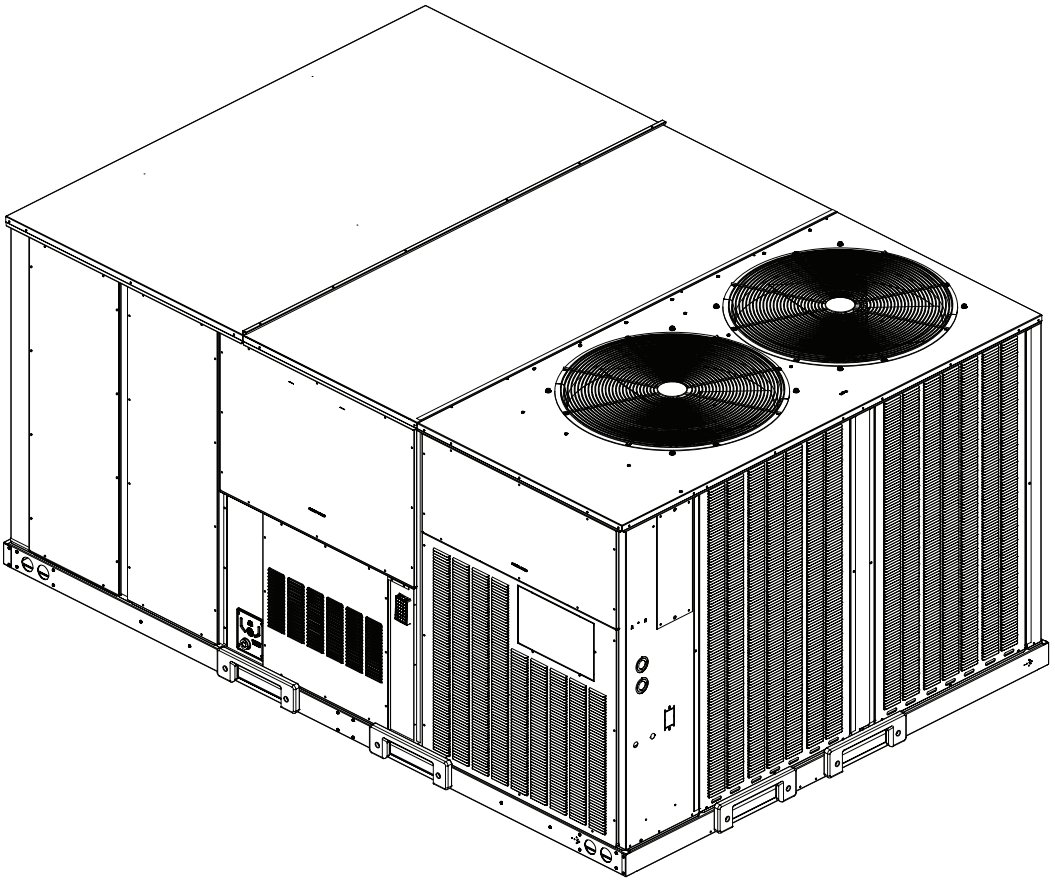
INSTALLATION INSTRUCTIONS

FOR RENAISSANCE™ PACKAGED GAS ELECTRIC UNITS

RACG SERIES 15.0, 17.5, 20.0 & 25.0 TON [52.8, 61.5, 70.3 & 87.9 KW] 60 HZ MODELS WITH R-410A REFRIGERANT



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CONTENTS

DO NOT DESTROY THIS MANUAL. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE BY A SERVICEMAN.

RECOGNIZE THIS SYMBOL AS AN INDICATION OF IMPORTANT SAFETY INFORMATION!

⚠WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT, CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE, POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, CARBON MONOXIDE POISONING, EXPLOSION, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠WARNING

PROPOSITION 65 WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

⚠WARNING

— Do not store or use gasoline or other flammable vapors and liquids, or other combustible materials in the vicinity of this or any other appliance.

— WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- Do not return to your home until authorized by the gas supplier or fire department.

— DO NOT RELY ON SMELL ALONE TO DETECT LEAKS. DUE TO VARIOUS FACTORS, YOU MAY NOT BE ABLE TO SMELL FUEL GASES.
- U.L. recognized fuel gas and CO detectors are recommended in all applications, and their installation should be in accordance with the manufacturer's recommendations and/or local laws, rules, regulations, or customs.

— Improper installation, adjustment, alteration, service or maintenance can cause injury, property damage or death. Refer to this manual. Installation and service must be performed by a qualified installer, service agency or the gas supplier. In the commonwealth of Massachusetts, installation must be performed by a licensed plumber or gas fitter for appropriate fuel.

BA001-02

DO NOT DESTROY THIS MANUAL. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE BY A SERVICEMAN.

CONTENTS (DETAILED)

A. IMPORTANT SAFETY AND GENERAL INFORMATION

A.1 Introduction

This booklet contains the installation and operating instructions for your 15 ton, 17.5 ton, 20 ton, or 25 ton combination gas heating/electric cooling unit. There are some precautions that should be taken to ensure proper operation. Improper installation can result in unsatisfactory operation or dangerous conditions.

Read this booklet and any instructions packaged with separate equipment required to make up the system prior to installation. Give this booklet to the owner and explain its provisions. The owner should retain this booklet for future reference.

The images contained within this document may not be an exact representation of every unit, accessory, installation, etc. All dimensions contained in this document are approximations. We reserve the right to change the content of this document at any time.

⚠WARNING: The manufacturer's warranty does not cover any damage or defect to the air conditioner caused by the attachment or use of any components, accessories or devices (other than those authorized by the manufacturer) into, onto or in conjunction with the air conditioner.

You should be aware that the use of unauthorized components, accessories or devices may adversely affect the operation of the air conditioner and may also endanger life and property. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized components, accessories or devices.

A.2 Agency Performance Audit and Efficiency Testing Notice

NOTICE: BREAK-IN PERIOD

Prior to agency testing, run the compressor for 16 hours at 115°f outdoor ambient temperature and 80° dry bulb / 75° wet bulb indoor ambient temperature.

NOTICE: EFFICIENCY TESTING NOTICE

For purposes of verifying or testing efficiency ratings, the test procedure in title 10 Appendix M to Subpart B of Part 430 (Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps) and the clarifying provisions provided in the standards listed below that were applicable at the date of manufacture should be used for test set up and performance.

SETUP

- ASHRAE 37 - 2009 (RA 2019)

PERFORMANCE:

- ANSI/ASHRAE 90.1 - 2016
- AHRI Operations for Unitary Large AC Equipment 340/360 (2015)

SAFETY

UL 1995 5th Edition

A.3. Importance of a Quality Installation

Optimal system performance and longevity depend upon a quality and proper installation. Failure to properly setup and commission this unit could result in undesirable operation and subsequent faults and potential failures.

Carefully follow all guidelines listed in the manual and industry best practices. Conform to all local code requirements. Contact your local technical representative with any questions or concerns.

A.4. Importance of Air Flow and Setup

Optimal system performance is also dependent upon having the ideal airflow across the condensing and evaporating coils, and upon matching the charge weight to the manufacturer's spec for the unit. Improper or restricted air flow, and incorrect charge weight, will hinder the performance of the unit. Please refer to the manufacturer's recommended clearances for setting the unit and the included guide for setting air flow. Refer to the rating plate for the charge weight.

A.5. Checking Product and Inspection

Upon receiving the unit, inspect it for any damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with the shipping company. IMPORTANT: Check the unit model number, heating size, electrical characteristics, and accessories to determine if they are correct.

B. GENERAL SPECIFICATIONS

B.1 Safety Warnings

⚠WARNING: Use only with type of gas approved for this unit. Refer to the unit rating plate.

⚠WARNING: Install this unit only in a location and position as specified in the location requirements and considerations section of these instructions. Provide adequate combustion and ventilation air to the unit space as specified in the venting section of these instructions.

⚠WARNING: Provide adequate combustion and ventilation air to the unit space as specified in the combustion and ventilation air section of these instructions.

⚠WARNING: Combustion products must be discharged outdoors. Refer to local building codes for ducting combustion exhaust.

⚠WARNING: Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections, as specified in gas supply and piping section of these instructions.

⚠WARNING: Always install unit to operate within the unit's intended temperature-rise range with a duct system which has an external static pressure within the allowable range, as specified in ducting section of these instructions. See also unit rating plate.

⚠WARNING: When a unit is installed so that supply ducts carry air circulated by the unit to areas outside the space containing the unit, the return air shall also be handled by duct(s) sealed to the unit casing and terminating outside the space containing the unit.

⚠WARNING: This unit may be used to heat the building or structure during construction if the following installation requirements are met. Installation must comply with all installation instructions including:

- Furnace operating under thermostatic control;
- Return air duct sealed to the furnace;
- Air filters in place;
- Set furnace input rate and temperature rise per rating plate marking;
- Return air temperature maintained between 55°f (13°c) and 80°f (27°c);
- Clean furnace, duct work and components upon substantial completion of the construction process, and verify furnace operating conditions including ignition input rate, temperature rise and venting, according to the instructions.

B. GENERAL SPECIFICATIONS

B.2. Major Components

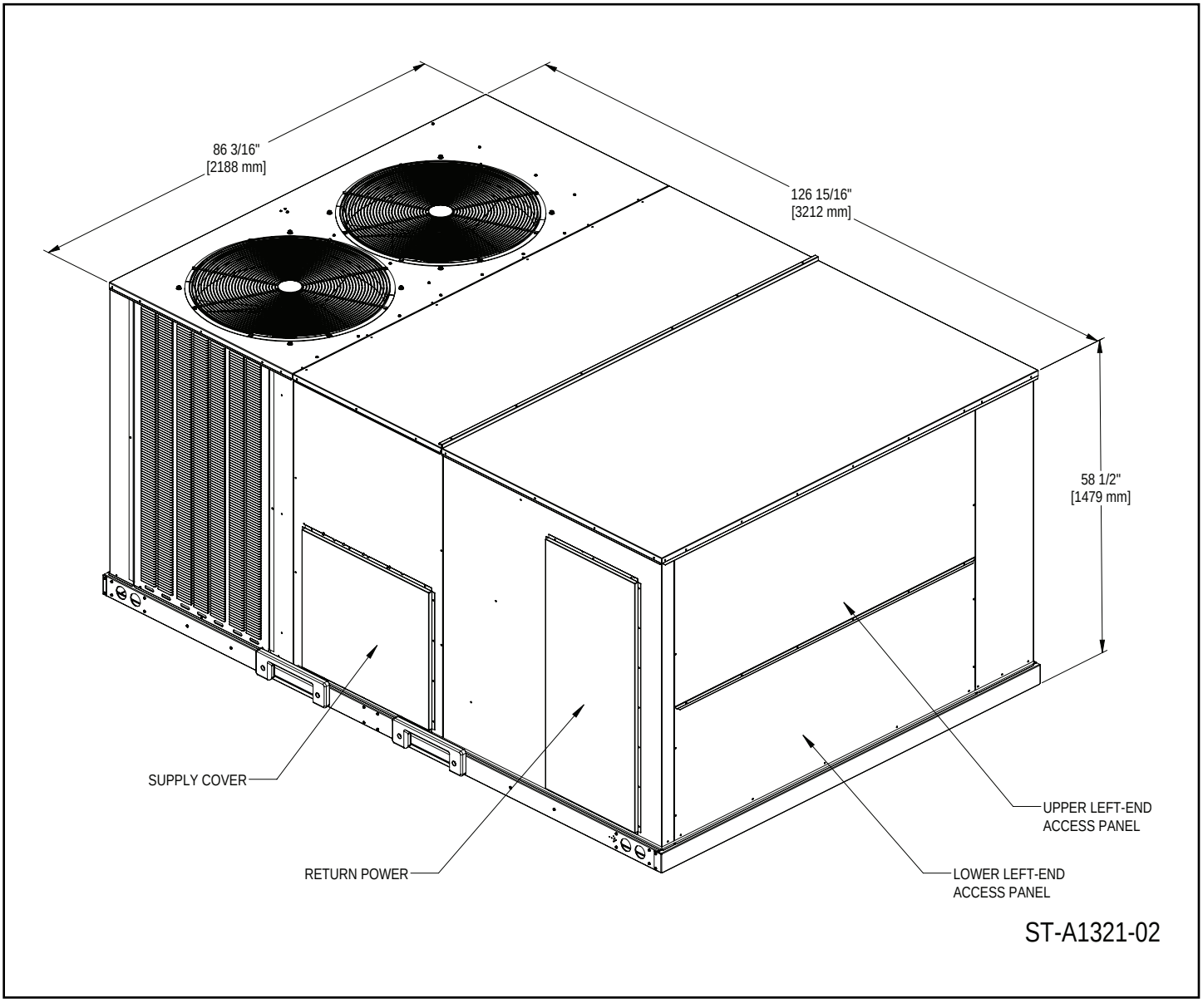
The unit includes a hermetically-sealed refrigerating system consisting of a scroll compressor, condenser coil, evaporator coil with TXV, a circulation air blower, a condenser fan, and all necessary internal electrical wiring.

The cooling system of these units is factory evacuated, charged, and performance tested. Refrigerant amount and type are indicated on rating plate.

B.3. Product Data Information

B.3.1. Dimensional Information

IMPORTANT: This unit must be mounted level in both directions to allow water to drain from the condenser section and condensate pan.



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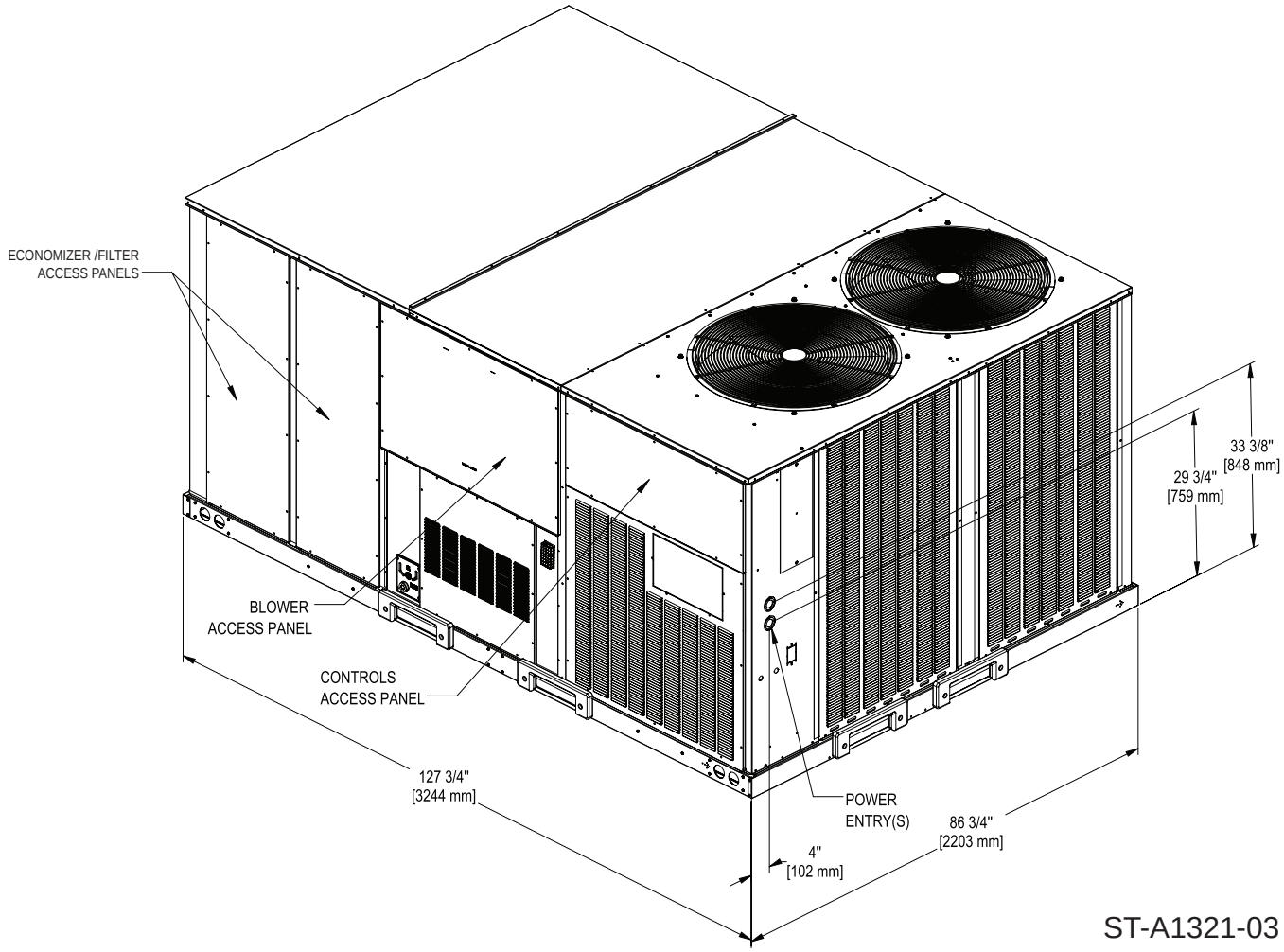
B.3. Product Data Information

B.3.1. Dimensional Information (Cont.)

IMPORTANT: This unit must be mounted level in both directions to allow water to drain from the condenser section and condensate pan.



B.3.2. Product Specifications

The packaged Air Conditioning rooftop unit is available with 18, 36, 54, and 72 KW electric heat input (either factory installed or field installed). Cooling capacity is 15, 17.5, 20, and 25 nominal tons. Units are convertible from horizontal supply/return to bottom supply/return by relocation of supply/return cover panels. See section ***C.3.5. Cover Panel Installation/ Conversion Procedure*** for more details.

The units are weatherized for mounting outside of the building.

⚠WARNING: Units are not design certified to be installed inside the structure. Doing so can cause inadequate unit performance as well as property damage or death.

B. GENERAL SPECIFICATIONS

B.3. Product Data Information

B.3.3. General Data

*See **Appendix A** towards the end of this manual for General Data.*

B.3.4. Electrical Data Reference

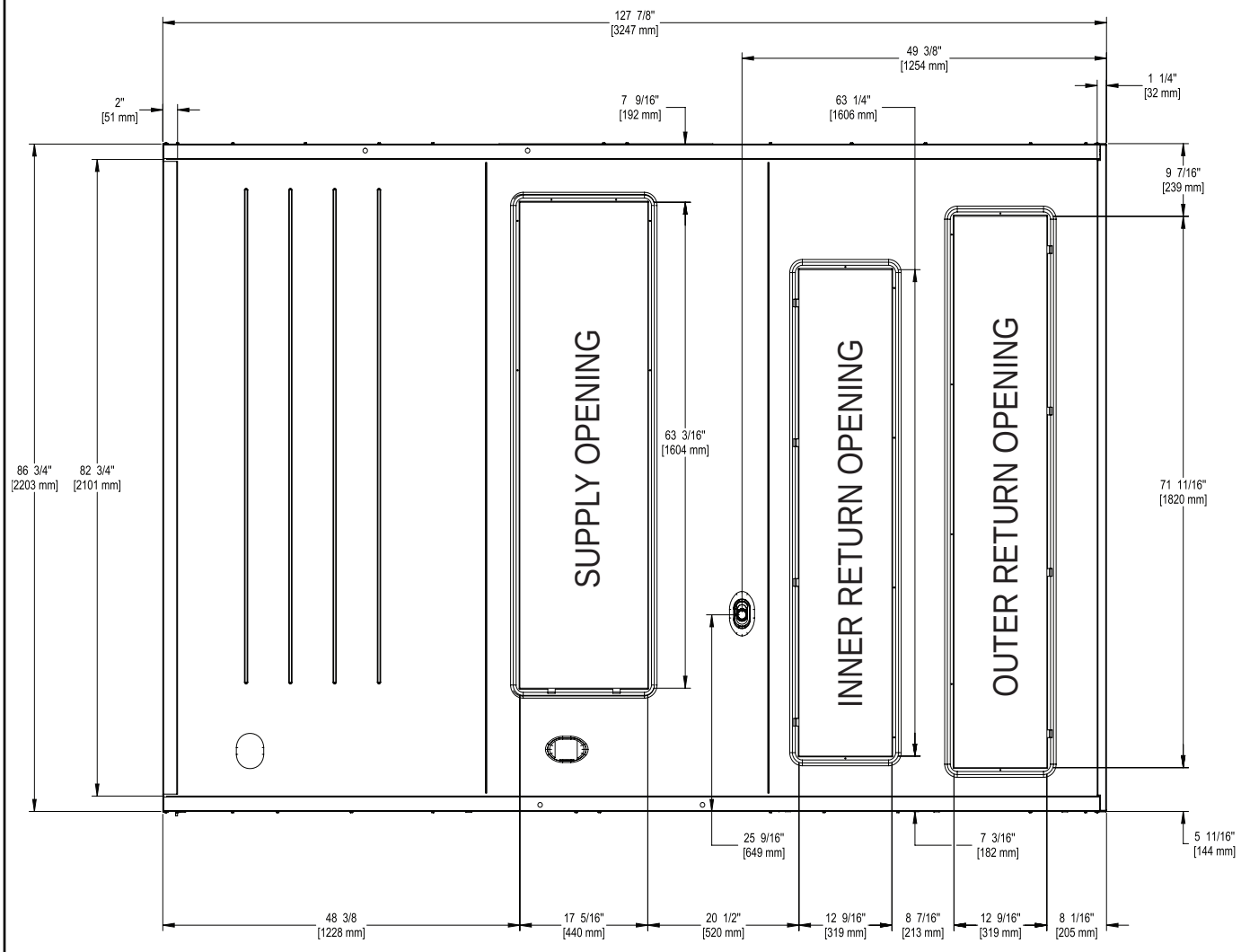
*See **Appendix B** towards the end of this manual for Electrical Data.*

B.3.5. Air Flow Performance Data

*See **Appendix C** towards the end of this manual for Air Flow Performance Data.*

B.3.6. Supply and Return Duct Dimensions

Figure B.3.6. - A: Supply And Return Dimensions For Downflow Applications (Bottom View Looking Up)



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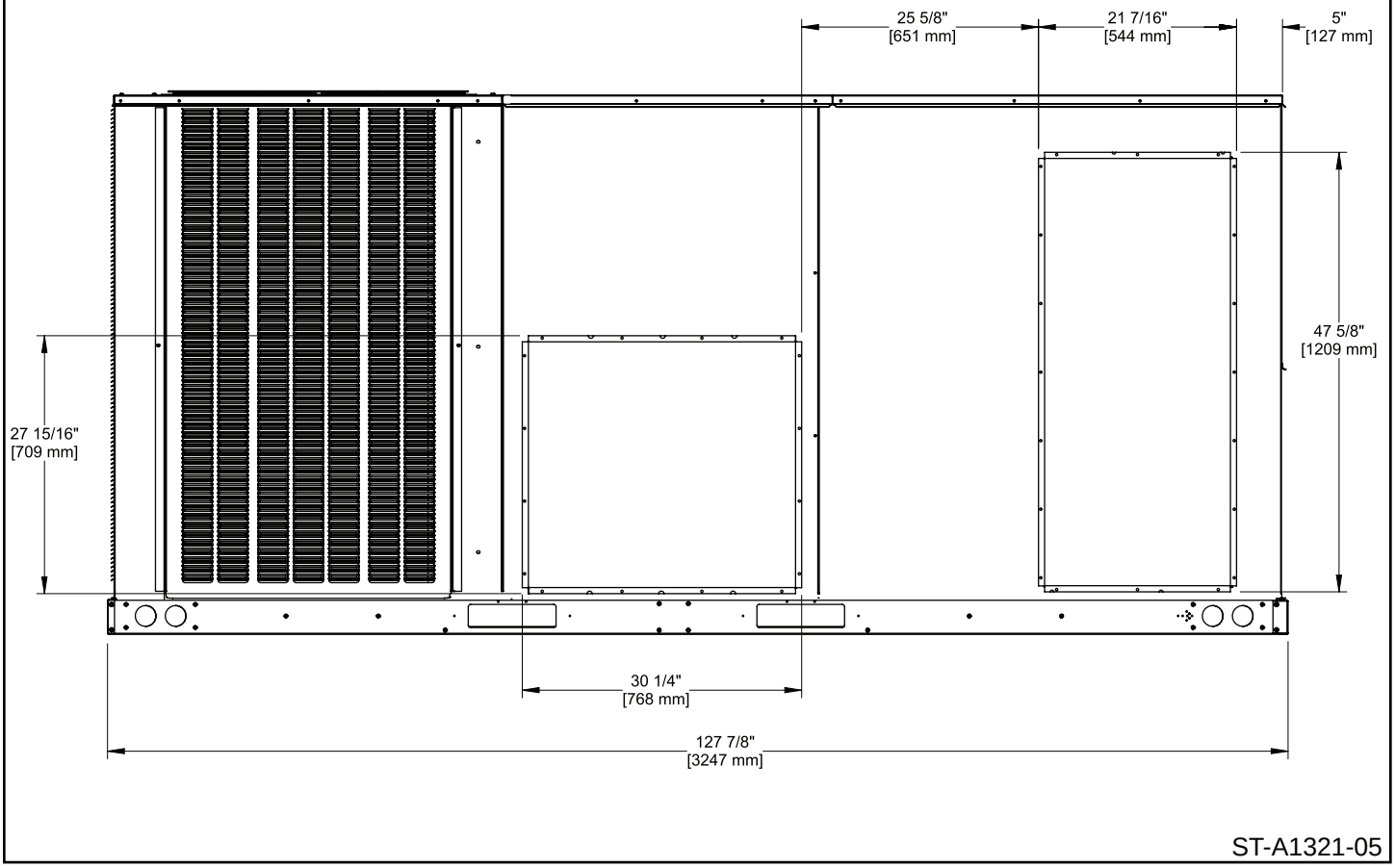
B.3.6. Supply and Return Duct Dimensions

Figure B.3.6. - B: Supply And Return Dimensions For Horizontal Applications



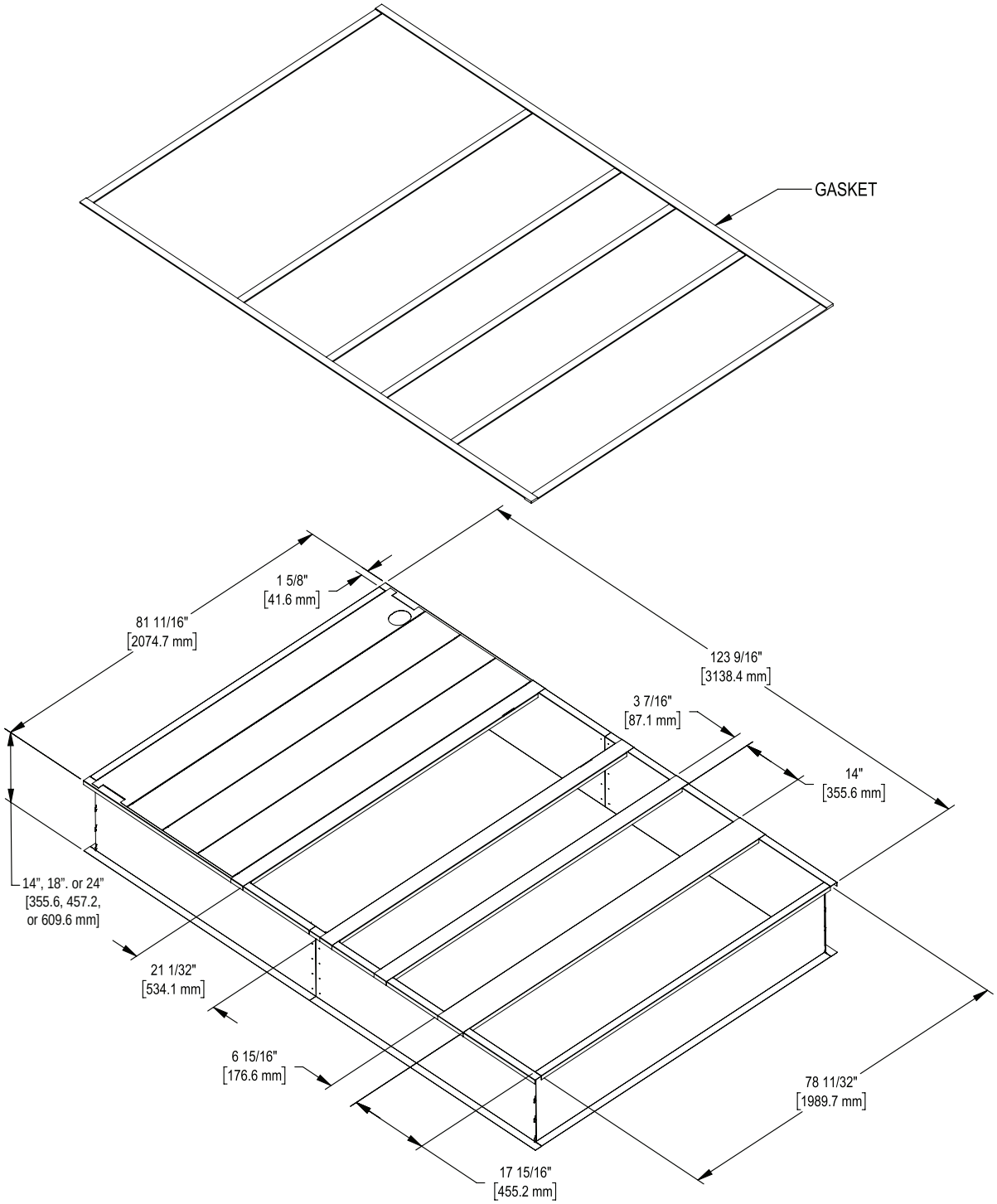
B. GENERAL SPECIFICATIONS

B.3. Product Data Information

B.3.7. Curb Dimensions

NOTE: See section C.3.3. Rooftop Installation for more information for installing the unit on a curb.

Figure B.3.7. – A: Roofcurb Complete Assembly



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C. INSTALLATION OF THE UNIT

C.1. General

C.1.1. Installation

Install this unit in accordance with local and national standards. Any and all work must be done by authorized personnel.

C.1.2. Pre-Installation Checkpoints

Before attempting any installation, carefully consider the following points:

- Structural strength of supporting members (Rooftop Installation)
- Clearances and provision for servicing
- Power supply and wiring
- Gas supply and piping
- Air duct connections and sizing
- Drain facilities and connections
- Location for minimum noise and vibration - away from bedroom windows

C.2. Tool and Refrigerant

C.2.1. Tools Required for Installing and Servicing R-410A Models

Manifold Sets:

- Up to 800 PSIG High Side
- Up to 250 PSIG Low Side
- 550 PSIG Low Side Retard

Manifold Hoses:

- Service Pressure Rating of 800 PSIG
- Zero-loss fittings

Recovery Cylinders:

- 400 PSIG Pressure Rating

Dept. of Transportation

- 4BA400 or BW400

C.2.2. Specifications of R-410A

All units are factory charged with R-410a Refrigerant.

Combustibility: At pressures above 1 atmosphere, mixture of R-410A and air can become combustible. **R-410A and air should never be mixed in tanks or supply lines, or be allowed to accumulate in storage tanks. Leak checking should never be done with a mixture of R-410A and air.** Leak checking can be performed safely with nitrogen or a mixture of R-410A and nitrogen.

C.2.3. Quick Reference Guide for R-410A

Ensure that servicing equipment is designed to operate with R-410A.

- R-410A refrigerant cylinders are pink.
- R-410A, as with other HFC's is only compatible with POE oils.
- Vacuum pumps will not remove moisture from POE oil.
- R-410A systems are to be charged with liquid refrigerants.
- Do not install a suction line filter drier in the liquid line.
- A liquid line filter drier is standard on every unit.
- Desiccant (drying agent) must be compatible for POE oils and R-410A.

C.2.4. Evaporator Coil/TXV

The thermostatic expansion valve is specifically designed to operate with R- 410A. The existing evaporator must be replaced with the factory specified TXV evaporator specifically designed for R-410A.

⚠WARNING: Disconnect all power to unit before starting maintenance. Failure to do so can cause electrical shock resulting in personal injury or death. Regular maintenance will reduce the buildup of contaminants and help to protect the unit's finish.

C. INSTALLATION OF THE UNIT

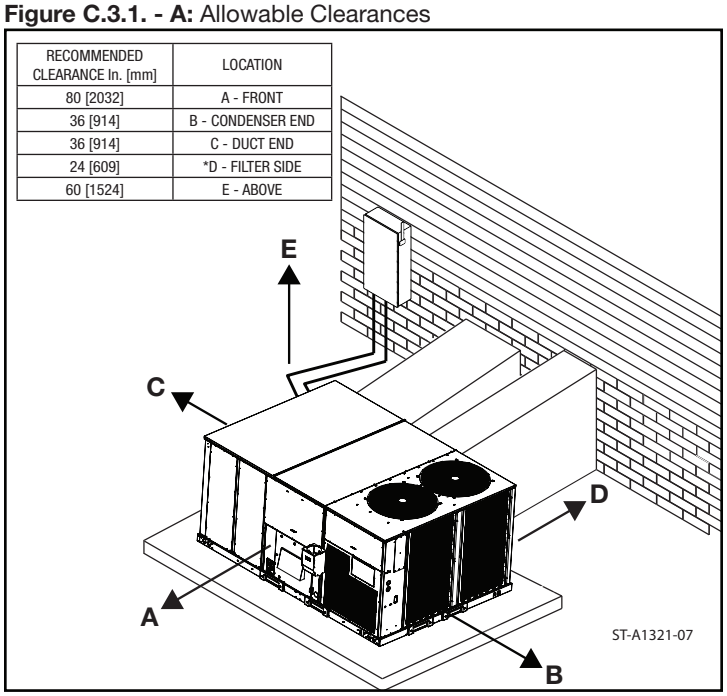
C.3. Choosing a Location

C.3.1.Unit Location: Allowable Clearances and Operational Issues

The unit location must comply with the allowable clearances listed in ***Figure C.3.1. - A.*** Failure to comply with the recommended clearances may result in operational issues such as decreased capacity, restricted condenser airflow, and condenser motor fatigue.

Figure C.3.1. - A: Allowable Clearances

RECOMMENDED CLEARANCE In. [mm]	LOCATION
80 [2032]	A - FRONT
36 [914]	B - CONDENSER END
36 [914]	C - DUCT END
24 [609]	*D - FILTER SIDE
60 [1524]	E - ABOVE



C.3.2. Outside Installation

⚠WARNING: These units are designed certified for outdoor installation only. Installation inside any part of a structure can result in inadequate unit performance as well as property damage. Installation inside can also cause recirculation of flue products into the conditioned space resulting in personal injury or death.

1. Select a location where external water drainage cannot collect around unit.

2. Provide a level slab sufficiently high enough above grade to prevent surface water from entering the unit

3. Locate the unit to provide proper access for inspection and servicing as shown in ***Figure C.3.1. - A.***

4. Locate unit where operating sounds will not disturb owner or neighbors.

5. Locate unit so roof runoff water does not pour directly on the unit. Provide gutter or other shielding at roof level. Do not locate unit in an area where excessive snow drifting may occur or accumulate.

6. Where snowfall is anticipated, the height of the unit above the ground level must be considered. Mount unit high enough to be above anticipated maximum area snowfall and to allow combustion air to enter the combustion air inlet.

7. Select an area which will keep the areas of the vent, air intake, and A/C condenser fins free and clear of obstructions such as weeds, shrubs, vines, snow, etc. Inform the user accordingly.

C.3.3. Rooftop Installation

1. Before locating the unit on the roof, make sure that the roof structure is adequate to support the weight involved. (See Electrical & Physical Tables in this manual.) **THIS IS VERY IMPORTANT AND IS THE INSTALLER'S RESPONSIBILITY.**

2. For rigging and roofcurb details, see section ***C.4.3.***

3. The location of the unit on the roof should be such as to provide proper access for inspection and servicing.

IMPORTANT: *If unit will not be put into service immediately, block off supply and return air openings to prevent excessive condensation.*

C.3.4. Corrosive Environments

The metal parts of this unit may be subject to rust or deterioration in adverse environmental conditions. This oxidation could shorten the equipment's useful life. Salt spray, fog or mist in seacoast areas, sulfur or chlorine from lawn watering systems, and various chemical contaminants from industries such as paper mills and petroleum refineries are especially corrosive.

If the unit is to be installed in an area where contaminants are likely to be a problem, give special attention to the equipment location and exposure.

1. Avoid having lawn sprinkler heads spray directly on the unit cabinet.

2. In coastal areas, install the unit on the side of the building away from the waterfront.

3. In some situations, fencing or shrubs may give some protection against contaminants. Be mindful of the allowable clearances.

4. Frequent washing of the cabinet, fan blade and coil with fresh water will remove most of the salt or other contaminants that build up on the unit.

5. Regular cleaning and waxing of the cabinet with an automobile polish will provide some protection.

6. A good liquid cleaner may be used several times a year to remove matter that will not wash off with water.

Several different types of protective coatings are offered in some areas. These coatings may provide some benefit, but the effectiveness of such coating materials cannot be verified by the equipment manufacturer. The best protection is frequent cleaning, maintenance and minimal exposure to contaminants.

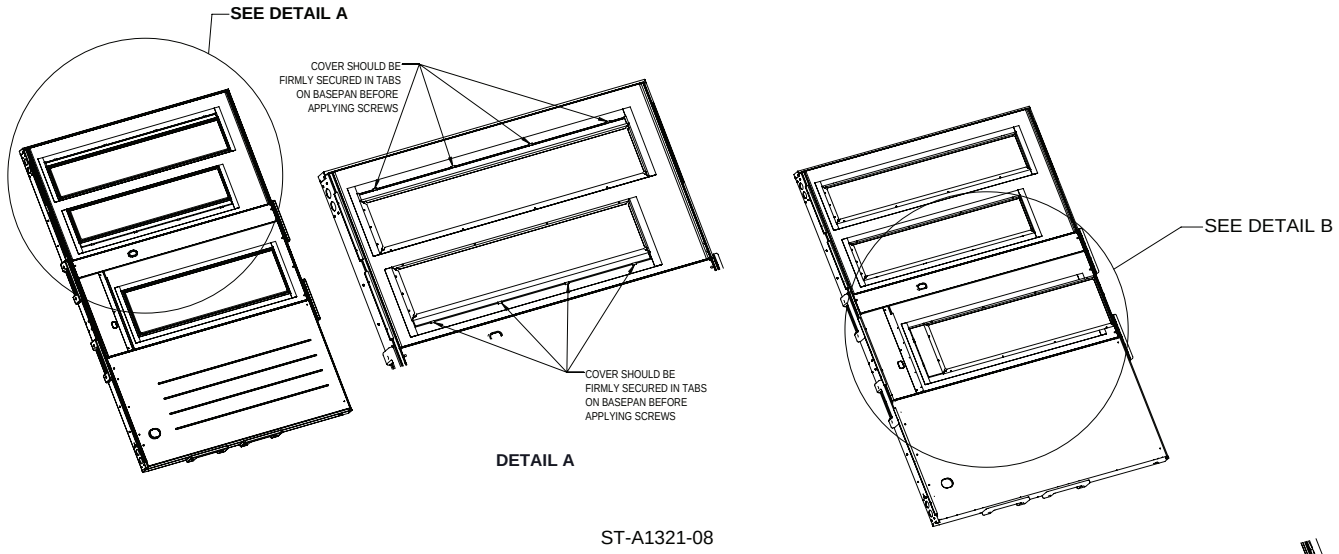
C.3.5. Supply and Return Cover Panel Removal

Remove the covers from the supply and return openings on the unit. See Figure B.3.6. - B for reference.

1. For HORIZONTAL ducting, the supply and return openings are on the rear side of the unit.
2. For DOWNFLOW ducting, the supply and return openings are on the base of the unit.

a. There are two return openings to choose from based on the job. Only remove one of the covers needed and leave the other opening covered. See Figure c.3.5. - A for reference.

Figure C.3.5. – A: Removing Downflow Return Cover



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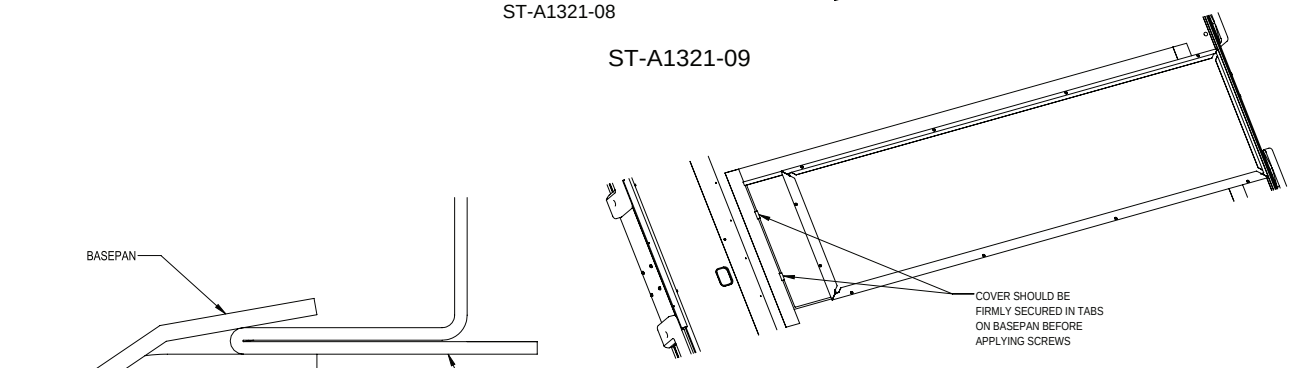

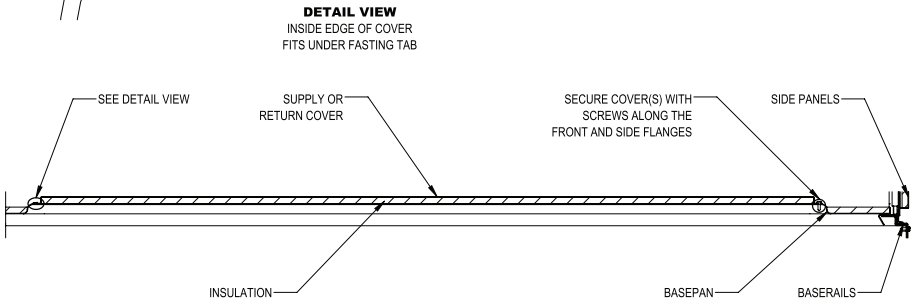

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C. INSTALLATION OF THE UNIT

C.4.Setting the Unit

C.4.1. Removing Shipping material

There will be three types of shipping material that will need to be removed: The wood board basepan protection underneath, the wooden skid on the top, and the condenser coil protection (on non-louver panel units).

- **Wood Board Basepan Protection** – Remove the screws that attach the metal brackets for each of the forklift fork-entry points, and remove the brackets. This will release the protection boards from underneath, and it may be removed when the unit is lifted.
- **Bumper Boards** - Remove the six, black, plastic bumper boards by removing the two screws on each.
- **Shipping Screws** – Shipping screws are #10 5/16" hex head screws.

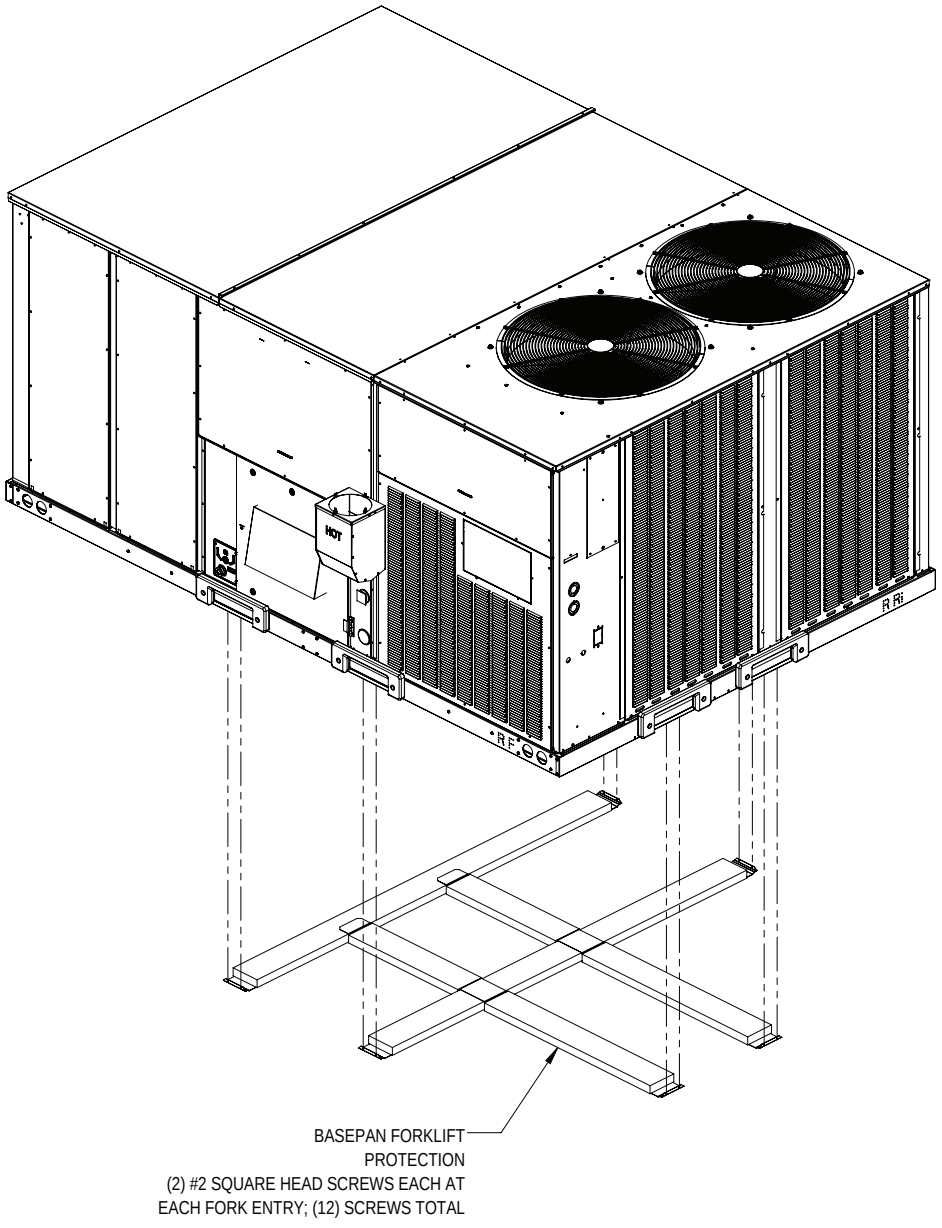

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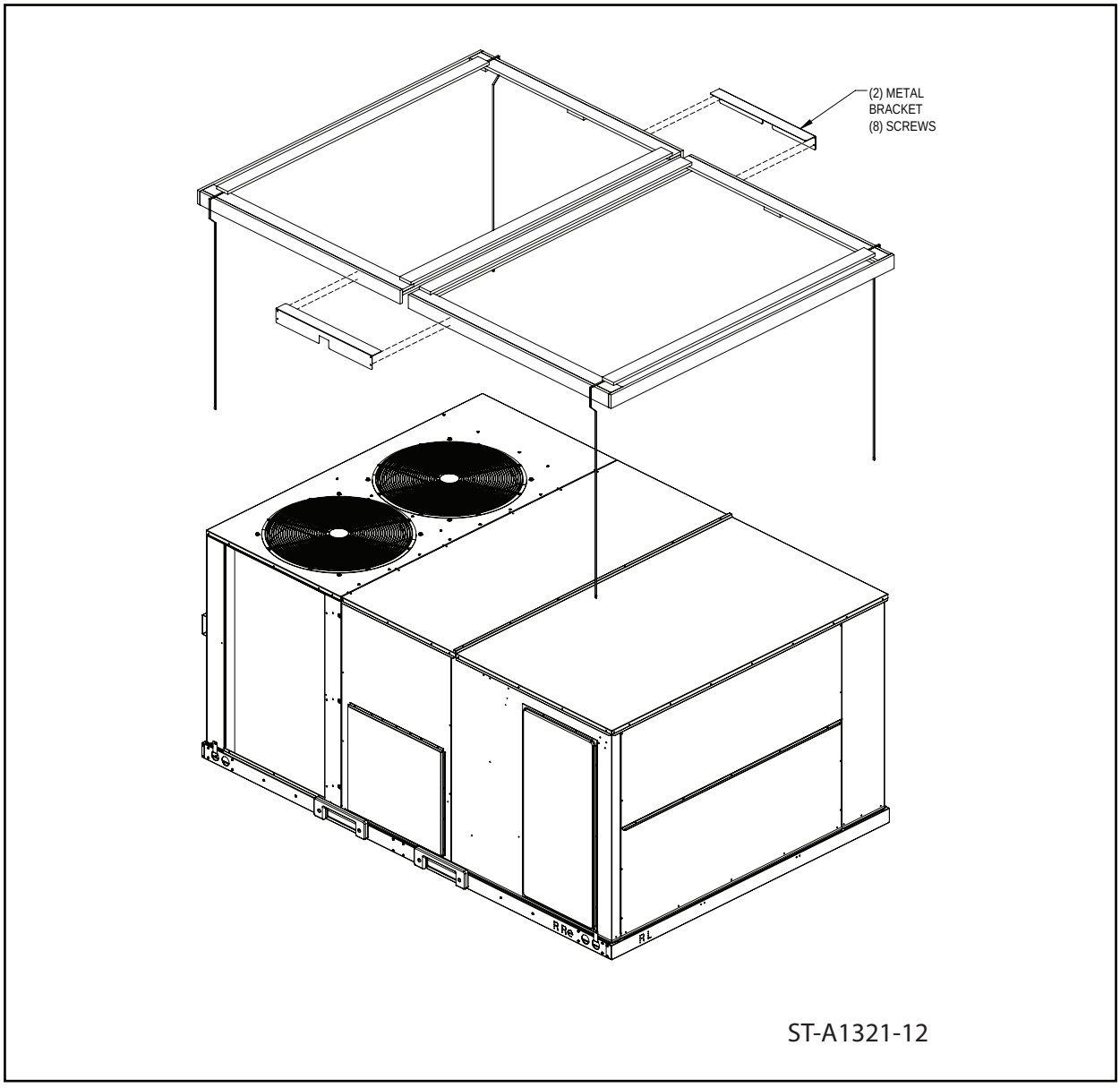
Figure C.4.1. – A: Basepan Protection Assembly

- **Wooden Skid –** Remove the screws from the metal brackets located in the middle along both long sides of the unit. This will detach the two sections of the wooden skid and allow them to be lifted off. If the unit is to be lifted by a crane, it is recommended to leave the top skid on until after the unit is on the roof to provide extra protection if spreader bars are not used.

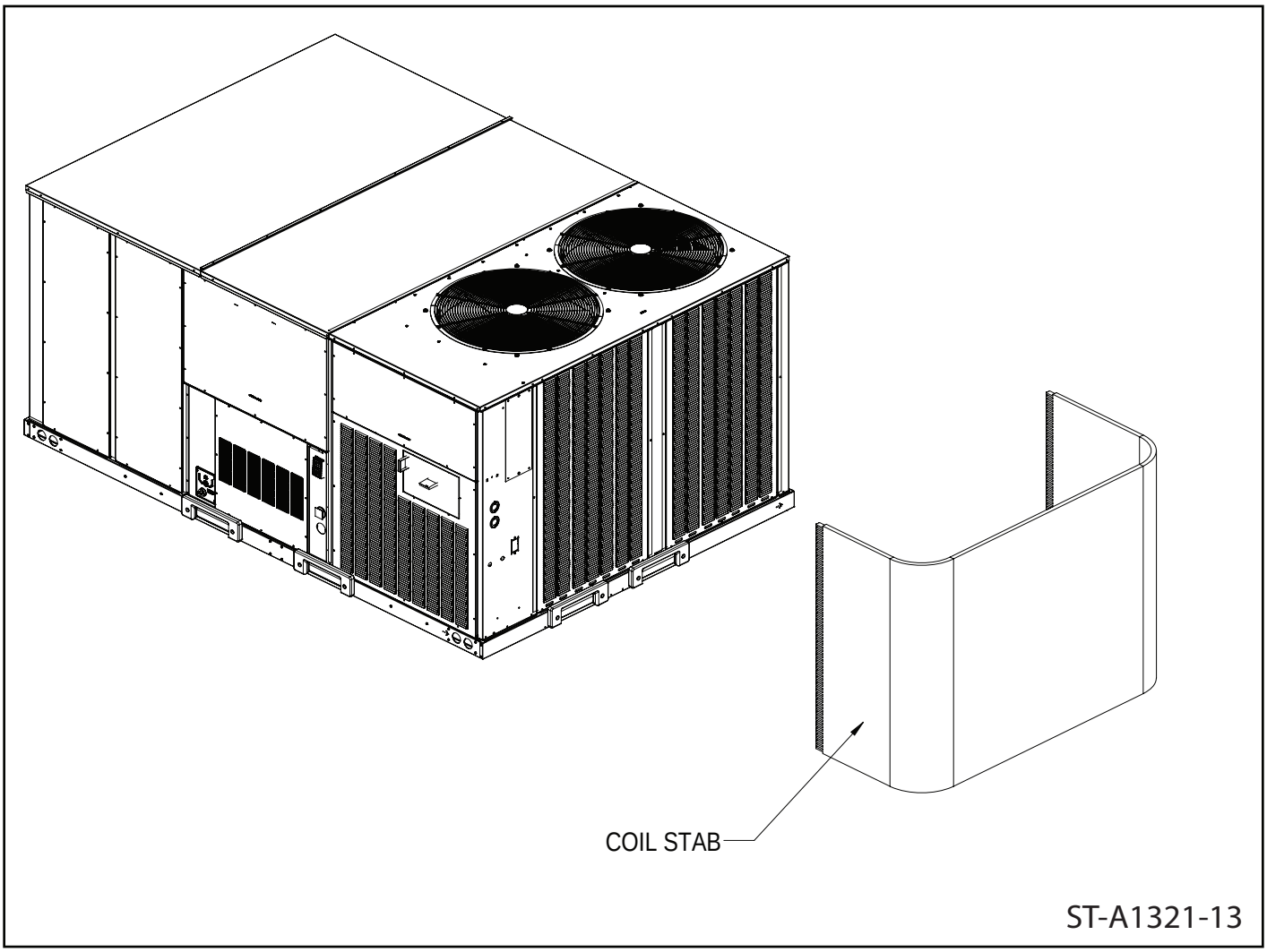
Figure C.4.1. – A: Wooden Skid Assembly



C. INSTALLATION OF THE UNIT

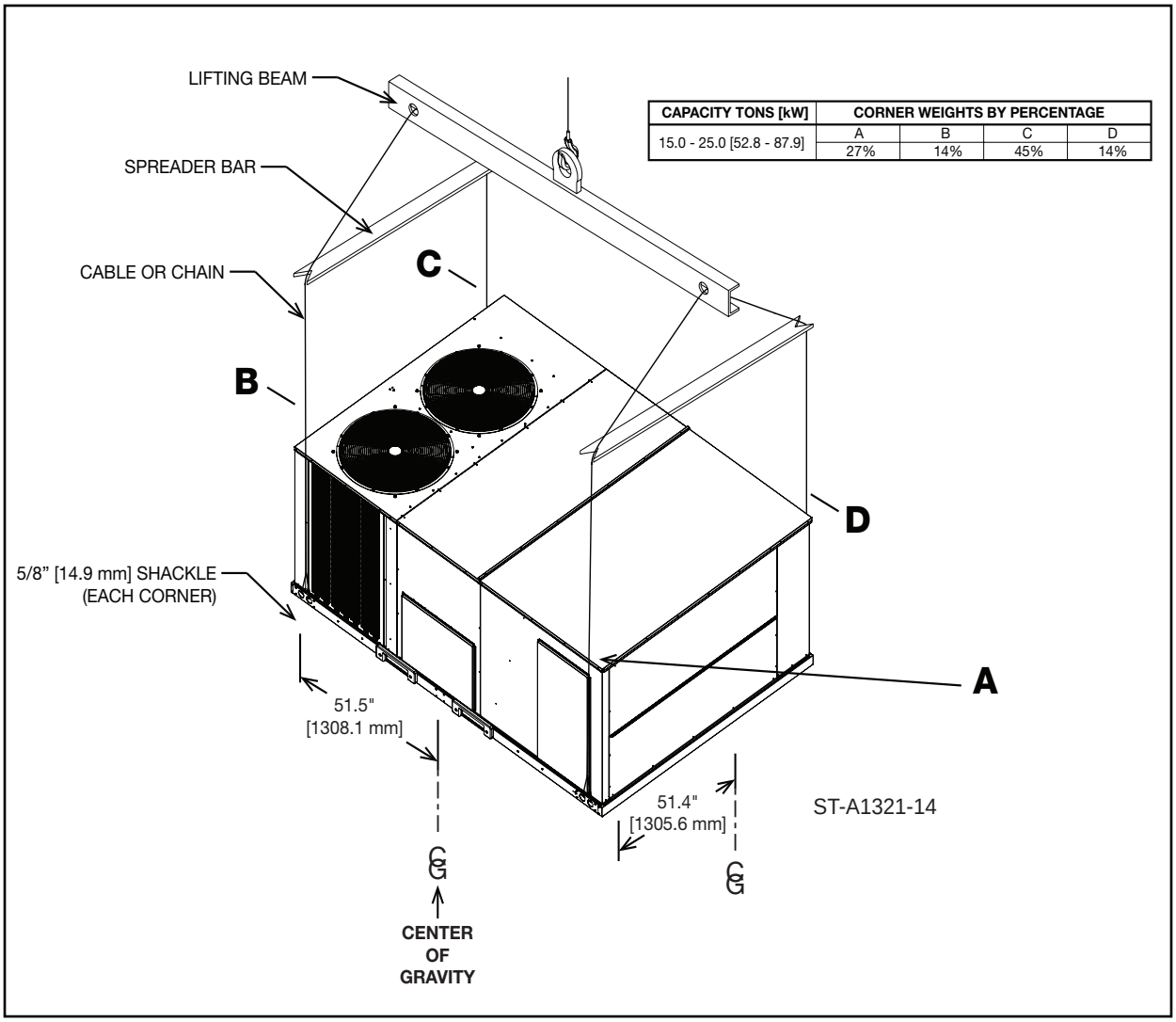
• **Condenser Coil Protection –** Remove the screws along the perimeter of the coil protector. This will allow the protector to be removed. If the unit has louver panels, it will not have the condenser coil protection.

Figure C.4.1. – C: Condenser Coil Protection Assembly



C.4.2. Lifting the Unit

Figure C.4.2. – A : Lifting Detail



CAPACITY TONS [kW]	CORNER WEIGHTS BY PERCENTAGE			
	A	B	C	D
15.0 - 25.0 [52.8 - 87.9]	27%	14%	45%	14%

C. INSTALLATION OF THE UNIT

C.4.3. On a Roof Curb

Refer to ***Figure C.3.1. - A*** in section ***C.3.1. "Unit Location: Allowable Clearances and Operational Issues"*** before installing the unit on a roof curb.

Only use manufacturer-approved roofcurb products for the unit.

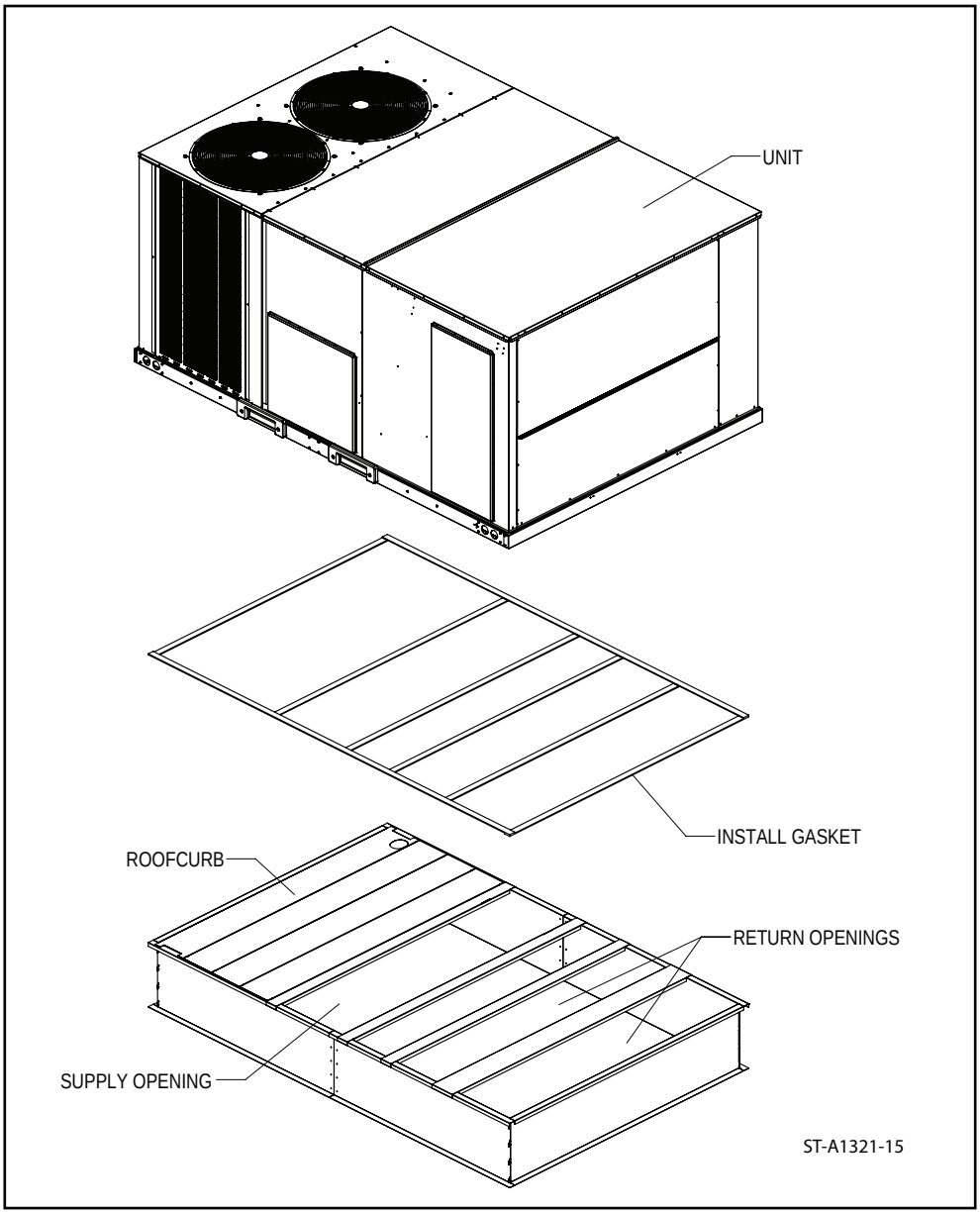
- For replacement installation job sites utilizing the inner return opening, a Z-bracket support accessory will be required.
- For all installations using a roofcurb, the utilization of the tie-down clip accessory is recommended.
- For a list of the accessory model numbers see the product specification sheet.

C.4.3.1. Installing the Roof Curb

Refer to the separate Installation Instructions for installing 14", 18", and 21" roof curbs.

C.4.3.2. Setting the Unit

Figure C.4.3.2. - A: Setting the unit on Roofcurb Assembly



C.4.3.3. High Wind and Seismic Tie-Down Methods

The units must be secured in compliance with the latest local Building Codes. Please refer to ***Appendix J: Unit High Wind Tie-Down Methods***.

C.4.4. On a slab

C.4.4.1. Setting the Unit

Set the unit on a stable concrete pad with adequate clearances around the sides of the unit, and make sure the unit is level before securing.

Before setting/securing the unit, use this opportunity to convert the unit from a downflow configuration to a sideflow configuration if necessary. Refer to section ***C.3.5. Cover Panel Installation/Conversion Procedure***.

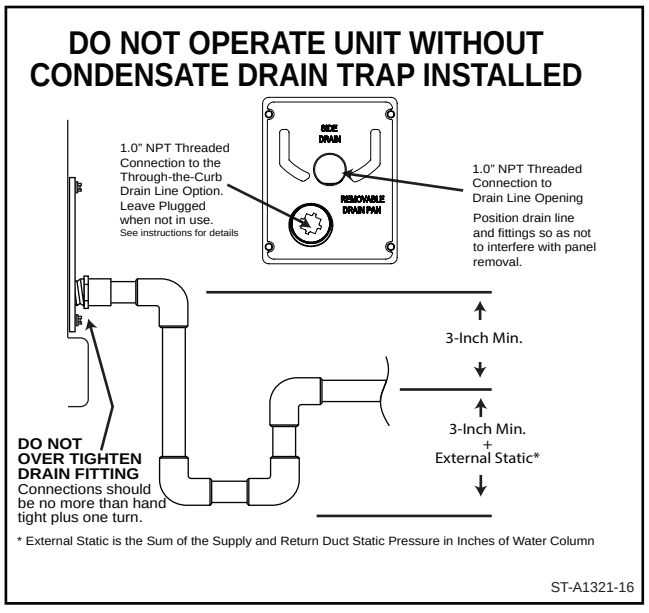
C.5. Installing Condensate Drain

IMPORTANT: Install a condensate trap to ensure proper condensate drainage. See ***Figure C.5.1 - A*** for reference.

The condensate drain pan has a threaded female 1 inch NPT (11.5 TPI) connection. Drain line must be no smaller than drain pan outlet and adequately sized to accommodate the condensate discharge from the unit. Drain line must be routed to an acceptable drain or outdoors in accordance with local codes. Consult local codes or ordinances for specific requirements of condensate drain piping and disposal.

DO NOT connect condensate drain line to a closed sewer pipe.

Figure C.5.1 – A: Condensate Drain Tap



C.5.1. Determine Drain Trap Height Requirement

The drain line should be a minimum of 3 inches deep, plus 1 inch for every inch of external static pressure from the blower and duct system. For Example, if the external duct static is 1 inch of water column, the drain trap from the bottom of the trap to the bottom of the drain outlet should be 4 inches, the drain outlet should be 3 inches below the drain connection on the condensate pan. Ensure the outlet of the trap is routed to a suitable drain location as required by local code. See ***Figure C.5.1 - A*** for reference.

C.5.2. Keeping the condensate drain pan serviceable

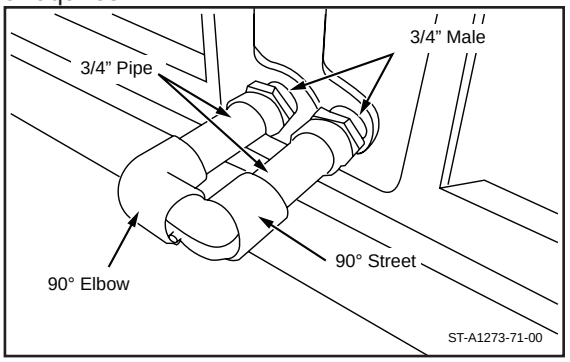
To use the removable drain pan feature of this unit, some of the condensate line joints should assembled for easy removal and cleaning. Drain line **MUST NOT** block service access panels.

C.5.3. Connecting the Drain trap

- Use a thin layer of Teflon tape or paste on drain pan connections and install only hand tight.
- Do not over tighten drain pan connections as damage to the drain pan may occur.
- Drain line must be routed to an acceptable drain or outdoors in accordance with local codes.
- Drain line should slope away from unit a minimum of 1/8” per foot to ensure proper drainage.

C.5.4. Connecting the Drain to the through the curb option

The through the curb drain option is available for installations in freezing conditions or that do not want water draining on the roof. Use adapters and elbows to turn out of the drain opening on the right and into the curb drain opening on the left. Under the unit connect a 1” male treaded fitting, use thread sealant, into the opening between the supply and return duct openings under the unit. Install a properly sized drain trap in the conditioned space of the building and route to a suitable drain location as code requires.



C. INSTALLATION OF THE UNIT

C.5.5. Freezing Condition considerations

- Drain line may need insulation or freeze protection in certain applications.
- Drain line should slope away from unit a minimum of 1/8" per foot to ensure proper drainage.

C.6. Final Installation Inspection

C.6.1. Remove Shipping Material

Before the unit is secured to the slab/roofcurb, check that all shipping material has been removed. See section ***C.4.1.*** for how to remove shipping material.

NOTE: Failure to remove the condenser coil protector on non-louver panel units will negatively impact performance and be harmful to system components. Failure to remove the cardboard basepan protector will block all indoor airflow for downflow configurations.

Open all compartments to ensure there are no tools or other misc parts remaining in the unit from setup. This is most important on the blower section to avoid damage to the blower assembly.

C.6.2. Checking Level and Slope

This unit must be mounted level in both directions to allow water to properly drain from the condenser section and condensate pan.

C.6.3. Condensation and Sweating

In certain regions or climates, portions of the exterior of the unit may condensate or sweat during cooling operation. This is normal and expected.

C.6.4. Install Flue Hood for Gas Heat

These gas heat package units are shipped with the flue hood fastened onto the condenser basepan in the compressor access section.

Remove the flue hood from the basepan, and install it over the flue opening on the outside of the unit before operating.

D. DUCT AND VENTING

D.1. Air Flow and Static Pressure

See ***Appendix C*** towards the end of this manual for Air Flow Performance Data. For Air Flow adjustment and set up, see section ***J.3. "Checking and Adjusting Air Flow".***

D.2. Duct Requirements and Best Practices

The installing contractor should fabricate ductwork in accordance with local codes.

Use industry manuals as a guide when sizing and designing the duct system.

Contact Air Conditioning Contractors of America at www.acca.org/home.

⚠WARNING: DO NOT, under any circumstances, connect return ductwork to any other heat producing device such as fireplace insert, stove, etc. Unauthorized use of such devices may result in fire, carbon monoxide poisoning, explosion, personal injury, property damage or death.

Place the unit as close to the conditioned space as possible allowing clearances as indicated. Run ducts as directly as possible to supply and return outlets. Use of non-flammable weatherproof flexible connectors on both supply and return connections at unit to reduce noise transmission is recommended.

On ductwork exposed to outside temperature and humidity, use a minimum of 2" of insulation and a vapor barrier. Distribution system in attic, furred space or crawl space should be insulated with at least 2" of insulation. Half-inch to 1" thick insulation is usually sufficient for ductwork inside the air conditioned space.

Provide balancing dampers for each branch duct in the supply system.

Properly support ductwork from the structure.

IMPORTANT: In the event that the return air ducts must be run through an "unconfined" space containing other fuel burning equipment, it is imperative that the user/homeowner must be informed against future changes in construction which might change this to a "confined space." Also, caution the user/homeowner against any future installation of additional equipment (such as power ventilators, clothes dryers, etc.), within the existing unconfined and/or confined space which might create a negative pressure within the vicinity of other solid, liquid, or gas fueled appliances.

D.2.1. Supply Duct Systems

A properly designed supply duct system, meeting all local codes and best practices, must be installed to ensure proper air flow and minimize the static pressure on the blower.

The supply duct opening for roof curb installations is 63 3/16" x 17 5/16", the supply duct opening for horizontal ducted installations is 30 1/4" x 27 15/16". ***See Figure B.3.6. – A and B*** for reference.

D.2.2. Return Duct Systems

A properly designed return duct system, meeting all local codes and best practices, must be installed to ensure proper air flow and minimize the static pressure on the blower.

The inner return duct opening for roof curb installations is 63 1/4" x 12 9/16", the outer return duct opening for roofcurb installations is 71 11/16" x 12 9/16", the return duct opening for horizontal ducted installations is 47 5/8" x 21 7/16". ***See Figure B.3.6. – A and – B***

for reference

D.2.3. Isolation for Noise abatement

Noise from operational vibration can occur with this equipment, the use of flexible duct adapters and vibration damping curb adapters maybe required depending upon the building type and use. Consult with a local mechanical engineer on the duct and building design to determine if any noise abatement solutions need to be considered before installation.

D. DUCT AND VENTING

D.3. Filters

D.3.1. Installing Filters

This product will accept 2” filters. A new unit ships with eight 2” x 20” x 24” filters. To replace filters, follow these steps:

1. Remove “Filter Access” panel.

2. Pull metal tab at the base of each filter row to access the dirty filters.

3. Remove and discard current filters.

4. Install new filters with airflow arrow pointing towards evaporator coil.

5. Slide the filters for each row of filters back in to the unit.

6. Install “Filter Access” panel.

D.4. Economizers and Fresh Air Dampers

D.4.1. Economizer Information

ECONOMIZERS - Mechanical devices used to make the Heating Ventilation and Air Conditioning (HVAC) unit more efficient by regulating the return air and outside air. Economizers for this product come in several configurations.

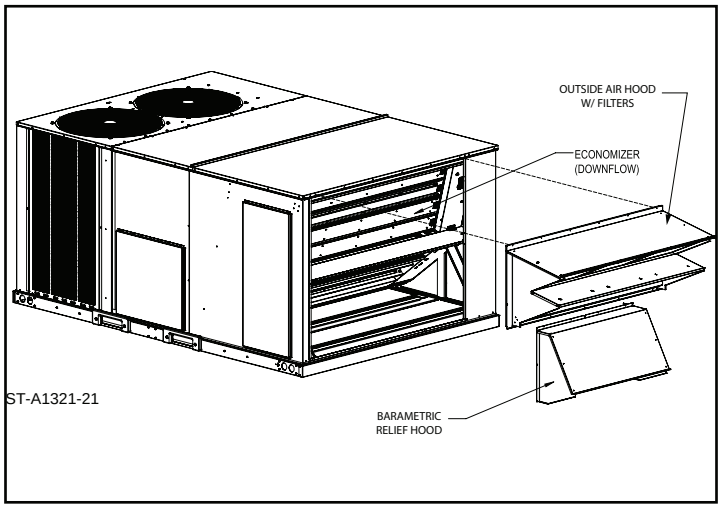
The Downflow Economizer is designed specifically for units setup in a downflow configuration. The downflow economizer fits inside the package unit and sits over the return-air opening along the bottom of the unit. All economizers are equipped with horizontal gear driven blades and a gravity relief damper (Barometric Relief).

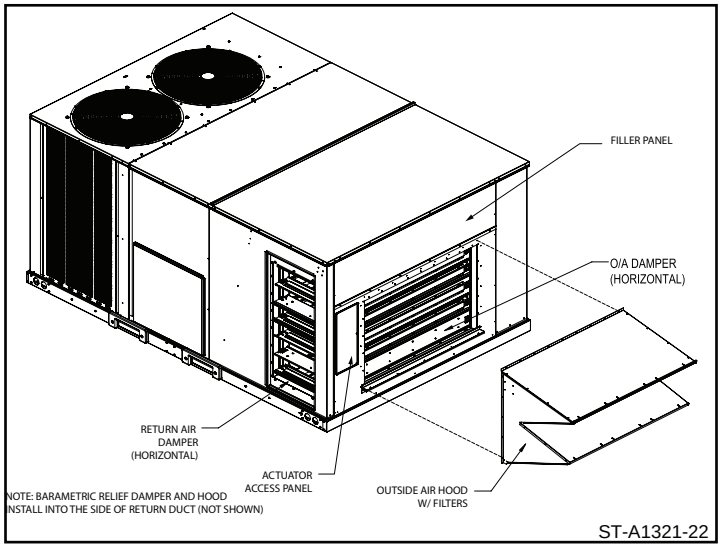
The Horizontal Economizer is designed specifically for units setup in a horizontal flow configuration. The horizontal economizer utilizes independently actuated return-air and fresh air dampers to enable the most efficient handling of air achievable with this platform. The horizontal economizer also includes an externally-mounted (to the duct work) barometric relief damper.

All units with economizers come shipped from the factory with a parts bag and a separate document for Economizer Installation & Operation instructions. Refer to that document for information on how to install the economizer, connect the controls, and adjust the airflow and the damper positions. Accessory economizers purchased separately will also come with the parts bag and instructional document. Refer to appendix for the corresponding pressure drops at each airflow for these economizers.

For reference, the Installation Instructions for economizers may be found in the parts bag of the unit for factory installed economizers, in the box with the field installed economizer, or on the manufacturer’s website for the product.

Figure D.4.1. – A: Downflow Economizer with Hood





Note: Louver protections are optional.

D.4.2. Fresh Air Dampers

MANUAL DAMPER HOODS – Manual damper hoods are often installed as a low cost substitute for an economizer.

The idea is to manually set the blade located inside the hood to restrict the opening by introducing Static Pressure, thereby balancing the outside air with the return air entering the RTU.

The drawback to a manual damper is that it is open 24 hours a day, 365 days a year. Therefore they introduce outside air during occupied and unoccupied modes increasing the load on the rooftop unit.

MOTORIZED DAMPER HOODS – A motorized damper is economical, and provides more comfort than a manually adjusted hood damper.

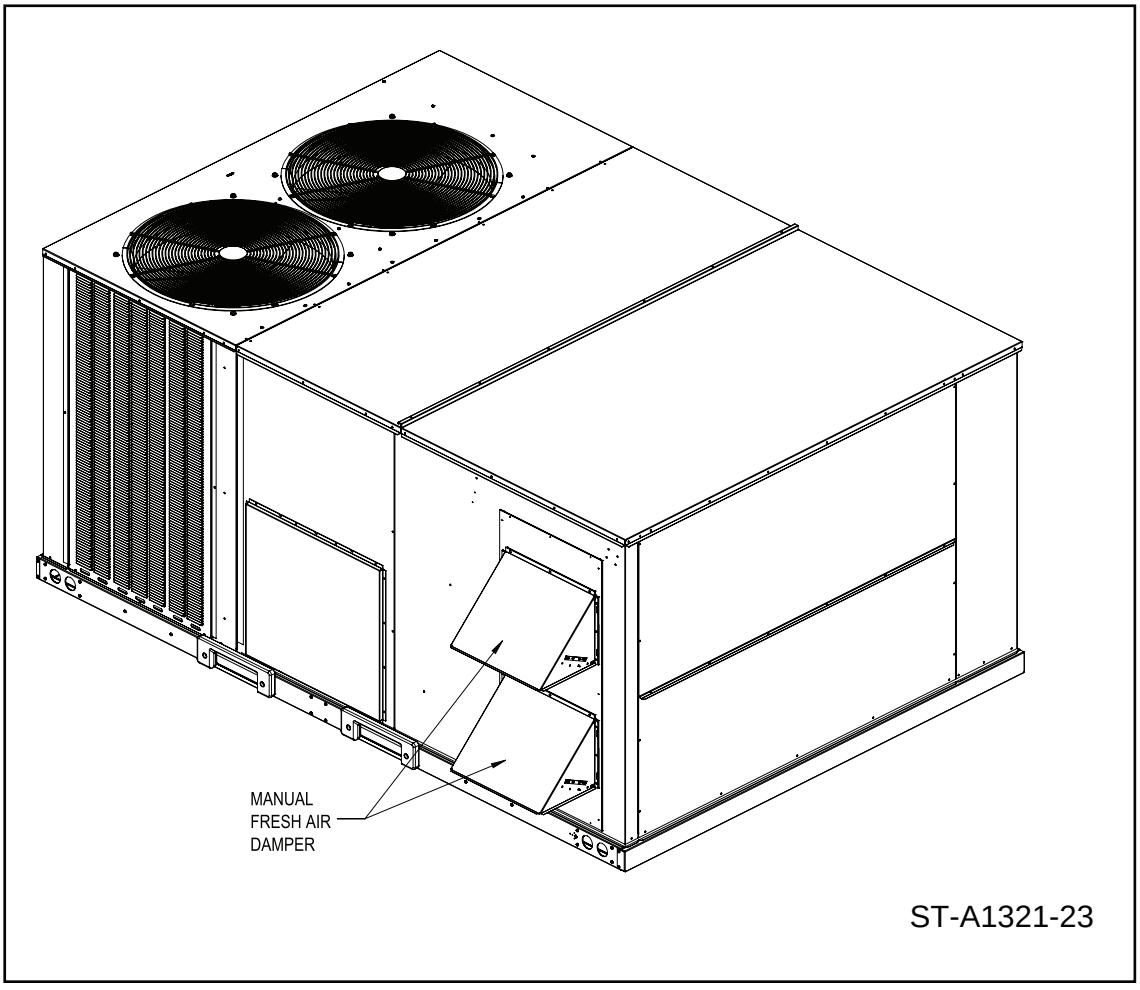
The motorized damper is coupled to an actuator, and designed to open when the RTU fan is running, and close when the fan is off. The advantage of the motorized damper is that the outside air is no longer a factor once the RTU fan is cycled off.

By connecting a Timer, CO2 Sensor or Smoke Detector in series between the RTU fan ("G" on the Thermostat) and actuator, the damper can be controlled during "Unoccupied" hours, or allow the damper to only introduce outside air during "On-Demand Occupancy."

Fresh Air Dampers come shipped with a separate document for Installation & Operation instructions. Refer to that document for information on how to install and adjust the dampers.

For reference, the Installation Instructions for Fresh Air Dampers may be found in the parts bag for the factory installed dampers, in the box for field installed dampers, or on the manufacturer's website for the product.

Figure D.4.2. – A: Fresh Air Damper

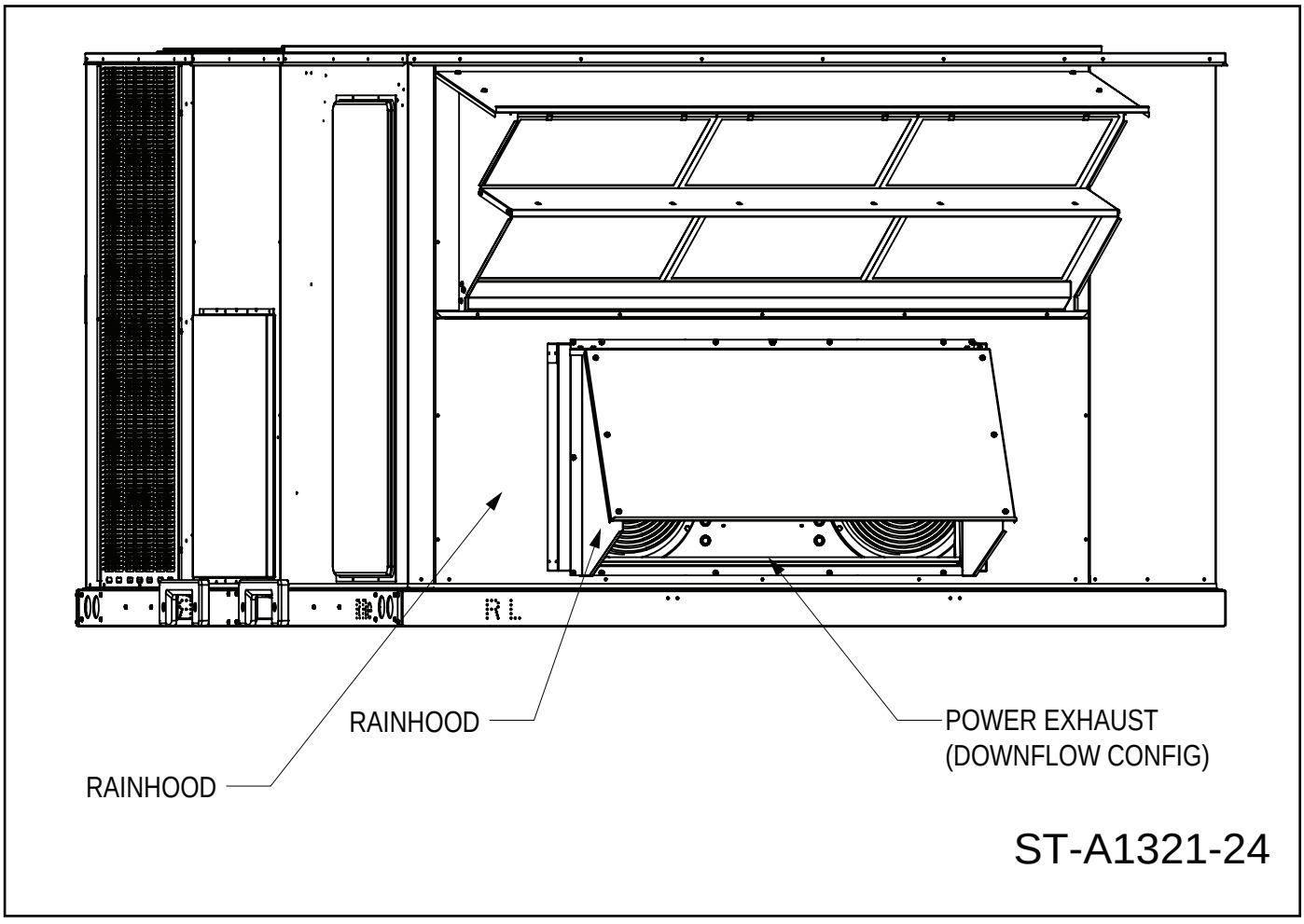


D. DUCT AND VENTING

D.4.3. Powered Exhaust

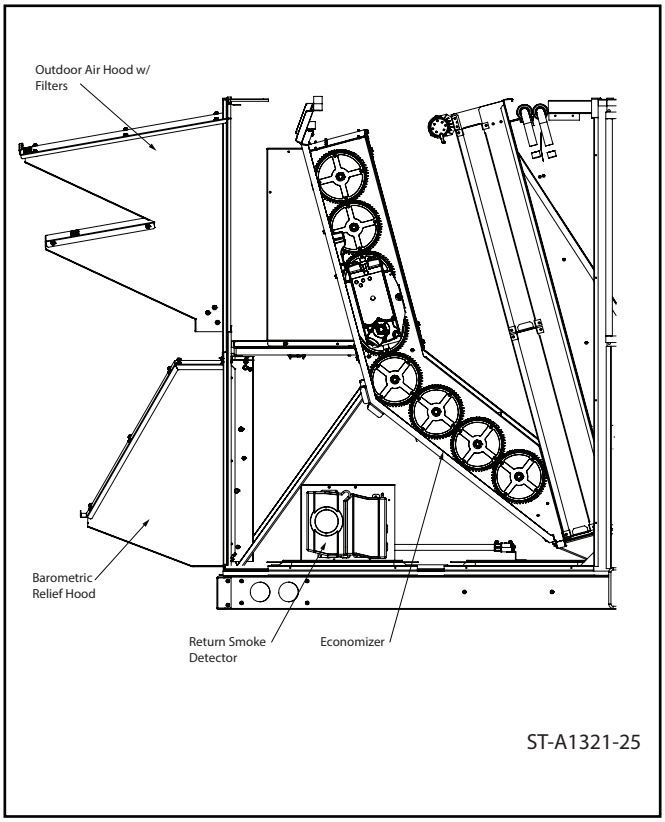
POWER EXHAUST - This accessory is a motorized fan designed to remove air from the conditioned space efficiently. While this is useful for removing a high positive pressurization, caution must be taken in the setup of the system to avoid creating a negative pressure within the conditioned space. If negative pressure occurs, leaky windows, doors, and electrical fixtures will allow the outside air to creep in causing drafts or hot sports within a room.

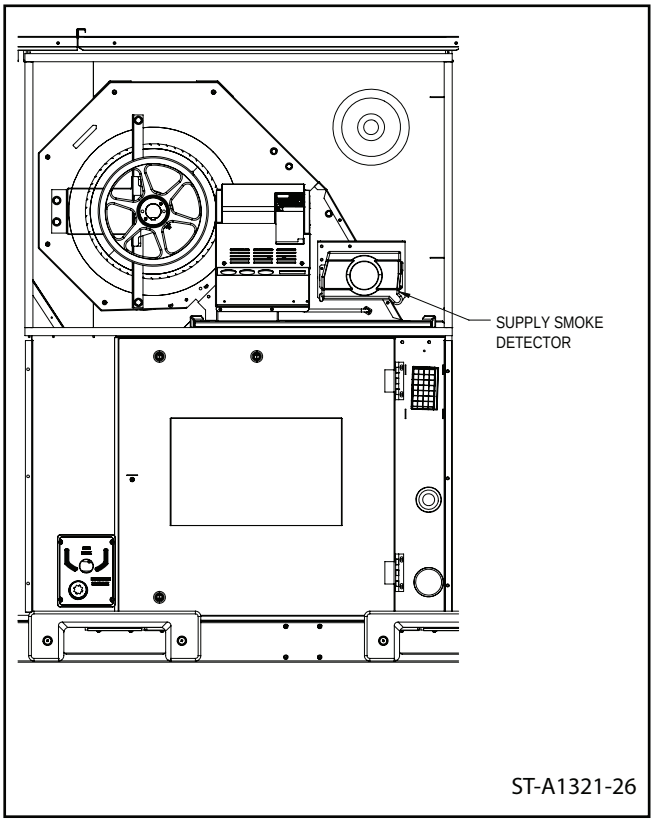
Figure D.4.3. – A: Powered Exhaust



D.5. Smoke Detectors

Figure D.5. – A: Smoke Detector Assembly





D.5.1. Supply Duct Smoke Detectors

D.5.1.1. Field Installed – Installation, Wiring and setup

Field install Supply and Return Duct Smoke Detectors come shipped with a separate document for Installation & Operation instructions. Refer to the separate Installation Instructions for installing, wiring, and setup of a supply and return smoke detector. These instructions may be found in the parts bag, in the unit, or on the manufacturer's website for the product.

D.5.1.2. Factory Installed – Inspection and setup

Inspect the smoke detector assembly for any damage during shipping. Use ***Figure D.5. – A*** for reference. Confirm that all wiring connections are still secure. Refer to the separate Installation Instructions for installing, wiring, and setup of a supply and return smoke detector. These instructions may be found in the parts bag, in the unit, or on the manufacturer's website for the product.

D.5.1.3. Field Installed 3rd Party Smoke Detectors or Fire Control Panels

See ***Section F.1.2.*** for the proper connection points for a remote smoke detector. DO NOT break 24vac to the Thermostat: shutdown will not occur. DO NOT break 24vac from the transformer: it can overload the smoke detector controls.

E. ELECTRICAL

E.1. Electrical Safety Information

E.1.1. Information on Power Supply

⚠WARNING: Turn off the main electrical power at the branch circuit disconnect closest to the unit before attempting any wiring. Failure to do so can cause electrical shock resulting in personal injury or death.

1. All wiring should be made in accordance with the **National Electrical Code**. Consult the local power company to determine the availability of sufficient power to operate the unit. Check the voltage at power supply to make sure it corresponds to the unit's RATED VOLTAGE REQUIREMENT. Install a branch circuit disconnect near the rooftop, in accordance with the N.E.C., C.E.C. or local codes.

2. It is important that proper electrical power is available at the unit. Voltage should not vary more than 10% from that stamped on the unit nameplate. On **three phase units**, phases must be balanced within 3%.

3. For branch circuit wiring (main power supply to unit disconnect), the minimum wire size for the length of run can be determined from the **N.E.C.** using the circuit ampacity found on the unit rating plate. Use the smallest wire size allowable in ***Figure F. – A*** from the unit disconnect to unit.

4. For through the base wiring entry reference ***Figure F.2. – A: Power and Control Routing***. All fittings and conduit are field supplied for this application. Reference the chart with ***Figure F.2. – B: Hole Sizing for Conduit*** for proper hole and conduit size.

NOTES:

1. For branch circuit wiring (main power supply to unit disconnect), the minimum wire size for the length of run can be determined from ***Appendix B "Electrical Data"*** or the unit rating plate for circuit ampacity and the National Electrical Code to determine proper wire sizing. From the unit disconnect to unit, the smallest wire size allowable in ***Figure F. – A*** for the circuit ampacity may be used, as the disconnect must be in sight of the unit.

2. Wire size based on 75°C rated wire insulation for 1% voltage drop.

3. For more than 3 conductors in a raceway or cable, see the National Electrical Code (or C.E.C. in Canada) for derating the ampacity of each conductor.

IMPORTANT: This unit is approved for use with copper conductors only connected to unit contactor.

WARRANTY MAY BE JEOPARDIZED IF ALUMINUM WIRE IS CONNECTED TO UNIT CONTACTOR.

Special instructions apply for power wiring with aluminum conductors:

Warranty is void if connections are not made per instructions.

Attach a length (6" or more) of recommended size copper wire to the unit contactor terminals L1, L2 and L3 for three phase.

Select the equivalent aluminum wire size from the tabulation below:

Splice copper wire pigtails to aluminum wire with U.L. recognized connectors for copper-aluminum splices. Please exercise the following instructions very carefully to obtain a positive and lasting connection:

1. Strip insulation from aluminum conductor.

2. Coat the stripped end of the aluminum wire with the recommended inhibitor, and wire brush the aluminum surface through inhibitor. INHIBITORS: Brundy-Pentex "A"; Alcoa-No. 2EJC; T & B-KPOR Shield.

3. Clean and recoat aluminum conductor with inhibitor.

4. Make the splice using the above listed wire nuts or split bolt connectors.

5. Coat the entire connection with inhibitor and wrap with electrical insulating tape.

NOTE: Wiring to be done in the field between the unit and devices not attached to the unit, or between separate devices which are field installed and located, shall conform with the temperature limitation for Type T wire [63°F rise (35°C)] when installed in accordance with the manufacturer's instructions.

E.1.2. 208/240 Volt Operation and Required Adjustments

E.1.2.1.Low Voltage Control Transformer Tap Adjustment for 208Volt

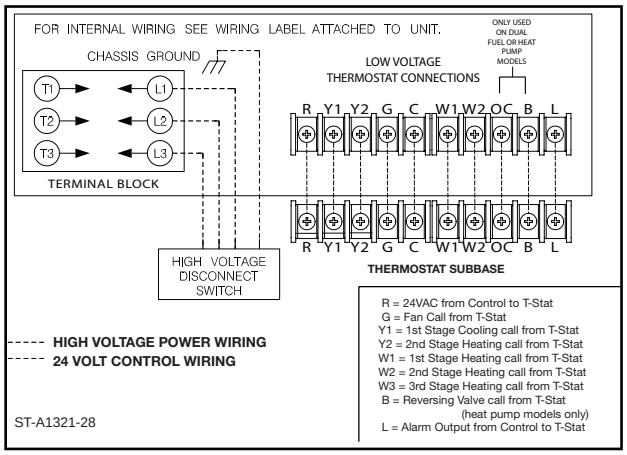
Transformer is factory wired for 230 volts on 208-230 volt models and must be changed for 208 volt applications. See unit wiring diagram for 208 volt wiring. No adjustment necessary for 460 and 575 volt models.

E.2. Electrical Data

See ***Appendix B*** towards the end of this manual for Electric Data.

E.3. Electrical Connections

Figure E.3. – A: Typical Thermostat Wiring



Use to ***Appendix B*** "Electrical Data" and National Electrical Code for circuit ampacity to determine proper wire sizing.

Refer to ***Figure F.2. – A: Electrical and Piping Routing*** for location of wiring entrances, and ***Figure F.2. – B: Hole Sizing for Conduit.***

E.3.1. Field Supplied Disconnect

The field supplied service disconnect will come with a separate Installation Instruction document. Refer to the separate Installation Instructions for installing, wiring, and setup of the Field Supplied Disconnect. These instructions may be found in the parts bag, in the unit, or on the manufacturer's website for the product.

E.3.1.1. Mounting Disconnect on Cabinet

Attach the disconnect to the top of the left hand side of the control box, above the knockouts and refrigerant test ports. Do not use screws above or below the label specifying "TO PREVENT COIL DAMAGE – DO NOT ADD SCREWS HERE, ABOVE, OR BELOW LABEL" as hidden coil and tubing could be damaged. An example of this label is shown below.

Figure E.3.1.1. – A: Standard Location for Mounting Disconnect

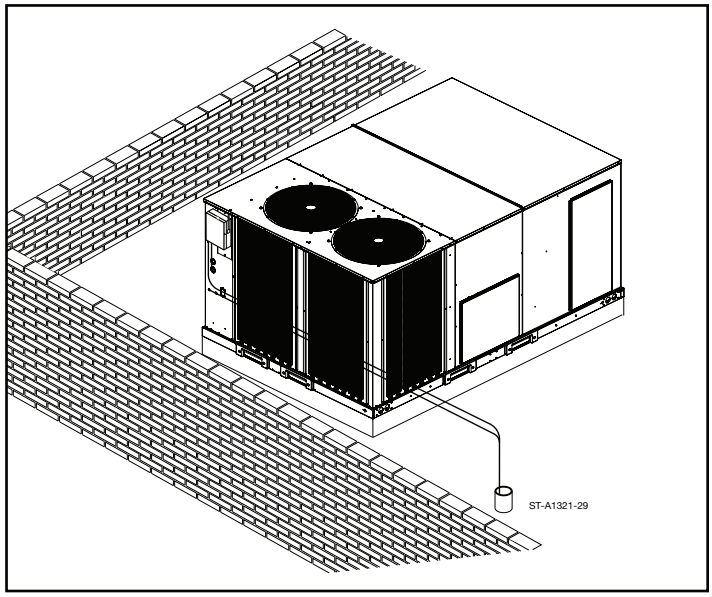


Figure E.3.1.1. – B: Label Showing Where to NOT Use Screws

E.3.1.2. Routing Wires into Cabinet

See ***Figure F.2. – A: Electrical and Piping Routing*** for conduit entry points and routing locations for wiring into the control box.

See ***Figure E.3. – A: Typical Thermostat Wiring*** for wiring to the contactor and thermostat in the control box.

E.3.1.3. Routing Wires through Curb (Option)

Use liquid tight connectors and tubing to connect the electrical and low voltage control cables between the base of the cabinet at the raised section (See ***Figure B.3.6. - A: Supply And Return Dimensions For Downflow Applications*** for location of raised section) and bottom of the control panel. Conduit and fittings must meet all applicable codes.

Use Silicon and gaskets to seal the connection at the base pan

E.3.1.4. Connecting to Contactor terminal blocks

The recommended torque for securing wiring to the contactor is **40 in-lb**.

See ***Figure E.3. – A: Typical Thermostat Wiring*** for wiring to the contactor.

E.3.2. Factory Installed Disconnect

Refer to ***Appendix G*** for the unit wiring diagrams, and to ***Figure F.2. – A*** for locations to route wires into the cabinet or through the curb/ basepan of the unit.

E.3.2.1. Routing Wires into Cabinet

Refer to **Section E.3.1.1.** and/or **Section F.2.** for routing wires into the cabinet with a factory installed disconnect.

E.3.2.2. Routing wires through Curb (Option)

Refer to **Section E.3.1.3.** for routing wires through the curb with a factory installed disconnect.

E.3.3. Connecting the Convenience Outlet

E.3.3.1. Non-powered

The non-powered convenience outlet, if purchased as an option for the unit, will come shipped in a box within the blower compartment of the unit. It will need to be removed and installed into its proper configuration.

For connecting the non-powered convenience outlet and all other information, refer to the installation instructions for the accessory.

E.3.3.2. Powered

The non-powered convenience outlet, if purchased as an option for the unit, will come shipped pre-installed into the unit. No additional hook-up will be needed, but ensure the connections remained secure from shipping before powering the unit.

For connecting the non-powered convenience outlet and all other information, refer to the installation instructions for the accessory.

E.3.4. Checking Phase and Motor Rotation

When using 3 phase power the only device that is rotation dependent is the compressor. The outdoor fan and indoor blower do not require any adjustment and will turn backwards if the phase is incorrect. Verify the direction of rotation for the indoor blower motor before starting up the compressors.

E.3.4.1. Checking Phase with VFD Drive

On any models with an ECM Direct Drive Blower Motor or belt drive units with a Variable Frequency Drive, VFD, the motor will always rotate in the correct direction.

Correction phase must be checked by the operation of the compressor.

E.3.5. Grounding Requirements

Refer to local codes as required. Must be grounded to a common earth ground.

National Electric Code (NEC) / International Building Code / Canadian Electrical Code

A diagram of the internal wiring of this unit is located on the inside of control access panel and in this manual. If any of original wire as supplied with the appliance must be replaced, the wire gauge and insulation must be same as original wiring.

The low voltage wiring should be sized as shown in ***Figure F. – A: Field Wire Size for 24v Thermostat Circuits***.

Figure F. - A

FIELD WIRE SIZE FOR 24 VOLT THERMOSTAT CIRCUITS							
THERMOSTAT LOAD - AMPS		SOLID COPPER WIRE - AWG.					
	3.0	16	14	12	10	10	10
	2.5	16	14	12	12	12	10
	2.0	16	16	14	12	12	10
		50	100	150	200	250	300
		LENGTH OD RUN - FEET (1)					

ST-A1291-14-00

(1) THE TOTAL WIRE LENGTH IS THE DISTANCE FROM THE FURNACE TO THE THERMOSTAT AND BACK TO THE FURNACE.

NOTE: DO NOT USE CONTROL WIRING SMALLER THAN NO. 18 AWG.

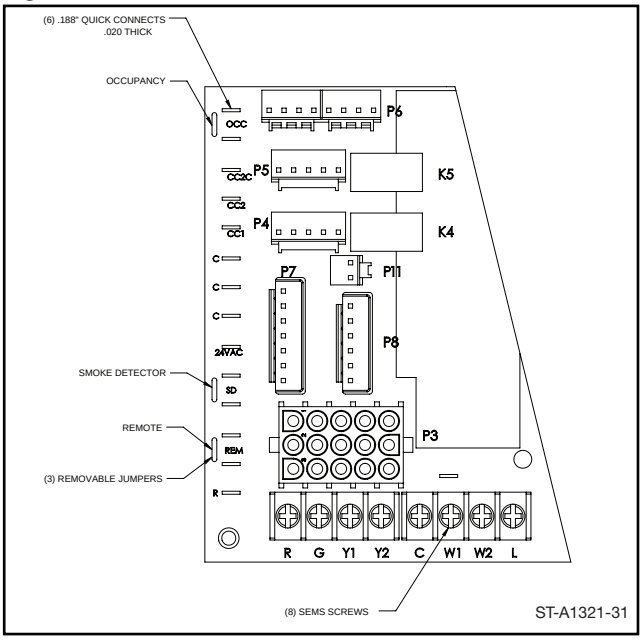
Install the room thermostat in accordance with the instruction sheet packed in the box with the thermostat. Run the thermostat lead wires through the control entry opening ***(Figure F.2. – A: Electrical and Piping Routing)*** and connect to the low voltage thermostat connections (see ***Appendix G*** for wiring diagrams and ***Section F.1.*** for T-Stat field connections). Never install the thermostat on an outside wall or where it will be influenced by drafts, concealed hot or cold water pipes or ducts, lighting fixtures, radiation from fireplace, sun rays, lamps, televisions, radios or air streams from registers. Refer to instructions packed with the thermostat for "heater" selection or adjustment.

F.1. T-Stat field connections

F.1.1. Misc. Connections

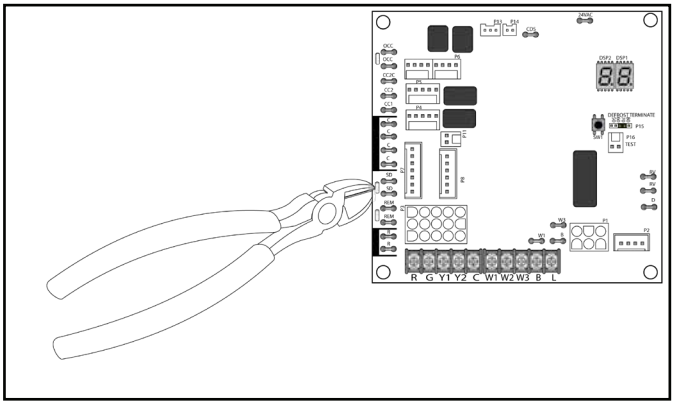
Refer to ***Appendix G*** for the unit wiring diagrams and to ***Figure E.3. – A: Typical Thermostat Wiring.***

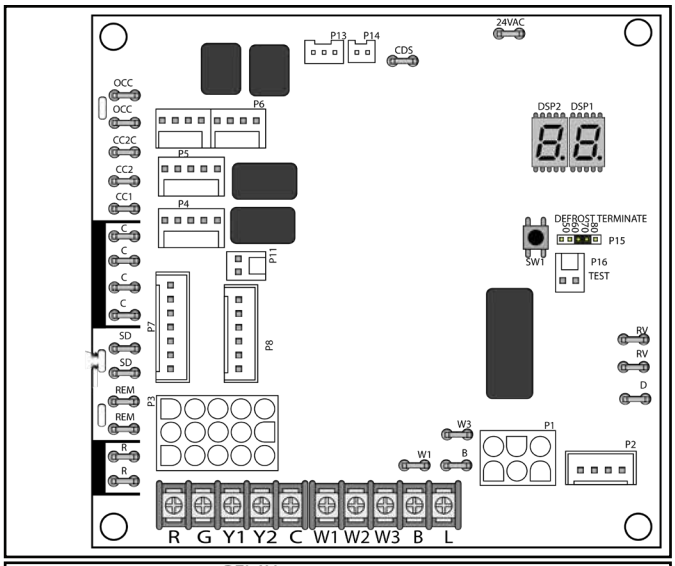
Figure F.1.1. - A: Core Command Terminal Locations

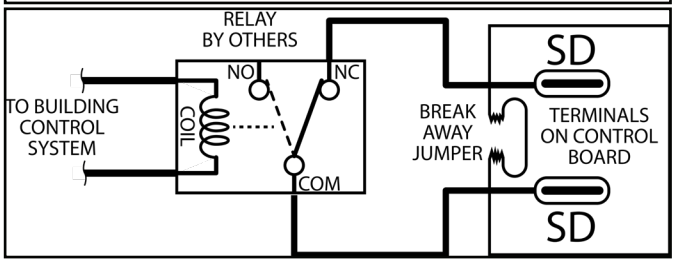


F.1.2. Occupancy connections / Remote connections / Etc

Figure F.1.2. – A: Occupancy and Remote Connections







NOTE: This is an example of breaking the jumper for Smoke Detector connections, apply the same process for the Occupancy and/or Remote connections.

These features are only available on the Non-DDC Furnace, Heat pump, or cooling only control boards.

OCC – Occupancy Control. This feature shuts down the dampers on the economizer or motorized damper option when outdoor/fresh air is not required for the building. Locate the terminals at the left side of the board mark "OCC". See ***Figure F.1.2. – A: Occupancy and Remote Connections*** for reference.

F. CONTROL / THERMOSTAT WIRING

F.1.2. Occupancy connections / Remote connections / Etc (Cont.)

For connecting Remote Smoke Detectors or Fire Control Panels to this control DO NOT break the 24VAC to the thermostat or from the power supply transformer. Either could cause an undesirable operating condition that would not shut the unit down in the event of an emergency situation. See the instructions for the type of control board this unit is equipped with.

Using cutters or a small screw driver, break the edge of the board between the to terminals marked with “OCC”. Use 3/16” blade connector, and a minimum of 18AWG wire to connect to a Normally Closed Dry Contact Relay or Switch. Do not connect multiple control boards to the same dry contact relay or switch.

REM – Remote Shutdown Control. This feature allows the unit to be turned off remotely ignoring the thermostat calls for cooling or heat. Locate the terminals at the left side of the board mark “REM”. See Figure ***F.1.2. – A: Occupancy and Remote Connections*** for reference.

Using cutters or a small screw driver, break the edge of the board between the to terminals marked with “REM”. Use 3/16” blade connector, and a minimum of 18AWG wire to connect to a Normally Closed Dry Contact Relay or Switch. Do not connect multiple control boards to the same dry contact relay or switch.

F.1.3. Connecting a Smoke Detector

F.1.3.1. Core Command™ Connection

SD – Remote Smoke Detection. This feature allows for the proper shutdown of the controls in the event of an emergency situation. Locate the terminals at the left side of the board mark “SD”. See ***Figure F.1.2. – A: Occupancy and Remote Connections*** for reference.

Using cutters or a small screw driver, break the edge of the board between the to terminals marked with “SD”. Use 3/16” blade connector, and a minimum of 18AWG wire to connect to a Normally Closed Dry Contact Relay, or in common Fire Control Panels and Smoke Detectors, the Auxiliary Connections for C and NC. See the instructions for the remote devices. Do not connect multiple control boards to the same dry contact relay.

F.1.3.2. DDC Control Connection

In the air-filter section or on the side economizer, locate the 12-pin Molex jumper plug with the long Red, short Yellow and Orange wire loops. Cut the Red wire loop and connect these to a minimum of 18AWG wire that will be connected to a Normally Closed Dry Contact Relay, or in common Fire Control Panels and Smoke Detectors, the Auxiliary Connections for C and NC. See the instructions for the remote devices. Do not connect multiple control boards to the same dry contact relay.

F.1.4. Building Management / Control Connections using DDC –

In an application where a third party building management / controls are in use or will be incorporated, units with the integral Rooftop Unit Controller (RTU-C) are communication compatible with the system that supports the BACnet Application Specific Controller device profile, LonMark Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile. This is accomplished with a field installed BACnet or LonMark communication module. Refer to the Clear Control™/DDC manual for more information.

F.2. Routing Control wiring

Figure F.2. – A: Electrical and Piping Routing

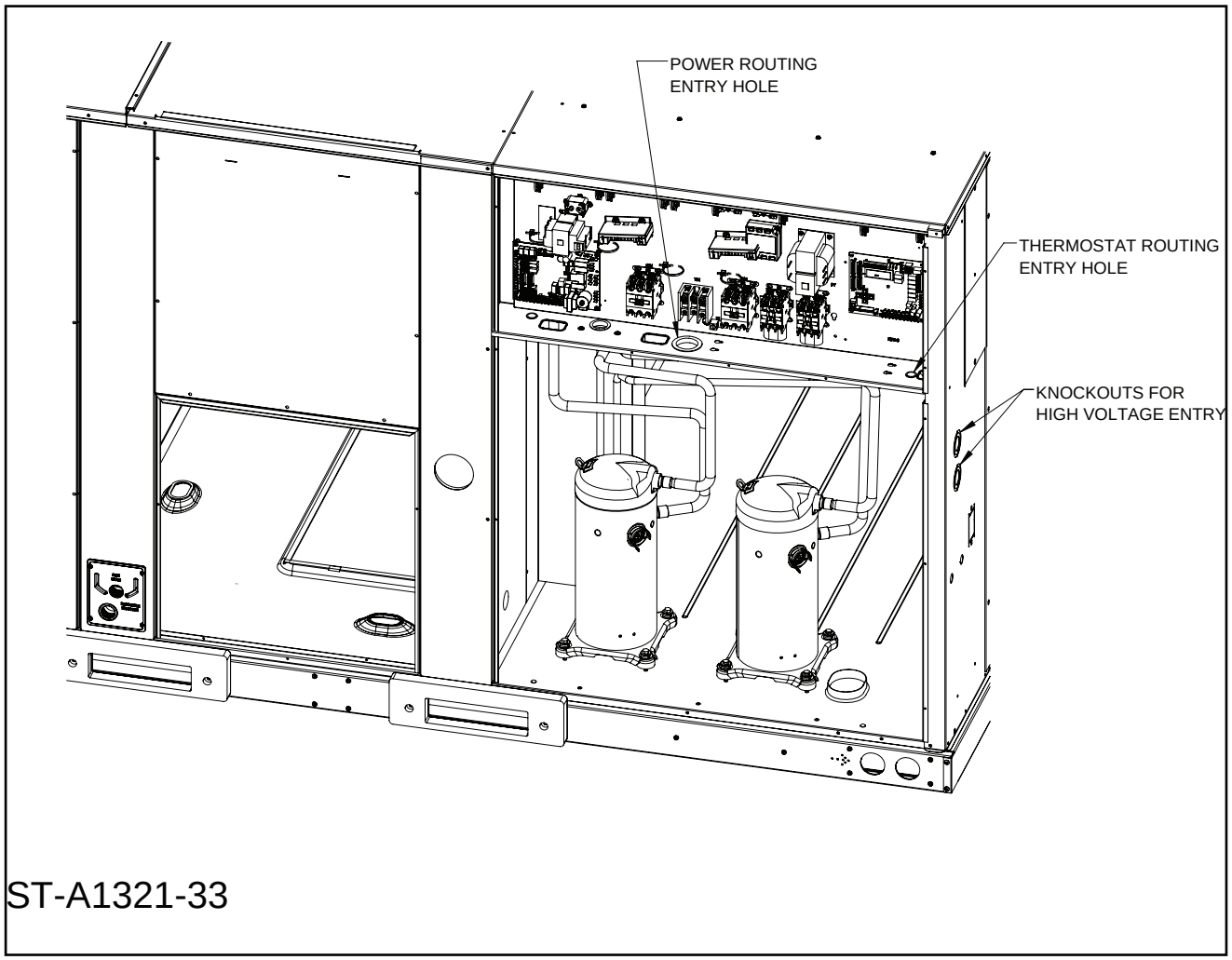


Figure F.2. – B: Hole Sizing for Conduit

	WIRE SIZE, AWG											
	14	12	10	8	6	4	3	2	1	0	00	000
CONDUIT SIZE	1/2”	1/2”	1/2”	3/4”	1”	1”	1-1/4”	1-1/4”	1-1/2”	1-1/2”	2”	2”
HOLE SIZE	7/8”	7/8”	7/8”	1-31/32”	1-23/64”	1-23/64”	1-23/32”	1-23/32”	1-31/32”	1-31/32”	2-15/32”	2-15/32”

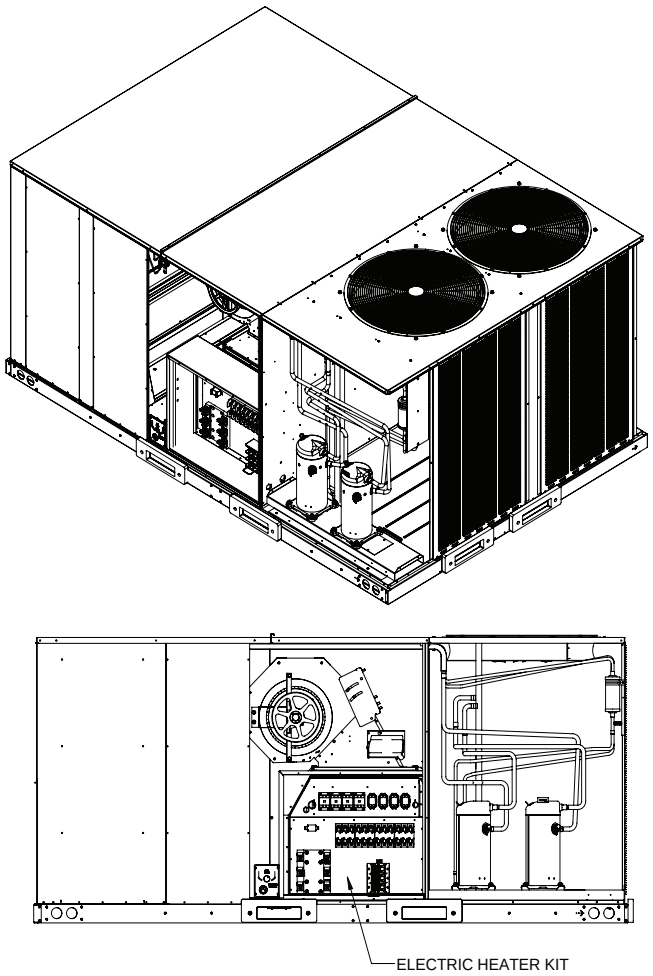
NOTES: 1. DETERMINE REQUIRED WIRE SIZE FROM MINIMUM CIRCUIT AMPACITY SHOWN IN INSTALLATION & OPERATING INSTRUCTION.
2. BOTTOM POWER ENTRY WILL NOT ACCOMMODATE WIRE LARGER THAN #2 AWG (SHADED AREA).

F.3. Measuring Control Voltage Loads

Use a voltmeter to measure the low voltage and low voltage amp draws during operation. Accessories such as remote smoke detectors and excessive wire length can increase the amp draw on the low voltage wiring. Verify that the total amp draw on the 24Vac side is less than 0.3A in full operation.

H. ELECTRIC HEAT

Figure H. - A: Electric Heat with Single Point Wiring



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H.1. FACTORY INSTALLED ELECTRIC HEAT

Units shipped with factory installed electric heat will come with a separate document (included in the parts bag) with details regarding the electric heater kits. Refer to this document for diagrams and additional info. Refer to ***Appendix E*** for heater kit characteristics such as Minimum Circuit Ampacity and Max Fuse sizes.

H.2. FIELD INSTALLED ELECTRIC HEAT

Electric heater kits will be shipped with their own installation document in the box. Use the instructions supplied with the kit for best practice. Install all electric heat kits in accordance with the National Electric Code. Refer to ***Appendix E*** for manufacturer-approved heater kit characteristics such as Minimum Circuit Ampacity and Max Fuse sizes.

J. STARTUP AND OPERATION

J.1. Final Inspection

J.1.1. Check for Refrigerant Leaks

Inspect the unit for any damage to the coils and tubing that could cause a leak.

J.1.2. Check Level of Unit

Refer to ***Section C.6.2.*** for setting/checking the level of the unit.

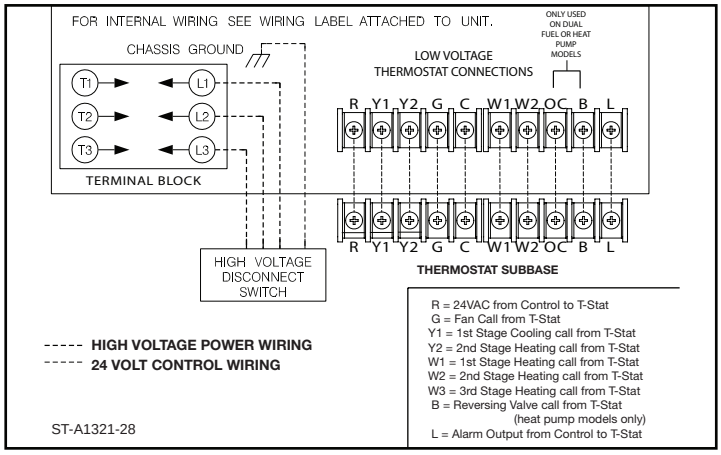
J.1.3. Check Electrical Connections For Proper Torque

Use an Inch Pound rated torque wrench to ensure proper torque. DO NOT CONFUSE THIS WITH A FOOT POUND RATED WRENCH, Damage will occur.

Recommended torques for securing wiring:

- To the contactor: 40 in-lb.
- From the T-stat to the control board: 8.0 in-lb.

Figure J.1.3. – A: Where to Wire for Thermostat



J.1.4. Check Control Cables For Proper Connection

Verify all cables are seated and connected in the unit as some might come loose during shipping and transport.

J.1.5. Check For Gas Leaks

Double Check for any gas leaks on the installed piping. Refer to ***Section G.2.3.*** for more information.

J.1.6. Check Filter Installation

Verify that filters are seated and oriented correctly in the unit as some might come displaced during shipping and transport. Refer to ***Section D.3.*** for more information on filters and filter installation.

J.1.7. Check Condensate Drain installation

Verify the Condensate Drain Trap is a minimum of 3 inches deep, plus the Blower Fan Static Pressure. Verify the Outlet of the drain trap is a minimum of 3 inches below the outlet of the drain pan. Ensure the outlet of the trap is routed to a suitable drain location as required by local code. Refer to ***Section C.5*** and **Figure C.5.1 – A** for more information.

J.1.8. Check Blower Compartment for Accessories

Open all compartments to ensure there are no tools or other misc parts remaining in the unit from setup. This is most important on the blower section to avoid damage to the blower assembly.

J.2. Turning on Power for the First time

J.2.1. Checking for Proper 3-Phase Voltage

Verify that proper power has been supplied to the unit. This is critical for correct operation of the compressor.

J.2.2. Check For Proper Phase

Verify that the compressor is running correctly.

J.2.2.1. Standard Blower Rotation

As a reminder, all units with a belt drive motor may run backwards if the unit is wired incorrectly. See ***Section E.3.4. Checking Phase and Motor Rotation*** for more information.

J.2.2.2. VFD Blower Rotation

As a reminder, all units with VFD driven blower motor will have the correct rotation even if the phase to the unit is wired incorrectly. See ***Section E.3.4.1. Checking Phase with VFD Drive*** for more information.

J.2.3. Checking Low (Control) Voltage

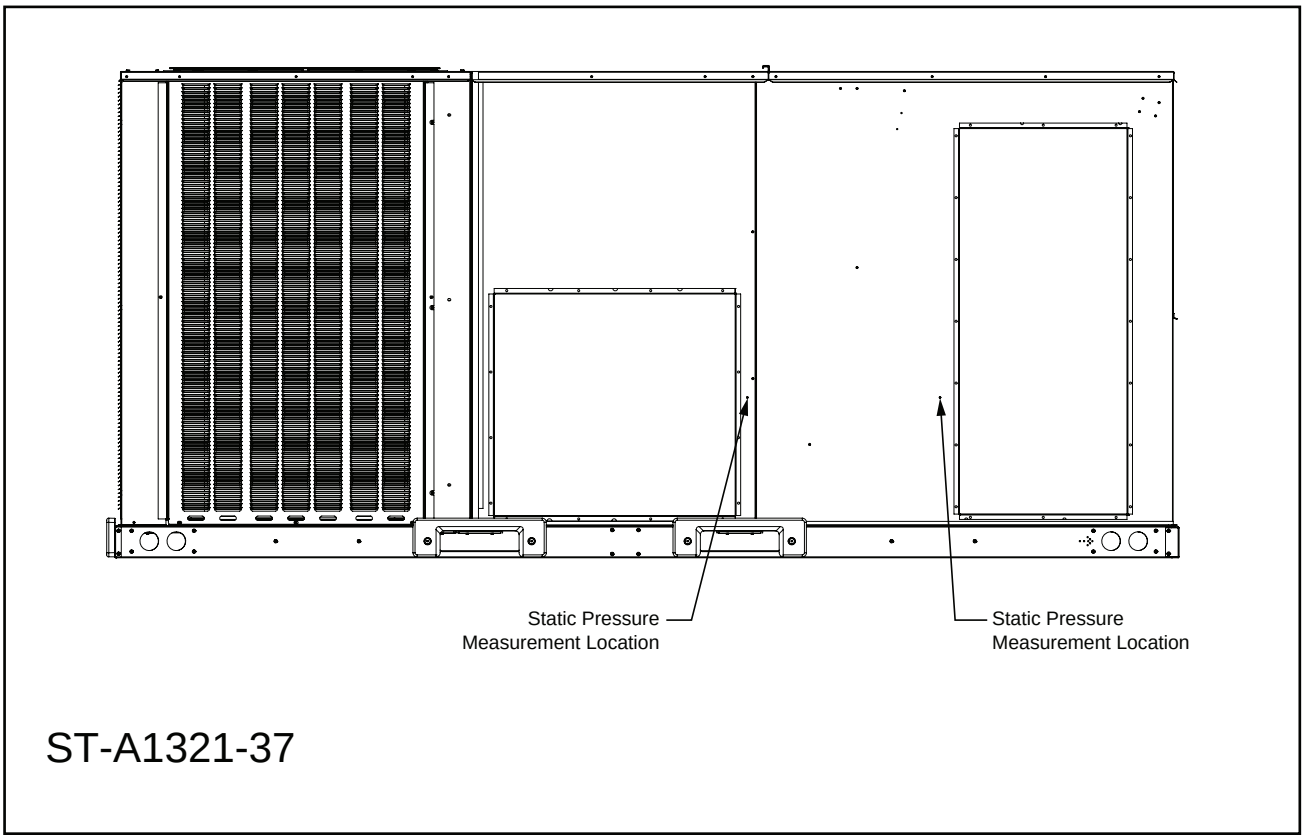
Use a voltmeter to measure the low voltage and low voltage amp draws during operation. Accessories such as remote smoke detectors and excessive wire length can increase the amp draw on the low voltage wiring. Verify that the total amp draw on the 24Vac side is less than 0.3A in full operation. Refer to ***Figure F. – A*** for proper low voltage wire lengths.

J. STARTUP AND OPERATION

J.3. Checking and Adjusting Air Flow

For Economizer and Diffuser Pressure Drop Data, please refer to the end of ***Appendix C: Airflow Performance Data.***

Figure J.3. – A: Static Pressure and Air Temp Measurement Location



J.3.1. Static Pressures and Measurements

- To measure the static pressure of the system, locate the locating dimples near the supply/return duct openings, and drill a hole to the size necessary for the test probe. The location of these dimples are shown in ***Figure J.3. - A.***
- NOTE: After taking airflow measurements, seal these openings per best practice to prevent airflow leakage and water entry into the unit.
- NOTE: Drilling test tap locations in other panels or doors could put the test probe in a turbulent zone providing false readings.

J.3.1.1. Using Tools

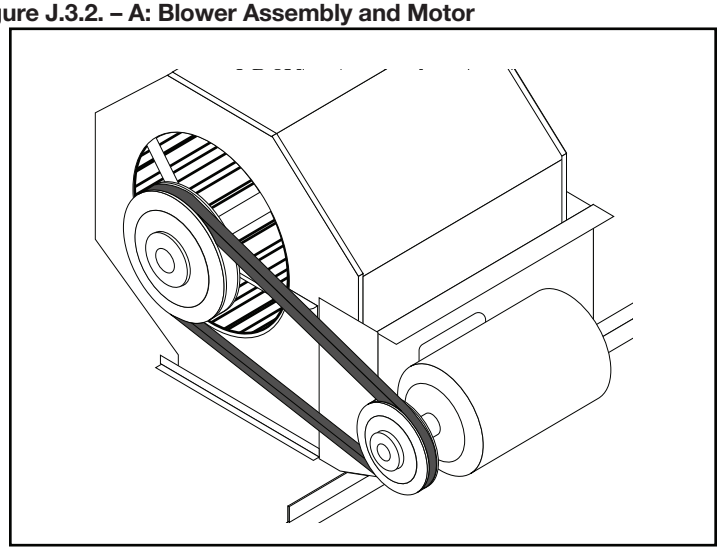
Use a calibrated manometer to measure the static pressure of the blower. Insert the meter probe into the tap location. Make sure any economizer or outside air dampers are closed and run the fan at the maximum, full speed setting. Record the reading for the return air and supply air separately.

J.3.2. Air Flow Measurements and Adjustments

- Measure the supply/ return static to get the unit static pressure by drilling out the simple locations shown in ***Figure J.3.2 - A.***
- Take the measured static pressure and match to the static listed on the airflow table to find your CFM.

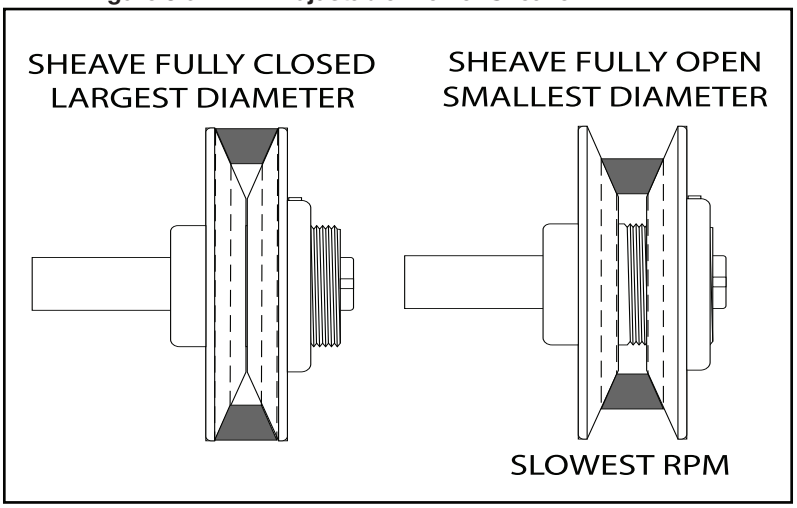
Use the charts and guide provided in the Installation and Operation instructions provided with the unit to calculate the air flow, against the measured static pressures and number of turns on the adjustable blower sheave. Verify the measured air flow against the charts.

Figure J.3.2. – A: Blower Assembly and Motor



If adjustment is needed, turn off the power to the entire system, and adjust the adjustable blower sheave. To do this, loosen the belt tension and remove the belt. Using an Allen wrench to loosen the set screw on the end of the adjustable blower sheave, turn the blower sheave in until it is fully closed.

Figure J.3.2. – B: Adjustable Blower Sheave



Using the charts determine the total number of turns needed on the sheave. Make those turns in half turn increments, once set, align the set screw with the Flat section on the sheave threads. Tighten the set screw to secure the sheave.

Reinstall the belt and tension properly and power on the system. Allow the thermostat to call for a fan, make sure the VFD ramps the blower to 100% or 60hz.

Once the fan is at speed, measure the air flow and static pressure, compare against the charts. If additional adjustment is needed repeat the adjustment procedure.

J. STARTUP AND OPERATION

J.3.2.2. Adjusting Fresh Air Flow with Damper

All dampers are field install accessories. See the above sections for measuring airflow, and refer to the I&O included with the fresh air dampers for more information on adjusting airflow.
Refer to local building codes for any fresh air requirements.

These accessory I&Os can also be found on the manufacturer's website.

J.4. Checking Cooling Operation

COOLING SEQUENCE OF OPERATION

A. Call for cooling

1. The zone thermostat contacts close, and a call for cooling is initiated.

2. Inputs 'Y1' and 'G' to the control are energized.

3. The control senses input to 'Y1' and 'G'. After a 1sec delay, the control energizes both the indoor blower and first stage compressor.

4. The control enters normal operating loop were all inputs are continuously checked.

5. Zone thermostat is satisfied.

6. The blower will continue to run for a preset period of time after the zone thermostat is satisfied.

7. The control goes into standby mode displaying a "O".

B. Call for second stage cooling. After first stage cooling established; starting from A6.

1. If a call for second stage cooling is initiated after a call for first stage cooling is established, the control energizes 'Y2' and energizes the second stage compressor.

2. Then the control enters the normal operating loop where all inputs are continuously checked.

C. Second stage satisfied and first stage still called for; starting from B2.

1. 'Y2' is de-energized and the second compressor stage is de-energized.

D. First stage and second stage called simultaneously.

1. The zone thermostat contacts close, and a call for first and second stage cooling is initiated.

2. Inputs 'Y1', 'Y2' and 'G' to the control are energized.

3. The control senses 'Y1', 'Y2' and 'G'. After a 1sec delay, the control energizes the indoor blower, and the first and second compressor stages.

E. First stage and second stage removed simultaneously.

1. Upon a loss of 'Y1' and 'Y2', the compressor is de-energized. The control de-energizes the indoor blower relay, and cuts off the blower after an indoor blower delay.

2. The control goes into standby mode displaying a "O".

CONTINUOUS FAN MODE

A 'G' input only indicates a zone thermostat call for continuous indoor blower operation.

TIME DELAY BYPASS for non-DDC units

The Time Delay Bypass resets the ICC (Integrated Compressor Control) from any lockout mode or bypasses compressor anti-short cycle delay timer. To bypass the time delay, press the SW1 button with an insulated probe for 1sec and then release.

FAULT RECALL OPERATION for non-DDC units

To enter FAULT RECALL mode, press the SW1 button with an insulated probe for 2sec and release. Upon entering and exiting the FAULT RECALL mode, the top bottom segments of the 7-segment display will be activated. The ICC will automatically scroll through the stored faults on the 7-segment display. Each fault is displayed one time with the top segment of the 7-segment display activated between faults. Each fault is displayed with the most recent fault displayed first. An "O" will be displayed when no faults are stored. The ICC will automatically exit the FAULT RECALL mode after displaying stored faults.

An example of one LPC fault and one HPC fault scrolled on the display is shown as: -21-23

CLEAR FAULT HISTORY for non-DDC units.

To clear FAULT HISTORY, press the SW1 button with an insulated probe for 5sec and release. T

The top and bottom segments of the 7-segment display will be activated and flash to indicate the history has been cleared.

Example: ======

TEST MODE for DDC Units

For units with DDC, there is a “Run Test” mode that will aid in diagnostics during installation.

Please refer to the CLEAR CONTROL MANUAL for more information.

J.4.1. Checking Refrigerant Pressures

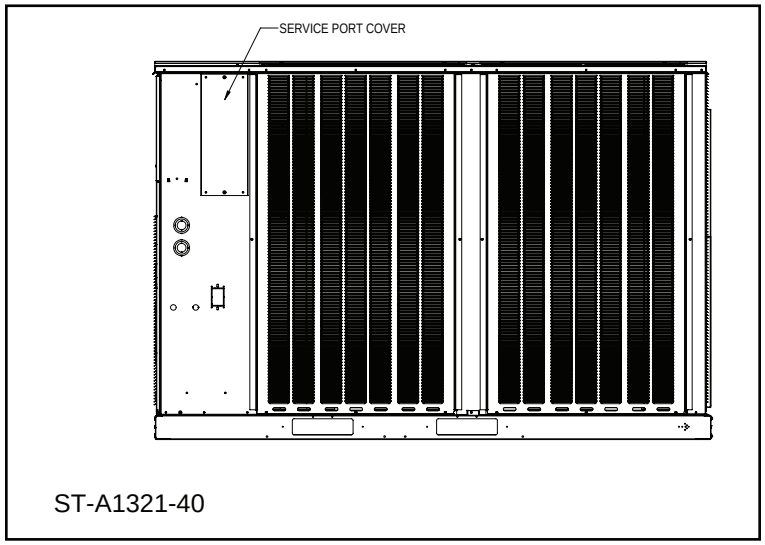
To check refrigerant pressures, attach R410a manifold gauges to the high/lo service ports found behind the service panel port access cover. The upper port is the high pressure port, and the lower is the low pressure port. **BE SURE TO USE ZERO LOSS FITTINGS WHILE MEASURING PRESSURE; ANY LOSS OF CHARGE MAY IMPACT PERFORMANCE.**

See section ***C.2.1.Tools Required for Installing and Servicing R-410A Models.***

J.4.1.1. Refrigerant Pressure Charts

See ***Appendix F*** towards the end of this manual for Refrigerant Pressure Charts.

Figure J.4.1. –A: Service Port Location



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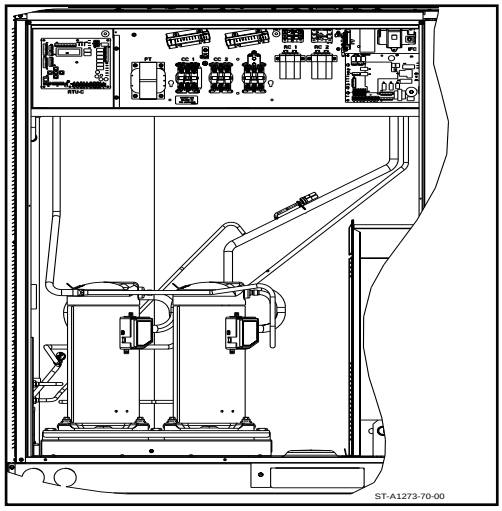
J.4.2. Checking Sub Cooling for Adjusting Charge Weight

See ***Appendix F*** towards the end of this manual for Refrigerant Charging Charts.

Figure: Clear Control under Test mode for DDC



NOTE: This procedure is very important for optimizing this product’s performance.

How to check the unit’s subcooling to fine-tune refrigerant charge:

1. The Indoor ambient temperature must be between 72 °F and 82 °F dry bulb at the indoor coil.

2. Confirm the indoor air supply is at the rated CFM listed in ***Appendix A***.

3. Allow the system to run with both stages of cooling energized long enough for temperatures and pressures to stabilize; at least fifteen minutes.

4. Measure liquid pressure at the liquid line service port and measure the liquid line temperature just before the TXV (refer to section ***J.4.2.1.*** below for the liquid line temperature measurement location). USE ZERO LOSS FITTINGS WHILE MEASURING PRESSURE; ANY LOSS OF CHARGE MAY IMPACT PERFORMANCE.

5. To find the saturation temperature at the measured pressure, subtract the measured liquid line temperature from the saturation pressure to get the sub-cooling.

6. Check if the Sub-Cooling is within +/- 1.5 °F tolerance.

7. If the sub-cooling values are significantly different (> 20 psig) from those listed on the table in Appendix F, there may be an airflow or component issue. Refer to section M. Diagnostics for more information.

J. STARTUP AND OPERATION

J.4.2.1. Measuring Air Temperature and Liquid Line Temperature

Measuring air temperature:

1. Insert a thermometer in the supply air duct as close to the unit as possible.

2. Insert a thermometer in the return air duct as close to the filters as possible.

3. If preferred, use the locations shown in ***Figure J.4.2.1. - A: Line Temperature Measurement Location*** instead of the supply/return ductwork.

4. Operate the unit for a minimum of 15 minutes in cooling mode.

5. When the thermometer in the supply air duct stops changing (approximately five minutes), subtract the return air temperature from the supply air temperature. This is the cooling mode temperature difference.

If the measured temperature difference is not reducing, or if the return air is not reaching the thermostat set point, the air flow is too low. Airflow must be increased by either removing the restrictions in the duct system, or by changing the air flow. See ***Section J.3.2. Air Flow Measurements and Adjustments*** for changing air flow.

IMPORTANT: Some high-efficiency filters have a greater than normal resistance to airflow. This can negatively affect airflow. BE SURE TO CHECK THE AIRFLOW if using any filter other than the factory-provided filter.

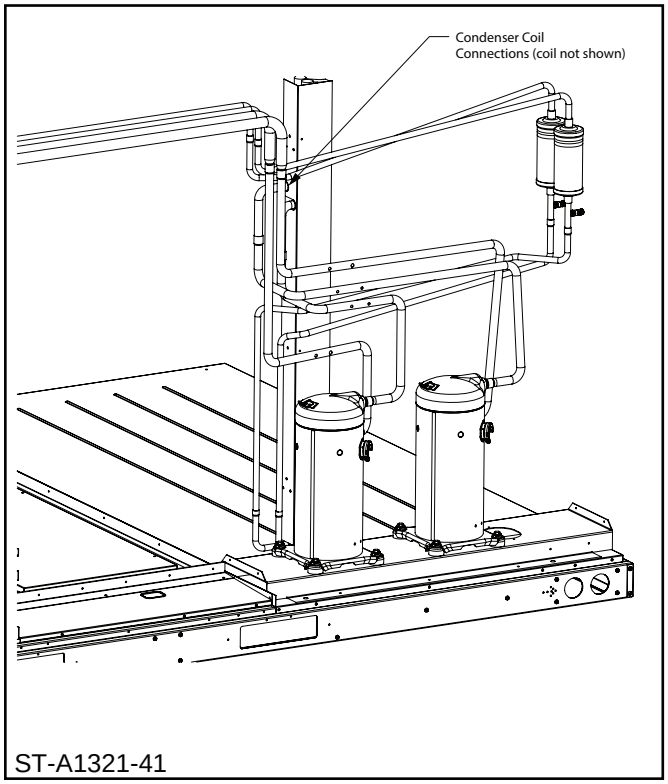
Measuring line temperature:

1. Attach a thermometer or thermocouple to the liquid refrigerant line right before both the TXVs in the blower compartment. See ***Figure J.4.2.1. - A: Line Temperature Measurement Location.***

2. Operate the unit for a minimum of 15 minutes in cooling mode.

3. When the measurement of the temperature stops changing (approximately five minutes), record the temperature.

Figure J.4.2.1. – A: Line Temperature Measurement Location



J.4.3. Measuring Compressor Electrical Loads

See ***Appendix B*** towards the end of this manual for Compressor Electrical Data.

J.5. Checking Electric Heat Operation

Electric heater kits will have their own separate instructional document. For factory installed heater kits, the document will be found in the parts bag and, for field installed heater kits, the document will be found in the box. Refer to these documents for any information regarding checking electric heat operation.

K.1. Air Flow Charts and Information

See ***Appendix C*** towards the end of this manual for Air Flow Performance Data.

K.2. Air Flow Adjustments for Belt Drive Models

K.2.1. Blower Speed for 15.0-25.0 Ton Units

See ***Section J.3.2. Air Flow Measurements and Adjustments*** on how to increase the blower speed and increase airflow for the 15.0 - 25.0 T units.

K.2.2. Economizer Adjustments

Do not Fix a minimum position on an economizer, set the minimum position through the control board only. See the instructions provided with the economizer for more info. The part numbers for these instructions are listed in section ***D.4.1. Economizer Information.***

N. DIAGNOSTICS

N.1. Diagnostics Chart

N.1.1.Cooling Diagnostics Chart

⚠ WARNING

DISCONNECT ALL POWER TO UNIT BEFORE SERVICING. CONTACTOR MAY BREAK ONLY ONE SIDE. FAILURE TO SHUT OFF POWER CAN CAUSE ELECTRICAL SHOCK RESULTING IN PERSONAL INJURY OR DEATH.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Unit will not run	• Power off or loose electrical connection • Thermostat out of calibration-set too high • Defective contactor • Blown fuses • Transformer defective • High pressure control open (if provided) • Interconnecting low voltage wiring damaged	• Check for correct voltage at compressor contactor in control box • Reset • Check for 24 volts at contactor coil - replace if contacts are open • Replace fuses • Check wiring-replace transformer • Reset-also see high head pressure remedy-The high pressure control opens at 650 PSIG • Replace thermostat wiring"
Condenser fan runs, compressor doesn't	• Run capacitor defective (single phase only) • Loose connection • Compressor stuck, grounded or open motor winding open internal overload. • Low voltage condition	• Replace thermostat wiring • Check for correct voltage at compressor - check & tighten all connections • Wait at least 2 hours for overload to reset. If still open, replace the compressor. At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating."
Insufficient cooling	• Improperly sized unit • Improper airflow • Incorrect refrigerant charge • Air, non-condensibles or moisture in system • Incorrect voltage	• Recalculate load • Check - should be approximately 400 CFM [188.78 L/s] per ton. • Charge per procedure attached to unit service panel. • Recover refrigerant, evacuate & recharge, add filter drier • At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating."
Compressor short cycles	• Incorrect voltage • Defective overload protector • Refrigerant undercharge	• At compressor terminals, voltage must be ± 10% of nameplate marking when unit is operating. • Replace - check for correct voltage • Add refrigerant
Registers sweat	• Low evaporator airflow • Room thermostat set too low	• Increase speed of blower or reduce restriction - replace air filter • Raise thermostat set point
High head-low vapor pressures	• Restriction in liquid line, expansion device or filter drier • Flow check piston size too small • Incorrect capillary tubes	• Remove or replace defective component • Change to correct size piston • Change coil assembly • Replace TXV
High head-high or normal vapor pressure - Cooling mode	• Dirty condenser coil • Refrigerant overcharge • Condenser fan not running • Air or non-condensibles in system	• Clean coil • Correct system charge • Repair or replace • Recover refrigerant, evacuate & recharge
High head-high or normal vapor pressure - Heating mode	• Low air flow - condenser coil • Refrigerant overcharge • Air or non-condensibles in system • Dirty condenser coil	• Check filters - correct to speed • Correct system charge • Recover refrigerant, evacuate & recharge • Check filter - clean coil
Low head-high vapor pressures	• Defective Compressor valves • Incorrect capillary tubes	• Replace compressor • Replace coil assembly
Low vapor - cool compressor - iced evaporator coil	• Low evaporator airflow • Operating below 65°F outdoors • Moisture in system • Liquid line limiting refrigerant flow	• Increase speed of blower or reduce restriction - replace air filter • Add Low Ambient Kit • Recover refrigerant - evacuate & recharge - add filter drier • Replace drier
High vapor pressure	• Excessive load • Defective compressor	• Recheck load calculation • Replace
Fluctuating head & vapor pressures	• Severe overcharge • Air or non-condensibles in system	• Adjust refrigerant charge • Recover refrigerant, evacuate & recharge
Gurgle or pulsing noise at expansion device or liquid line	• Air or non-condensibles in system	• Recover refrigerant, evacuate & recharge

N.2. Alarm Codes – Full List

Alarm Codes		
CODE	**Description**	**FAULT LEVEL**
0	STAND BY	None
c	COMPRESSOR ON - Low (Flashing if in time delay)	None
C	COMPRESSOR ON - High (Flashing if in time delay)	None
E	Economizer Cooling - No Compressor	None
F	CONTINUOUS FAN	None
h	GAS HEAT ON - LOW-FIRE	None
H	GAS HEAT ON -HIGH-FIRE	None
4	Comfort Alert Code 4 for Compressor Circuit 1	Shutdown
5	Comfort Alert Code 5 for Compressor Circuit 1	Shutdown
6	Comfort Alert Code 6 for Compressor Circuit 1	Shutdown
7	Comfort Alert Code 7 for Compressor Circuit 1	Shutdown
8	Comfort Alert Code 8 for Compressor Circuit 1	Shutdown
9	Comfort Alert Code 9 for Compressor Circuit 1	Shutdown
10	ONE HOUR LOCKOUT	Shutdown, Warning
11	FAILED IGNITION	Problem
12	LO FLAME SENSE	Warning
13	FLAME LOST	Problem
14	UNEXPECTED FLAME	Shutdown
15	HIGH-FIRE GAS VALVE IMPROPER VOLTAGE	Problem
20	REFRIGERANT LOW PRESSURE SWITCH OPEN - CIRCUIT 1	Problem
21	REFRIGERANT LOW PRESSURE SWITCH OPEN - CIRCUIT 2	Problem
22	MAIN LIMIT OPEN	Problem
29	REFRIGERANT HIGH PRESSURE SWITCH OPEN - CIRCUIT 1	Problem
30	REFRIGERANT HIGH PRESSURE SWITCH OPEN - CIRCUIT 2	Problem
33	MRLC (Rollout Limit) OPEN	Problem
34	Comfort Alert Code 4 for Compressor Circuit 2	Shutdown
35	Comfort Alert Code 5 for Compressor Circuit 2	Shutdown
36	Comfort Alert Code 6 for Compressor Circuit 2	Shutdown
37	Comfort Alert Code 7 for Compressor Circuit 2	Shutdown
38	Comfort Alert Code 8 for Compressor Circuit 2	Shutdown
39	Comfort Alert Code 9 for Compressor Circuit 2	Shutdown
42	Invalid Thermostat Selection	Warning
44	LOW-FIRE NEGATIVE PRESSURE CONTROL CLOSED	Problem
46	LOW-FIRE NEGATIVE PRESSURE CONTROL OPEN	Problem
49	FREEZE SWITCH OPEN - CIRCUIT 1	Problem
50	FREEZE SWITCH OPEN - CIRCUIT 2	Problem
55	2nd stage COMBUSTION PRESSURE SWITCH CLOSED	Problem
57	HIGH-FIRE NEGATIVE PRESSURE CONTROL CLOSED	Problem
59	Condensate Drain Plugged	Shutdown
61	BLOWER FAULT NO RUN	Problem, Shutdown
83	Condenser Coil Temp Sensor Fail-OCT	Problem
84	Outdoor Air Temperature Sensor Fail-OAT	Problem
88	Emergency Stop Fault	Shutdown
93	CONTROL Fault	Shutdown
97	Smoke Detection	Shutdown

N. DIAGNOSTICS

N.2.1. Cooling Alarm Codes and Diagnostics

All Core Command come standard with a 7-segment diagnostic display. During standby mode with no fault codes present, the display will read “0” (zero). During normal thermostat heating, cooling or continuous fan operation, a letter will be displayed to describe the mode of operation as follows:

C = Cooling
F = Continuous Fan Operation
H = Gas Heating Operation

When the control senses a fault present, it will display a code to help in diagnoses. A list of normal operating codes and potential fault codes follows:

Alarm Codes - Cooling Only		
CODE	**DESCRIPTION**	**FAULT LEVEL**
0	Standby	None
c	Compressor On – Low (Flashing If In Time Delay)	None
C	Compressor On – High (Flashing If In Time Delay)	None
E	Economizer Cooling – No Compressor	None
F	Continuous Fan	None
4	Comfort Alert Code 4 For Compressor Circuit 1	Shutdown
5	Comfort Alert Code 5 For Compressor Circuit 1	Shutdown
6	Comfort Alert Code 6 For Compressor Circuit 1	Shutdown
7	Comfort Alert Code 7 For Compressor Circuit 1	Shutdown
8	Comfort Alert Code 8 For Compressor Circuit 1	Shutdown
9	Comfort Alert Code 9 For Compressor Circuit 1	Shutdown
20	Refrigerant Low Pressure Switch Open – Circuit 1	Problem
21	REFRIGERANT LOW PRESSURE SWITCH OPEN - CIRCUIT 2	Problem
22	MAIN LIMIT OPEN	Problem
30	REFRIGERANT HIGH PRESSURE SWITCH OPEN - CIRCUIT 2	Problem
29	Refrigerant High Pressure Switch Open – Circuit 1	Problem
34	Comfort Alert Code 4 for Compressor Circuit 2	Shutdown
35	Comfort Alert Code 5 for Compressor Circuit 2	Shutdown
36	Comfort Alert Code 6 for Compressor Circuit 2	Shutdown
37	Comfort Alert Code 7 for Compressor Circuit 2	Shutdown
38	Comfort Alert Code 8 for Compressor Circuit 2	Shutdown
39	Comfort Alert Code 9 for Compressor Circuit 2	Shutdown
42	Invalid Thermostat Selection	Warning
49	Freeze Switch Open – Circuit 1	Problem
50	FREEZE SWITCH OPEN - CIRCUIT 2	Problem
59	Condensate Drain Plugged	Shutdown
83	Condenser Coil Temp Sensor Fail-Oct	Problem
84	Outdoor Air Temperature Sensor Fail-Oat	Problem
88	Emergency Stop Fault	Shutdown
93	Control Fault	Shutdown
97	Smoke Detection	Shutdown

Normal Operation Mode:

0	Displayed anytime there is no fault present and no thermostat call present
c	COMPRESSOR ON - Low (Flashing if in time delay)
C	COMPRESSOR ON - High (Flashing if in time delay)
E	When the system uses Economizer Cooling with No Compressor
F	Displayed anytime thermostat calls for continuous fan

Fault Codes with Descriptions and Solutions:

The method for displaying a two-digit fault is to display the first digit for one second immediately followed by the second digit – which is also displayed for a duration of one second. A ½ second pause is then displayed. Cycle repeats until the fault is cleared. Each fault is flashed (displayed) a minimum of two times even if the fault condition has cleared before the fault can be displayed twice.

Alarm Codes - Cooling Only		
CODE	**DESCRIPTION**	**FAULT LEVEL**
0	STANDBY	None
c	COMPRESSOR ON – Low (Flashing if in time delay)	None
C	COMPRESSOR ON – High (Flashing if in time delay)	None
E	Economizer Cooling – No Compressor	None
F	CONTINUOUS FAN	None
4	**Comfort Alert Code 4 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Locked Rotor Circuit 1	
	DESCRIPTION:	
	1. Circuit 1 shutdown and retry after Anti-Short Cycle Delay (ASCD) Maximum is 3 attempts.	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Low line voltage	
	2. Excessive Refrigerant in compressor	
	3. Seized bearings in compressor	
5	**Comfort Alert Code 5 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Open Circuit 1	
	DESCRIPTION:	
	1. Circuit 1 shutdown and retry after ASCD. Note: This alarm is sent by the Comfort Alert Module only after the fault has been sensed for a minimum of 4 hours.	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Condensing unit power disconnect is open	
	2. Compressor circuit breaker or fuses are open	
	3. Compressor contactor has failed open High pressure switch is open and requires manual reset	
	4. Broken supply wires or connector is not making contact	
	5. Unusually long compressor protector reset time due to extreme ambient temperature	
	6. Compressor windings are damaged	
6	**Comfort Alert Code 6 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Missing Phase Circuit 1	
	DESCRIPTION:	
	1. Circuit 1 shutdown	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Compressor fuse is open on one phase	
	2. Broken wire or connector on one phase	
	3. Compressor motor winding is damaged	
	4. Utility supply has dropped one phase	

N. DIAGNOSTICS

Fault Codes with Descriptions and Solutions:

Alarm Codes - Cooling Only		
CODE	**DESCRIPTION**	**FAULT LEVEL**
7	**Comfort Alert Code 7 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Reverse Phase Circuit 1	
	DESCRIPTION:	
	1. Run outdoor and indoor fans continuously for circuit 1 and change mode of operation to Unoccupied Auto. This procedure prevents the Space Temperature from reaching extreme values.	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Compressor running backward due to supply phase reversal	
8	**Comfort Alert Code 8 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Welded Contactor Circuit 1	
	DESCRIPTION:	
	1. Circuit 1 shutdown	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Compressor contactor has failed closed	
	2. Thermostat demand signal not connected to module	
9	**Comfort Alert Code 9 for Compressor Circuit 1**	Shutdown
	ALARM Designation: Low Voltage Circuit 1	
	DESCRIPTION:	
	1. Circuit 1 Shutdown and wait for voltage to return to operational levels.	
	SOLUTION/STATUS/Possible - Troubleshooting Information	
	1. Control circuit transformer is overloaded	
	2. Low line voltage to compressor	
20	**DESCRIPTION:** REFRIGERANT LOW PRESSURE SWITCH OPEN – CIRCUIT 1	Problem
	CAUSE:	
	1. Low evaporator airflow	
	2. Refrigerant undercharge	
	3. Restriction in liquid line, expansion device or filter drier	
	4. Operating below 65°F outdoors	
	5. Moisture in system	
	SOLUTION: The solution will depend on the cause.	
	1. Increase speed of blower or reduce restriction - replace air filter	
	2. Check for leaks - add refrigerant	
	3. Remove or replace defective component	
	4. Add Low Ambient Kit	
	5. Recover refrigerant - evacuate & recharge - add or replace filter drier	

Fault Codes with Descriptions and Solutions:

Alarm Codes - Cooling Only		
CODE	**DESCRIPTION**	**FAULT LEVEL**
29	**DESCRIPTION:** REFRIGERANT HIGH PRESSURE SWITCH OPEN – CIRCUIT 1	Problem
	CAUSE:	
	1. Restriction in liquid line, expansion device or filter drier	
	2. Refrigerant overcharge	
	3. Condenser fan not running	
	4. Air or non-condensibles in system	
	SOLUTION: The solution will depend on the cause.	
	1. Recover refrigerant - evacuate & recharge remove or replace defective component	
	2. Remove refrigerant	
	3. Check voltage, Run Capacitor & Outdoor Motor Repair or replace	
	4. Recover refrigerant, evacuate & recharge	
49	**FREEZE SWITCH OPEN – CIRCUIT 1**	Problem
	DESCRIPTION:	
	1. Occurs when sensors are either open or shorted.	
	SOLUTION: The solution will depend on the cause.	
	1. Replace the sensor	
	2. Check sensor Is installed correctly on control	
59	**Condensate Drain Plugged**	Shutdown
	DESCRIPTION:	
	1. Condensate line is blocked water inside of unit	
	SOLUTION: The solution will depend on the cause.	
	1. Remove blockage	
	2. Remove condensate pan and clean	
83	**Condenser Coil Temp Sensor Fail-OCT**	Problem
	DESCRIPTION:	
	1. No defrost operation, but unit continues to operate in either heating or cooling.	
	SOLUTION: The solution will depend on the cause.	
	1. Extreme temperatures	
	2. Replace the sensor	
	3. Check that sensor is installed correctly on control	

N. DIAGNOSTICS

Fault Codes with Descriptions and Solutions:

Alarm Codes - Cooling Only		
CODE	**DESCRIPTION**	**FAULT LEVEL**
84	**Outdoor Air Temperature Sensor Fail-OAT**	Problem
	DESCRIPTION:	
	1. No defrost operation, but unit continues to operate in either heating or cooling.	
	2. The heat source continues to be heat pump, independently of the outdoor air temperature	
	SOLUTION: The solution will depend on the cause.	
	1. Extreme temperatures	
	2. Replace the sensor	
	3. Check that sensor is installed correctly on control	
88	**Emergency Stop Fault**	Shutdown
	DESCRIPTION:	
	1. Complete shutdown	
	SOLUTION: The solution will depend on the cause.	
	1. Cannot be cleared by the 'Clear All Alarms" command. Must be cleared by changing the Emergency Stop Fault network value.	
93	**CONTROL Fault**	Shutdown
	DESCRIPTION:	
	1. Internal Control fault.	
	SOLUTION: The solution will depend on the cause.	
	1. Replace Control	
97	**Smoke Detection**	Shutdown
	DESCRIPTION:	
	1. RTU-C reads the smoke detection input as open -- complete shutdown.	
	SOLUTION: The solution will depend on the cause.	
	1. If not due to a fire, Replace the sensor, Check sensor is in stalled correctly on control	
	2. Check Smoke Detection Circuit, if no Smoke Detector is installed, ensure Economizer Smoke Bypass plug is installed	

N.2.3. Non-applicable Fault Codes

The controls used in this product are common with a few other product families. Because of this, there are several fault codes that are programmed into the controls but DO NOT APPLY to this product. If one of these fault codes appear, clear the fault and continue diagnostics. If the code persists, power down the unit and reapply power before continuing diagnostics.

These non-applicable fault codes are listed below:

Alarm Codes - NON-APPLICABLE FAULT CODES		
CODE	Description	FAULT LEVEL
h	GAS HEAT ON - LOW-FIRE	None
H	GAS HEAT ON -HIGH-FIRE	None
11	FAILED IGNITION	Problem
12	LO FLAME SENSE	Warning
13	FLAME LOST	Problem
14	UNEXPECTED FLAME	Shutdown
15	HIGH-FIRE GAS VALVE IMPROPER VOLTAGE	Problem
33	MRLC (Rollout Limit) OPEN	Problem
44	LOW-FIRE NEGATIVE PRESSURE CONTROL CLOSED	Problem
46	LOW-FIRE NEGATIVE PRESSURE CONTROL OPEN	Problem
55	2nd stage COMBUSTION	Problem
57	HIGH-FIRE NEGATIVE PRESSURE CONTROL CLOSED	Problem
61	HIGH-FIRE NEGATIVE PRESSURE CONTROL OPEN	Problem, Shutdown

N.2.4. Phase Monitoring

DDC Units:

• The Phase Monitor is activated by a menu item in the General Information menu on the DDC board.

• When a phase monitoring fault occurs, the control will go into a shutdown. When the error is corrected, the unit will try and operate after the ASCD.

Non-DDC Units:

• The Phase Monitor is connected to the contactor.

• When a phase monitoring fault occurs, the system will go into a shutdown.

• For phase monitoring diagnostics, consider checking the following:

1. Compressor fuse is open on one phase.
2. Broken wire or connector on one phase.
3. Compressor motor winding is damaged.
4. Utility supply has dropped one phase.

N. DIAGNOSTICS

N.2.5. VFD Codes

N.2.5.1. Yaskawa VFD Codes

Some units come equipped with a Yaskawa V1000 Variable Frequency Drive attached to the blower assembly in the blower motor compartment.

When the drive detects a fault, the ALM indicator LED remains lit without flashing. If the LED flashes, the drive has detected a minor fault or alarm. Conditions such as overvoltage or external faults can trip both faults and minor faults, therefore it is important to note whether the LED remains lit or if the LED flashes.

When the control senses a fault present, it will display a code to help in diagnoses. A list of normal operating codes and potential fault codes can be found below and on the following page.

More fault codes can be found on the manufacturer's website. In the blower compartment, on the right side VFD assembly there is a label that gives the model number of the VFD. Use that model number to find the VFD Installation Manual on the manufacturer's website.

Digital Operator Display	Name
bUS	Option Communication Error
CE	MEMOBUS/Mobus Communication Error
CF	Control Fault
CPF02	A/D Conversion Error
CPF07	Terminal Board Communication Fault
CPF08	EEPROM Serial Communications Fault
CPF011	RAM Fault
CPF012	FLASH Memory Fault
CPF013	Watchdog Circuit Exception
CPF014	Control Circuit Fault
CPF016	Clock Fault
CPF017	Timing Fault
CPF018	Control Circuit Fault
CPF019	Control Circuit Fault
CPF020 or CPF21	RAM Fault
	FLASH Memory Fault
	Watchdog Circuit Exception
	Clock Fault
EF0	Option External Fault
EF1 to EF7	External Fault (input terminal S1 to S7)
Err	EEPROM Write Error
GF	Ground Fault
LF	Output Phase Loss
LF2	Current Imbalance
oC	Overcurrent
oH	Heat Sink Overheat
oH1	Heat Sink Overheat
oL1	Motor Overload
oL2	Drive Overload
oL3	Overtorque Detection 1
oL4	Overtorque Detection 2
oL5	Mechanical Weakening Detection 1
oL6	Overvoltage
oL7	Input Phase Loss
oL8	IGBT Short Circuit
oL9	Undervoltage
oL10	Control Power Supply Undervoltage
oL11	Soft Charge Circuit Fault

N.2.5.1. Yaskawa VFD Codes (Cont.)

Digital Operator Display	Name	Minor Fault Output (H2 - □□ = 10)
CE	MEMOBUS/Modbus Communication Error	YES
CrST	Can Not Reset	YES
dnE	Drive Disabled	YES
EF1 to EF7	External Fault (input terminal S1 to S7)	YES
HCA	Current Alarm	YES
LT-1	Cooling Fan Maintenance Alarm	No Output <*1*>
LT-2	Capacitor Maintenance Alarm	No Output <*1*>
LT-3	Soft Charge Bypass Relay Maintenance Time	No Output <*1*>
LT-4	IGBT Maintenance Time (50%)	No Output <*1*>
oH	Heatsink Overheat	YES
oH2	Drive Overheat	YES
oH3	Motor Overheat	YES
oL3	Overtorque 1	YES
oL4	Overtorque 2	YES
oL5	Mechanical Weakening Direction 1	YES
oS	Overspeed (for Simple V/f with PG	YES
oV	Overvoltage	YES
Pgo	PG Disconnect (for Simple V/f with PG)	YES

N. DIAGNOSTICS

N.2.5.2. Mitsubishi VFD Codes

Some units come equipped with a Mitsubishi FR-E800 Variable Frequency Drive attached to the blower assembly in the blower motor compartment.

When the drive detects a fault, an “E” with a Three Character Fault Code will be displayed on the LED display (Example: E.LUP). The drive may not stop the drive from running unless it is not corrected. The drive will store the last 10 fault codes, a condensed list of fault codes and operating codes can be found below.

More fault codes can be found on the manufacturer’s website. In the blower compartment, on the right side VFD assembly there is a label that gives the model number of the VFD. Use that model number to find the VFD Installation Manual on the manufacturer’s website.

Operation Panel Indication	Code	Name
E.OC1	16 (H10)	Overcurrent trip during acceleration
E.OC2	17 (H11)	Overcurrent trip during constant speed
E.OC3	18 (H12)	Overcurrent trip during deceleration or stop
E.OV1	32 (H20)	Regenerative overvoltage trip during acceleration
E.OV2	33 (H21)	Regenerative overvoltage trip during constant speed
E.OV3	34 (H22)	Regenerative overvoltage trip during deceleration or stop
E.THT	48 (H30)	Inverter overload trip (electronic thermal relay function)
E.THM	49 (H31)	Motor overload trip (electronic thermal relay function)
E.FIN	64 (H40)	Heat sink overheat
E.UVT	81 (H51)	Undervoltage
E.ILF	82 (H52)	Input phase loss
E.OLT	96 (H60)	Stall prevention stop
E.SOT	97 (H61)	Loss of synchronism detection
E.LUP	98 (H62)	Upper limit fault detection
E.LDN	99 (H63)	Lower limit fault detection
E.BE	112 (H70)	Brake transistor alarm detection
E.GF	128 (H80)	Output side earth (ground) fault overcurrent
E.LF	129 (H81)	Output phase loss
E.OHT	144 (H91)	External thermal relay operation
E.PTC	145 (H91)	PTC thermistor operation
E.OPT	160 (HA0)	Option Fault

N.3. Common Mistakes

• These are a list of common mistakes made during installation.

• Drain Pan Connections, drain trap connected to the wrong outlet side, not connected at all, or insufficient trap depth.

• Connecting a W2 call only to try and get full heat all the time, Connect both W1 and W2 together if the job requirement or thermostat is setup for single stage heating.

• Connecting a Y2 call only to try and get full cooling all the time, Connect both Y1 and Y2 together if the job requirement or thermostat is setup for single stage cooling.

• Economizer connections, not installing the 3-wire jumper plug into the economizer wiring harness, if a factory option smoke detector is not used, this will cause a Smoke Detection Fault.

P. APPENDICES

Appendix A – General Product Data

GENERAL DATA -

Model RACG2T Series	180	210	240	300
Cooling Performance[A]				
Gross Cooling Capacity Btu [kW]	176,000 [51.57]	208,000 [60.94]	240,000 [70.32]	288,000 [84.38]
EER	11	11	11	10
IEER[B]	14.2	14.2	14.2	13.2
Nominal CFM/AHRI Rated CFM [L/s]	6000/5900 [2831/2784]	7000/6900 [3303/3256]	8000/7300 [3775/3445]	10000/8400 [4719/3964]
AHRI Net Cooling Capacity Btu [kW]	172,000 [50.4]	200,000 [58.6]	230,000 [67.39]	285,000 [85.53]
Net Sensible Capacity Btu [kW]	115,370 [33.8]	133,970 [39.25]	154,500 [45.27]	190,160 [55.72]
Net Latent Capacity Btu [kW]	56,630 [16.59]	66,030 [19.35]	75,500 [22.12]	95,050 [27.86]
Net System Power kW	16	18	21.4	28.2
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	36.3 [3.37]	46.2 [4.29]	46.2 [4.29]	46.2 [4.29]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Indoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1.25 [31.8]	1.25 [31.8]
Face Area sq. ft. [sq. m]	23.8 [2.21]	23.8 [2.21]	23.8 [2.21]	23.8 [2.21]
Rows / FPI [FPcm]	1 / 18 [7]	1 / 18 [7]	1 / 18 [7]	1 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/30 [762]	2/30 [762]	2/30 [762]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	12000 [5663]	14000 [6607]	16800 [7928]	19000 [8966]
No. Motors/HP	2 at 3/4 HP	2 at 1 1/2 HP	2 at 1 1/2 HP	2 at 1 1/2 HP
Motor RPM	1100	1140	1140	1140
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	2/15x15 [381x381]	2/15x15 [381x381]	2/15x15 [381x381]	2/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single	Single	Single	Single
No. Motors	1	1	1	1
Motor HP[C]	Varies	Varies	Varies	Varies
Filter - Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(8)20x24x2 [508x610x51]	(8)20x24x2 [508x610x51]	(8)20x24x2 [508x610x51]	(8)20x24x2 [508x610x51]
Refrigerant Charge Oz. [g] Circuit 1/Circuit 2	192/192 [5443/5443]	205/205 [5812/5812]	205/205 [5812/5812]	224/224 [6350/6350]
Weights				
Net Weight lbs. [kg]	1940 [879]	2010 [911]	2030 [920]	2100 [952]
Ship Weight lbs. [kg]	2040 [925]	2110 [957]	2130 [970]	2200 [997]
Max. Ship Weight lbs. [kg]	2710 [1229]	2780 [1260]	2800 [1270]	2870 [1301]
Max Installed Weight lbs. [kg]	2610 [1183]	2680 [1215]	2700 [1224]	2770 [1256]

Note: Please look at the rating plates pasted on the side of the unit to understand the model number of your unit.

Appendix A – General Product Data

A. Cooling Performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to • 20% of nominal CFM. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

B. EER and Integrated Energy Efficiency Ration (IEER) is rated in accordance with AHRI Standard 340/360.

C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

D. See Airflow Performance tables for motor horsepower and more Indoor Fan information.

P. APPENDICES

Appendix B – Electrical Data

ELECTRICAL DATA - RACG2T SERIES WITH POWERED EXHAUST										
		180ACF	**180ACG**	**180ACH**	**180ADF**	**180ADG**	**180ADH**	**180AYF**	**180AYG**	**180AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	79/79	83/83	85/85	40	42	42	30	31	31
	Minimum Overcurrent Protection Device Size	90/90	90/90	100/100	45	45	45	35	35	35
	Maximum Overcurrent Protection Device Size	100/100	100/100	100/100	50	50	50	35	40	40
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	6	6	6	6	6	6	6	6	6
	Amps (RLA), Comp. 1	25	25	25	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 1	164	164	164	100	100	100	78	78	78
	HP, Compressor 2	6	6	6	6	6	6	6	6	6
	Amps (RLA), Comp. 2	25	25	25	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 2	164	164	164	100	100	100	78	78	78
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	1	1	1	1	1	1	1	1	1
	HP	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	Amps (FLA, each)	4.2	4.2	4.2	2.3	2.3	2.3	1.2	1.2	1.2
	Amps (LRA, each)	10.1	10.1	10.1	4.9	4.9	4.9	3.4	3.4	3.4
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	5	5	3	5	5	3	5	5
	Amps (FLA, each)	9.2	13.6	13.6	4.6	6.3	6.3	3.5	5.1	5.1
	Amps (LRA, each)	74.5	95.0	95.0	38.1	47.5	47.5	30.0	38.0	38.0

Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITHOUT POWERED EXHAUST										
		180ACF	**180ACG**	**180ACH**	**180ADF**	**180ADG**	**180ADH**	**180AYF**	**180AYG**	**180AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	74/74	79/79	80/80	38	40	40	28	30	30
	Minimum Overcurrent Protection Device Size	90/90	90/90	90/90	45	45	45	30	35	35
	Maximum Overcurrent Protection Device Size	90/90	100/100	100/100	50	50	50	35	35	35
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	6	6	6	6	6	6	6	6	6
	Amps (RLA), Comp. 1	25	25	25	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 1	164	164	164	100	100	100	78	78	78
	HP, Compressor 2	6	6	6	6	6	6	6	6	6
	Amps (RLA), Comp. 2	25	25	25	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 2	164	164	164	100	100	100	78	78	78
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	1	1	1	1	1	1	1	1	1
	HP	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	Amps (FLA, each)	4.2	4.2	4.2	2.3	2.3	2.3	1.2	1.2	1.2
	Amps (LRA, each)	10.1	10.1	10.1	4.9	4.9	4.9	3.4	3.4	3.4
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	5	5	3	5	5	3	5	5
	Amps (FLA, each)	9.2	13.6	13.6	4.6	6.3	6.3	3.5	5.1	5.1
	Amps (LRA, each)	74.5	95.0	95.0	38.1	47.5	47.5	30.0	38.0	38.0

P. APPENDICES

Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITH POWERED EXHAUST										
		210ACF	**210ACG**	**210ACH**	**210ADF**	**210ADG**	**210ADH**	**210AYF**	**210AYG**	**210AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	87/87	92/92	99/99	41	43	46	32	33	36
	Minimum Overcurrent Protection Device Size	100/100	100/100	110/110	45	50	50	35	40	40
	Maximum Overcurrent Protection Device Size	110/110	110/110	125/125	50	50	50	40	40	45
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
	Amps (RLA), Comp. 1	27.6	27.6	27.6	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 1	191	191	191	100	100	100	78	78	78
	HP, Compressor 2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
	Amps (RLA), Comp. 2	27.6	27.6	27.6	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 2	191	191	191	100	100	100	78	78	78
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	5	7.5	3	5	7.5	3	5	7.5
	Amps (FLA, each)	9.2	13.6	21	4.6	6.3	9.6	3.5	5.1	7.7
	Amps (LRA, each)	74.5	95	127	38.1	47.5	63.5	30.0	38.0	50.8

Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITHOUT POWERED EXHAUST										
		210ACF	**210ACG**	**210ACH**	**210ADF**	**210ADG**	**210ADH**	**210AYF**	**210AYG**	**210AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	s	60	60	60
	Minimum Circuit Ampacity	83/83	87/87	95/95	39	41	44	30	32	34
	Minimum Overcurrent Protection Device Size	90/90	100/100	110/110	45	45	50	35	35	40
	Maximum Overcurrent Protection Device Size	100/100	110/110	110/110	50	50	50	35	40	40
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
	Amps (RLA), Comp. 1	27.6	27.6	27.6	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 1	191	191	191	100	100	100	78	78	78
	HP, Compressor 2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
	Amps (RLA), Comp. 2	27.6	27.6	27.6	12.8	12.8	12.8	9.6	9.6	9.6
	Amps (LRA), Comp. 2	191	191	191	100	100	100	78	78	78
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	5	7.5	3	5	7.5	3	5	7.5
	Amps (FLA, each)	9.2	13.6	21	4.6	6.3	9.6	3.5	5.1	7.7
	Amps (LRA, each)	74.5	95	127	38.1	47.5	63.5	30.0	38.0	50.8

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Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITH POWERED EXHAUST										
		240ACF	**240ACG**	**240ACH**	**240ADF**	**240ADG**	**240ADH**	**240AYF**	**240AYG**	**240AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	93/93	93/93	101/101	47	47	50	37	37	40
	Minimum Overcurrent Protection Device Size	100/100	100/100	110/110	50	50	60	40	40	45
	Maximum Overcurrent Protection Device Size	110/110	110/110	125/125	60	60	60	45	45	50
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	10	10	10	10	10	10	10	10	10
	Amps (RLA), Comp. 1	28.2	28.2	28.2	14.7	14.7	14.7	11.3	11.3	11.3
	Amps (LRA), Comp. 1	240	240	240	130	130	130	93.7	93.7	93.7
	HP, Compressor 2	10	10	10	10	10	10	10	10	10
	Amps (RLA), Comp. 2	28.2	28.2	28.2	14.7	14.7	14.7	11.3	11.3	11.3
	Amps (LRA), Comp. 2	240	240	240	130	130	130	93.7	93.7	93.7
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	5	5	7.5	5	5	7.5	5	5	7.5
	Amps (FLA, each)	13.6	13.6	21	6.3	6.3	9.6	5.1	5.1	7.7
	Amps (LRA, each)	95	95	127	47.5	47.5	63.5	38.0	38.0	50.8

Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITHOUT POWERED EXHAUST										
		240ACF	**240ACG**	**240ACH**	**240ADF**	**240ADG**	**240ADH**	**240AYF**	**240AYG**	**240AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	89/89	89/89	96/96	45	45	49	35	35	38
	Minimum Overcurrent Protection Device Size	100/100	100/100	110/110	50	50	60	40	40	45
	Maximum Overcurrent Protection Device Size	110/110	110/110	110/110	60	60	60	45	45	50
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	10	10	10	10	10	10	10	10	10
	Amps (RLA), Comp. 1	28.2	28.2	28.2	14.7	14.7	14.7	11.3	11.3	11.3
	Amps (LRA), Comp. 1	240	240	240	130	130	130	93.7	93.7	93.7
	HP, Compressor 2	10	10	10	10	10	10	10	10	10
	Amps (RLA), Comp. 2	28.2	28.2	28.2	14.7	14.7	14.7	11.3	11.3	11.3
	Amps (LRA), Comp. 2	240	240	240	130	130	130	93.7	93.7	93.7
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	5	5	7.5	5	5	7.5	5	5	7.5
	Amps (FLA, each)	13.6	13.6	21	6.3	6.3	9.6	5.1	5.1	7.7
	Amps (LRA, each)	95	95	127	47.5	47.5	63.5	38.0	38.0	50.8

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Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITH POWERED EXHAUST										
		300ACF	**300ACG**	**300ACH**	**300ADF**	**300ADG**	**300ADH**	**300AYF**	**300AYG**	**300AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	145/145	151/151	152/152	59	62	62	48	50	50
	Minimum Overcurrent Protection Device Size	175/175	175/175	175/175	70	70	70	60	60	60
	Maximum Overcurrent Protection Device Size	175/175	175/175	175/175	70	70	70	60	60	60
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2
	Amps (RLA), Comp. 1	48.1	48.1	48.1	18.6	18.6	18.6	14.7	14.7	14.7
	Amps (LRA), Comp. 1	245	245	245	125	125	125	100	100	100
	HP, Compressor 2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2
	Amps (RLA), Comp. 2	48.1	48.1	48.1	18.6	18.6	18.6	14.7	14.7	14.7
	Amps (LRA), Comp. 2	245	245	245	125	125	125	100	100	100
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	7.5	10	10	7.5	10	10	7.5	10	10
	Amps (FLA, each)	21	27	27	9.6	12.5	12.5	7.7	10	10
	Amps (LRA, each)	127	152	152	63.5	76	76	50.8	60.8	60.8

Appendix B – Electrical Data (Cont.)

ELECTRICAL DATA - RACG2T SERIES WITHOUT POWERED EXHAUST										
		300ACF	**300ACG**	**300ACH**	**300ADF**	**300ADG**	**300ADH**	**300AYF**	**300AYG**	**300AYH**
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	517-633	517-633	517-633
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	141/141	147/147	147/147	57	60	60	46	48	48
	Minimum Overcurrent Protection Device Size	175/175	175/175	175/175	70	70	70	60	60	60
	Maximum Overcurrent Protection Device Size	175/175	175/175	175/175	70	70	70	60	60	60
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	200/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3500	3500	3500	3500	3500	3500	3500	3500	3500
	HP, Compressor 1	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2
	Amps (RLA), Comp. 1	48.1	48.1	48.1	18.6	18.6	18.6	14.7	14.7	14.7
	Amps (LRA), Comp. 1	245	245	245	125	125	125	100	100	100
	HP, Compressor 2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2
	Amps (RLA), Comp. 2	48.1	48.1	48.1	18.6	18.6	18.6	14.7	14.7	14.7
	Amps (LRA), Comp. 2	245	245	245	125	125	125	100	100	100
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.7	2.2	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	14.3	11	11	11
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	7.5	10	10	7.5	10	10	7.5	10	10
	Amps (FLA, each)	21	27	27	9.6	12.5	12.5	7.7	10	10
	Amps (LRA, each)	127	152	152	63.5	76	76	50.8	60.8	60.8

AIRFLOW PERFORMANCE - 15TON - [52.7kW] - 60 Hz - SIDEFLOW

Air Flow	Model RACG2T180A - Sideflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																					
	External Static Pressure - Inches of Water [kPa]																																					
CFM [L/s]	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4800 [2265]	–	–	–	–	–	–	–	–	653	1.53	686	1.70	716	1.86	742	2.01	766	2.15	786	2.28	802	2.41	815	2.52	825	2.63	892	2.78	914	2.89	935	2.99	955	3.07	975	3.16	993	3.23	1011	3.29
4900 [2312]	–	–	–	–	–	–	–	–	659	1.59	692	1.77	722	1.94	749	2.11	772	2.26	792	2.40	809	2.54	822	2.66	875	2.77	897	2.89	919	3.00	940	3.10	960	3.19	980	3.28	998	3.35	1016	3.42
5000 [2359]	–	–	–	–	–	–	–	–	665	1.66	699	1.85	729	2.03	756	2.21	779	2.37	799	2.53	816	2.67	857	2.75	880	2.87	903	3.00	924	3.11	945	3.21	965	3.31	984	3.40	1003	3.48	1021	3.56
5100 [2407]	–	–	–	–	–	–	–	–	671	1.73	705	1.93	735	2.13	762	2.31	785	2.49	806	2.65	822	2.81	863	2.84	886	2.98	908	3.10	929	3.22	950	3.33	970	3.43	989	3.53	1008	3.61	1026	3.69
5200 [2454]	–	–	–	–	–	–	640	1.58	677	1.80	711	2.01	741	2.22	768	2.42	792	2.60	812	2.78	844	2.80	868	2.95	891	3.08	913	3.21	934	3.34	955	3.45	975	3.56	994	3.65	1013	3.75	1056	4.23
5300 [2501]	–	–	–	–	–	–	646	1.64	683	1.87	717	2.10	747	2.32	774	2.52	798	2.72	818	2.91	850	2.90	873	3.05	896	3.19	918	3.33	939	3.45	960	3.57	980	3.68	999	3.78	1018	3.88	1060	4.36
5400 [2548]	–	–	–	–	–	–	652	1.70	689	1.95	723	2.19	753	2.41	781	2.63	804	2.84	825	3.04	855	3.00	878	3.15	901	3.30	923	3.44	945	3.57	965	3.69	985	3.81	1004	3.92	1022	4.01	1064	4.51
5500 [2595]	–	–	–	–	–	–	657	1.77	695	2.03	729	2.27	759	2.51	787	2.74	810	2.96	836	2.93	860	3.10	884	3.26	906	3.41	928	3.55	950	3.69	970	3.82	990	3.94	1009	4.05	1027	4.15	1068	4.65
5600 [2643]	–	–	–	–	–	–	663	1.84	700	2.11	734	2.36	765	2.61	792	2.86	816	3.09	841	3.03	866	3.20	889	3.37	912	3.52	934	3.67	955	3.81	975	3.94	995	4.07	1014	4.18	1051	4.59	1072	4.80
5700 [2690]	–	–	–	–	–	–	669	1.91	706	2.19	740	2.46	771	2.72	798	2.97	822	3.21	847	3.13	871	3.31	894	3.48	917	3.64	939	3.79	960	3.93	980	4.07	1000	4.20	1019	4.32	1055	4.74	–	–
5800 [2737]	–	–	–	–	–	–	674	1.98	712	2.27	746	2.55	777	2.82	804	3.09	828	3.04	852	3.23	876	3.42	900	3.59	922	3.75	944	3.91	965	4.06	985	4.20	1005	4.33	1023	4.46	1059	4.89	–	–
5900 [2784]	–	–	–	–	–	–	679	2.05	717	2.36	751	2.65	782	2.93	810	3.21	833	3.15	858	3.34	882	3.52	905	3.70	927	3.87	949	4.03	970	4.18	990	4.33	1010	4.47	1028	4.60	1064	5.04	–	–
6000 [2831]	–	–	–	–	643	1.81	684	2.13	722	2.44	757	2.75	788	3.04	815	3.33	839	3.25	863	3.44	887	3.63	910	3.82	932	3.99	954	4.16	975	4.31	995	4.46	1014	4.60	1046	4.97	1068	5.20	–	–
6100 [2878]	–	–	–	–	648	1.88	690	2.21	727	2.53	762	2.85	793	3.15	821	3.45	844	3.35	869	3.55	892	3.75	915	3.93	938	4.11	959	4.28	980	4.44	1000	4.60	1019	4.74	1051	5.12	1073	5.36	–	–
6200 [2926]	–	–	–	–	653	1.94	695	2.29	733	2.63	767	2.95	798	3.27	826	3.58	849	3.46	874	3.66	898	3.86	921	4.05	943	4.23	964	4.41	985	4.57	1005	4.73	1024	4.88	1056	5.28	–	–	–	–
6300 [2973]	–	–	–	–	658	2.02	700	2.37	738	2.72	772	3.06	804	3.39	831	3.30	855	3.56	879	3.77	903	3.98	926	4.17	948	4.36	969	4.54	990	4.71	1010	4.87	1029	5.02	1060	5.45	–	–	–	–
6400 [3020]	–	–	–	–	663	2.09	704	2.46	743	2.82	777	3.16	809	3.50	835	3.45	860	3.67	885	3.89	908	4.09	931	4.29	953	4.48	974	4.67	995	4.84	1015	5.01	1044	5.36	1065	5.62	–	–	–	–
6500 [3067]	–	–	–	–	668	2.17	709	2.54	747	2.91	782	3.27	814	3.62	841	3.55	866	3.78	890	4.00	914	4.21	936	4.42	958	4.61	980	4.80	1000	4.98	1020	5.15	1048	5.53	1070	5.79	–	–	–	–
6600 [3114]	–	–	–	–	672	2.24	714	2.63	752	3.01	787	3.38	819	3.75	846	3.66	871	3.89	895	4.12	919	4.33	942	4.54	963	4.74	985	4.93	1005	5.12	1025	5.29	1053	5.69	1075	5.97	–	–	–	–
6700 [3162]	–	–	–	–	677	2.32	719	2.72	757	3.12	792	3.50	824	3.87	852	3.77	877	4.01	901	4.23	924	4.46	947	4.67	969	4.87	990	5.07	1010	5.26	1030	5.44	1058	5.87	–	–	–	–	–	–
6800 [3209]	–	–	–	–	681	2.40	723	2.82	762	3.22	797	3.61	832	3.63	857	3.88	882	4.12	906	4.35	929	4.58	952	4.80	974	5.01	995	5.21	1015	5.40	1042	5.77	1064	6.05	–	–	–	–	–	–
6900 [3256]	–	–	640	2.06	686	2.49	727	2.91	766	3.33	801	3.73	837	3.74	863	3.99	888	4.24	911	4.48	935	4.71	957	4.93	979	5.14	1000	5.35	1020	5.54	1047	5.94	1069	6.23	–	–	–	–	–	–
7000 [3303]	–	–	644	2.13	690	2.57	732	3.01	770	3.43	806	3.85	843	3.85	868	4.11	893	4.36	917	4.60	940	4.83	962	5.06	984	5.28	1005	5.49	1025	5.69	1053	6.12	1074	6.42	–	–	–	–	–	–
7100 [3350]	–	–	648	2.21	694	2.66	736	3.11	775	3.54	810	3.97	849	3.96	874	4.22	898	4.48	922	4.72	945	4.96	968	5.19	989	5.41	1010	5.63	1036	6.01	1058	6.31	–	–	–	–	–	–	–	–
7200 [3398]	–	–	652	2.29	698	2.75	740	3.21	779	3.66	814	4.09	854	4.08	879	4.34	904	4.60	928	4.85	951	5.09	973	5.33	994	5.55	1015	5.77	1042	6.19	1063	6.49	–	–	–	–	–	–	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	3 [2237.1]							5 [3728.5]							5 [3728.5]						
Motor RPM	1725							1755							1755						
Blower Sheave	BK90H							BK95H							BK90H						
Motor Frame Size	56							184							184						
Motor Sheave	1VL44							1VP56							1VP56						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	813	777	**745**	712	681	645	|	1012	985	949	**912**	881	844	|	1052	1016	983	**952**	916	878

NOTES: 1. Factory sheave settings are shown in bold type.

2. Do not set motor sheave below minimum or maximum turns open shown.

3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure

4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

5. An RPM meter must be used to receive an accurate airflow reading.

AIRFLOW PERFORMANCE -15TON [52.7kW] - 60 Hz - DOWNFLOW

Air Flow	Model RACG2T180A - Downflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																					
	External Static Pressure - Inches of Water [kPa]																																					
CFM [L/s]	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4800 [2265]	–	–	–	–	–	–	–	–	574	1.23	611	1.35	648	1.49	686	1.65	724	1.83	763	2.03	802	2.25	835	3.46	866	3.73	877	3.18	900	3.32	923	3.47	946	3.64	968	3.82	991	4.02	1014	4.23
4900 [2312]	–	–	–	–	–	–	541	1.15	577	1.25	613	1.37	650	1.52	687	1.68	725	1.86	764	2.07	803	2.29	836	3.45	866	3.72	878	3.21	901	3.36	924	3.52	947	3.69	970	3.88	993	4.08	1015	4.30
5000 [2359]	–	–	–	–	–	–	544	1.16	579	1.27	615	1.40	652	1.54	689	1.71	727	1.90	765	2.11	804	2.34	836	3.44	867	3.71	879	3.24	902	3.40	925	3.56	948	3.75	971	3.94	994	4.15	1017	4.37
5100 [2407]	–	–	–	–	–	–	546	1.18	582	1.29	618	1.42	654	1.58	691	1.75	728	1.94	766	2.15	805	2.39	837	3.43	868	3.70	881	3.28	904	3.44	927	3.61	950	3.80	973	4.00	995	4.22	1018	4.44
5200 [2454]	–	–	–	–	–	–	549	1.20	584	1.32	620	1.45	656	1.61	693	1.79	730	1.98	767	2.20	806	2.44	838	3.42	868	3.69	882	3.32	905	3.49	928	3.67	951	3.86	974	4.07	997	4.29	1020	4.52
5300 [2501]	–	–	–	–	–	–	552	1.23	587	1.35	622	1.49	658	1.65	694	1.83	731	2.03	769	2.25	807	2.49	839	3.42	869	3.69	883	3.37	906	3.54	929	3.72	952	3.92	975	4.13	999	4.36	1022	4.60
5400 [2548]	–	–	–	–	–	–	555	1.25	589	1.38	625	1.52	660	1.69	696	1.87	733	2.07	770	2.30	808	2.55	840	3.42	870	3.70	884	3.41	908	3.59	931	3.78	954	3.98	977	4.20	1000	4.43	1023	4.68
5500 [2595]	–	–	–	–	–	–	558	1.28	592	1.41	627	1.56	662	1.73	698	1.92	735	2.12	771	2.35	809	2.60	841	3.43	870	3.70	886	3.46	909	3.64	932	3.84	955	4.05	979	4.27	1002	4.51	1025	4.76
5600 [2643]	–	–	–	–	–	–	561	1.31	595	1.45	630	1.60	665	1.77	700	1.96	736	2.18	773	2.41	810	2.67	842	3.44	871	3.71	887	3.51	910	3.70	934	3.90	957	4.12	980	4.35	1004	4.59	1027	4.85
5700 [2690]	–	–	–	–	–	–	564	1.35	598	1.48	632	1.64	667	1.82	702	2.01	738	2.23	774	2.47	811	2.73	843	3.45	872	3.73	889	3.56	912	3.76	935	3.96	959	4.19	982	4.42	1005	4.67	1029	4.94
5800 [2737]	–	–	–	–	–	–	567	1.38	601	1.52	635	1.68	669	1.87	704	2.07	740	2.29	776	2.53	813	2.79	844	3.47	873	3.75	890	3.61	913	3.82	937	4.03	960	4.26	984	4.50	1007	4.76	1030	5.03
5900 [2784]	–	–	–	–	–	–	571	1.42	604	1.57	637	1.73	672	1.92	706	2.12	742	2.35	778	2.60	814	2.86	845	3.49	874	3.77	891	3.67	915	3.88	938	4.10	962	4.34	985	4.58	1009	4.85	1032	5.12
6000 [2831]	–	–	–	–	541	1.34	574	1.46	607	1.61	640	1.78	674	1.97	709	2.18	744	2.41	779	2.66	815	2.93	846	3.51	875	3.79	893	3.73	917	3.94	940	4.17	964	4.41	987	4.67	1011	4.94	1034	5.22
6100 [2878]	–	–	–	–	545	1.37	577	1.51	610	1.66	643	1.83	677	2.03	711	2.24	746	2.48	781	2.73	817	3.01	848	3.54	876	3.82	895	3.79	918	4.01	942	4.25	965	4.49	989	4.75	1013	5.03	1036	5.32
6200 [2926]	–	–	–	–	549	1.42	581	1.55	613	1.71	646	1.89	679	2.09	713	2.31	748	2.54	783	2.80	818	3.08	849	3.57	878	3.85	896	3.86	920	4.08	944	4.32	967	4.58	991	4.84	1015	5.12	1038	5.42
6300 [2973]	–	–	–	–	553	1.46	584	1.60	616	1.76	649	1.95	682	2.15	716	2.37	750	2.61	785	2.88	820	3.16	850	3.60	879	3.89	898	3.92	922	4.16	945	4.40	969	4.66	993	4.93	1016	5.22	1040	5.52
6400 [3020]	–	–	–	–	556	1.51	588	1.65	619	1.82	652	2.01	685	2.21	718	2.44	752	2.69	787	2.96	822	3.24	852	3.64	880	3.93	900	3.99	923	4.23	947	4.48	971	4.75	995	5.03	1019	5.32	1042	5.62
6500 [3067]	–	–	–	–	560	1.56	591	1.71	623	1.88	655	2.07	688	2.28	721	2.51	755	2.76	789	3.03	824	3.33	853	3.68	882	3.97	901	4.06	925	4.31	949	4.57	973	4.84	997	5.12	1021	5.42	1044	5.73
6600 [3114]	–	–	–	–	564	1.61	595	1.76	626	1.94	658	2.13	690	2.35	723	2.58	757	2.84	791	3.12	827	3.44	855	3.73	883	4.02	903	4.14	927	4.39	951	4.65	975	4.93	999	5.22	1023	5.52	1047	5.84
6700 [3162]	–	–	–	–	568	1.66	599	1.82	630	2.00	661	2.20	693	2.42	726	2.66	759	2.92	793	3.20	828	3.49	857	3.78	885	4.07	905	4.21	929	4.47	953	4.74	977	5.02	1001	5.32	1025	5.63	1049	5.95
6800 [3209]	–	–	542	1.58	572	1.72	602	1.88	633	2.07	665	2.27	696	2.49	729	2.74	762	3.00	795	3.29	830	3.54	858	3.83	886	4.12	907	4.29	931	4.55	955	4.83	979	5.12	1003	5.42	1027	5.74	1051	6.07
6900 [3256]	–	–	547	1.64	576	1.78	606	1.95	637	2.14	668	2.34	699	2.57	732	2.82	764	3.09	797	3.38	832	3.60	860	3.89	888	4.18	909	4.37	933	4.64	957	4.92	981	5.22	1005	5.53	1029	5.85	1053	6.19
7000 [3303]	–	–	551	1.69	580	1.84	610	2.01	640	2.21	671	2.42	703	2.65	734	2.90	767	3.18	800	3.47	834	3.65	862	3.95	889	4.24	911	4.46	935	4.73	959	5.02	983	5.32	1007	5.63	1031	5.96	–	–
7100 [3350]	527	1.62	556	1.75	585	1.91	614	2.08	644	2.28	675	2.50	706	2.73	737	2.99	769	3.27	802	3.56	836	3.72	864	4.01	891	4.31	913	4.54	937	4.82	961	5.12	985	5.42	1010	5.74	1034	6.08	–	–
7200 [3398]	532	1.68	560	1.82	589	1.98	618	2.16	648	2.36	678	2.58	709	2.82	740	3.08	772	3.36	805	3.66	838	3.78	866	4.08	893	4.37	915	4.63	939	4.92	963	5.22	988	5.53	1012	5.86	1036	6.20	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	3 [2237.1]							5 [3728.5]							5 [3728.5]						
Motor RPM	1725							1755							1755						
Blower Sheave	BK90H							BK95H							BK90H						
Motor Frame Size	56							184							184						
Motor Sheave	1VL44							1VP56							1VP56						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	806	774	**743**	707	672	637	|	1000	967	935	**901**	866	832	|	1037	1008	978	**945**	912	878

NOTES: 1. Factory sheave settings are shown in bold type.

2. Do not set motor sheave below minimum or maximum turns open shown.

3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure

4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

5. An RPM meter must be used to receive an accurate airflow reading.

COMPONENT AIRFLOW RESISTANCE - 15 TON [52.7kW]

CFM [L/s]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]
	Resistance - Inches of Water [kPa]												
Wet Coil	0.01 [.00]	0.02 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]	0.04 [.01]	0.04 [.01]	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.06 [.01]
Downflow Economizer RA Damper Open	0.17 [0.08]	0.18 [0.08]	0.19 [0.08]	0.20 [0.09]	0.21 [0.09]	0.22 [0.10]	0.23 [0.10]	0.24 [0.11]	0.25 [0.11]	0.26 [0.12]	0.26 [0.12]	0.27 [0.12]	0.28 [0.13]
Horizontal Economizer RA Damper Open	0.70 [0.33]	0.70 [0.33]	0.80 [0.37]	0.80 [0.37]	0.80 [0.37]	0.80 [0.37]	0.80 [0.37]	0.80 [0.37]	0.90 [0.42]	0.90 [0.42]	0.90 [0.42]	0.90 [0.42]	0.90 [0.42]
MERV 8 Filter	0.075 [0.03]	0.079 [0.03]	0.083 [0.03]	0.087 [0.04]	0.091 [0.04]	0.095 [0.04]	0.099 [0.04]	0.103 [0.04]	0.107 [0.05]	0.111 [0.05]	0.116 [0.05]	0.120 [0.05]	0.124 [0.05]
MERV 13 Filter	0.019 [0.00]	0.026 [0.01]	0.032 [0.01]	0.038 [0.01]	0.044 [0.02]	0.051 [0.02]	0.057 [0.02]	0.063 [0.02]	0.070 [0.03]	0.076 [0.03]	0.082 [0.03]	0.089 [0.04]	0.095 [0.04]
Concentric Grill RX-RN-AD80 or RXRN-AD81 & Transition RXMC-CJ07	0.21 [.05]	0.25 [.06]	0.28 [.07]	0.32 [.08]	0.35 [.09]	0.39 [.10]	0.43 [.11]	0.46 [.11]	0.50 [.12]	0.54 [.13]	0.57 [.14]	0.61 [.15]	0.64 [.16]

AIRFLOW CORRECTION FACTORS - 15 TON [52.7kW]

CFM [L/s]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]
Total MBH	0.97	0.98	0.98	0.99	0.99	1.00	1.00	1.01	1.02	1.02	1.03	1.03	1.04
Sensible MBH	0.89	0.91	0.93	0.95	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13
Power kW	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	1.02	1.02	1.02

NOTE: Multiply correction factor times gross performance data - resulting sensible capacity cannot exceed total capacity.

AIRFLOW PERFORMANCE- 17.5TON [61.5kW] - 60 Hz - SIDEFLOW

Air Flow	Model RACG2T210A - Sideflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																			
	External Static Pressure Inches of Water [kPa]																																			
CFM [L/s]	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5600 [2643]	–	–	–	–	–	–	663	1.84	700	2.11	734	2.36	765	2.61	792	2.86	816	3.09	841	3.03	866	3.20	889	3.37	912	3.52	934	3.67	955	3.81	975	3.94	995	4.07	1014	4.18	1040	4.44	1061	4.56
5700 [2690]	–	–	–	–	–	–	669	1.91	706	2.19	740	2.46	771	2.72	798	2.97	822	3.21	847	3.13	871	3.31	894	3.48	917	3.64	939	3.79	960	3.93	980	4.07	1000	4.20	1019	4.32	1045	4.56	1066	4.68
5800 [2737]	–	–	–	–	633	1.68	674	1.98	712	2.27	746	2.55	777	2.82	804	3.09	828	3.34	852	3.23	876	3.42	900	3.59	922	3.75	944	3.91	965	4.06	985	4.20	1005	4.33	1023	4.46	1049	4.68	1070	4.81
5900 [2784]	–	–	–	–	638	1.74	679	2.05	717	2.36	751	2.65	782	2.93	810	3.21	833	3.15	858	3.34	882	3.52	905	3.70	927	3.87	949	4.03	970	4.18	990	4.33	1010	4.47	1028	4.60	1054	4.81	1075	4.94
6000 [2831]	–	–	–	–	643	1.81	684	2.13	722	2.44	757	2.75	788	3.04	815	3.33	839	3.25	863	3.44	887	3.63	910	3.82	932	3.99	954	4.16	975	4.31	995	4.46	1014	4.60	1038	4.80	1059	4.94	1080	5.07
6100 [2878]	–	–	–	–	648	1.88	690	2.21	727	2.53	762	2.85	793	3.15	821	3.45	844	3.35	869	3.55	892	3.75	915	3.93	938	4.11	959	4.28	980	4.44	1000	4.60	1019	4.74	1043	4.92	1064	5.06	1084	5.20
6200 [2926]	–	–	–	–	653	1.94	695	2.29	733	2.63	767	2.95	798	3.27	826	3.58	849	3.46	874	3.66	898	3.86	921	4.05	943	4.23	964	4.41	985	4.57	1005	4.73	1024	4.88	1047	5.05	1068	5.19	1089	5.34
6300 [2973]	–	–	–	–	658	2.02	700	2.37	738	2.72	772	3.06	804	3.39	830	3.34	855	3.56	879	3.77	903	3.98	926	4.17	948	4.36	969	4.54	990	4.71	1010	4.87	1029	5.02	1052	5.17	1073	5.33	1094	5.47
6400 [3020]	–	–	–	–	663	2.09	704	2.46	743	2.82	777	3.16	809	3.50	835	3.45	860	3.67	885	3.89	908	4.09	931	4.29	953	4.48	974	4.67	995	4.84	1015	5.01	1036	5.14	1057	5.30	1078	5.46	1098	5.61
6500 [3067]	–	–	–	–	668	2.17	709	2.54	747	2.91	782	3.27	814	3.62	841	3.55	866	3.78	890	4.00	914	4.21	936	4.42	958	4.61	980	4.80	1000	4.98	1020	5.15	1041	5.27	1062	5.43	1083	5.59	1103	5.74
6600 [3114]	–	–	–	–	672	2.24	714	2.63	752	3.01	787	3.38	819	3.75	846	3.66	871	3.89	895	4.12	919	4.33	942	4.54	963	4.74	985	4.93	1005	5.12	1025	5.29	1046	5.40	1067	5.56	1088	5.73	1108	5.88
6700 [3162]	–	–	632	1.91	677	2.32	719	2.72	757	3.12	792	3.50	824	3.87	852	3.77	877	4.01	901	4.23	924	4.46	947	4.67	969	4.87	990	5.07	1010	5.26	1030	5.44	1051	5.53	1072	5.70	1093	5.86	–	–
6800 [3209]	–	–	636	1.98	681	2.40	723	2.82	762	3.22	797	3.61	828	4.00	857	3.88	882	4.12	906	4.35	929	4.58	952	4.80	974	5.01	995	5.21	1015	5.40	1035	5.47	1056	5.66	1077	5.83	1097	6.00	–	–
6900 [3256]	–	–	640	2.06	686	2.49	727	2.91	766	3.33	801	3.73	837	3.74	863	3.99	888	4.24	911	4.48	935	4.71	957	4.93	979	5.14	1000	5.35	1020	5.54	1040	5.60	1061	5.79	1082	5.97	1102	6.14	–	–
7000 [3303]	–	–	644	2.13	690	2.57	732	3.01	770	3.43	806	3.85	843	3.85	868	4.11	893	4.36	917	4.60	940	4.83	962	5.06	984	5.28	1005	5.49	1025	5.69	1045	5.73	1066	5.92	1087	6.10	1107	6.28	–	–
7100 [3350]	–	–	648	2.21	694	2.66	736	3.11	775	3.54	810	3.97	849	3.96	874	4.22	898	4.48	922	4.72	945	4.96	968	5.19	989	5.41	1010	5.63	1029	5.66	1050	5.86	1071	6.05	1092	6.24	–	–	–	–
7200 [3398]	–	–	652	2.29	698	2.75	740	3.21	779	3.66	814	4.09	854	4.08	879	4.34	904	4.60	928	4.85	951	5.09	973	5.33	994	5.55	1015	5.77	1034	5.79	1056	5.99	1076	6.19	1097	6.38	–	–	–	–
7300 [3445]	–	–	656	2.37	702	2.84	744	3.31	783	3.77	819	4.22	860	4.19	885	4.46	909	4.72	933	4.98	956	5.23	978	5.47	999	5.70	1020	5.92	1040	5.92	1061	6.13	1082	6.33	1102	6.52	–	–	–	–
7400 [3492]	–	–	660	2.45	706	2.94	748	3.42	787	3.89	823	4.35	865	4.31	890	4.58	915	4.85	938	5.11	961	5.36	983	5.60	1005	5.84	1025	6.07	1045	6.05	1066	6.26	1087	6.46	1107	6.66	–	–	–	–
7500 [3539]	–	–	664	2.53	710	3.03	752	3.52	791	4.00	827	4.48	871	4.43	896	4.71	920	4.98	944	5.24	966	5.50	988	5.74	1010	5.98	1029	5.96	1050	6.18	1071	6.40	1092	6.60	–	–	–	–	–	–
7600 [3586]	–	–	667	2.62	713	3.13	756	3.63	795	4.13	851	4.25	876	4.55	901	4.83	925	5.11	949	5.37	972	5.63	994	5.89	1015	6.13	1035	6.09	1056	6.32	1077	6.53	1097	6.75	–	–	–	–	–	–
7700 [3633]	–	–	671	2.71	717	3.23	760	3.74	799	4.25	856	4.37	882	4.67	907	4.96	931	5.24	954	5.51	977	5.77	999	6.03	1020	6.28	1040	6.22	1061	6.45	1082	6.67	1103	6.89	–	–	–	–	–	–
7800 [3681]	–	–	674	2.80	720	3.33	763	3.86	803	4.37	862	4.49	887	4.79	912	5.08	936	5.37	959	5.65	982	5.92	1004	6.18	1025	6.43	1045	6.36	1067	6.59	1087	6.81	1108	7.03	–	–	–	–	–	–
7900 [3728]	–	–	678	2.89	724	3.44	767	3.97	806	4.50	867	4.61	893	4.92	918	5.21	941	5.50	965	5.79	987	6.06	1009	6.32	1030	6.25	1051	6.49	1072	6.73	1093	6.95	–	–	–	–	–	–	–	–
8000 [3775]	631	2.42	681	2.99	727	3.54	770	4.09	810	4.63	873	4.73	898	5.04	923	5.35	947	5.64	970	5.93	992	6.20	1014	6.47	1035	6.38	1056	6.63	1077	6.86	1098	7.10	–	–	–	–	–	–	–	–
8100 [3822]	634	2.51	684	3.09	730	3.65	773	4.21	813	4.76	878	4.86	904	5.17	928	5.48	952	5.78	975	6.07	998	6.35	1019	6.62	1041	6.51	1062	6.76	1083	7.00	1104	7.24	–	–	–	–	–	–	–	–
8200 [3869]	637	2.60	687	3.19	734	3.76	777	4.33	816	4.89	884	4.99	909	5.30	934	5.61	958	5.92	981	6.21	1003	6.50	1024	6.78	1046	6.65	1068	6.90	1088	7.15	1109	7.39	–	–	–	–	–	–	–	–
8300 [3917]	640	2.69	690	3.29	737	3.88	780	4.45	820	5.02	890	5.11	915	5.44	939	5.75	963	6.06	986	6.36	1008	6.65	1030	6.93	1052	6.78	1073	7.04	1094	7.29	–	–	–	–	–	–	–	–	–	–
8400 [3964]	643	2.78	693	3.39	740	3.99	783	4.58	823	5.16	895	5.24	920	5.57	945	5.89	968	6.20	991	6.50	1013	6.80	1036	6.65	1058	6.92	1079	7.18	1100	7.43	–	–	–	–	–	–	–	–	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	3 [2237.1]							5 [3728.5]							7.5 [5592.7]						
Motor RPM	1725							1755							1760						
Blower Sheave	BK90H							BK95H							BK100H						
Motor Frame Size	56							184							213						
Motor Sheave	1VL44							1VP56							1VP65						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM		814	781	**750**	718	679	645		1014	978	943	**913**	876	845		1103	1070	1035	**1003**	967	932

NOTES:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

AIRFLOW PERFORMANCE -17.5TON [61.5kW] - 60 Hz - DOWNFLOW

Air Flow	Model RACG2T210A - Downflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																			
	External Static Pressure - Inches of Water [kPa]																																			
CFM [L/s]	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5600 [2643]	–	–	–	–	–	–	–	–	599	1.41	633	1.58	666	1.77	700	1.98	733	2.21	766	2.46	799	2.73	842	3.44	871	3.71	900	3.99	929	4.27	958	4.54	986	4.82	1014	5.10	1020	4.89	1047	5.27
5700 [2690]	–	–	–	–	–	–	–	–	602	1.45	635	1.63	669	1.82	702	2.04	735	2.27	768	2.52	800	2.79	843	3.45	872	3.73	901	4.01	930	4.28	958	4.56	987	4.84	1014	5.12	1021	4.94	1048	5.32
5800 [2737]	–	–	–	–	–	–	–	–	604	1.49	638	1.67	671	1.87	704	2.09	737	2.33	769	2.58	802	2.86	844	3.47	873	3.75	902	4.02	931	4.30	959	4.58	987	4.86	1015	5.14	1022	4.99	1049	5.37
5900 [2784]	–	–	–	–	–	–	–	–	607	1.53	640	1.72	673	1.92	706	2.15	739	2.39	771	2.65	803	2.93	845	3.49	874	3.77	903	4.05	931	4.33	960	4.61	987	4.89	1015	5.17	1024	5.04	1051	5.42
6000 [2831]	–	–	–	–	–	–	577	1.41	610	1.58	643	1.77	676	1.98	708	2.21	741	2.45	773	2.72	805	3.00	846	3.51	875	3.79	904	4.07	932	4.35	960	4.64	988	4.92	998	4.73	1025	5.09	1052	5.48
6100 [2878]	–	–	–	–	–	–	580	1.45	613	1.63	646	1.82	678	2.04	711	2.27	743	2.52	775	2.79	807	3.08	848	3.54	876	3.82	905	4.10	933	4.38	961	4.67	988	4.95	999	4.79	1026	5.15	1053	5.53
6200 [2926]	–	–	–	–	–	–	583	1.50	616	1.68	649	1.88	681	2.10	713	2.34	745	2.59	777	2.86	808	3.16	849	3.57	878	3.85	906	4.14	934	4.42	962	4.70	989	4.99	1001	4.84	1027	5.21	1054	5.59
6300 [2973]	–	–	–	–	–	–	587	1.55	619	1.74	651	1.94	684	2.16	716	2.40	747	2.66	779	2.94	810	3.24	850	3.60	879	3.89	907	4.17	935	4.46	963	4.74	990	5.03	1002	4.90	1029	5.27	1055	5.65
6400 [3020]	–	–	–	–	–	–	590	1.60	622	1.79	654	2.00	686	2.23	718	2.47	750	2.74	781	3.02	812	3.32	852	3.64	880	3.93	908	4.21	936	4.50	963	4.79	990	5.07	1003	4.96	1030	5.33	1057	5.72
6500 [3067]	–	–	–	–	–	–	593	1.66	625	1.85	657	2.07	689	2.30	721	2.55	752	2.82	783	3.10	814	3.41	853	3.68	882	3.97	910	4.26	937	4.54	964	4.83	991	5.12	1005	5.02	1031	5.39	1058	5.78
6600 [3114]	–	–	–	–	–	–	597	1.72	629	1.91	660	2.13	692	2.37	723	2.62	754	2.90	785	3.19	816	3.50	855	3.73	883	4.02	911	4.31	938	4.59	965	4.88	992	5.17	1006	5.09	1033	5.46	1059	5.85
6700 [3162]	–	–	–	–	–	–	600	1.78	632	1.98	663	2.20	695	2.44	726	2.70	757	2.98	788	3.28	818	3.59	857	3.78	885	4.07	912	4.36	939	4.65	966	4.94	993	5.23	1008	5.16	1034	5.53	1061	5.92
6800 [3209]	–	–	–	–	–	–	604	1.84	635	2.05	667	2.27	698	2.52	729	2.78	759	3.07	790	3.37	820	3.69	858	3.83	886	4.12	914	4.41	941	4.70	968	4.99	994	5.28	1009	5.23	1035	5.60	1062	5.99
6900 [3256]	–	–	–	–	576	1.71	608	1.91	639	2.12	670	2.35	701	2.60	731	2.87	762	3.15	792	3.46	822	3.78	860	3.89	888	4.18	915	4.47	942	4.76	969	5.05	995	5.35	1011	5.30	1037	5.67	1063	6.07
7000 [3303]	–	–	–	–	580	1.78	611	1.98	642	2.19	673	2.43	704	2.68	734	2.95	765	3.25	795	3.56	825	3.88	862	3.95	889	4.24	917	4.53	943	4.83	970	5.12	996	5.41	1012	5.37	1038	5.75	1065	6.14
7100 [3350]	–	–	–	–	584	1.84	615	2.05	646	2.27	676	2.51	707	2.77	737	3.04	767	3.34	797	3.65	836	3.72	864	4.01	891	4.31	918	4.60	945	4.89	971	5.19	997	5.48	1014	5.45	1040	5.83	1066	6.22
7200 [3398]	–	–	–	–	588	1.91	619	2.12	649	2.35	680	2.59	710	2.85	740	3.14	770	3.44	800	3.76	838	3.78	866	4.08	893	4.37	920	4.67	946	4.96	973	5.26	998	5.55	1016	5.53	1042	5.90	1068	6.30
7300 [3445]	–	–	–	–	592	1.99	623	2.20	653	2.43	683	2.68	713	2.95	743	3.23	773	3.54	802	3.86	841	3.85	868	4.15	895	4.45	922	4.74	948	5.04	974	5.33	1000	5.63	1017	5.61	1043	5.99	1069	6.39
7400 [3492]	–	–	–	–	596	2.06	626	2.28	657	2.51	687	2.77	717	3.04	746	3.33	776	3.64	805	3.97	843	3.93	870	4.22	897	4.52	923	4.82	950	5.12	975	5.41	1001	5.71	1019	5.69	1045	6.07	1071	6.47
7500 [3539]	–	–	–	–	600	2.14	630	2.36	660	2.60	690	2.86	720	3.13	749	3.43	779	3.74	808	4.08	845	4.00	872	4.30	899	4.60	925	4.90	951	5.20	977	5.50	1002	5.80	1021	5.78	1046	6.16	1073	6.56
7600 [3586]	–	–	–	–	605	2.22	634	2.45	664	2.69	694	2.95	723	3.23	752	3.53	782	3.85	810	4.19	847	4.08	874	4.38	901	4.68	927	4.98	953	5.28	979	5.58	1004	5.88	1022	5.87	1048	6.25	1074	6.65
7700 [3633]	–	–	579	2.09	609	2.30	639	2.53	668	2.78	698	3.05	727	3.33	756	3.64	785	3.96	813	4.30	850	4.17	877	4.47	903	4.77	929	5.07	955	5.37	980	5.67	1005	5.97	1024	5.95	1050	6.34	1076	6.74
7800 [3681]	–	–	583	2.17	613	2.39	643	2.62	672	2.88	701	3.15	730	3.44	759	3.75	788	4.07	816	4.42	852	4.26	879	4.56	905	4.86	931	5.16	957	5.46	982	5.77	1007	6.07	1026	6.05	1052	6.43	1078	6.84
7900 [3728]	–	–	588	2.26	618	2.48	647	2.72	676	2.97	705	3.25	734	3.54	762	3.86	791	4.19	819	4.54	855	4.35	881	4.65	907	4.95	933	5.26	959	5.56	984	5.86	1009	6.17	1028	6.14	1053	6.53	1079	6.93
8000 [3775]	–	–	593	2.35	622	2.57	651	2.81	680	3.07	709	3.35	737	3.65	766	3.97	794	4.31	822	4.66	857	4.44	884	4.75	910	5.05	935	5.36	961	5.66	986	5.96	1010	6.27	1030	6.24	1055	6.62	1081	7.03
8100 [3822]	–	–	597	2.44	627	2.66	655	2.91	684	3.18	713	3.46	741	3.77	769	4.09	797	4.43	834	4.24	860	4.54	886	4.85	912	5.15	937	5.46	963	5.76	987	6.07	1012	6.38	1032	6.34	1057	6.72	1083	7.13
8200 [3869]	–	–	602	2.53	631	2.76	660	3.01	688	3.28	717	3.57	745	3.88	773	4.21	801	4.55	836	4.34	863	4.64	889	4.95	914	5.26	940	5.56	965	5.87	989	6.18	1014	6.48	1034	6.44	1059	6.82	1085	7.23
8300 [3917]	578	2.40	607	2.62	636	2.86	664	3.12	693	3.39	721	3.69	749	4.00	776	4.33	804	4.68	839	4.44	865	4.75	891	5.06	917	5.37	942	5.67	967	5.98	991	6.29	1011	6.17	1036	6.54	1061	6.93	1087	7.34
8400 [3964]	583	2.50	612	2.72	641	2.96	669	3.22	697	3.50	725	3.80	753	4.12	780	4.45	808	4.81	842	4.55	868	4.86	894	5.17	919	5.48	944	5.79	969	6.10	993	6.40	1013	6.28	1038	6.64	1063	7.03	1089	7.45

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	3 [2237.1]							5 [3728.5]							7.5 [5592.7]						
Motor RPM	1725							1755							1760						
Blower Sheave	BK90H							BK95H							BK100H						
Motor Frame Size	56							184							213						
Motor Sheave	1VL44							1VP56							1VP65						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	806	776	**743**	713	678	637	|	1000	967	935	**901**	866	832	|	1084	1054	1024	**991**	959	926

Notes:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

Appendix C – Air Flow Performance Data (Cont.)

COMPONENT AIRFLOW RESISTANCE - 17.5 TON [61.5kW]

CFM [L/s]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]
	Resistance - Inches of Water [kPa]														
Wet Coil	0.03 [.01]	0.04 [.01]	0.04 [.01]	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.07 [.02]	0.08 [.02]	0.08 [.02]	0.08 [.02]	0.09 [.02]
Downflow Economizer RA Damper Open	0.21 [0.09]	0.22 [0.01]	0.23 [0.01]	0.24 [0.01]	0.25 [0.01]	0.26 [0.01]	0.26 [0.01]	0.27 [0.01]	0.28 [0.01]	0.29 [0.01]	0.30 [0.01]	0.31 [0.01]	0.32 [0.01]	0.33 [0.01]	0.33 [0.01]
Horizontal Economizer RA Damper Open	0.08 [0.03]	0.08 [0.03]	0.08 [0.03]	0.08 [0.03]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]
MERV 8 Filter	0.091 [0.04]	0.095 [0.04]	0.099 [0.04]	0.103 [0.04]	0.107 [0.05]	0.111 [0.05]	0.116 [0.05]	0.120 [0.05]	0.124 [0.05]	0.128 [0.06]	0.132 [0.06]	0.136 [0.06]	0.140 [0.06]	0.144 [0.06]	0.148 [0.06]
MERV 13 Filter	0.044 [0.02]	0.051 [0.02]	0.057 [0.02]	0.063 [0.02]	0.070 [0.03]	0.076 [0.03]	0.082 [0.03]	0.089 [0.04]	0.095 [0.04]	0.101 [0.04]	0.107 [0.05]	0.114 [0.05]	0.120 [0.05]	0.126 [0.05]	0.133 [0.06]
Concentric Grill RX-RN-AD80 or RXRN-AD81 & Transition RXMC-CJ07	0.35 [.09]	0.39 [.10]	0.43 [.11]	0.46 [.11]	0.50 [.12]	0.54 [.13]	0.57 [.14]	0.61 [.15]	0.64 [.16]	0.68 [.17]	0.72 [.18]	0.75 [.19]	0.79 [.20]	0.83 [.21]	0.86 [.21]

AIRFLOW CORRECTION FACTORS - 17.5 TON [61.5kW]

CFM	5600	5800	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8200	8400
[L/s]	[2643]	[2737]	[2831]	[2926]	[3020]	[3114]	[3209]	[3303] 0	[3398] 0	[3492]	[3586]	[3681]	[3775] 0	[3869] 0	[3964]
Total MBH	0.97	0.97	0.98	0.98	0.99	0.99	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03	1.04
Sensible MBH	0.87	0.89	0.91	0.93	0.95	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15
Power kW	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.02	1.02

NOTE: Multiply correction factor times gross performance data - resulting sensible capacity cannot exceed total capacity.

AIRFLOW PERFORMANCE - 20TON [87.9kW] - 60 Hz - SIDEFLOW

Air Flow CFM [L/s]	Model RACG2T240A - Sideflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																							
	External Static Pressure - Inches of Water [kPa]																																							
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6400 [3020]	–	–	–	–	–	–	750	2.67	780	2.93	806	3.17	831	3.38	853	3.56	873	3.73	891	3.86	906	3.98	919	4.07	954	4.41	977	4.64	999	4.87	1022	5.11	1044	5.36	1065	5.62	1136	5.92	1155	6.22
6500 [3067]	–	–	–	–	722	2.44	754	2.74	784	3.01	811	3.25	836	3.47	859	3.67	879	3.85	897	3.99	913	4.12	937	4.32	960	4.54	982	4.78	1005	5.02	1027	5.27	1048	5.53	1070	5.79	1139	6.06	1159	6.36
6600 [3114]	–	–	–	–	726	2.49	758	2.80	788	3.08	816	3.34	841	3.57	864	3.78	885	3.97	904	4.13	920	4.27	942	4.45	965	4.68	988	4.93	1010	5.17	1032	5.43	1053	5.69	1075	5.97	1143	6.20	1162	6.50
6700 [3162]	–	–	–	–	729	2.55	762	2.87	793	3.16	821	3.43	847	3.68	870	3.90	891	4.09	910	4.27	925	4.35	948	4.59	971	4.83	993	5.08	1015	5.33	1037	5.60	1058	5.87	1126	6.04	1146	6.34	1166	6.65
6800 [3209]	–	–	–	–	733	2.61	766	2.94	797	3.25	826	3.53	852	3.78	876	4.02	897	4.22	916	4.41	931	4.49	954	4.73	976	4.98	998	5.23	1020	5.50	1042	5.77	1064	6.05	1130	6.18	1150	6.48	1169	6.80
6900 [3256]	–	–	–	–	737	2.68	770	3.02	802	3.33	830	3.63	857	3.89	881	4.14	903	4.36	914	4.38	937	4.62	959	4.87	982	5.13	1004	5.39	1026	5.66	1047	5.94	1069	6.23	1134	6.33	1154	6.63	1173	6.96
7000 [3303]	–	–	–	–	740	2.74	774	3.09	806	3.42	835	3.73	862	4.01	887	4.26	909	4.49	920	4.52	942	4.77	965	5.02	987	5.29	1009	5.56	1031	5.84	1053	6.12	1074	6.42	1138	6.47	1157	6.79	1176	7.11
7100 [3350]	–	–	–	–	744	2.81	779	3.18	811	3.52	840	3.83	868	4.12	893	4.39	916	4.63	926	4.66	948	4.91	971	5.17	993	5.45	1015	5.73	1036	6.01	1058	6.31	1121	6.31	1141	6.62	1161	6.94	1180	7.27
7200 [3398]	–	–	–	–	748	2.89	783	3.26	815	3.61	845	3.94	873	4.24	899	4.52	909	4.54	932	4.80	954	5.06	976	5.33	999	5.61	1020	5.90	1042	6.19	1063	6.49	1125	6.46	1145	6.77	1165	7.10	–	–
7300 [3445]	–	–	–	–	752	2.96	787	3.35	820	3.71	850	4.05	879	4.37	904	4.66	915	4.68	938	4.94	960	5.22	982	5.49	1004	5.78	1026	6.08	1047	6.38	1069	6.69	1129	6.61	1149	6.93	1168	7.26	–	–
7400 [3492]	–	–	–	–	756	3.04	791	3.44	825	3.82	855	4.17	884	4.49	910	4.79	921	4.82	944	5.10	966	5.37	988	5.66	1010	5.95	1032	6.26	1053	6.57	1074	6.88	1133	6.77	1153	7.09	1172	7.43	–	–
7500 [3539]	–	–	721	2.69	760	3.13	796	3.54	829	3.92	861	4.29	890	4.62	916	4.94	927	4.97	950	5.25	972	5.54	994	5.83	1016	6.13	1037	6.44	1059	6.76	1117	6.60	1137	6.92	1157	7.25	1176	7.60	–	–
7600 [3586]	–	–	725	2.77	764	3.22	800	3.64	834	4.03	866	4.41	895	4.76	911	4.85	934	5.12	956	5.41	978	5.70	1000	6.01	1022	6.32	1043	6.63	1064	6.96	1121	6.76	1141	7.08	1161	7.42	1179	7.77	–	–
7700 [3633]	–	–	729	2.85	768	3.31	804	3.74	839	4.15	871	4.53	901	4.89	917	4.99	940	5.28	962	5.57	984	5.88	1006	6.19	1028	6.50	1049	6.83	1070	7.16	1125	6.92	1145	7.25	1165	7.59	–	–	–	–
7800 [3681]	–	–	732	2.93	772	3.40	809	3.84	844	4.26	876	4.66	906	5.03	924	5.15	946	5.44	969	5.74	991	6.05	1012	6.37	1034	6.69	1055	7.02	1109	6.76	1130	7.08	1149	7.41	1168	7.76	–	–	–	–
7900 [3728]	–	–	736	3.02	776	3.50	813	3.95	849	4.38	882	4.79	912	5.17	930	5.31	953	5.61	975	5.92	997	6.23	1018	6.56	1040	6.89	1061	7.23	1113	6.92	1134	7.24	1153	7.58	1172	7.94	–	–	–	–
8000 [3775]	–	–	740	3.11	780	3.60	818	4.06	854	4.51	887	4.93	918	5.32	937	5.47	959	5.78	981	6.09	1003	6.42	1025	6.75	1046	7.09	1067	7.43	1118	7.08	1138	7.41	1157	7.76	1176	8.12	–	–	–	–
8100 [3822]	–	–	743	3.20	784	3.70	822	4.18	859	4.63	892	5.07	921	5.32	944	5.63	966	5.95	988	6.27	1009	6.60	1031	6.94	1052	7.29	1073	7.65	1122	7.24	1142	7.58	1162	7.93	–	–	–	–	–	–
8200 [3869]	–	–	747	3.29	788	3.81	827	4.30	864	4.76	898	5.21	928	5.49	950	5.80	972	6.13	994	6.46	1016	6.80	1037	7.14	1058	7.50	1106	7.08	1127	7.41	1147	7.75	1166	8.11	–	–	–	–	–	–
8300 [3917]	–	–	751	3.39	793	3.92	832	4.42	869	4.90	903	5.35	935	5.65	957	5.98	979	6.31	1001	6.65	1022	7.00	1043	7.35	1064	7.71	1111	7.24	1131	7.58	1151	7.93	1170	8.30	–	–	–	–	–	–
8400 [3964]	–	–	755	3.49	797	4.03	836	4.55	874	5.04	909	5.50	942	5.83	964	6.16	986	6.50	1007	6.84	1029	7.20	1050	7.56	1071	7.93	1115	7.41	1135	7.76	1155	8.11	1174	8.48	–	–	–	–	–	–
8500 [4011]	–	–	759	3.60	801	4.15	841	4.67	879	5.18	914	5.65	949	6.00	971	6.34	992	6.69	1014	7.04	1035	7.40	1056	7.77	1099	7.25	1120	7.59	1140	7.94	1159	8.30	1178	8.67	–	–	–	–	–	–
8600 [4058]	–	–	763	3.71	806	4.27	846	4.81	884	5.32	920	5.81	956	6.18	978	6.53	999	6.88	1021	7.24	1042	7.61	1063	7.99	1104	7.42	1124	7.76	1144	8.12	1164	8.48	–	–	–	–	–	–	–	–
8700 [4105]	722	3.23	767	3.82	810	4.39	851	4.94	889	5.47	941	6.02	963	6.36	985	6.72	1006	7.08	1027	7.45	1048	7.83	1069	8.21	1108	7.59	1129	7.94	1149	8.30	1168	8.68	–	–	–	–	–	–	–	–
8800 [4153]	725	3.33	771	3.94	815	4.52	856	5.08	895	5.62	948	6.20	970	6.55	992	6.91	1013	7.28	1034	7.66	1055	8.05	1092	7.43	1113	7.77	1134	8.12	1153	8.49	1172	8.87	–	–	–	–	–	–	–	–
8900 [4200]	729	3.44	775	4.06	819	4.65	861	5.22	900	5.77	955	6.38	977	6.75	999	7.11	1020	7.49	1041	7.88	1062	8.27	1097	7.60	1118	7.95	1138	8.31	1158	8.68	1177	9.07	–	–	–	–	–	–	–	–
9000 [4247]	733	3.55	779	4.18	824	4.79	866	5.37	905	5.93	962	6.57	984	6.94	1006	7.32	1027	7.70	1048	8.10	1069	8.50	1102	7.78	1123	8.13	1143	8.50	1162	8.88	–	–	–	–	–	–	–	–	–	–
9100 [4294]	737	3.66	784	4.30	828	4.92	871	5.52	911	6.09	970	6.77	991	7.14	1013	7.53	1034	7.92	1055	8.32	1086	7.62	1107	7.96	1128	8.32	1148	8.69	1167	9.07	–	–	–	–	–	–	–	–	–	–
9200 [4341]	740	3.78	788	4.43	833	5.06	876	5.67	916	6.25	977	6.96	999	7.35	1020	7.74	1041	8.14	1062	8.55	1091	7.79	1112	8.15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9300 [4388]	744	3.90	792	4.57	838	5.21	881	5.82	963	6.78	985	7.17	1006	7.56	1027	7.96	1048	8.37	1069	8.78	1096	7.98	1117	8.33	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9400 [4436]	748	4.02	796	4.70	842	5.35	886	5.98	971	6.98	992	7.37	1013	7.77	1034	8.18	1055	8.60	1080	7.81	1101	8.16	1122	8.52	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9500 [4483]	752	4.15	801	4.84	847	5.50	891	6.14	978	7.19	1000	7.58	1021	7.99	1042	8.41	1063	8.83	1085	7.99	1106	8.35	1127	8.72	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9600 [4530]	756	4.28	805	4.98	852	5.66	896	6.31	986	7.39	1007	7.80	1028	8.21	1049	8.64	1070	9.07	1090	8.18	1112	8.54	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	5 [3728.5]							5 [3728.5]							7.5 [5592.7]						
Motor RPM	1755							1755							1760						
Blower Sheave	BK105							BK90							BK105						
Motor Frame Size	184							184							213						
Motor Sheave	1VP-56							1VP-56							1VP71						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	909	884	**853**	823	790	759	|	1052	1016	983	**952**	916	878	|	1140	1110	1073	**1048**	1017	984

Notes:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

AIRFLOW PERFORMANCE - 20TON [87.9kW] - 60 Hz - DOWNFLOW

Air Flow CFM [L/s]	Model RACG2T240A - Downflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																			
	External Static Pressure - Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6400 [3020]	–	–	–	–	–	–	–	–	636	1.80	668	2.03	699	2.26	731	2.51	762	2.76	793	3.02	823	3.29	854	3.56	884	3.84	914	4.13	945	4.56	971	4.82	997	5.08	1022	5.33	1046	5.59	1076	5.46
6500 [3067]	–	–	–	–	–	–	–	–	640	1.85	672	2.08	703	2.32	734	2.57	765	2.82	796	3.08	826	3.35	857	3.63	887	3.91	917	4.20	947	4.62	973	4.88	998	5.14	1023	5.40	1047	5.66	1077	5.52
6600 [3114]	–	–	–	–	–	–	–	–	644	1.91	675	2.14	706	2.38	737	2.63	768	2.89	799	3.15	829	3.42	859	3.70	889	3.99	919	4.28	948	4.67	974	4.94	999	5.21	1024	5.47	1048	5.73	1078	5.59
6700 [3162]	–	–	–	–	–	–	–	–	648	1.97	679	2.20	710	2.45	741	2.70	771	2.95	802	3.22	832	3.49	862	3.77	892	4.06	921	4.35	950	4.74	975	5.01	1000	5.28	1025	5.55	1049	5.81	1079	5.66
6800 [3209]	–	–	–	–	–	–	–	–	652	2.03	683	2.27	714	2.51	744	2.76	775	3.02	805	3.29	835	3.56	865	3.85	894	4.14	924	4.43	951	4.80	977	5.08	1002	5.35	1026	5.63	1050	5.90	1081	5.73
6900 [3256]	–	–	–	–	–	–	–	–	656	2.09	686	2.33	717	2.58	748	2.83	778	3.09	808	3.36	838	3.64	867	3.92	897	4.21	926	4.51	953	4.87	978	5.15	1003	5.43	1028	5.71	1051	5.99	1082	5.80
7000 [3303]	–	–	–	–	–	–	–	–	660	2.15	690	2.40	721	2.64	751	2.90	781	3.16	811	3.44	841	3.71	870	4.00	899	4.29	928	4.59	954	4.95	980	5.23	1005	5.52	1029	5.80	1053	6.08	1083	5.88
7100 [3350]	–	–	–	–	–	–	633	1.99	663	2.22	694	2.46	724	2.71	754	2.97	784	3.24	814	3.51	843	3.79	873	4.08	902	4.38	930	4.73	956	5.02	981	5.32	1006	5.60	1030	5.89	1054	6.18	1084	5.96
7200 [3398]	–	–	–	–	–	–	637	2.05	667	2.29	698	2.53	728	2.79	758	3.05	788	3.31	817	3.59	846	3.87	875	4.16	904	4.46	932	4.81	958	5.11	983	5.40	1008	5.70	1032	5.99	1055	6.28	1085	6.04
7300 [3445]	–	–	–	–	–	–	641	2.12	671	2.36	701	2.61	731	2.86	761	3.12	791	3.39	820	3.67	849	3.95	878	4.25	907	4.55	934	4.89	960	5.19	985	5.49	1009	5.79	1033	6.09	1056	6.38	1087	6.12
7400 [3492]	–	–	–	–	–	–	645	2.19	675	2.43	705	2.68	735	2.94	765	3.20	794	3.47	823	3.75	852	4.04	881	4.33	910	4.63	936	4.98	962	5.29	986	5.59	1011	5.89	1035	6.19	1058	6.49	1088	6.21
7500 [3539]	–	–	–	–	–	–	649	2.26	679	2.51	709	2.76	739	3.02	768	3.28	797	3.55	826	3.84	855	4.12	884	4.42	912	4.72	938	5.07	963	5.38	988	5.69	1012	6.00	1036	6.30	1059	6.61	1089	6.30
7600 [3586]	–	–	–	–	–	–	653	2.34	683	2.58	713	2.83	742	3.10	771	3.36	801	3.64	829	3.92	858	4.21	886	4.51	915	4.81	940	5.17	965	5.48	990	5.80	1014	6.11	1038	6.42	1061	6.73	1091	6.39
7700 [3633]	–	–	–	–	–	–	657	2.41	687	2.66	717	2.91	746	3.18	775	3.45	804	3.72	832	4.01	861	4.30	889	4.60	917	4.91	942	5.27	967	5.59	992	5.91	1016	6.22	1039	6.54	1062	6.85	1092	6.48
7800 [3681]	–	–	–	–	632	2.25	662	2.49	691	2.74	720	3.00	749	3.26	778	3.53	807	3.81	836	4.10	864	4.39	892	4.69	920	5.00	945	5.37	969	5.70	994	6.02	1018	6.34	1041	6.66	1064	6.98	1094	6.58
7900 [3728]	–	–	–	–	636	2.33	666	2.57	695	2.82	724	3.08	753	3.35	782	3.62	810	3.90	839	4.19	867	4.49	895	4.79	922	5.10	947	5.48	972	5.81	996	6.14	1020	6.46	1043	6.79	1070	6.40	1095	6.68
8000 [3775]	–	–	–	–	641	2.41	670	2.65	699	2.90	728	3.17	757	3.43	785	3.71	814	3.99	842	4.28	870	4.58	898	4.89	925	5.20	949	5.59	974	5.93	998	6.26	1022	6.59	1045	6.92	1072	6.50	1097	6.78
8100 [3822]	–	–	–	–	645	2.49	674	2.74	703	2.99	732	3.25	760	3.52	789	3.80	817	4.09	845	4.38	873	4.68	900	4.99	928	5.30	951	5.71	976	6.05	1000	6.38	1023	6.72	1046	7.05	1074	6.60	1099	6.88
8200 [3869]	–	–	–	–	649	2.57	678	2.82	707	3.08	736	3.34	764	3.62	792	3.89	820	4.18	848	4.48	876	4.78	903	5.09	929	5.48	954	5.83	978	6.17	1002	6.51	1026	6.85	1048	7.19	1076	6.70	1100	6.99
8300 [3917]	–	–	–	–	654	2.66	682	2.91	711	3.17	739	3.43	768	3.71	796	3.99	824	4.28	851	4.58	879	4.88	906	5.19	931	5.60	956	5.95	981	6.30	1004	6.65	1028	6.99	1050	7.34	1077	6.81	1102	7.10
8400 [3964]	–	–	–	–	658	2.74	687	3.00	715	3.26	743	3.53	771	3.80	799	4.09	827	4.38	854	4.68	882	4.98	909	5.30	934	5.73	959	6.08	983	6.44	1007	6.79	1030	7.14	1052	7.48	1079	6.92	1104	7.21
8500 [4011]	–	–	634	2.59	662	2.83	691	3.09	719	3.35	747	3.62	775	3.90	803	4.19	830	4.48	858	4.78	885	5.09	912	5.40	937	5.86	961	6.22	985	6.58	1009	6.93	1032	7.29	1054	7.64	1081	7.03	1106	7.33
8600 [4058]	–	–	638	2.67	667	2.93	695	3.18	723	3.45	751	3.72	779	4.00	806	4.29	834	4.58	861	4.89	888	5.20	914	5.51	939	5.99	964	6.36	988	6.72	1011	7.08	1034	7.44	1056	7.79	1083	7.14	1108	7.44
8700 [4105]	–	–	643	2.77	671	3.02	699	3.28	727	3.55	755	3.82	782	4.10	810	4.39	837	4.69	864	4.99	891	5.31	917	5.62	942	6.13	967	6.50	990	6.87	1014	7.23	1036	7.59	1059	7.96	1085	7.26	1109	7.56
8800 [4153]	–	–	647	2.86	675	3.11	703	3.38	731	3.64	759	3.92	786	4.21	813	4.50	840	4.80	867	5.10	894	5.42	920	5.74	945	6.27	969	6.65	993	7.02	1016	7.39	1039	7.76	1061	8.12	1087	7.38	1111	7.69
8900 [4200]	–	–	652	2.96	680	3.21	708	3.48	735	3.75	763	4.02	790	4.31	817	4.60	844	4.91	870	5.21	897	5.53	923	5.85	948	6.42	972	6.80	996	7.17	1019	7.55	1041	7.92	1063	8.29	1089	7.50	1113	7.81
9000 [4247]	–	–	656	3.05	684	3.31	712	3.58	739	3.85	767	4.13	794	4.42	820	4.71	847	5.02	873	5.33	900	5.64	926	5.97	951	6.57	975	6.95	998	7.33	1021	7.71	1044	8.09	1067	7.32	1091	7.63	1115	7.94
9100 [4294]	633	2.90	661	3.15	689	3.41	716	3.68	743	3.95	770	4.24	797	4.53	824	4.82	850	5.13	877	5.44	903	5.76	929	6.09	954	6.73	978	7.11	1001	7.50	1024	7.88	1046	8.26	1069	7.45	1093	7.75	1117	8.07
9200 [4341]	638	3.00	665	3.25	693	3.52	720	3.78	747	4.06	774	4.35	801	4.64	827	4.94	854	5.24	880	5.56	906	5.88	932	6.49	957	6.89	981	7.28	1004	7.67	1026	8.06	1049	8.44	1072	7.57	1095	7.88	1119	8.20
9300 [4388]	643	3.10	670	3.36	697	3.62	725	3.89	751	4.17	778	4.46	805	4.75	831	5.05	857	5.36	883	5.68	909	6.00	936	6.65	960	7.05	983	7.45	1007	7.84	1029	8.23	1051	8.62	1074	7.70	1098	8.02	1122	8.34
9400 [4436]	647	3.20	675	3.46	702	3.73	729	4.00	756	4.28	782	4.57	808	4.87	835	5.17	861	5.48	886	5.80	912	6.12	939	6.81	963	7.22	987	7.62	1009	8.02	1032	8.42	1054	8.81	1076	7.83	1100	8.15	1124	8.48
9500 [4483]	652	3.31	679	3.57	706	3.84	733	4.11	760	4.39	786	4.68	812	4.98	838	5.29	864	5.60	890	5.92	915	6.25	942	6.98	966	7.39	990	7.80	1012	8.20	1035	8.60	1057	9.00	1079	7.97	1102	8.29	1126	8.62
9600 [4530]	657	3.41	684	3.68	711	3.95	737	4.22	764	4.51	790	4.80	816	5.10	842	5.41	867	5.72	893	6.05	918	6.37	946	7.15	969	7.57	993	7.98	1015	8.39	1038	8.79	1059	9.20	1081	8.11	1104	8.43	1128	8.76

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	5 [3728.5]							5 [3728.5]							7.5 [5592.7]						
Motor RPM	1755							1755							1760						
Blower Sheave	BK105							BK90							BK105						
Motor Frame Size	184							184							213						
Motor Sheave	1VP-56							1VP-56							1VP71						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	919	883	**847**	818	789	761	|	1035	998	961	**932**	903	874	|	1138	1107	1076	**1044**	1012	979

Notes:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

COMPONENT AIRFLOW RESISTANCE - 20 TON [70.3kW]

CFM [L/s]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]	8600 [4058]	8800 [4153]	9000 [4247]	9200 [4341]	9400 [4436]	9600 [4530]
	Resistance - Inches of Water [kPa]																
Wet Coil	0.08 [.02]	0.09 [.02]	0.09 [.02]	0.09 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.11 [.03]	0.11 [.03]	0.11 [.03]	0.12 [.03]	0.12 [.03]	0.12 [.03]	0.12 [.03]
Downflow Economizer RA Damper Open	0.25 [0.11]	0.26 [0.12]	0.26 [0.12]	0.27 [0.12]	0.28 [0.13]	0.29 [0.13]	0.30 [0.14]	0.31 [0.14]	0.32 [0.15]	0.33 [0.15]	0.33 [0.15]	0.34 [0.16]	0.35 [0.16]	0.36 [0.16]	0.37 [0.17]	0.38 [0.17]	0.39 [0.18]
Horizontal Economizer RA Damper Open	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.10 [0.04]	0.11 [0.05]	0.11 [0.05]	0.11 [0.05]	0.11 [0.05]
MERV 8 Filter	0.107 [0.05]	0.111 [0.05]	0.116 [0.05]	0.120 [0.05]	0.124 [0.05]	0.128 [0.06]	0.132 [0.06]	0.136 [0.06]	0.140 [0.06]	0.144 [0.06]	0.148 [0.06]	0.152 [0.07]	0.156 [0.07]	0.160 [0.07]	0.164 [0.07]	0.169 [0.07]	0.173 [0.08]
MERV 13 Filter	0.070 [0.03]	0.076 [0.03]	0.082 [0.03]	0.089 [0.04]	0.095 [0.04]	0.101 [0.04]	0.107 [0.05]	0.114 [0.05]	0.120 [0.05]	0.126 [0.05]	0.133 [0.06]	0.139 [0.06]	0.145 [0.06]	0.151 [0.07]	0.158 [0.07]	0.164 [0.07]	0.170 [0.08]
Concentric Grill RXRN-AD86 & Transition RX-MC-CK08	0.26 [.06]	0.29 [.07]	0.32 [.08]	0.35 [.09]	0.38 [.09]	0.41 [.10]	0.44 [.11]	0.47 [.12]	0.50 [.12]	0.53 [.13]	0.56 [.14]	0.60 [.15]	0.63 [.16]	0.66 [.16]	0.69 [.17]	0.72 [.18]	0.75 [.19]

AIRFLOW CORRECTION FACTORS - 20 TON [70.3kW]

CFM [L/s]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]	8600 [4058]	8800 [4153]	9000 [4247]	9200 [4341]	9400 [4436]	9600 [4530]
Total MBH	0.98	0.98	0.99	0.99	1.00	1.00	0.96	0.97	0.97	0.98	0.98	0.98	0.99	0.99	0.99	1.00	1.00
Sensible MBH	0.91	0.93	0.95	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15	1.17	1.19	1.21	1.23
Power kW	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.02	1.03	1.03

NOTE: Multiply correction factor times gross performance data - resulting sensible capacity cannot exceed total capacity.

AIRFLOW PERFORMANCE - 25TON [87.9kW] - 60 Hz - SIDEFLOW

Model RACG2T300A - Sideflow Voltage 208/230, 460, 575 — 3 phase 60 Hz

Air Flow CFM [L/s]	External Static Pressure - Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000 [3775]	–	–	–	–	848	4.26	868	4.50	888	4.74	908	4.98	927	5.21	946	5.44	964	5.67	983	5.89	1001	6.11	1027	6.42	1047	6.68	1067	6.93	1086	7.17	1106	7.41	1125	7.64	1144	7.86	1170	8.55	1192	8.92
8100 [3822]	–	–	–	–	856	4.42	876	4.66	896	4.90	915	5.14	934	5.37	953	5.60	971	5.83	989	6.06	1013	6.32	1033	6.59	1053	6.85	1073	7.10	1092	7.35	1112	7.58	1131	7.81	1150	8.03	1175	8.71	1197	9.08
8200 [3869]	–	–	844	4.33	864	4.57	884	4.82	903	5.06	922	5.30	941	5.54	960	5.77	978	6.00	996	6.23	1020	6.50	1040	6.77	1059	7.03	1079	7.28	1098	7.52	1117	7.76	1136	7.98	1158	8.52	1180	8.88	1201	9.25
8300 [3917]	–	–	852	4.49	872	4.74	891	4.98	911	5.23	930	5.47	948	5.70	967	5.94	985	6.17	1006	6.41	1026	6.69	1046	6.95	1066	7.21	1085	7.46	1104	7.70	1123	7.93	1142	8.16	1163	8.69	1185	9.05	1206	9.43
8400 [3964]	–	–	860	4.65	880	4.90	899	5.15	918	5.39	937	5.64	955	5.87	974	6.11	991	6.34	1013	6.60	1033	6.87	1053	7.14	1072	7.39	1091	7.64	1110	7.88	1129	8.11	1147	8.34	1168	8.86	1190	9.23	1211	9.61
8500 [4011]	849	4.57	869	4.82	888	5.07	907	5.32	926	5.57	945	5.81	963	6.05	981	6.29	998	6.52	1020	6.79	1040	7.06	1059	7.32	1078	7.58	1097	7.83	1116	8.07	1134	8.30	1153	8.69	1174	9.05	1195	9.41	1216	9.79
8600 [4058]	858	4.74	877	4.99	896	5.25	915	5.50	934	5.74	952	5.99	970	6.23	988	6.47	1007	6.70	1027	6.98	1046	7.25	1066	7.51	1085	7.77	1103	8.01	1122	8.25	1140	8.48	1158	8.88	1179	9.24	1200	9.60	1220	9.99
8700 [4105]	866	4.91	885	5.17	904	5.42	923	5.67	942	5.92	960	6.17	977	6.41	995	6.65	1015	6.89	1034	7.17	1053	7.44	1072	7.70	1091	7.96	1110	8.20	1128	8.44	1146	8.67	1164	9.08	1184	9.43	1205	9.80	1225	10.19
8800 [4153]	875	5.09	894	5.35	913	5.60	931	5.86	949	6.11	967	6.35	985	6.60	1002	6.80	1022	7.09	1041	7.37	1060	7.64	1079	7.90	1097	8.15	1116	8.40	1134	8.63	1150	8.93	1170	9.28	1190	9.63	1210	10.01	1230	10.39
8900 [4200]	884	5.27	902	5.53	921	5.79	939	6.04	957	6.29	975	6.54	992	6.79	1010	7.00	1029	7.29	1048	7.57	1067	7.84	1085	8.10	1104	8.35	1122	8.59	1140	8.83	1155	9.14	1175	9.48	1195	9.84	1215	10.22	1235	10.61
9000 [4247]	892	5.46	911	5.72	929	5.98	947	6.23	965	6.48	983	6.73	1000	6.98	1017	7.21	1036	7.49	1055	7.77	1074	8.04	1092	8.30	1110	8.55	1128	8.79	1146	9.03	1161	9.35	1181	9.70	1201	10.06	1220	10.44	1240	10.82
9100 [4294]	901	5.65	920	5.91	938	6.17	956	6.42	973	6.68	990	6.93	1005	7.12	1024	7.42	1043	7.70	1062	7.97	1080	8.24	1099	8.50	1117	8.75	1134	8.99	1148	9.23	1168	9.57	1187	9.92	1206	10.28	1226	10.66	1245	11.05
9200 [4341]	910	5.84	928	6.10	946	6.36	964	6.62	981	6.88	998	7.13	1013	7.34	1032	7.63	1050	7.91	1069	8.18	1087	8.45	1105	8.71	1123	8.96	1141	9.20	1155	9.45	1174	9.79	1193	10.14	1212	10.51	1231	10.89	1250	11.28
9300 [4388]	919	6.03	937	6.30	955	6.56	972	6.82	989	7.08	1002	7.25	1020	7.55	1039	7.84	1058	8.12	1076	8.39	1094	8.66	1112	8.92	1130	9.16	1147	9.40	1161	9.68	1180	10.02	1198	10.38	1217	10.74	1236	11.13	–	–
9400 [4436]	928	6.23	946	6.50	963	6.76	980	7.03	997	7.28	1009	7.47	1028	7.76	1047	8.05	1065	8.33	1083	8.61	1101	8.87	1119	9.13	1136	9.37	1149	9.59	1167	9.92	1186	10.26	1204	10.62	1223	10.99	1242	11.37	–	–
9500 [4483]	937	6.44	954	6.71	972	6.97	989	7.23	998	7.38	1017	7.69	1036	7.98	1054	8.27	1072	8.55	1090	8.82	1108	9.09	1125	9.34	1143	9.59	1156	9.83	1174	10.16	1192	10.51	1210	10.86	1229	11.23	1247	11.62	–	–
9600 [4530]	946	6.65	963	6.92	980	7.18	997	7.44	1007	7.61	1025	7.91	1043	8.21	1062	8.49	1080	8.77	1097	9.04	1115	9.30	1132	9.56	1149	9.80	1163	10.08	1180	10.41	1198	10.76	1216	11.12	1235	11.49	1253	11.87	–	–
9700 [4577]	955	6.86	972	7.13	989	7.40	996	7.52	1015	7.83	1033	8.14	1051	8.43	1069	8.72	1087	8.99	1104	9.26	1122	9.53	1139	9.78	1152	10.01	1169	10.33	1187	10.67	1205	11.01	1222	11.37	1240	11.75	–	–	–	–
9800 [4624]	964	7.07	981	7.34	998	7.61	1004	7.75	1023	8.06	1041	8.36	1059	8.66	1077	8.94	1094	9.22	1112	9.49	1129	9.75	1146	10.00	1159	10.27	1176	10.59	1194	10.93	1211	11.28	1229	11.64	1246	12.02	–	–	–	–
9900 [4672]	973	7.29	990	7.56	994	7.67	1013	7.99	1031	8.29	1049	8.59	1067	8.89	1084	9.17	1102	9.45	1119	9.72	1136	9.98	1149	10.23	1166	10.54	1183	10.86	1200	11.20	1218	11.55	1235	11.91	1252	12.29	–	–	–	–
10000 [4719]	982	7.51	999	7.79	1003	7.90	1021	8.22	1039	8.53	1057	8.83	1074	9.12	1092	9.40	1109	9.68	1126	9.95	1143	10.20	1157	10.49	1174	10.81	1190	11.13	1207	11.47	1224	11.82	1241	12.19	–	–	–	–	–	–
10100 [4766]	992	7.74	993	7.82	1011	8.14	1029	8.46	1047	8.77	1065	9.06	1082	9.36	1100	9.64	1117	9.91	1133	10.18	1150	10.44	1164	10.77	1181	11.08	1197	11.41	1214	11.75	1231	12.11	1247	12.47	–	–	–	–	–	–
10200 [4813]	1001	7.97	1002	8.06	1020	8.39	1038	8.70	1055	9.01	1073	9.30	1090	9.59	1107	9.88	1124	10.15	1141	10.41	1156	10.75	1172	11.05	1188	11.37	1204	11.70	1221	12.04	1237	12.40	1254	12.77	–	–	–	–	–	–
10300 [4860]	992	7.98	1010	8.31	1028	8.63	1046	8.94	1064	9.25	1081	9.55	1098	9.84	1115	10.12	1131	10.39	1148	10.65	1164	11.04	1180	11.34	1195	11.66	1211	11.99	1228	12.33	1244	12.69	–	–	–	–	–	–	–	–
10400 [4908]	1001	8.23	1019	8.56	1037	8.88	1055	9.19	1072	9.49	1089	9.79	1106	10.08	1123	10.36	1139	10.63	1156	11.04	1172	11.33	1187	11.64	1203	11.96	1219	12.29	1234	12.63	1250	12.99	–	–	–	–	–	–	–	–
10500 [4955]	1010	8.48	1028	8.81	1046	9.13	1063	9.44	1080	9.74	1097	10.04	1114	10.33	1130	10.60	1147	10.88	1164	11.34	1180	11.63	1195	11.94	1210	12.26	1226	12.59	1241	12.94	–	–	–	–	–	–	–	–	–	–
10600 [5002]	1019	8.74	1037	9.06	1054	9.38	1071	9.69	1088	9.99	1105	10.29	1122	10.58	1138	10.85	1158	11.36	1173	11.64	1188	11.94	1203	12.25	1218	12.57	1233	12.91	1248	13.25	–	–	–	–	–	–	–	–	–	–
10700 [5049]	1028	8.99	1046	9.32	1063	9.64	1080	9.95	1097	10.25	1113	10.54	1130	10.83	1146	11.10	1166	11.67	1181	11.95	1196	12.25	1210	12.56	1225	12.89	1240	13.22	–	–	–	–	–	–	–	–	–	–	–	–
10800 [5096]	1038	9.25	1055	9.58	1072	9.90	1089	10.21	1105	10.51	1121	10.80	1138	11.08	1161	11.71	1175	11.99	1189	12.27	1204	12.57	1218	12.88	1233	13.21	1248	13.55	–	–	–	–	–	–	–	–	–	–	–	–
10900 [5143]	1047	9.52	1064	9.84	1080	10.16	1097	10.47	1113	10.77	1130	11.06	1146	11.34	1169	12.03	1184	12.31	1198	12.60	1212	12.90	1226	13.21	1241	13.54	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11000 [5191]	1056	9.78	1073	10.11	1089	10.42	1106	10.73	1122	11.03	1138	11.32	1165	12.10	1178	12.36	1192	12.64	1206	12.93	1220	13.23	1234	13.54	1248	13.87	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11100 [5238]	1065	10.05	1082	10.37	1098	10.69	1114	11.00	1130	11.29	1146	11.58	1174	12.43	1187	12.69	1201	12.97	1215	13.26	1228	13.57	1242	13.88	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11200 [5285]	1074	10.32	1091	10.65	1107	10.96	1123	11.26	1139	11.56	1170	12.52	1183	12.77	1196	13.03	1210	13.31	1223	13.61	1237	13.91	1250	14.23	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11300 [5332]	1083	10.60	1100	10.92	1116	11.23	1132	11.54	1147	11.83	1180	12.86	1193	13.11	1206	13.38	1219	13.66	1232	13.96	1245	14.26	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11400 [5379]	1093	10.88	1109	11.19	1125	11.51	1140	11.81	1177	12.97	1189	13.21	1202	13.46	1215	13.73	1228	14.02	1240	14.31	1253	14.62	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11500 [5427]	1102	11.16	1118	11.47	1133	11.78	1149	12.09	1187	13.32	1199	13.56	1211	13.82	1224	14.09	1236	14.38	1249	14.67	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11600 [5474]	1111	11.44	1127	11.76	1142	12.07	1185	13.45	1197	13.68	1209	13.93	1221	14.19	1233	14.46	1245	14.74	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11700 [5521]	1120	11.72	1136	12.04	1183	13.59	1195	13.81	1207	14.05	1219	14.30	1230	14.56	1242	14.83	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11800 [5568]	1130	12.01	1145	12.33	1194	13.96	1205	14.19	1217	14.42	1228	14.67	1240	14.93	1252	15.21	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11900 [5615]	1139	12.30	1194	14.13	1205	14.34	1216	14.56	1227	14.80	1238	15.05	1250	15.32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12000 [5663]	1148	12.60	1205	14.51	1215	14.72	1226	14.95	1237	15.19	1248	15.44	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	7.5 [5592.7]							10 [7457.0]							10 [7457.0]						
Motor RPM	1760							1760							1760						
Blower Sheave	BK110							BK105							BK95						
Motor Frame Size	213							215							215						
Motor Sheave	1VP-65							1VP-71							1VP71						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	999	965	**935**	905	875	844	|	1143	1109	1079	**1047**	1015	985	|	1251	1219	1183	**1152**	1123	1087

Notes:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

AIRFLOW PERFORMANCE - 25TON [87.9kW] - 60 Hz - DOWNFLOW

Air Flow CFM [L/s]	Model RACG2T300A - Downflow Voltage 208/230, 460, 575 — 3 phase 60 Hz																																					
	External Static Pressure - Inches of Water [kPa]																																						
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000 [3775]	–	–	–	–	–	–	–	–	–	–	734	3.59	761	3.72	789	3.87	816	4.03	843	4.20	869	4.40	896	4.60	922	4.82	948	5.06	974	5.31	1000	5.58	1023	5.93	1048	6.18	1072	6.44	1097	6.71
8100 [3822]	–	–	–	–	–	–	–	–	–	–	737	3.63	765	3.77	792	3.92	819	4.08	846	4.26	872	4.46	898	4.67	924	4.90	950	5.14	976	5.39	1002	5.67	1025	6.02	1049	6.27	1074	6.54	1099	6.81
8200 [3869]	–	–	–	–	–	–	–	–	–	–	741	3.68	768	3.82	795	3.97	822	4.14	848	4.33	875	4.53	901	4.74	927	4.97	953	5.22	978	5.48	1003	5.76	1027	6.11	1051	6.37	1076	6.64	1100	6.91
8300 [3917]	–	–	–	–	–	–	–	–	–	–	745	3.73	772	3.87	798	4.03	825	4.20	851	4.39	877	4.60	903	4.82	929	5.05	955	5.30	980	5.57	1005	5.95	1029	6.21	1053	6.47	1077	6.74	1102	7.02
8400 [3964]	–	–	–	–	–	–	–	–	721	3.65	748	3.78	775	3.93	802	4.09	828	4.27	854	4.46	880	4.67	906	4.89	932	5.13	957	5.39	982	5.66	1007	6.05	1031	6.31	1055	6.57	1079	6.84	1104	7.12
8500 [4011]	–	–	–	–	–	–	–	–	725	3.70	752	3.83	779	3.99	805	4.15	831	4.34	857	4.53	883	4.75	909	4.98	934	5.22	959	5.48	984	5.75	1009	6.15	1033	6.41	1057	6.67	1081	6.95	1106	7.23
8600 [4058]	–	–	–	–	–	–	–	–	729	3.75	756	3.89	782	4.05	809	4.22	835	4.41	860	4.61	886	4.83	911	5.06	937	5.31	962	5.57	987	5.85	1011	6.25	1035	6.51	1059	6.78	1083	7.06	1108	7.34
8700 [4105]	–	–	–	–	–	–	–	–	733	3.81	760	3.96	786	4.12	812	4.29	838	4.48	864	4.69	889	4.91	914	5.15	939	5.40	964	5.67	989	5.95	1014	6.35	1037	6.62	1061	6.89	1085	7.17	1109	7.46
8800 [4153]	–	–	–	–	–	–	–	–	737	3.87	764	4.02	790	4.19	816	4.37	841	4.56	867	4.77	892	5.00	917	5.24	942	5.50	967	5.77	991	6.05	1016	6.46	1039	6.72	1063	7.00	1087	7.28	1111	7.58
8900 [4200]	–	–	–	–	–	–	–	–	741	3.94	768	4.09	793	4.26	819	4.44	845	4.64	870	4.86	895	5.09	920	5.33	945	5.60	969	5.87	994	6.16	1018	6.56	1041	6.83	1065	7.11	1089	7.40	1113	7.70
9000 [4247]	–	–	–	–	–	–	–	–	746	4.00	772	4.16	797	4.34	823	4.52	848	4.73	873	4.95	898	5.18	923	5.43	948	5.70	972	5.98	996	6.27	1020	6.67	1044	6.95	1067	7.23	1091	7.52	1115	7.82
9100 [4294]	–	–	–	–	–	–	724	3.93	750	4.07	776	4.24	801	4.42	827	4.61	852	4.82	877	5.04	901	5.28	926	5.53	950	5.80	975	6.09	999	6.39	1023	6.79	1046	7.06	1069	7.35	1093	7.64	1117	7.94
9200 [4341]	–	–	–	–	–	–	728	4.00	754	4.15	780	4.32	805	4.50	830	4.70	855	4.91	880	5.14	905	5.38	929	5.64	953	5.91	977	6.20	1001	6.50	1025	6.90	1048	7.18	1072	7.47	1095	7.76	1119	8.07
9300 [4388]	–	–	–	–	–	–	733	4.07	758	4.23	784	4.40	809	4.59	834	4.79	859	5.00	884	5.24	908	5.48	932	5.75	956	6.02	980	6.32	1004	6.62	1027	7.02	1051	7.30	1074	7.59	1098	7.89	1122	8.20
9400 [4436]	–	–	–	–	–	–	737	4.15	763	4.31	788	4.48	813	4.67	838	4.88	863	5.10	887	5.34	911	5.59	935	5.86	959	6.14	983	6.44	1007	6.86	1030	7.14	1053	7.42	1076	7.72	1100	8.02	1124	8.33
9500 [4483]	–	–	–	–	–	–	742	4.23	767	4.39	792	4.57	817	4.77	842	4.98	866	5.20	891	5.44	915	5.70	939	5.97	962	6.26	986	6.56	1010	6.98	1032	7.26	1055	7.55	1079	7.85	1102	8.15	1126	8.46
9600 [4530]	–	–	–	–	722	4.16	747	4.31	772	4.48	797	4.66	821	4.86	846	5.08	870	5.31	894	5.55	918	5.81	942	6.09	965	6.38	989	6.69	1012	7.10	1035	7.38	1058	7.68	1081	7.98	1104	8.28	1128	8.60
9700 [4577]	–	–	–	–	726	4.24	752	4.40	776	4.57	801	4.76	826	4.96	850	5.18	874	5.42	898	5.67	922	5.93	945	6.21	969	6.51	992	6.82	1015	7.22	1038	7.51	1060	7.81	1083	8.11	1107	8.42	1130	8.74
9800 [4624]	–	–	–	–	731	4.33	756	4.49	781	4.67	806	4.86	830	5.07	854	5.29	878	5.53	902	5.78	925	6.05	949	6.33	972	6.63	995	6.95	1018	7.35	1040	7.64	1063	7.94	1086	8.24	1109	8.56	1133	8.88
9900 [4672]	–	–	–	–	736	4.41	761	4.58	786	4.76	810	4.96	834	5.17	858	5.40	882	5.64	906	5.90	929	6.17	952	6.46	975	6.77	998	7.08	1020	7.48	1043	7.77	1065	8.07	1088	8.38	1112	8.70	1135	9.02
10000 [4719]	–	–	–	–	741	4.51	766	4.68	790	4.86	815	5.07	839	5.28	862	5.51	886	5.76	909	6.02	933	6.30	956	6.59	978	6.90	1001	7.22	1023	7.61	1046	7.91	1068	8.21	1091	8.52	1114	8.84	1138	9.17
10100 [4766]	–	–	722	4.44	747	4.60	771	4.78	795	4.97	819	5.17	843	5.40	867	5.63	890	5.88	913	6.15	936	6.43	959	6.73	982	7.04	1004	7.45	1026	7.74	1048	8.04	1071	8.35	1094	8.66	1117	8.99	1132	9.49
10200 [4813]	–	–	727	4.54	752	4.70	776	4.88	800	5.08	824	5.29	848	5.51	871	5.75	894	6.01	917	6.28	940	6.56	963	6.87	985	7.18	1007	7.58	1029	7.88	1051	8.18	1073	8.49	1096	8.81	1119	9.13	1135	9.66
10300 [4860]	–	–	733	4.63	757	4.80	781	4.99	805	5.19	829	5.40	852	5.63	875	5.88	898	6.14	921	6.41	944	6.70	966	7.01	989	7.33	1010	7.72	1032	8.02	1054	8.32	1076	8.64	1099	8.96	1122	9.28	1139	9.83
10400 [4908]	–	–	738	4.74	762	4.91	786	5.10	810	5.30	833	5.52	857	5.75	880	6.00	903	6.27	925	6.55	948	6.84	970	7.15	992	7.48	1013	7.86	1035	8.16	1057	8.47	1079	8.78	1102	9.11	1125	9.44	1142	10.00
10500 [4955]	–	–	744	4.84	768	5.02	791	5.21	815	5.42	838	5.64	861	5.88	884	6.13	907	6.40	930	6.69	952	6.98	974	7.30	996	7.63	1016	8.00	1038	8.30	1060	8.61	1082	8.93	1104	9.26	1127	9.59	1146	10.18
10600 [5002]	725	4.78	749	4.95	773	5.13	797	5.33	820	5.54	843	5.77	866	6.01	889	6.27	911	6.54	934	6.83	956	7.13	978	7.45	1000	7.78	1019	8.14	1041	8.45	1063	8.76	1085	9.08	1107	9.41	1130	9.75	1150	10.36
10700 [5049]	731	4.89	755	5.06	779	5.25	802	5.45	825	5.66	848	5.90	871	6.14	893	6.40	916	6.68	938	6.97	960	7.28	982	7.60	1003	7.94	1022	8.29	1044	8.60	1066	8.91	1088	9.24	1110	9.57	1133	9.91	1154	10.55
10800 [5096]	737	5.00	761	5.17	784	5.37	807	5.57	830	5.79	853	6.03	876	6.28	898	6.54	920	6.83	942	7.12	964	7.43	986	7.76	1004	8.13	1025	8.43	1047	8.75	1069	9.07	1091	9.39	1113	9.73	1136	10.07	1158	10.75
10900 [5143]	743	5.11	766	5.29	790	5.49	813	5.70	835	5.92	858	6.16	881	6.42	903	6.69	925	6.97	947	7.27	968	7.59	990	7.92	1007	8.28	1029	8.58	1050	8.90	1072	9.22	1094	9.55	1116	9.89	1135	10.53	1162	10.94
11000 [5191]	749	5.23	772	5.41	795	5.61	818	5.83	841	6.06	863	6.30	885	6.56	908	6.84	929	7.13	951	7.43	972	7.75	994	8.09	1011	8.43	1032	8.74	1053	9.06	1075	9.38	1097	9.71	1119	10.05	1138	10.72	1167	11.15
11100 [5238]	755	5.35	778	5.54	801	5.74	824	5.96	846	6.19	868	6.44	890	6.71	912	6.99	934	7.28	955	7.59	977	7.91	998	8.25	1014	8.58	1035	8.89	1056	9.21	1078	9.54	1100	9.88	1122	10.22	1142	10.92	1171	11.35
11200 [5285]	761	5.47	784	5.67	807	5.87	829	6.10	852	6.33	874	6.59	895	6.86	917	7.14	939	7.44	960	7.75	981	8.08	1002	8.42	1018	8.73	1038	9.05	1060	9.37	1081	9.70	1103	10.04	1125	10.39	1146	11.12	1176	11.57
11300 [5332]	767	5.60	790	5.80	813	6.01	835	6.24	857	6.48	879	6.74	901	7.01	922	7.30	943	7.60	965	7.92	985	8.25	1000	8.58	1021	8.89	1042	9.21	1063	9.54	1084	9.87	1106	10.21	1128	10.56	–	–	–	–
11400 [5379]	774	5.73	796	5.93	818	6.15	841	6.38	862	6.63	884	6.89	906	7.16	927	7.46	948	7.76	969	8.09	990	8.42	1004	8.73	1024	9.05	1045	9.37	1066	9.70	1088	10.04	1109	10.38	1131	10.73	–	–	–	–
11500 [5427]	780	5.86	802	6.07	824	6.29	846	6.53	868	6.78	890	7.04	911	7.32	932	7.62	953	7.93	974	8.26	994	8.60	1008	8.89	1028	9.21	1049	9.54	1070	9.87	1091	10.21	1112	10.56	1134	10.91	–	–	–	–
11600 [5474]	786	6.00	808	6.21	830	6.44	852	6.68	874	6.93	895	7.20	916	7.49	937	7.79	958	8.10	979	8.43	999	8.78	1011	9.05	1032	9.37	1052	9.70	1073	10.04	1094	10.38	1116	10.73	1137	11.09	–	–	–	–
11700 [5521]	792	6.14	814	6.36	836	6.58	858	6.83	879	7.09	901	7.36	922	7.65	942	7.96	963	8.28	983	8.61	1004	8.96	1015	9.22	1035	9.54	1056	9.87	1077	10.21	1098	10.56	1119	10.91	1140	11.75	–	–	–	–
11800 [5568]	799	6.29	821	6.50	842	6.74	864	6.98	885	7.25	906	7.53	927	7.82	948	8.13	968	8.45	988	8.79	999	9.06	1019	9.38	1039	9.71	1059	10.04	1080	10.38	1101	10.73	1122	11.09	–	–	–	–	–	–
11900 [5615]	805	6.43	827	6.65	848	6.89	870	7.14	891	7.41	912	7.70	932	7.99	953	8.31	973	8.63	993	8.98	1003	9.23	1022	9.55	1043	9.88	1063	10.22	1084	10.56	1105	10.91	1126	11.27	–	–	–	–	–	–
12000 [5663]	812	6.58	833	6.81	855	7.05	876	7.31	897	7.58	917	7.87	938	8.17	958	8.49	978	8.82	998	9.17	1006	9.40	1026	9.72	1046	10.05	1067	10.39	1087	10.74	1108	11.10	1129	11.46	–	–	–	–	–	–

NOTE: F-Drive left of bold line, G-Drive right of bold line.

Drive Package	F							G							H						
Motor H.P. [W]	7.5 [5592.7]							10 [7457.0]							10 [7457.0]						
Motor RPM	1760							1760							1760						
Blower Sheave	BK110							BK105							BK95						
Motor Frame Size	213							215							215						
Motor Sheave	1VP-65							1VP-71							1VP71						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6	0	1	2	3	**4**	5	6
RPM	|	995	962	**929**	892	855	818	|	1138	2214	1076	**1044**	1012	979	|	1227	1197	1167	**1134**	1101	1068

Notes:

1. Factory sheave settings are shown in bold type.
2. Do not set sheave below minimum or maximum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.
5. An RPM meter must be used to receive an accurate airflow reading.

Appendix C – Air Flow Performance Data (Cont.)

COMPONENT AIRFLOW RESISTANCE - 25 TON [70.3kW]

CFM [L/s]	8000 [3775]	8400 [3964]	8800 [4153]	9200 [4341]	9600 [4530]	10000 [4719]	10400 [4908]	10800 [5096]	11200 [5285]	11600 [5474]	12000 [5663]
	Resistance - Inches of Water [kPa]										
Wet Coil	0.10 [.03]	0.11 [.03]	0.11 [.03]	0.12 [.03]	0.12 [.03]	0.13 [.03]	0.14 [.03]	0.14 [.03]	0.15 [.04]	0.15 [.04]	0.16 [.04]
Downflow Economizer RA Damper Open	0.32 [0.15]	0.33 [0.15]	0.35 [0.16]	0.37 [0.17]	0.39 [0.18]	0.40 [0.18]	0.42 [0.19]	0.44 [0.20]	0.46 [0.21]	0.47 [0.22]	0.49 [0.23]
Horizontal Economizer RA Damper Open	0.10 [0.04]	0.10 [0.05]	0.10 [0.05]	0.11 [0.05]	0.11 [0.05]	0.11 [0.05]	0.12 [0.05]	0.12 [0.05]	0.12 [0.05]	0.13 [0.06]	0.13 [0.06]
MERV 8 Filter	0.140 [0.06]	0.148 [0.06]	0.156 [0.07]	0.164 [0.07]	0.173 [0.08]	0.181 [0.08]	0.189 [0.08]	0.197 [0.09]	0.205 [0.09]	0.213 [0.10]	0.221 [0.10]
MERV 13 Filter	0.120 [0.05]	0.133 [0.06]	0.145 [0.06]	0.158 [0.07]	0.170 [0.08]	0.183 [0.08]	0.196 [0.09]	0.208 [0.09]	0.221 [0.10]	0.233 [0.10]	0.246 [0.11]
Concentric Grill RX-RN-AD86 & Transition RXMC-CK08	0.17 [.04]	0.23 [.06]	0.30 [.07]	0.36 [.09]	0.43 [.11]	0.50 [.12]	0.56 [.14]	0.63 [.16]	0.69 [.17]	0.76 [.19]	0.82 [.20]

AIRFLOW CORRECTION FACTORS - 25 TON [70.3kW]

CFM [L/s]	8000 [3775]	8400 [3964]	8800 [4153]	9200 [4341]	9600 [4530]	10000 [4719]	10400 [4908]	10800 [5096]	11200 [5285]	11600 [5474]	12000 [5663]
Total MBH	0.99	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09
Sensible MBH	0.97	1.00	1.03	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27
Power kW	1.00	1.00	1.00	1.01	1.01	1.01	1.02	1.02	1.02	1.03	1.03

NOTE: Multiply correction factor times gross performance data - resulting sensible capacity cannot exceed total capacity.

Appendix D – Cooling Data for (-)ACG 15 Ton

COOLING PERFORMANCE DATA - RACG2T180																		
Entering Indoor Air @ 80°F [26.7°C] dbE																		
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]		
CFM [L/s]			7000 [3304]	5900 [2784]	4800 [2265]	7000 [3304]	5900 [2784]	4800 [2265]	7000 [3304]	5900 [2784]	4800 [2265]	7000 [3304]	5900 [2784]	4800 [2265]	7000 [3304]	5900 [2784]	4800 [2265]
DR			0.32	0.29	0.27	0.32	0.29	0.27	0.32	0.29	0.27	0.32	0.29	0.27	0.32	0.29	0.27
Outdoor Dry Bulb Temperature	75°F [23.9°C]	Total BTUH [kW]	207.6 [60.8]	200.8 [58.9]	194 [56.9]	200.3 [58.7]	193.7 [56.8]	187.1 [54.8]	195.3 [57.2]	188.9 [55.4]	182.5 [53.5]	194.1 [56.9]	187.7 [55]	181.4 [53.1]	194 [56.8]	187.6 [55]	181.2 [53.1]
		Sens BTUH [kW]	121.4 [35.6]	111.7 [32.7]	102 [29.9]	139.2 [40.8]	128.1 [37.5]	116.9 [34.3]	155.6 [45.6]	143.2 [42]	130.7 [38.3]	163 [47.8]	149.9 [43.9]	136.9 [40.1]	169.6 [49.7]	156 [45.7]	142.4 [41.7]
		Power	13.3	13.1	12.9	13.2	13	12.8	13.1	12.9	12.7	13.1	12.8	12.6	13	12.8	12.6
	80°F [26.7°C]	Total BTUH [kW]	203.1 [59.5]	196.4 [57.6]	189.8 [55.6]	195.7 [57.3]	189.3 [55.5]	182.9 [53.6]	190.7 [55.9]	184.5 [54.1]	178.2 [52.2]	189.5 [55.5]	183.3 [53.7]	177.1 [51.9]	189.4 [55.5]	183.2 [53.7]	177 [51.9]
		Sens BTUH [kW]	119.1 [34.9]	109.6 [32.1]	100.1 [29.3]	136.9 [40.1]	126 [36.9]	115 [33.7]	153.3 [44.9]	141.1 [41.3]	128.8 [37.7]	160.7 [47.1]	147.8 [43.3]	135 [39.6]	167.3 [49]	153.9 [45.1]	140.5 [41.2]
		Power	13.7	13.5	13.3	13.6	13.4	13.2	13.5	13.3	13.1	13.5	13.3	13	13.4	13.2	13
	85°F [29.4°C]	Total BTUH [kW]	198.5 [58.2]	192 [56.3]	185.5 [54.4]	191.1 [56]	184.9 [54.2]	178.6 [52.3]	186.2 [54.6]	180.1 [52.8]	174 [51]	184.9 [54.2]	178.9 [52.4]	172.8 [50.6]	184.8 [54.2]	178.8 [52.4]	172.7 [50.6]
		Sens BTUH [kW]	116.8 [34.2]	107.5 [31.5]	98.1 [28.8]	134.6 [39.4]	123.8 [36.3]	113.1 [33.1]	151 [44.3]	138.9 [40.7]	126.8 [37.2]	158.4 [46.4]	145.7 [42.7]	133 [39]	165 [48.3]	151.8 [44.5]	138.5 [40.6]
		Power	14.2	13.9	13.7	14.1	13.8	13.6	14	13.7	13.5	13.9	13.7	13.5	13.9	13.7	13.4
	90°F [32.2°C]	Total BTUH [kW]	194 [56.8]	187.6 [55]	181.2 [53.1]	186.6 [54.7]	180.5 [52.9]	174.4 [51.1]	181.6 [53.2]	175.7 [51.5]	169.7 [49.7]	180.4 [52.9]	174.5 [51.1]	168.6 [49.4]	180.3 [52.8]	174.4 [51.1]	168.4 [49.4]
		Sens BTUH [kW]	114.5 [33.5]	105.3 [30.9]	96.1 [28.2]	132.2 [38.8]	121.7 [35.7]	111.1 [32.6]	148.7 [43.6]	136.8 [40.1]	124.9 [36.6]	156 [45.7]	143.5 [42.1]	131 [38.4]	162.6 [47.6]	149.6 [43.8]	136.6 [40]
		Power	14.6	14.4	14.2	14.5	14.3	14.1	14.4	14.2	14	14.4	14.2	13.9	14.4	14.1	13.9
	95°F [35.0°C]	Total BTUH [kW]	189.4 [55.5]	183.2 [53.7]	177 [51.9]	182.1 [53.3]	176.1 [51.6]	170.1 [49.9]	177.1 [51.9]	171.3 [50.2]	165.5 [48.5]	175.9 [51.5]	170.1 [49.8]	164.3 [48.2]	175.7 [51.5]	170 [49.8]	164.2 [48.1]
		Sens BTUH [kW]	112.1 [32.8]	103.1 [30.2]	94.1 [27.6]	129.9 [38.1]	119.5 [35]	109.1 [32]	146.3 [42.9]	134.5 [39.4]	122.8 [36]	153.6 [45]	141.3 [41.4]	129 [37.8]	160.2 [46.9]	147.4 [43.2]	134.6 [39.4]
		Power	15.1	14.9	14.6	15	14.8	14.6	15	14.7	14.5	14.9	14.7	14.4	14.9	14.6	14.4
	100°F [37.8°C]	Total BTUH [kW]	184.9 [54.2]	178.8 [52.4]	172.8 [50.6]	177.5 [52]	171.7 [50.3]	165.9 [48.6]	172.6 [50.6]	166.9 [48.9]	161.3 [47.3]	171.3 [50.2]	165.7 [48.6]	160.1 [46.9]	171.2 [50.2]	165.6 [48.5]	160 [46.9]
		Sens BTUH [kW]	109.6 [32.1]	100.9 [29.6]	92.1 [27]	127.4 [37.3]	117.2 [34.3]	107 [31.4]	143.8 [42.1]	132.3 [38.8]	120.8 [35.4]	151.2 [44.3]	139.1 [40.8]	127 [37.2]	157.8 [46.2]	145.1 [42.5]	132.5 [38.8]
		Power	15.7	15.4	15.2	15.6	15.3	15.1	15.5	15.2	15	15.4	15.2	14.9	15.4	15.2	14.9
	105°F [40.6°C]	Total BTUH [kW]	180.4 [52.9]	174.5 [51.1]	168.6 [49.4]	173 [50.7]	167.4 [49]	161.7 [47.4]	168.1 [49.2]	162.6 [47.6]	157 [46]	166.8 [48.9]	161.4 [47.3]	155.9 [45.7]	166.7 [48.9]	161.2 [47.2]	155.8 [45.6]
		Sens BTUH [kW]	107.2 [31.4]	98.6 [28.9]	90 [26.4]	124.9 [36.6]	114.9 [33.7]	104.9 [30.8]	141.4 [41.4]	130 [38.1]	118.7 [34.8]	148.7 [43.6]	136.8 [40.1]	124.9 [36.6]	155.3 [45.5]	142.9 [41.9]	130.4 [38.2]
		Power	16.3	16	15.7	16.2	15.9	15.6	16.1	15.8	15.5	16	15.8	15.5	16	15.7	15.5
	110°F [43.3°C]	Total BTUH [kW]	175.9 [51.5]	170.1 [49.9]	164.4 [48.2]	168.5 [49.4]	163 [47.8]	157.5 [46.1]	163.6 [47.9]	158.2 [46.4]	152.8 [44.8]	162.3 [47.6]	157 [46]	151.7 [44.5]	162.2 [47.5]	156.9 [46]	151.6 [44.4]
		Sens BTUH [kW]	104.7 [30.7]	96.3 [28.2]	87.9 [25.8]	122.4 [35.9]	112.6 [33]	102.8 [30.1]	138.8 [40.7]	127.7 [37.4]	116.6 [34.2]	146.2 [42.8]	134.5 [39.4]	122.8 [36]	152.8 [44.8]	140.6 [41.2]	128.3 [37.6]
		Power	16.9	16.6	16.3	16.8	16.5	16.2	16.7	16.4	16.1	16.6	16.4	16.1	16.6	16.3	16
	115°F [46.1°C]	Total BTUH [kW]	171.4 [50.2]	165.8 [48.6]	160.2 [46.9]	164.1 [48.1]	158.7 [46.5]	153.3 [44.9]	159.1 [46.6]	153.9 [45.1]	148.7 [43.6]	157.9 [46.3]	152.7 [44.7]	147.5 [43.2]	157.7 [46.2]	152.6 [44.7]	147.4 [43.2]
		Sens BTUH [kW]	102.1 [29.9]	93.9 [27.5]	85.8 [25.1]	119.9 [35.1]	110.3 [32.3]	100.7 [29.5]	136.3 [39.9]	125.4 [36.7]	114.5 [33.5]	143.7 [42.1]	132.2 [38.7]	120.7 [35.4]	150.2 [44]	138.2 [40.5]	126.2 [37]
		Power	17.5	17.2	16.9	17.4	17.1	16.8	17.3	17	16.7	17.3	17	16.7	17.2	16.9	16.7
	120°F [48.9°C]	Total BTUH [kW]	167 [48.9]	161.5 [47.3]	156 [45.7]	159.6 [46.8]	154.4 [45.2]	149.1 [43.7]	154.6 [45.3]	149.6 [43.8]	144.5 [42.3]	153.4 [45]	148.4 [43.5]	143.3 [42]	153.3 [44.9]	148.2 [43.4]	143.2 [42]
		Sens BTUH [kW]	99.5 [29.2]	91.6 [26.8]	83.6 [24.5]	117.3 [34.4]	107.9 [31.6]	98.5 [28.9]	133.7 [39.2]	123 [36]	112.3 [32.9]	141.1 [41.3]	129.8 [38]	118.5 [34.7]	147.7 [43.3]	135.8 [39.8]	124 [36.3]
		Power	18.2	17.9	17.6	18.1	17.8	17.5	18	17.7	17.4	17.9	17.6	17.3	17.9	17.6	17.3
	125°F [51.7°C]	Total BTUH [kW]	162.5 [47.6]	157.2 [46.1]	151.9 [44.5]	155.1 [45.5]	150.1 [44]	145 [42.5]	150.2 [44]	145.3 [42.6]	140.3 [41.1]	148.9 [43.6]	144.1 [42.2]	139.2 [40.8]	148.8 [43.6]	143.9 [42.2]	139.1 [40.7]
		Sens BTUH [kW]	96.9 [28.4]	89.1 [26.1]	81.4 [23.9]	114.7 [33.6]	105.5 [30.9]	96.3 [28.2]	131.1 [38.4]	120.6 [35.3]	110.1 [32.3]	138.5 [40.6]	127.4 [37.3]	116.3 [34.1]	145 [42.5]	133.4 [39.1]	121.8 [35.7]
		Power	18.9	18.6	18.2	18.8	18.5	18.2	18.7	18.4	18.1	18.6	18.3	18	18.6	18.3	18

DR —Depression ratio Total —Total capacity x 1000 BTUH NOTES:
dbE —Entering air dry bulb Sens —Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
wbE—Entering air wet bulb Power—KW input capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

Appendix D – Cooling Data for (-)ACG 17.5 Ton

COOLING PERFORMANCE DATA - RACG2T210																		
Entering Indoor Air @ 80°F [26.7°C] dbE																		
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]		
CFM [L/s]			8400 [3964]	6900 [3256]	5600 [2643]	8400 [3964]	6900 [3256]	5600 [2643]	8400 [3964]	6900 [3256]	5600 [2643]	8400 [3964]	6900 [3256]	5600 [2643]	8400 [3964]	6900 [3256]	5600 [2643]
DR			0.3	0.28	0.25	0.3	0.28	0.25	0.3	0.28	0.25	0.3	0.28	0.25	0.3	0.28	0.25
Outdoor Dry Bulb Temperature	75°F [23.9°C]	Total BTUH [kW]	242.5 [71.1]	233.3 [68.4]	225.3 [66]	235.1 [68.9]	226.2 [66.3]	218.4 [64]	230.1 [67.4]	221.4 [64.9]	213.8 [62.6]	228.9 [67.1]	220.2 [64.5]	212.6 [62.3]	228.7 [67]	220 [64.5]	212.5 [62.3]
		Sens BTUH [kW]	148.4 [43.5]	134.8 [39.5]	122.9 [36]	166.4 [48.8]	151.1 [44.3]	137.8 [40.4]	183.1 [53.6]	166.2 [48.7]	151.6 [44.4]	190.5 [55.8]	173 [50.7]	157.8 [46.2]	197.2 [57.8]	179 [52.5]	163.3 [47.9]
		Power	14	13.8	13.5	13.9	13.7	13.5	13.9	13.6	13.4	13.8	13.5	13.3	13.8	13.5	13.3
	80°F [26.7°C]	Total BTUH [kW]	237.9 [69.7]	228.9 [67.1]	221 [64.8]	230.5 [67.5]	221.7 [65]	214.1 [62.8]	225.5 [66.1]	216.9 [63.6]	209.5 [61.4]	224.3 [65.7]	215.7 [63.2]	208.3 [61.1]	224.1 [65.7]	215.6 [63.2]	208.2 [61]
		Sens BTUH [kW]	146.1 [42.8]	132.7 [38.9]	121 [35.5]	164.1 [48.1]	149 [43.7]	135.9 [39.8]	180.8 [53]	164.1 [48.1]	149.7 [43.9]	188.2 [55.2]	170.9 [50.1]	155.9 [45.7]	194.9 [57.1]	176.9 [51.8]	161.4 [47.3]
		Power	14.5	14.2	13.9	14.4	14.1	13.9	14.3	14	13.8	14.2	14	13.7	14.2	13.9	13.7
	85°F [29.4°C]	Total BTUH [kW]	233.3 [68.4]	224.4 [65.8]	216.8 [63.5]	225.9 [66.2]	217.3 [63.7]	209.9 [61.5]	220.9 [64.7]	212.5 [62.3]	205.2 [60.1]	219.7 [64.4]	211.3 [61.9]	204.1 [59.8]	219.5 [64.3]	211.2 [61.9]	204 [59.8]
		Sens BTUH [kW]	143.8 [42.1]	130.5 [38.2]	119 [34.9]	161.8 [47.4]	146.9 [43]	134 [39.3]	178.4 [52.3]	162 [47.5]	147.7 [43.3]	185.9 [54.5]	168.7 [49.4]	153.9 [45.1]	192.5 [56.4]	174.8 [51.2]	159.4 [46.7]
		Power	14.9	14.6	14.4	14.8	14.5	14.3	14.7	14.4	14.2	14.7	14.4	14.2	14.6	14.3	14.1
	90°F [32.2°C]	Total BTUH [kW]	228.7 [67]	220 [64.5]	212.5 [62.3]	221.3 [64.9]	212.9 [62.4]	205.6 [60.3]	216.3 [63.4]	208.1 [61]	201 [58.9]	215.1 [63]	206.9 [60.6]	199.8 [58.6]	215 [63]	206.8 [60.6]	199.7 [58.5]
		Sens BTUH [kW]	141.4 [41.4]	128.3 [37.6]	117.1 [34.3]	159.4 [46.7]	144.7 [42.4]	132 [38.7]	176 [51.6]	159.8 [46.8]	145.7 [42.7]	183.5 [53.8]	166.6 [48.8]	151.9 [44.5]	190.1 [55.7]	172.6 [50.6]	157.4 [46.1]
		Power	15.4	15.1	14.8	15.3	15	14.7	15.2	14.9	14.7	15.1	14.9	14.6	15.1	14.8	14.6
	95°F [35.0°C]	Total BTUH [kW]	224.2 [65.7]	215.7 [63.2]	208.3 [61]	216.8 [63.5]	208.5 [61.1]	201.4 [59]	211.8 [62.1]	203.7 [59.7]	196.7 [57.7]	210.5 [61.7]	202.5 [59.4]	195.6 [57.3]	210.4 [61.7]	202.4 [59.3]	195.5 [57.3]
		Sens BTUH [kW]	138.9 [40.7]	126.1 [37]	115 [33.7]	157 [46]	142.5 [41.8]	130 [38.1]	173.6 [50.9]	157.6 [46.2]	143.7 [42.1]	181 [53.1]	164.4 [48.2]	149.9 [43.9]	187.7 [55]	170.4 [49.9]	155.4 [45.5]
		Power	15.9	15.6	15.3	15.8	15.5	15.2	15.7	15.4	15.2	15.7	15.4	15.1	15.6	15.3	15.1
	100°F [37.8°C]	Total BTUH [kW]	219.6 [64.4]	211.3 [61.9]	204 [59.8]	212.2 [62.2]	204.2 [59.8]	197.2 [57.8]	207.2 [60.7]	199.4 [58.4]	192.5 [56.4]	206 [60.4]	198.2 [58.1]	191.4 [56.1]	205.9 [60.3]	198 [58]	191.3 [56]
		Sens BTUH [kW]	136.5 [40]	123.9 [36.3]	113 [33.1]	154.5 [45.3]	140.3 [41.1]	127.9 [37.5]	171.1 [50.1]	155.4 [45.5]	141.7 [41.5]	178.6 [52.3]	162.1 [47.5]	147.9 [43.3]	185.2 [54.3]	168.2 [49.3]	153.4 [45]
		Power	16.4	16.1	15.9	16.3	16	15.8	16.2	15.9	15.7	16.2	15.9	15.6	16.2	15.9	15.6
	105°F [40.6°C]	Total BTUH [kW]	215.1 [63]	206.9 [60.6]	199.8 [58.6]	207.7 [60.9]	199.8 [58.5]	193 [56.5]	202.7 [59.4]	195 [57.1]	188.3 [55.2]	201.5 [59]	193.8 [56.8]	187.2 [54.8]	201.3 [59]	193.7 [56.8]	187 [54.8]
		Sens BTUH [kW]	134 [39.3]	121.6 [35.6]	110.9 [32.5]	152 [44.5]	138 [40.4]	125.9 [36.9]	168.6 [49.4]	153.1 [44.9]	139.6 [40.9]	176.1 [51.6]	159.9 [46.8]	145.8 [42.7]	182.7 [53.6]	165.9 [48.6]	151.3 [44.3]
		Power	17	16.7	16.4	16.9	16.6	16.3	16.8	16.5	16.2	16.8	16.5	16.2	16.7	16.4	16.1
	110°F [43.3°C]	Total BTUH [kW]	210.6 [61.7]	202.6 [59.4]	195.6 [57.3]	203.2 [59.5]	195.5 [57.3]	188.8 [55.3]	198.2 [58.1]	190.6 [55.9]	184.1 [54]	197 [57.7]	189.5 [55.5]	183 [53.6]	196.8 [57.7]	189.3 [55.5]	182.8 [53.6]
		Sens BTUH [kW]	131.4 [38.5]	119.3 [35]	108.8 [31.9]	149.4 [43.8]	135.7 [39.8]	123.8 [36.3]	166.1 [48.7]	150.8 [44.2]	137.5 [40.3]	173.5 [50.9]	157.5 [46.2]	143.7 [42.1]	180.2 [52.8]	163.6 [47.9]	149.2 [43.7]
		Power	17.6	17.3	17	17.5	17.2	16.9	17.4	17.1	16.8	17.4	17.1	16.8	17.3	17	16.7
	115°F [46.1°C]	Total BTUH [kW]	206.1 [60.4]	198.2 [58.1]	191.5 [56.1]	198.7 [58.2]	191.1 [56]	184.6 [54.1]	193.7 [56.8]	186.3 [54.6]	179.9 [52.7]	192.4 [56.4]	185.1 [54.3]	178.8 [52.4]	192.3 [56.4]	185 [54.2]	178.7 [52.4]
		Sens BTUH [kW]	128.8 [37.8]	117 [34.3]	106.7 [31.3]	146.9 [43]	133.3 [39.1]	121.6 [35.6]	163.5 [47.9]	148.4 [43.5]	135.4 [39.7]	171 [50.1]	155.2 [45.5]	141.6 [41.5]	177.6 [52.1]	161.3 [47.3]	147.1 [43.1]
		Power	18.3	17.9	17.6	18.2	17.8	17.5	18.1	17.7	17.4	18	17.7	17.4	18	17.6	17.3
	120°F [48.9°C]	Total BTUH [kW]	201.6 [59.1]	193.9 [56.8]	187.3 [54.9]	194.2 [56.9]	186.8 [54.7]	180.4 [52.9]	189.2 [55.4]	182 [53.3]	175.8 [51.5]	188 [55.1]	180.8 [53]	174.6 [51.2]	187.8 [55]	180.7 [52.9]	174.5 [51.1]
		Sens BTUH [kW]	126.2 [37]	114.6 [33.6]	104.5 [30.6]	144.3 [42.3]	131 [38.4]	119.4 [35]	160.9 [47.1]	146.1 [42.8]	133.2 [39]	168.3 [49.3]	152.8 [44.8]	139.4 [40.8]	175 [51.3]	158.9 [46.6]	144.9 [42.5]
		Power	18.9	18.6	18.3	18.8	18.5	18.2	18.7	18.4	18.1	18.7	18.3	18	18.6	18.3	18
	125°F [51.7°C]	Total BTUH [kW]	197.1 [57.8]	189.6 [55.6]	183.1 [53.7]	189.7 [55.6]	182.5 [53.5]	176.2 [51.6]	184.7 [54.1]	177.7 [52.1]	171.6 [50.3]	183.5 [53.8]	176.5 [51.7]	170.5 [50]	183.4 [53.7]	176.4 [51.7]	170.3 [49.9]
		Sens BTUH [kW]	123.6 [36.2]	112.2 [32.9]	102.3 [30]	141.6 [41.5]	128.6 [37.7]	117.3 [34.4]	158.2 [46.4]	143.6 [42.1]	131 [38.4]	165.7 [48.6]	150.4 [44.1]	137.2 [40.2]	172.4 [50.5]	156.5 [45.9]	142.7 [41.8]
		Power	19.6	19.3	18.9	19.5	19.2	18.8	19.4	19.1	18.8	19.4	19	18.7	19.3	19	18.7

DR —Depression ratio Total —Total capacity x 1000 BTUH NOTES:
dbE —Entering air dry bulb Sens —Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
wbE—Entering air wet bulb Power—KW input capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

Appendix D – Cooling Data for (-)ACG 20 Ton

COOLING PERFORMANCE DATA - RACG2T240																		
Entering Indoor Air @ 80ºF [26.7ºC] dbE																		
wbE			71ºF [21.7ºC]			67ºF [19.4ºC]			63ºF [17.2ºC]			61ºF [16.1ºC]			59ºF [15.0ºC]		
CFM [L/s]			9600 [4531]	7300 [3445]	6400 [3020]	9600 [4531]	7300 [3445]	6400 [3020]	9600 [4531]	7300 [3445]	6400 [3020]	9600 [4531]	7300 [3445]	6400 [3020]	9600 [4531]	7300 [3445]	6400 [3020]
DR			0.92	0.98	1.03	0.92	0.98	1.03	0.92	0.98	1.03	0.92	0.98	1.03	0.92	0.98	1.03
Outdoor Dry Bulb Temperature	75ºF [23.9ºC]	Total BTUH [kW]	279.8 [82]	264.6 [77.6]	258.7 [75.8]	272.3 [79.8]	257.5 [75.5]	251.8 [73.8]	267.2 [78.3]	252.7 [74.1]	247.1 [72.4]	265.9 [77.9]	251.5 [73.7]	245.9 [72.1]	265.8 [77.9]	251.4 [73.7]	245.8 [72]
		Sens BTUH [kW]	179.7 [52.7]	156.6 [45.9]	147.6 [43.3]	198.5 [58.2]	173 [50.7]	163.1 [47.8]	215.8 [63.2]	188.1 [55.1]	177.3 [51.9]	223.5 [65.5]	194.9 [57.1]	183.7 [53.8]	230.5 [67.5]	200.9 [58.9]	189.4 [55.5]
		Power	17.2	16.8	16.6	17.1	16.7	16.5	17.1	16.6	16.4	17	16.5	16.4	17	16.5	16.3
	80ºF [26.7ºC]	Total BTUH [kW]	275.1 [80.6]	260.2 [76.3]	254.4 [74.5]	267.6 [78.4]	253.1 [74.2]	247.4 [72.5]	262.5 [76.9]	248.3 [72.8]	242.7 [71.1]	261.3 [76.6]	247.1 [72.4]	241.6 [70.8]	261.1 [76.5]	247 [72.4]	241.4 [70.8]
		Sens BTUH [kW]	177.3 [51.9]	154.5 [45.3]	145.7 [42.7]	196 [57.4]	170.9 [50.1]	161.1 [47.2]	213.3 [62.5]	186 [54.5]	175.3 [51.4]	221.1 [64.8]	192.8 [56.5]	181.7 [53.2]	228.1 [66.8]	198.8 [58.3]	187.4 [54.9]
		Power	17.7	17.2	17	17.6	17.1	16.9	17.5	17	16.8	17.4	17	16.8	17.4	16.9	16.7
	85ºF [29.4ºC]	Total BTUH [kW]	270.5 [79.3]	255.8 [75]	250.1 [73.3]	262.9 [77]	248.7 [72.9]	243.1 [71.2]	257.8 [75.6]	243.9 [71.5]	238.4 [69.9]	256.6 [75.2]	242.7 [71.1]	237.3 [69.5]	256.5 [75.2]	242.6 [71.1]	237.1 [69.5]
		Sens BTUH [kW]	174.8 [51.2]	152.4 [44.7]	143.6 [42.1]	193.6 [56.7]	168.8 [49.5]	159.1 [46.6]	210.9 [61.8]	183.9 [53.9]	173.3 [50.8]	218.7 [64.1]	190.6 [55.9]	179.7 [52.7]	225.6 [66.1]	196.7 [57.6]	185.4 [54.3]
		Power	18.1	17.6	17.4	18	17.5	17.3	17.9	17.4	17.2	17.9	17.4	17.2	17.8	17.3	17.2
	90ºF [32.2ºC]	Total BTUH [kW]	265.8 [77.9]	251.4 [73.7]	245.8 [72]	258.3 [75.7]	244.3 [71.6]	238.8 [70]	253.2 [74.2]	239.5 [70.2]	234.1 [68.6]	251.9 [73.8]	238.3 [69.8]	232.9 [68.3]	251.8 [73.8]	238.2 [69.8]	232.8 [68.2]
		Sens BTUH [kW]	172.3 [50.5]	150.2 [44]	141.6 [41.5]	191.1 [56]	166.6 [48.8]	157 [46]	208.4 [61.1]	181.7 [53.2]	171.2 [50.2]	216.2 [63.3]	188.5 [55.2]	177.6 [52.1]	223.1 [65.4]	194.5 [57]	183.3 [53.7]
		Power	18.6	18.1	17.9	18.5	18	17.8	18.4	17.9	17.7	18.4	17.9	17.7	18.3	17.8	17.6
	95ºF [35.0ºC]	Total BTUH [kW]	261.2 [76.5]	247 [72.4]	241.5 [70.8]	253.6 [74.3]	239.9 [70.3]	234.5 [68.7]	248.6 [72.8]	235.1 [68.9]	229.8 [67.3]	247.3 [72.5]	233.9 [68.5]	228.7 [67]	247.2 [72.4]	233.8 [68.5]	228.5 [67]
		Sens BTUH [kW]	169.8 [49.8]	148 [43.4]	139.5 [40.9]	188.6 [55.3]	164.4 [48.2]	154.9 [45.4]	205.9 [60.3]	179.5 [52.6]	169.2 [49.6]	213.7 [62.6]	186.3 [54.6]	175.5 [51.4]	220.6 [64.6]	192.3 [56.4]	181.3 [53.1]
		Power	19.1	18.6	18.4	19	18.5	18.3	18.9	18.4	18.2	18.9	18.4	18.2	18.8	18.3	18.1
	100ºF [37.8ºC]	Total BTUH [kW]	256.5 [75.2]	242.6 [71.1]	237.2 [69.5]	249 [73]	235.5 [69]	230.2 [67.5]	243.9 [71.5]	230.7 [67.6]	225.5 [66.1]	242.7 [71.1]	229.5 [67.3]	224.4 [65.8]	242.5 [71.1]	229.4 [67.2]	224.3 [65.7]
		Sens BTUH [kW]	167.2 [49]	145.8 [42.7]	137.4 [40.3]	186 [54.5]	162.2 [47.5]	152.8 [44.8]	203.3 [59.6]	177.2 [51.9]	167 [49]	211.1 [61.9]	184 [53.9]	173.4 [50.8]	218 [63.9]	190.1 [55.7]	179.1 [52.5]
		Power	19.7	19.1	18.9	19.6	19	18.8	19.5	18.9	18.7	19.4	18.9	18.7	19.4	18.9	18.6
	105ºF [40.6ºC]	Total BTUH [kW]	251.9 [73.8]	238.3 [69.8]	232.9 [68.3]	244.4 [71.6]	231.2 [67.7]	226 [66.2]	239.3 [70.1]	226.4 [66.3]	221.3 [64.8]	238.1 [69.8]	225.2 [66]	220.1 [64.5]	237.9 [69.7]	225 [65.9]	220 [64.5]
		Sens BTUH [kW]	164.6 [48.2]	143.5 [42.1]	135.3 [39.6]	183.4 [53.7]	159.9 [46.9]	150.7 [44.2]	200.7 [58.8]	175 [51.3]	164.9 [48.3]	208.5 [61.1]	181.8 [53.3]	171.3 [50.2]	215.4 [63.1]	187.8 [55]	177 [51.9]
		Power	20.2	19.7	19.5	20.1	19.6	19.4	20	19.5	19.3	20	19.5	19.2	20	19.4	19.2
	110ºF [43.3ºC]	Total BTUH [kW]	247.3 [72.5]	233.9 [68.6]	228.7 [67]	239.8 [70.3]	226.8 [66.5]	221.7 [65]	234.7 [68.8]	222 [65.1]	217 [63.6]	233.5 [68.4]	220.8 [64.7]	215.9 [63.3]	233.3 [68.4]	220.7 [64.7]	215.8 [63.2]
		Sens BTUH [kW]	162 [47.5]	141.2 [41.4]	133.1 [39]	180.7 [53]	157.6 [46.2]	148.5 [43.5]	198.1 [58]	172.7 [50.6]	162.7 [47.7]	205.8 [60.3]	179.4 [52.6]	169.1 [49.6]	212.8 [62.4]	185.5 [54.4]	174.8 [51.2]
		Power	20.8	20.3	20.1	20.8	20.2	20	20.7	20.1	19.9	20.6	20.1	19.8	20.6	20	19.8
	115ºF [46.1ºC]	Total BTUH [kW]	242.8 [71.1]	229.6 [67.3]	224.5 [65.8]	235.2 [68.9]	222.5 [65.2]	217.5 [63.7]	230.2 [67.4]	217.7 [63.8]	212.8 [62.4]	228.9 [67.1]	216.5 [63.4]	211.6 [62]	228.8 [67]	216.4 [63.4]	211.5 [62]
		Sens BTUH [kW]	159.3 [46.7]	138.9 [40.7]	130.9 [38.4]	178.1 [52.2]	155.2 [45.5]	146.3 [42.9]	195.4 [57.3]	170.3 [49.9]	160.5 [47]	203.1 [59.5]	177.1 [51.9]	166.9 [48.9]	210.1 [61.6]	183.2 [53.7]	172.6 [50.6]
		Power	21.5	20.9	20.7	21.4	20.8	20.6	21.3	20.7	20.5	21.3	20.7	20.5	21.2	20.6	20.4
	120ºF [48.9ºC]	Total BTUH [kW]	238.2 [69.8]	225.3 [66]	220.2 [64.5]	230.7 [67.6]	218.2 [63.9]	213.3 [62.5]	225.6 [66.1]	213.4 [62.5]	208.6 [61.1]	224.3 [65.7]	212.2 [62.2]	207.4 [60.8]	224.2 [65.7]	212 [62.1]	207.3 [60.7]
		Sens BTUH [kW]	156.6 [45.9]	136.5 [40]	128.6 [37.7]	175.3 [51.4]	152.9 [44.8]	144.1 [42.2]	192.6 [56.5]	167.9 [49.2]	158.3 [46.4]	200.4 [58.7]	174.7 [51.2]	164.7 [48.3]	207.4 [60.8]	180.8 [53]	170.4 [49.9]
		Power	22.2	21.6	21.3	22.1	21.5	21.2	22	21.4	21.2	21.9	21.3	21.1	21.9	21.3	21.1
	125ºF [51.7ºC]	Total BTUH [kW]	233.6 [68.5]	221 [64.8]	216 [63.3]	226.1 [66.3]	213.9 [62.7]	209.1 [61.3]	221 [64.8]	209.1 [61.3]	204.4 [59.9]	219.8 [64.4]	207.9 [60.9]	203.2 [59.6]	219.6 [64.4]	207.7 [60.9]	203.1 [59.5]
		Sens BTUH [kW]	153.8 [45.1]	134.1 [39.3]	126.4 [37]	172.6 [50.6]	150.4 [44.1]	141.8 [41.6]	189.9 [55.6]	165.5 [48.5]	156 [45.7]	197.7 [57.9]	172.3 [50.5]	162.4 [47.6]	204.6 [60]	178.4 [52.3]	168.1 [49.3]
		Power	22.9	22.3	22	22.8	22.2	21.9	22.7	22.1	21.8	22.6	22	21.8	22.6	22	21.7

DR —Depression ratio Total —Total capacity x 1000 BTUH NOTES:
dbE —Entering air dry bulb Sens —Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
wbE—Entering air wet bulb Power—KW input capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

Appendix D – Cooling Data for (-)ACG 25 Ton

COOLING PERFORMANCE DATA - RACG2T300

Entering Indoor Air @ 80ºF [26.7ºC] dbE

wbE		71ºF [21.7ºC]			67ºF [19.4ºC]			63ºF [17.2ºC]			61ºF [16.1ºC]			59ºF [15.0ºC]		
CFM [L/s]		12000 [5663]	8400 [3964]	8000 [3776]	12000 [5663]	8400 [3964]	8000 [3776]	12000 [5663]	8400 [3964]	8000 [3776]	12000 [5663]	8400 [3964]	8000 [3776]	12000 [5663]	8400 [3964]	8000 [3776]
DR		0.24	0.2	0.19	0.24	0.2	0.19	0.24	0.2	0.19	0.24	0.2	0.19	0.24	0.2	0.19
Outdoor Dry Bulb Temperature 75ºF [23.9ºC]	Total BTUH [kW]	339.4 [99.4]	314.8 [92.3]	312.1 [91.5]	331.7 [97.2]	307.7 [90.2]	305.1 [89.4]	326.5 [95.7]	302.9 [88.8]	300.3 [88]	325.2 [95.3]	301.7 [88.4]	299.1 [87.7]	325.1 [95.3]	301.6 [88.4]	299 [87.6]
	Sens BTUH [kW]	226.2 [66.3]	188.5 [55.2]	184.3 [54]	245.8 [72]	204.9 [60]	200.3 [58.7]	263.9 [77.3]	220 [64.5]	215.1 [63]	272.1 [79.7]	226.7 [66.4]	221.7 [65]	279.3 [81.9]	232.8 [68.2]	227.6 [66.7]
	Power	26.2	25.3	25.2	26.1	25.2	25.1	26	25.1	25	26	25	24.9	26	25	24.9
80ºF [26.7ºC]	Total BTUH [kW]	334.6 [98.1]	310.4 [91]	307.7 [90.2]	326.9 [95.8]	303.3 [88.9]	300.7 [88.1]	321.7 [94.3]	298.5 [87.5]	295.9 [86.7]	320.5 [93.9]	297.3 [87.1]	294.7 [86.4]	320.3 [93.9]	297.2 [87.1]	294.6 [86.3]
	Sens BTUH [kW]	223.7 [65.5]	186.4 [54.6]	182.3 [53.4]	243.3 [71.3]	202.8 [59.4]	198.3 [58.1]	261.4 [76.6]	217.9 [63.8]	213 [62.4]	269.6 [79]	224.6 [65.8]	219.6 [64.4]	276.8 [81.1]	230.7 [67.6]	225.6 [66.1]
	Power	26.7	25.7	25.6	26.6	25.6	25.5	26.5	25.5	25.4	26.4	25.5	25.4	26.4	25.4	25.3
85ºF [29.4ºC]	Total BTUH [kW]	329.8 [96.7]	306 [89.7]	303.4 [88.9]	322.2 [94.4]	298.9 [87.6]	296.3 [86.8]	317 [92.9]	294.1 [86.2]	291.5 [85.4]	315.7 [92.5]	292.9 [85.8]	290.3 [85.1]	315.6 [92.5]	292.8 [85.8]	290.2 [85]
	Sens BTUH [kW]	221.1 [64.8]	184.3 [54]	180.2 [52.8]	240.8 [70.5]	200.6 [58.8]	196.2 [57.5]	258.9 [75.9]	215.7 [63.2]	210.9 [61.8]	267 [78.2]	222.5 [65.2]	217.5 [63.7]	274.3 [80.4]	228.5 [67]	223.5 [65.5]
	Power	27.1	26.1	26	27	26	25.9	26.9	25.9	25.8	26.9	25.9	25.8	26.8	25.9	25.7
90ºF [32.2ºC]	Total BTUH [kW]	325.1 [95.3]	301.6 [88.4]	299 [87.6]	317.4 [93]	294.5 [86.3]	291.9 [85.5]	312.2 [91.5]	289.7 [84.9]	287.2 [84.1]	311 [91.1]	288.5 [84.5]	286 [83.8]	310.8 [91.1]	288.4 [84.5]	285.9 [83.8]
	Sens BTUH [kW]	218.5 [64]	182.1 [53.4]	178 [52.2]	238.1 [69.8]	198.5 [58.2]	194 [56.9]	256.3 [75.1]	213.5 [62.6]	208.8 [61.2]	264.4 [77.5]	220.3 [64.6]	215.4 [63.1]	271.7 [79.6]	226.4 [66.3]	221.3 [64.9]
	Power	27.6	26.6	26.5	27.5	26.5	26.4	27.4	26.4	26.3	27.4	26.4	26.3	27.3	26.3	26.2
95ºF [35.0ºC]	Total BTUH [kW]	320.4 [93.9]	297.2 [87.1]	294.6 [86.3]	312.7 [91.6]	290.1 [85]	287.6 [84.3]	307.5 [90.1]	285.3 [83.6]	282.8 [82.9]	306.2 [89.7]	284.1 [83.3]	281.6 [82.5]	306.1 [89.7]	284 [83.2]	281.5 [82.5]
	Sens BTUH [kW]	215.9 [63.3]	179.9 [52.7]	175.9 [51.5]	235.5 [69]	196.2 [57.5]	191.9 [56.2]	253.6 [74.3]	211.3 [61.9]	206.6 [60.6]	261.7 [76.7]	218.1 [63.9]	213.3 [62.5]	269 [78.8]	224.2 [65.7]	219.2 [64.2]
	Power	28.1	27.1	27	28	27	26.9	27.9	26.9	26.8	27.9	26.9	26.8	27.8	26.8	26.7
100ºF [37.8ºC]	Total BTUH [kW]	315.7 [92.5]	292.8 [85.8]	290.3 [85.1]	308 [90.2]	285.7 [83.7]	283.2 [83]	302.8 [88.7]	280.9 [82.3]	278.5 [81.6]	301.5 [88.4]	279.7 [82]	277.3 [81.3]	301.4 [88.3]	279.6 [81.9]	277.2 [81.2]
	Sens BTUH [kW]	213.2 [62.5]	177.6 [52.1]	173.7 [50.9]	232.8 [68.2]	194 [56.9]	189.7 [55.6]	250.9 [73.5]	209.1 [61.3]	204.5 [59.9]	259.1 [75.9]	215.9 [63.3]	211.1 [61.9]	266.3 [78]	221.9 [65]	217 [63.6]
	Power	28.7	27.6	27.5	28.6	27.5	27.4	28.5	27.4	27.3	28.4	27.4	27.3	28.4	27.4	27.2
105ºF [40.6ºC]	Total BTUH [kW]	311 [91.1]	288.5 [84.5]	286 [83.8]	303.3 [88.9]	281.4 [82.4]	278.9 [81.7]	298.1 [87.4]	276.6 [81]	274.2 [80.3]	296.8 [87]	275.4 [80.7]	273 [80]	296.7 [86.9]	275.2 [80.7]	272.9 [80]
	Sens BTUH [kW]	210.5 [61.7]	175.4 [51.4]	171.5 [50.2]	230.1 [67.4]	191.7 [56.2]	187.5 [54.9]	248.2 [72.7]	206.8 [60.6]	202.2 [59.3]	256.3 [75.1]	213.6 [62.6]	208.9 [61.2]	263.6 [77.2]	219.7 [64.4]	214.8 [62.9]
	Power	29.3	28.2	28.1	29.2	28.1	28	29.1	28	27.9	29	28	27.8	29	27.9	27.8
110ºF [43.3ºC]	Total BTUH [kW]	306.3 [89.8]	284.1 [83.3]	281.7 [82.5]	298.6 [87.5]	277 [81.2]	274.6 [80.5]	293.4 [86]	272.2 [79.8]	269.8 [79.1]	292.1 [85.6]	271 [79.4]	268.7 [78.7]	292 [85.6]	270.9 [79.4]	268.5 [78.7]
	Sens BTUH [kW]	207.7 [60.9]	173.1 [50.7]	169.2 [49.6]	227.3 [66.6]	189.4 [55.5]	185.2 [54.3]	245.4 [71.9]	204.5 [59.9]	200 [58.6]	253.6 [74.3]	211.3 [61.9]	206.6 [60.5]	260.8 [76.4]	217.3 [63.7]	212.5 [62.3]
	Power	29.9	28.8	28.7	29.8	28.7	28.6	29.7	28.6	28.5	29.6	28.6	28.4	29.6	28.5	28.4
115ºF [46.1ºC]	Total BTUH [kW]	301.6 [88.4]	279.8 [82]	277.4 [81.3]	293.9 [86.1]	272.7 [79.9]	270.3 [79.2]	288.7 [84.6]	267.9 [78.5]	265.6 [77.8]	287.5 [84.2]	266.7 [78.2]	264.4 [77.5]	287.3 [84.2]	266.6 [78.1]	264.3 [77.4]
	Sens BTUH [kW]	204.9 [60]	170.7 [50]	166.9 [48.9]	224.5 [65.8]	187.1 [54.8]	182.9 [53.6]	242.6 [71.1]	202.2 [59.2]	197.7 [57.9]	250.7 [73.5]	209 [61.2]	204.3 [59.9]	258 [75.6]	215 [63]	210.2 [61.6]
	Power	30.5	29.4	29.3	30.4	29.3	29.2	30.3	29.2	29.1	30.3	29.2	29.1	30.2	29.1	29
120ºF [48.9ºC]	Total BTUH [kW]	297 [87]	275.5 [80.7]	273.1 [80]	289.3 [84.8]	268.4 [78.6]	266 [78]	284.1 [83.3]	263.6 [77.2]	261.3 [76.6]	282.8 [82.9]	262.4 [76.9]	260.1 [76.2]	282.7 [82.8]	262.2 [76.8]	260 [76.2]
	Sens BTUH [kW]	202 [59.2]	168.3 [49.3]	164.6 [48.2]	221.7 [65]	184.7 [54.1]	180.6 [52.9]	239.8 [70.3]	199.8 [58.5]	195.4 [57.2]	247.9 [72.6]	206.6 [60.5]	202 [59.2]	255.2 [74.8]	212.6 [62.3]	207.9 [60.9]
	Power	31.2	30.1	29.9	31.1	30	29.8	31	29.9	29.8	31	29.8	29.7	30.9	29.8	29.7
125ºF [51.7ºC]	Total BTUH [kW]	292.3 [85.7]	271.2 [79.5]	268.8 [78.8]	284.6 [83.4]	264.1 [77.4]	261.8 [76.7]	279.5 [81.9]	259.3 [76]	257 [75.3]	278.2 [81.5]	258.1 [75.6]	255.8 [75]	278 [81.5]	257.9 [75.6]	255.7 [74.9]
	Sens BTUH [kW]	199.1 [58.4]	165.9 [48.6]	162.3 [47.5]	218.8 [64.1]	182.3 [53.4]	178.3 [52.2]	236.9 [69.4]	197.4 [57.8]	193 [56.6]	245 [71.8]	204.2 [59.8]	199.6 [58.5]	252.3 [73.9]	210.2 [61.6]	205.6 [60.2]
	Power	31.9	30.8	30.6	31.8	30.7	30.5	31.7	30.6	30.4	31.7	30.5	30.4	31.6	30.5	30.4

DR —Depression ratio Total —Total capacity x 1000 BTUH NOTES:
dbE —Entering air dry bulb Sens —Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
wbE—Entering air wet bulb Power—KW input capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

P. APPENDICES

Appendix E – Heater Kit Characteristics (With Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180ACF	NONE*	-/-	-/-	79/79	100/100	-	-	79/79	100/100
	G18KWC	13.5/18.0	37.5/43.3	79/79	100/100	47/55	50/60	79/79	100/100
	G36KWC	27.0/36.0	75.0/86.6	110/126	125/150	94/109	100/110	79/79	100/100
	G54KWC	40.6/54.0	112.6/129.9	157/180	175/200	141/163	150/175	79/79	100/100
(-)ACG2T180ACG	NONE*	-/-	-/-	83/83	100/100	-	-	83/83	100/100
	G18KWC	13.5/18.0	37.5/43.3	83/83	100/100	47/55	50/60	83/83	100/100
	G36KWC	27.0/36.0	75.0/86.6	116/132	125/150	94/109	100/110	83/83	100/100
	G54KWC	40.6/54.0	112.6/129.9	163/186	175/200	141/163	150/175	83/83	100/100
(-)ACG2T180ACH	NONE*	-/-	-/-	85/85	100/100	-	-	85/85	100/100
	G18KWC	13.5/18.0	37.5/43.3	85/85	100/100	47/55	50/60	85/85	100/100
	G36KWC	27.0/36.0	75.0/86.6	118/134	125/150	94/109	100/110	85/85	100/100
	G54KWC	40.6/54.0	112.6/129.9	165/188	175/200	141/163	150/175	85/85	100/100

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180ADF	NONE*	-	-	40	50	-	-	40	50
	G18KWD	18	21.7	40	50	28	30	40	50
	G36KWD	36	43.3	62	70	55	60	40	50
	G54KWD	54	64.9	89	90	82	90	40	50
(-)ACG2T180ADG	NONE*	-	-	42	50	-	-	42	50
	G18KWD	18	21.7	42	50	28	30	42	50
	G36KWD	36	43.3	64	70	55	60	42	50
	G54KWD	54	64.9	91	100	82	90	42	50
(-)ACG2T180ADH	NONE*	-	-	42	50	-	-	42	50
	G18KWD	18	21.7	42	50	28	30	42	50
	G36KWD	36	43.3	64	70	55	60	42	50
	G54KWD	54	64.9	91	100	82	90	42	50

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180AYF	NONE*	-	-	30	35	-	-	30	35
	G18KWY	18	17.3	30	35	22	25	30	35
	G36KWY	36	34.6	50	50	44	45	30	35
	G54KWY	54	52	72	80	65	70	30	35
(-)ACG2T180AYG	NONE*	-	-	31	40	-	-	31	40
	G18KWY	18	17.3	31	40	22	25	31	40
	G36KWY	36	34.6	52	60	44	45	31	40
	G54KWY	54	52	74	80	65	70	31	40
(-)ACG2T180AYH	NONE*	-	-	31	40	-	-	31	40
	G18KWY	18	17.3	31	40	22	25	31	40
	G36KWY	36	34.6	52	60	44	45	31	40
	G54KWY	54	52	74	80	65	70	31	40

Appendix E – Heater Kit Characteristics (Without Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180ACF	NONE*	-/-	-/-	74/74	90/90	-	-	74/74	90/90
	G18KWC	13.5/18.0	37.5/43.3	74/74	90/90	47/55	50/60	74/74	90/90
	G36KWC	27.0/36.0	75.0/86.6	106/120	110/125	94/109	100/110	74/74	90/90
	G54KWC	40.6/54.0	112.6/129.9	153/174	175/175	141/163	150/175	74/74	90/90
(-)ACG2T180ACG	NONE*	-/-	-/-	79/79	100/100	-	-	79/79	100/100
	G18KWC	13.5/18.0	37.5/43.3	79/79	100/100	47/55	50/60	79/79	100/100
	G36KWC	27.0/36.0	75.0/86.6	111/126	125/150	94/109	100/110	79/79	100/100
	G54KWC	40.6/54.0	112.6/129.9	158/180	175/200	141/163	150/175	79/79	100/100
(-)ACG2T180ACH	NONE*	-/-	-/-	80/80	100/100	-	-	80/80	100/100
	G18KWC	13.5/18.0	37.5/43.3	80/80	100/100	47/55	50/60	80/80	100/100
	G36KWC	27.0/36.0	75.0/86.6	113/128	125/150	94/109	100/110	80/80	100/100
	G54KWC	40.6/54.0	112.6/129.9	160/182	175/200	141/163	150/175	80/80	100/100

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180ADF	NONE*	-	-	38	50	-	-	38	50
	G18KWD	18	21.7	38	50	28	30	38	50
	G36KWD	36	43.3	60	60	55	60	38	50
	G54KWD	54	64.9	87	90	82	90	38	50
(-)ACG2T180ADG	NONE*	-	-	40	50	-	-	40	50
	G18KWD	18	21.7	40	50	28	30	40	50
	G36KWD	36	43.3	62	70	55	60	40	50
	G54KWD	54	64.9	89	90	82	90	40	50
(-)ACG2T180ADH	NONE*	-	-	40	50	-	-	40	50
	G18KWD	18	21.7	40	50	28	30	40	50
	G36KWD	36	43.3	62	70	55	60	40	50
	G54KWD	54	64.9	89	90	82	90	40	50

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T180AYF	NONE*	-	-	28	35	-	-	28	35
	G18KWY	18	17.3	28	35	22	25	28	35
	G36KWY	36	34.6	48	50	44	45	28	35
	G54KWY	54	52	70	70	65	70	28	35
(-)ACG2T180AYG	NONE*	-	-	30	35	-	-	30	35
	G18KWY	18	17.3	30	35	22	25	30	35
	G36KWY	36	34.6	50	50	44	45	30	35
	G54KWY	54	52	72	80	65	70	30	35
(-)ACG2T180AYH	NONE*	-	-	30	35	-	-	30	35
	G18KWY	18	17.3	30	35	22	25	30	35
	G36KWY	36	34.6	50	50	44	45	30	35
	G54KWY	54	52	72	80	65	70	30	35

P. APPENDICES

Appendix E – Heater Kit Characteristics (With Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210ACF	NONE*	-/-	-/-	87/87	110/110	-	-	87/87	110/110
	G36KWC	27.0/36.0	75.0/86.6	110/126	125/150	94/109	100/110	87/87	110/110
	G54KWC	40.6/54.0	112.6/129.9	157/180	175/200	141/163	150/175	87/87	110/110
	G72KWC	54.1/72.0	150.1/173.2	204/234	225/250	188/217	200/225	87/87	110/110
(-)ACG2T210ACG	NONE*	-/-	-/-	92/92	110/110	-	-	92/92	110/110
	G36KWC	27.0/36.0	75.0/86.6	116/132	125/150	94/109	100/110	92/92	110/110
	G54KWC	40.6/54.0	112.6/129.9	163/186	175/200	141/163	150/175	92/92	110/110
	G72KWC	54.1/72.0	150.1/173.2	210/240	225/250	188/217	200/225	92/92	110/110
(-)ACG2T210ACH	NONE*	-/-	-/-	99/99	125/125	-	-	99/99	125/125
	G36KWC	27.0/36.0	75.0/86.6	125/141	150/150	94/109	100/110	99/99	125/125
	G54KWC	40.6/54.0	112.6/129.9	172/195	175/200	141/163	150/175	99/99	125/125
	G72KWC	54.1/72.0	150.1/173.2	219/249	225/250	188/217	200/225	99/99	125/125

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210ADF	NONE*	-	-	41	50	-	-	41	50
	G36KWD	36	43.3	62	70	55	60	41	50
	G54KWD	54	64.9	89	90	82	90	41	50
	G72KWD	72	86.6	116	125	109	110	41	50
(-)ACG2T210ADG	NONE*	-	-	43	50	-	-	43	50
	G36KWD	36	43.3	64	70	55	60	43	50
	G54KWD	54	64.9	91	100	82	90	43	50
	G72KWD	72	86.6	118	125	109	110	43	50
(-)ACG2T210ADH	NONE*	-	-	46	50	-	-	46	50
	G36KWD	36	43.3	68	70	55	60	46	50
	G54KWD	54	64.9	95	100	82	90	46	50
	G72KWD	72	86.6	122	125	109	110	46	50

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210AYF	NONE*	-	-	32	40	-	-	32	40
	G36KWY	36	34.6	50	50	44	45	32	40
	G54KWY	54	52	72	80	65	70	32	40
	G72KWY	72	69.3	93	100	87	90	32	40
(-)ACG2T210AYG	NONE*	-	-	33	40	-	-	33	40
	G36KWY	36	34.6	52	60	44	45	33	40
	G54KWY	54	52	74	80	65	70	33	40
	G72KWY	72	69.3	95	100	87	90	33	40
(-)ACG2T210AYH	NONE*	-	-	36	45	-	-	36	45
	G36KWY	36	34.6	55	60	44	45	36	45
	G54KWY	54	52	77	80	65	70	36	45
	G72KWY	72	69.3	99	100	87	90	36	45

Appendix E – Heater Kit Characteristics (Without Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210ACF	NONE*	-/-	-/-	83/83	100/100	-	-	83/83	100/100
	G36KWC	27.0/36.0	75.0/86.6	106/120	110/125	94/109	100/110	83/83	100/100
	G54KWC	40.6/54.0	112.6/129.9	153/174	175/175	141/163	150/175	83/83	100/100
	G72KWC	54.1/72.0	150.1/173.2	200/228	200/250	188/217	200/225	83/83	100/100
(-)ACG2T210ACG	NONE*	-/-	-/-	87/87	110/110	-	-	87/87	110/110
	G36KWC	27.0/36.0	75.0/86.6	111/126	125/150	94/109	100/110	87/87	110/110
	G54KWC	40.6/54.0	112.6/129.9	158/180	175/200	141/163	150/175	87/87	110/110
	G72KWC	54.1/72.0	150.1/173.2	205/234	225/250	188/217	200/225	87/87	110/110
(-)ACG2T210ACH	NONE*	-/-	-/-	95/95	110/110	-	-	95/95	110/110
	G36KWC	27.0/36.0	75.0/86.6	120/135	125/150	94/109	100/110	95/95	110/110
	G54KWC	40.6/54.0	112.6/129.9	167/189	175/200	141/163	150/175	95/95	110/110
	G72KWC	54.1/72.0	150.1/173.2	214/243	225/250	188/217	200/225	95/95	110/110

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210ADF	NONE*	-	-	39	50	-	-	39	50
	G36KWD	36	43.3	60	60	55	60	39	50
	G54KWD	54	64.9	87	90	82	90	39	50
	G72KWD	72	86.6	114	125	109	110	39	50
(-)ACG2T210ADG	NONE*	-	-	41	50	-	-	41	50
	G36KWD	36	43.3	62	70	55	60	41	50
	G54KWD	54	64.9	89	90	82	90	41	50
	G72KWD	72	86.6	117	125	109	110	41	50
(-)ACG2T210ADH	NONE*	-	-	44	50	-	-	44	50
	G36KWD	36	43.3	67	70	55	60	44	50
	G54KWD	54	64.9	94	100	82	90	44	50
	G72KWD	72	86.6	121	125	109	110	44	50

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T210AYF	NONE*	-	-	30	35	-	-	30	35
	G36KWY	36	34.6	48	50	44	45	30	35
	G54KWY	54	52	70	70	65	70	30	35
	G72KWY	72	69.3	91	100	87	90	30	35
(-)ACG2T210AYG	NONE*	-	-	32	40	-	-	32	40
	G36KWY	36	34.6	50	50	44	45	32	40
	G54KWY	54	52	72	80	65	70	32	40
	G72KWY	72	69.3	93	100	87	90	32	40
(-)ACG2T210AYH	NONE*	-	-	34	40	-	-	34	40
	G36KWY	36	34.6	53	60	44	45	34	40
	G54KWY	54	52	75	80	65	70	34	40
	G72KWY	72	69.3	97	100	87	90	34	40

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Appendix E – Heater Kit Characteristics (With Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240ACF	NONE*	-/-	-/-	93/93	110/110	-	-	93/93	110/110
	G36KWC	27.0/36.0	75.0/86.6	116/132	125/150	94/109	100/110	93/93	110/110
	G54KWC	40.6/54.0	112.6/129.9	163/186	175/200	141/163	150/175	93/93	110/110
	G72KWC	54.1/72.0	150.1/173.2	210/240	225/250	188/217	200/225	93/93	110/110
(-)ACG2T240ACG	NONE*	-/-	-/-	93/93	110/110	-	-	93/93	110/110
	G36KWC	27.0/36.0	75.0/86.6	116/132	125/150	94/109	100/110	93/93	110/110
	G54KWC	40.6/54.0	112.6/129.9	163/186	175/200	141/163	150/175	93/93	110/110
	G72KWC	54.1/72.0	150.1/173.2	210/240	225/250	188/217	200/225	93/93	110/110
(-)ACG2T240ACH	NONE*	-/-	-/-	101/101	125/125	-	-	101/101	125/125
	G36KWC	27.0/36.0	75.0/86.6	125/141	150/150	94/109	100/110	101/101	125/125
	G54KWC	40.6/54.0	112.6/129.9	172/195	175/200	141/163	150/175	101/101	125/125
	G72KWC	54.1/72.0	150.1/173.2	219/249	225/250	188/217	200/225	101/101	125/125

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240ADF	NONE*	-	-	47	60	-	-	47	60
	G36KWD	36	43.3	64	70	55	60	47	60
	G54KWD	54	64.9	91	100	82	90	47	60
	G72KWD	72	86.6	118	125	109	110	47	60
(-)ACG2T240ADG	NONE*	-	-	47	60	-	-	47	60
	G36KWD	36	43.3	64	70	55	60	47	60
	G54KWD	54	64.9	91	100	82	90	47	60
	G72KWD	72	86.6	118	125	109	110	47	60
(-)ACG2T240ADH	NONE*	-	-	50	60	-	-	50	60
	G36KWD	36	43.3	68	70	55	60	50	60
	G54KWD	54	64.9	95	100	82	90	50	60
	G72KWD	72	86.6	122	125	109	110	50	60

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240AYF	NONE*	-	-	37	45	-	-	37	45
	G36KWY	36	34.6	52	60	44	45	37	45
	G54KWY	54	52	74	80	65	70	37	45
	G72KWY	72	69.3	95	100	87	90	37	45
(-)ACG2T240AYG	NONE*	-	-	37	45	-	-	37	45
	G36KWY	36	34.6	52	60	44	45	37	45
	G54KWY	54	52	74	80	65	70	37	45
	G72KWY	72	69.3	95	100	87	90	37	45
(-)ACG2T240AYH	NONE*	-	-	40	50	-	-	40	50
	G36KWY	36	34.6	55	60	44	45	40	50
	G54KWY	54	52	77	80	65	70	40	50
	G72KWY	72	69.3	99	100	87	90	40	50

Appendix E – Heater Kit Characteristics (Without Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240ACF	NONE*	-/-	-/-	89/89	110/110	-	-	89/89	110/110
	G36KWC	27.0/36.0	75.0/86.6	111/126	125/150	94/109	100/110	89/89	110/110
	G54KWC	40.6/54.0	112.6/129.9	158/180	175/200	141/163	150/175	89/89	110/110
	G72KWC	54.1/72.0	150.1/173.2	205/234	225/250	188/217	200/225	89/89	110/110
(-)ACG2T240ACG	NONE*	-/-	-/-	89/89	110/110	-	-	89/89	110/110
	G36KWC	27.0/36.0	75.0/86.6	111/126	125/150	94/109	100/110	89/89	110/110
	G54KWC	40.6/54.0	112.6/129.9	158/180	175/200	141/163	150/175	89/89	110/110
	G72KWC	54.1/72.0	150.1/173.2	205/234	225/250	188/217	200/225	89/89	110/110
(-)ACG2T240ACH	NONE*	-/-	-/-	96/96	110/110	-	-	96/96	110/110
	G36KWC	27.0/36.0	75.0/86.6	120/135	125/150	94/109	100/110	96/96	110/110
	G54KWC	40.6/54.0	112.6/129.9	167/189	175/200	141/163	150/175	96/96	110/110
	G72KWC	54.1/72.0	150.1/173.2	214/243	225/250	188/217	200/225	96/96	110/110

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240ADF	NONE*	-	-	45	50	-	-	45	50
	G36KWD	36	43.3	62	70	55	60	45	50
	G54KWD	54	64.9	89	90	82	90	45	50
	G72KWD	72	86.6	117	125	109	110	45	50
(-)ACG2T240ADG	NONE*	-	-	45	50	-	-	45	50
	G36KWD	36	43.3	62	70	55	60	45	50
	G54KWD	54	64.9	89	90	82	90	45	50
	G72KWD	72	86.6	117	125	109	110	45	50
(-)ACG2T240ADH	NONE*	-	-	49	60	-	-	49	60
	G36KWD	36	43.3	67	70	55	60	49	60
	G54KWD	54	64.9	94	100	82	90	49	60
	G72KWD	72	86.6	121	125	109	110	49	60

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T240AYF	NONE*	-	-	35	45	-	-	35	45
	G36KWY	36	34.6	50	50	44	45	35	45
	G54KWY	54	52	72	80	65	70	35	45
	G72KWY	72	69.3	93	100	87	90	35	45
(-)ACG2T240AYG	NONE*	-	-	35	45	-	-	35	45
	G36KWY	36	34.6	50	50	44	45	35	45
	G54KWY	54	52	72	80	65	70	35	45
	G72KWY	72	69.3	93	100	87	90	35	45
(-)ACG2T240AYH	NONE*	-	-	38	45	-	-	38	45
	G36KWY	36	34.6	53	60	44	45	38	45
	G54KWY	54	52	75	80	65	70	38	45
	G72KWY	72	69.3	97	100	87	90	38	45

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Appendix E – Heater Kit Characteristics (With Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300ACF	NONE*	-/-	-/-	145/145	175/175	-	-	145/145	175/175
	G36KWC	27.0/36.0	75.0/86.6	145/145	175/175	94/109	100/110	145/145	175/175
	G54KWC	40.6/54.0	112.6/129.9	172/195	175/200	141/163	150/175	145/145	175/175
	G72KWC	54.1/72.0	150.1/173.2	219/249	225/250	188/217	200/225	145/145	175/175
(-)ACG2T300ACG	NONE*	-/-	-/-	151/151	175/175	-	-	151/151	175/175
	G36KWC	27.0/36.0	75.0/86.6	151/151	175/175	94/109	100/110	151/151	175/175
	G54KWC	40.6/54.0	112.6/129.9	180/202	200/225	141/163	150/175	151/151	175/175
	G72KWC	54.1/72.0	150.1/173.2	227/257	250/300	188/217	200/225	151/151	175/175
(-)ACG2T300ACH	NONE*	-/-	-/-	152/152	175/175	-	-	152/152	175/175
	G36KWC	27.0/36.0	75.0/86.6	152/152	175/175	94/109	100/110	152/152	175/175
	G54KWC	40.6/54.0	112.6/129.9	180/203	200/225	141/163	150/175	152/152	175/175
	G72KWC	54.1/72.0	150.1/173.2	227/257	250/300	188/217	200/225	152/152	175/175

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300ADF	NONE*	-	-	59	70	-	-	59	70
	G36KWD	36	43.3	68	70	55	60	59	70
	G54KWD	54	64.9	95	100	82	90	59	70
	G72KWD	72	86.6	122	125	109	110	59	70
(-)ACG2T300ADG	NONE*	-	-	62	70	-	-	62	70
	G36KWD	36	43.3	72	80	55	60	62	70
	G54KWD	54	64.9	99	100	82	90	62	70
	G72KWD	72	86.6	126	150	109	110	62	70
(-)ACG2T300ADH	NONE*	-	-	62	70	-	-	62	70
	G36KWD	36	43.3	72	80	55	60	62	70
	G54KWD	54	64.9	99	100	82	90	62	70
	G72KWD	72	86.6	126	150	109	110	62	70

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300AYF	NONE*	-	-	48	60	-	-	48	60
	G36KWY	36	34.6	55	60	44	45	48	60
	G54KWY	54	52	77	80	65	70	48	60
	G72KWY	72	69.3	99	100	87	90	48	60
(-)ACG2T300AYG	NONE*	-	-	50	60	-	-	50	60
	G36KWY	36	34.6	58	60	44	45	50	60
	G54KWY	54	52	80	80	65	70	50	60
	G72KWY	72	69.3	101	110	87	90	50	60
(-)ACG2T300AYH	NONE*	-	-	50	60	-	-	50	60
	G36KWY	36	34.6	58	60	44	45	50	60
	G54KWY	54	52	80	80	65	70	50	60
	G72KWY	72	69.3	101	110	87	90	50	60

Appendix E – Heater Kit Characteristics (Without Powered Exhaust)

208/230V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	Rated Heater KW @ 208/230	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300ACF	NONE*	-/-	-/-	141/141	175/175	-	-	141/141	175/175
	G36KWC	27.0/36.0	75.0/86.6	141/141	175/175	94/109	100/110	141/141	175/175
	G54KWC	40.6/54.0	112.6/129.9	167/189	175/200	141/163	150/175	141/141	175/175
	G72KWC	54.1/72.0	150.1/173.2	214/243	225/250	188/217	200/225	141/141	175/175
(-)ACG2T300ACG	NONE*	-/-	-/-	147/147	175/175	-	-	147/147	175/175
	G36KWC	27.0/36.0	75.0/86.6	147/147	175/175	94/109	100/110	147/147	175/175
	G54KWC	40.6/54.0	112.6/129.9	175/197	175/200	141/163	150/175	147/147	175/175
	G72KWC	54.1/72.0	150.1/173.2	222/251	225/300	188/217	200/225	147/147	175/175
(-)ACG2T300ACH	NONE*	-/-	-/-	147/147	175/175	-	-	147/147	175/175
	G36KWC	27.0/36.0	75.0/86.6	147/147	175/175	94/109	100/110	147/147	175/175
	G54KWC	40.6/54.0	112.6/129.9	175/197	175/200	141/163	150/175	147/147	175/175
	G72KWC	54.1/72.0	150.1/173.2	222/251	225/300	188/217	200/225	147/147	175/175

460V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 460"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300ADF	NONE*	-	-	57	70	-	-	57	70
	G36KWD	36	43.3	67	70	55	60	57	70
	G54KWD	54	64.9	94	100	82	90	57	70
	G72KWD	72	86.6	121	125	109	110	57	70
(-)ACG2T300ADG	NONE*	-	-	60	70	-	-	60	70
	G36KWD	36	43.3	70	70	55	60	60	70
	G54KWD	54	64.9	97	100	82	90	60	70
	G72KWD	72	86.6	124	125	109	110	60	70
(-)ACG2T300ADH	NONE*	-	-	60	70	-	-	60	70
	G36KWD	36	43.3	70	70	55	60	60	70
	G54KWD	54	64.9	97	100	82	90	60	70
	G72KWD	72	86.6	124	125	109	110	60	70

575V, THREE PHASE, 60 Hz, AUXILARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION									
Single Power Supply for Both Unit and Heater Kit						Separate Power Supply for Both Unit and Heater Kit			
UNIT MODEL NUMBER	Heater Kit			Air Conditioner (Including Heater Kits)		Heater Kit		Air Conditioner	
	MODEL NO. RXJJ-	"Rated Heater KW @ 575"	FLA	UNIT MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)	MIN. CKT. AMPACITY	MAX FUSE OR CKT. BKR. SIZE (CKT. BKR. MUST BE HACR TYPE FOR USA)
(-)ACG2T300AYF	NONE*	-	-	46	50	-	-	46	50
	G36KWY	36	34.6	53	60	44	45	46	50
	G54KWY	54	52	75	80	65	70	46	50
	G72KWY	72	69.3	97	100	87	90	46	50
(-)ACG2T300AYG	NONE*	-	-	48	60	-	-	48	60
	G36KWY	36	34.6	56	60	44	45	48	60
	G54KWY	54	52	78	80	65	70	48	60
	G72KWY	72	69.3	100	100	87	90	48	60
(-)ACG2T300AYH	NONE*	-	-	48	60	-	-	48	60
	G36KWY	36	34.6	56	60	44	45	48	60
	G54KWY	54	52	78	80	65	70	48	60
	G72KWY	72	69.3	100	100	87	90	48	60

P. APPENDICES

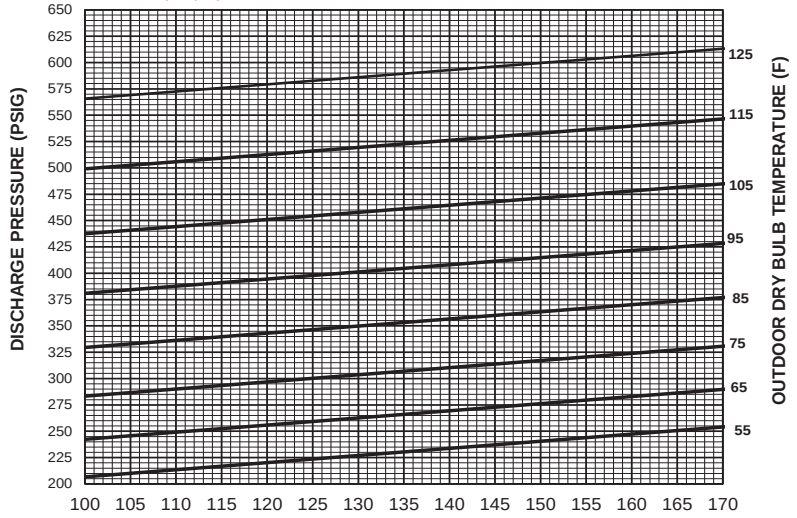
Appendix F – Refrigerant Charging Charts

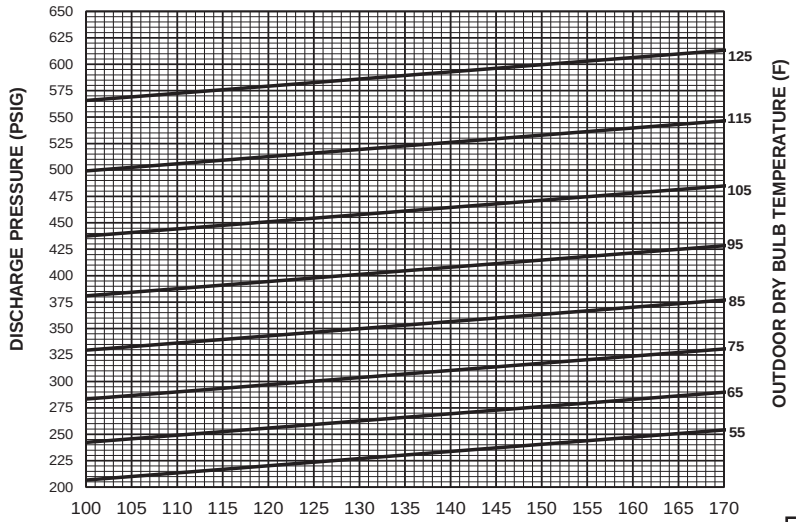
SYSTEM CHARGE CHART - REFRIGERANT 410A

15 TON, CIRCUITS 1 & 2

CAUTION: 1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

INSTRUCTIONS: 1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND DISCHARGE.
2. MEASURE OUTDOOR AMBIENT TO UNIT
3. PLACE (X) ON CHART WHERE SUCTION AND DISCHARGE INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.





92-107875-01-01

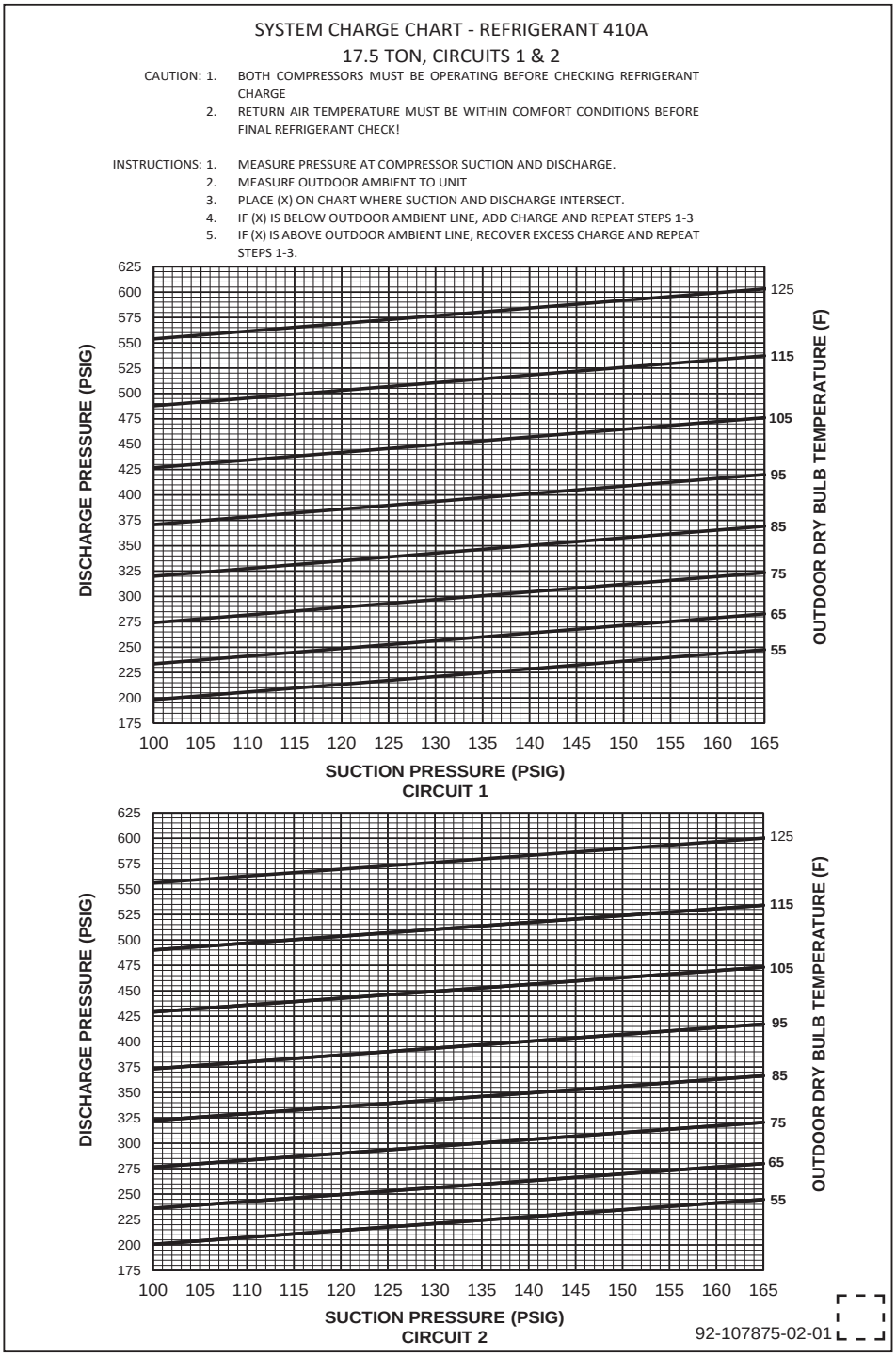
Circuit 1 - Cooling: z = 44.55 + 0.6852*x + 0.0460*y^1.9048

Circuit 2 - Cooling: z = 43.7 + 0.6769*x + 0.0466*y^1.9023

NOTES:

1. COLOR: CLEAR BACKGROUND WITH BLACK TEXT.
2. SIZE: 11.125" X 7".
3. MATERIAL: ADS-4574-02 FOR MATERIAL AND ADHESIVE SPECIFICATIONS.
4. OUTER LINE REPRESENTS THE CUT LINE OR EDGE OF LABEL.
5. VENDOR: CALVERT MC BRIDE OR EQUIVALENT
6. THE DOTTED BOX NEAR THE DRAWING NUMBER REPRESENTS A .25" X .25" 2D DATA MATRIX.

Appendix F – Refrigerant Charging Charts



Circuit 1 - Cooling: z = 28.1 + 0.7582*x + 0.0460*y^1.9030

Circuit 2 - Cooling: z = 38.5 + 0.6769*x + 0.0466*y^1.9002

NOTES:

1. COLOR: CLEAR BACKGROUND WITH BLACK TEXT.
2. SIZE: 11.125” X 7”.
3. MATERIAL: ADS-4574-02 FOR MATERIAL AND ADHESIVE SPECIFICATIONS.
4. OUTER LINE REPRESENTS THE CUT LINE OR EDGE OF LABEL.
5. VENDOR: CALVERT MC BRIDE OR EQUIVALENT
6. THE DOTTED BOX NEAR THE DRAWING NUMBER REPRESENTS A .25” X .25” 2D DATA MATRIX. SEE ADS-104669-01 FOR DATA MATRIX SPECS

P. APPENDICES

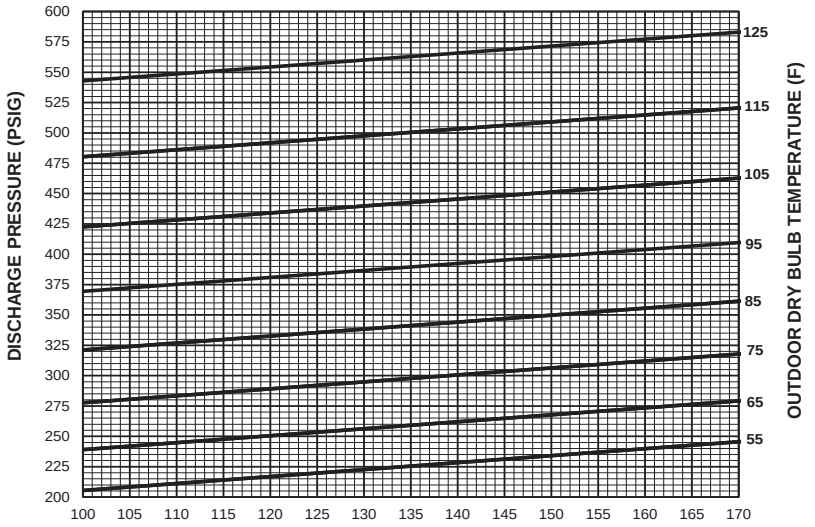
Appendix F – Refrigerant Charging Charts

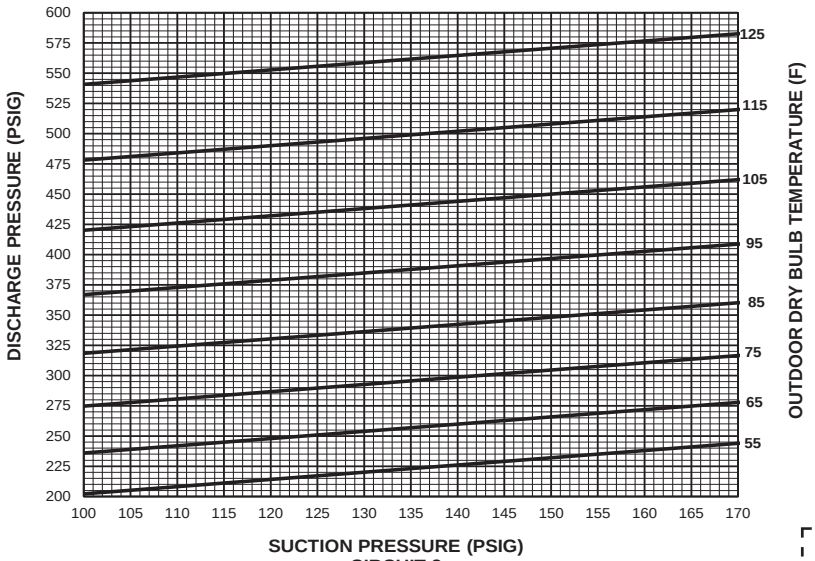
SYSTEM CHARGE CHART - REFRIGERANT 410A

20 TON, CIRCUITS 1 & 2

CAUTION: 1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

INSTRUCTIONS: 1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND DISCHARGE.
2. MEASURE OUTDOOR AMBIENT TO UNIT
3. PLACE (X) ON CHART WHERE SUCTION AND DISCHARGE INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.





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Circuit 1 - Cooling: z = 57.55 + 0.5737*x + 0.0460*y^1.8926

Circuit 2 - Cooling: z = 51.5 + 0.5971*x + 0.0466*y^1.8907

NOTES:

1. COLOR: CLEAR BACKGROUND WITH BLACK TEXT.
2. SIZE: 11.125" X 7".
3. MATERIAL: ADS-4574-02 FOR MATERIAL AND ADHESIVE SPECIFICATIONS.
4. OUTER LINE REPRESENTS THE CUT LINE OR EDGE OF LABEL.
5. VENDOR: CALVERT MC BRIDE OR EQUIVALENT
6. THE DOTTED BOX NEAR THE DRAWING NUMBER REPRESENTS A .25" X .25" 2D DATA MATRIX. SEE ADS-104669-01 FOR DATA MATRIX SPECS

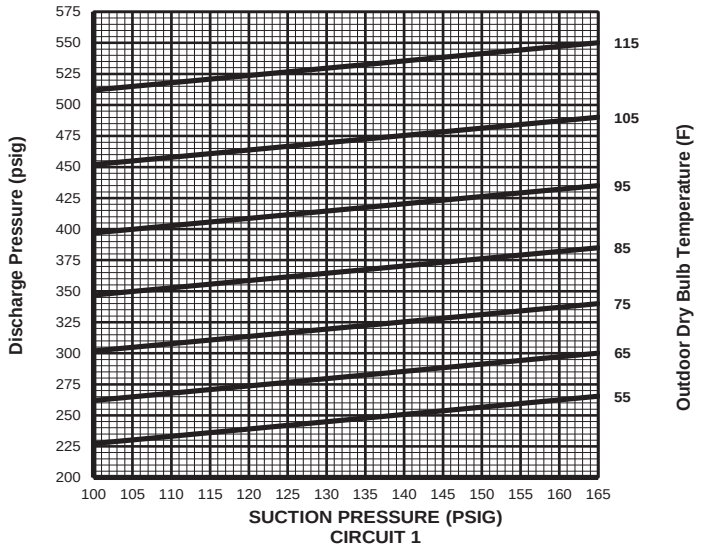
Appendix F – Refrigerant Charging Charts (Cont.)

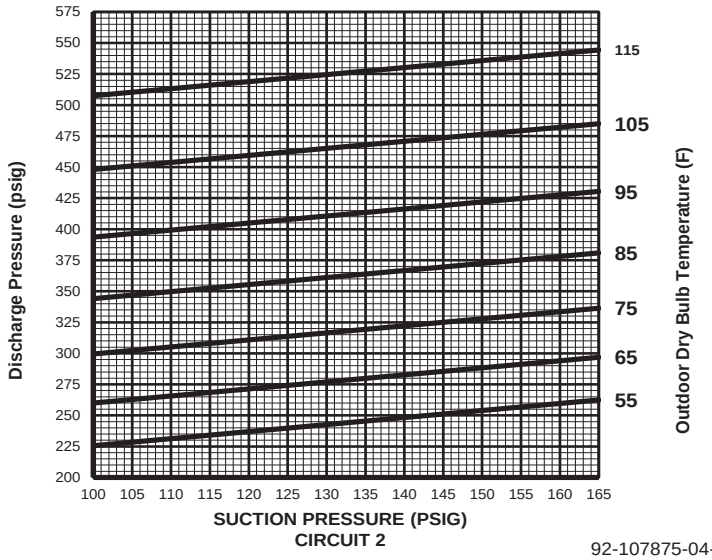
SYSTEM CHARGE CHART - REFRIGERANT 410A

25 TON, CIRCUITS 1 & 2

CAUTION: 1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

INSTRUCTIONS: 1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND DISCHARGE.
2. MEASURE OUTDOOR AMBIENT TO UNIT
3. PLACE (X) ON CHART WHERE SUCTION AND DISCHARGE INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.





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Circuit 1 - Cooling: z = 76 + 0.5863303*x + 0.0450000*y^1.904
Circuit 2 - Cooling: z = 77 + 0.566887*x + 0.0450000*y^1.902

NOTES:

1. COLOR: CLEAR BACKGROUND WITH BLACK TEXT.
2. SIZE: 11.125” X 7”.
3. MATERIAL: ADS-4574-02 FOR MATERIAL AND ADHESIVE SPECIFICATIONS.
4. OUTER LINE REPRESENTS THE CUT LINE OR EDGE OF LABEL.
5. VENDOR: CALVERT MC BRIDE OR EQUIVALENT
6. THE DOTTED BOX NEAR THE DRAWING NUMBER REPRESENTS A .25” X .25” 2D DATA MATRIX. SEE ADS-104669-01 FOR DATA MATRIX SPECS

P. APPENDICES

Appendix F – Refrigerant Charging Charts (Cont.)

SYSTEM CHARGE CHART – REFRIGERANT 410 A

PRESSURE REQUIREMENTS – GROSS CHARGE CHECK (REFER CHARGE CHART)

OUTDOOR DRY BULB (°F)	15 -TON	17.5 -TON	20 -TON	25 -TON
	DISCHARGE/SUCTION PRESSURE (PSIG)			
115	534/150	522/145	507/147	534/137
105	471/147	459/143	448/145	472/134
95	413/144	401/140	394/142	415/130
85	360/143	349/138	344/140	363/128
75	131/141	302/136	299/137	316/126
65	271/140	260/135	258/133	274/122
55	235/139	223/133	223/131	238/120

SUB COOLING REQUIREMENTS – FINAL CHARGE VERIFICATION

LIQUID TEMPERATURE (°F)	15 -TON	17.5 -TON	20 -TON	25 -TON
	DISCHARGE PRESSURE (PSIG)			
50	196	203	199	214
55	212	220	215	230
60	230	238	232	248
65	249	257	250	267
70	269	278	270	288
75	291	300	290	311
80	313	323	312	334
85	338	348	335	360
90	363	373	359	387
95	390	400	384	416
100	418	428	410	446
105	448	458	438	477
110	479	489	466	511
115	511	521	496	546
120	545	554	527	582
125	579	589	559	620

Appendix F – Refrigerant Charging Charts (Cont.)

1. This is required to fine-tune unit charge.

2. The Indoor ambient temperature must be between 72 °F and 82 °F dry bulb at the indoor coil.

3. Confirm the indoor air supply is at the rated CFM listed in ***Appendix A***.

4. Allow both circuits in the system to run long enough for temperatures and pressures to stabilize; at least fifteen minutes.

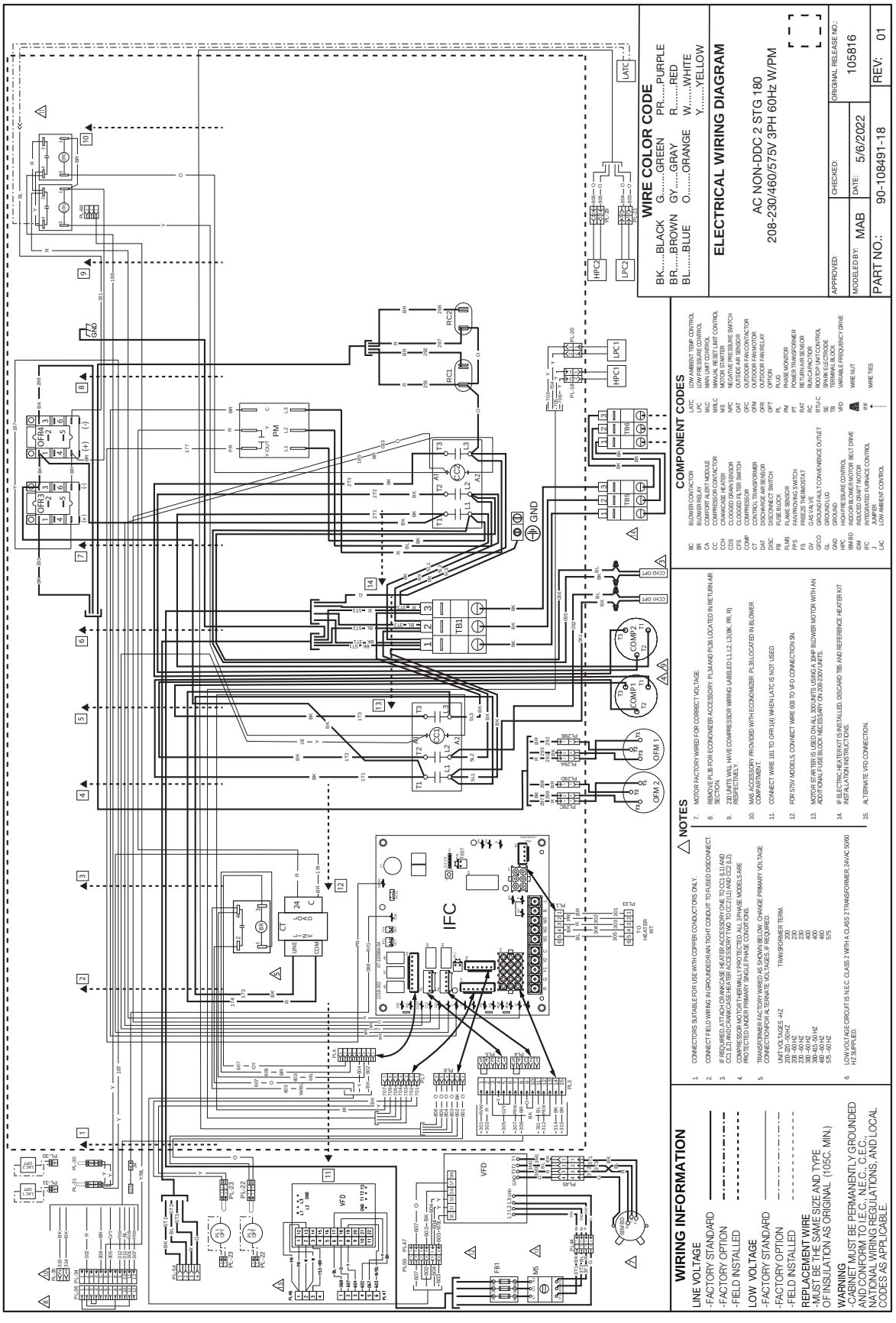
5. Measure liquid pressure and line temperature at the liquid line service port (refer to ***Section J.4.2.1.*** for the liquid line temperature measurement location). BE SURE TO USE ZERO LOSS FITTINGS WHILE MEASURING PRESSURE; ANY LOSS OF CHARGE MAY IMPACT PERFORMANCE.

6. Check if the Sub-Cooling is within +/- 2.0 °F tolerance.

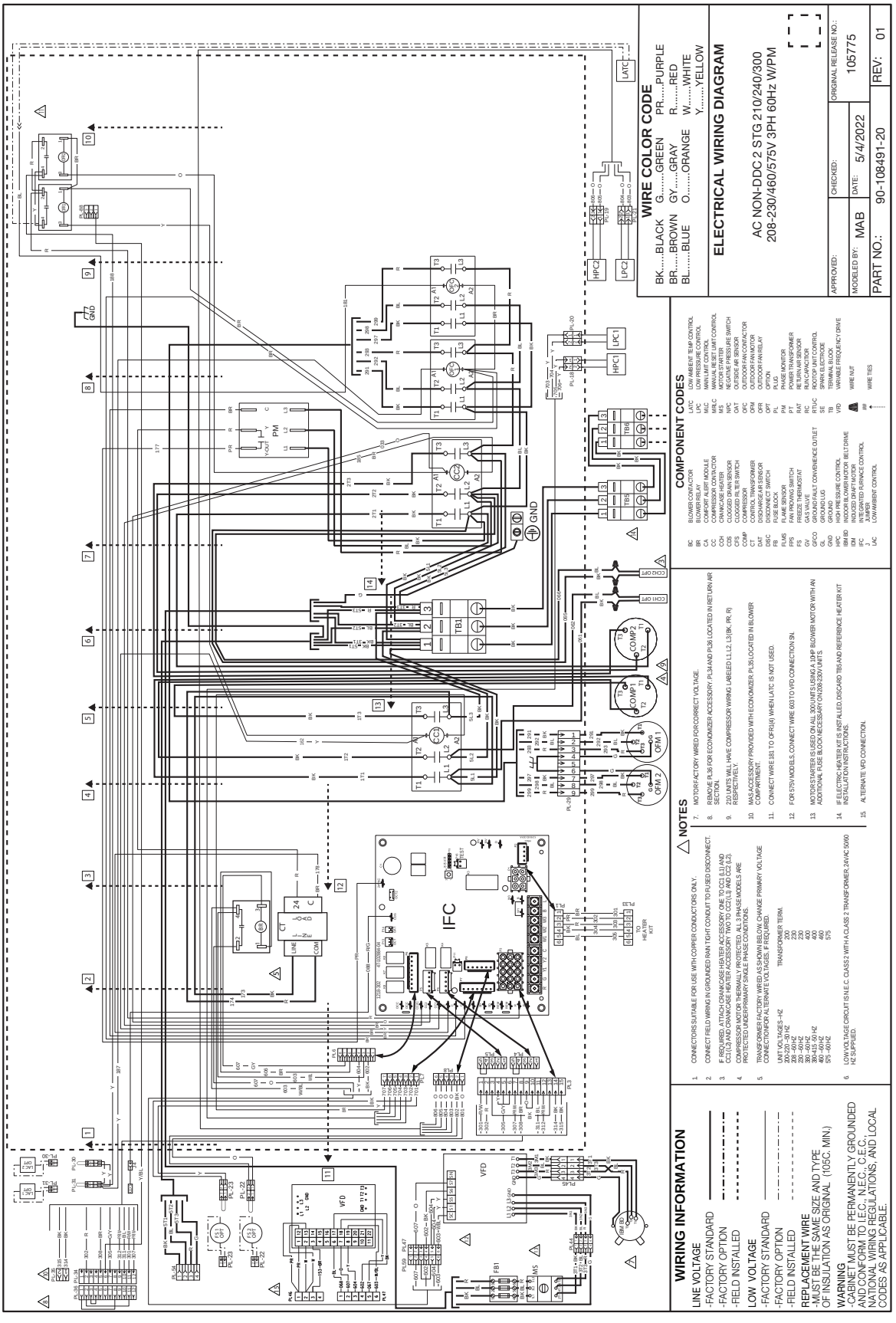
7.If the sub-cooling values are significantly different (> 20 psig) from those listed on the table in ***Appendix F***, there may be an airflow or component issue. Refer to section M. Diagnostics for more information.

P. APPENDICES

Appendix G. Wiring Diagrams & Schematics



Appendix G. Wiring Diagrams & Schematics (Cont.)



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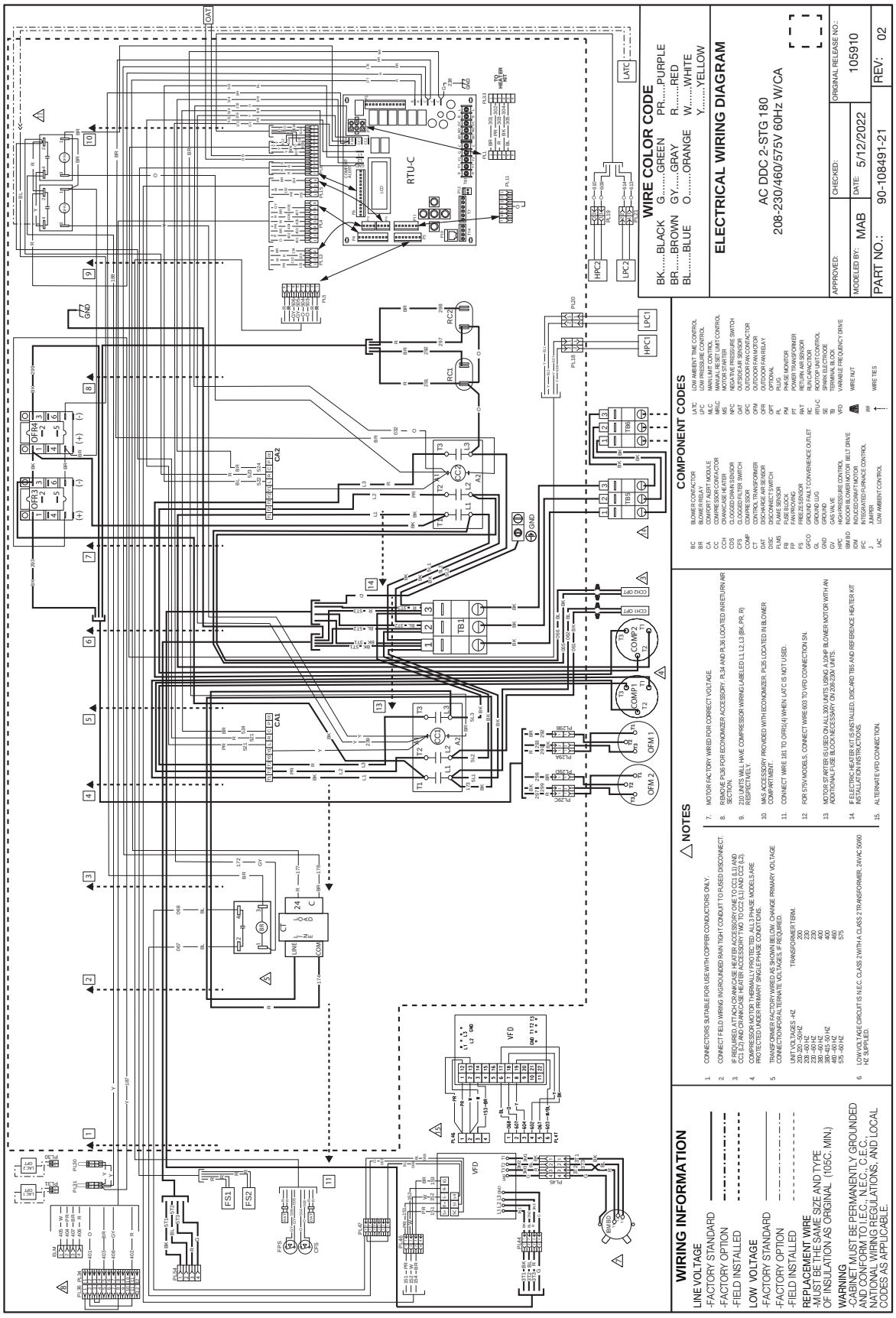
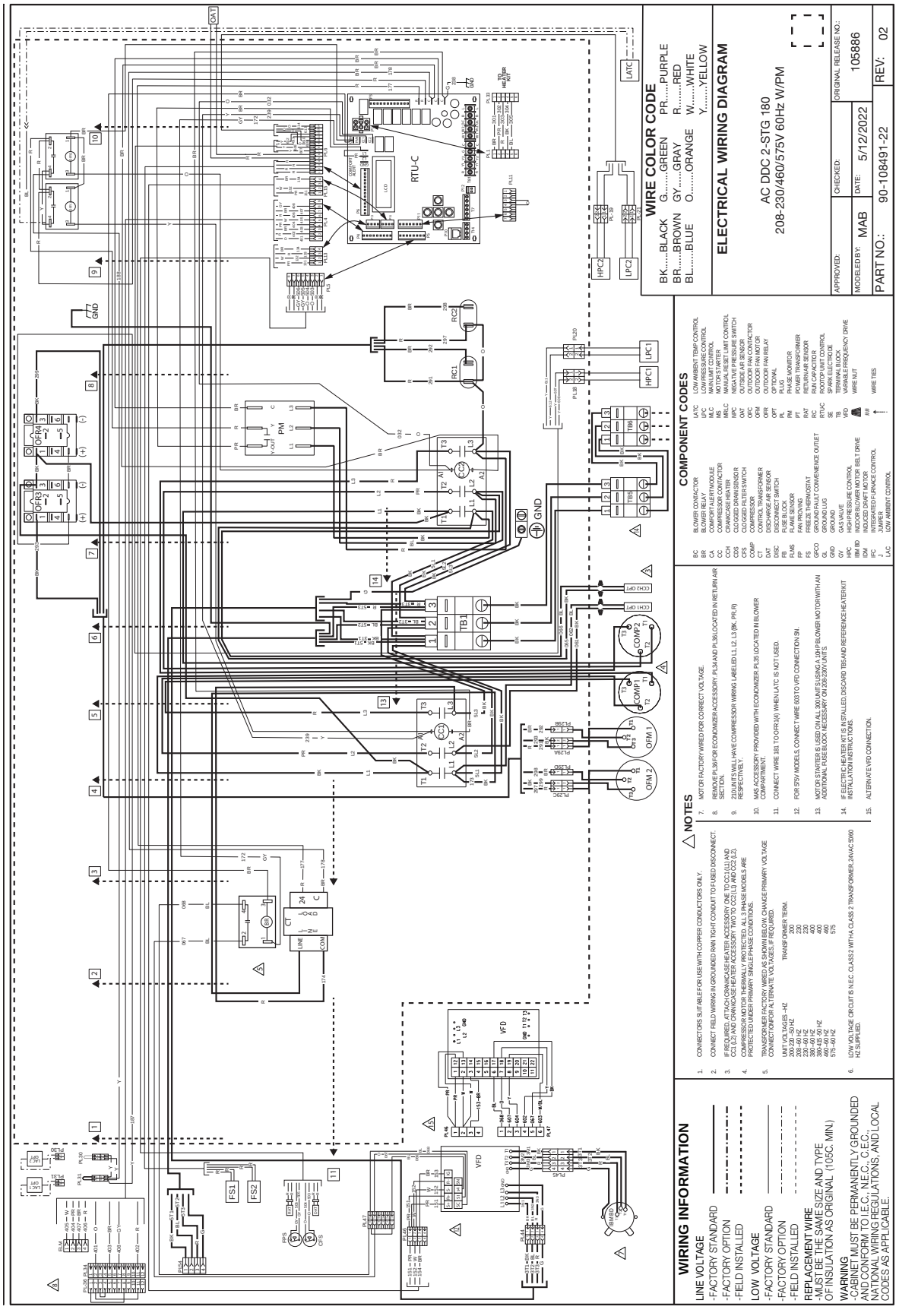
Appendix G. Wiring Diagrams & Schematics (Cont.)

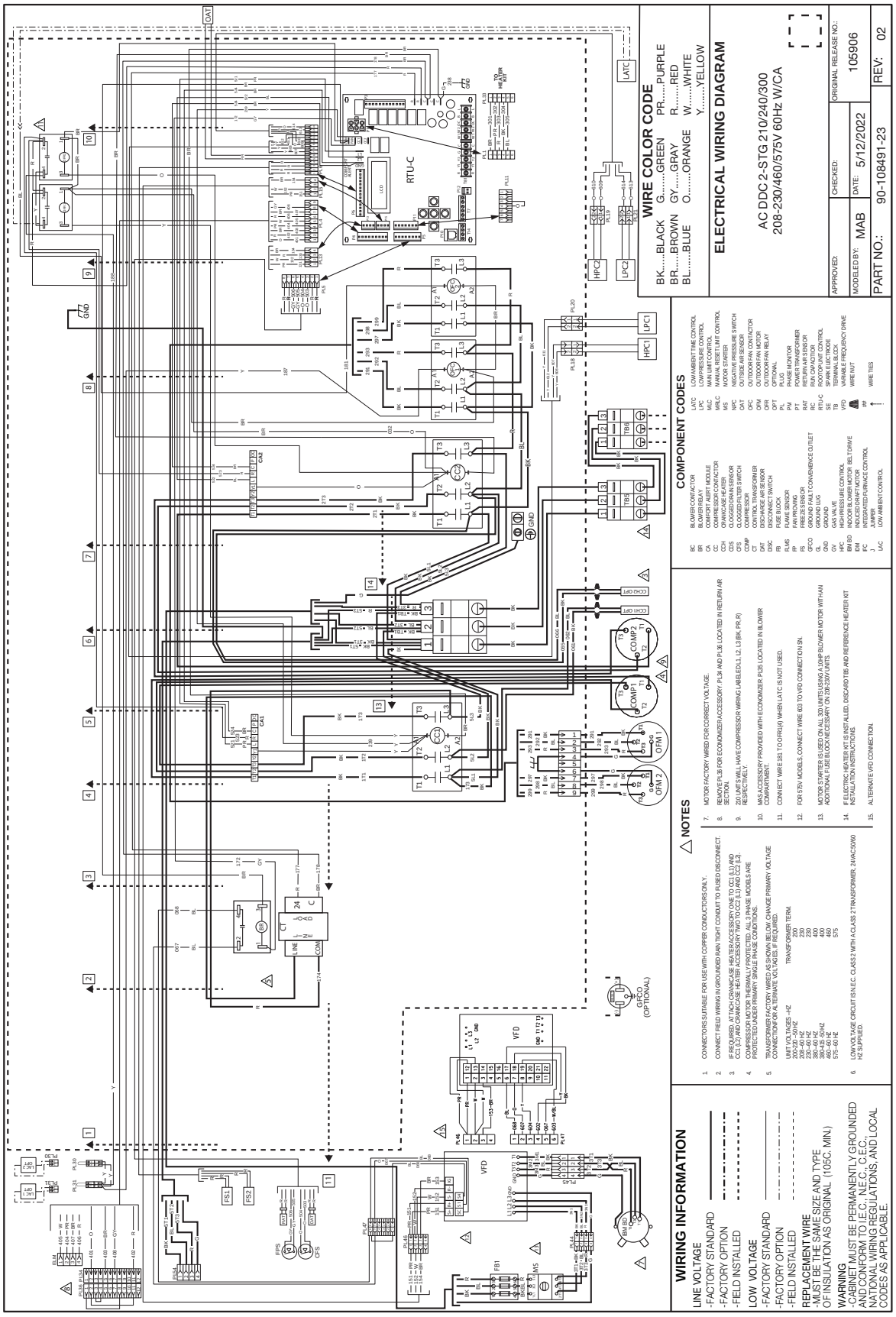


Appendix G. Wiring Diagrams & Schematics (Cont.)

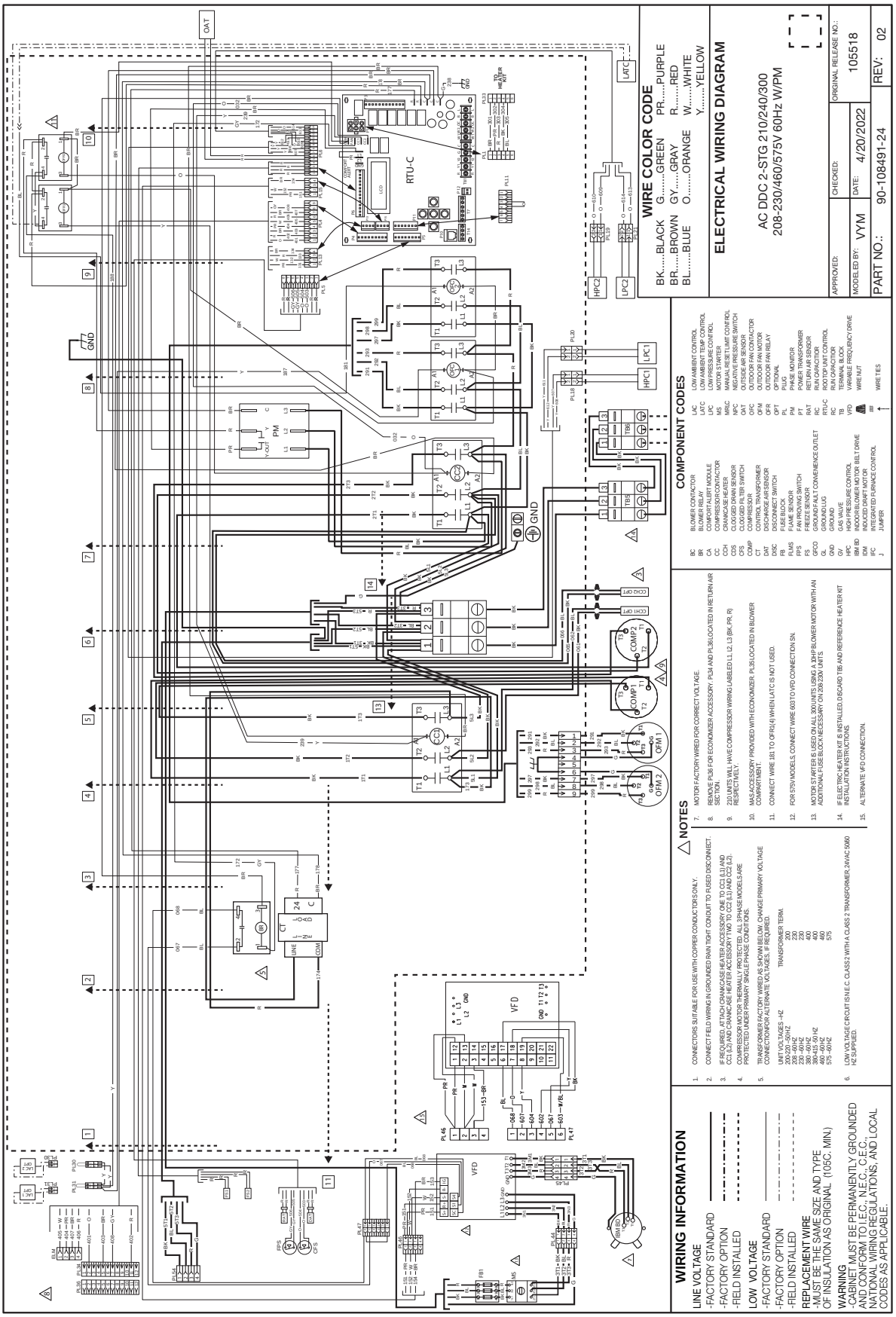


P. APPENDICES

Appendix G. Wiring Diagrams & Schematics (Cont.)



Appendix G. Wiring Diagrams & Schematics (Cont.)



P. APPENDICES

J. Unit High Wind Tie-Down

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Technical Evaluation Report

DIVISION: 23 08 00 – COMMISSIONING OF HVAC

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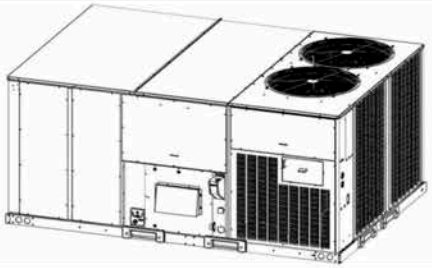
(Subject to Renew July 1, 2024 or next code cycle)

EVALUATION SUBJECT: 15-25T COMMERCIAL PACKAGE UNITS TER-22-50302

REPORT HOLDER:
RHEEM SALES COMPANY, INC.
800 INTERSTATE PARK DR
MONTGOMERY, AL 36109, USA
(770) 351-3000 | RHEEM.COM



NOTE: THE GRAPHICAL DEPICTIONS IN THIS REPORT ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.

SCOPE OF EVALUATION (compliance with the following codes):

THIS IS A STRUCTURAL (WIND) PERFORMANCE EVALUATION ONLY. NO ELECTRICAL OR TEMPERATURE PERFORMANCE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN.

This Product Evaluation Report is being issued in accordance with the requirements of the **Florida Building Code Seventh Edition (2020)** per ASCE 7, FBC Building Ch. 16, FBC Building Sections 104.11 & 1522.2, FBC Existing Building Sections 707.1 & 707.2, FBC Mechanical 301.15, FBC Residential M1202.1 & M1301.1, FS 471.025, and Broward County Administrative Provisions 107.3.4. This report is also in accordance with the **International Building & Residential Codes (2012, 2015, & 2018).** The product noted on this report has been tested and/or evaluated as summarized herein.
IN ACCORDANCE WITH THESE CODES EACH OF THESE REPORTS MUST BEAR THE ORIGINAL SIGNATURE & RAISED SEAL OR DIGITAL SEAL OF THE EVALUATING ENGINEER.

SUBSTANTIATING DATA:
• Product Evaluation Documents
Substantiating documentation has been submitted to provide this TER and is summarized in the sections below.
• Structural Engineering Calculations
Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- Max. allowable lateral & uplift wind pressures certified herein
- Max. allowable sliding forces, uplift forces, & overturning moments (see Unit Reactions from Wind Guide on last page)
- Anchor capacity and tie-down configurations for unit attachment to concrete and steel host structures by others.
- Unit panel wind pressure connection integrity

Calculation summary is included in this TER and appears herein. NOTE: No 33% increase in allowable stress has been used in the design of this product.

LIMITATIONS & CONDITIONS OF USE:
Use of the product(s) listed herein shall be in strict accordance with this TER as noted herein and manufacturer-provided model specifications. Installation shall conform to the minimum standards stated in the referenced building code(s) in addition to the specifications and limitations stated herein. See herein for complete limitations & conditions of use.

OPTIONS:
This evaluation is valid for the Rheem models described herein. Any structural changes outside of the design as described herein would void this certification.

UNIT CASING MATERIALS:
Exterior panels and unit base rail shall be UTS = 37 ksi min. G90U galv. steel. Exterior panels shall be 0.034" min. thick. Base rail shall be 0.069" min. thick. Exterior panels shall be secured with #10 min. Ø, SAE Gr. 2 or stronger sheet metal screws with 1/2" OD washers. Please contact Report Holder for further unit construction information.

TERMINOLOGY:
See herein for definitions of terms and abbreviations used in this report.

STRUCTURAL PERFORMANCE:
Models referenced herein are subject to the following design limitations:

Maximum Rated Wind Pressures*:
± 140 psf Lateral, 111 psf Uplift

- Required design wind pressures shall be determined according to the guide provided in the Appendix (see the last page of this report) or on a site-specific basis in accordance with ASCE 7 and applicable sections of the building code(s) being referenced in accordance with ASD methodology.
- Required design pressures shall be less than or equal to the maximum pressures listed herein.
- *Maximum Rated Wind Pressures indicate the maximum pressures that all units listed herein are approved for. Valid for at-grade and rooftop applications. See limitations herein.
- Valid for use inside and outside the High-Velocity Hurricane Zone (HVHZ).
- Site-specific wind analysis may produce alternate limitations provided maximum rated wind pressures stated herein are not exceeded.

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ORIGINAL SIGNATURE AND RAISED SEAL
OR DIGITAL SEAL REQUIRED TO BE VALID PER CODE:

FRANK L. BENNARDO LICENSE No PE0046549 STATE OF FLORIDA PROFESSIONAL ENGINEER
09/02/2022

VALID ONLY FOR ZIP CODE: 00000
VALID ONLY FOR: Rheem Sales Company, INC
NOT VALID FOR PERMIT, ONLY FOR THE MANUFACTURERS RECORDS.
PE0046549 CA-9885

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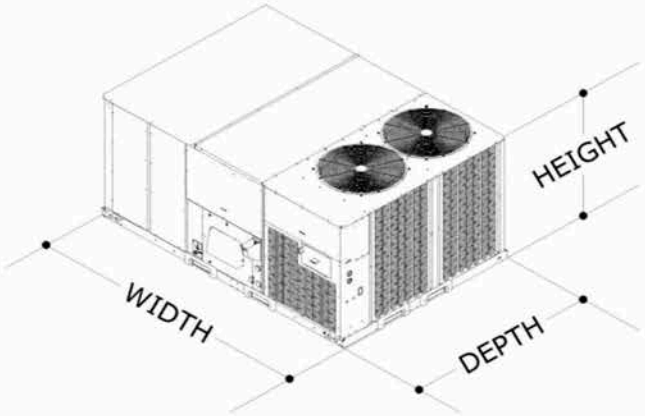
The codes referenced above define APPROVED SOURCE (Section 202) as: "An independent person, firm or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses." Engineering Express® professionals meet the competency requirements as defined in the codes referenced herein and can seal their work. Engineering Express® is regularly engaged in conducting and providing engineering evaluations of single-element and full-scale building systems tests.

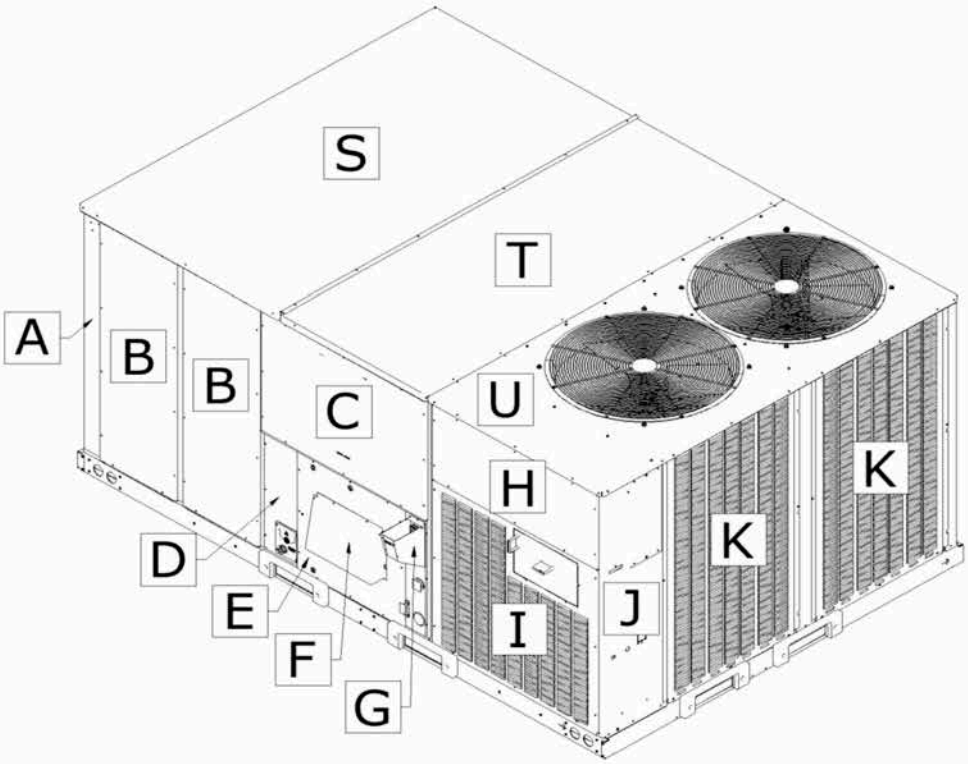
J. Unit High Wind Tie-Down

MODEL INFORMATION

Model Number	Unit Dimensions (in)		
	Width	Depth	Height
(-)GEG2T180	127	86	58.5
(-)GEG2T210			
(-)GEG2T240			
(-)GEG2T300			
(-)ACG2T180			
(-)ACG2T210			
(-)ACG2T240			
(-)ACG2T300			



1 UNIT DIMENSIONS
SCALE: NTS FRONT-RIGHT ISOMETRIC VIEW



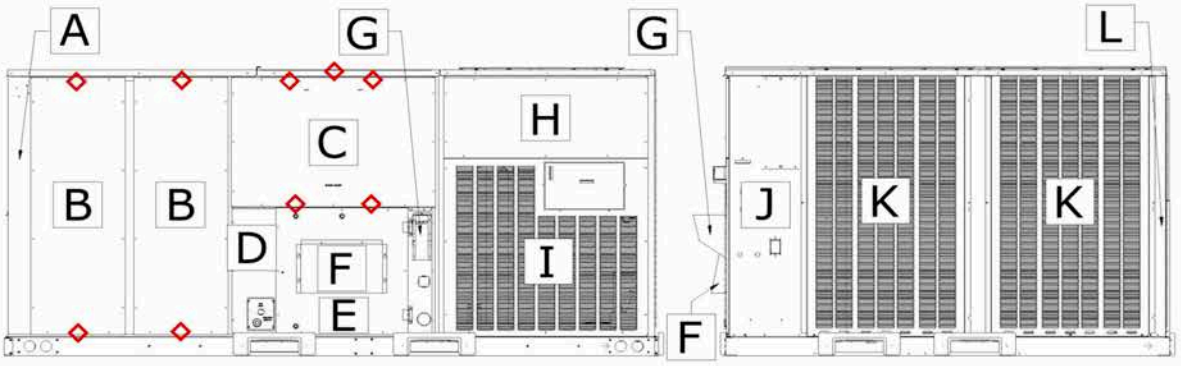
2 PANEL DESIGNATIONS
SCALE: NTS FRONT-RIGHT ISOMETRIC VIEW

MODEL INFORMATION NOTES

Model information listed herein is based on information provided by the Report Holder. '(-)' designates equivalent trade brands with similar cabinetry and may vary depending on the brand. Unit dimensions listed above are net dimensions (as opposed to gross, packing, or shipping dimensions) and describe the main body of the unit only (not considering extra length from hoods, fan cages, etc.). Unit net weights shall be between 1750 lb and 2350 lb, typ. See Details 1 - 6 herein for definitions of unit dimensions, unit sides (front, back, left, right), and panel designations (related to the Panel Integrity evaluation summarized herein). Additional views are shown next page. Unit appearance may vary. Please contact Report Holder for more information.

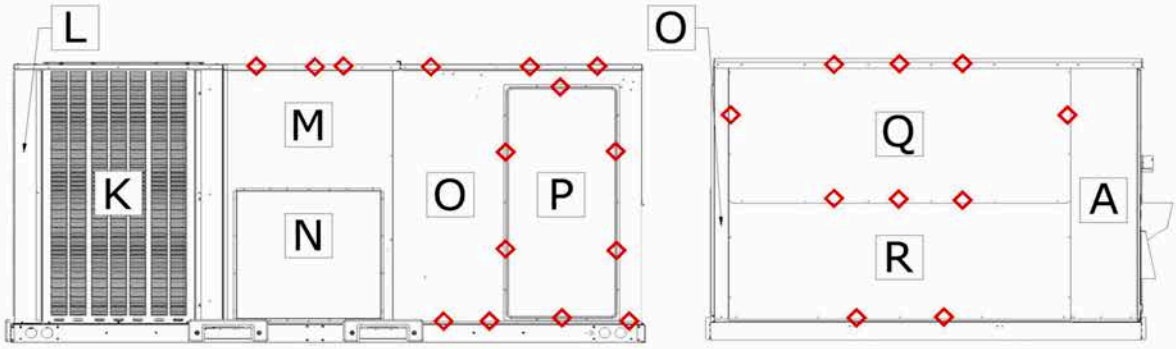
J. Unit High Wind Tie-Down

MODEL INFORMATION CONTINUED



3 PANEL DESIGNATIONS
SCALE: NTS FRONT VIEW

4 PANEL DESIGNATIONS
SCALE: NTS RIGHT VIEW



5 PANEL DESIGNATIONS
SCALE: NTS BACK VIEW

6 PANEL DESIGNATIONS
SCALE: NTS LEFT VIEW

MODEL INFORMATION NOTES CONTINUED

See Details 1 - 6 herein for definitions of unit dimensions, unit sides (front, back, left, right), and panel designations (related to the Panel Integrity evaluation summarized herein). Panel layouts as designated by the boxed call-outs in Details 1 - 6 (e.g. "A", "B", etc.) apply for all unit models. Remaining exterior panels and fan cages not designated herein were considered in the panel integrity evaluation and are included in this evaluation. See Panel Integrity Summary section herein. Diamond "◇" regions in Details 3 – 6 herein illustrate approximate additional screw locations related to the Panel Integrity evaluation summarized herein on page 7. See Panel Integrity section herein for specifications.

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J. Unit High Wind Tie-Down

UNIT TIE-DOWN TO CONCRETE HOST SCHEDULE

Application	Max. ASD Wind Pressures Lateral (Uplift)	Number of Tie-Down Clips per Long Side	Number of Tie-Down Clips per Short Side	Number of Tie-Down Clips in Total per Unit
At-Grade to Concrete	± 40 psf (0 psf)	3	0	6
	± 54 psf (0 psf)	2	2	8

UNIT TIE-DOWN TO CONCRETE HOST SCHEDULE NOTES

INTRODUCTION: This Schedule provides direct mounting option to concrete (without curb) for at-grade applications. For rooftop and/or curb applications, see "Unit Mount to Steel Curb" Section further herein.

TIE-DOWN SCHEDULE DIRECTIVE: The Schedule table above is divided into maximum wind pressure tiers (each row of table). Site-specific wind pressures up to ± 40 psf lateral & 0 psf uplift shall follow, at-minimum, the tie-down specifications as stated in the ± 40 psf lateral (0 psf uplift) pressure tier row. Site-specific wind pressures greater than ± 40 psf lateral and up to ± 54 psf lateral & 0 psf uplift shall follow the tie-down specifications as stated in the ± 54 psf lateral (0 psf uplift) pressure tier row. Concrete host structure by others shall have 3000 psi minimum compressive strength. This schedule applies to all units described in this evaluation. See tie-down specifications and Details on this page.

ANCHOR NOTES: In all cases, the concrete host is by others. Utilize (1) anchor per tie-down clip. Anchor specifications shall be as follows:

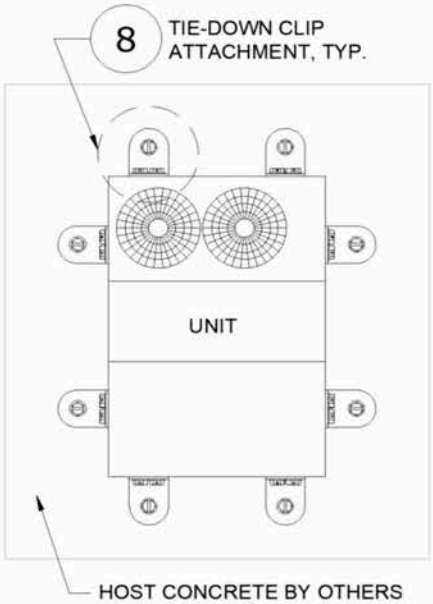
1/4" Ø ITW Tapcon or equivalent with 1-3/4" embedment, 3" min. edge distance to edge of concrete, 1/2" min. edge distance to edge of tie-down clip, and 4-1/4" min. spacing from neighboring concrete anchors, typ.

TIE-DOWN CLIP NOTES: Tie-down clips shall be 1" min. wide, 4" - 10" tall, 0.068" min. thick, UTS = 45 ksi min. (equiv. to ASTM A653 Gr. 33 or stronger) galv. steel. Utilize (1) anchor per tie-down clip with specifications as described in the above "Anchor Notes". Ensure anchor is placed at center of tie-down clip leg to provide 1/2" min. edge distance.

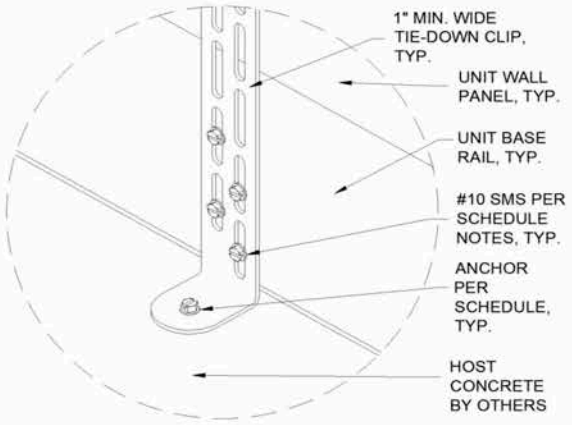
Fasten clip to unit base rail with (4) #10 min. Ø, SAE Gr. 2 min. or SS SMS, typ. Utilize (4) slots that have flush, solid contact with unit, (1) screw per slot, typ. Ensure all screws fully engage with unit. Tie-down clips shall sit flush on concrete and flush against unit.

For each unit long side (along unit width), distribute tie-down clip quantity approximately evenly-spaced. Position end clips 3" minimum away from either end of unit base rail. For scenarios in which tie-down clips are required on unit short sides (along unit depth), position tie-down clip at either corner of each unit short side, 3" minimum away from either end of unit base rail. See Details below.

UNIT TIE-DOWN TO HOST CONCRETE DETAILS



7 SAMPLE TIE-DOWN CLIP LAYOUT
SCALE: NTS PLAN VIEW



8 TIE-DOWN CLIP ATTACHMENT TO UNIT, TYP.
SCALE: NTS ISOMETRIC VIEW

Unit Tie-Down to Host Concrete Details Notes

For each Detail in this section, consult the Unit Tie-Down to Host Concrete Schedule and Notes on this page for all tie-down components and specifications required.

The units and components depicted are for illustrative purposes only and may vary in quantity and/or appearance. Component sizes may be exaggerated for clarity. Tie-down system may not be depicted in full.

J. Unit High Wind Tie-Down

UNIT MOUNT TO STEEL CURB SCHEDULE

Application	Max. ASD Wind Pressures Lateral (Uplift)	# of Curb Clips per Long Side	# of Curb Clips per Short Side	# of Curb Clips Total per Unit
Rooftop Mount to Steel Curb	± 80 psf (64 psf)	2	2	8
	± 110 psf (87 psf)	3	2	10
	± 140 psf (111 psf)	4	2	12

UNIT MOUNT TO STEEL CURB SCHEDULE NOTES

SCHEDULE DIRECTIVE: The Schedule table above is divided into maximum wind pressure tiers (each row of table). Site-specific wind pressures up to ± 80 psf lateral & 64 psf uplift shall use, at-minimum, the specifications as stated in the ± 80 psf lateral (64 psf uplift) pressure tier row. Site-specific wind pressures that fall in-between pressure tiers shall use, at-minimum, the specifications as specified by the higher pressure tier. This schedule applies to all units described in this evaluation. Steel curb by others shall be 16 GA. min. thick, UTS = 45 ksi min. (equiv. to ASTM A653 Gr. 33 or stronger) galv. steel. Curb structural integrity and attachment to host structure shall be by others. Curb schedule may also be used for at-grade applications to steel curbs. See specifications and Unit Mount to Curb Details herein.

> **Example:** Say you are installing a unit at a site location with site-specific wind pressures of ± 85 psf lateral and 68 psf uplift. In this case, you would need to follow, at-minimum, the specifications corresponding to the ± 110 psf (87 psf) wind pressure tier row. By consulting the Schedule table:

CURB CLIP NOTES: Curb clips may also be referred to as "curb brackets" or curb "hold-down brackets". Curb clips shall be 16 GA min. thick, UTS = 45 ksi min.(equiv. to ASTM A653 Gr. 33 or stronger) galv. steel. Curb clips shall be equally spaced along specified curb side (± 12" variance as needed). Position end curb clips on unit long sides 12" minimum away from either end of side edge. Position end curb clips on unit short sides towards the unit corners, 3" minimum and 12" maximum away from either end of side edge. See Unit Mount to Curb Details herein.

Fasten curb clip to curb with (4) #14, SAE Gr. 2 min. or SS SMS with 1/2" min. edge distance to edge of curb and curb clip edge, and 1" min. spacing between screws. (Note: Size #14 SMS are 1/4" Ø). Fasten curb clips to curb prior to unit placement on curb and curb clip attachment to unit. Ensure all screws fully engage with both members in contact.

Once unit is positioned on curb and the unit base rail is resting on the curb clips: Fasten curb clip to unit base rail with (4) #14, SAE Gr. 2 min. or SS SMS with 1/2" min. edge distance to edge of curb clip and unit base rail edge, and 1" min. spacing between screws. Ensure all screws fully engage with both members in contact.

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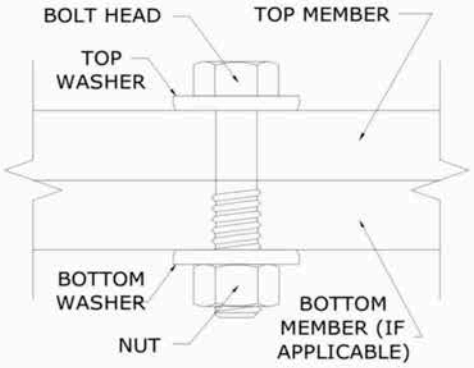
J. Unit High Wind Tie-Down

TERMINOLOGY, CONTINUED

The following abbreviations may appear in this report: "Addtl." for "additional", "AHJ" for "Authority Having Jurisdiction", "alum" for "aluminum", "ASCE" for "American Society of Civil Engineers", "ASD" for "Allowable Stress Design", "ASTM" for "American Society for Testing and Materials", "EA." for "each", "E.D." for edge distance", "EDDS" for "extra deep drawing steel", "e.g." for "*exempli gratia*" or "for example", "equiv." for "equivalent", "f'c" for "compressive strength of concrete after 28 days of curing", "FBC" for "Florida Building Code", "FEA" for "Finite Element Analysis", "FLCA" for "Florida Certificate of Authorization", "FS" for "Florida Statutes", "Fu" for "ultimate tensile strength" or "ultimate tensile stress", "Fy" for "yield strength" or "yield stress" "GA" for "gauge", "GR." or "Gr." for "grade", "HVAC" for "heating, ventilation, and air conditioning", "HVHZ" for "High-Velocity Hurricane Zone", "i.e. " for "*id est*" or "in other words", "in" for "inch", "lb" for "pound (force)", "max." for "maximum", "min." for "minimum", "mm" for "millimeter", "NTS" for "not to scale", "O.C. " for "on center", "OD" for "outer diameter", "PE" for "Professional Engineer", "qty" for "quantity", "SAE" for "Society of Automotive Engineering", "SMS" for "sheet metal screws", "SS" for "stainless steel", "TER" for "Technical Evaluation Report", "typ." for "typical", "U.N.O." for "unless noted otherwise", "UTS" for "ultimate tensile strength" or "ultimate tensile stress", "WLL" for "working load limit", "w/o" for "without", "YS" for "yield strength" or "yield stress", "#" for "number", "&" for "and", and "Ø" for "diameter". For additional abbreviation/terminology clarifications, please contact this office.



SAMPLE THRU-BOLT
SCALE: NTS SECTION VIEW

Note: The term "Thru-Bolt" or through bolt, if used herein, refers to a bolt passing through the member(s) in contact and is fastened by a nut at the end opposite the screw head. Nut shall be equivalent to or exceed the strength of the bolt U.N.O. Nut shall be sized to accommodate the same nominal diameter as the bolt U.N.O. See diagram above-right for a sample thru-bolt configuration.

Note: For instances herein which list material specifications as *"[material type] or stronger":*
U.N.O. herein, the term "stronger" refers to a material with a UTS value equal to or greater than the UTS value of the stated material type. Consult appropriate literature for established material UTS values.

Note: Equivalent steel gauge thicknesses as used in this evaluation, U.N.O., are as follows:
20 GA (.036"), 18 GA (.048"), 16 GA (.060"), 14 GA (.075"), 12 GA (.098").

LIMITATIONS & CONDITIONS OF USE, CONTINUED

Use of this product shall be in strict accordance with this TER as noted herein. The supporting host structure shall be designed to resist all superimposed loads as determined by others on a site-specific basis as may be required by the authority having jurisdiction. Host structure conditions which are not accounted for in this product's respective anchor schedule shall be designed for on a site-specific basis by a registered Professional Engineer. No evaluation is offered for the host supporting structure by use of this document. Adjustment factors noted herein and the applicable building codes must be considered, where applicable. Product components shall be of the material(s) specified in the manufacturer-provided product specifications. All supporting components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. All fasteners and anchors shall be installed in accordance with the applicable provisions specified herein in addition to the anchor/fastener manufacturers' published installation instructions. Fasteners must penetrate the supporting members such that the full length of the threaded portion is embedded within the main member. This evaluation does not offer any evaluation to meet large missile impact debris requirements under any circumstances.

All of the wind-resisting exterior panels (with accompanying retrofits) individually meet or exceed their capacity to resist the design wind loads as stated in the calculations as required by the codes and standards stated herein. Due to the indeterminate nature of these units, distortion and deflection cannot be accurately evaluated, but with diaphragm action of external components and internal stiffeners, the base unit has the capacity to withstand these forces with individual external parts being contained. Inspections shall be implemented during annual equipment maintenance or after a named storm; all fasteners and cabinet components are to be verified, and all damaged, loose, corroded and/or broken fasteners and cabinet components shall be replaced to ensure structural integrity against hurricane wind forces. Contact this office for any reevaluation needs as designated by the Authority Having Jurisdiction.

SEE APPENDIX ON NEXT PAGE

Proj. #	Remarks	By	Checked	Date	Proj. #	Remarks	By	Checked	Date
22-50302	Initial Issue	EPR	RWN	07/08/22					

J. Unit High Wind Tie-Down

APPENDIX A: DESIGN WIND PRESSURE GUIDE

Max. Ult. Wind Speed (V_{ult})	Max. MRH (Roof Height)	Exposure Category	Required Design Wind Pressures (ASD)	
			Lateral Pressure	Uplift Pressure
140 mph	At-Grade (0 ft)	C	± 26 psf	0* psf
		D	± 31 psf	0* psf
	100 ft	C	± 63 psf	50 psf
		D	± 71 psf	56 psf
	200 ft	C	± 72 psf	57 psf
		D	± 80 psf	63 psf
175 mph	At-Grade (0 ft)	C	± 40 psf	0* psf
		D	± 49 psf	0* psf
	100 ft	C	± 98 psf	77 psf
		D	± 111 psf	87 psf
	200 ft	C	± 113 psf	89 psf
		D	± 124 psf	98 psf
186 mph	At-Grade (0 ft)	C	± 46 psf	0* psf
		D	± 54 psf	0* psf
	100 ft	C	± 111 psf	87 psf
		D	± 125 psf	99 psf
	200 ft	C	± 127 psf	100 psf
		D	± 140 psf	111 psf

~~100 psf~~ Note: Any table values with the format shown left, if present, indicate design wind pressures and site conditions that are **not approved for use** by this evaluation. Seek additional engineering or contact this firm for design solutions.

DIRECTIVE: This design pressure guide is for reference only and shall be approved for use by the Authority Having Jurisdiction (AHJ). If the design pressures listed in this guide are not used, required design pressures shall be calculated separately. For site-specific scenarios classified as Exposure Category B, the required design pressures stated for Exposure Category C in the above guide shall be used or design pressures shall be calculated separately. For heights and parameters beyond the parameters listed in this guide, visit our Online Calculator via the website link (https://ecalc.io/forces) or QR Code below, or obtain calculations separately by others.

The required ASD design pressures listed in this guide were calculated per the table's listed corresponding site conditions. The project design professional or permitting contractor shall verify that the site-specific conditions are equal to or less than the approved design parameters listed in the guide. Per the note below table: any values shown as "~~XX psf~~", indicate wind pressures and corresponding site conditions that are **not valid for use** with this evaluation (exceeds the max. rated pressures).

*Note: Per the codes and standards referenced herein, uplift is not required for mechanical equipment at-grade. If uplift at-grade is required by the AHJ, contact this firm for a site-specific evaluation.

At-Grade (0 ft MRH) Required Design Pressures:

- ASCE 7 "Design Wind Loads: Other Structures"
- Structure Shape = Square, flat terrain
- Height of structure (unit + stand or curb, if used) = 6 ft max.
- Width of unit = 1 ft min., Depth of unit = 11 in min.

Rooftop (>15 ft MRH) Required Design Pressures:

- ASCE 7 "Design Wind Loads: Other Structures: Rooftop Structures and Equipment for Buildings"
- Structure Shape = Square, flat terrain
- z = up to 7 ft, where z = height of stand or curb + ½ unit height
- Lateral GC_r = 1.90; Uplift GC_r = 1.50

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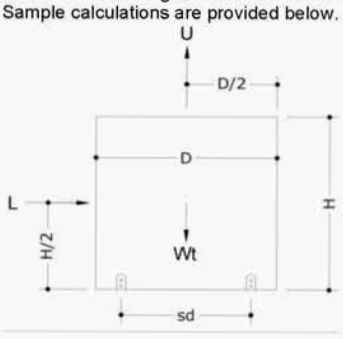
FOR DESIGN AID CALCULATORS AND RESOURCES RELATED TO THIS TER & GUIDES HEREIN, OR SCAN THE QR CODE RIGHT >

UNIT REACTIONS FROM WIND GUIDE

DIRECTIVE: This guide is intended for use by a design professional. Design parameters shall abide all specifications and limitations stated in this report. Design professional shall consider all forces, including seismic and snow loads, per the governing building code. Unit reactions obtained from this guide shall be verified by a registered Professional Engineer. Reactions are applicable for unit-to-host connections only. Sample calculations are provided below.



Design Parameters:

- Lateral Wind Pressure, P_lat
- Unit Height, H
- Unit Width, W
- Support Spacing across Depth, sd
- Uplift Wind Pressure, P_up
- Unit Depth, D
- Unit Weight, Wt
- Support Spacing across Width, sw

Unit Reaction Equations:

Long Side (Width x Height):

- Sliding Force, L = P_lat x W x H
- Uplift Force, U = P_up x W x D
- Total Tension per Long Side = (L x H/2 + U x sd/2 – Wt x 0.6 x sd/2) / sd

Short Side (Depth x Height):

- Sliding Force, L = P_lat x D x H
- Uplift Force, U = P_up x W x D
- Total Tension per Short Side = (L x H/2 + U x sw/2 – Wt x 0.6 x sw/2) / sw

Example: A (48" W x 36" D x 42" H), 250 lb net weight unit at wind pressures of 120 psf lateral and 95 psf uplift, on a 24" wide roof stand, shall have the following unit reactions:

Long Side (Width x Height):

1. Sliding Force, L = P_lat x W x H
   = (120 psf) x (48 in) x (42 in) x (1 in^2/ 144 ft^2) = **1680 lb**
2. Uplift Force, U = P_up x W x D
   = (95 psf) x (48 in) x (36 in) x (1 in^2/ 144 ft^2) = **1140 lb**
3. Total Tension per Long Side =
   = (L x H/2 + U x sd/2 – Wt x 0.6 x sd/2) / sd
   = ((1680 lb x 42/2 in) + (1140 lb x 24/2 in) – (250 lb x 0.6 x 24/2 in)) / 24 in = **1965 lb**

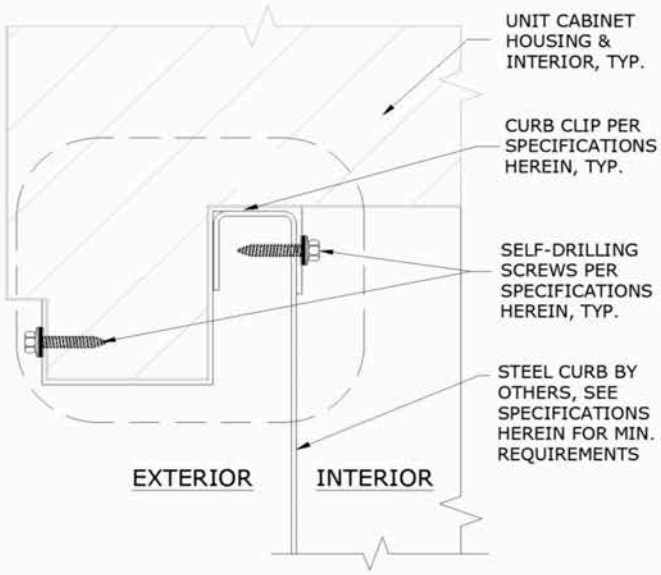
Short Side (Depth x Height):

1. Sliding Force, L = P_lat x D x H
   = (120 psf) x (36 in) x (42 in) x (1 in^2/ 144 ft^2) = **1260 lb**
2. Uplift Force, U = P_up x W x D
   = (95 psf) x (48 in) x (36 in) x (1 in^2/ 144 ft^2) = **1140 lb**
3. Total Tension per Short Side =
   = (L x H/2 + U x sw/2 – Wt x 0.6 x sw/2) / sw
   = ((1260 lb x 42/2 in) + (1140 lb x 48/2 in) – (250 lb x 0.6 x 48/2 in)) / 48 in = **1046 lb**

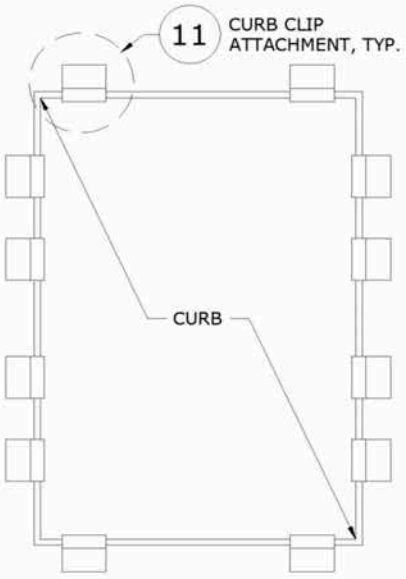
IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE RATED GRAVITY, LATERAL, AND UPLIFT FORCES BY SITE-SPECIFIC DESIGN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS UNIT.

J. Unit High Wind Tie-Down

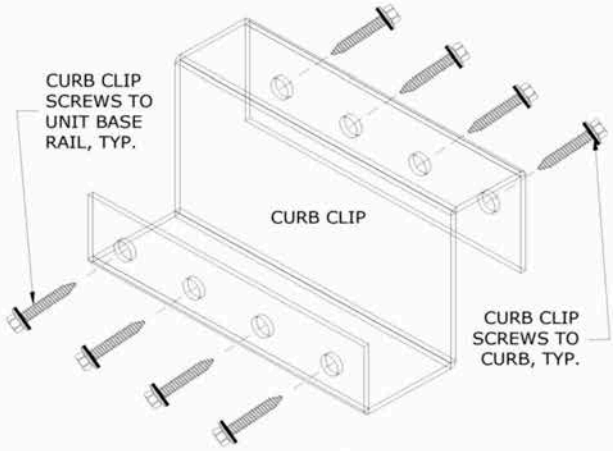
UNIT MOUNT TO STEEL CURB DETAILS



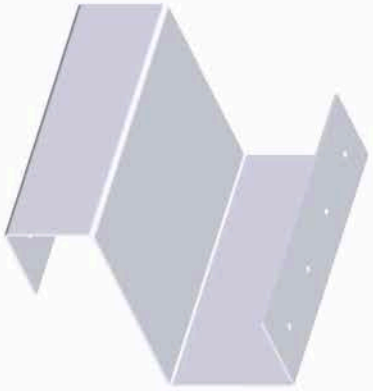
9 UNIT ATTACHMENT TO CURB WITH CURB CLIP, TYP.
SCALE: NTS SECTION VIEW



10 SAMPLE TIE-DOWN CLIP LAYOUT
SCALE: NTS PLAN VIEW



11 SAMPLE CURB CLIP SCREW ATTACHMENT, TYP.
SCALE: NTS ISOMETRIC VIEW



12 MICROMETL CURB CLIP, TYP.
SCALE: NTS ISOMETRIC VIEW

UNIT MOUNT TO STEEL CURB DETAILS NOTES

For each Detail in this section, see Unit Mount to Steel Schedule and Notes on the previous page for all tie-down components and specifications required.

The unit components, curb, curb clip, and screws depicted in the Details on this page are for illustrative purposes only and may vary in quantity and/or appearance. Unit mounting specifications may not be depicted in full. Component sizes may be exaggerated for illustration clarity.

Sample curb clip placement shown in Detail 10 and sample curb clip shown in Detail 11 are for illustrative purposes only. The MicroMetl curb clip shown has been pre-reviewed by Engineering Express to meet the curb clip specifications stated herein and is approved for use. See the previous page for specifications.

J. Unit High Wind Tie-Down

UNIT MOUNT TO STEEL CURB SCHEDULE

Application	Max. ASD Wind Pressures Lateral (Uplift)	# of Curb Clips per Long Side	# of Curb Clips per Short Side	# of Curb Clips Total per Unit
Rooftop Mount to Steel Curb	± 80 psf (64 psf)	2	2	8
	± 110 psf (87 psf)	3	2	10
	± 140 psf (111 psf)	4	2	12

UNIT MOUNT TO STEEL CURB SCHEDULE NOTES

SCHEDULE DIRECTIVE: The Schedule table above is divided into maximum wind pressure tiers (each row of table). Site-specific wind pressures up to ± 80 psf lateral & 64 psf uplift shall use, at-minimum, the specifications as stated in the ± 80 psf lateral (64 psf uplift) pressure tier row. Site-specific wind pressures that fall in-between pressure tiers shall use, at-minimum, the specifications as specified by the higher pressure tier. This schedule applies to all units described in this evaluation. Steel curb by others shall be 16 GA. min. thick, UTS = 45 ksi min. (equiv. to ASTM A653 Gr. 33 or stronger) galv. steel. Curb structural integrity and attachment to host structure shall be by others. Curb schedule may also be used for at-grade applications to steel curbs. See specifications and Unit Mount to Curb Details herein.

Example: Say you are installing a unit at a site location with site-specific wind pressures of ± 85 psf lateral and 68 psf uplift. In this case, you would need to follow, at-minimum, the specifications corresponding to the ± 110 psf (87 psf) wind pressure tier row. By consulting the Schedule table:

CURB CLIP NOTES: Curb clips may also be referred to as "curb brackets" or curb "hold-down brackets". Curb clips shall be 16 GA min. thick, UTS = 45 ksi min.(equiv. to ASTM A653 Gr. 33 or stronger) galv. steel. Curb clips shall be equally spaced along specified curb side (± 12" variance as needed). Position end curb clips on unit long sides 12" minimum away from either end of side edge. Position end curb clips on unit short sides towards the unit corners, 3" minimum and 12" maximum away from either end of side edge. See Unit Mount to Curb Details herein.

Fasten curb clip to curb with (4) #14, SAE Gr. 2 min. or SS SMS with 1/2" min. edge distance to edge of curb and curb clip edge, and 1" min. spacing between screws. (Note: Size #14 SMS are 1/4" Ø). Fasten curb clips to curb prior to unit placement on curb and curb clip attachment to unit. Ensure all screws fully engage with both members in contact.

Once unit is positioned on curb and the unit base rail is resting on the curb clips: Fasten curb clip to unit base rail with (4) #14, SAE Gr. 2 min. or SS SMS with 1/2" min. edge distance to edge of curb clip and unit base rail edge, and 1" min. spacing between screws. Ensure all screws fully engage with both members in contact.

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R. INFORMATION FOR THE OWNER

R.1. Information for the Owner: Maintenance and Service

For routine maintenance, general diagnostics for cooling and heating, and other generalized information regarding filter changing, cleaning the condensate pan, cleaning the coils, and general inspections, refer to the included User's Information Manual for the owner.

R.2. Product Model and Serial Number

The product model and serial number are both located on the rating plate found on the supply/return panel of the unit.

S. INSTALLATION CHECK LIST AND JOB SITE SHEET

Commercial Job Site Information

Site Information and Application Details:

Business Name : _____

Address : _____

City : _____ State : _____ Zip : _____

Site Contact : _____

Phone : _____ Mobile : _____

Email : _____

Model Number : _____

(Please include all letters and digits of the model number)

Serial Number : _____

(Please include all letters and digits of the serial number)

Date of Install : _____

(When was the unit installed, month, day, and year)

Business Name : _____

Address : _____

City : _____ State : _____ Zip : _____

Site Contact : _____

Phone : _____ Mobile : _____

Email : _____

Technician Name : _____

Visit Date: _____

Technician Name : _____

Visit Date: _____

Technician Name : _____

Visit Date: _____

Distributor and Support Details:

Distributor Name : _____

City : _____ State : _____

Rep Name : _____

Visit Date: _____

Unit Setup and Operational Information

Voltage and Amperage Information :

Line Voltage Measurements :

Base Voltage : 208 240 460 (Circle one) Phase : 1 3 (Circle one)

Measured Line Voltage :

Phase A to B : _____ Phase A to Ground : _____

Phase B to C : _____ Phase B to Ground : _____

Phase C to A : _____ Phase C to Ground : _____

Breaker Size : _____ Conductor Size: _____

24VAC Low Voltage Measurements :

Transformer Tap : 208 240 460 (Circle one)

24VAC Measured Voltage : R to C : _____

24VAC Measured Amp Load :

Transformer Load: _____

T-stat Load: _____

Amperage and Power Measurements :

	Full Running Load	Blower	Compressor 1	Compressor 2	Outdoor Fans
Phase A :					
Phase B :					
Phase C :					

Circuit 1 :

Suction Line	Liquid Line
Pressure (PSI) :	Pressure (PSI) :
Temperature (°F) :	Temperature (°F) :
Superheat (°F) :	Sub-cooling (°F) :

Circuit 2 :

Suction Line	Liquid Line
Pressure (PSI) :	Pressure (PSI) :
Temperature (°F) :	Temperature (°F) :
Sub-cooling (°F) :	Sub-cooling (°F) :

Outdoor Air Temperature (°F) : _____ Return Air Temperature (°F) : _____ Supply Air Temperature (°F) : _____

Outdoor Air Wet Bulb (°F) : _____ Return Air Wet Bulb (°F) : _____ Supply Air Wet Bulb (°F) : _____

S. INSTALLATION CHECK LIST AND JOB SITE SHEET

Commercial Job Site Information

Air Flow CFM :

Building Design CFM : _____

Operating System CFM : _____

Blower Speed :

Motor RPM : _____

Blower RPM : _____

Blower Sheave Turns : _____

(Turns are measured from a fully closed position)

Static Pressure :

Return Static Pressure : _____

Supply Static Pressure : _____

Total Static Pressure : _____

Variable Frequency Drive (VFD) : (low fan speed settings are located in DDC Control)

Factory Equiped: Yes No (Circle one)

Active VFD Display (Hz) : _____

LOC/REM Light On?: Yes No (Circle one)

Power Setting (uLu) : _____

Runs to 45hz on Start?: Yes No (Circle one)

Runs to 60hz 2nd Stage?: Yes No (Circle one)

Low Fan Speed % : _____

1stg Cooling Speed % : _____

Low Economizer % : _____

Economizer Setup and Information :

Outdoor Air:

Design CFM : _____

Design % : _____

Measured CFM : _____

Measured % : _____

Blade Position and Settings:

Minimum Position - Low : _____

Minimum Position - High : _____

Min Position Shaft Angle : _____

Measured % : _____

Program Settings:

Enthalpy Zone Setting : A B C D E (Circle one)

Mixed Air Temperature : _____

Min Position Shaft Angle : _____

Measured % : _____

Heat or Furnace Information :

Gas Heat :

Fuel Type : Natural LP (Circle one)

Input BTU : _____

Measured BTU : _____

Line Gas Pressure : _____

Manifold Pressure - Low : _____

Manifold Pressure - High : _____

Number of Orifices : _____

Orifice Size : _____

Flame Signal - microamp (s) : _____

	Voltage: Line 1	Voltage: Line 2	Amperage: Line 1	Amperage: Line 2	RPM	Pressure Switches (measured in inches w.c.) Low	High	Close	Open
Inducer 1:									
Inducer 2:									
Inducer 3:									
Inducer 4:									

Main Limit Closed: Yes No (Circle one)

Over Temp Limit Closed: Yes No (Circle one)

Spark Visible at Igniter : Yes No (Circle one)

Burner Flames Blue : Yes No (Circle one)

Electric Heat :

System Voltage : 208 240 460 (Circle one)

Total Kw input Rating : _____

	Stage 1 Amps:	Stage 2 Amps:	Stage 1 Watts:	Stage 2 Watts:
Phase A :				
Phase B :				
Phase C :				

Notes and Comments :

_____

_____

_____

_____