	121/137	203/203	203/203	138/155	150/175	150/175	208/208	208/208	138/155	150/175	127/143	208/208	
	MED	NONE	—	—	53/53	60/60	56/56	241	241	53/53	60/60	56/56	241	241	58/58	70/70	70/70	246	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	241/241	53/55	60/60	56/56	241/241	241/241	58/61	70/70	70/70	246/246	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	241/241	66/72	70/80	60/66	241/241	241/241	72/78	80/80	80/80	246/246	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	241/241	89/98	90/100	81/90	241/241	241/241	95/104	100/110	100/110	246/246	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	241/241	107/120	110/125	98/110	241/241	241/241	113/126	125/150	125/150	246/246	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	241/241	135/151	150/175	123/139	241/241	241/241	141/157	150/175	150/175	246/246	246/246	141/157	150/175	129/144	246/246	
HIGH	NONE	—	—	57	60	61	270	270	57	60	61	270	270	61	70	70	275	275	61	70	66	275		
	117A	7.8/10.4	21.7/25.0	57/60	60/60	61/61	270/270	270/270	57/60	60/60	61/61	270/270	270/270	62/66	70/70	70/70	275/275	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	270/270	70/77	70/80	64/70	270/270	270/270	76/83	80/90	80/90	275/275	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	270/270	93/103	100/110	85/95	270/270	270/270	99/109	100/110	100/110	275/275	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	270/270	112/125	125/125	103/115	270/270	270/270	118/131	125/150	125/150	275/275	275/275	118/131	125/150	103/120	275/275		
	112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/141	270/270	270/270	139/156	150/175	128/141	270/270	270/270	145/162	150/175	150/175	275/275	275/275	145/162	150/175	133/149	275/275		
460-3-60	STD	NONE	—	—	24	25	25	101	101	24	25	25	101	101	26	30	28	103	103	26	30	28	103	
		116B	13.9	16.7	31	35	28	101	101	31	35	28	101	101	34	35	31	103	103	34	35	31	103	
		113B	16.5	19.8	35	35	32	101	101	35	35	32	101	101	38	40	35	103	103	38	40	35	103	
		114B	27.8	33.4	52	60	48	101	101	52	60	48	101	101	55	60	50	103	103	55	60	50	103	
		115B	33.0	39.7	60	60	55	101	101	60	60	55	101	101	63	70	57	103	103	63	70	57	103	
		128B	41.7	50.2	73	80	67	101	101	73	80	67	101	101	76	80	70	103	103	76	80	70	103	
	MED	NONE	—	—	25	30	26	120	120	25	30	26	120	120	27	30	29	122	122	27	30	29	122	
		116B	13.9	16.7	32	35	29	120	120	32	35	29	120	120	35	35	32	122	122	35	35	32	122	
		113B	16.5	19.8	36	40	33	120	120	36	40	33	120	120	39	40	35	122	122	39	40	35	122	
		114B	27.8	33.4	53	60	49	120	120	53	60	49	120	120	56	60	51	122	122	56	60	51	122	
		115B	33.0	39.7	61	70	56	120	120	61	70	56	120	120	64	70	58	122	122	64	70	58	122	
		128B	41.7	50.2	74	80	68	120	120	74	80	68	120	120	77	80	70	122	122	77	80	70	122	
HIGH	NONE	—	—	27	30	28	135	135	27	30	28	135	135	29	30	31	137	137	29	30	31	137		
	116B	13.9	16.7	35	35	32	135	135	35	35	32	135	135	38	40	34	137	137	38	40	34	137		
	113B	16.5	19.8	39	40	35	135	135	39	40	35	135	135	41	45	38	137	137	41	45	38	137		
	114B	27.8	33.4	56	60	51	135	135	56	60	51	135	135	58	60	53	137	137	58	60	53	137		
	115B	33.0	39.7	64	70	58	135	135	64	70	58	135	135	66	70	61	137	137	66	70	61	137		
	128B	41.7	50.2	77	80	70	135	135	77	80	70	135	135	79	80	73	137	137	79	80	73	137		
STD	NONE	—	—	18	20	19	83	83	18	20	19	83	83	20	25	21	85	85	20	25	21	85		
	118A	18.0	17.3	31	35	28	83	83	31	35	28	83	83	33	35	30	85	85	33	35	30	85		
	119A	36.0	34.6	53	60	48	83	83	53	60	48	83	83	55	60	50	85	85	55	60	50	85		
MED	NONE	—	—	19	20	20	87	87	19	20	20	87	87	20	25	22	89	89	20	25	22	89		
	118A	18.0	17.3	31	35	28	87	87	31	35	28	87	87	34	35	30	89	89	34	35	30	89		
	119A	36.0	34.6	53	60	48	87	87	53	60	48	87	87	55	60	50	89	89	55	60	50	89		
HIGH	NONE	—	—	19	20	21	98	98	19	20	21	98	98	21	25	22	100	100	21	25	22	100		
	118A	18.0	17.3	32	35	29	98	98	32	35	29	98	98	35	35	31	100	100	35	35	31	100		
	119A	36.0	34.6	54	60	49	98	98	54	60	49	98	98	56	60	51	100	100	56	60	51	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.											
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer						
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA		
50HC*D09	STD	NONE	—	—	51	60	55	203	51	60	55	203	51	60	55	203	56	60	56	60	60	208	56	60	60	208
		117A	7.8/10.4	21.7/25.0	51/53	60/60	55/55	203/203	51/53	60/60	55/55	203/203	51/53	60/60	55/55	203/203	56/59	60/60	56/59	60/60	60/60	208/208	56/59	60/60	60/60	208/208
		110A	12.0/16.0	33.4/38.5	64/70	70/70	58/64	203/203	64/70	70/70	58/64	203/203	64/70	70/80	58/64	208/208	70/76	70/80	70/76	70/80	208/208	70/76	70/80	64/70	208/208	
		111A	18.6/24.8	51.7/59.7	87/97	90/100	79/88	203/203	87/97	90/100	79/88	203/203	87/97	90/100	79/88	203/203	93/103	100/110	93/103	100/110	208/208	93/103	100/110	85/94	208/208	
	MED	112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	203/203	105/118	110/125	96/108	203/203	105/118	110/125	96/108	203/203	111/124	125/125	111/124	125/125	208/208	111/124	125/125	102/114	208/208	
		112A+117A	31.8/42.4	88.4/102.0	132/149	150/150	121/137	203/203	132/149	150/150	121/137	203/203	132/149	150/150	121/137	203/203	138/155	150/175	138/155	150/175	208/208	138/155	150/175	127/143	208/208	
		NONE	—	—	53/53	60/60	57/56	241	53/53	60/60	57/56	241	53/58	70/70	58/58	70/70	58/58	70/70	58/58	70/70	246	62/62	58/58	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	58/61	70/70	58/61	70/70	58/61	70/70	246/246	62/62	58/61	62/62	246/246	
	HIGH	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	72/78	80/80	246/246	66/71	246/246	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	95/104	100/110	246/246	87/96	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	125/150	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	141/157	150/175	246/246	141/157	150/175	141/157	150/175	246/246	141/157	150/175	129/144	246/246
	460-3-60	STD	NONE	—	—	24	30	25	101	24	30	25	101	24	30	25	101	26	30	26	30	103	26	30	28	103
			116B	13.9	16.7	35	28	101	31	35	28	101	31	35	28	101	31	35	28	101	31	103	31	35	31	103
113B			16.5	19.8	35	32	101	35	35	32	101	35	35	32	101	35	35	32	101	35	103	35	35	35	103	
114B			27.8	33.4	53	40	33	120	36	40	33	120	39	40	33	120	39	40	33	120	39	40	35	122		
MED		115B	33.0	39.7	61	70	56	120	53	60	49	120	56	60	49	120	56	60	51	122	56	60	51	122		
		116B	33.0	39.7	61	70	56	120	61	70	56	120	64	70	58	122	64	70	58	122	64	70	58	122		
		128B	41.7	50.2	74	80	68	120	74	80	68	120	77	80	68	120	77	80	70	122	77	80	70	122		
		NONE	—	—	27	30	28	135	27	30	28	135	29	35	29	35	29	35	29	35	137	29	35	31	137	
575-3-60	STD	116B	13.9	16.7	35	35	32	135	35	35	32	135	38	40	34	137	38	40	34	137	38	40	34	137		
		113B	16.5	19.8	39	40	35	135	39	40	35	135	41	45	38	137	41	45	38	137	41	45	38	137		
		114B	27.8	33.4	56	60	51	135	56	60	51	135	58	60	53	137	58	60	53	137	58	60	53	137		
		115B	33.0	39.7	64	70	58	135	64	70	58	135	66	70	61	137	66	70	61	137	66	70	61	137		
	HIGH	128B	41.7	50.2	77	80	70	135	77	80	70	135	79	80	73	137	79	80	73	137	79	80	73	137		
		NONE	—	—	20	25	21	83	20	25	21	83	21	25	22	85	21	25	22	85	21	25	22	85		
		118A	18.0	17.3	31	35	28	83	31	35	28	83	33	35	30	85	33	35	30	85	33	35	30	85		
		119A	36.0	34.6	53	60	48	83	53	60	48	83	55	60	50	85	55	60	50	85	55	60	50	85		
MED	NONE	—	—	20	25	21	87	20	25	21	87	22	25	23	89	22	25	23	89	22	25	23	89			
	118A	18.0	17.3	31	35	28	87	31	35	28	87	34	35	30	89	34	35	30	89	34	35	30	89			
HIGH	119A	36.0	34.6	53	60	48	87	53	60	48	87	55	60	50	89	55	60	50	89	55	60	50	89			
	NONE	—	—	21	25	22	98	21	25	22	98	22	25	24	100	22	25	24	100	22	25	24	100			
119A	118A	18.0	17.3	32	35	29	98	32	35	29	98	35	35	31	100	35	35	31	100	35	35	31	100			
	119A	36.0	34.6	54	60	49	98	54	60	49	98	56	60	51	100	56	60	51	100	56	60	51	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWR C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/o Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC•D11	208/230-3-60	NONE	—	—	61	70	65	269	269	61	70/70	65	269	269	66	80	70	274	274	66	80	70	274	274
		117A	7.8/10.4	21.7/25.0	61/61	70/70	65/65	269/269	269/269	61/61	70/70	65/65	269/269	269/269	66/66	80/80	70/70	274/274	274/274	66/66	80/80	70/70	274/274	274/274
		110A	12.0/16.0	33.4/38.5	64/70	70/70	65/65	269/269	269/269	64/70	70/70	65/65	269/269	269/269	70/76	80/80	70/70	274/274	274/274	70/76	80/80	70/70	274/274	274/274
		112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	269/269	269/269	105/118	110/125	96/108	269/269	269/269	111/124	125/125	102/114	274/274	274/274	111/124	125/125	102/114	274/274	274/274
		112A+117A	31.8/42.4	88.4/102.0	132/149	150/175	121/137	269/269	269/269	132/149	150/150	121/137	269/269	269/269	138/155	150/175	127/143	274/274	274/274	138/155	150/175	127/143	274/274	274/274
		112A+110A	37.6/50.0	104.2/120.3	152/142	175/150	140/158	269/269	269/269	152/142	175/150	140/158	269/269	269/269	158/148	175/175	145/164	274/274	274/274	158/148	175/175	145/164	274/274	274/274
		NONE	—	—	66	80	71	325	325	66	80	71	325	325	71	80	77	330	330	71	80	77	330	330
		117A	7.8/10.4	21.7/25.0	66/66	80/80	71/71	325/325	325/325	66/66	80/80	71/71	325/325	325/325	71/71	80/80	77/77	330/330	330/330	71/71	80/80	77/77	330/330	330/330
		110A	12.0/16.0	33.4/38.5	70/77	80/80	71/71	325/325	325/325	70/77	80/80	71/71	325/325	325/325	76/83	80/90	77/77	330/330	330/330	76/83	80/90	77/77	330/330	330/330
		112A	24.0/32.0	66.7/77.0	112/125	125/125	103/115	325/325	325/325	112/125	125/125	103/115	325/325	325/325	118/131	125/150	108/120	330/330	330/330	118/131	125/150	108/120	330/330	330/330
50HC•D11	460-3-60	112A+117A	31.8/42.4	88.4/102.0	139/156	150/175	128/143	325/325	325/325	139/156	150/175	128/143	325/325	325/325	145/162	150/175	133/149	330/330	330/330	145/162	150/175	133/149	330/330	330/330
		112A+110A	37.6/50.0	104.2/120.3	159/149	175/175	146/164	325/325	325/325	159/149	175/175	146/164	325/325	325/325	165/155	175/175	151/170	330/330	330/330	165/155	175/175	151/170	330/330	330/330
		NONE	—	—	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
		117A	7.8/10.4	21.7/25.0	69/68	80/80	74/73	327/327	327/327	69/68	80/80	74/73	327/327	327/327	74/73	80/80	80/79	332/332	332/332	74/73	80/80	80/79	332/332	332/332
		110A	12.0/16.0	33.4/38.5	74/79	80/80	74/73	327/327	327/327	74/79	80/80	74/73	327/327	327/327	80/85	80/90	80/79	332/332	332/332	80/85	80/90	80/79	332/332	332/332
		112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	327/327	327/327	116/128	125/150	106/117	327/327	327/327	122/134	125/150	112/122	332/332	332/332	122/134	125/150	112/122	332/332	332/332
		112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	327/327	327/327	143/159	150/175	131/146	327/327	327/327	149/165	150/175	137/151	332/332	332/332	149/165	150/175	137/151	332/332	332/332
		112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	327/327	327/327	163/152	175/175	149/167	327/327	327/327	169/158	175/175	155/172	332/332	332/332	169/158	175/175	155/172	332/332	332/332
		NONE	—	—	28	30	29	129	129	28	30	29	129	129	30	35	32	131	131	30	35	32	131	131
		116B	13.9	16.7	31	35	33	157	157	31	35	33	157	157	34	35	32	131	131	34	35	32	131	131
50HC•D11	575-3-60	113B	16.5	19.8	35	35	32	129	129	35	35	32	129	129	38	40	35	131	131	38	40	35	131	131
		115B	33.0	39.7	64	70	58	157	157	64	70	58	157	157	66	70	61	159	159	66	70	61	159	159
		128B	41.7	50.2	77	80	70	157	157	77	80	70	157	157	79	80	73	159	159	79	80	73	159	159
		129B	50.0	60.1	74	80	81	157	157	74	80	81	157	157	77	80	84	159	159	77	80	84	159	159
		NONE	—	—	32	35	34	158	158	32	35	34	158	158	34	40	36	160	160	34	40	36	160	160
		116B	13.9	16.7	36	40	34	158	158	36	40	34	158	158	39	40	36	160	160	39	40	36	160	160
		113B	16.5	19.8	40	40	36	158	158	40	40	36	158	158	43	45	39	160	160	43	45	39	160	160
		115B	33.0	39.7	65	70	59	158	158	65	70	59	158	158	68	70	62	160	160	68	70	62	160	160
		128B	41.7	50.2	78	80	71	158	158	78	80	71	158	158	81	90	74	160	160	81	90	74	160	160
		129B	50.0	60.1	75	80	83	158	158	75	80	83	158	158	78	80	85	160	160	78	80	85	160	160
50HC•D11	575-3-60	NONE	—	—	23	25	24	101	101	23	25	24	101	101	25	30	26	103	103	25	30	26	103	103
		118A	18.0	17.3	31	35	28	101	101	31	35	28	101	101	34	35	30	103	103	34	35	30	103	103
		119A	36.0	34.6	53	60	48	101	101	53	60	48	101	101	55	60	50	103	103	55	60	50	103	103
		118A+119A	54.0	52.0	62	70	68	101	101	62	70	68	101	101	64	70	70	103	103	64	70	70	103	103
		NONE	—	—	24	25	25	112	112	24	25	25	112	112	25	30	27	114	114	25	30	27	114	114
		118A	18.0	17.3	32	35	29	112	112	32	35	29	112	112	35	35	31	114	114	35	35	31	114	114
		119A	36.0	34.6	54	60	49	112	112	54	60	49	112	112	56	60	51	114	114	56	60	51	114	114
		118A+119A	54.0	52.0	63	70	69	112	112	63	70	69	112	112	65	70	71	114	114	65	70	71	114	114
		NONE	—	—	27	30	29	126	126	27	30	29	126	126	28	30	31	128	128	28	30	31	128	128
		118A	18.0	17.3	36	40	33	126	126	36	40	33	126	126	38	40	35	128	128	38	40	35	128	128
		119A	36.0	34.6	58	60	52	126	126	58	60	52	126	126	60	60	54	128	128	60	60	54	128	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer			w/ ERV, w/ Economizer			w/ ERV, w/o Economizer			w/ ERV, w/ Economizer			w/ ERV, w/o HACR or BRKR			w/ ERV, w/ HACR or BRKR				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC+D12	STD	NONE	—	—	60	70	63	294	60	70	63	294	64	70	69	299	64	70	69	299	64	70	69	299
		117A	7.8/10.4	21.7/25.0	60/60	70/70	63/63	294/294	60/60	70/70	63/63	294/294	64/64	70/70	69/69	299/299	64/64	70/70	69/69	299/299	64/64	70/70	69/69	299/299
		110A	12.0/16.0	33.4/38.5	64/70	70/70	63/64	294/294	64/70	70/70	63/64	294/294	70/76	70/80	69/70	299/299	70/76	70/80	69/70	299/299	70/76	70/80	69/70	299/299
		112A	24.0/32.0	66.7/77.0	105/118	110/125	96/108	294/294	105/118	110/125	96/108	294/294	111/124	125/175	102/114	299/299	111/124	125/175	102/114	299/299	111/124	125/175	102/114	299/299
		112A+117A	31.8/42.4	88.4/102.0	132/149	150/150	121/137	294/294	132/149	150/150	121/137	294/294	138/155	150/175	127/143	299/299	138/155	150/175	127/143	299/299	138/155	150/175	127/143	299/299
	112A+110A	37.6/50.0	104.2/120.3	152/142	175/150	140/158	294/294	152/142	175/150	140/158	294/294	158/148	175/175	145/164	299/299	158/148	175/175	145/164	299/299	158/148	175/175	145/164	299/299	
	NONE	—	—	65	80	70	350	65	80	70	350	70	80	75	355	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	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	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	118/131	125/150	108/120	355/355	
HIGH	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	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	165/155	175/175	151/170	355/355	
	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	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	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	80/80	79/78	357/357	80/85	80/80	79/78	357/357	80/85	80/80	79/78	357/357	
STD	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	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	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	169/158	175/175	155/172	357/357	
	NONE	—	—	29	35	31	141	29	35	31	141	31	35	33	143	31	35	33	143	31	35	33	143	
	116B	13.9	16.7	31	35	31	141	31	35	31	141	34	35	33	143	34	35	33	143	34	35	33	143	
MED	113B	16.5	19.8	35	35	32	141	35	35	32	141	38	40	35	143	38	40	35	143	38	40	35	143	
	115B	33.0	39.7	60	60	55	141	60	60	55	141	63	70	57	143	63	70	57	143	63	70	57	143	
	128B	41.7	50.2	73	80	67	141	73	80	67	141	76	80	70	143	76	80	70	143	76	80	70	143	
	129B	50.0	60.1	71	80	78	141	71	80	78	141	73	80	81	143	73	80	81	143	73	80	81	143	
	NONE	—	—	32	35	34	169	32	35	34	169	34	40	36	171	34	40	36	171	34	40	36	171	
HIGH	116B	13.9	16.7	35	35	34	169	35	35	34	169	38	40	36	171	38	40	36	171	38	40	36	171	
	113B	16.5	19.8	39	40	35	169	39	40	35	169	41	45	38	171	41	45	38	171	41	45	38	171	
	115B	33.0	39.7	64	70	58	169	64	70	58	169	66	70	61	171	66	70	61	171	66	70	61	171	
	128B	41.7	50.2	77	80	70	169	77	80	70	169	79	80	73	171	79	80	73	171	79	80	73	171	
	129B	50.0	60.1	74	80	81	169	74	80	81	169	77	80	84	171	77	80	84	171	77	80	84	171	
STD	NONE	—	—	33	35	35	170	33	35	35	170	35	40	37	172	35	40	37	172	35	40	37	172	
	116B	13.9	16.7	36	40	35	170	36	40	35	170	39	40	37	172	39	40	37	172	39	40	37	172	
	113B	16.5	19.8	40	40	36	170	40	40	36	170	43	45	39	172	43	45	39	172	43	45	39	172	
	115B	33.0	39.7	65	70	59	170	65	70	59	170	68	70	62	172	68	70	62	172	68	70	62	172	
	128B	41.7	50.2	78	80	71	170	78	80	71	170	81	90	74	172	81	90	74	172	81	90	74	172	
129B	50.0	60.1	75	80	83	170	75	80	83	170	78	80	85	172	78	80	85	172	78	80	85	172		
MED	NONE	—	—	23	25	25	111	23	25	25	111	25	30	27	113	25	30	27	113	25	30	27	113	
	118A	18.0	17.3	31	35	28	111	31	35	28	111	34	35	30	113	34	35	30	113	34	35	30	113	
	119A	36.0	34.6	53	60	48	111	53	60	48	111	55	60	50	113	55	60	50	113	55	60	50	113	
	118A+119A	54.0	52.0	62	70	68	111	62	70	68	111	64	70	70	113	64	70	70	113	64	70	70	113	
	NONE	—	—	24	30	25	122	24	30	25	122	26	30	27	124	26	30	27	124	26	30	27	124	
HIGH	118A	18.0	17.3	32	35	29	122	32	35	29	122	35	35	31	124	35	35	31	124	35	35	31	124	
	119A	36.0	34.6	54	60	49	122	54	60	49	122	56	60	51	124	56	60	51	124	56	60	51	124	
	118A+119A	54.0	52.0	63	70	69	122	63	70	69	122	65	70	71	124	65	70	71	124	65	70	71	124	
	NONE	—	—	27	30	29	136	27	30	29	136	29	30	31	138	29	30	31	138	29	30	31	138	
	118A	18.0	17.3	36	40	33	136	36	40	33	136	38	40	35	138	38	40	35	138	38	40	35	138	
119A	36.0	34.6	58	60	52	136	58	60	52	136	60	60	54	138	60	60	54	138	60	60	54	138		
118A+119A	54.0	52.0	66	70	73	136	66	70	73	136	68	70	74	138	68	70	74	138	68	70	74	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							
			MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE				
50HC+D14	208/230-3-60	STD	CRHEATER****00	Nom (kW)	FLA	73	80	77	356	356	73	80	77	356	356	78	90	83	361	361	78	90	83	361	
			NONE	—	—	76	90	81	386	386	76	90	81	386	386	81	90	87	391	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	77/84	90/90	81/81	386/386	79/86	90/90	83/83	361/361	79/86	90/90	83/83	361/361
			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	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	121/135	125/150	111/123	386/386	127/141	150/150	117/129	391/391	127/141	150/150	117/129	391/391
50HC+D14	208/230-3-60	HIGH	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	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	164/154	175/175	151/169	386/386	170/160	175/175	156/175	391/391	170/160	175/175	156/175	391/391
			NONE	—	—	86	100	92	392	392	86	100	92	392	392	91	100	98	397	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	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	115/126	125/150	106/115	392/392	121/132	125/150	111/121	397/397	121/132	125/150	111/121	397/397
50HC+D14	460-3-60	STD	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	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	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	177/166	200/175	162/180	392/392	183/172	200/175	168/186	397/397	183/172	200/175	168/186	397/397
			NONE	—	—	32	35	34	173	173	32	35	34	173	173	34	40	36	175	175	34	40	36	175	
			292A	16.5	19.9	38	40	35	173	173	38	40	35	173	173	41	45	37	175	175	41	45	37	175	
50HC+D14	460-3-60	MED	289A+292A	26.5	31.9	53	60	49	173	53	60	49	173	56	60	51	175	175	56	60	51	175	175		
			295A	33.5	40.3	64	70	58	173	64	70	58	173	67	70	61	175	175	67	70	61	175	175		
			288A+295A	43.5	52.3	79	80	72	173	79	80	72	173	82	90	75	175	175	82	90	75	175	175		
			292A+295A	50.0	60.2	74	80	81	173	74	80	81	173	76	80	84	175	175	76	80	84	175	175		
			NONE	—	—	34	40	36	188	34	40	36	188	36	40	38	190	190	36	40	38	190	190		
50HC+D14	460-3-60	HIGH	292A	16.5	19.9	47	50	43	191	47	50	43	191	50	50	44	193	193	50	50	44	193	193		
			289A+292A	26.5	31.9	62	70	56	191	62	70	56	191	65	70	59	193	193	65	70	59	193	193		
			295A	33.5	40.3	72	80	66	191	72	80	66	191	75	80	69	193	193	75	80	69	193	193		
			288A+295A	43.5	52.3	87	90	80	191	87	90	80	191	90	90	82	193	193	90	90	82	193	193		
			292A+295A	50.0	60.2	82	90	89	191	82	90	89	191	85	90	92	193	193	85	90	92	193	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	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.										
		IFM TYPE	CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
						MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC*D14	575-3-60	STD	NONE	—	—	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147	31	147		
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147	32	147		
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147	43	147		
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147	50	147		
			290A+296A	43.5	41.9	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147	61	147		
50HC*D14	575-3-60	MED	293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147	69	147		
			NONE	—	—	27	30	29	145	27	30	29	145	29	35	31	147	29	35	31	147	31	147		
			293A	16.5	15.9	33	35	30	145	33	35	30	145	35	35	32	147	35	35	32	147	32	147		
			290A+293A	26.5	25.5	45	45	41	145	45	45	41	145	47	50	43	147	47	50	43	147	43	147		
			296A	33.5	32.2	53	60	48	145	53	60	48	145	55	60	50	147	55	60	50	147	50	147		
50HC*D14	575-3-60	HIGH	290A+296A	43.5	41.9	65	70	59	145	65	70	59	145	67	70	61	147	67	70	61	147	61	147		
			293A+296A	50.0	48.1	61	70	67	145	61	70	67	145	63	70	69	147	63	70	69	147	69	147		
			NONE	—	—	34	40	36	157	34	40	36	157	36	40	38	159	36	40	38	159	38	159		
			293A	16.5	15.9	40	40	37	157	40	40	37	157	42	45	39	159	42	45	39	159	39	159		
			290A+293A	26.5	25.5	52	60	48	157	52	60	48	157	54	60	50	159	54	60	50	159	50	159		
50HC*D14	575-3-60	HIGH	296A	33.5	32.2	61	70	55	157	61	70	55	157	63	70	57	159	63	70	57	159	57	159		
			290A+296A	43.5	41.9	73	80	67	157	73	80	67	157	75	80	68	159	75	80	68	159	68	159		
			293A+296A	50.0	48.1	69	70	74	157	69	70	74	157	71	80	76	159	71	80	76	159	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

UNIT	NOM. V-Ph-HZ	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
DD-STD		NONE	—	—	35	50	35	94	94	35	50	35	94	94	40	50	41	99	99	40	50	41	99	99
		101A	3.3/4.4	15.9/18.3	39/39	50/50	35/36	94/94	94/94	39/39	50/50	35/36	94/94	94/94	45/45	50/50	41/41	99/99	99/99	45/45	50/50	41/41	99/99	99/99
		102A	4.9/6.5	23.5/27.1	50/50	50/50	42/46	94/94	94/94	50/50	50/50	42/46	94/94	94/94	56/56	60/60	47/51	99/99	99/99	56/56	60/60	47/51	99/99	99/99
		103B	6.5/8.7	31.4/36.3	62/62	70/70	51/57	94/94	94/94	62/62	70/70	51/57	94/94	94/94	68/68	70/70	56/62	99/99	99/99	68/68	70/70	56/62	99/99	99/99
		104B	7.9/10.5	37.9/43.8	71/71	80/80	58/65	94/94	94/94	71/71	80/80	58/65	94/94	94/94	77/77	80/80	64/71	99/99	99/99	77/77	80/80	64/71	99/99	99/99
208/230-1-60		102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	69/77	94/94	94/94	84/84	90/90	69/77	94/94	94/94	90/90	90/90	74/83	99/99	99/99	90/90	90/90	74/83	99/99	99/99
		NONE	—	—	33	45	32	99	99	33	45	32	99	99	37	50	38	104	104	37	50	38	104	104
		101A	3.3/4.4	15.9/18.3	36/36	45/45	32/33	99/99	99/99	36/36	45/45	32/33	99/99	99/99	42/42	50/50	38/38	104/104	104/104	42/42	50/50	38/38	104/104	104/104
		102A	4.9/6.5	23.5/27.1	47/47	50/50	39/43	99/99	99/99	47/47	50/50	39/43	99/99	99/99	53/53	60/60	44/49	104/104	104/104	53/53	60/60	44/49	104/104	104/104
		103B	6.5/8.7	31.4/36.3	59/59	60/60	48/54	99/99	99/99	59/59	60/60	48/54	99/99	99/99	65/65	70/70	54/59	104/104	104/104	65/65	70/70	54/59	104/104	104/104
MED		104B	7.9/10.5	37.9/43.8	68/68	70/70	56/62	99/99	99/99	68/68	70/70	56/62	99/99	99/99	74/74	80/80	61/68	104/104	104/104	74/74	80/80	61/68	104/104	104/104
		102A+102A	9.8/13.0	46.9/54.2	81/81	90/90	66/74	99/99	99/99	81/81	90/90	66/74	99/99	99/99	87/87	90/90	71/80	104/104	104/104	87/87	90/90	71/80	104/104	104/104
		NONE	—	—	33	45	32	99	99	33	45	32	99	99	37	50	38	104	104	37	50	38	104	104
		101A	3.3/4.4	15.9/18.3	36/36	45/45	32/33	99/99	99/99	36/36	45/45	32/33	99/99	99/99	42/42	50/50	38/38	104/104	104/104	42/42	50/50	38/38	104/104	104/104
		102A	4.9/6.5	23.5/27.1	47/47	50/50	39/43	99/99	99/99	47/47	50/50	39/43	99/99	99/99	53/53	60/60	44/49	104/104	104/104	53/53	60/60	44/49	104/104	104/104
DD-STD		103B	6.5/8.7	31.4/36.3	59/59	60/60	48/54	99/99	99/99	59/59	60/60	48/54	99/99	99/99	65/65	70/70	54/59	104/104	104/104	65/65	70/70	54/59	104/104	104/104
		104B	7.9/10.5	37.9/43.8	68/68	70/70	56/62	99/99	99/99	68/68	70/70	56/62	99/99	99/99	74/74	80/80	61/68	104/104	104/104	74/74	80/80	61/68	104/104	104/104
		102A+102A	9.8/13.0	46.9/54.2	81/81	90/90	66/74	99/99	99/99	81/81	90/90	66/74	99/99	99/99	87/87	90/90	71/80	104/104	104/104	87/87	90/90	71/80	104/104	104/104
		NONE	—	—	27	30	28	88	88	27	30	28	88	88	32	40	34	93	93	32	40	34	93	93
		101A	3.3/4.4	9.2/10.6	30/30	30/30	28/28	88/88	88/88	30/30	30/30	28/28	88/88	88/88	36/36	40/40	34/34	93/93	93/93	36/36	40/40	34/34	93/93	93/93
STD		102A	4.9/6.5	13.6/15.6	36/36	40/40	31/33	88/88	88/88	36/36	40/40	31/33	88/88	88/88	42/42	45/45	36/36	93/93	93/93	42/42	45/45	36/36	93/93	93/93
		103B	6.5/8.7	18.1/20.9	43/43	45/45	36/39	88/88	88/88	43/43	45/45	36/39	88/88	88/88	49/49	50/50	41/45	93/93	93/93	49/49	50/50	41/45	93/93	93/93
		104B	7.9/10.5	21.9/25.3	48/48	50/50	40/44	88/88	88/88	48/48	50/50	40/44	88/88	88/88	54/54	60/60	46/50	93/93	93/93	54/54	60/60	46/50	93/93	93/93
		105A	12.0/16.0	33.4/38.5	65/65	70/70	53/59	88/88	88/88	65/65	70/70	53/59	88/88	88/88	71/71	80/80	59/65	93/93	93/93	71/71	80/80	59/65	93/93	93/93
		NONE	—	—	25	30	26	100	100	25	30	26	100	100	30	40	31	105	105	30	40	31	105	105
MED		101A	3.3/4.4	9.2/10.6	27/27	30/30	26/26	100/100	100/100	27/27	30/30	26/26	100/100	100/100	33/33	40/40	31/31	105/105	105/105	33/33	40/40	31/31	105/105	105/105
		102A	4.9/6.5	13.6/15.6	33/33	35/35	28/30	100/100	100/100	33/33	35/35	28/30	100/100	100/100	39/39	40/40	34/36	105/105	105/105	39/39	40/40	34/36	105/105	105/105
		103B	6.5/8.7	18.1/20.9	40/40	40/40	33/36	100/100	100/100	40/40	40/40	33/36	100/100	100/100	46/46	50/50	39/42	105/105	105/105	46/46	50/50	39/42	105/105	105/105
		104B	7.9/10.5	21.9/25.3	46/46	50/50	38/42	100/100	100/100	46/46	50/50	38/42	100/100	100/100	52/52	60/60	43/47	105/105	105/105	52/52	60/60	43/47	105/105	105/105
		105A	12.0/16.0	33.4/38.5	62/62	70/70	51/57	100/100	100/100	62/62	70/70	51/57	100/100	100/100	68/68	70/70	56/62	105/105	105/105	68/68	70/70	56/62	105/105	105/105
HIGH		NONE	—	—	25/25	30/30	26/25	117	117	25/25	30/30	26/25	117	117	30/30	40/40	31/31	122	122	30/30	40/40	31/31	122	122
		101A	3.3/4.4	9.2/10.6	27/27	30/30	26/25	117/117	117/117	27/27	30/30	26/25	117/117	117/117	33/33	40/40	31/31	122/122	122/122	33/33	40/40	31/31	122/122	122/122
		102A	4.9/6.5	13.6/15.6	33/33	35/35	28/30	117/117	117/117	33/33	35/35	28/30	117/117	117/117	39/39	40/40	34/36	122/122	122/122	39/39	40/40	34/36	122/122	122/122
		103B	6.5/8.7	18.1/20.9	40/40	40/40	33/36	117/117	117/117	40/40	40/40	33/36	117/117	117/117	46/46	50/50	39/42	122/122	122/122	46/46	50/50	39/42	122/122	122/122
		104B	7.9/10.5	21.9/25.3	45/45	45/45	38/41	117/117	117/117	45/45	45/45	38/41	117/117	117/117	51/51	60/60	43/47	122/122	122/122	51/51	60/60	43/47	122/122	122/122
		105A	12.0/16.0	33.4/38.5	62/62	70/70	51/56	117/117	117/117	62/62	70/70	51/56	117/117	117/117	68/68	70/70	56/62	122/122	122/122	68/68	70/70	56/62	122/122	122/122
		NONE	—	—	28/28	35/35	29/29	153	153	28/28	35/35	29/29	153	153	33/33	40/40	35/35	158	158	33/33	40/40	35/35	158	158
		101A	3.3/4.4	9.2/10.6	31/31	35/35	29/29	153/153	153/153	31/31	35/35	29/29	153/153	153/153	37/37	40/40	35/35	158/158	158/158	37/37	40/40	35/35	158/158	158/158
		102A	4.9/6.5	13.6/15.6	37/37	40/40	32/34	153/153	153/153	37/37	40/40	32/34	153/153	153/153	43/43	45/45	37/39	158/158	158/158	43/43	45/45	37/39	158/158	158/158
		103B	6.5/8.7	18.1/20.9	44/44	45/45	37/40	153/153	153/153	44/44	45/45	37/40	153/153	153/153	50/50	50/50	42/46	158/158	158/158	50/50	50/50	42/46	158/158	158/158
		104B	7.9/10.5	21.9/25.3	49/49	50/50	41/45	153/153	153/153	49/49	50/50	41/45	153/153	153/153	55/55	60/60	47/51	158/158	158/158	55/55	60/60	47/51	158/158	158/158
		105A	12.0/16.0	33.4/38.5	66/66	70/70	55/60	153/153	153/153	66/66	70/70	55/60	153/153	153/153	72/72	80/80	60/66	158/158	158/158	72/72	80/80	60/66	158/158	158/158

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	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	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	FLA	LRA		
50HC*A04	DD-STD	NONE	-	-	16	20	16	47	16	20	16	47	18	20	18	49	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	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	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	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	34	35	30	49
	STD	NONE	-	-	14	20	14	52	14	20	14	52	17	20	17	54	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	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	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	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	32	35	29	54
	MED	NONE	-	-	14	20	14	61	14	20	14	61	16	20	16	63	16	20	16	63	16	20	16	63
		106A	6.0	7.2	17	20	15	61	17	20	15	61	20	20	18	63	20	20	18	63	20	20	18	63
		107A	8.8	10.6	21	25	19	61	21	25	19	61	24	25	22	63	24	25	22	63	24	25	22	63
		108A	11.5	13.8	25	25	23	61	25	25	23	61	28	30	25	63	28	30	25	63	28	30	25	63
		109A	14.0	16.8	29	30	26	61	29	30	26	61	32	35	29	63	32	35	29	63	32	35	29	63
	HIGH	NONE	-	-	16	20	16	79	16	20	16	79	18	20	18	81	18	20	18	81	18	20	18	81
		106A	6.0	7.2	19	20	17	79	19	20	17	79	22	25	20	81	22	25	20	81	22	25	20	81
		107A	8.8	10.6	23	25	21	79	23	25	21	79	26	30	24	81	26	30	24	81	26	30	24	81
		108A	11.5	13.8	27	30	25	79	27	30	25	79	30	30	27	81	30	30	27	81	30	30	27	81
		109A	14.0	16.8	31	30	28	79	31	35	28	79	34	35	31	81	34	35	31	81	34	35	31	81
	DD-STD	NONE	-	-	15	20	16	47	15	20	16	47	17	20	17	49	17	20	17	49	17	20	17	49
		297A	10.0	9.6	24	25	22	47	24	25	22	47	26	30	24	49	26	30	24	49	26	30	24	49
		298A	15.0	14.4	30	30	27	47	30	30	27	47	32	35	29	49	32	35	29	49	32	35	29	49
		NONE	-	-	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52	14	15	14	52
		297A	10.0	9.6	21	25	18	50	21	25	18	50	23	25	20	52	23	25	20	52	23	25	20	52
	STD	298A	15.0	14.4	27	30	24	50	27	30	24	50	29	30	26	52	29	30	26	52	29	30	26	52
		NONE	-	-	12	15	12	50	12	15	12	50	14	15	14	52	14	15	14	52	14	15	14	52
		297A	10.0	9.6	21	25	18	50	21	25	18	50	23	25	20	52	23	25	20	52	23	25	20	52
		298A	15.0	14.4	27	30	24	50	27	30	24	50	29	30	26	52	29	30	26	52	29	30	26	52
		NONE	-	-	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56	15	20	15	56
	MED	297A	10.0	9.6	21	25	18	50	21	25	18	50	23	25	20	52	23	25	20	52	23	25	20	52
		298A	15.0	14.4	27	30	24	50	27	30	24	50	29	30	26	52	29	30	26	52	29	30	26	52
		NONE	-	-	13	15	13	54	13	15	13	54	15	20	15	56	15	20	15	56	15	20	15	56
		297A	10.0	9.6	22	25	19	54	22	25	19	54	24	25	21	56	24	25	21	56	24	25	21	56
		298A	15.0	14.4	28	30	25	54	28	30	25	54	30	30	27	56	30	30	27	56	30	30	27	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	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				
				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				
DD--STD		CRHEATER****00	NOME 101A 103B 102A+102A 103B+103B 104B+104B	— 3.3/4.4 6.5/8.7 9.8/13.0 13.1/17.4 15.8/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	44	60	44	135	44	60	44	135	49	60	50	140	49	60	50	140		
						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		
						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		
						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		
						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		
STD			NOME 101A 103B 102A+102A 103B+103B 104B+104B	— 3.3/4.4 6.5/8.7 9.8/13.0 13.1/17.4 15.8/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145		
						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		
						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		
						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		
						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		
MED			NOME 101A 103B 102A+102A 103B+103B 104B+104B	— 3.3/4.4 6.5/8.7 9.8/13.0 13.1/17.4 15.8/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	42	60	41	140	42	60	41	140	47	60	47	145	47	60	47	145		
						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		
						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		
						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		
						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		
DD--STD			NOME 102A 103B 105A 104B+104B	— 4.9/6.5 6.5/8.7 12.0/16.0 15.8/21.0	13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	34	45	35	101	34	45	35	101	39	50	41	106	39	50	41	106		
						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		
						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		
						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		
						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			NOME 102A 103B 105A 104B+104B	— 4.9/6.5 6.5/8.7 12.0/16.0 15.8/21.0	13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	32	45	33	113	32	45	33	113	37	50	38	118	37	50	38	118		
						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		
						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		
						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		
						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			NOME 102A 103B 105A 104B+104B	— 4.9/6.5 6.5/8.7 12.0/16.0 15.8/21.0	13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	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		
						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		
						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		
						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		
						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			NOME 102A 103B 105A 104B+104B	— 4.9/6.5 6.5/8.7 12.0/16.0 15.8/21.0	13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	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		
						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		
						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		
						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		
						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	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		IFM TYPE	CRHEATER****00	Nom (kW)	FLA	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC+A06	DD-STD	NONE	—	—	48	60	48	152	152	48	60	48	152	152	53	60	53	157	157	53	60	53	157	157
		102A	4.9/6.5	23.5/27.1	53/53	60/60	48/49	152/152	152/152	53/53	60/60	48/49	152/152	152/152	59/59	60/60	59/59	157/157	157/157	59/59	60/60	59/59	157/157	157/157
		103B	6.5/8.7	31.4/36.3	65/65	70/70	54/59	152/152	152/152	65/65	70/70	54/59	152/152	152/152	71/71	80/80	71/71	157/157	157/157	71/71	80/80	71/71	157/157	157/157
		102A+102A	9.8/13.0	46.9/54.2	87/87	90/90	71/80	152/152	152/152	87/87	90/90	71/80	152/152	152/152	93/93	100/100	93/93	157/157	157/157	93/93	100/100	93/93	157/157	157/157
		103B+103B	13.1/17.4	62.8/72.5	110/110	110/110	90/101	152/152	152/152	110/110	110/110	90/101	152/152	152/152	116/116	125/125	116/116	157/157	157/157	116/116	125/125	95/106	157/157	157/157
208/230-1-60	STD	104B+104B	15.8/21.0	75.8/87.5	129/129	150/150	105/118	152/152	152/152	129/129	150/150	105/118	152/152	152/152	135/135	150/150	110/124	157/157	157/157	135/135	150/150	110/124	157/157	157/157
		NONE	—	—	46	60	45	157	157	46	60	45	157	157	51	60	50	162	162	51	60	50	162	162
		102A	4.9/6.5	23.5/27.1	50/50	60/60	45/46	157/157	157/157	50/50	60/60	45/46	157/157	157/157	56/56	60/60	50/51	162/162	162/162	56/56	60/60	50/51	162/162	162/162
		103B	6.5/8.7	31.4/36.3	62/62	70/70	51/56	157/157	157/157	62/62	70/70	51/56	157/157	157/157	68/68	70/70	56/62	162/162	162/162	68/68	70/70	56/62	162/162	162/162
		102A+102A	9.8/13.0	46.9/54.2	84/84	90/90	68/77	157/157	157/157	84/84	90/90	68/77	157/157	157/157	90/90	90/90	74/82	162/162	162/162	90/90	90/90	74/82	162/162	162/162
208/230-3-60	MED	103B+103B	13.1/17.4	62.8/72.5	107/107	110/110	87/98	157/157	157/157	107/107	110/110	87/98	157/157	157/157	113/113	125/125	113/113	162/162	162/162	113/113	125/125	92/103	162/162	162/162
		104B+104B	15.8/21.0	75.8/87.5	126/126	150/150	102/115	157/157	157/157	126/126	150/150	102/115	157/157	157/157	132/132	150/150	107/121	162/162	162/162	132/132	150/150	107/121	162/162	162/162
		NONE	—	—	48	60	47	182	182	48	60	47	182	182	53	60	53	187	187	53	60	53	187	187
		102A	4.9/6.5	23.5/27.1	53/53	60/60	47/48	182/182	182/182	53/53	60/60	47/48	182/182	182/182	59/59	60/60	53/54	187/187	187/187	59/59	60/60	53/54	187/187	187/187
		103B	6.5/8.7	31.4/36.3	64/64	70/70	53/59	182/182	182/182	64/64	70/70	53/59	182/182	182/182	70/70	70/70	59/64	187/187	187/187	70/70	70/70	59/64	187/187	187/187
50HC+A06	DD-STD	104B	7.9/10.5	21.9/25.3	51/51	60/60	43/47	128/128	128/128	51/51	60/60	43/47	128/128	128/128	57/57	60/60	49/52	133/133	133/133	57/57	60/60	49/52	133/133	133/133
		105A	12.0/16.0	33.4/38.5	68/68	70/70	56/62	128/128	128/128	68/68	70/70	56/62	128/128	128/128	74/74	80/80	62/68	133/133	133/133	74/74	80/80	62/68	133/133	133/133
		104B+104B	15.8/21.0	43.8/50.5	83/83	90/90	68/76	128/128	128/128	83/83	90/90	68/76	128/128	128/128	89/89	90/90	74/81	133/133	133/133	89/89	90/90	74/81	133/133	133/133
		104B+105A	19.9/26.5	55.2/63.8	100/100	100/100	81/91	128/128	128/128	100/100	100/100	81/91	128/128	128/128	106/106	110/110	87/97	133/133	133/133	106/106	110/110	87/97	133/133	133/133
		NONE	—	—	35	50	35	140	140	35	50	35	140	140	40	50	41	145	145	40	50	41	145	145
208/230-3-60	STD	102A	4.9/6.5	13.6/15.6	37/37	50/50	35/35	140/140	140/140	37/37	50/50	35/35	140/140	140/140	43/43	50/50	41/41	145/145	145/145	43/43	50/50	41/41	145/145	145/145
		104B	7.9/10.5	21.9/25.3	49/49	50/50	40/44	140/140	140/140	49/49	50/50	40/44	140/140	140/140	55/55	60/60	46/50	145/145	145/145	55/55	60/60	46/50	145/145	145/145
		105A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	140/140	140/140	65/65	70/70	54/60	140/140	140/140	71/71	80/80	59/65	145/145	145/145	71/71	80/80	59/65	145/145	145/145
		104B+104B	15.8/21.0	43.8/50.5	80/80	80/80	66/73	140/140	140/140	80/80	80/80	66/73	140/140	140/140	86/86	90/90	71/79	145/145	145/145	86/86	90/90	71/79	145/145	145/145
		104B+105A	19.9/26.5	55.2/63.8	97/97	100/100	79/89	140/140	140/140	97/97	100/100	79/89	140/140	140/140	103/103	110/110	84/94	145/145	145/145	103/103	110/110	84/94	145/145	145/145
208/230-3-60	MED	NONE	—	—	38/38	50/50	39/39	193	193	38/38	50/50	39/39	193	193	43/43	50/50	44/44	198	198	43/43	50/50	44/44	198	198
		102A	4.9/6.5	13.6/15.6	40/40	50/50	39/39	193/193	193/193	40/40	50/50	39/39	193/193	193/193	46/46	50/50	44/44	198/198	198/198	46/46	50/50	44/44	198/198	198/198
		104B	7.9/10.5	21.9/25.3	53/53	60/60	44/48	193/193	193/193	53/53	60/60	44/48	193/193	193/193	59/59	60/60	50/53	198/198	198/198	59/59	60/60	50/53	198/198	198/198
		105A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	193/193	193/193	69/69	70/70	57/63	193/193	193/193	75/75	80/80	63/69	198/198	198/198	75/75	80/80	63/69	198/198	198/198
		104B+104B	15.8/21.0	43.8/50.5	84/84	90/90	69/77	193/193	193/193	84/84	90/90	69/77	193/193	193/193	90/90	90/90	75/82	198/198	198/198	90/90	90/90	75/82	198/198	198/198
208/230-3-60	HIGH	104B+105A	19.9/26.5	55.2/63.8	101/101	110/110	82/92	193/193	193/193	101/101	110/110	82/92	193/193	193/193	107/107	110/110	88/98	198/198	198/198	107/107	110/110	88/98	198/198	198/198
		NONE	—	—	38/38	50/50	39/39	193	193	38/38	50/50	39/39	193	193	43/43	50/50	44/44	198	198	43/43	50/50	44/44	198	198
		102A	4.9/6.5	13.6/15.6	40/40	50/50	39/39	193/193	193/193	40/40	50/50	39/39	193/193	193/193	46/46	50/50	44/44	198/198	198/198	46/46	50/50	44/44	198/198	198/198
		104B	7.9/10.5	21.9/25.3	53/53	60/60	44/48	193/193	193/193	53/53	60/60	44/48	193/193	193/193	59/59	60/60	50/53	198/198	198/198	59/59	60/60	50/53	198/198	198/198
		105A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	193/193	193/193	69/69	70/70	57/63	193/193	193/193	75/75	80/80	63/69	198/198	198/198	75/75	80/80	63/69	198/198	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	ELEC. HTR		NO C.O. or UNPWR C.O.										w/ PWRD C.O.					
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer				
					MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	FLA	DISC. SIZE		LRA	MCA	HACR BRKR	FLA	DISC. SIZE	
							FLA	LRA				FLA	LRA					FLA	LRA
50HC+A06	460-3-60	DD-STD	NONE	-	18	20	18	62	18	20	20	18	62	62	20	25	21	64	64
			108A	6.0	19	20	18	62	19	20	20	18	62	64	22	25	21	64	64
			108A	11.5	27	30	25	62	27	30	30	25	62	64	30	30	27	64	64
			108A	14.0	31	35	28	62	31	35	35	28	62	64	34	35	31	64	64
			108A+108A	23.0	45	45	41	62	45	45	45	41	62	64	48	50	43	64	64
		STD	108A+108A	25.5	49	50	44	62	49	50	50	44	62	64	51	60	47	64	64
			NONE	-	17	20	16	67	17	20	20	16	67	69	19	25	19	69	69
			108A	6.0	17	20	16	67	17	20	20	16	67	69	19	25	19	69	69
			108A	11.5	26	30	23	67	26	30	30	23	67	69	28	30	26	69	69
			108A	14.0	29	30	27	67	29	30	30	27	67	69	32	35	29	69	69
50HC+A06	460-3-60	MED	108A+108A	23.0	43	45	39	67	43	45	45	39	67	69	46	50	42	69	69
			108A+108A	25.5	47	50	43	67	47	50	50	43	67	69	50	50	45	69	69
			NONE	-	18	20	18	94	18	20	20	18	94	94	20	25	21	96	96
			108A	6.0	19	20	18	94	19	20	20	18	94	94	22	25	21	96	96
			108A	11.5	28	30	25	94	28	30	30	25	94	94	30	35	28	96	96
		HIGH	108A	14.0	31	35	29	94	31	35	35	29	94	94	34	35	31	96	96
			108A+108A	23.0	45	45	41	94	45	45	45	41	94	94	48	50	44	96	96
			108A+108A	25.5	49	50	45	94	49	50	50	45	94	94	52	60	47	96	96
			NONE	-	18	20	18	94	18	20	20	18	94	94	20	25	21	96	96
			108A	6.0	19	20	18	94	19	20	20	18	94	94	22	25	21	96	96
575-3-60	575-3-60	DD-STD	108A	15.0	28	30	26	50	28	30	30	26	50	50	30	30	28	52	52
			301A	25.0	40	40	37	50	40	40	40	37	50	50	42	45	39	52	52
			NONE	-	13	15	13	53	13	15	15	13	53	53	14	20	15	55	55
			298A	15.0	25	25	22	53	25	25	25	22	53	55	27	30	24	55	55
			301A	25.0	37	40	33	53	37	40	40	33	53	55	39	40	35	55	55
		MED	NONE	-	14	15	14	57	14	15	15	14	57	59	15	20	16	59	59
			298A	15.0	25	30	23	57	26	30	30	23	57	59	28	30	25	59	59
			301A	25.0	38	40	34	57	38	40	40	34	57	59	40	40	36	59	59
			NONE	-	14	20	15	68	14	20	20	15	68	70	16	20	16	70	70
			298A	15.0	27	30	24	68	27	30	30	24	68	70	29	30	26	70	70
			301A	25.0	39	40	35	68	39	40	40	35	68	70	41	45	37	70	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC+A07	STD	NONE	—	—	41	60	41	169	169	41	60	41	169	169	46	60	47	174	174	46	60	47	174	
		264A	4.9/6.5	13.6/15.6	41/41	60/60	41/41	169/169	169/169	41/41	60/60	41/41	169/169	169/169	46/46	60/60	47/47	174/174	174/174	46/46	60/60	47/47	174/174	
		117A	7.8/10.4	21.7/25.0	48/48	60/60	41/44	169/169	169/169	48/48	60/60	41/44	169/169	169/169	54/54	60/60	47/50	174/174	174/174	54/54	60/60	47/50	174/174	
		110A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	169/169	65/65	70/70	80/80	66/73	169/169	169/169	71/71	80/80	59/65	174/174	174/174	71/71	80/80	59/65	174/174	
		117A+117A	15.8/21.0	43.8/50.5	80/80	80/80	66/73	169/169	80/80	80/80	66/73	169/169	169/169	86/86	90/90	71/79	174/174	174/174	86/86	90/90	71/79	174/174		
208/230-3-60	MED	110A+117A	19.9/26.5	55.2/63.8	97/97	100/100	79/89	169/169	169/169	97/97	100/100	79/89	169/169	169/169	103/103	110/110	84/94	174/174	174/174	103/103	110/110	84/94	174/174	
		NONE	—	—	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	
		264A	4.9/6.5	13.6/15.6	44/44	60/60	45/45	222/222	222/222	44/44	60/60	45/45	222/222	222/222	49/49	60/60	50/50	227/227	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	222/222	52/52	60/60	45/48	222/222	222/222	58/58	60/60	50/53	227/227	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	222/222	69/69	70/70	57/63	222/222	222/222	75/75	80/80	63/69	227/227	227/227	75/75	80/80	63/69	227/227	
460-3-60	HIGH	117A+117A	15.8/21.0	43.8/50.5	84/84	90/90	69/77	222/222	222/222	84/84	90/90	69/77	222/222	222/222	90/90	90/90	75/82	227/227	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	222/222	101/101	110/110	82/92	222/222	222/222	107/107	110/110	89/98	227/227	227/227	107/107	110/110	89/98	227/227	
		NONE	—	—	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	
		264A	4.9/6.5	13.6/15.6	50/50	60/60	51/50	238/238	238/238	50/50	60/60	51/50	238/238	238/238	54/54	60/60	56/55	243/243	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	238/238	58/58	60/60	51/53	238/238	238/238	64/64	70/70	56/58	243/243	243/243	64/64	70/70	56/58	243/243	
575-3-60	STD	110A	12.0/16.0	33.4/38.5	75/75	80/80	63/68	238/238	238/238	75/75	80/80	63/68	238/238	238/238	81/81	90/90	69/74	243/243	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	238/238	90/90	90/90	75/82	238/238	238/238	96/96	100/100	81/87	243/243	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	238/238	106/106	110/110	88/97	238/238	238/238	112/112	125/125	94/103	243/243	243/243	112/112	125/125	94/103	243/243	
		NONE	—	—	19	25	19	83	83	19	25	19	83	83	21	25	21	85	85	21	25	21	85	
		265A	6.0	7.2	19	25	19	83	83	19	25	19	83	83	21	25	21	85	85	21	25	21	85	
575-3-60	MED	266A	11.5	13.8	26	30	23	83	83	26	30	23	83	83	28	30	26	85	85	28	30	26	85	
		267A	14.0	16.8	29	30	27	83	83	29	30	27	83	83	32	35	29	85	85	32	35	29	85	
		268A	23.0	27.7	43	45	39	83	83	43	45	39	83	83	46	50	42	85	85	46	50	42	85	
		269A	25.5	30.7	47	50	43	83	83	47	50	43	83	83	50	50	45	85	85	50	50	45	85	
		NONE	—	—	20	25	20	110	110	20	25	20	110	110	23	30	23	112	112	23	30	23	112	
575-3-60	HIGH	265A	6.0	7.2	20	25	20	110	110	20	25	20	110	110	23	30	23	112	112	23	30	23	112	
		266A	11.5	13.8	28	30	25	110	110	28	30	25	110	110	30	35	28	112	112	30	35	28	112	
		267A	14.0	16.8	31	35	29	110	110	31	35	29	110	110	34	35	31	112	112	34	35	31	112	
		268A	23.0	27.7	45	45	41	110	110	45	45	41	110	110	48	50	44	112	112	48	50	44	112	
		269A	25.5	30.7	49	50	45	110	110	49	50	45	110	110	52	60	47	112	112	52	60	47	112	
575-3-60	STD	NONE	—	—	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	
		265A	6.0	7.2	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	
		266A	11.5	13.8	30	35	28	118	118	30	35	28	118	118	33	35	30	120	120	33	35	30	120	
		267A	14.0	16.8	34	35	31	118	118	34	35	31	118	118	37	40	34	120	120	37	40	34	120	
		268A	23.0	27.7	48	50	44	118	118	48	50	44	118	118	51	60	46	120	120	51	60	46	120	
575-3-60	MED	269A	25.5	30.7	52	60	47	118	118	52	60	47	118	118	54	60	50	120	120	54	60	50	120	
		NONE	—	—	15	20	15	70	70	15	20	15	70	70	17	20	17	72	72	17	20	17	72	
		118A	18.0	17.3	29	30	26	70	70	29	30	26	70	70	31	35	28	72	72	31	35	28	72	
		298A	28.0	26.9	41	45	37	70	70	41	45	37	70	70	43	45	39	72	72	43	45	39	72	
		NONE	—	—	17	20	17	85	85	17	20	17	85	85	18	20	19	87	87	18	20	19	87	
575-3-60	HIGH	118A	18.0	17.3	30	30	28	85	85	30	30	28	85	85	32	35	29	87	87	32	35	29	87	
		298A	28.0	26.9	42	45	39	85	85	42	45	39	85	85	44	45	41	87	87	44	45	41	87	
		NONE	—	—	19	25	20	99	99	19	25	20	99	99	21	25	22	101	101	21	25	22	101	
		118A	18.0	17.3	34	35	31	99	99	34	35	31	99	99	36	40	33	101	101	36	40	33	101	
		298A	28.0	26.9	46	50	42	99	99	46	50	42	99	99	48	50	44	101	101	48	50	44	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC+D07	STD	NONE	—	—	39	50	39	169	169	39	50	39	169	169	43	60	44	174	174	43	60	44	174	174
		264A	4.9/6.5	13.6/15.6	39/39	50/50	39/39	169/169	169/169	39/39	50/50	39/39	169/169	169/169	43/43	60/60	44/44	174/174	174/174	43/43	60/60	44/44	174/174	174/174
		117A	7.8/10.4	21.7/25.0	48/48	50/50	40/44	169/169	169/169	48/48	50/50	40/44	169/169	169/169	54/54	60/60	46/50	174/174	174/174	54/54	60/60	46/50	174/174	174/174
		110A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	169/169	169/169	65/65	70/70	54/60	169/169	169/169	71/71	80/80	59/65	174/174	174/174	71/71	80/80	59/65	174/174	174/174
		117A+117A	15.8/21.0	43.8/50.5	80/80	80/80	66/73	169/169	169/169	80/80	80/80	66/73	169/169	169/169	86/86	90/90	71/79	174/174	174/174	86/86	90/90	71/79	174/174	174/174
50HC+D07	MED	110A+117A	19.9/26.5	55.2/63.8	97/97	100/100	79/89	169/169	169/169	97/97	100/100	79/89	169/169	169/169	103/103	110/110	84/94	174/174	174/174	103/103	110/110	84/94	174/174	174/174
		NONE	—	—	42/42	50/50	43/42	222	222	42/42	50/50	43/42	222	222	47/47	60/60	48/48	227	227	47/47	60/60	48/48	227	227
		264A	4.9/6.5	13.6/15.6	42/42	50/50	43/42	222/222	222/222	42/42	50/50	43/42	222/222	222/222	47/47	60/60	48/48	227/227	227/227	47/47	60/60	48/48	227/227	227/227
		117A	7.8/10.4	21.7/25.0	52/52	60/60	44/48	222/222	222/222	52/52	60/60	44/48	222/222	222/222	58/58	60/60	49/53	227/227	227/227	58/58	60/60	49/53	227/227	227/227
		110A	12.0/16.0	33.4/38.5	69/69	70/70	57/63	222/222	222/222	69/69	70/70	57/63	222/222	222/222	75/75	80/80	63/69	227/227	227/227	75/75	80/80	63/69	227/227	227/227
50HC+D07	HIGH	117A+117A	15.8/21.0	43.8/50.5	84/84	90/90	69/77	222/222	222/222	84/84	90/90	69/77	222/222	222/222	90/90	90/90	75/82	227/227	227/227	90/90	90/90	75/82	227/227	227/227
		110A+117A	19.9/26.5	55.2/63.8	101/101	110/110	82/92	222/222	222/222	101/101	110/110	82/92	222/222	222/222	107/107	110/110	88/98	227/227	227/227	107/107	110/110	88/98	227/227	227/227
		NONE	—	—	47/47	60/60	49/47	238	238	47/47	60/60	49/47	238	238	52/52	60/60	54/53	243	243	52/52	60/60	54/53	243	243
		264A	4.9/6.5	13.6/15.6	47/47	60/60	49/47	238/238	238/238	47/47	60/60	49/47	238/238	238/238	52/52	60/60	54/53	243/243	243/243	52/52	60/60	54/53	243/243	243/243
		117A	7.8/10.4	21.7/25.0	58/58	60/60	50/53	238/238	238/238	58/58	60/60	50/53	238/238	238/238	64/64	70/70	56/58	243/243	243/243	64/64	70/70	56/58	243/243	243/243
50HC+D07	STD	110A	12.0/16.0	33.4/38.5	75/75	80/80	63/68	238/238	238/238	75/75	80/80	63/68	238/238	238/238	81/81	90/90	69/74	243/243	243/243	81/81	90/90	69/74	243/243	243/243
		117A+117A	15.8/21.0	43.8/50.5	90/90	90/90	75/82	238/238	238/238	90/90	90/90	75/82	238/238	238/238	96/96	100/100	81/87	243/243	243/243	96/96	100/100	81/87	243/243	243/243
		110A+117A	19.9/26.5	55.2/63.8	106/106	110/110	89/97	238/238	238/238	106/106	110/110	89/97	238/238	238/238	112/112	125/125	94/103	243/243	243/243	112/112	125/125	94/103	243/243	243/243
		NONE	—	—	19	25	19	83	83	19	25	19	83	83	21	25	21	85	85	21	25	21	85	85
		265A	6.0	7.2	19	25	19	83	83	19	25	19	83	83	21	25	21	85	85	21	25	21	85	85
50HC+D07	MED	266A	11.5	13.8	26	30	23	83	83	26	30	23	83	83	28	30	26	85	85	28	30	26	85	85
		267A	14.0	16.8	29	30	27	83	83	29	30	27	83	83	32	35	29	85	85	32	35	29	85	85
		268A	23.0	27.7	43	45	39	83	83	43	45	39	83	83	46	50	42	85	85	46	50	42	85	85
		269A	25.5	30.7	47	50	43	83	83	47	50	43	83	83	49	50	45	85	85	49	50	45	85	85
		NONE	—	—	21	25	21	110	110	21	25	21	110	110	23	30	23	112	112	23	30	23	112	112
50HC+D07	HIGH	265A	6.0	7.2	21	25	21	110	110	21	25	21	110	110	23	30	23	112	112	23	30	23	112	112
		266A	11.5	13.8	28	30	25	110	110	28	30	25	110	110	30	35	28	112	112	30	35	28	112	112
		267A	14.0	16.8	31	35	29	110	110	31	35	29	110	110	34	35	31	112	112	34	35	31	112	112
		268A	23.0	27.7	45	45	41	110	110	45	45	41	110	110	48	50	44	112	112	48	50	44	112	112
		269A	25.5	30.7	49	50	45	110	110	49	50	45	110	110	52	60	47	112	112	52	60	47	112	112
50HC+D07	STD	NONE	—	—	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	120
		265A	6.0	7.2	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	120
		266A	11.5	13.8	30	35	28	118	118	30	35	28	118	118	33	35	30	120	120	33	35	30	120	120
		267A	14.0	16.8	34	35	31	118	118	34	35	31	118	118	37	40	34	120	120	37	40	34	120	120
		268A	23.0	27.7	48	50	44	118	118	48	50	44	118	118	51	60	46	120	120	51	60	46	120	120
50HC+D07	HIGH	269A	25.5	30.7	52	60	47	118	118	52	60	47	118	118	54	60	50	120	120	54	60	50	120	120
		NONE	—	—	15	20	15	70	70	15	20	15	70	70	17	20	17	72	72	17	20	17	72	72
		118A	18.0	17.3	29	30	26	70	70	29	30	26	70	70	31	35	28	72	72	31	35	28	72	72
		298A	28.0	26.9	41	45	37	70	70	41	45	37	70	70	43	45	39	72	72	43	45	39	72	72
		NONE	—	—	16	20	16	85	85	16	20	16	85	85	18	20	18	87	87	18	20	18	87	87
575-3-60	MED	118A	18.0	17.3	30	30	28	85	85	30	30	28	85	85	32	35	29	87	87	32	35	29	87	87
		298A	28.0	26.9	42	45	39	85	85	42	45	39	85	85	44	45	41	87	87	44	45	41	87	87
		NONE	—	—	19	25	19	99	99	19	25	19	99	99	21	25	21	101	101	21	25	21	101	101
		118A	18.0	17.3	34	35	31	99	99	34	35	31	99	99	36	40	33	101	101	36	40	33	101	101
		298A	28.0	26.9	46	50	42	99	99	46	50	42	99	99	48	50	44	101	101	48	50	44	101	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC+D08	STD	NONE	—	—	51	60	54	203	203	51	60	54	203	203	51	60	54	203	203	51	60	54	203	203
		117A	7.8/10.4	21.7/25.0	53/53	60/60	54/54	203/203	203/203	53/53	60/60	54/54	203/203	203/203	53/53	60/60	54/54	203/203	203/203	53/53	60/60	54/54	203/203	203/203
		110A	12.0/16.0	33.4/38.5	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203
		111A	18.6/24.8	51.7/59.7	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203
		112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203
50HC+D08	MED	112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203
		NONE	—	—	53/53	60/60	56/56	241	241	53/53	60/60	56/56	241	241	53/53	60/60	56/56	241	241	53/53	60/60	56/56	241	241
		117A	7.8/10.4	21.7/25.0	55/55	60/60	56/56	241/241	241/241	55/55	60/60	56/56	241/241	241/241	55/55	60/60	56/56	241/241	241/241	55/55	60/60	56/56	241/241	241/241
		110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241
		111A	18.6/24.8	51.7/59.7	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241
50HC+D08	HIGH	112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241
		112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241
		NONE	—	—	57	60	61	270	270	57	60	61	270	270	57	60	61	270	270	57	60	61	270	270
		117A	7.8/10.4	21.7/25.0	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270
		110A	12.0/16.0	33.4/38.5	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270
50HC+D08	STD	111A	18.6/24.8	51.7/59.7	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270
		112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270
		112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270
		NONE	—	—	24	25	25	101	101	24	25	25	101	101	24	25	25	101	101	24	25	25	101	101
		116B	13.9	16.7	31	35	28	101	101	31	35	28	101	101	31	35	28	101	101	31	35	28	101	101
50HC+D08	MED	113B	16.5	19.8	35	35	32	101	101	35	35	32	101	101	35	35	32	101	101	35	35	32	101	101
		114B	27.8	33.4	52	60	48	101	101	52	60	48	101	101	52	60	48	101	101	52	60	48	101	101
		115B	33.0	39.7	60	60	55	101	101	60	60	55	101	101	60	60	55	101	101	60	60	55	101	101
		128B	41.7	50.2	73	80	67	101	101	73	80	67	101	101	73	80	67	101	101	73	80	67	101	101
		NONE	—	—	25	30	26	120	120	25	30	26	120	120	25	30	26	120	120	25	30	26	120	120
50HC+D08	HIGH	116B	13.9	16.7	32	35	29	120	120	32	35	29	120	120	32	35	29	120	120	32	35	29	120	120
		113B	16.5	19.8	36	40	33	120	120	36	40	33	120	120	36	40	33	120	120	36	40	33	120	120
		114B	27.8	33.4	53	60	49	120	120	53	60	49	120	120	53	60	49	120	120	53	60	49	120	120
		115B	33.0	39.7	61	70	56	120	120	61	70	56	120	120	61	70	56	120	120	61	70	56	120	120
		128B	41.7	50.2	74	80	68	120	120	74	80	68	120	120	74	80	68	120	120	74	80	68	120	120
50HC+D08	STD	NONE	—	—	27	30	28	135	135	27	30	28	135	135	27	30	28	135	135	27	30	28	135	135
		116B	13.9	16.7	35	35	32	135	135	35	35	32	135	135	35	35	32	135	135	35	35	32	135	135
		113B	16.5	19.8	39	40	35	135	135	39	40	35	135	135	39	40	35	135	135	39	40	35	135	135
		114B	27.8	33.4	56	60	51	135	135	56	60	51	135	135	56	60	51	135	135	56	60	51	135	135
		115B	33.0	39.7	64	70	58	135	135	64	70	58	135	135	64	70	58	135	135	64	70	58	135	135
50HC+D08	HIGH	128B	41.7	50.2	77	80	70	135	135	77	80	70	135	135	77	80	70	135	135	77	80	70	135	135
		NONE	—	—	18	20	19	83	83	18	20	19	83	83	18	20	19	83	83	18	20	19	83	83
		116A	18.0	17.3	31	35	28	83	83	31	35	28	83	83	31	35	28	83	83	31	35	28	83	83
		119A	36.0	34.6	53	60	48	83	83	53	60	48	83	83	53	60	48	83	83	53	60	48	83	83
		NONE	—	—	19	20	20	87	87	19	20	20	87	87	19	20	20	87	87	19	20	20	87	87
50HC+D08	MED	119A	18.0	17.3	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87
		119A	36.0	34.6	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87
		NONE	—	—	19	20	20	87	87	19	20	20	87	87	19	20	20	87	87	19	20	20	87	87
		119A	18.0	17.3	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87
		119A	36.0	34.6	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87
50HC+D08	STD	NONE	—	—	19	20	21	98	98	19	20	21	98	98	19	20	21	98	98	19	20	21	98	98
		116A	18.0	17.3	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98
		119A	36.0	34.6	54	60	49	98	98	54	60	49	98	98	54	60	49	98	98	54	60	49	98	98
		NONE	—	—	19	20	21	98	98	19	20	21	98	98	19	20	21	98	98	19	20	21	98	98
		119A	18.0	17.3	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC+D09	STD	NONE	—	—	51	60	55	203	203	51	60	55	203	203	51	60	55	203	203	51	60	55	203	203
		117A	7.8/10.4	21.7/25.0	53/53	60/60	55/55	203/203	203/203	53/53	60/60	55/55	203/203	203/203	53/53	60/60	55/55	203/203	203/203	53/53	60/60	55/55	203/203	203/203
		110A	12.0/16.0	33.4/38.5	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203	70/70	70/70	58/64	203/203	203/203
		111A	18.6/24.8	51.7/59.7	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203	97/97	100/100	79/88	203/203	203/203
		112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203	118/118	125/125	96/108	203/203	203/203
	MED	112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203	149/149	150/150	121/137	203/203	203/203
		NONE	—	—	53/53	60/60	57/56	241	241	53/53	60/60	57/56	241	241	53/53	60/60	57/56	241	241	53/53	60/60	57/56	241	241
		117A	7.8/10.4	21.7/25.0	55/55	60/60	57/56	241/241	241/241	55/55	60/60	57/56	241/241	241/241	55/55	60/60	57/56	241/241	241/241	55/55	60/60	57/56	241/241	241/241
		110A	12.0/16.0	33.4/38.5	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241	72/72	80/80	60/66	241/241	241/241
		111A	18.6/24.8	51.7/59.7	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241	98/98	100/100	81/90	241/241	241/241
HIGH	112A	24.0/32.0	66.7/77.0	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241	120/120	125/125	98/110	241/241	241/241	
	112A+117A	31.8/42.4	88.4/102.0	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241	151/151	175/175	123/139	241/241	241/241	
	NONE	—	—	57	60	61	270	270	57	60	61	270	270	57	60	61	270	270	57	60	61	270	270	
	117A	7.8/10.4	21.7/25.0	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270	60/60	60/60	61/61	270/270	270/270	
	110A	12.0/16.0	33.4/38.5	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270	77/77	80/80	64/70	270/270	270/270	
STD	111A	18.6/24.8	51.7/59.7	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270	103/103	110/110	85/95	270/270	270/270	
	112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270	125/125	125/125	103/115	270/270	270/270	
	112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270	156/156	175/175	128/143	270/270	270/270	
	NONE	—	—	24	30	25	101	101	24	30	25	101	101	24	30	25	101	101	24	30	25	101	101	
	116B	13.9	16.7	31	35	28	101	101	31	35	28	101	101	31	35	28	101	101	31	35	28	101	101	
460-3-60	MED	113B	16.5	19.8	35	35	32	101	101	35	35	32	101	101	35	35	32	101	101	35	35	32	101	101
		114B	27.8	33.4	52	60	48	101	101	52	60	48	101	101	52	60	48	101	101	52	60	48	101	101
		115B	33.0	39.7	60	60	55	101	101	60	60	55	101	101	60	60	55	101	101	60	60	55	101	101
		128B	41.7	50.2	73	80	67	101	101	73	80	67	101	101	73	80	67	101	101	73	80	67	101	101
		NONE	—	—	25	30	26	120	120	25	30	26	120	120	25	30	26	120	120	25	30	26	120	120
575-3-60	HIGH	116B	13.9	16.7	32	35	29	120	120	32	35	29	120	120	32	35	29	120	120	32	35	29	120	120
		113B	16.5	19.8	36	40	33	120	120	36	40	33	120	120	36	40	33	120	120	36	40	33	120	120
		114B	27.8	33.4	53	60	49	120	120	53	60	49	120	120	53	60	49	120	120	53	60	49	120	120
		115B	33.0	39.7	61	70	56	120	120	61	70	56	120	120	61	70	56	120	120	61	70	56	120	120
		128B	41.7	50.2	74	80	68	120	120	74	80	68	120	120	74	80	68	120	120	74	80	68	120	120
STD	NONE	—	—	27	30	28	135	135	27	30	28	135	135	27	30	28	135	135	27	30	28	135	135	
	116B	13.9	16.7	35	35	32	135	135	35	35	32	135	135	35	35	32	135	135	35	35	32	135	135	
	113B	16.5	19.8	39	40	35	135	135	39	40	35	135	135	39	40	35	135	135	39	40	35	135	135	
	114B	27.8	33.4	56	60	51	135	135	56	60	51	135	135	56	60	51	135	135	56	60	51	135	135	
	115B	33.0	39.7	64	70	58	135	135	64	70	58	135	135	64	70	58	135	135	64	70	58	135	135	
575-3-60	MED	128B	41.7	50.2	77	80	70	135	135	77	80	70	135	135	77	80	70	135	135	77	80	70	135	135
		NONE	—	—	20	25	21	83	83	20	25	21	83	83	20	25	21	83	83	20	25	21	83	83
		116A	18.0	17.3	31	35	28	83	83	31	35	28	83	83	31	35	28	83	83	31	35	28	83	83
		119A	36.0	34.6	53	60	48	83	83	53	60	48	83	83	53	60	48	83	83	53	60	48	83	83
		NONE	—	—	20	25	21	87	87	20	25	21	87	87	20	25	21	87	87	20	25	21	87	87
HIGH	116A	18.0	17.3	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87	31	35	28	87	87	
	119A	36.0	34.6	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87	53	60	48	87	87	
	NONE	—	—	21	25	22	98	98	21	25	22	98	98	21	25	22	98	98	21	25	22	98	98	
	118A	18.0	17.3	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98	32	35	29	98	98	
	119A	36.0	34.6	54	60	49	98	98	54	60	49	98	98	54	60	49	98	98	54	60	49	98	98	

APPENDIX C — ELECTRICAL DATA

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

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.										
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	
50HC*D11	STD	NONE	—	—	61	70	65	269	269	61	70	65	269	269	66	80	77	330	71	80	77	330	77	330	330
		117A	7.8/10.4	21.7/25.0	61/61	70/70	65/65	269/269	269/269	61/61	70/70	65/65	269/269	269/269	66/66	80/80	77/77	330/330	71/71	80/80	77/77	330/330	77/77	330/330	330/330
		110A	12.0/16.0	33.4/38.5	70/70	70/70	65/65	269/269	269/269	70/70	70/70	65/65	269/269	269/269	76/76	80/80	70/70	274/274	76/76	80/80	70/70	274/274	70/70	274/274	274/274
		112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	269/269	269/269	118/118	125/125	96/108	269/269	269/269	124/124	125/125	102/114	274/274	124/124	125/125	102/114	274/274	102/114	274/274	274/274
		112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	269/269	269/269	149/149	150/150	121/137	269/269	269/269	155/155	175/175	127/143	274/274	155/155	175/175	127/143	274/274	127/143	274/274	274/274
	MED	208/230-3-60	112A+110A	37.6/50.0	104.2/120.3	152/152	175/175	140/158	269/269	269/269	152/152	175/175	140/158	269/269	158/158	175/175	145/164	274/274	158/158	175/175	145/164	274/274	145/164	274/274	274/274
		NONE	—	—	66	80	71	325	325	66	80	71	325	325	71	80	77	330	71	80	77	330	77	330	330
		117A	7.8/10.4	21.7/25.0	66/66	80/80	71/71	325/325	325/325	66/66	80/80	71/71	325/325	325/325	71/71	80/80	77/77	330/330	71/71	80/80	77/77	330/330	77/77	330/330	330/330
		110A	12.0/16.0	33.4/38.5	77/77	80/80	71/71	325/325	325/325	77/77	80/80	71/71	325/325	325/325	83/83	90/90	77/77	330/330	83/83	90/90	77/77	330/330	77/77	330/330	330/330
		112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	325/325	325/325	125/125	125/125	103/115	325/325	325/325	131/131	150/150	108/120	330/330	131/131	150/150	108/120	330/330	108/120	330/330	330/330
	HIGH	208/230-3-60	112A+117A	31.8/42.4	88.4/102.0	156/156	175/175	128/143	325/325	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	133/149	330/330	330/330
		112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/164	325/325	325/325	159/159	175/175	146/164	325/325	325/325	165/165	175/175	151/170	330/330	165/165	175/175	151/170	330/330	151/170	330/330	330/330
		NONE	—	—	69/69	80/80	74/73	327	327	69/69	80/80	74/73	327	327	74/74	80/80	80/79	332	74/74	80/80	80/79	332	80/79	332	332
		117A	7.8/10.4	21.7/25.0	69/69	80/80	74/73	327/327	327/327	69/69	80/80	74/73	327/327	327/327	74/74	80/80	80/79	332/332	74/74	80/80	80/79	332/332	80/79	332/332	332/332
		110A	12.0/16.0	33.4/38.5	79/79	80/80	74/73	327/327	327/327	79/79	80/80	74/73	327/327	327/327	85/85	90/90	80/79	332/332	85/85	90/90	80/79	332/332	80/79	332/332	332/332
STD	460-3-60	112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	327/327	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	112/122	332/332	332/332	
	112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	327/327	327/327	159/159	175/175	131/146	327/327	327/327	165/165	175/175	137/151	332/332	165/165	175/175	137/151	332/332	137/151	332/332	332/332	
	112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	327/327	327/327	163/163	175/175	149/167	327/327	327/327	169/169	175/175	155/172	332/332	169/169	175/175	155/172	332/332	155/172	332/332	332/332	
	NONE	—	—	28	30	29	129	129	28	30	29	129	129	30	35	32	131	30	35	32	131	32	131	131	
	116B	13.9	16.7	31	35	29	129	129	31	35	29	129	129	34	35	32	131	34	35	32	131	35	131	131	
MED	460-3-60	113B	16.5	19.8	35	32	129	129	35	35	32	129	129	38	40	35	131	38	40	35	131	38	131	131	
	115B	33.0	39.7	60	60	55	129	129	60	60	55	129	129	63	70	57	131	63	70	57	131	63	131	131	
	128B	41.7	50.2	73	80	67	129	129	73	80	67	129	129	76	80	70	131	76	80	70	131	76	131	131	
	129B	50.0	60.1	71	80	78	129	129	71	80	78	129	129	73	80	81	131	73	80	81	131	81	131	131	
	NONE	—	—	31	35	33	157	157	31	35	33	157	157	33	35	35	159	33	35	35	159	35	159	159	
HIGH	460-3-60	116B	13.9	16.7	35	35	157	157	35	35	33	157	157	38	40	35	159	38	40	35	159	38	159	159	
	113B	16.5	19.8	39	40	35	157	157	39	40	35	157	157	41	45	38	159	41	45	38	159	41	159	159	
	115B	33.0	39.7	64	70	58	157	157	64	70	58	157	157	66	70	61	159	66	70	61	159	61	159	159	
	128B	41.7	50.2	77	80	70	157	157	77	80	70	157	157	79	80	73	159	79	80	73	159	73	159	159	
	129B	50.0	60.1	74	80	81	157	157	74	80	81	157	157	77	80	84	159	77	80	84	159	84	159	159	
STD	575-3-60	NONE	—	—	32	35	34	158	158	32	35	34	158	158	34	40	36	160	34	40	36	160	36	160	160
	116B	13.9	16.7	36	40	34	158	158	36	40	34	158	158	39	40	36	160	39	40	36	160	36	160	160	
	113B	16.5	19.8	40	40	36	158	158	40	40	36	158	158	43	45	39	160	43	45	39	160	39	160	160	
	115B	33.0	39.7	65	70	59	158	158	65	70	59	158	158	68	70	62	160	68	70	62	160	62	160	160	
	128B	41.7	50.2	78	80	71	158	158	78	80	71	158	158	81	90	74	160	81	90	74	160	74	160	160	
MED	575-3-60	129B	50.0	60.1	75	80	83	158	158	75	80	83	158	158	78	80	85	160	78	80	85	160	85	160	160
	NONE	—	—	23	25	24	101	101	23	25	24	101	101	25	30	26	103	25	30	26	103	26	103	103	
	118A	18.0	17.3	31	35	28	101	101	31	35	28	101	101	34	35	30	103	34	35	30	103	30	103	103	
	119A	36.0	34.6	53	60	48	101	101	53	60	48	101	101	55	60	50	103	55	60	50	103	50	103	103	
	118A+119A	54.0	52.0	62	70	68	101	101	62	70	68	101	101	64	70	70	103	64	70	70	103	70	103	103	
HIGH	575-3-60	NONE	—	—	24	25	25	112	112	24	25	25	112	112	25	30	27	114	25	30	27	114	27	114	114
	118A	18.0	17.3	32	35	29	112	112	32	35	29	112	112	35	35	31	114	35	35	31	114	31	114	114	
	119A	36.0	34.6	54	60	49	112	112	54	60	49	112	112	56	60	51	114	56	60	51	114	51	114	114	
	118A+119A	54.0	52.0	63	70	69	112	112	63	70	69	112	112	65	70	71	114	65	70	71	114	71	114	114	
	NONE	—	—	27	30	29	126	126	27	30	29	126	126	28	30	31	128	28	30	31	128	31	128	128	
STD	575-3-60	118A	18.0	17.3	36	40	33	126	126	36	40	33	126	126	38	40	35	128	38	40	35	128	35	128	128
	119A	36.0	34.6	58	60	52	126	126	58	60	52	126	126	60	60	54	128	60	60	54	128	54	128	128	
	118A+119A	54.0	52.0	66	70	73	126	126	66	70	73	126	126	68	70	74	128	68	70	74	128	74	128	128	
	NONE	—	—	27	30	29	126	126	27	30	29	126	126	28	30	31	128	28	30	31	128	31	128	128	
	118A	18.0	17.3	36	40	33	126	126	36	40	33	126	126	38	40	35	128	38	40	35	128	35	128	128	
MED	575-3-60	119A	36.0	34.6	58	60	52	126	126	58	60	52	126	126	60	60	54	128	60	60	54	128	54	128	128
	118A+119A	54.0	52.0	66	70	73	126	126	66	70	73	126	126	68	70	74	128	68	70	74	128	74	128	128	
	NONE	—	—	27	30	29	126	126	27	30	29	126	126	28	30	31	128	28	30	31	128	31	128	128	
	118A	18.0	17.3	36	40	33	126	126	36	40	33	126	126	38	40	35	128	38	40	35	128	35	128	128	
	119A	36.0	34.6	58	60	52	126	126	58	60	52	126	126	60	60	54	128	60	60	54	128	54	128	128	
HIGH	575-3-60	118A+119A	54.0	52.0	66	70	73	126	126	66	70	73	126	126	68	70	74	128	68	70	7				

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	IFM TYPE	ELEC. HTR										NO C.O. or UNPWR C.O.										w/ PWRD C.O.														
		ELEC. HTR					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer														
		CRHEATER****00	Nom (kW)	FLA	MCA	HACR BRKR	DISC. SIZE	FLA	LRA	MCA	HACR BRKR	DISC. SIZE	FLA	LRA	MCA	HACR BRKR	DISC. SIZE	FLA	LRA	MCA	HACR BRKR	DISC. SIZE	FLA	LRA	MCA	HACR BRKR	DISC. SIZE	FLA	LRA							
50HC+D12	NOM. V-Ph-Hz	STD	NONE	—	—	60	70	63	294	294/294	63/63	294	294/294	63/63	294	294/294	63/63	294	294/294	63/63	294	294/294	63/63	294	294/294	63/63	294	294/294	63/63	294	294/294					
			117A	7.8/10.4	21.7/25.0	60/60	70/70	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294	63/63	294/294					
			110A	12.0/16.0	33.4/38.5	70/70	80/80	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294	63/64	294/294					
			112A	24.0/32.0	66.7/77.0	118/118	125/125	96/108	294/294	96/108	294/294	118/118	125/125	96/108	294/294	96/108	294/294	118/118	125/125	96/108	294/294	96/108	294/294	124/124	125/125	96/108	294/294	102/114	299/299	102/114	299/299					
			112A+117A	31.8/42.4	88.4/102.0	149/149	150/150	121/137	294/294	121/137	294/294	149/149	150/150	121/137	294/294	121/137	294/294	149/149	150/150	121/137	294/294	121/137	294/294	155/155	175/175	127/143	299/299	127/143	299/299							
	112A+110A	37.6/50.0	104.2/120.3	152/152	175/175	140/158	294/294	140/158	294/294	152/152	175/175	140/158	294/294	140/158	294/294	152/152	175/175	140/158	294/294	140/158	294/294	158/158	175/175	145/165	299/299	145/164	299/299									
	MED	NONE	—	—	65	80	70	350	350	65	80	70	350	350	65	80	70	350	350	65	80	70	350	350	65	80	70	350	350	65	80	70	350	350		
		117A	7.8/10.4	21.7/25.0	65/65	80/80	70/70	350/350	70/70	350/350	65/65	80/80	70/70	350/350	70/70	350/350	65/65	80/80	70/70	350/350	70/70	350/350	70/70	350/350	65/65	80/80	70/70	350/350	70/70	350/350	65/65	80/80	70/70	350/350	70/70	350/350
		110A	12.0/16.0	33.4/38.5	77/77	80/80	70/70	350/350	70/70	350/350	77/77	80/80	70/70	350/350	70/70	350/350	77/77	80/80	70/70	350/350	70/70	350/350	83/83	90/90	75/76	355/355	75/76	355/355	83/83	90/90	75/76	355/355	75/76	355/355		
		112A	24.0/32.0	66.7/77.0	125/125	125/125	103/115	350/350	103/115	350/350	125/125	125/125	103/115	350/350	103/115	350/350	125/125	125/125	103/115	350/350	103/115	350/350	131/131	150/150	108/120	355/355	108/120	355/355	131/131	150/150	108/120	355/355	108/120	355/355		
112A+117A		31.8/42.4	88.4/102.0	156/156	175/175	128/143	350/350	128/143	350/350	156/156	175/175	128/143	350/350	128/143	350/350	156/156	175/175	128/143	350/350	128/143	350/350	162/162	175/175	133/149	355/355	133/149	355/355	162/162	175/175	133/149	355/355	133/149	355/355			
HIGH	112A+110A	37.6/50.0	104.2/120.3	159/159	175/175	146/164	350/350	146/164	350/350	159/159	175/175	146/164	350/350	146/164	350/350	159/159	175/175	146/164	350/350	146/164	350/350	165/165	175/175	151/170	355/355	151/170	355/355	165/165	175/175	151/170	355/355	151/170	355/355			
	NONE	—	—	68/68	80/80	73/72	352	352	68/68	80/80	73/72	352	352	68/68	80/80	73/72	352	352	68/68	80/80	73/72	352	352	68/68	80/80	73/72	352	352	68/68	80/80	73/72	352	352			
	117A	7.8/10.4	21.7/25.0	68/68	80/80	73/72	352/352	73/72	352/352	68/68	80/80	73/72	352/352	73/72	352/352	68/68	80/80	73/72	352/352	73/72	352/352	73/73	80/80	79/78	357	79/78	357/357	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	73/73	352/352	79/79	80/80	73/73	352/352	73/73	352/352	79/79	80/80	73/73	352/352	73/73	352/352	85/85	90/90	79/78	357/357	79/78	357/357	85/85	90/90	79/78	357/357	79/78	357/357			
	112A	24.0/32.0	66.7/77.0	128/128	150/150	106/117	352/352	106/117	352/352	128/128	150/150	106/117	352/352	106/117	352/352	128/128	150/150	106/117	352/352	106/117	352/352	134/134	150/150	112/122	357/357	112/122	357/357	134/134	150/150	112/122	357/357	112/122	357/357			
STD	112A+117A	31.8/42.4	88.4/102.0	159/159	175/175	131/146	352/352	131/146	352/352	159/159	175/175	131/146	352/352	131/146	352/352	159/159	175/175	131/146	352/352	131/146	352/352	165/165	175/175	137/151	357/357	137/151	357/357	165/165	175/175	137/151	357/357	137/151	357/357			
	112A+110A	37.6/50.0	104.2/120.3	163/163	175/175	149/167	352/352	149/167	352/352	163/163	175/175	149/167	352/352	149/167	352/352	163/163	175/175	149/167	352/352	149/167	352/352	169/169	175/175	155/172	357/357	155/172	357/357	169/169	175/175	155/172	357/357	155/172	357/357			
	NONE	—	—	29	35	31	141	141	29	35	31	141	141	29	35	31	141	141	29	35	31	141	141	33	143	33	143	31	143	33	143	31	143	33	143	
	116B	13.9	16.7	31	35	31	141	141	31	35	31	141	141	31	35	31	141	141	31	35	31	141	141	33	143	33	143	34	143	33	143	34	143	33	143	
	113B	16.5	19.8	35	35	32	141	141	35	35	32	141	141	35	35	32	141	141	35	35	32	141	141	35	143	35	143	38	143	35	143	38	143	35	143	
MED	115B	33.0	39.7	60	60	55	141	141	60	60	55	141	141	60	60	55	141	141	60	60	55	141	141	57	143	57	143	63	143	57	143	63	143	57	143	
	128B	41.7	50.2	73	80	67	141	141	73	80	67	141	141	73	80	67	141	141	73	80	67	141	141	76	143	76	143	76	143	76	143	76	143	76	143	
	129B	50.0	60.1	71	80	78	141	141	71	80	78	141	141	71	80	78	141	141	71	80	78	141	141	81	143	81	143	73	143	81	143	73	143	81	143	
	NONE	—	—	32	35	34	169	169	32	35	34	169	169	32	35	34	169	169	32	35	34	169	169	36	171	36	171	34	171	36	171	34	171	36	171	
	116B	13.9	16.7	35	35	34	169	169	35	35	34	169	169	35	35	34	169	169	35	35	34	169	169	36	171	36	171	38	171	36	171	38	171	36	171	
HIGH	113B	16.5	19.8	39	40	35	169	169	39	40	35	169	169	39	40	35	169	169	39	40	35	169	169	41	171	41	171	41	171	41	171	41	171	41	171	
	115B	33.0	39.7	64	70	58	169	169	64	70	58	169	169	64	70	58	169	169	64	70	58	169	169	66	171	66	171	66	171	66	171	66	171	66	171	
	128B	41.7	50.2	77	80	70	169	169	77	80	70	169	169	77	80	70	169	169	77	80	70	169	169	79	171	79	171	79	171	79	171	79	171	79	171	
	129B	50.0	60.1	74	80	81	169	169	74	80	81	169	169	74	80	81	169	169	74	80	81	169	169	77	171	77	171	77	171	77	171	77	171	77	171	
	NONE	—	—	33	35	35	170	170	33	35	35	170	170	33	35	35	170	170	33	35	35	170	170	35	172	35	172	35	172	35	172	35	172	35	172	
STD	116B	13.9	16.7	36	40	35	170	170	36	40	35	170	170	36	40	35	170	170	36	40	35	170	170	39	172	39	172	39	172	39	172	39	172	39	172	
	113B	16.5	19.8	40	40	36	170	170	40	40	36	170	170	40	40	36	170	170	40	40	36	170	170	43	172	43	172	43	172	43	172	43	172	43	172	
	115B	33.0	39.7	65	70	59	170	170	65	70	59	170	170	65	70	59	170	170	65	70	59	170	170	68	172	68	172	68	172	68	172	68	172	68	172	
	128B	41.7	50.2	78	80	71	170	170	78	80	71	170	170	78	80	71	170	170	78	80	71	170	170	81	172	81	172	81	172	81	172	81	172	81	172	
	129B	50.0	60.1	75	80	83	170	170	75	80	83	170	170	75	80	83	170	170	75	80	83	170	170	78	172	78										

APPENDIX C — ELECTRICAL DATA

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

UNIT	NOM. V-PH-HZ	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.				
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA
50HC+D14	208/230-3-60	STD	NONE	—	73	80	77	356	73	80	77	356	73	80	77	356	73	80	77
			291A	34.4/39.7	80/80	80/80	77/77	356/356	80/80	80/80	77/77	356/356	80/80	80/80	77/77	356/356	80/80	80/80	77/77
			288A+291A	55.3/63.8	110/110	110/110	91/101	356/356	110/110	110/110	91/101	356/356	110/110	110/110	91/101	356/356	110/110	110/110	91/101
			294A	25.2/33.5	131/131	150/150	108/120	356/356	131/131	150/150	108/120	356/356	131/131	150/150	108/120	356/356	131/131	150/150	108/120
			288A+294A	32.7/43.5	161/161	175/175	132/148	356/356	161/161	175/175	132/148	356/356	161/161	175/175	132/148	356/356	161/161	175/175	132/148
460-3-60	208/230-3-60		291A+294A	104.3/120.3	160/160	175/175	147/166	356/356	160/160	175/175	147/166	356/356	160/160	175/175	147/166	356/356	160/160	175/175	147/166
		MED	NONE	—	76	90	81	386	76	90	81	386	76	90	81	386	76	90	81
			291A	34.4/39.7	84/84	90/90	81/81	386/386	84/84	90/90	81/81	386/386	84/84	90/90	81/81	386/386	84/84	90/90	81/81
			288A+291A	55.3/63.8	114/114	125/125	94/104	386/386	114/114	125/125	94/104	386/386	114/114	125/125	94/104	386/386	114/114	125/125	94/104
			294A	25.2/33.5	135/135	150/150	111/123	386/386	135/135	150/150	111/123	386/386	135/135	150/150	111/123	386/386	135/135	150/150	111/123
50HC+D14	208/230-3-60		288A+294A	32.7/43.5	165/165	175/175	135/151	386/386	165/165	175/175	135/151	386/386	165/165	175/175	135/151	386/386	165/165	175/175	135/151
			291A+294A	104.3/120.3	164/164	175/175	151/169	386/386	164/164	175/175	151/169	386/386	164/164	175/175	151/169	386/386	164/164	175/175	151/169
		HIGH	NONE	—	86	100	92	392	86	100	92	392	86	100	92	392	86	100	92
			291A	34.4/39.7	96/96	100/100	92/92	392/392	96/96	100/100	92/92	392/392	96/96	100/100	92/92	392/392	96/96	100/100	92/92
			288A+291A	55.3/63.8	126/126	150/150	106/115	392/392	126/126	150/150	106/115	392/392	126/126	150/150	106/115	392/392	126/126	150/150	106/115
50HC+D14	460-3-60		294A	25.2/33.5	147/147	150/150	122/135	392/392	147/147	150/150	122/135	392/392	147/147	150/150	122/135	392/392	147/147	150/150	122/135
			288A+294A	32.7/43.5	177/177	200/200	146/162	392/392	177/177	200/200	146/162	392/392	177/177	200/200	146/162	392/392	177/177	200/200	146/162
			291A+294A	104.3/120.3	177/177	200/200	162/180	392/392	177/177	200/200	162/180	392/392	177/177	200/200	162/180	392/392	177/177	200/200	162/180
		STD	NONE	—	32	35	34	173	32	35	34	173	32	35	34	173	32	35	34
			292A	16.5	38	40	35	173	38	40	35	173	38	40	35	173	38	40	35
50HC+D14	460-3-60		289A+292A	26.5	53	60	49	173	53	60	49	173	53	60	49	173	53	60	49
			295A	33.5	64	70	58	173	64	70	58	173	64	70	58	173	64	70	58
			289A+295A	43.5	79	80	72	173	79	80	72	173	79	80	72	173	79	80	72
			292A+295A	50.0	74	80	81	173	74	80	81	173	74	80	81	173	74	80	81
			292A+295A	50.0	60.2	60.2	83	188	60.2	60.2	83	188	60.2	60.2	83	188	60.2	60.2	83
50HC+D14	460-3-60	MED	NONE	—	34	40	36	188	34	40	36	188	34	40	36	188	34	40	36
			292A	16.5	41	45	37	188	41	45	37	188	41	45	37	188	41	45	37
			289A+292A	26.5	56	60	51	188	56	60	51	188	56	60	51	188	56	60	51
			295A	33.5	66	70	61	188	66	70	61	188	66	70	61	188	66	70	61
			289A+295A	43.5	81	90	74	188	81	90	74	188	81	90	74	188	81	90	74
50HC+D14	460-3-60		292A+295A	50.0	76	80	83	188	76	80	83	188	76	80	83	188	76	80	83
			292A+295A	50.0	60.2	60.2	83	188	60.2	60.2	83	188	60.2	60.2	83	188	60.2	60.2	83
		HIGH	NONE	—	39	45	41	191	39	45	41	191	39	45	41	191	39	45	41
			292A	16.5	47	50	43	191	47	50	43	191	47	50	43	191	47	50	43
			289A+292A	26.5	62	70	56	191	62	70	56	191	62	70	56	191	62	70	56
50HC+D14	460-3-60		295A	33.5	72	80	66	191	72	80	66	191	72	80	66	191	72	80	66
			289A+295A	43.5	87	90	80	191	87	90	80	191	87	90	80	191	87	90	80
			292A+295A	50.0	82	90	89	191	82	90	89	191	82	90	89	191	82	90	89
			292A+295A	50.0	60.2	60.2	89	191	60.2	60.2	89	191	60.2	60.2	89	191	60.2	60.2	89
			292A+295A	50.0	60.2	60.2	89	191	60.2	60.2	89	191	60.2	60.2	89	191	60.2	60.2	89

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	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		IFM TYPE	CRHEATER****00	Nom (kW)	FLA	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		MCA	HACR BRKR	DISC. SIZE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.											
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer						
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA	MCA	MAX FUSE or HACR BRKR	FLA	LRA
50HC+D07	STD	NONE	—	—	39/39	50/50	40/39	173	40/39	173	39/39	50/50	40/39	173	44/44	60/60	45/45	178	44/44	60/60	45/45	178	44/44	60/60	45/45	178
		264A	4.9/6.5	13.6/15.6	39/39	50/50	40/39	173/173	40/39	173/173	39/39	50/50	40/39	173/173	44/44	60/60	45/45	178/178	44/44	60/60	45/45	178/178	44/44	60/60	45/45	178/178
		117A	7.8/10.4	21.7/25.0	45/49	50/50	41/44	173/173	41/44	173/173	45/49	50/50	41/44	173/173	51/55	60/60	46/50	178/178	51/55	60/60	46/50	178/178	51/55	60/60	46/50	178/178
		110A	12.0/16.0	33.4/38.5	60/66	60/70	54/60	173/173	54/60	173/173	60/66	60/70	54/60	173/173	66/72	70/80	60/66	178/178	66/72	70/80	60/66	178/178	66/72	70/80	60/66	178/178
		117A+117A	15.8/21.0	43.8/50.5	73/81	80/90	66/74	173/173	66/74	173/173	73/81	80/90	66/74	173/173	79/87	90/100	72/79	178/178	79/87	90/100	72/79	178/178	79/87	90/100	72/79	178/178
	110A+117A	19.9/26.5	55.2/63.8	87/97	90/100	79/89	173/173	79/89	173/173	87/97	90/100	79/89	173/173	93/103	100/110	85/95	178/178	93/103	100/110	85/95	178/178	93/103	100/110	85/95	178/178	
	MED	NONE	—	—	42/41	50/50	43/42	203	43/42	203	42/41	50/50	43/42	203	47/46	60/60	48/47	208	47/46	60/60	48/47	208	47/46	60/60	48/47	208
		264A	4.9/6.5	13.6/15.6	42/41	50/50	43/42	203/203	43/42	203/203	42/41	50/50	43/42	203/203	47/46	60/60	48/47	208/208	47/46	60/60	48/47	208/208	47/46	60/60	48/47	208/208
		117A	7.8/10.4	21.7/25.0	48/52	50/60	44/47	203/203	44/47	203/203	48/52	50/60	44/47	203/203	54/58	60/60	50/53	208/208	54/58	60/60	50/53	208/208	54/58	60/60	50/53	208/208
		110A	12.0/16.0	33.4/38.5	63/68	70/70	58/63	203/203	58/63	203/203	63/68	70/70	58/63	203/203	69/74	70/80	63/68	208/208	69/74	70/80	63/68	208/208	69/74	70/80	63/68	208/208
117A+117A		15.8/21.0	43.8/50.5	76/83	80/90	70/76	203/203	70/76	203/203	76/83	80/90	70/76	203/203	82/89	90/90	75/82	208/208	82/89	90/90	75/82	208/208	82/89	90/90	75/82	208/208	
110A+117A	19.9/26.5	55.2/63.8	90/100	90/100	83/92	203/203	83/92	203/203	90/100	90/100	83/92	203/203	96/106	100/110	88/97	208/208	96/106	100/110	88/97	208/208	96/106	100/110	88/97	208/208		
HIGH	NONE	—	—	47/46	60/60	49/47	238	49/47	238	47/46	60/60	49/47	238	52/51	60/60	54/53	243	52/51	60/60	54/53	243	52/51	60/60	54/53	243	
	264A	4.9/6.5	13.6/15.6	47/46	60/60	49/47	238/238	49/47	238/238	47/46	60/60	49/47	238/238	52/52	60/60	54/53	243/243	52/52	60/60	54/53	243/243	52/52	60/60	54/53	243/243	
	117A	7.8/10.4	21.7/25.0	55/58	60/60	50/53	238/238	50/53	238/238	55/58	60/60	50/53	238/238	61/64	70/70	55/58	243/243	61/64	70/70	55/58	243/243	61/64	70/70	55/58	243/243	
	110A	12.0/16.0	33.4/38.5	69/75	70/80	63/68	238/238	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	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	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	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	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	103/112	110/125	94/103	243/243		
STD	NONE	—	—	19	25	19	85	19	85	19	25	19	85	21	25	22	87	21	25	22	87	21	25	22	87	
	265A	6.0	7.2	19	25	19	85	19	85	19	25	19	85	21	25	22	87	21	25	22	87	21	25	22	87	
	266A	11.5	13.8	26	30	24	85	26	30	24	85	26	30	29	30	26	87	29	30	26	87	29	30	26	87	
	267A	14.0	16.8	30	30	27	85	30	30	27	85	30	30	33	35	30	87	33	35	30	87	33	35	30	87	
	268A	23.0	27.7	43	45	40	85	43	45	40	85	46	50	42	42	42	87	46	50	42	87	46	50	42	87	
269A	25.5	30.7	47	50	43	85	47	50	43	85	50	50	46	50	50	46	87	50	50	46	87	50	50	46	87	
MED	NONE	—	—	20	25	20	101	20	101	20	25	20	101	22	30	23	103	22	30	23	103	22	30	23	103	
	265A	6.0	7.2	20	25	20	101	20	101	20	25	20	101	22	30	23	103	22	30	23	103	22	30	23	103	
	266A	11.5	13.8	27	30	25	101	27	30	25	101	30	30	27	30	30	103	30	30	27	103	30	30	27	103	
	267A	14.0	16.8	31	35	28	101	31	35	28	101	34	35	31	34	35	31	103	34	35	31	103	34	35	31	103
	268A	23.0	27.7	45	45	41	101	45	45	41	101	47	50	43	47	50	43	103	47	50	43	103	47	50	43	103
269A	25.5	30.7	48	50	44	101	48	50	44	101	51	60	47	51	60	47	103	51	60	47	103	51	60	47	103	
HIGH	NONE	—	—	23	30	23	118	23	118	23	30	23	118	25	30	26	120	25	30	26	120	25	30	26	120	
	265A	6.0	7.2	23	30	23	118	23	118	23	30	23	118	25	30	26	120	25	30	26	120	25	30	26	120	
	266A	11.5	13.8	30	35	28	118	30	35	28	118	33	35	30	33	35	30	120	33	35	30	120	33	35	30	120
	267A	14.0	16.8	34	35	31	118	34	35	31	118	37	40	34	37	40	34	120	37	40	34	120	37	40	34	120
	268A	23.0	27.7	48	50	44	118	48	50	44	118	51	60	46	51	60	46	120	51	60	46	120	51	60	46	120
269A	25.5	30.7	52	60	47	118	52	60	47	118	54	60	50	54	60	50	120	54	60	50	120	54	60	50	120	
STD	NONE	—	—	16	20	16	72	16	72	16	20	16	72	18	20	18	74	18	20	18	74	18	20	18	74	
	118A	18.0	17.3	30	30	28	72	30	72	32	30	28	72	32	35	29	74	32	35	29	74	32	35	29	74	
	298A	28.0	26.9	42	45	39	72	42	72	42	45	39	72	44	45	41	74	44	45	41	74	44	45	41	74	
	NONE	—	—	18	20	18	85	18	85	18	20	18	85	20	25	20	87	20	25	20	87	20	25	20	87	
	118A	18.0	17.3	32	35	29	85	32	85	35	35	29	85	35	35	31	87	35	35	31	87	35	35	31	87	
MED	NONE	—	—	18	20	18	85	18	85	18	20	18	85	20	25	20	87	20	25	20	87	20	25	20	87	
	118A	18.0	17.3	32	35	29	85	32	85	35	35	29	85	35	35	31	87	35	35	31	87	35	35	31	87	
	299A	28.0	26.9	44	45	41	85	44	85	44	45	41	85	47	50	42	87	47	50	42	87	47	50	42	87	
	NONE	—	—	20	25	20	99	20	99	20	25	20	99	21	25	22	101	21	25	22	101	21	25	22	101	
	118A	18.0	17.3	35	35	31	99	35	99	37	35	31	99	37	40	33	101	37	40	33	101	37	40	33	101	
HIGH	NONE	—	—	20	25	20	99	20	99	20	25	20	99	21	25	22	101	21	25	22	101	21	25	22	101	
	118A	18.0	17.3	35	35	31	99	35	99	37	35	31	99	37	40	33	101	37	40	33	101	37	40	33	101	
	299A	28.0	26.9	47	50	42	99	47	99	47	50	42	99	49	50	44	101	49	50	44	101	49	50	44	101	
	NONE	—	—	20	25	20	99	20	99	20	25	20	99	21	25	22	101	21	25	22	101	21	25	22	101	
	118A	18.0	17.3	35	35	31	99	35	99	37	35	31	99	37	40	33	101	37	40	33	101	37	40	33	101	

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		CRHEATER****00	Nom (kW)	FLA	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		MCA	MAX FUSE or HACR BRKR	DISC. SIZE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
							FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA	FLA	LRA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
50HC+D08	STD	NONE	—	—	52/52	60/60	55/55	207	52/52	60/60	55/55	207	57/56	60/60	57/56	211	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216	58/58	70/70	62/62	216

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	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				
				MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
208/230-3-60	STD	NONE	—	52/52	60/60	55/55	207	207	52/52	60/60	55/55	207	207	52/52	60/60	55/55	207	207	52/52	60/60	55/55	207	207
		117A	7.8/10.4	21.7/25.0	60/60	55/55	207/207	207/207	52/54	60/60	55/55	207/207	207/207	52/54	60/60	55/55	207/207	207/207	52/54	60/60	55/55	207/207	207/207
		110A	12.0/16.0	33.4/38.5	70/80	59/64	207/207	207/207	64/71	70/80	59/64	207/207	207/207	64/71	70/80	59/64	207/207	207/207	64/71	70/80	59/64	207/207	207/207
		111A	18.6/24.8	51.7/59.7	90/100	80/89	207/207	207/207	87/97	90/100	80/89	207/207	207/207	87/97	90/100	80/89	207/207	207/207	87/97	90/100	80/89	207/207	207/207
		112A	24.0/32.0	66.7/77.0	110/125	97/109	207/207	207/207	106/119	110/125	97/109	207/207	207/207	106/119	110/125	97/109	207/207	207/207	106/119	110/125	97/109	207/207	207/207
	MED	112A+117A	31.8/42.4	88.4/102.0	133/150	122/138	207/207	207/207	133/150	150/175	122/138	207/207	207/207	133/150	150/175	122/138	207/207	207/207	133/150	150/175	122/138	207/207	207/207
		NONE	—	53/53	60/60	57/57	211	211	53/53	60/60	57/57	211	211	53/53	60/60	57/57	211	211	53/53	60/60	57/57	211	211
		117A	7.8/10.4	21.7/25.0	60/60	57/57	211/211	211/211	53/55	60/60	57/57	211/211	211/211	53/55	60/60	57/57	211/211	211/211	53/55	60/60	57/57	211/211	211/211
		110A	12.0/16.0	33.4/38.5	70/80	60/66	211/211	211/211	66/72	70/80	60/66	211/211	211/211	66/72	70/80	60/66	211/211	211/211	66/72	70/80	60/66	211/211	211/211
		111A	18.6/24.8	51.7/59.7	90/100	81/90	211/211	211/211	89/99	90/100	81/90	211/211	211/211	89/99	90/100	81/90	211/211	211/211	89/99	90/100	81/90	211/211	211/211
460-3-60	HIGH	112A	24.0/32.0	66.7/77.0	110/125	99/110	211/211	211/211	108/120	110/125	99/110	211/211	211/211	108/120	110/125	99/110	211/211	211/211	108/120	110/125	99/110	211/211	211/211
		112A+117A	31.8/42.4	88.4/102.0	135/151	124/139	211/211	211/211	135/151	150/175	124/139	211/211	211/211	135/151	150/175	124/139	211/211	211/211	135/151	150/175	124/139	211/211	211/211
		NONE	—	57/56	70/60	61/60	261	261	57/56	70/60	61/60	261	261	57/56	70/60	61/60	261	261	57/56	70/60	61/60	261	261
		117A	7.8/10.4	21.7/25.0	70/60	61/60	261/261	261/261	57/59	70/60	61/60	261/261	261/261	57/59	70/60	61/60	261/261	261/261	57/59	70/60	61/60	261/261	261/261
		110A	12.0/16.0	33.4/38.5	80/80	65/69	261/261	261/261	71/76	80/80	65/69	261/261	261/261	71/76	80/80	65/69	261/261	261/261	71/76	80/80	65/69	261/261	261/261
	STD	111A	18.6/24.8	51.7/59.7	100/110	86/94	261/261	261/261	94/102	100/110	86/94	261/261	261/261	94/102	100/110	86/94	261/261	261/261	94/102	100/110	86/94	261/261	261/261
		112A	24.0/32.0	66.7/77.0	125/125	103/114	261/261	261/261	112/124	125/125	103/114	261/261	261/261	112/124	125/125	103/114	261/261	261/261	112/124	125/125	103/114	261/261	261/261
		112A+117A	31.8/42.4	88.4/102.0	139/155	128/142	261/261	261/261	139/155	150/175	128/142	261/261	261/261	139/155	150/175	128/142	261/261	261/261	139/155	150/175	128/142	261/261	261/261
		NONE	—	24	30	26	103	103	24	30	26	103	103	24	30	26	103	103	24	30	26	103	103
		116B	13.9	16.7	32	29	103	103	32	35	29	103	103	32	35	29	103	103	32	35	29	103	103
575-3-60	MED	113B	16.5	19.8	36	40	103	103	36	40	32	103	103	36	40	32	103	103	36	40	32	103	103
		114B	27.8	33.4	53	60	106	106	53	60	48	103	103	53	60	48	103	103	53	60	48	103	103
		115B	33.0	39.7	61	70	106	106	61	70	55	103	103	61	70	55	103	103	61	70	55	103	103
		128B	41.7	50.2	74	80	106	106	74	80	67	103	103	74	80	67	103	103	74	80	67	103	103
		NONE	—	25	30	26	106	106	25	30	26	106	106	25	30	26	106	106	25	30	26	106	106
	STD	116B	13.9	16.7	32	29	106	106	32	35	29	106	106	32	35	29	106	106	32	35	29	106	106
		113B	16.5	19.8	36	40	106	106	36	40	33	106	106	36	40	33	106	106	36	40	33	106	106
		114B	27.8	33.4	53	60	106	106	53	60	49	106	106	53	60	49	106	106	53	60	49	106	106
		115B	33.0	39.7	61	70	106	106	61	70	56	106	106	61	70	56	106	106	61	70	56	106	106
		128B	41.7	50.2	74	80	106	106	74	80	68	106	106	74	80	68	106	106	74	80	68	106	106
575-3-60	HIGH	NONE	—	26	30	28	131	131	26	30	28	131	131	26	30	28	131	131	26	30	28	131	131
		116B	13.9	16.7	34	35	131	131	34	35	31	131	131	34	35	31	131	131	34	35	31	131	131
		113B	16.5	19.8	38	40	131	131	38	40	35	131	131	38	40	35	131	131	38	40	35	131	131
		114B	27.8	33.4	55	60	131	131	55	60	50	131	131	55	60	50	131	131	55	60	50	131	131
		115B	33.0	39.7	63	70	131	131	63	70	58	131	131	63	70	58	131	131	63	70	58	131	131
	STD	128B	41.7	50.2	76	80	131	131	76	80	70	131	131	76	80	70	131	131	76	80	70	131	131
		NONE	—	21	25	22	85	85	21	25	22	85	85	21	25	22	85	85	21	25	22	85	85
		118A	18.0	17.3	32	35	85	85	32	35	29	85	85	32	35	29	85	85	32	35	29	85	85
		119A	36.0	34.6	54	60	49	85	54	60	49	85	85	54	60	49	85	85	54	60	49	85	85
		NONE	—	21	25	23	89	89	21	25	23	89	89	21	25	23	89	89	21	25	23	89	89
575-3-60	MED	118A	18.0	17.3	33	35	89	89	33	35	30	89	89	33	35	30	89	89	33	35	30	89	89
		119A	36.0	34.6	55	60	89	89	55	60	50	89	89	55	60	50	89	89	55	60	50	89	89
		NONE	—	22	25	24	98	98	22	25	24	98	98	22	25	24	98	98	22	25	24	98	98
		118A	18.0	17.3	35	35	98	98	35	35	31	98	98	35	35	31	98	98	35	35	31	98	98
		119A	36.0	34.6	56	60	98	98	56	60	51	98	98	56	60	51	98	98	56	60	51	98	98
	HIGH	NONE	—	24	30	24	100	100	24	30	24	100	100	24	30	24	100	100	24	30	24	100	100
		118A	18.0	17.3	37	40	100	100	37	40	33	100	100	37	40	33	100	100	37	40	33	100	100
		119A	36.0	34.6	58	60	100	100	58	60	53	100	100	58	60	53	100	100	58	60	53	100	100
		NONE	—	25	30	25	105	105	25	30	25	105	105	25	30	25	105	105	25	30	25	105	105
		118A	18.0	17.3	39	40	105	105	39	40	35	105	105	39	40	35	105	105	39	40	35	105	105

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)

[illegible]

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC-D12	STD	NONE	—	—	61/61	70/70	66/65	291	291	66/66	70/70	66/65	291	291	66/66	80/80	71/71	296	296	66/66	80/80	71/71	296	296
		117A	7.8/10.4	21.7/25.0	61/61	70/70	66/65	291/291	291/291	61/61	70/70	66/65	291/291	291/291	66/66	80/80	71/71	296/296	296/296	66/66	80/80	71/71	296/296	296/296
		110A	12.0/16.0	33.4/38.5	66/72	70/80	66/66	291/291	291/291	66/72	70/80	66/66	291/291	291/291	72/78	80/80	71/71	296/296	296/296	72/78	80/80	71/71	296/296	296/296
		112A	24.0/32.0	66.7/77.0	108/120	110/125	99/110	291/291	291/291	108/120	110/125	99/110	291/291	291/291	114/126	125/150	104/116	296/296	296/296	114/126	125/150	104/116	296/296	296/296
		112A+117A	31.8/42.4	88.4/102.0	135/151	150/175	124/139	291/291	291/291	135/151	150/175	124/139	291/291	291/291	141/157	150/175	129/144	296/296	296/296	141/157	150/175	129/144	296/296	296/296
	MED	112A+110A	37.6/50.0	104.2/120.3	155/144	175/150	142/160	291/291	291/291	155/144	175/150	142/160	291/291	291/291	161/150	175/175	150/175	147/165	296/296	161/150	175/175	147/165	296/296	296/296
		NONE	—	—	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
		117A	7.8/10.4	21.7/25.0	65/64	80/70	70/69	341/341	341/341	65/64	80/70	70/69	341/341	341/341	70/69	80/80	75/74	346/346	346/346	70/69	80/80	75/74	346/346	346/346
		110A	12.0/16.0	33.4/38.5	71/76	80/80	70/69	341/341	341/341	71/76	80/80	70/69	341/341	341/341	77/82	80/90	75/75	346/346	346/346	77/82	80/90	75/75	346/346	346/346
		112A	24.0/32.0	66.7/77.0	112/124	125/125	103/114	341/341	341/341	112/124	125/125	103/114	341/341	341/341	118/130	125/150	108/119	346/346	346/346	118/130	125/150	108/119	346/346	346/346
50HC-D12	HIGH	112A+117A	31.8/42.4	88.4/102.0	139/155	150/175	128/142	341/341	341/341	139/155	150/175	128/142	341/341	341/341	145/161	150/175	133/148	346/346	346/346	145/161	150/175	133/148	346/346	346/346
		112A+110A	37.6/50.0	104.2/120.3	159/148	175/175	146/163	341/341	341/341	159/148	175/175	146/163	341/341	341/341	165/154	175/175	152/169	346/346	346/346	165/154	175/175	152/169	346/346	346/346
		NONE	—	—	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
		117A	7.8/10.4	21.7/25.0	68/67	80/80	73/72	352/352	352/352	68/67	80/80	73/72	352/352	352/352	73/72	80/80	79/78	357/357	357/357	73/72	80/80	79/78	357/357	357/357
		110A	12.0/16.0	33.4/38.5	74/79	80/80	73/73	352/352	352/352	74/79	80/80	73/73	352/352	352/352	80/85	80/90	79/78	357/357	357/357	80/85	80/90	79/78	357/357	357/357
	STD	112A	24.0/32.0	66.7/77.0	116/128	125/150	106/117	352/352	352/352	116/128	125/150	106/117	352/352	352/352	122/134	125/150	112/122	357/357	357/357	122/134	125/150	112/122	357/357	357/357
		112A+117A	31.8/42.4	88.4/102.0	143/159	150/175	131/146	352/352	352/352	143/159	150/175	131/146	352/352	352/352	149/165	150/175	137/151	357/357	357/357	149/165	150/175	137/151	357/357	357/357
		112A+110A	37.6/50.0	104.2/120.3	163/152	175/175	149/167	352/352	352/352	163/152	175/175	149/167	352/352	352/352	169/158	175/175	155/172	357/357	357/357	169/158	175/175	155/172	357/357	357/357
		NONE	—	—	30	35	31	140	140	30	35	31	140	140	32	35	34	142	142	32	35	34	142	142
		116B	13.9	16.7	32	35	31	140	140	32	35	31	140	140	33	35	34	142	142	33	35	34	142	142
50HC-D12	MED	113B	16.5	19.8	36	40	33	140	140	36	40	33	140	140	39	40	35	142	142	39	40	35	142	142
		115B	33.0	39.7	63	70	58	165	165	63	70	58	165	165	66	70	60	167	167	66	70	60	167	167
		128B	41.7	50.2	76	80	70	165	165	76	80	70	165	165	79	80	72	167	167	79	80	72	167	167
		129B	50.0	60.1	73	80	81	165	165	73	80	81	165	165	76	80	84	167	167	76	80	84	167	167
		NONE	—	—	33	35	35	170	170	33	35	35	170	170	35	40	37	172	172	35	40	37	172	172
	HIGH	116B	13.9	16.7	36	40	35	170	170	36	40	35	170	170	39	40	37	172	172	39	40	37	172	172
		113B	16.5	19.8	38	40	35	165	165	38	40	35	165	165	41	45	37	167	167	41	45	37	167	167
		115B	33.0	39.7	65	70	59	170	170	65	70	59	170	170	68	70	62	172	172	68	70	62	172	172
		128B	41.7	50.2	78	80	71	170	170	78	80	71	170	170	81	90	74	172	172	81	90	74	172	172
		129B	50.0	60.1	75	80	83	170	170	75	80	83	170	170	78	80	85	172	172	78	80	85	172	172
575-3-60	STD	NONE	—	—	25	30	26	113	113	25	30	26	113	113	26	30	28	115	115	26	30	28	115	115
		118A	18.0	17.3	33	35	30	113	113	33	35	30	113	113	35	35	32	115	115	35	35	32	115	115
		119A	36.0	34.6	55	60	50	113	113	55	60	50	113	113	57	60	52	115	115	57	60	52	115	115
		118A+119A	54.0	52.0	64	70	70	113	113	64	70	70	113	113	66	70	72	115	115	66	70	72	115	115
		NONE	—	—	26	30	27	122	122	26	30	27	122	122	27	30	29	124	124	27	30	29	124	124
	MED	118A	18.0	17.3	35	35	31	122	122	35	35	31	122	122	37	40	33	124	124	37	40	33	124	124
		119A	36.0	34.6	56	60	51	122	122	56	60	51	122	122	58	60	53	124	124	58	60	53	124	124
		118A+119A	54.0	52.0	65	70	71	122	122	65	70	71	122	122	67	70	73	124	124	67	70	73	124	124
		NONE	—	—	28	30	29	136	136	28	30	29	136	136	29	35	31	138	138	29	35	31	138	138
		118A	18.0	17.3	37	40	33	136	136	37	40	33	136	136	39	40	35	138	138	39	40	35	138	138
575-3-60	HIGH	119A	36.0	34.6	58	60	53	136	136	58	60	53	136	136	60	60	55	138	138	60	60	55	138	138
		118A+119A	54.0	52.0	67	70	73	136	136	67	70	73	136	136	69	70	75	138	138	69	70	75	138	138
		NONE	—	—	30	35	30	140	140	30	35	30	140	140	31	35	34	142	142	31	35	34	142	142
		118A	18.0	17.3	38	40	34	140	140	38	40	34	140	140	40	40	36	142	142	40	40	36	142	142
		119A	36.0	34.6	60	60	54	140	140	60	60	54	140	140	62	60	56	142	142	62	60	56	142	142
	STD	118A+119A	54.0	52.0	69	70	74	140	140	69	70	74	140	140	71	70	76	142	142	71	70	76	142	142
		NONE	—	—	31	35	31	140	140	31	35	31	140	140	32	35	34	142	142	32	35	34	142	142
		116B	13.9	16.7	33	35	33	140	140	33	35	33	140	140	34	35	34	142	142	34	35	34	142	142
		113B	16.5	19.8	35	40	35	140	140	35	40	35	140	140	36	40	36	142	142	36	40	36	142	142
		115B	33.0	39.7	64	70	59	140	140	64	70	59	140	140	66	70	60	142	142	66	70	60	142	142

APPENDIX C — ELECTRICAL DATA

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

UNIT	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				
				MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		LRA	FLA	DISC. SIZE		MAX FUSE or HACR BRKR
50HC*DI4	STD	NONE	—	74/73	80/80	79/78	353	353	74/73	80/80	79/78	353	353	358	79/78	84/83	358	84/83
				34.4/39.7	80/80	79/78	353/353	353/353	74/80	80/80	79/78	353/353	353/353	358/358	80/86	84/83	358/358	84/83
				12.4/16.5	80/80	79/78	353/353	353/353	74/80	80/80	79/78	353/353	353/353	358/358	80/86	84/83	358/358	84/83
				19.9/26.5	110/110	92/101	353/353	353/353	101/110	110/110	92/101	353/353	353/353	358/358	107/116	98/106	358/358	98/106
				25.2/33.5	125/150	109/120	353/353	353/353	119/131	125/150	109/120	353/353	353/353	358/358	125/137	114/126	358/358	114/126
				32.7/43.5	150/175	133/148	353/353	353/353	145/161	150/175	133/148	353/353	353/353	358/358	151/167	138/153	358/358	138/153
				37.6/50.0	175/175	148/166	353/353	353/353	162/151	175/175	148/166	353/353	353/353	358/358	168/157	154/171	358/358	154/171
				—	90/80	81/80	377	377	76/75	90/80	81/80	377	377	382	81/80	87/86	382	87/86
				34.4/39.7	90/90	81/80	377/377	377/377	77/83	90/90	81/80	377/377	377/377	382/382	83/89	87/86	382/382	87/86
				12.4/16.5	110/125	95/103	377/377	377/377	103/113	110/125	95/103	377/377	377/377	382/382	109/119	100/109	382/382	100/109
50HC*DI4	MED	NONE	—	86	100	92	392	392	86	100	92	392	392	397	91	98	397	98
				89/96	100/100	92/92	392/392	392/392	89/96	100/100	92/92	392/392	392/392	397/397	95/102	98/98	397/397	98/98
				12.4/16.5	125/150	106/115	392/392	392/392	115/126	125/150	106/115	392/392	392/392	397/397	121/132	111/121	397/397	111/121
				19.9/26.5	150/150	122/135	392/392	392/392	134/147	150/150	122/135	392/392	392/392	397/397	140/153	128/140	397/397	128/140
				25.2/33.5	175/200	146/162	392/392	392/392	160/177	175/200	146/162	392/392	392/392	397/397	166/183	152/168	397/397	152/168
				32.7/43.5	200/175	162/180	392/392	392/392	177/166	200/175	162/180	392/392	392/392	397/397	183/172	168/186	397/397	168/186
				37.6/50.0	200/175	162/180	392/392	392/392	177/166	200/175	162/180	392/392	392/392	397/397	183/172	168/186	397/397	168/186
				—	35	34	172	172	32	35	34	172	172	174	34	37	174	37
				16.5	40	35	172	172	39	40	35	172	172	174	42	38	174	38
				26.5	60	49	172	172	54	60	49	172	172	174	57	52	174	52
460-3-60	STD	NONE	—	31.9	70	59	172	172	64	70	59	172	172	174	67	61	174	61
				33.5	80	73	172	172	79	80	73	172	172	174	82	75	174	75
				43.5	80	82	172	172	74	80	82	172	172	174	77	84	174	84
				50.0	80	83	184	184	76	80	83	184	184	186	78	85	186	85
				—	40	35	184	184	33	40	35	184	184	186	35	38	186	38
				16.5	40	37	184	184	40	40	37	184	184	186	43	39	186	39
				26.5	60	50	184	184	55	60	50	184	184	186	58	53	186	53
				33.5	70	60	184	184	66	70	60	184	184	186	68	63	186	63
				43.5	90	74	184	184	81	90	74	184	184	186	83	76	186	76
				50.0	80	83	184	184	76	80	83	184	184	186	78	85	186	85
460-3-60	MED	NONE	—	39	45	41	191	191	39	45	41	191	191	193	41	44	193	44
				16.5	50	43	191	191	47	50	43	191	191	193	50	45	193	45
				26.5	70	56	191	191	62	70	56	191	191	193	65	59	193	59
				33.5	80	66	191	191	72	80	66	191	191	193	75	69	193	69
				43.5	90	80	191	191	87	90	80	191	191	193	90	82	193	82
				50.0	90	89	191	191	82	90	89	191	191	193	85	85	193	85
				—	45	41	191	191	39	45	41	191	191	193	41	44	193	44
				16.5	50	43	191	191	47	50	43	191	191	193	50	45	193	45
				26.5	70	56	191	191	62	70	56	191	191	193	65	59	193	59
				33.5	80	66	191	191	72	80	66	191	191	193	75	69	193	69
460-3-60	HIGH	NONE	—	43.5	90	80	191	191	87	90	80	191	191	193	90	82	193	82
				50.0	90	89	191	191	82	90	89	191	191	193	85	85	193	85
				—	45	41	191	191	39	45	41	191	191	193	41	44	193	44
				16.5	50	43	191	191	47	50	43	191	191	193	50	45	193	45
				26.5	70	56	191	191	62	70	56	191	191	193	65	59	193	59
				33.5	80	66	191	191	72	80	66	191	191	193	75	69	193	69
				43.5	90	80	191	191	87	90	80	191	191	193	90	82	193	82
				50.0	90	89	191	191	82	90	89	191	191	193	85	85	193	85
				—	45	41	191	191	39	45	41	191	191	193	41	44	193	44
				16.5	50	43	191	191	47	50	43	191	191	193	50	45	193	45

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.										
			CRHEATER***00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
						MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC+D14	575-3-60	STD	NONE	—	—	29	35	31	145	145	29	35	31	145	145	31	35	33	147	31	35	33	147		
			293A	16.5	15.9	35	35	32	145	145	35	35	32	145	145	37	40	33	147	37	40	33	147		
			290A+293A	26.5	25.5	47	50	43	145	145	47	50	43	145	145	49	50	45	147	49	50	45	147		
			296A	33.5	32.2	55	60	50	145	145	55	60	50	145	145	57	60	52	147	57	60	52	147		
			290A+296A	43.5	41.9	67	70	61	145	145	67	70	61	145	145	69	70	63	147	69	70	63	147		
			293A+296A	50.0	48.1	63	70	69	145	145	63	70	69	145	145	71	70	71	147	65	70	71	147		
		MED	NONE	—	—	29	35	31	145	145	29	35	31	145	145	31	35	33	147	31	35	33	147		
			293A	16.5	15.9	35	35	32	145	145	35	35	32	145	145	37	40	33	147	37	40	33	147		
			290A+293A	26.5	25.5	47	50	43	145	145	47	50	43	145	145	49	50	45	147	49	50	45	147		
			296A	33.5	32.2	55	60	50	145	145	55	60	50	145	145	57	60	52	147	57	60	52	147		
			290A+296A	43.5	41.9	67	70	61	145	145	67	70	61	145	145	69	70	63	147	69	70	63	147		
			293A+296A	50.0	48.1	63	70	69	145	145	63	70	69	145	145	71	70	71	147	65	70	71	147		
		HIGH	NONE	—	—	34	40	36	157	157	34	40	36	157	157	36	40	38	159	36	40	38	159		
			293A	16.5	15.9	40	40	37	157	157	40	40	37	157	157	42	45	39	159	42	45	39	159		
			290A+293A	26.5	25.5	52	60	48	157	157	52	60	48	157	157	54	60	50	159	54	60	50	159		
			296A	33.5	32.2	61	70	55	157	157	61	70	55	157	157	63	70	57	159	63	70	57	159		
			290A+296A	43.5	41.9	73	80	67	157	157	73	80	67	157	157	75	80	69	159	75	80	68	159		
			293A+296A	50.0	48.1	69	70	74	157	157	69	70	74	157	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 20 – 50HC with Electric Heat, ERV, Factory-Installed HACR Breaker and 2-Speed Indoor Fan Option

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE		MCA	MAX FUSE or HACR BRKR	FLA	DISC. SIZE	
50HC+D07	STD	NONE	—	—	39/39	50/50	40/39	173	173	39/39	50/50	40/39	173	173	44/44	60/60	45/45	178	178	44/44	60/60	45/45	178	178
		264A	4.9/6.5	13.6/15.6	39/39	50/50	40/39	173/173	173/173	39/39	50/50	40/39	173/173	173/173	44/44	60/60	45/45	178/178	178/178	44/44	60/60	45/45	178/178	178/178
		117A	7.8/10.4	21.7/25.0	49/49	50/50	41/44	173/173	173/173	49/49	50/50	41/44	173/173	173/173	55/55	60/60	46/50	178/178	178/178	55/55	60/60	46/50	178/178	178/178
		110A	12.0/16.0	33.4/38.5	66/66	70/70	54/60	173/173	173/173	66/66	70/70	54/60	173/173	173/173	72/72	80/80	60/66	178/178	178/178	72/72	80/80	60/66	178/178	178/178
		117A+117A	15.8/21.0	43.8/50.5	81/81	90/90	66/74	173/173	173/173	81/81	90/90	66/74	173/173	173/173	87/87	90/90	72/79	178/178	178/178	87/87	90/90	72/79	178/178	178/178
	269A	19.9/26.5	55.2/63.8	97/97	100/100	79/89	173/173	173/173	97/97	100/100	79/89	173/173	173/173	103/103	110/110	85/95	178/178	178/178	103/103	110/110	85/95	178/178	178/178	
	MED	NONE	—	—	42/42	50/50	43/42	203	203	42/42	50/50	43/42	203	203	47/47	60/60	48/47	208	208	47/47	60/60	48/47	208	208
		264A	4.9/6.5	13.6/15.6	42/42	50/50	43/42	203/203	203/203	42/42	50/50	43/42	203/203	203/203	47/47	60/60	48/47	208/208	208/208	47/47	60/60	48/47	208/208	208/208
		117A	7.8/10.4	21.7/25.0	52/52	60/60	44/47	203/203	203/203	52/52	60/60	44/47	203/203	203/203	58/58	60/60	50/53	208/208	208/208	58/58	60/60	50/53	208/208	208/208
		110A	12.0/16.0	33.4/38.5	68/68	70/70	58/63	203/203	203/203	68/68	70/70	58/63	203/203	203/203	74/74	80/80	63/68	208/208	208/208	74/74	80/80	63/68	208/208	208/208
117A+117A		15.8/21.0	43.8/50.5	83/83	90/90	70/76	203/203	203/203	83/83	90/90	70/76	203/203	203/203	89/89	90/90	75/82	208/208	208/208	89/89	90/90	75/82	208/208	208/208	
575-3-60	STD	110A+117A	19.9/26.5	55.2/63.8	100/100	100/100	83/92	203/203	203/203	100/100	100/100	83/92	203/203	203/203	106/106	110/110	88/97	208/208	208/208	106/106	110/110	88/97	208/208	208/208
		NONE	—	—	47/47	60/60	49/47	238	238	47/47	60/60	49/47	238	238	52/52	60/60	54/53	243	243	52/52	60/60	54/53	243	243
		264A	4.9/6.5	13.6/15.6	47/47	60/60	49/47	238/238	238/238	47/47	60/60	49/47	238/238	238/238	52/52	60/60	54/53	243/243	243/243	52/52	60/60	54/53	243/243	243/243
		117A	7.8/10.4	21.7/25.0	58/58	60/60	50/53	238/238	238/238	58/58	60/60	50/53	238/238	238/238	64/64	70/70	55/58	243/243	243/243	64/64	70/70	55/58	243/243	243/243
		110A	12.0/16.0	33.4/38.5	75/75	80/80	63/68	238/238	238/238	75/75	80/80	63/68	238/238	238/238	81/81	90/90	69/74	243/243	243/243	81/81	90/90	69/74	243/243	243/243
	269A	15.8/21.0	43.8/50.5	90/90	90/90	75/82	238/238	238/238	90/90	90/90	75/82	238/238	238/238	96/96	100/100	81/87	243/243	243/243	96/96	100/100	81/87	243/243	243/243	
	110A+117A	19.9/26.5	55.2/63.8	106/106	110/110	88/97	238/238	238/238	106/106	110/110	88/97	238/238	238/238	112/112	125/125	94/103	243/243	243/243	112/112	125/125	94/103	243/243	243/243	
	MED	NONE	—	—	19	25	19	85	85	19	25	19	85	85	21	25	22	87	87	21	25	22	87	87
		265A	6.0	7.2	19	25	19	85	85	19	25	19	85	85	21	25	22	87	87	21	25	22	87	87
		266A	11.5	13.8	26	30	24	85	85	26	30	24	85	85	29	30	26	87	87	29	30	26	87	87
267A		14.0	16.8	30	30	27	85	85	30	30	27	85	85	33	35	30	87	87	33	35	30	87	87	
268A		23.0	27.7	43	45	40	85	85	43	45	40	85	85	46	50	42	87	87	46	50	42	87	87	
575-3-60	STD	269A	25.5	30.7	47	50	43	85	85	47	50	43	85	85	50	50	46	87	87	50	50	46	87	87
		NONE	—	—	20	25	20	101	101	20	25	20	101	101	22	30	23	103	103	22	30	23	103	103
		265A	6.0	7.2	20	25	20	101	101	20	25	20	101	101	22	30	23	103	103	22	30	23	103	103
		266A	11.5	13.8	27	30	25	101	101	27	30	25	101	101	30	30	27	103	103	30	30	27	103	103
		267A	14.0	16.8	31	35	28	101	101	31	35	28	101	101	34	35	31	103	103	34	35	31	103	103
	268A	23.0	27.7	45	45	41	101	101	45	45	41	101	101	47	50	43	103	103	47	50	43	103	103	
	269A	25.5	30.7	48	50	44	101	101	48	50	44	101	101	51	60	47	103	103	51	60	47	103	103	
	MED	NONE	—	—	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	120
		265A	6.0	7.2	23	30	23	118	118	23	30	23	118	118	25	30	26	120	120	25	30	26	120	120
		266A	11.5	13.8	30	35	28	118	118	30	35	28	118	118	33	35	30	120	120	33	35	30	120	120
267A		14.0	16.8	34	35	31	118	118	34	35	31	118	118	37	40	34	120	120	37	40	34	120	120	
268A		23.0	27.7	48	50	44	118	118	48	50	44	118	118	51	60	46	120	120	51	60	46	120	120	
575-3-60	STD	269A	25.5	30.7	52	60	47	118	118	52	60	47	118	118	54	60	50	120	120	54	60	50	120	120
		NONE	—	—	16	20	16	72	72	16	20	16	72	72	18	20	18	74	74	18	20	18	74	74
		118A	18.0	17.3	30	30	28	72	72	30	30	28	72	72	32	35	29	74	74	32	35	29	74	74
		299A	28.0	26.9	42	45	39	72	72	42	45	39	72	72	44	45	41	74	74	44	45	41	74	74
		NONE	—	—	18	20	18	85	85	18	20	18	85	85	20	25	20	87	87	20	25	20	87	87
	118A	18.0	17.3	32	35	29	85	85	32	35	29	85	85	35	35	31	87	87	35	35	31	87	87	
	299A	28.0	26.9	44	45	41	85	85	44	45	41	85	85	47	50	42	87	87	47	50	42	87	87	
	HIGH	NONE	—	—	20	25	20	99	99	20	25	20	99	99	21	25	22	101	101	21	25	22	101	101
		118A	18.0	17.3	35	35	31	99	99	35	35	31	99	99	37	40	33	101	101	37	40	33	101	101
		299A	28.0	26.9	47	50	42	99	99	47	50	42	99	99	49	50	44	101	101	49	50	44	101	101
NONE		—	—	19	25	19	85	85	19	25	19	85	85	21	25	22	87	87	21	25	22	87	87	
265A		6.0	7.2	19	25	19	85	85	19	25	19	85	85	21	25	22	87	87	21	25	22	87	87	

APPENDIX C — ELECTRICAL DATA

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

UNIT	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.					
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer			w/ ERV, w/ Economizer			w/ ERV, w/o Economizer			w/ ERV, w/ Economizer		
					MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA
50HC+D08	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
		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
50HC+D08	HIGH	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
		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
		NONE	—	—	24	30	25 103	24	30	25 103	26	30	28 105	26	30	28 105
		116B	13.9	16.7	32	35	29 103	32	35	29 103	35	35	31 105	35	35	31 105
50HC+D08	STD	113B	16.5	19.8	36	40	32 103	36	40	32 103	38	40	35 105	38	40	35 105
		114B	27.8	33.4	53	60	48 103	53	60	48 103	55	60	51 105	55	60	51 105
		115B	33.0	39.7	61	70	55 103	61	70	55 103	63	70	58 105	63	70	58 105
		128B	41.7	50.2	74	80	67 103	74	80	67 103	76	80	70 105	76	80	70 105
		NONE	—	—	25	30	26 106	25	30	26 106	27	30	29 108	27	30	29 108
		116B	13.9	16.7	32	35	29 106	32	35	29 106	35	35	32 108	35	35	32 108
		113B	16.5	19.8	36	40	33 106	36	40	33 106	39	40	35 108	39	40	35 108
		114B	27.8	33.4	53	60	49 106	53	60	49 106	56	60	51 108	56	60	51 108
		115B	33.0	39.7	61	70	56 106	61	70	56 106	64	70	58 108	64	70	58 108
		128B	41.7	50.2	74	80	68 106	74	80	68 106	77	80	70 108	77	80	70 108
50HC+D08	MED	NONE	—	—	26	30	28 131	26	30	28 131	28	30	30 133	28	30	30 133
		116B	13.9	16.7	34	35	31 131	34	35	31 131	37	40	34 133	37	40	34 133
		113B	16.5	19.8	38	40	35 131	38	40	35 131	41	45	37 133	41	45	37 133
		114B	27.8	33.4	55	60	50 131	55	60	50 131	58	60	53 133	58	60	53 133
		115B	33.0	39.7	63	70	58 131	63	70	58 131	66	70	60 133	66	70	60 133
		128B	41.7	50.2	76	80	70 131	76	80	70 131	79	80	72 133	79	80	72 133
		NONE	—	—	19	20	21 85	19	20	21 85	21	25	22 87	21	25	22 87
		118A	18.0	17.3	32	35	29 85	32	35	29 85	35	35	31 87	35	35	31 87
		119A	36.0	34.6	54	60	49 85	54	60	49 85	56	60	51 87	56	60	51 87
		NONE	—	—	20	25	21 89	20	25	21 89	22	25	23 91	22	25	23 91
575-3-60	MED	118A	18.0	17.3	33	35	30 89	33	35	30 89	35	35	32 91	35	35	32 91
		119A	36.0	34.6	55	60	50 89	55	60	50 89	57	60	52 91	57	60	52 91
		NONE	—	—	21	25	22 98	21	25	22 98	23	25	24 100	23	25	24 100
		118A	18.0	17.3	35	35	31 98	35	35	31 98	37	40	33 100	37	40	33 100
		119A	36.0	34.6	56	60	51 98	56	60	51 98	58	60	53 100	58	60	53 100
		NONE	—	—	22	25	23 98	22	25	23 98	24	25	24 100	24	25	24 100
		118A	18.0	17.3	35	35	31 98	35	35	31 98	37	40	33 100	37	40	33 100
		119A	36.0	34.6	56	60	51 98	56	60	51 98	58	60	53 100	58	60	53 100
		NONE	—	—	23	25	24 98	23	25	24 98	24	25	24 100	24	25	24 100
		118A	18.0	17.3	35	35	31 98	35	35	31 98	37	40	33 100	37	40	33 100

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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.						w/ PWRD C.O.					
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer			w/ ERV, w/ Economizer			w/ ERV, w/o Economizer			w/ ERV, w/ Economizer		
					MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA	MCA	HACR BRKR	DISC. SIZE FLA LRA
50HC+D09	STD	NONE	—	—	52/52	60/60	55/55 207	52/52	60/60	55/55 207	57/57	60/60	57/57 207	57/57	60/60	57/57 207
		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	57/57	60/60	57/57 207/207	57/57	60/60	57/57 207/207
		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	77/77 207/207	77/77	80/80	77/77 207/207
		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	103/103 207/207	103/103	110/110	103/103 207/207
		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	150/150	125/125 207/207	125/125	150/150	125/125 207/207
50HC+D09	MED	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	156/156 207/207	156/156	175/175	156/156 207/207
		NONE	—	—	53/53	60/60	57/57 211	53/53	60/60	57/57 211	58/58	70/70	58/58 211	58/58	70/70	58/58 211
		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	61/61 211/211	61/61	70/70	61/61 211/211
		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	78/78 211/211	78/78	80/80	78/78 211/211
		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	105/105 211/211	105/105	110/110	105/105 211/211
50HC+D09	HIGH	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	126/126 211/211	126/126	150/150	126/126 211/211
		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	157/157 211/211	157/157	175/175	157/157 211/211
		NONE	—	—	57/57	70/70	61/60 261	57/57	70/70	61/60 261	62/62	70/70	62/62 261	62/62	70/70	62/62 261
		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	65/65 261/261	65/65	70/70	65/65 261/261
		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	82/82 261/261	82/82	90/90	82/82 261/261
50HC+D09	STD	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	108/108 261/261	108/108	110/110	108/108 261/261
		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	130/130 261/261	130/130	150/150	130/130 261/261
		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	161/161 261/261	161/161	175/175	161/161 261/261
		NONE	—	—	24	30	26 103	24	30	26 103	27	30	27 103	27	30	27 103
		116B	13.9	16.7	32	35	29 103	32	35	29 103	35	35	35 103	35	35	35 103
50HC+D09	MED	113B	16.5	19.8	36	40	32 103	36	40	32 103	38	40	38 103	38	40	38 103
		114B	27.8	33.4	53	60	48 103	53	60	48 103	55	60	55 103	55	60	55 103
		115B	33.0	39.7	61	70	55 103	61	70	55 103	63	70	63 103	63	70	63 103
		128B	41.7	50.2	74	80	67 103	74	80	67 103	76	80	76 103	76	80	76 103
		NONE	—	—	25	30	26 106	25	30	26 106	27	30	27 106	27	30	27 106
50HC+D09	HIGH	116B	13.9	16.7	32	35	29 106	32	35	29 106	35	35	35 106	35	35	35 106
		113B	16.5	19.8	36	40	33 106	36	40	33 106	39	40	39 106	39	40	39 106
		114B	27.8	33.4	53	60	49 106	53	60	49 106	56	60	56 106	56	60	56 106
		115B	33.0	39.7	61	70	56 106	61	70	56 106	64	70	64 106	64	70	64 106
		128B	41.7	50.2	74	80	68 106	74	80	68 106	77	80	77 106	77	80	77 106
50HC+D09	STD	NONE	—	—	26	30	28 131	26	30	28 131	29	30	29 131	29	30	29 131
		116B	13.9	16.7	34	35	31 131	34	35	31 131	37	35	37 131	37	35	37 131
		113B	16.5	19.8	38	40	35 131	38	40	35 131	41	45	41 131	41	45	41 131
		114B	27.8	33.4	55	60	50 131	55	60	50 131	58	60	58 131	58	60	58 131
		115B	33.0	39.7	63	70	58 131	63	70	58 131	66	70	66 131	66	70	66 131
50HC+D09	HIGH	128B	41.7	50.2	76	80	70 131	76	80	70 131	79	80	79 131	79	80	79 131
		NONE	—	—	21	25	22 85	21	25	22 85	22	25	22 85	22	25	22 85
		118A	18.0	17.3	32	35	29 85	32	35	29 85	35	35	35 85	35	35	35 85
		119A	36.0	34.6	54	60	49 85	54	60	49 85	56	60	56 85	56	60	56 85
		NONE	—	—	21	25	23 89	21	25	23 89	23	25	23 89	23	25	23 89
50HC+D09	MED	118A	18.0	17.3	33	35	30 89	33	35	30 89	35	35	35 89	35	35	35 89
		119A	36.0	34.6	55	60	50 89	55	60	50 89	57	60	57 89	57	60	57 89
		NONE	—	—	22	25	24 98	22	25	24 98	24	25	24 98	24	25	24 98
		118A	18.0	17.3	35	35	31 98	35	35	31 98	37	40	37 98	37	40	37 98
		119A	36.0	34.6	56	60	51 98	56	60	51 98	58	60	58 98	58	60	58 98
50HC+D09	HIGH	NONE	—	—	24	25	26 100	24	25	26 100	26	25	26 100	26	25	26 100
		118A	18.0	17.3	36	40	33 100	36	40	33 100	38	40	38 100	38	40	38 100
		119A	36.0	34.6	57	60	52 100	57	60	52 100	59	60	59 100	59	60	59 100
		NONE	—	—	25	30	27 105	25	30	27 105	27	30	27 105	27	30	27 105
		118A	18.0	17.3	37	40	34 105	37	40	34 105	40	40	40 105	40	40	40 105

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	IFM TYPE	ELEC. HTR		NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer				w/ ERV, w/ Economizer				w/ ERV, w/o Economizer				w/ ERV, w/ Economizer						
					MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE	MCA	HACR BRKR	FLA	DISC. SIZE			
50HC*D11	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				
	HIGH	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				
460-3-60	STD	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			
		NONE	—	—	29	30	30	128	29	30	30	128	31	35	33	130	31	35	33	130			
		116B	13.9	16.7	32	35	30	128	32	35	30	128	35	35	33	130	35	35	33	130			
		113B	16.5	19.8	36	40	33	128	36	40	33	128	39	40	35	130	39	40	35	130			
		115B	33.0	39.7	61	70	56	128	61	70	56	128	64	70	58	130	64	70	58	130			
	MED	128B	41.7	50.2	74	80	68	128	74	80	68	128	77	80	70	130	77	80	70	130			
		129B	50.0	60.1	72	80	79	128	72	80	79	128	74	80	82	130	74	80	82	130			
		NONE	—	—	30	35	32	153	30	35	32	153	32	35	35	155	32	35	35	155			
		116B	13.9	16.7	34	35	32	153	34	35	32	153	37	40	35	155	37	40	35	155			
		113B	16.5	19.8	38	40	35	153	38	40	35	153	41	45	37	155	41	45	37	155			
575-3-60	STD	115B	33.0	39.7	63	70	58	153	63	70	58	153	66	70	60	155	66	70	60	155			
		128B	41.7	50.2	76	80	70	153	76	80	70	153	79	80	72	155	79	80	72	155			
		129B	50.0	60.1	73	80	81	153	73	80	81	153	76	80	84	155	76	80	84	155			
		NONE	—	—	32	35	34	158	32	35	34	158	34	40	36	160	34	40	36	160			
		116B	13.9	16.7	36	40	34	158	36	40	34	158	39	40	36	160	39	40	36	160			
	HIGH	113B	16.5	19.8	40	40	36	158	40	40	36	158	43	45	39	160	43	45	39	160			
		115B	33.0	39.7	65	70	59	158	65	70	59	158	68	70	62	160	68	70	62	160			
		128B	41.7	50.2	78	80	71	158	78	80	71	158	81	90	74	160	81	90	74	160			
		129B	50.0	60.1	75	80	83	158	75	80	83	158	78	80	85	160	78	80	85	160			
		NONE	—	—	24	30	26	103	24	30	26	103	26	30	28	105	26	30	28	105			
50HC*D11	STD	118A	18.0	17.3	33	35	30	103	33	35	30	103	35	35	32	105	35	35	32	105			
		119A	36.0	34.6	55	60	50	103	55	60	50	103	57	60	52	105	57	60	52	105			
		118A+119A	54.0	52.0	64	70	70	103	64	70	70	103	66	70	72	105	66	70	72	105			
		NONE	—	—	25	30	27	112	25	30	27	112	27	30	29	114	27	30	29	114			
		118A	18.0	17.3	35	35	31	112	35	35	31	112	37	40	33	114	37	40	33	114			
	MED	119A	36.0	34.6	56	60	51	112	56	60	51	112	58	60	53	114	58	60	53	114			
		118A+119A	54.0	52.0	65	70	71	112	65	70	71	112	67	70	73	114	67	70	73	114			
		NONE	—	—	27	30	29	126	27	30	29	126	29	35	31	128	29	35	31	128			
		118A	18.0	17.3	37	40	33	126	37	40	33	126	39	40	35	128	39	40	35	128			
		119A	36.0	34.6	58	60	53	126	58	60	53	126	60	60	55	128	60	60	55	128			
HIGH	118A+119A	54.0	52.0	67	70	73	126	67	70	73	126	69	70	75	128	69	70	75	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	IFM TYPE	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.													
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer								
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA				
NOM. V-PH-42	STD	NONE	—	—	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	66/66	80/80	71/71	296
		117A	7.8/10.4	21.7/25.0	61/61	70/70	66/65	291/291	291/291	61/61	70/70	66/65	291/291	291/291	66/66	80/80	71/71	296/296	296/296	66/66	80/80	71/71	296/296	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	291/291	72/72	80/80	66/66	291/291	291/291	78/78	80/80	71/71	296/296	296/296	78/78	80/80	71/71	296/296	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	291/291	120/120	125/125	99/110	291/291	291/291	126/126	150/150	104/116	296/296	296/296	126/126	150/150	104/116	296/296	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	291/291	151/151	175/175	124/139	291/291	291/291	157/157	175/175	129/144	296/296	296/296	157/157	175/175	129/144	296/296	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	291/291	155/155	175/175	142/160	291/291	291/291	161/161	175/175	147/165	296/296	296/296	161/161	175/175	147/165	296/296	296/296	161/161	175/175	147/165	296/296	
	MED	NONE	—	—	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	70/70	80/80	75/74	346
		117A	7.8/10.4	21.7/25.0	65/65	80/80	70/69	341/341	341/341	65/65	80/80	70/69	341/341	341/341	70/70	80/80	75/74	346/346	346/346	70/70	80/80	75/74	346/346	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	341/341	76/76	80/80	70/69	341/341	341/341	82/82	90/90	75/75	346/346	346/346	82/82	90/90	75/75	346/346	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	341/341	124/124	125/125	103/114	341/341	341/341	130/130	150/150	108/119	346/346	346/346	130/130	150/150	108/119	346/346	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	341/341	155/155	175/175	128/142	341/341	341/341	161/161	175/175	133/148	346/346	346/346	161/161	175/175	133/148	346/346	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	341/341	159/159	175/175	146/163	341/341	341/341	165/165	175/175	152/169	346/346	346/346	165/165	175/175	152/169	346/346	346/346	165/165	175/175	152/169	346/346		
50HC•D12	HIGH	NONE	—	—	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	73/73	80/80	79/78	357
		117A	7.8/10.4	21.7/25.0	68/68	80/80	73/72	352/352	352/352	68/68	80/80	73/72	352/352	352/352	73/73	80/80	79/78	357/357	357/357	73/73	80/80	79/78	357/357	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	352/352	79/79	80/80	73/73	352/352	352/352	85/85	90/90	79/78	357/357	357/357	85/85	90/90	79/78	357/357	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	352/352	128/128	150/150	106/117	352/352	352/352	134/134	150/150	112/122	357/357	357/357	134/134	150/150	112/122	357/357	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	352/352	159/159	175/175	131/146	352/352	352/352	165/165	175/175	137/151	357/357	357/357	165/165	175/175	137/151	357/357	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	352/352	163/163	175/175	149/167	352/352	352/352	169/169	175/175	155/172	357/357	357/357	169/169	175/175	155/172	357/357	357/357	169/169	175/175	155/172	357/357	
	STD	NONE	—	—	30	35	31	140	140	30	35	31	140	140	32	35	34	142	142	32	35	34	142	142	32	35	34	142
		116B	13.9	16.7	32	35	31	140	140	32	35	31	140	140	35	35	34	142	142	35	35	34	142	142	35	35	34	142
		113B	16.5	19.8	36	40	33	140	140	36	40	33	140	140	39	40	35	142	142	39	40	35	142	142	39	40	35	142
		115B	33.0	39.7	61	70	56	140	140	61	70	56	140	140	64	70	58	142	142	64	70	58	142	142	64	70	58	142
128B		41.7	50.2	74	80	68	140	140	74	80	68	140	140	77	80	70	142	142	77	80	70	142	142	77	80	70	142	
129B	50.0	60.1	72	80	79	140	140	72	80	79	140	140	74	80	82	142	142	74	80	82	142	142	74	80	82	142		
460-3-60	MED	NONE	—	—	31	35	33	165	165	31	35	33	165	165	33	40	36	167	167	33	40	36	167	167	33	40	36	167
		116B	13.9	16.7	34	35	33	165	165	34	35	33	165	165	37	40	36	167	167	37	40	36	167	167	37	40	36	167
		113B	16.5	19.8	38	40	35	165	165	38	40	35	165	165	41	45	37	167	167	41	45	37	167	167	41	45	37	167
		115B	33.0	39.7	63	70	58	165	165	63	70	58	165	165	66	70	60	167	167	66	70	60	167	167	66	70	60	167
		128B	41.7	50.2	76	80	70	165	165	76	80	70	165	165	79	80	72	167	167	79	80	72	167	167	79	80	72	167
	129B	50.0	60.1	73	80	81	165	165	73	80	81	165	165	76	80	84	167	167	76	80	84	167	167	76	80	84	167	
	HIGH	NONE	—	—	33	35	35	170	170	33	35	35	170	170	35	40	37	172	172	35	40	37	172	172	35	40	37	172
		116B	13.9	16.7	36	40	35	170	170	36	40	35	170	170	39	40	37	172	172	39	40	37	172	172	39	40	37	172
		113B	16.5	19.8	40	40	36	170	165	40	40	36	170	170	43	45	39	172	172	43	45	39	172	172	43	45	39	172
		115B	33.0	39.7	65	70	59	170	170	65	70	59	170	170	68	70	62	172	172	68	70	62	172	172	68	70	62	172
128B		41.7	50.2	78	80	71	170	170	78	80	71	170	170	81	90	74	172	172	81	90	74	172	172	81	90	74	172	
129B	50.0	60.1	75	80	83	170	170	75	80	83	170	170	78	80	85	172	172	78	80	85	172	172	78	80	85	172		
575-3-60	STD	NONE	—	—	25	30	26	113	113	25	30	26	113	113	26	30	28	115	115	26	30	28	115	115	26	30	28	115
		118A	18.0	17.3	33	35	30	113	113	33	35	30	113	113	35	35	32	115	115	35	35	32	115	115	35	35	32	115
		119A	36.0	34.6	55	60	50	113	113	55	60	50	113	113	57	60	52	115	115	57	60	52	115	115	57	60	52	115
		118A+119A	54.0	52.0	64	70	70	113	113	64	70	70	113	113	66	70	72	115	115	66	70	72	115	115	66	70	72	115
		NONE	—	—	26	30	27	122	122	26	30	27	122	122	27	30	29	124	124	27	30	29	124	124	27	30	29	124
	MED	118A	18.0	17.3	35	35	31	122	122	35	35	31	122	122	37	40	33	124	124	37	40	33	124	124	37	40	33	124
		119A	36.0	34.6	56	60	51	122	122	56	60	51	122	122	58	60	53	124	124	58	60	53	124	124	58	60	53	124</

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	ELEC. HTR			NO C.O. or UNPWR C.O.										w/ PWRD C.O.									
		CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
					MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA	MCA	HACR BRKR	FLA	DISC. SIZE	LRA
50HC-D14	208/230-3-60	STD	NONE	—	74/74	80/80	79/78	353	353	74/74	80/80	79/78	353	353	79/79	90/90	84/83	358	358	79/79	90/90	84/83	358	358
			291A	12.4/16.5	34.4/39.7	80/80	79/78	353/353	353/353	80/80	80/80	79/78	353/353	353/353	86/86	90/90	84/83	358/358	358/358	86/86	90/90	84/83	358/358	358/358
			288A+291A	19.9/26.5	55.3/63.8	110/110	92/101	353/353	110/110	110/110	110/110	92/101	353/353	116/116	125/125	125/125	98/106	358/358	358/358	116/116	125/125	98/106	358/358	358/358
			294A	25.2/33.5	69.9/80.6	131/131	109/120	353/353	131/131	150/150	150/150	109/120	353/353	137/137	150/150	150/150	114/126	358/358	358/358	137/137	150/150	114/126	358/358	358/358
			288A+294A	32.7/43.5	90.7/104.7	161/161	133/148	353/353	161/161	175/175	175/175	133/148	353/353	167/167	175/175	175/175	138/153	358/358	358/358	167/167	175/175	138/153	358/358	358/358
50HC-D14	208/230-3-60	STD	291A+294A	37.6/50.0	104.3/120.3	162/162	148/166	353/353	162/162	175/175	175/175	148/166	353/353	168/168	175/175	175/175	154/171	358/358	358/358	168/168	175/175	154/171	358/358	358/358
			NONE	—	76/76	90/90	81/80	377	377	76/76	90/90	81/80	377	377	81/81	90/90	87/86	382	382	81/81	90/90	87/86	382	382
			291A	12.4/16.5	34.4/39.7	83/83	81/80	377/377	377/377	83/83	90/90	81/80	377/377	377/377	89/89	90/90	87/86	382/382	382/382	89/89	90/90	87/86	382/382	382/382
			288A+291A	19.9/26.5	55.3/63.8	113/113	95/103	377/377	113/113	125/125	125/125	95/103	377/377	119/119	125/125	125/125	100/109	382/382	382/382	119/119	125/125	100/109	382/382	382/382
			294A	25.2/33.5	69.9/80.6	134/134	111/123	377/377	134/134	150/150	150/150	111/123	377/377	140/140	150/150	150/150	117/128	382/382	382/382	140/140	150/150	117/128	382/382	382/382
50HC-D14	208/230-3-60	MED	288A+294A	32.7/43.5	90.7/104.7	164/164	135/150	377/377	164/164	175/175	175/175	135/150	377/377	170/170	175/175	175/175	141/156	382/382	382/382	170/170	175/175	141/156	382/382	382/382
			291A+294A	37.6/50.0	104.3/120.3	165/165	151/168	377/377	165/165	175/175	175/175	151/168	377/377	171/171	175/175	175/175	156/174	382/382	382/382	171/171	175/175	156/174	382/382	382/382
			NONE	—	86	100	92	392	392	86	100	92	392	392	91	100	98	397	397	91	100	98	397	397
			291A	12.4/16.5	34.4/39.7	96/96	100/100	392/392	392/392	96/96	100/100	92/92	392/392	102/102	102/102	102/102	110/110	397/397	397/397	102/102	110/110	98/98	397/397	397/397
			288A+291A	19.9/26.5	55.3/63.8	126/126	106/115	392/392	126/126	150/150	150/150	106/115	392/392	132/132	132/132	132/132	111/121	397/397	397/397	132/132	150/150	111/121	397/397	397/397
50HC-D14	208/230-3-60	HIGH	294A	25.2/33.5	69.9/80.6	147/147	122/135	392/392	147/147	150/150	150/150	122/135	392/392	153/153	153/153	153/153	128/140	397/397	397/397	153/153	175/175	128/140	397/397	397/397
			288A+294A	32.7/43.5	90.7/104.7	177/177	146/162	392/392	177/177	200/200	200/200	146/162	392/392	183/183	183/183	183/183	200/200	397/397	397/397	183/183	200/200	152/168	397/397	397/397
			291A+294A	37.6/50.0	104.3/120.3	177/177	162/180	392/392	177/177	200/200	200/200	162/180	392/392	183/183	183/183	183/183	200/200	397/397	397/397	183/183	200/200	168/186	397/397	397/397
			NONE	—	32	35	34	172	172	32	35	34	172	172	34	40	37	174	174	34	40	37	174	174
			292A	16.5	19.9	39	35	172	172	39	40	35	172	172	42	45	38	174	174	42	45	38	174	174
50HC-D14	460-3-60	STD	289A+292A	26.5	31.9	54	49	172	172	54	60	49	172	172	57	60	52	174	174	57	60	52	174	174
			295A	33.5	40.3	64	59	172	172	64	70	59	172	172	67	70	61	174	174	67	70	61	174	174
			289A+295A	43.5	52.3	79	80	172	172	79	80	73	172	172	82	90	75	174	174	82	90	75	174	174
			292A+295A	50.0	60.2	74	80	172	172	74	80	82	172	172	77	80	84	174	174	77	80	84	174	174
			NONE	—	33	40	35	184	184	33	40	35	184	184	35	40	38	186	186	35	40	38	186	186
50HC-D14	460-3-60	MED	292A	16.5	19.9	40	37	184	184	40	40	37	184	184	43	45	39	186	186	43	45	39	186	186
			289A+292A	26.5	31.9	55	50	184	184	55	60	50	184	184	58	60	53	186	186	58	60	53	186	186
			295A	33.5	40.3	66	60	184	184	66	70	60	184	184	68	70	63	186	186	68	70	63	186	186
			289A+295A	43.5	52.3	81	74	184	184	81	90	74	184	184	83	90	76	186	186	83	90	76	186	186
			292A+295A	50.0	60.2	76	83	184	184	76	80	83	184	184	78	80	85	186	186	78	80	85	186	186
50HC-D14	460-3-60	HIGH	NONE	—	39	45	41	191	191	39	45	41	191	191	41	50	44	193	193	41	50	44	193	193
			292A	16.5	19.9	47	43	191	191	47	50	43	191	191	50	50	45	193	193	50	50	45	193	193
			289A+292A	26.5	31.9	62	56	191	191	62	70	56	191	191	65	70	59	193	193	65	70	59	193	193
			295A	33.5	40.3	72	66	191	191	72	80	66	191	191	75	80	69	193	193	75	80	69	193	193
			289A+295A	43.5	52.3	87	80	191	191	87	90	80	191	191	90	90	82	193	193	90	90	82	193	193
50HC-D14	460-3-60	HIGH	292A+295A	50.0	60.2	82	89	191	191	82	90	89	191	191	85	90	92	193	193	85	90	92	193	193

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.										
			CRHEATER****00	Nom (kW)	FLA	w/ ERV, w/o Economizer					w/ ERV, w/ Economizer					w/ ERV, w/o Economizer					w/ ERV, w/ Economizer				
						MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA	MCA	FUSE or HACR BRKR	FLA	DISC. SIZE	LRA
50HC-D14	575-3-60	STD	NONE	—	—	29	35	31	145	145	29	35	31	145	145	31	35	33	147	147	31	35	33	147	147
			293A	16.5	15.9	35	35	32	145	145	35	35	32	145	145	37	40	33	147	147	37	40	33	147	147
			290A+293A	26.5	25.5	47	50	43	145	145	47	50	43	145	145	49	50	45	147	147	49	50	45	147	147
			296A	33.5	32.2	55	60	50	145	145	55	60	50	145	145	57	60	52	147	147	57	60	52	147	147
			290A+296A	43.5	41.9	67	70	61	145	145	67	70	61	145	145	69	70	63	147	147	69	70	63	147	147
50HC-D14	575-3-60	MED	293A+296A	50.0	48.1	63	70	69	145	145	63	70	69	145	145	65	70	71	147	147	65	70	71	147	147
			NONE	—	—	29	35	31	145	145	29	35	31	145	145	31	35	33	147	147	31	35	33	147	147
			293A	16.5	15.9	35	35	32	145	145	35	35	32	145	145	37	40	33	147	147	37	40	33	147	147
			290A+293A	26.5	25.5	47	50	43	145	145	47	50	43	145	145	49	50	45	147	147	49	50	45	147	147
			296A	33.5	32.2	55	60	50	145	145	55	60	50	145	145	57	60	52	147	147	57	60	52	147	147
50HC-D14	575-3-60	HIGH	290A+296A	43.5	41.9	67	70	61	145	145	67	70	61	145	145	69	70	63	147	147	69	70	63	147	147
			293A+296A	50.0	48.1	63	70	69	145	145	63	70	69	145	145	65	70	71	147	147	65	70	71	147	147
			NONE	—	—	34	40	36	157	157	34	40	36	157	157	36	40	38	159	159	36	40	38	159	159
			293A	16.5	15.9	40	40	37	157	157	40	40	37	157	157	42	45	39	159	159	42	45	39	159	159
			290A+293A	26.5	25.5	52	60	48	157	157	52	60	48	157	157	54	60	50	159	159	54	60	50	159	159
50HC-D14	575-3-60	HIGH	296A	33.5	32.2	61	70	55	157	157	61	70	55	157	157	63	70	57	159	159	63	70	57	159	159
			290A+296A	43.5	41.9	73	80	67	157	157	73	80	67	157	157	75	80	68	159	159	75	80	68	159	159
			293A+296A	50.0	48.1	69	70	74	157	157	69	70	74	157	157	71	80	76	159	159	71	80	76	159	159

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

EnergyX[®] UNIT START-UP CHECKLIST

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

NOTE: To avoid injury to personnel and damage to equipment or property when completing the procedures listed in this start-up checklist, use good judgement, follow safe practices, and adhere to the safety considerations/information as outlined in the preceding sections of this Installation Instructions document.

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 CONFIGURATION 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 CONTROLLER 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	_____