



FRIEDRICH

1 8 8 3

Commercial Renaissance™ Line F-Series™ Packaged Air Conditioners



RACG Series

Cooling Efficiencies up to: 11.0 EER & 14.2 IEER

Nominal Sizes: 15, 17.5, 20 & 25 Tons [52.8, 61.5, 70.3 & 87.9 kW]

Cooling Capacities: 180k Btu/h [52.57 kW] to 300k Btu/h [87.92 kW]

Refrigerant Type: R-454B

ASHRAE 90.1-2022 Compliant Models



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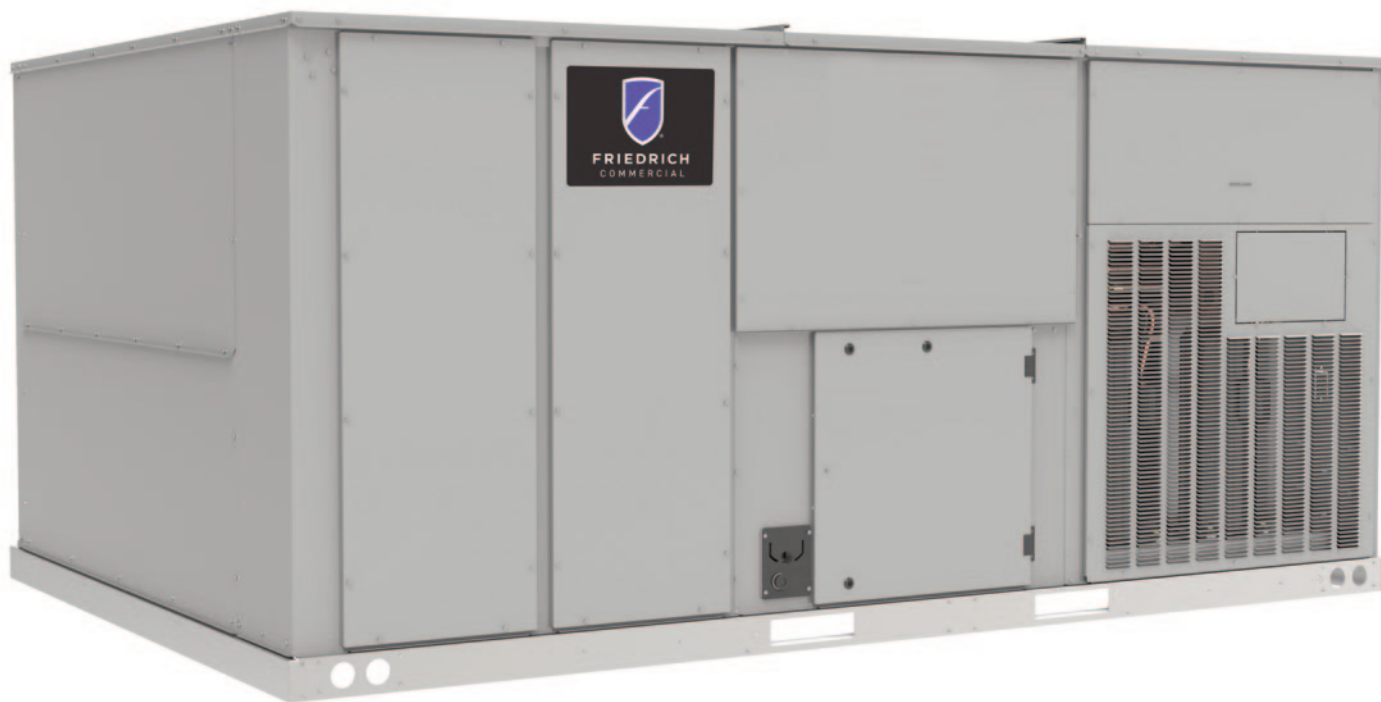
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RACG STANDARD FEATURES INCLUDE:

- Factory charged with R-454B refrigerant
- Wired and run tested
- Factory-installed refrigerant leak detection
- Scroll compressors with internal line break overload and high pressure protection
- All models have two compressor stages
- Field Convertible airflow – vertical down flow or horizontal side flow
- Forkable base rails for easy handling and lifting
- Cooling operation up to 125°F ambient
- Patented PlusOne® SmartShield™ Interlaced MicroChannel Coil Design
- PlusOne® ServiceSmart package includes:
 - Qwik-Slide Blower Assembly
 - Qwik-Clean Drain Pan
- Overflow condensate sensor
- PlusOne® Diagnostics with Dual 7-Segment LED Display to meet code compliance
- Base pan with drawn supply and return opening
- ¼ turn fasteners on filter access door (On hinged models only)
- Color-coded and labeled wiring
- TXV refrigerant metering system
- Solid-core liquid line filter drier
- High pressure and low pressure/loss of charge protection with built in Smart Logic
- Insulation encapsulated throughout entire unit
- High performance belt drive motor with variable pitch pulleys and quick adjust belt system
- Blower with Variable Frequency Drive (VFD) control is standard
- Flexible footprint to support a variety of roof curbs
- MERV 8 & MERV 13 filters are available as a factory or field-installed option



Designing for Sustainability with Low GWP: For 2025, the Environmental Protection Agency (EPA) has set a global warming potential (GWP) limit of 700 for refrigerant used in heating and cooling systems. This new requirement will result in a 78%¹ lower GWP than previous-generation refrigerants — with only minimal changes to system installation. For us, this is another step toward our continued sustainability goal of reducing greenhouse gas emissions, while still delivering an exceptional level of energy efficient, dependable comfort.

¹When comparing the GWP of R-454B to R-410A refrigerant.

FACTORY INSTALLED OPTIONS:

- Economizer w/Single Enthalpy (Downflow/Vertical)
- Economizer w/Single Enthalpy (Downflow/Vertical) DDC
- Low-Ambient Control Kit
- Freeze Stat Kit
- Electric Heater Kits
- Return Smoke Detector (Downflow/Vertical)
- Return Smoke Detector (Horizontal)
- Return/Supply Smoke Detector (Downflow/Vertical)
- Return/Supply Smoke Detector (Horizontal)

FIELD INSTALLED ACCESSORY EQUIPMENT:

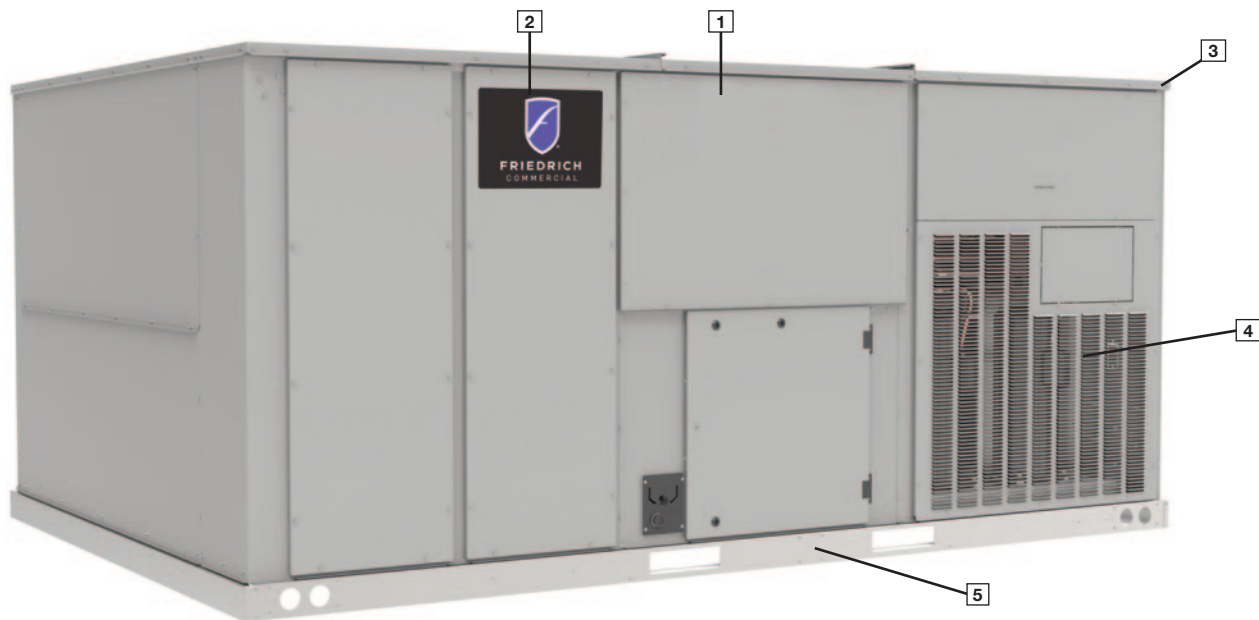
Accessory	Model Number	Factory Installation Available?
Economizers		
Non-DDC Economizer with Single Enthalpy (Downflow/Vertical) <i>MicroMetl Economizer with Siemens® Controls</i>	RXRD-11MGDAM3	Yes
Non-DDC Economizer with Single Enthalpy (Downflow/Vertical) <i>RRS Rooftop Systems® Economizer with Siemens Controller</i>	RXRD-51MGDAM3	Yes
Non-DDC Economizer with Single Enthalpy (Horizontal) <i>MicroMetl Economizer with Siemens Controls</i>	RXRD-11MGHAM3	No
Non-DDC Economizer with Single Enthalpy (Horizontal) <i>Ruskin Rooftop Systems Economizer with Siemens Controller</i>	RXRD-51MGHAM3	No
Economizer Universal DDC Interface Kit	RXRX-DDC01	Yes

FIELD INSTALLED ACCESSORY EQUIPMENT (CONTINUED):

Accessory		Model Number	Factory Installation Available?
Comfort Alert (3 phase) Non-DDC		RXR-AXG3	No
Comfort Alert (3 Phase) DDC		RXR-AXG2	Yes
Communication Card, BACnet®		RXR-AY01	No
Communication Card, LonWorks®		RXR-AY02	No
Concentric Adapter/Transition (15 & 17.5 ton)		RXMC-GG01	No
Concentric Adapter/Transition (20 ton)		RXMC-GG02	No
Concentric Adapter/Transition (25 ton)		RXMC-GG03	No
Concentric Flush Mount Diffuser (15 & 17.5 ton)		RXR-AEF2042	No
Concentric Flush Mount Diffuser (20 ton)		RXR-AEF2348	No
Concentric Flush Mount Diffuser (25 ton)		RXR-AEF2852	No
Concentric Step Down Diffuser (15 & 17.5 ton)		RXR-AED2042	No
Concentric Step Down Diffuser (20 ton)		RXR-AED2348	No
Concentric Step Down Diffuser (25 ton)		RXR-AED2852	No
Convenience Outlet, Non-Powered		RXR-BN01	Yes
Dual Enthalpy, Temperature and Humidity Sensor (for Siemens)		PD555460	No
Electric Heater Kits (with Single Point Wiring)	18 kW 208 - 230 V	RXJJ-G18KWC	Yes
	18 kW 460 V	RXJJ-G18KWD	Yes
	18 kW 575 V	RXJJ-G18KWY	Yes
	36 kW 208 - 230 V	RXJJ-G36KWC	Yes
	36 kW 460 V	RXJJ-G36KWD	Yes
	36 kW 575 V	RXJJ-G36KWY	Yes
	54 kW 208 - 230 V	RXJJ-G54KWC	Yes
	54 kW 460 V	RXJJ-G54KWD	Yes
	54 kW 575 V	RXJJ-G54KWY	Yes
	72 kW 208 - 230 V	RXJJ-G72KWC	Yes
	72 kW 460 V	RXJJ-G72KWD	Yes
	72 kW 575 V	RXJJ-G72KWY	Yes
Freeze Stat Kit (Non-DDC)		RXR-AM06	Yes

¹Unfused Service Disconnect is not available for the 25 ton 230v model.

Accessory	Model Number	Factory Installation Available?
Fresh Air Damper, Manual	RXRF-AGA1	No
Fresh Air Damper, Motorized	RXRF-AGB1	No
Fresh Air Damper, Motorized DDC	RXRF-AGC1	No
Low-Ambient Control Kit	RXRZ-A05	Yes
MERV 8 Filter	RXMF-M08A22420	Yes
MERV 13 Filter	RXMF-M13A22420	Yes
Outdoor Coil Louver Kit	RXR-LKG01	No
Power Exhaust (230V) Kit, Convertible (MicroMetl)	RXR-CGF01C	No
Power Exhaust (460V) Kit, Convertible (MicroMetl)	RXR-CGF01D	No
Power Exhaust (575V) Kit, Convertible (MicroMetl)	RXR-CGF01Y	No
Power Exhaust (230V) Kit, Convertible (RRS)	RXR-RGF01C	No
Power Exhaust (460V) Kit, Convertible (RRS)	RXR-RGF01D	No
Power Exhaust (575V) Kit, Convertible (RRS)	RXR-RGF01Y	No
Roofcurb, 14"	RXR-DGC14	No
Roofcurb, 18"	RXR-DGC18	No
Roofcurb, 24"	RXR-DGC24	No
Roofcurb - Restraint Clips	RXR-DGCRC	No
Roofcurb Adapter	RXR-DGCAE	No
Roofcurb Adapter Z-Bracket	RXR-DGCAZ	No
Sensor, Carbon Dioxide (Wall Mount)	RXR-AR02	No
Smoke Detector, Return (Downflow/Vertical)	RXR-BSG1	Yes
Smoke Detector, Return (Horizontal)	RXR-BSG2	No
Smoke Detector, Return/Supply (Downflow/Vertical)	RXR-BSG3	Yes
Smoke Detector, Return/Supply (Horizontal)	RXR-BSG4	No
Unfused Service Disconnect ¹	RXR-BPG1	No



Cabinet and Foundation

Outwardly, the large *Friedrich*® Renaissance label (1) identifies the brand to the customer. The sheet-metal cabinet (2) uses 18-gauge material for structural components with an underlying coat of G90. To ensure the leak-proof integrity of these units, the design utilizes a top with a 1/8" drip lip (3) as well as gasket-protected panels and screws. The Friedrich outdoor coil louver kit (optional) (4) sets the standard for coil protection in the industry. Electro deposition, baked-on enamel that is tested to withstand a rigorous 1000-hour salt spray test, per ASTM B117.

Anything built to last must start with the right foundation. Following that model, the foundation is comprised of 14-gauge, commercial-grade, full perimeter base rails (5) that integrate fork slots and rigging holes to save set-up time on the job site.

Easy Installation

The Renaissance line features a new footprint that simplifies the replacement process by eliminating the need for a new curb adapter and being able to match inlet, outlet and electrical connections of the most common/industry-standard configurations.

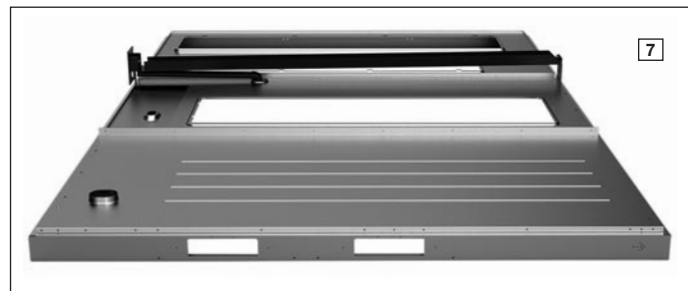
Base Pan

The base pan is stamped to form a 7/8" flange around the supply and return cover, which eliminates the worry of water entering the conditioned space (6). All insulation is secured with both adhesive and mechanical fasteners, and all edges are hidden.



Drain Pan

The Qwik-Clean Drain Pan (7) is made from a composite material that resists the growth of harmful bacteria. With both side and center drain options, the drain pan slides out completely for easy cleaning. It also features overflow detection as a standard feature.



Test Standards

During development, each unit was tested to U.L. 60335-2-40, AHRI 340-360 as well as other Friedrich-required reliability tests. Friedrich adheres to stringent ISO 9001 quality procedures, and each unit bears the U.L. and AHRI certification labels located on the unit nameplate. Contractors can be assured that when a Friedrich packaged unit arrives at the job, it is ready to go with a factory charge and quality checks.

Easy Access

All major compartments are easily accessible from the front of the unit: the electrical compartment, blower compartment, heating section, and outdoor section. Each compartment has mechanical fasteners. The filter compartment is accessed through a large, mechanically fastened panel. Information is readily available on the outside of the panel, with a nameplate that contains the model and serial numbers, electrical data, and other important unit information. Hinged access is available as an option for the electrical, blower, compressor, and filter compartments.

Charging Charts, Wiring Diagrams, & Labels

The unit charging chart and rating plate are located on the top right corner of the economizer side of the unit.

Electrical wiring diagrams are found on the control box cover, which allows contractors to move them to more readable locations. Having this information means easier model identification for the life of the product. Each unit also includes a production line quality test assurance label.



Filter Rack

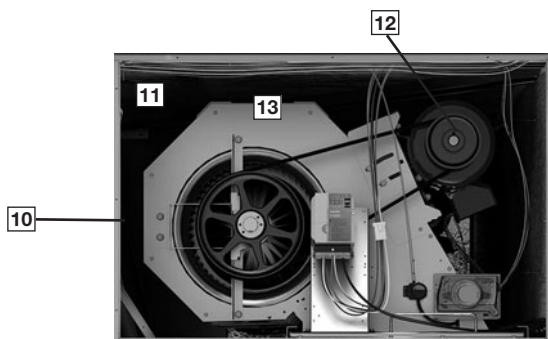
Located within the filter compartment, the Slide-Out Filter Rack™ ([9]) allows easy change of eight 20 x 24 x 2 standard size filters.



Blower Assembly

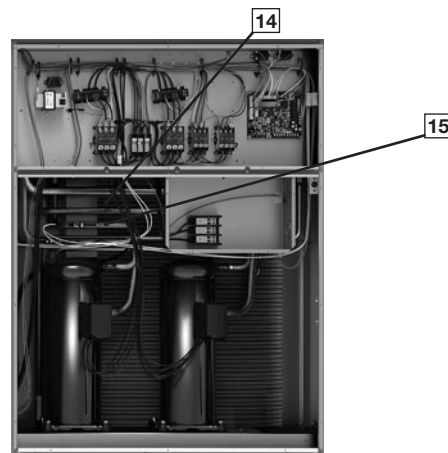
Removal of the blower access panel provides full access to the blower compartment. Inside, the Qwik-Slide Blower Assembly ([10]) allows for easy removal of the blower as an assembly. This makes servicing the blower components such as VFD, motor, and adjusting the pulley much easier. The entire assembly slides out by removing four 5/16" screws from the blower retention bracket. This compartment also includes the low ambient control. ([11]) The low ambient control allows the compressor to operate down to 0 degrees ambient temperature by cycling the outdoor fans on high pressure. The adjustable motor pulley ([12]) can easily be adjusted by loosening the bolts on either side of the motor mount. Removing the bolts allows for easy removal of the blower pulley by pushing the blower assembly up to loosen the belt. Once the pulley is removed, the motor sheave can be adjusted to the desired number of turns, ranging from 1 to 6 turns open.

Where the demands for the job require high static, Friedrich® offers drives that deliver nominal airflow up to 2" of static. By referring to the airflow performance tables listed in the installation instructions, proper static pressure and CFM requirements can be dialed in. The scroll housing ([13]) and blower scroll provide quiet and efficient airflow. The blower sheave is secured by an "H" bushing that firmly secures the pulley to the blower shaft, resulting in years of trouble-free operation. The "H" bushing allows for easy removal of the blower pulley from the shaft. This is an improvement from a set screw, which can score the shaft and create burrs that make blower-pulley removal difficult.



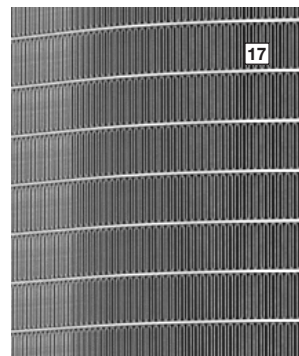
High and Low Pressure Switches & Freeze Stat

High pressure ([13]) and low pressure ([14]) switches are standard. They are located in the outdoor section ([15]). The optional Freeze Stat ([16]), is clipped onto the suction line in the blower compartment. The high-pressure switch shuts off the compressors if pressures exceeding 650 PSIG are detected. The low-pressure switch shuts off the compressors if a low pressure of 50 PSIG is detected due to loss of charge. Built-in Smart Logic reduces nuisance calls by only shutting off compressors after the third detection. The freeze stat protects the compressor if the evaporator coil gets too cold (below freezing) due to low airflow.



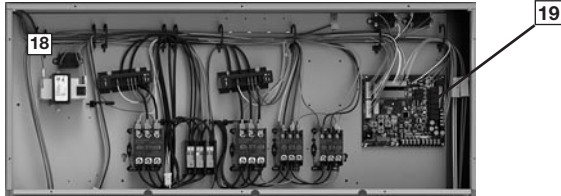
MicroChannel Evaporator & TXV

The patent-pending dual circuit evaporator coil uses MicroChannel technology for maximum heat transfer, light weight, fewer manually brazed connections and reduced refrigerant charge ([17]). The TXV metering devices maintain superheat over a wide range of varying temperatures optimizing unit performance for all conditions.



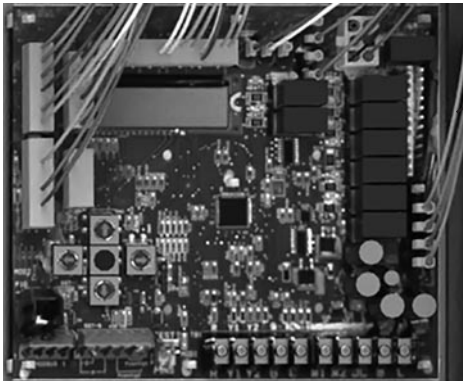
Control Box

Inside the control box ([18]), each electrical component is clearly labeled; that label matches the component to the wire diagram for ease of trouble shooting. Some wiring is numbered on each end of the termination and is color-coded to match the wiring diagram. The control transformer has a low voltage circuit breaker that trips if an electrical short occurs. There is a compressor contactor for each compressor.



ClearControl

The optional ClearControl™ system ([19]) consisting of a rooftop unit controller, temperature sensors, and pressure sensors, allows real-time monitoring and communication between rooftop units. The Rooftop Unit Controller (RTU-C) that is factory mounted and wired into the control panel. The RTU-C is a solid-state, micro-processor-based control board that provides flexible control and extensive diagnostics for all unit functions. The RTU-C, using proportional/integral control algorithms, performs specific unit functions that govern unit operation in response to zone conditions, system temperatures, system pressures, ambient conditions, and electrical inputs. The RTU-C features a 16 x 2 character LCD display and a five-button keypad for local configuration and direct diagnosis of the system ([20]). Features include a clogged filter switch (CFS), fan proving switch (FPS), return air temperature sensor (RAT), discharge air temperature sensor (DAT), and outdoor air temperature sensor (OAT). Freeze sensors (FS) are used in place of freeze stats to allow measurement of refrigerant suction line temperatures.

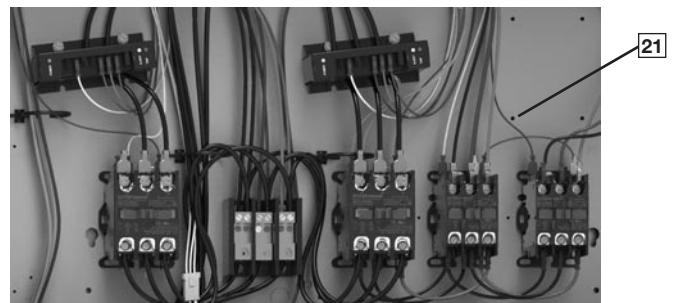


The unit with the RTU-C is specifically designed to be applied in four distinct applications:

- 1. BACnet Communication** — The unit is compatible with a third party building management system that supports the BACnet Application Specific Controller device profile, with the use of a field installed BACnet Communication Module. The BACnet Communication Module plugs onto the unit RTU-C controller and allows communication between the RTU-C and the BACnet MSTP network. A zone sensor, a BACnet network zone sensor, a BACnet thermostat, or DDC controller may be used to send the zone temperature or thermostat demands to the RTU-C. The BACnet Communication Module is compatible with MSTP EIA-485 daisy chain networks communicating at 38.4 bps. It is compatible with twisted pair, shielded cables.
- 2. LonWorks Communication** — The unit is compatible with a third party building management system that supports the LonMark Space Comfort Controller (SCC) functional profile or LonMark Discharge Air Controller (DAC) functional profile. This is accomplished with a field installed LonMark communication module. The LonMark Communication Module plugs onto the RTU-C controller and allows communication between the RTU-C and a LonWorks network. A zone sensor, a LonTalk network zone sensor, or a LonTalk thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the RTU-C. The LonMark Communication Module utilizes an FTT-10A free topology transceiver communicating at 78.8 kbps. It is compatible with Echelon qualified, twisted pair cable, Belden 8471, or NEMA Level 4 cables. The module can communicate up to 1640 feet with no repeater. The LonWorks limit of 64 nodes per segment applies to this device.
- 3. 24V Thermostat Compatibility** — The unit is compatible with a programmable 24 volt thermostat. Connections are made via conventional thermostat screw terminals. Extensive unit status and diagnostics are displayed on the LCD screen of the RTU-C.
- 4. Zone Sensor Compatibility** — The unit is compatible with a zone sensor and a mechanical or solid state time clock connected to the RTU-C. Extensive unit status and diagnostics are displayed on the LCD screen of the RTU-C.

Comfort Alert

A factory or field installed Comfort Alert® ([21]) module is available for power phase-monitoring protection and additional compressor diagnostics. The alarms can be displayed on the RTU-C display or through the (BAS) network.



Variable Frequency Drive

The supply fan Variable Frequency Drive (VFD) (22) comes standard and optimizes energy usage year round by providing a lower speed for first stage cooling operation, improving IEER's over the conventional constant fan system. Operating in the constant fan mode at the reduced speed can use as little as 1/5 of the energy of a conventional constant fan system. Also, by operating at a lower speed on first stage cooling, up to 126% more moisture is removed, improving comfort during low load operation. VFD comes standard in every model. The VFD supply fan factory option meets California Title 24 and ASHRAE 90.1-2022 requirements for multi blower speed control. VFD also ramps up to the desired speed, reducing stress on the supply fan components and noise from a sudden inrush of air. Because the airflow is cut in half during first stage cooling and constant fan operation, noise is much less during these modes of operation.



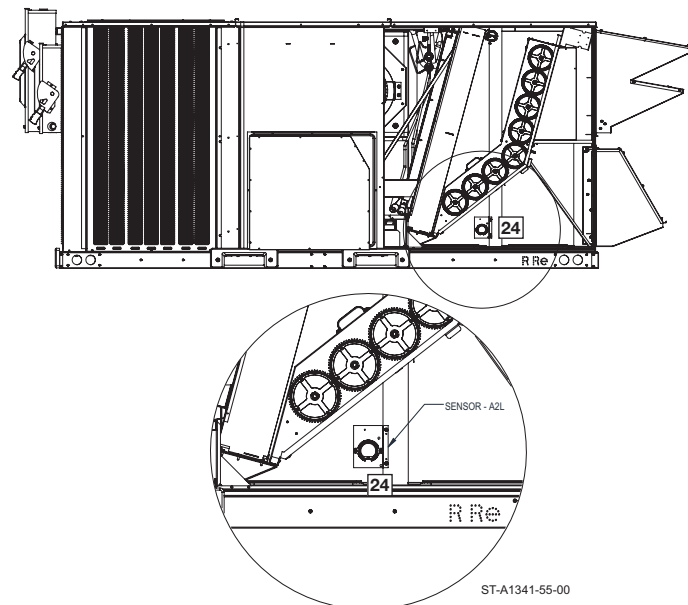
Convenience Outlet, Disconnect, & Circuit Breaker

For added convenience in the field, factory-installed options of non-powered convenience outlet (23) and circuit breakers are available. Low and high voltage can enter from the side or through the base.



Refrigerant Leak Detection

In the event of a detected refrigerant leak, the refrigerant leak detection sensors (24) will trigger the mitigation procedure that shuts off the compressor(s) and turns on the indoor blower motor.



NOTE: The second leak detection system is located on the opposite side of the unit. Viewed from the outside, the location is a mirror of the drawing above.

If a vertical field-installed economizer will also be installed during the unit installation, the refrigerant detection system's wire harnesses must be unplugged from both sensors. Once the economizer is installed, route the wire harnesses through the plastic grommets (installed in the economizer panels) and reconnect both sensors.

Easily Accessible Gauge Ports

To the right of the compressor compartment are the easily accessible gauge ports. They are identified by labeling that identifies the compressor circuit, high pressure connection, (25) and low pressure connection (26). Because the gauge ports are mounted externally, an accurate diagnostic of system operation can be performed without removing access panels. Brass caps on the Schrader fitting ensure the gauge parts are leak proof.



Electric Heater Kits

The electric heater kits are located in the heater compartment. The two-stage resistive heater kits are available for factory or field installation. With choices that range from 18 to 72 kW, the contractor is assured to get the correct amount of heating output to meet the design heating load. Engineered with ease of installation in mind, the heater kit is completely wired up for slide-in plug-n-play installation in the field.

Power hook-up in the field is easy with single-point wiring to a terminal block and a polarized plug for the low-voltage connection, and is UL certified. The electrical heating elements are of a wound-wire construction and isolated with ceramic bushings. The limit switch protects the design from over-temperature conditions.

Compressor

The compressor compartment houses the heartbeat of the unit. The scroll compressor (27) is known for its long life and for reliable, quiet, and efficient operation. Each compressor has 4 rubber grommets on the bottom for sound and vibration dampening. (28). Units have two stages of efficient cooling operation in which the first stage is approximately 50% of second stage. Each unit comes standard with a filter dryer.



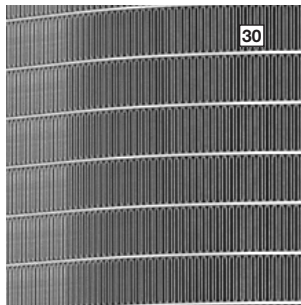
Condenser Fans

The condenser fan motors (29) can easily be accessed and maintained through the top of the unit. The 15 ton unit has down-mount fans which provide corrosion protection and easy removal. The 17.5, 20, and 25 ton models are designed with up-mounted fans.



MicroChannel Condenser Technology

The outdoor coil uses the latest MicroChannel technology (30) for the most effective method of heat transfer. The outdoor coil is protected by optional louvered panels, which allow unobstructed airflow while protecting the unit from both the environment and vandalism.



Coil Coating

Every unit offers the option of factory-applied ElectroFin® E-Coat condenser coating (31) that delivers superior corrosion resistance for outdoor coils to operate in the harshest of environments.



Economizer and Dampers

Each unit is designed for both down flow or horizontal applications for job configuration flexibility. The return air compartment can also contain an economizer. (32) Each unit is pre-wired for the economizer to allow quick, plug-in installation. Available as a factory-installed option, the economizer provides free cooling when outdoor conditions are suitable and also provides fresh air to meet local requirements. It comes standard with single enthalpy controls, which can be upgraded to dual enthalpy easily in the field. The economizer control has a minimum position set point, an outdoor-air set point, a mixed-air set point, and a CO₂ set point. Barometric relief is standard on all economizers.



Power Exhaust is easily field-installed. The power exhaust is housed in the barometric relief opening and is easily slipped in with a plugin assembly. The wire harness to the economizer also has accommodations for a smoke detector.

The damper minimum position, actual damper position, power exhaust on/off set point, mixed air temperature limit set point, and Demand Controlled Ventilation (DCV) set point can be read and adjusted at the unit controller display or remotely through a network connection. The Space CO₂ level, mixed air temperature, and Economizer Status (free cooling available, single or dual enthalpy) can be read at the unit controller display or remotely through a network connection. Economizer faults will trigger a network alarm and can be read at the unit controller display or remotely through a network connection.

Roofcurb

The Friedrich® roofcurb is made for tool-less assembly at the jobsite by engaging tabs in slots of adjacent curb sides, which makes the assembly process quick and easy.

<u>R</u>	<u>AC</u>	<u>G</u>	<u>Y</u>	<u>B</u>	<u>180</u>	<u>A</u>	<u>C</u>	<u>F</u>	<u>00</u>	<u>0</u>	<u>B</u>	<u>A</u>	<u>****</u>			
<u>1</u>	<u>23</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u> <u>8</u> <u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u> <u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>

1—Brand

R = Friedrich®

2, 3—Unit Type

AC = Packaged AC

4—Cabinet Type

G = Large Commercial

5—Refrigerant

Y = R-454B

6—Efficiency Level

B = Standard Efficiency

7, 8, 9—Capacity

180 = 15 Ton

210 = 17.5 Ton

240 = 20 Ton

300 = 25 Ton

10—Major Series

A = 1st Design

11—Voltage

C = 3 PH, 208-230 V, 60 Hz

D = 3 PH, 460 V, 60 Hz

Y = 3 PH, 575 V, 60 Hz

12—Drive

F = Belt Drive-VFD Low

G = Belt Drive-VFD Medium

H = Belt Drive-VFD High

13, 14—Heat Capacity

00 = No Heat

18 = 18 kW

36 = 36 kW

54 = 54 kW

72 = 72 kW

15—Heat Configuration

0 = No heat

1 = Single-Stage

2 = 2-Stage

16—Control

B = CoreCommand & Phase Monitor

C = ClearControl & Phase Monitor

D = ClearControl & Comfort Alert

17 —Minor Series

A = 1st design

18, 19, 20, 21—Option Code

AA0A

FACTORY INSTALLED OPTION CODES FOR RACG (15 TO 25 TON)

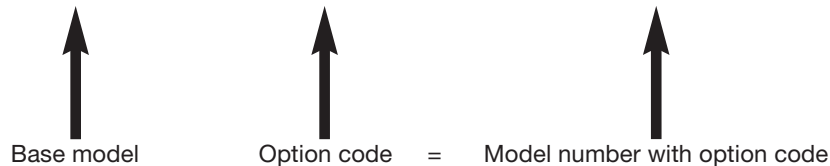
18				19			20			21	
LV = Louver protection				NP = Non-Powered Convenience Outlet			EC = Economizer			M8 = MERV 8 Filter	
HA = Hinged Access				LF = Low Ambient & Freeze Stat			SS = Supply and Return Smoke			M13 = MERV 13 Filter	
CC = Condenser Coil Coating							RS = Return Smoke				
OPTION CODE CHARACTER HIGHLIGHTED											
OPT				OPT			OPT			OPT	
A	None			A	None		0	None		A	Standard
B	LV			B	LF		1	EC		D	M8
C	HA			C	NP		2	RS		G	M13
D	LV	HA		D	LF	NP	3	EC	RS		
E	LV	CC					4	SS			
F	LV	HA	CC				5	EC	SS		

Instructions for Factory Installed Option(s) Selection

Note: Four characters following the model number will be utilized to designate a factory-installed option or combination of options. If no factory option(s) is required, "AA0A" follows the model number.

- **Step 1:** In the table above, based on the desired features, choose option code character from highlighted options on the left side under the number 18. For example, the option code character "E" has Louver protection and Coil Coating.
- **Step 2:** In the table above, based on the desired features, choose option code character from highlighted options on the left side under the number 19. For example, the option code character "D" has Low Ambient / Freeze Stat and Non-powered convenience outlet.
- **Step 3:** In the table above, based on the desired features, choose option code character from highlighted options on the left side under the number 20. For example, the option code character "3" has Economizer and Return Smoke.
- **Step 4:** In the table above, based on the desired features, choose option code from highlighted options on the left side under the number 21. For example, the option code character "D" has MERV 8 filters.
- The resulting option code from examples above is: "ED3D"
- **Step 5:** Add your option code selection to the end of model number.

◦ Example: RACGYB180ACF000BA ED3D = RACGYB180ACF000BAED3D



To select an RACG Cooling and Heating unit to meet a job requirement, follow this procedure, with example, using data supplied in this specification sheet.

1. DETERMINE COOLING AND HEATING REQUIREMENTS AND SPECIFIC OPERATING CONDITIONS FROM PLANS AND SPECS.

Example:

Voltage—	208/230V - 3 Phase - 60Hz
Total Cooling Capacity—	118,000 Btu/h [34.57 kW]
Sensible Cooling Capacity—	175,000 Btu/h [51.3 kW]
Heating Capacity—	175,000 Btu/h [51.2 kW]
*Condenser Entering Air—	95°F [35.0°C] DB
*Evaporator Mixed Air Entering—	65°F [18.3°C] WB 78°F [25.6°C] DB
*Indoor Air Flow (vertical)—	6400 CFM [3020 L/s]
*External Static Pressure—	0.60 in. WG [.15 kPa]

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

Since total cooling is within the range of a nominal 15 ton [35.1 kW] unit, enter cooling performance table at 95°F [35.0°C] DB condenser inlet air. Interpolate between 63°F [17.2°C] WB and 67°F [19.4°C] to determine total and sensible capacity and power input for 65°F [18.3°C] WB evaporator inlet air at 3750 CFM [1770 L/s] indoor air flow (table basis):

Total Cooling Capacity = 175,970 Btu/h [51.6 kW]
Sensible Cooling Capacity = 131,270 Btu/h [38.5 kW]
Power Input (Compressor and Cond. Fans) = 14,850 watts

Use formula $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$ in note to determine sensible capacity at 80°F [26.7°C] DB evaporator entering air:

$99,950 + (1.10 \times 3,600 \times (1 - 0.03) \times (78 - 80))$
Sensible Cooling Capacity = 118,386 Btu/h [34.7 kW]

3. CORRECT CAPACITIES OF STEP 2 FOR ACTUAL AIR FLOW.

Select factors from airflow correction table at 3600 CFM [1699 L/s] and apply to data obtained in step 2 to obtain gross capacity:

Total Capacity = $175,970 \times 1.05 = 184,768$ Btu/h [51.1 kW]
Sensible Capacity = $131,270 \times 1.05 = 137,833$ Btu/h [40.4 kW]
Power Input = $14,850 \times 1.01 = 14,995$ Watts

These are Gross Capacities, not corrected for blower motor heat or power.

4. DETERMINE BLOWER SPEED AND WATTS TO MEET SYSTEM DESIGN.

Enter Indoor Blower performance table at 6400 CFM [3020 L/s]. Total ESP (external static pressure) per the spec of 0.60 in. WG [.15 kPa] includes the system duct and grilles. Add from the table "Component Air Resistance," 0.05 in. WG [.01 kPa] for wet coil, for a total selection static pressure of 0.65 [0.7] in. WG [0.17kPa] use the Airflow Performance Downflow Table to determine:

RPM = 685
BHP = 2.21 [1,648 Watts]
DRIVE = F (3 H.P. Motor)

5. CALCULATE INDOOR BLOWER Btu/h HEAT EFFECT FROM MOTOR WATTS, STEP 4.

$$1,648 \times 3.412 = 5,623 \text{ Btu/h [1.68 kW]}$$

6. CALCULATE NET COOLING CAPACITIES, EQUAL TO GROSS CAPACITY, STEP 3, MINUS INDOOR BLOWER MOTOR HEAT.

$$\text{Net Capacity} = 184,768 \text{ (step 3)} - 5,623 \text{ (step 5)} = 179,145 \text{ Btu/h [52.5 kW]}$$

$$\text{Net Sensible Capacity} = 137,833 \text{ (step 3)} - 5,623 \text{ (step 5)} = 132,210 \text{ Btu/h [38.7 kW]}$$

7. CALCULATE UNIT INPUT AND JOB EER.

$$\text{Total Power Input} = 14,995 \text{ (step 3)} + 1,648 \text{ (step 4)} = 16,643 \text{ Watts}$$

$$\text{EER} = \frac{\text{Net Total Btu/h [kW] (step 6)}}{\text{Power Input, Watts (above)}} = \frac{173,866}{16,643} = 10.45$$

8. SELECT UNIT HEATING CAPACITY.

From Heater Kit Table select kW to meet heating capacity requirement; multiply kW x 3412 to convert to Btu/h.

Use 54 kW Heater Kit

Heater Kit Model: RXXJJ-G54KWC Heater Kit Capacity: 184,256 Btu/h [54.0 kW]

Add indoor blower heat effect (step 5) to Heater Kit Capacity to get total heating capacity:

$$184,256 + 5,623 = 189,879 \text{ Btu/h [55.6 kW]}$$

9. CHOOSE MODEL RACGYB180ACF542BAAA0A.

*NOTE: These operating conditions are typical of a commercial application in a 95°F/79°F [35°C/26°C] design area with indoor design of 76°F [24°C] DB and 50% RH and 10% ventilation air, with the unit roof mounted and centered on the zone it conditions by ducts.

[] Designates Metric Conversions

GENERAL DATA – RACGYB MODELS – 15 - 25 TON [52.4 - 87.9 kW]

Model RACGYB Series	180	210	240	300
Cooling Performance^A				
Gross Cooling Capacity Btu/h [kW]	180,000 [52.75]	210,000 [61.55]	240,000 [70.34]	300,000 [87.92]
EER	11.0	11.0	11.0	10.0
IEER ^B	14.2	14.2	14.2	13.2
Nominal CFM/AHRI Rated CFM [L/s]	6,000/5,475 [2,831/2,584]	7,000/7,020 [3,304/3,313]	8,000/7,400 [3,775/3,492]	10,000/8,475 [4,719/4,000]
AHRI Net Cooling Capacity Btu/h [kW]	172,000 [50.4]	196,000 [57.4]	228,000 [66.8]	284,000 [83.2]
Net Sensible Capacity Btu/h [kW]	129,000 [37.8]	147,000 [43.1]	171,000 [50.1]	213,000 [62.4]
Net Latent Capacity Btu/h [kW]	43,000 [12.6]	49,000 [14.4]	57,000 [16.7]	71,000 [20.8]
Net System Power kW	15.12	17.08	20.23	27.43
Compressor				
No./Type	2/ Scroll	2/ Scroll	2/ Scroll	2/ Scroll
No. Stages	2	2	2	2
Outdoor Sound Rating (dB)^C				
	83	92	96	98
Outdoor Coil - Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Rows/FPI [FPcm]	36.3 [3.37]	46.2 [4.29]	46.2 [4.29]	46.2 [4.29]
	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Indoor Coil - Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1 [25.4]	1 [25.4]	1.25 [31.8]
Rows/FPI [FPcm]	23.8 [2.21]	23.8 [2.21]	23.8 [2.21]	23.8 [2.21]
Refrigerant Control	1 / 18 [7]	1 / 18 [7]	1 / 18 [7]	1 / 18 [7]
Drain Connection No./Size in. [mm]	TX Valves	TX Valves	TX Valves	TX Valves
	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan - Type				
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/30 [762]	2/30 [762]
CFM [L/s]	Direct/1	Direct/1	Direct/1	Direct/1
No. Motors/HP	12000 [5663]	14000 [6607]	16800 [7928]	19000 [8966]
Motor RPM	2 at 3/4 HP	2 at 1-1/2 HP	2 at 1-1/2 HP	2 at 1-1/2 HP
	1100	1140	1140	1140
Indoor Fan - Type				
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type	2/15x15 [381x381]	2/15x15 [381x381]	2/15x15 [381x381]	2/15x15 [381x381]
No. Speeds	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Motors	Single	Single	Single	Single
Motor RPM	1	1	1	1
Motor Frame Size	1725	1725	1755	1760
	56 / 184	56 / 184	184 / 213	213 / 215
Filter - Type				
Furnished	Disposable	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes	Yes
	(8)2x24x20 [51x610x508]	(8)2x24x20 [51x610x508]	(8)2x24x20 [51x610x508]	(8)2x24x20 [51x610x508]
Refrigerant Charge Oz. [g] Circuit 1/Circuit 2				
	167 [4,720]/170 [4,805]	213 [6,038]/213 [6,038]	196 [5,557]/204 [5,783]	210 [5,953]/210 [5,953]
Weights				
Net Weight lbs. [kg]	1951 [885]	2011 [912]	2045 [928]	2121 [962]
Ship Weight lbs. [kg]	2051 [930]	2111 [958]	2145 [973]	2221 [1007]

NOTE: Please look at the rating plates pasted on the side of the unit to understand the model number of your unit. See Page 15 for Notes.

[] Designates Metric Conversions

NOTES:

- 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 $\pm 20\%$ of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
- B. EER is rated at AHRI conditions and in accordance with DOE test procedures. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
- C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions

INDOOR WEIGHTED SOUND POWER LEVEL (dBA)

MODEL	TYPE	STD. RATING (dBA)	FREQUENCY (Hz)							
			63	125	250	500	1000	2000	4000	8000
RAGCYB180	Ducted Discharge	79.7	62	72	73	74	73	69	66	56
	Ducted Inlet	67.6	55	55	60	63	61	57	55	47
RAGCYB210	Ducted Discharge	75.7	61	66	68	70	69	67	64	55
	Ducted Inlet	69.0	57	60	62	64	60	58	57	48
RAGCYB240	Ducted Discharge	83.6	72	78	76	77	75	73	71	62
	Ducted Inlet	72.9	61	67	66	68	63	60	59	52
RAGCYB300	Ducted Discharge	85.7	67	76	79	80	79	77	75	67
	Ducted Inlet	78.7	67	72	72	74	68	67	66	58

OUTDOOR WEIGHTED SOUND POWER LEVEL (dBA)

MODEL	STD. RATING (dBA)	FREQUENCY (Hz)							
		63	125	250	500	1000	2000	4000	8000
RAGCYB180	83.2	63	67	74	78	79	75	72	64
RAGCYB210	92.4	74	75	83	87	88	84	79	71
RAGCYB240	96.1	78	83	87	91	91	87	82	74
RAGCYB300	98.5	81	84	89	92	93	91	87	83

COOLING PERFORMANCE DATA—RACGYB180

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①										
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]		7100 [3351]	5475 [2584]	4750 [2242]	7100 [3351]	5475 [2584]	4750 [2242]	7100 [3351]	5475 [2584]	4750 [2242]
DR ①		.05	.09	.12	.05	.09	.12	.05	.09	.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	220.1 [64.5] 130.5 [38.2] 13.2	208.9 [61.2] 114.6 [33.6] 12.9	203.8 [59.7] 107.5 [31.5] 12.7	207.5 [60.8] 155.8 [45.7] 13.1	196.8 [57.7] 136.9 [40.1] 12.8	192.1 [56.3] 128.4 [37.6] 12.6	194.8 [57.1] 181.2 [53.1] 12.9	184.8 [54.2] 159.1 [46.6] 12.6
	80 [26.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	215.1 [63.0] 128.1 [37.5] 14.0	204.1 [59.8] 112.5 [33.0] 13.6	199.2 [58.4] 105.5 [30.9] 13.4	202.4 [59.3] 153.4 [45.0] 13.8	192.1 [56.3] 134.8 [39.5] 13.5	187.4 [54.9] 126.4 [37.0] 13.3	189.8 [55.6] 178.8 [52.4] 13.7	180 [52.8] 157 [46.0] 13.3
	85 [29.4]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	210.1 [61.6] 125.7 [36.8] 14.7	199.3 [58.4] 110.4 [32.4] 14.3	194.5 [57.0] 103.6 [30.4] 14.1	197.4 [57.9] 151.0 [44.3] 14.6	187.3 [54.9] 132.6 [38.9] 14.2	182.8 [53.6] 124.4 [36.5] 14.0	184.7 [54.1] 176.3 [51.7] 14.4	175.3 [51.4] 154.9 [45.4] 14.0
	90 [32.2]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	205.0 [60.1] 123.3 [36.1] 15.4	194.6 [57.0] 108.3 [31.7] 15.0	189.9 [55.7] 101.6 [29.8] 14.9	192.4 [56.4] 148.6 [43.6] 15.3	182.5 [53.5] 130.5 [38.2] 14.9	178.1 [52.2] 122.5 [35.9] 14.7	179.7 [52.7] 173.9 [51] 15.1	170.5 [50.0] 152.8 [44.8] 14.7
	95 [35]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	200.0 [58.6] 120.9 [35.4] 16.2	189.8 [55.6] 106.2 [31.1] 15.7	185.2 [54.3] 99.6 [29.2] 15.6	187.3 [54.9] 146.2 [42.8] 16.0	177.8 [52.1] 128.4 [37.6] 15.6	173.5 [50.8] 120.5 [35.3] 15.4	174.7 [51.2] 171.5 [50.3] 15.9	165.7 [48.6] 150.7 [44.2] 15.5
	100 [37.8]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	195.0 [57.2] 118.4 [34.7] 16.9	185.0 [54.2] 104.0 [30.5] 16.5	180.6 [52.9] 97.6 [28.6] 16.3	182.3 [53.4] 143.8 [42.1] 16.8	173.0 [50.7] 126.3 [37.0] 16.3	168.8 [49.5] 118.5 [34.7] 16.2	169.6 [49.7] 169.1 [49.6] 16.6	161.0 [47.2] 148.5 [43.5] 16.2
	105 [40.6]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	190.0 [55.7] 116.0 [34.0] 17.6	180.2 [52.8] 101.9 [29.9] 17.2	175.9 [51.6] 95.6 [28.0] 17.0	177.3 [52.0] 141.4 [41.4] 17.5	168.2 [49.3] 124.2 [36.4] 17.1	164.2 [48.1] 116.5 [34.1] 16.9	164.6 [48.2] 164.6 [48.2] 17.3	156.2 [45.8] 146.4 [42.9] 16.9
	110 [43.3]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	184.9 [54.2] 113.6 [33.3] 18.4	175.5 [51.4] 99.8 [29.2] 17.9	171.2 [50.2] 93.6 [27.4] 17.7	172.3 [50.5] 139.0 [40.7] 18.2	163.4 [47.9] 122.1 [35.8] 17.8	159.5 [46.7] 114.5 [33.6] 17.6	159.6 [46.8] 159.6 [46.8] 18.1	151.4 [44.4] 144.3 [42.3] 17.6
	115 [46.1]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	179.9 [52.7] 111.2 [32.6] 19.1	170.7 [50.0] 97.7 [28.6] 18.6	166.6 [48.8] 91.6 [26.8] 18.4	167.2 [49.0] 136.5 [40.0] 19.0	158.7 [46.5] 119.9 [35.1] 18.5	154.9 [45.4] 112.5 [33.0] 18.3	154.6 [45.3] 154.6 [45.3] 18.8	146.7 [43.0] 142.2 [41.7] 18.3
	120 [48.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	174.9 [51.3] 108.8 [31.9] 19.8	165.9 [48.6] 95.6 [28.0] 19.3	161.9 [47.5] 89.7 [26.3] 19.1	162.2 [47.5] 134.1 [39.3] 19.7	153.9 [45.1] 117.8 [34.5] 19.2	150.2 [44.0] 110.5 [32.4] 19.0	149.5 [43.8] 149.5 [43.8] 19.5	141.9 [41.6] 140.1 [41.1] 19.0
	125 [51.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	169.9 [49.8] 106.4 [31.2] 20.6	161.2 [47.2] 93.4 [27.4] 20.0	157.3 [46.1] 87.7 [25.7] 19.8	157.2 [46.1] 131.7 [38.6] 20.4	149.1 [43.7] 115.7 [33.9] 19.9	145.6 [42.7] 108.6 [31.8] 19.7	144.5 [42.4] 144.5 [42.4] 20.3	137.1 [40.2] 137.1 [40.2] 19.8

DR —Depression ratio
 dbE —Entering air dry bulb
 wbE—Entering air wet bulb

Total —Total capacity x 1000 Btu/h
 Sens —Sensible capacity x 1000 Btu/h
 Power —kW input

NOTES: ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACGYB210

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			8100 [3823]	7000 [3304]	5400 [2549]	8100 [3823]	7000 [3304]	5400 [2549]	8100 [3823]	7000 [3304]	5400 [2549]
DR ①			.05	.09	.12	.05	.09	.12	.05	.09	.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	243.6 [71.4] 138.3 [40.5] 15.1	236.9 [69.4] 128.9 [37.8] 14.9	227.0 [66.5] 115.1 [33.7] 14.6	228.0 [66.8] 165.2 [48.4] 15.1	221.6 [64.9] 154.0 [45.1] 14.9	212.4 [62.3] 137.5 [40.3] 14.6	213.7 [62.6] 190.9 [55.9] 14.9	207.8 [60.9] 177.8 [52.1] 14.7	199.1 [58.4] 158.9 [46.6] 14.4
	80 [26.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	239.3 [70.1] 137.0 [40.2] 15.9	232.7 [68.2] 127.7 [37.4] 15.7	223.0 [65.4] 114.0 [33.4] 15.4	223.6 [65.5] 163.9 [48.0] 15.9	217.4 [63.7] 152.7 [44.8] 15.7	208.4 [61.1] 136.4 [40.0] 15.3	209.4 [61.4] 189.6 [55.6] 15.7	203.6 [59.7] 176.6 [51.8] 15.5	195.1 [57.2] 157.8 [46.2] 15.2
	85 [29.4]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	234.5 [68.7] 135.3 [39.7] 16.7	228.0 [66.8] 126.1 [37.0] 16.5	218.5 [64.0] 112.6 [33.0] 16.2	218.8 [64.1] 162.2 [47.5] 16.7	212.8 [62.4] 151.1 [44.3] 16.4	203.9 [59.8] 135.0 [39.6] 16.1	204.6 [60.0] 187.8 [55.0] 16.5	198.9 [58.3] 175.0 [51.3] 16.3	190.6 [55.9] 156.3 [45.8] 15.9
	90 [32.2]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	229.3 [67.2] 133.2 [39.0] 17.5	222.9 [65.3] 124.1 [36.4] 17.3	213.7 [62.6] 110.9 [32.5] 16.9	213.6 [62.6] 160.1 [46.9] 17.5	207.7 [60.9] 149.2 [43.7] 17.2	199.1 [58.4] 133.3 [39.1] 16.9	199.4 [58.4] 185.7 [54.4] 17.3	193.8 [56.8] 173.0 [50.7] 17.1	185.8 [54.5] 154.6 [45.3] 16.7
	95 [35]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	223.6 [65.5] 130.7 [38.3] 18.3	217.4 [63.7] 121.8 [35.7] 18.1	208.4 [61.1] 108.8 [31.9] 17.7	208.0 [61.0] 157.6 [46.2] 18.3	202.2 [59.3] 146.8 [43] 18.0	193.8 [56.8] 131.2 [38.5] 17.7	193.7 [56.8] 183.2 [53.7] 18.1	188.3 [55.2] 170.7 [50.0] 17.9	180.5 [52.9] 152.5 [44.7] 17.5
	100 [37.8]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	217.5 [63.7] 127.8 [37.5] 19.1	211.5 [62.0] 119.0 [34.9] 18.9	202.7 [59.4] 106.3 [31.2] 18.5	201.9 [59.2] 154.7 [45.3] 19.1	196.3 [57.5] 144.1 [42.2] 18.8	188.1 [55.1] 128.7 [37.7] 18.4	187.6 [55.0] 180.3 [52.8] 18.9	182.4 [53.5] 168.0 [49.2] 18.6	174.8 [51.2] 150.1 [44.0] 18.3
	105 [40.6]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	211.0 [61.8] 124.5 [36.5] 19.9	205.1 [60.1] 116.0 [34.0] 19.7	196.6 [57.6] 103.6 [30.4] 19.3	195.3 [57.2] 151.4 [44.4] 19.9	189.9 [55.7] 141.0 [41.3] 19.6	182.0 [53.3] 126.0 [36.9] 19.2	181.1 [53.1] 177.0 [51.9] 19.7	176.0 [51.6] 164.9 [48.3] 19.4	168.7 [49.4] 147.3 [43.2] 19
	110 [43.3]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	204.0 [59.8] 120.7 [35.4] 20.7	198.3 [58.1] 112.5 [33.0] 20.4	190.1 [55.7] 100.5 [29.5] 20.0	188.3 [55.2] 147.6 [43.3] 20.7	183.1 [53.7] 137.6 [40.3] 20.4	175.5 [51.4] 122.9 [36.0] 20.0	174.1 [51.0] 173.3 [50.8] 20.5	169.2 [49.6] 161.4 [47.3] 20.2	162.2 [47.5] 144.2 [42.3] 19.8
	115 [46.1]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	196.6 [57.6] 116.6 [34.2] 21.5	191.1 [56.0] 108.7 [31.9] 21.2	183.2 [53.7] 97.1 [28.5] 20.8	180.9 [53.0] 143.5 [42.1] 21.5	175.9 [51.6] 133.7 [39.2] 21.2	168.6 [49.4] 119.5 [35.0] 20.7	166.6 [48.8] 166.6 [48.8] 21.3	162.0 [47.5] 157.6 [46.2] 21.0	155.3 [45.5] 140.8 [41.3] 20.6
	120 [48.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	188.7 [55.3] 112.1 [32.9] 22.3	183.5 [53.8] 104.4 [30.6] 22.0	175.8 [51.5] 93.3 [27.3] 21.6	173.0 [50.7] 139.0 [40.7] 22.3	168.2 [49.3] 129.5 [38.0] 21.9	161.2 [47.2] 115.7 [33.9] 21.5	158.8 [46.5] 158.8 [46.5] 22.1	154.4 [45.3] 153.4 [45.0] 21.8	147.9 [43.3] 137.0 [40.2] 21.3
	125 [51.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	180.4 [52.9] 107.2 [31.4] 23.1	175.4 [51.4] 99.9 [29.3] 22.8	168.1 [49.3] 89.2 [26.1] 22.3	164.7 [48.3] 134.1 [39.3] 23.1	160.1 [46.9] 124.9 [36.6] 22.7	153.5 [45.0] 111.6 [32.7] 22.3	150.4 [44.1] 150.4 [44.1] 22.9	146.3 [42.9] 146.3 [42.9] 22.6	140.2 [41.1] 132.9 [39.0] 22.1

DR —Depression ratio

dbE —Entering air dry bulb

wbE—Entering air wet bulb

Total —Total capacity x 1000 Btu/h

Sens —Sensible capacity x 1000 Btu/h

Power —kW input

NOTES: ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$.

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACGYB240

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			9700 [4578]	7400 [3492]	6475 [3056]	9700 [4578]	7400 [3492]	6475 [3056]	9700 [4578]	7400 [3492]	6475 [3056]
DR ①			.05	.09	.12	.05	.09	.12	.05	.09	.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	313.9 [92.0] 174.5 [51.1] 18.1	297.1 [87.1] 152.4 [44.7] 17.7	290.4 [85.1] 143.5 [42.1] 17.5	282.7 [82.9] 201.2 [59.0] 18.1	267.6 [78.4] 175.7 [51.5] 17.6	261.5 [76.6] 165.5 [48.5] 17.4	264.5 [77.5] 229.4 [67.2] 17.9	250.3 [73.4] 200.3 [58.7] 17.4	244.6 [71.7] 188.7 [55.3] 17.3
	80 [26.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	307.6 [90.2] 171.7 [50.3] 19.1	291.2 [85.3] 149.9 [43.9] 18.6	284.6 [83.4] 141.2 [41.4] 18.4	276.5 [81.0] 198.3 [58.1] 19.0	261.7 [76.7] 173.2 [50.8] 18.5	255.7 [74.9] 163.1 [47.8] 18.3	258.2 [75.7] 226.6 [66.4] 18.9	244.4 [71.6] 197.9 [58.0] 18.4	238.8 [70.0] 186.3 [54.6] 18.2
	85 [29.4]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	301.1 [88.2] 168.5 [49.4] 20.1	285.0 [83.5] 147.1 [43.1] 19.6	278.5 [81.6] 138.6 [40.6] 19.3	269.9 [79.1] 195.2 [57.2] 20.0	255.5 [74.9] 170.4 [49.9] 19.5	249.7 [73.2] 160.5 [47.0] 19.3	251.6 [73.7] 223.4 [65.5] 19.9	238.2 [69.8] 195.1 [57.2] 19.4	232.8 [68.2] 183.7 [53.8] 19.1
	90 [32.2]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	294.3 [86.3] 165.0 [48.4] 21.1	278.5 [81.6] 144.1 [42.2] 20.5	272.2 [79.8] 135.7 [39.8] 20.3	263.1 [77.1] 191.6 [56.2] 21.0	249.1 [73.0] 167.4 [49.1] 20.4	243.4 [71.3] 157.6 [46.2] 20.2	244.8 [71.7] 219.9 [64.4] 20.9	231.7 [67.9] 192.0 [56.3] 20.3	226.5 [66.4] 180.8 [53.0] 20.1
	95 [35]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	287.2 [84.2] 161.1 [47.2] 22.1	271.9 [79.7] 140.7 [41.2] 21.5	265.7 [77.9] 132.5 [38.8] 21.2	256.1 [75.1] 187.8 [55.0] 22.0	242.4 [71.0] 164.0 [48.1] 21.4	236.9 [69.4] 154.4 [45.3] 21.2	237.8 [69.7] 216.0 [63.3] 21.8	225.0 [65.9] 188.6 [55.3] 21.3	219.9 [64.4] 177.6 [52.1] 21.0
	100 [37.8]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	279.9 [82.0] 156.9 [46.0] 23.0	264.9 [77.6] 137.0 [40.2] 22.4	258.9 [75.9] 129.0 [37.8] 22.2	248.7 [72.9] 183.6 [53.8] 23.0	235.4 [69.0] 160.3 [47.0] 22.3	230.1 [67.4] 151.0 [44.3] 22.1	230.4 [67.5] 211.8 [62.1] 22.8	218.1 [63.9] 185.0 [54.2] 22.2	213.1 [62.5] 174.2 [51.1] 22
	105 [40.6]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	272.3 [79.8] 152.4 [44.7] 24.0	257.7 [75.5] 133.1 [39.0] 23.4	251.9 [73.8] 125.3 [36.7] 23.1	241.1 [70.7] 179.1 [52.5] 23.9	228.2 [66.9] 156.4 [45.8] 23.3	223.0 [65.4] 147.3 [43.2] 23.0	222.8 [65.3] 207.3 [60.8] 23.8	210.9 [61.8] 181.0 [53.0] 23.2	206.1 [60.4] 170.5 [50.0] 22.9
	110 [43.3]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	264.4 [77.5] 147.5 [43.2] 25.0	250.3 [73.4] 128.9 [37.8] 24.3	244.6 [71.7] 121.3 [35.6] 24.1	233.2 [68.3] 174.2 [51.1] 24.9	220.8 [64.7] 152.2 [44.6] 24.3	215.8 [63.2] 143.3 [42.0] 24.0	215.0 [63.0] 202.4 [59.3] 24.8	203.5 [59.6] 176.8 [51.8] 24.1	198.8 [58.3] 166.5 [48.8] 23.9
	115 [46.1]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	256.3 [75.1] 142.4 [41.7] 26.0	242.6 [71.1] 124.3 [36.4] 25.3	237.1 [69.5] 117.1 [34.3] 25	225.1 [66.0] 169.0 [49.5] 25.9	213.1 [62.5] 147.6 [43.3] 25.2	208.2 [61.0] 139.0 [40.7] 24.9	206.8 [60.6] 197.2 [57.8] 25.8	195.8 [57.4] 172.3 [50.5] 25.1	191.3 [56.1] 162.2 [47.5] 24.8
	120 [48.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	247.9 [72.7] 136.8 [40.1] 27.0	234.6 [68.8] 119.5 [35.0] 26.2	229.3 [67.2] 112.5 [33.0] 26	216.7 [63.5] 163.5 [47.9] 26.9	205.1 [60.1] 142.8 [41.9] 26.2	200.5 [58.8] 134.5 [39.4] 25.9	198.4 [58.1] 191.7 [56.2] 26.8	187.8 [55.0] 167.4 [49.1] 26.0	183.6 [53.8] 157.7 [46.2] 25.8
	125 [51.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	239.2 [70.1] 131.0 [38.4] 27.9	226.4 [66.4] 114.4 [33.5] 27.2	221.3 [64.9] 107.7 [31.6] 26.9	208.1 [61.0] 157.6 [46.2] 27.9	196.9 [57.7] 137.7 [40.4] 27.1	192.5 [56.4] 129.6 [38.0] 26.8	189.8 [55.6] 185.9 [54.5] 27.7	179.6 [52.6] 162.3 [47.6] 27.0	175.5 [51.4] 152.8 [44.8] 26.7

DR —Depression ratio
dbE —Entering air dry bulb
wbE —Entering air wet bulb

Total —Total capacity x 1000 Btu/h
Sens —Sensible capacity x 1000 Btu/h
Power —kW input

NOTES: ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACGYB300

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①										
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]		11550 [5451]	8475 [4000]	7700 [3634]	11550 [5451]	8475 [4000]	7700 [3634]	11550 [5451]	8475 [4000]	7700 [3634]
DR ①		.05	.09	.12	.05	.09	.12	.05	.09	.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	352.5 [103.3] 203.8 [59.7] 24.5	330.7 [96.9] 174.3 [51.1] 23.8	325.2 [95.3] 166.8 [48.9] 23.6	331.2 [97.1] 239.6 [70.2] 24.5	310.7 [91.1] 204.9 [60.1] 23.7	305.5 [89.5] 196.1 [57.5] 23.5	308.4 [90.4] 272.0 [79.7] 24.1	289.3 [84.8] 232.6 [68.2] 23.4
	80 [26.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	348.3 [102.1] 202.3 [59.3] 25.9	326.7 [95.8] 173 [50.7] 25.0	321.3 [94.2] 165.6 [48.5] 24.8	326.9 [95.8] 238.1 [69.8] 25.8	306.7 [89.9] 203.6 [59.7] 25.0	301.6 [88.4] 194.9 [57.1] 24.8	304.2 [89.2] 270.6 [79.3] 25.5	285.3 [83.6] 231.4 [67.8] 24.7
	85 [29.4]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	343.0 [100.5] 200.1 [58.6] 27.2	321.7 [94.3] 171.2 [50.2] 26.3	316.4 [92.7] 163.9 [48.0] 26.1	321.6 [94.3] 235.9 [69.1] 27.1	301.7 [88.4] 201.8 [59.1] 26.3	296.7 [87.0] 193.1 [56.6] 26.0	298.8 [87.6] 268.4 [78.7] 26.8	280.3 [82.2] 229.5 [67.3] 25.9
	90 [32.2]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	336.6 [98.7] 197.2 [57.8] 28.5	315.8 [92.6] 168.6 [49.4] 27.6	310.5 [91.0] 161.4 [47.3] 27.4	315.2 [92.4] 233.0 [68.3] 28.4	295.7 [86.7] 199.2 [58.4] 27.5	290.8 [85.2] 190.7 [55.9] 27.3	292.5 [85.7] 265.4 [77.8] 28.1	274.4 [80.4] 227.0 [66.5] 27.2
	95 [35]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	329.2 [96.5] 193.5 [56.7] 29.8	308.8 [90.5] 165.5 [48.5] 28.9	303.7 [89.0] 158.4 [46.4] 28.6	307.8 [90.2] 229.3 [67.2] 29.7	288.8 [84.6] 196.1 [57.5] 28.8	284.0 [83.2] 187.7 [55.0] 28.6	285.1 [83.6] 261.7 [76.7] 29.4	267.4 [78.4] 223.8 [65.6] 28.5
	100 [37.8]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	320.7 [94.0] 189.1 [55.4] 31.1	300.8 [88.2] 161.7 [47.4] 30.1	295.8 [86.7] 154.8 [45.4] 29.9	299.3 [87.7] 224.8 [65.9] 31.0	280.8 [82.3] 192.3 [56.4] 30.1	276.1 [80.9] 184.1 [54.0] 29.8	276.6 [81.1] 257.3 [75.4] 30.7	259.5 [76.1] 220.0 [64.5] 29.8
	105 [40.6]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	311.2 [91.2] 183.9 [53.9] 32.4	291.9 [85.6] 157.2 [46.1] 31.4	287.0 [84.1] 150.5 [44.1] 31.2	289.8 [84.9] 219.6 [64.4] 32.4	271.9 [79.7] 187.8 [55.0] 31.4	267.4 [78.4] 179.8 [52.7] 31.1	267.0 [78.3] 252.1 [73.9] 32	250.5 [73.4] 215.6 [63.2] 31.0
	110 [43.3]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	300.6 [88.1] 177.9 [52.1] 33.7	282.0 [82.6] 152.2 [44.6] 32.7	277.3 [81.3] 145.7 [42.7] 32.4	279.2 [81.8] 213.7 [62.6] 33.7	261.9 [76.8] 182.8 [53.6] 32.6	257.6 [75.5] 175.0 [51.3] 32.4	256.5 [75.2] 246.2 [72.2] 33.3	240.6 [70.5] 210.5 [61.7] 32.3
	115 [46.1]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	288.9 [84.7] 171.2 [50.2] 35.0	271.0 [79.4] 146.4 [42.9] 34.0	266.5 [78.1] 140.2 [41.1] 33.7	267.6 [78.4] 207.0 [60.7] 35.0	251.0 [73.6] 177.0 [51.9] 33.9	246.8 [72.3] 169.5 [49.7] 33.6	244.8 [71.7] 239.5 [70.2] 34.7	229.7 [67.3] 204.8 [60.0] 33.6
	120 [48.9]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	276.2 [80.9] 163.8 [48.0] 36.4	259.1 [75.9] 140.1 [41.1] 35.2	254.8 [74.7] 134.1 [39.3] 35	254.9 [74.7] 199.6 [58.5] 36.3	239.1 [70.1] 170.7 [50.0] 35.2	235.1 [68.9] 163.4 [47.9] 34.9	232.1 [68.0] 232.0 [68.0] 36.0	217.8 [63.8] 198.4 [58.1] 34.8
	125 [51.7]	Total kBtu/h [kW] Sens kBtu/h [kW] Power	262.5 [76.9] 155.6 [45.6] 37.7	246.2 [72.2] 133.1 [39.0] 36.5	242.1 [71.0] 127.4 [37.3] 36.2	241.1 [70.7] 191.4 [56.1] 37.6	226.2 [66.3] 163.7 [48.0] 36.4	222.5 [65.2] 156.7 [45.9] 36.1	218.4 [64.0] 218.4 [64.0] 37.3	204.9 [60.1] 191.4 [56.1] 36.1

DR —Depression ratio
dbE —Entering air dry bulb
wbE—Entering air wet bulb

Total —Total capacity x 1000 Btu/h
Sens —Sensible capacity x 1000 Btu/h
Power —kW input

NOTES: ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

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

Model RACGYB180		Voltage 208/230, 460, 575 — 3 phase 60 Hz																			
Air Flow CFM [L/s]	RPM	External Static Pressure—Inches of Water [kPa]																			
		0.8 [0.20]										1.0 [0.25]									
		BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
4800 [2265]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900 [2312]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000 [2359]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5100 [2407]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5200 [2454]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300 [2501]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400 [2548]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500 [2595]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600 [2643]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700 [2690]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800 [2737]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900 [2784]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000 [2831]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100 [2878]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200 [2926]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300 [2973]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6400 [3020]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500 [3067]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600 [3114]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6700 [3162]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800 [3209]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900 [3256]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7000 [3303]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7100 [3350]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200 [3398]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: F-Drive left of bold line, G-Drive between the bold lines, H-Drive right of both bold lines.

Drive Package		F										G										H									
Motor H.P. [W]		3 [3237.1]										5 [3728.5]										5 [3728.5]									
Blower Sheave		BK90H										BK95H										BK90H									
Motor Sheave		1VL44										1VP56										1VP56									
Turns Open		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
RPM		813	777	745	712	681	645	610	575	540	505	1012	985	949	912	881	844	808	773	737	702	1052	1016	983	952	916	878	843	807	772	737

- 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.

[] Designates Metric Conversions

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

Model RACGV8180		Voltage 208/230, 460, 575 — 3 phase 60 Hz																							
Air Flow CFM [L/s]		External Static Pressure—Inches of Water [kPa]																							
		0.1 [0.02]												0.2 [0.05]											
		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]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900 [2312]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000 [2359]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5100 [2407]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5200 [2454]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300 [2501]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400 [2548]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500 [2595]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600 [2643]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700 [2690]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800 [2737]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900 [2784]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000 [2831]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100 [2878]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200 [2926]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300 [2973]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6400 [3020]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500 [3067]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600 [3114]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6700 [3162]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800 [3209]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900 [3256]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7000 [3303]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
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

NOTE: F-Drive left of bold line, G-Drive between the bold lines, H-Drive right of both bold lines.

Drive Package	F												G						H					
Motor H.P. [W]	3 [2237.1]												5 [3728.5]						5 [3728.5]					
Blower Sheave	BK90H												BK95H						BK90H					
Motor Sheave	1VL44												1VP56						1VP56					
Turns Open	1	2	3	4	5	6	1	2	3	4	5	6	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.

[] Designates Metric Conversions

COMPONENT AIRFLOW RESISTANCE—15 TON [52.7 kW]

CFM [L/s]	4800	5000	5200	5400	5600	5800	6000	6200	6400	6600	6800	7000	7200
	[2265]	[2359]	[2454]	[2548]	[2643]	[2737]	[2831]	[2926]	[3020]	[3114]	[3209]	[3303]	[3398]
Resistance—Inches of Water [kPa]													
Wet Coil	0.01 [0.00]	0.02 [0.00]	0.02 [0.00]	0.03 [0.01]	0.03 [0.01]	0.04 [0.01]	0.04 [0.01]	0.04 [0.01]	0.05 [0.01]	0.05 [0.01]	0.06 [0.01]	0.06 [0.01]	0.06 [0.01]
Downflow Economizer RA Damper Open	0.17 [0.08]	0.18 [0.08]	0.19 [0.08]	0.2 [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	0.07 [0.03]	0.07 [0.03]	0.08 [0.04]	0.08 [0.04]	0.08 [0.04]	0.08 [0.04]	0.08 [0.04]	0.08 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]	0.09 [0.04]
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]	0.12 [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]	0.07 [0.03]	0.076 [0.03]	0.082 [0.03]	0.089 [0.04]	0.095 [0.04]

AIRFLOW CORRECTION FACTORS—15 TON [52.7 kW]

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]												
Total kBtu/h	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 kBtu/h	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.

[] Designates Metric Conversions

COMPONENT AIRFLOW RESISTANCE—17.5 TON [61.5 kW]

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 [0.01]	0.04 [0.01]	0.04 [0.01]	0.04 [0.01]	0.05 [0.01]	0.05 [0.01]	0.06 [0.01]	0.06 [0.01]	0.06 [0.01]	0.07 [0.02]	0.07 [0.02]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]	0.09 [0.02]
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]	0.3 [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]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [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]	0.12 [0.05]	0.124 [0.05]	0.128 [0.06]	0.132 [0.06]	0.136 [0.06]	0.14 [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]	0.07 [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]	0.12 [0.05]	0.126 [0.05]	0.133 [0.06]

AIRFLOW CORRECTION FACTORS—17.5 TON [61.5 kW]

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]														
Total kBtu/h	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 kBtu/h	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.

[] Designates Metric Conversions

AIRFLOW PERFORMANCE—20 TON [70.3 kW]—60 Hz—SIDEFLOW

Air Flow CFM [L/s]	Model RACGB240		Voltage 208/230, 460, 575 — 3 phase 60 Hz		External Static Pressure—Inches of Water [kPa]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					0.1 [0.02]							0.2 [0.05]							0.3 [0.07]							0.4 [0.10]							0.5 [0.12]							0.6 [0.15]							0.7 [0.17]							0.8 [0.20]							0.9 [0.22]							1.0 [0.25]							1.1 [0.27]							1.2 [0.30]							1.3 [0.32]							1.4 [0.35]							1.5 [0.37]							1.6 [0.40]							1.7 [0.42]							1.8 [0.45]							1.9 [0.47]							2.0 [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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	RPM	BHP	RPM

NOTE: F-Drive left of bold line, G-Drive between the bold lines, H-Drive right of both bold lines.

AIRFLOW PERFORMANCE—20 TON [70.3 kW]—60 Hz—SIDEFLOW (CONTINUED)

Drive Package	F					G					H							
Motor H.P. [W]	3 [2237.1]					5 [3728.5]					7.5 [5592.7]							
Blower Sheave	BK90H					BK95H					BK100H							
Motor Sheave	1VL44					1VP56					1VP65							
Turns Open	1	2	3	4	5	6	1	2	3	4	5	6	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 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.

[] Designates Metric Conversions

AIRFLOW PERFORMANCE—20 TON [70.3 kW]—60 Hz—DOWNFLOW

Air Flow CFM [L/s]	Model RACGB240		Voltage 208/230, 460, 575 — 3 phase 60 Hz		External Static Pressure—Inches of Water [kPa]																							
	0.1 [0.02]												0.2 [0.05]										0.3 [0.07]					
	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]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500 [3067]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600 [3114]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6700 [3162]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800 [3209]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900 [3256]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7000 [3303]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7100 [3350]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200 [3398]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7300 [3445]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7400 [3492]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500 [3539]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7600 [3586]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7700 [3633]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7800 [3681]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7900 [3728]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8000 [3775]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8100 [3822]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8200 [3869]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8300 [3917]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8400 [3964]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8500 [4011]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8600 [4058]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8700 [4105]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8800 [4153]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8900 [4200]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9000 [4247]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
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
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
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
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
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

NOTE: F-Drive left of bold line, G-Drive between the bold lines, H-Drive right of both bold lines.

AIRFLOW PERFORMANCE—20 TON [70.3 kW]—60 Hz—DOWNFLOW (CONTINUED)

Drive Package	F						G						H					
Motor H.P. [W]	3 [2237.1]						5 [3728.5]						7.5 [5592.7]					
Blower Sheave	BK90H						BK95H						BK100H					
Motor Sheave	1VL44						1VP56						1VP65					
Turns Open	1	2	3	4	5	6	1	2	3	4	5	6	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 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.

[] Designates Metric Conversions

COMPONENT AIRFLOW RESISTANCE—20 TON [70.3 kW]

CFM [L/s]	6400	6600	6800	7000	7200	7400	7600	7800	8000	8200	8400	8600	8800	9000	9200	9400	9600
	[3020]	[3114]	[3209]	[3303]	[3398]	[3492]	[3586]	[3681]	[3775]	[3869]	[3964]	[4058]	[4153]	[4247]	[4341]	[4436]	[4530]
Resistance—Inches of Water [kPa]																	
Wet Coil	0.08 [0.02]	0.09 [0.02]	0.09 [0.02]	0.09 [0.02]	0.09 [0.02]	0.1 [0.02]	0.1 [0.02]	0.1 [0.02]	0.1 [0.02]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]
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]	0.3 [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]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [0.04]	0.1 [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]	0.12 [0.05]	0.124 [0.05]	0.128 [0.06]	0.132 [0.06]	0.136 [0.06]	0.14 [0.06]	0.144 [0.06]	0.148 [0.06]	0.152 [0.07]	0.156 [0.07]	0.16 [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]	0.12 [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]	0.17 [0.08]

AIRFLOW CORRECTION FACTORS—20 TON [87.9 kW]

CFM [L/s]	6400	6600	7000	7200	7400	7600	7800	8000	8200	8400	8600	8800	9000	9200	9400	9600
	[3020]	[3114]	[3209]	[3398]	[3492]	[3586]	[3681]	[3775]	[3869]	[3964]	[4058]	[4153]	[4247]	[4341]	[4436]	[4530]
Resistance—Inches of Water [kPa]																
Total kBtu/h	0.98	0.98	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 kBtu/h	0.91	0.93	0.95	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	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.

[] Designates Metric Conversions

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

Air Flow CFM [L/s]	Model RACV8300		Voltage 208/230, 460, 575 — 3 phase 60 Hz										External Static Pressure—Inches of Water [kPa]																											
	0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]																				
	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	1079	7.08	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	7.07	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					

NOTE: E-Drive left of bold line G-Drive between the bold lines H-Drive right of both bold lines

AIRFLOW PERFORMANCE—25 TON [87.9 kW]—60 Hz—SIDEFLOW (CONTINUED)

Drive Package			F						G						H					
Motor H.P. [W]			7.5 [5592.7]						10 [7457.0]						10 [7457.0]					
Blower Sheave			BK110						BK105						BK95					
Motor Sheave			1VP-65						1VP-71						1VP71					
Turns Open			1	2	3	4	5	6	1	2	3	4	5	6	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 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.

[] Designates Metric Conversions

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

Air Flow CFM [L/s]	Model RACGYB300		Voltage 208/230, 460, 575 — 3 phase 60 Hz										External Static Pressure—Inches of Water [kPa]																															
			0.1 [0.02]		0.2 [0.05]		0.3 [0.07]		0.4 [0.10]		0.5 [0.12]		0.6 [0.15]		0.7 [0.17]		0.8 [0.20]		0.9 [0.22]		1.0 [0.25]		1.1 [0.27]		1.2 [0.30]		1.3 [0.32]		1.4 [0.35]		1.5 [0.37]		1.6 [0.40]		1.7 [0.42]		1.8 [0.45]		1.9 [0.47]		2.0 [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	RPM	BHP	RPM	BHP		
8000 [3075]	—	—	—	—	—	—	—	—	—	—	—	—	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	5.83	1048	6.18	1072	6.44	1097	6.71		
8100 [3322]	—	—	—	—	—	—	—	—	—	—	—	—	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 [3369]	—	—	—	—	—	—	—	—	—	—	—	—	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 [3397]	—	—	—	—	—	—	—	—	—	—	—	—	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 [3364]	—	—	—	—	—	—	—	—	—	—	—	—	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	4.16	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</																					

NOTE: F-Drive left of bold line. G-Drive between the bold lines. H-Drive right of both bold lines.

AIRFLOW PERFORMANCE—25 TON [87.9 kW]—60 Hz—DOWNFLOW (CONTINUED)

Drive Package		F						G						H					
Motor H.P. [W]		7.5 [5592.7]						10 [7457.0]						10 [7457.0]					
Blower Sheave		BK110						BK105						BK95					
Motor Sheave		1VP-65						1VP-71						1VP71					
Turns Open		1	2	3	4	5	6	1	2	3	4	5	6	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 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.

[] Designates Metric Conversions

COMPONENT AIRFLOW RESISTANCE—25 TON [87.9 kW]

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										
Wet Coil	0.10 [0.03]	0.11 [0.03]	0.11 [0.03]	0.12 [0.03]	0.12 [0.03]	0.13 [0.03]	0.14 [0.03]	0.14 [0.03]	0.15 [0.04]	0.15 [0.04]	0.16 [0.04]
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	0.1 [0.04]	0.1 [0.05]	0.1 [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	0.14 [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	0.12 [0.05]	0.133 [0.06]	0.145 [0.06]	0.158 [0.07]	0.17 [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]

AIRFLOW CORRECTION FACTORS—25 TON [87.9 kW]

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										
Total kBtu/h	0.99	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09
Sensible kBtu/h	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.

[] Designates Metric Conversions

ELECTRICAL DATA – RACGYB SERIES

		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	518-633	518-633
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	73/73	80/80	81/81	36	38	28	29
	Minimum Circuit Ampacity with Power Exhaust	83/83	90/90	91/91	41	43	31	32
	Minimum Overcurrent Protection Device Size	80/80	90/90	90/90	40	45	30	35
	Minimum Overcurrent Protection Device	90/90	90/90	90/90	45	50	35	35
	Maximum Overcurrent Protection Device Size	90/90	110/110	110/110	45	45	35	35
	Maximum Overcurrent Protection Device Size with Power Exhaust	100/100	110/110	110/110	50	50	40	40
Compressor Motor	No.	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	Amps (RLA), Comp. 1	24.4	24.4	24.4	11.9	11.9	9.4	9.4
	Amps (LRA), Comp. 1	200.0	200.0	200.0	103.0	103.0	78.0	78.0
	Amps (RLA), Comp. 2	24.4	24.4	24.4	11.9	11.9	9.4	9.4
	Amps (LRA), Comp. 2	200.0	200.0	200.0	103.0	103.0	78.0	78.0
Condenser Motor	No.	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	1	1	1	1	1	1	1
	HP	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	1.2	1.2
	Amps (LRA, each)	10.1	10.1	10.1	4.9	4.9	3.4	3.4
Evaporator Fan	No.	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	HP	3	5	5	3	5	3	5
	Amps (FLA, each)	9.2	13.6	13.6	4.6	6.3	3.5	5.1
	Amps (LRA, each)	74.5	95.0	95.0	38.1	47.5	30.0	38.0

ELECTRICAL DATA – RACGYB SERIES

		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	518-633	518-633	518-633
	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	85/85	90/90	97/97	38	40	43	29	30	33
	Minimum Circuit Ampacity with Power Exhaust	95/95	100/100	107/107	43	44	48	32	33	36
	Minimum Overcurrent Protection Device Size	100/100	100/100	110/110	45	45	50	35	35	35
	Minimum Overcurrent Protection Device	110/110	110/110	125/125	50	50	60	35	35	40
	Maximum Overcurrent Protection Device Size	110/110	110/110	125/125	50	50	60	35	35	40
	Maximum Overcurrent Protection Device Size with Power Exhaust	110/110	125/125	125/125	50	50	60	40	40	40
Compressor 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
	Amps (RLA), Comp. 1	28.7	28.7	28.7	12.4	12.4	12.4	9.0	9.0	9.0
	Amps (LRA), Comp. 1	207.5	207.5	207.5	100.2	100.2	100.2	78.0	78.0	78.0
	Amps (RLA), Comp. 2	28.7	28.7	28.7	12.4	12.4	12.4	9.0	9.0	9.0
	Amps (LRA), Comp. 2	207.5	207.5	207.5	100.2	100.2	100.2	78.0	78.0	78.0
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	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	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	11.0	11.0	11.0
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	21.0	4.6	6.3	9.6	3.5	5.1	7.7
	Amps (LRA, each)	74.5	95.0	127.0	38.1	47.5	63.5	30.0	38.0	50.8

ELECTRICAL DATA – RACGYB SERIES

		240ACF 240ACG	240ACH	240ADF 240ADG	240ADH	240AYF 240AYG	240AYH
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-633	518-633
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	Hz	60	60	60	60	60	60
	Minimum Circuit Ampacity	89/89	97/97	43	46	34	37
	Minimum Circuit Ampacity with Power Exhaust	99/99	107/107	47	50	37	40
	Minimum Overcurrent Protection Device Size	100/100	110/110	50	50	40	40
	Minimum Overcurrent Protection Device	110/110	125/125	50	60	40	40
	Maximum Overcurrent Protection Device Size	110/110	110/110	50	50	40	45
	Maximum Overcurrent Protection Device Size with Power Exhaust	125/125	125/125	50	60	45	45
Compressor Motor	No.	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	Amps (RLA), Comp. 1	28.5	28.5	13.5	13.5	10.7	10.7
	Amps (LRA), Comp. 1	255.0	255.0	123.0	123.0	93.7	93.7
	Amps (RLA), Comp. 2	28.5	28.5	13.5	13.5	10.7	10.7
	Amps (LRA), Comp. 2	255.0	255.0	123.0	123.0	93.7	93.7
Condenser Motor	No.	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	HP	1.5	1.5	1.5	1.5	1.5	1.5
	Amps (FLA, each)	5.5	5.5	2.7	2.7	2.2	2.2
	Amps (LRA, each)	28.6	28.6	14.3	14.3	11.0	11.0
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	HP	5	7.5	5	7.5	5	7.5
	Amps (FLA, each)	13.6	21.0	6.3	9.6	5.1	7.7
	Amps (LRA, each)	95.0	127.0	47.5	63.5	38.0	50.8

ELECTRICAL DATA – RACGYB SERIES								
		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	518-633	518-633
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	Hz	60	60	60	60	60	60	60
	Minimum Circuit Ampacity	127/127	132/132	133/133	59	62	43	46
	Minimum Circuit Ampacity with Power Exhaust	137/137	142/142	143/143	64	66	46	49
	Minimum Overcurrent Protection Device Size	150/150	150/150	150/150	70	70	50	50
	Minimum Overcurrent Protection Device	150/150	175/175	175/175	70	80	50	60
	Maximum Overcurrent Protection Device Size	150/150	150/150	150/150	70	80	50	50
	Maximum Overcurrent Protection Device Size with Power Exhaust	175/175	175/175	175/175	80	80	50	60
Compressor Motor	No.	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	Amps (RLA), Comp. 1	40.8	40.8	40.8	19.4	19.4	13.7	13.7
	Amps (LRA), Comp. 1	270.0	270.0	270.0	147.0	147.0	109.0	109.0
	Amps (RLA), Comp. 2	40.8	40.8	40.8	19.4	19.4	13.7	13.7
	Amps (LRA), Comp. 2	270.0	270.0	270.0	147.0	147.0	109.0	109.0
Condenser Motor	No.	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	HP	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	Amps (FLA, each)	5.5	5.5	5.5	2.7	2.7	2.2	2.2
	Amps (LRA, each)	28.6	28.6	28.6	14.3	14.3	11.0	11.0
Evaporator Fan	No.	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3
	HP	7.5	10	10	7.5	10	7.5	10
	Amps (FLA, each)	21.0	27.0	27.0	9.6	12.5	7.7	10.0
	Amps (LRA, each)	127.0	152.0	152.0	63.5	76.0	50.8	60.8

ELECTRIC HEATER KITS – RACGYB180

208/230V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 208/230	Heater Kit FLA	Unit Min. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
180ACF	NONE*	—/—	—/—	73/73	83/83	90/90	100/100	—	—	83/83	90/90	100/100
	G18KWC	13.5/18.0	37.5/43.3	73/73	83/83	90/90	100/100	47/55	50/60	83/83	90/90	100/100
	G36KWC	27.0/36.0	74.9/86.6	106/120	118/133	110/125	125/150	94/109	100/110	83/83	90/90	100/100
180ACG	G54KWC	40.5/54.0	112.4/129.9	152/174	165/187	175/175	175/200	141/163	150/175	83/83	90/90	100/100
	NONE*	—/—	—/—	80/80	90/90	100/100	110/110	—	—	90/90	100/100	110/110
	G18KWC	13.5/18.0	37.5/43.3	80/80	90/90	100/100	110/110	47/55	50/60	90/90	100/100	110/110
180ACH	G36KWC	27.0/36.0	74.9/86.6	114/129	127/141	125/150	150/150	94/109	100/110	90/90	100/100	110/110
	G54KWC	40.5/54.0	112.4/129.9	161/183	173/195	175/200	175/200	141/163	150/175	90/90	100/100	110/110
	NONE*	—/—	—/—	81/81	91/91	100/100	110/110	—	—	91/91	100/100	110/110
	G18KWC	13.5/18.0	37.5/43.3	81/81	91/91	100/100	110/110	47/55	50/60	91/91	100/100	110/110
	G36KWC	27.0/36.0	74.9/86.6	115/130	128/142	125/150	150/150	94/109	100/110	91/91	100/100	110/110
	G54KWC	40.5/54.0	112.4/129.9	162/184	175/196	175/200	175/200	141/163	150/175	91/91	100/100	110/110

460V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 460	Heater Kit FLA	Unit Min. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
180ADF	NONE*	—	—	36	41	45	50	—	—	41	45	50
	G18KWD	18.0	21.7	36	41	45	50	28	30	41	45	50
	G36KWD	36.0	43.3	60	66	60	70	55	60	41	45	50
180ADG	G54KWD	54.0	65.0	87	93	90	100	82	90	41	45	50
	NONE*	—	—	38	43	45	50	—	—	43	45	50
	G18KWD	18.0	21.7	38	43	45	50	28	30	43	45	50
180ADH	G36KWD	36.0	43.3	62	68	70	70	55	60	43	45	50
	G54KWD	54.0	65.0	90	95	90	100	82	90	43	45	50
	NONE*	—	—	38	43	45	50	—	—	43	45	50
	G18KWD	18.0	21.7	38	43	45	50	28	30	43	45	50
	G36KWD	36.0	43.3	62	68	70	70	55	60	43	45	50
	G54KWD	54.0	65.0	90	95	90	100	82	90	43	45	50

ELECTRIC HEATER KITS – RACGYB180 (CONTINUED)

575V THREE PHASE, 60 Hz, AUXILIARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION												
Separate Power Supply for Both Unit and Heater Kit												
Single Power Supply for Both Unit and Heater Kit												
Unit Model Number RACGYB	Heater Kit			Air Conditioner				Heater Kit		Air Conditioner		
	Model No. RXJJ-	Rated Heater kW @ 575	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
180AYF	NONE*	—	—	28	31	35	35	—	—	28	35	35
	G18KWY	18.0	17.3	28	31	35	35	22	25	28	35	35
	G36KWY	36.0	34.6	48	52	50	60	44	45	28	35	35
	G54KWY	54.0	52.0	70	74	70	80	65	70	28	35	35
180AYG	NONE*	—	—	29	32	35	40	—	—	29	35	40
	G18KWY	18.0	17.3	29	32	35	40	22	25	29	35	40
	G36KWY	36.0	34.6	50	54	50	60	44	45	29	35	40
	G54KWY	54.0	52.0	72	76	80	80	65	70	29	35	40
180AYH	NONE*	—	—	29	32	35	40	—	—	29	35	40
	G18KWY	18.0	17.3	29	32	35	40	22	25	29	35	40
	G36KWY	36.0	34.6	50	54	50	60	44	45	29	35	40
	G54KWY	54.0	52.0	72	76	80	80	65	70	29	35	40

ELECTRIC HEATER KITS – RACGYB210

208/230V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 208/230	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
210ACF	NONE*	—/—	—/—	85/85	95/95	110/110	110/110	—	—	85/85	110/110	110/110
	G36KWC	27.0/36.0	74.9/86.6	106/120	118/133	110/125	125/150	94/109	100/110	95/95	110/110	110/110
	G54KWC	40.5/54.0	112.4/129.9	152/174	165/187	175/200	175/200	141/163	150/175	95/95	110/110	110/110
210ACG	G72KWC	54.0/72.0	149.9/173.2	199/228	212/241	200/250	225/250	188/217	200/225	95/95	110/110	110/110
	NONE*	—/—	—/—	90/90	100/100	110/110	125/125	—	—	100/100	110/110	125/125
	G36KWC	27.0/36.0	74.9/86.6	111/126	124/138	125/150	125/150	94/109	100/110	100/100	110/110	125/125
210ACH	G54KWC	40.5/54.0	112.4/129.9	158/180	170/192	175/200	175/200	141/163	150/175	100/100	110/110	125/125
	G72KWC	54.0/72.0	149.9/173.2	205/234	217/246	225/250	225/250	188/217	200/225	100/100	110/110	125/125
	NONE*	—/—	—/—	97/97	107/107	125/125	125/125	—	—	107/107	125/125	125/125
	G36KWC	27.0/36.0	74.9/86.6	120/135	133/147	125/150	150/150	94/109	100/110	107/107	125/125	125/125
	G54KWC	40.5/54.0	112.4/129.9	167/189	180/202	175/200	200/225	141/163	150/175	107/107	125/125	125/125
	G72KWC	54.0/72.0	149.9/173.2	214/243	227/256	225/250	250/300	188/217	200/225	107/107	125/125	125/125

460V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 460	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
210ADF	NONE*	—	—	38	43	50	50	—	—	38	50	50
	G36KWD	36.0	43.3	60	66	60	70	55	60	43	50	50
	G54KWD	54.0	65.0	87	93	90	100	82	90	43	50	50
210ADG	G72KWD	72.0	86.6	114	120	125	125	109	110	43	50	50
	NONE*	—	—	40	44	50	50	—	—	40	50	50
	G36KWD	36.0	43.3	62	68	70	70	55	60	44	50	50
210ADH	G54KWD	54.0	65.0	90	95	90	100	82	90	44	50	50
	G72KWD	72.0	86.6	117	122	125	125	109	110	44	50	50
	NONE*	—	—	43	48	50	60	—	—	43	50	50
	G36KWD	36.0	43.3	67	72	70	80	55	60	48	50	50
	G54KWD	54.0	65.0	94	99	100	100	82	90	48	50	50
	G72KWD	72.0	86.6	121	126	125	150	109	110	48	50	50

ELECTRIC HEATER KITS – RACGYB210 (CONTINUED)

575V THREE PHASE, 60 Hz, AUXILIARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION												
Separate Power Supply for Both Unit and Heater Kit												
Single Power Supply for Both Unit and Heater Kit				Heater Kit				Air Conditioner				
Unit Model Number RACGYB	Heater Kit			Air Conditioner				Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 575	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
210AYF	NONE*	—	—	29	32	35	35	—	—	29	35	40
	G36KWY	36.0	34.6	48	52	50	60	44	45	29	35	40
	G54KWY	54.0	52.0	70	74	70	80	65	70	29	35	40
210AYG	G72KWY	72.0	69.3	91	95	100	100	87	90	29	35	40
	NONE*	—	—	30	33	35	40	—	—	30	35	40
	G36KWY	36.0	34.6	50	54	50	60	44	45	30	35	40
210AYH	G54KWY	54.0	52.0	72	76	80	80	65	70	30	35	40
	G72KWY	72.0	69.3	93	97	100	100	87	90	30	35	40
	NONE*	—	—	33	36	40	40	—	—	33	40	40
210AYH	G36KWY	36.0	34.6	53	57	60	60	44	45	33	40	40
	G54KWY	54.0	52.0	75	79	80	80	65	70	33	40	40
	G72KWY	72.0	69.3	97	100	100	100	87	90	33	40	40

ELECTRIC HEATER KITS – RACGYB240

208/230V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 208/230	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
240ACF	NONE*	—/—	—/—	89/89	99/99	110/110	125/125	—	—	89/89	110/110	125/125
	G36KWC	27.0/36.0	74.9/86.6	111/126	124/138	125/150	125/150	94/109	100/110	99/99	110/110	125/125
	G54KWC	40.5/54.0	112.4/129.9	158/180	170/192	175/200	175/200	141/163	150/175	99/99	110/110	125/125
240ACG	G72KWC	54.0/72.0	149.9/173.2	205/234	217/246	225/250	225/250	188/217	200/225	99/99	110/110	125/125
	NONE*	—/—	—/—	89/89	99/99	110/110	125/125	—	—	89/89	110/110	125/125
	G36KWC	27.0/36.0	74.9/86.6	111/126	124/138	125/150	125/150	94/109	100/110	99/99	110/110	125/125
240ACH	G54KWC	40.5/54.0	112.4/129.9	158/180	170/192	175/200	175/200	141/163	150/175	99/99	110/110	125/125
	G72KWC	54.0/72.0	149.9/173.2	205/234	217/246	225/250	225/250	188/217	200/225	99/99	110/110	125/125
	NONE*	—/—	—/—	97/97	107/107	110/110	125/125	—	—	97/97	110/110	125/125
240ADH	G36KWC	27.0/36.0	74.9/86.6	120/135	133/147	125/150	150/150	94/109	100/110	107/107	110/110	125/125
	G54KWC	40.5/54.0	112.4/129.9	167/189	180/202	175/200	200/225	141/163	150/175	107/107	110/110	125/125
	G72KWC	54.0/72.0	149.9/173.2	214/243	227/256	225/250	250/300	188/217	200/225	107/107	110/110	125/125

460V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 460	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
240ADF	NONE*	—	—	43	47	50	50	—	—	43	50	50
	G36KWD	36.0	43.3	62	68	70	70	55	60	43	50	50
	G54KWD	54.0	65.0	90	95	90	100	82	90	43	50	50
240ADG	G72KWD	72.0	86.6	117	122	125	125	109	110	43	50	50
	NONE*	—	—	43	47	50	50	—	—	43	50	50
	G36KWD	36.0	43.3	62	68	70	70	55	60	43	50	50
240ADH	G54KWD	54.0	65.0	90	95	90	100	82	90	43	50	50
	G72KWD	72.0	86.6	117	122	125	125	109	110	43	50	50
	NONE*	—	—	46	50	50	60	—	—	46	50	60
240ADH	G36KWD	36.0	43.3	67	72	70	80	55	60	46	50	60
	G54KWD	54.0	65.0	94	99	100	100	82	90	46	50	60
	G72KWD	72.0	86.6	121	126	125	150	109	110	46	50	60

ELECTRIC HEATER KITS – RACGYB240 (CONTINUED)

575V THREE PHASE, 60 Hz, AUXILIARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION												
Separate Power Supply for Both Unit and Heater Kit												
Single Power Supply for Both Unit and Heater Kit												
Unit Model Number RACGYB	Heater Kit			Air Conditioner				Heater Kit		Air Conditioner		
	Model No. RXJJ-	Rated Heater kW @ 575	Heater Kit FLA	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
240AYF	NONE*	—	—	34	40	45	—	—	34	37	40	45
	G36KWY	36.0	34.6	50	50	60	44	45	34	37	40	45
	G54KWY	54.0	52.0	72	80	80	65	70	34	37	40	45
240AYG	G72KWY	72.0	69.3	93	100	100	87	90	34	37	40	45
	NONE*	—	—	34	40	45	—	—	34	37	40	45
	G36KWY	36.0	34.6	50	50	60	44	45	34	37	40	45
240AYH	G54KWY	54.0	52.0	72	80	80	65	70	34	37	40	45
	G72KWY	72.0	69.3	93	100	100	87	90	34	37	40	45
	NONE*	—	—	37	45	45	—	—	37	40	45	45
240AYH	G36KWY	36.0	34.6	53	60	60	44	45	37	40	45	45
	G54KWY	54.0	52.0	75	80	80	65	70	37	40	45	45
	G72KWY	72.0	69.3	97	100	100	87	90	37	40	45	45

ELECTRIC HEATER KITS – RACGYB300

208/230V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 208/230	Heater Kit FLA	Unit Min. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
300ACF	NONE*	—/—	—/—	127/127	137/137	150/150	175/175	—	—	127/127	137/137	175/175
	G36KWC	27.0/36.0	74.9/86.6	127/139	137/151	150/150	175/175	94/109	100/110	127/127	137/137	175/175
	G54KWC	40.5/54.0	112.4/129.9	171/193	184/206	175/200	200/225	141/163	150/175	127/127	137/137	175/175
300ACG	G72KWC	54.0/72.0	149.9/173.2	218/247	231/260	225/250	250/300	188/217	200/225	127/127	137/137	175/175
	NONE*	—/—	—/—	132/132	142/142	150/150	175/175	—	—	132/132	142/142	175/175
	G36KWC	27.0/36.0	74.9/86.6	132/145	142/157	150/150	175/175	94/109	100/110	132/132	142/142	175/175
300ACH	G54KWC	40.5/54.0	112.4/129.9	177/199	189/211	200/200	200/225	141/163	150/175	132/132	142/142	175/175
	G72KWC	54.0/72.0	149.9/173.2	224/253	236/265	225/300	250/300	188/217	200/225	132/132	142/142	175/175
	NONE*	—/—	—/—	133/133	143/143	150/150	175/175	—	—	133/133	143/143	175/175
	G36KWC	27.0/36.0	74.9/86.6	133/146	144/158	150/150	175/175	94/109	100/110	133/133	143/143	175/175
	G54KWC	40.5/54.0	112.4/129.9	178/200	190/212	200/200	200/225	141/163	150/175	133/133	143/143	175/175
	G72KWC	54.0/72.0	149.9/173.2	225/254	237/266	225/300	250/300	188/217	200/225	133/133	143/143	175/175

460V THREE PHASE, 60 Hz, AUXILIARY 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 RACGYB	Heater Kit		Air Conditioner			Heater Kit		Air Conditioner				
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 460	Heater Kit FLA	Unit Min. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
300ADF	NONE*	—	—	59	64	70	80	—	—	59	64	80
	G36KWD	36.0	43.3	67	72	70	80	55	60	59	64	80
	G54KWD	54.0	65.0	94	99	100	100	82	90	59	64	80
300ADG	G72KWD	72.0	86.6	121	126	125	150	109	110	59	64	80
	NONE*	—	—	62	66	80	80	—	—	62	66	80
	G36KWD	36.0	43.3	70	76	80	80	55	60	62	66	80
300ADH	G54KWD	54.0	65.0	97	103	100	110	82	90	62	66	80
	G72KWD	72.0	86.6	124	130	125	150	109	110	62	66	80
	NONE*	—	—	62	66	80	80	—	—	62	66	80
	G36KWD	36.0	43.3	70	76	80	80	55	60	62	66	80
	G54KWD	54.0	65.0	97	103	100	110	82	90	62	66	80
	G72KWD	72.0	86.6	124	130	125	150	109	110	62	66	80

ELECTRIC HEATER KITS – RACGYB300 (CONTINUED)

575V THREE PHASE, 60 Hz, AUXILIARY ELECTRIC HEATER KIT CHARACTERISTICS AND APPLICATION												
Separate Power Supply for Both Unit and Heater Kit												
Single Power Supply for Both Unit and Heater Kit			Heater Kit				Air Conditioner					
Unit Model Number RACGYB	Heater Kit		Air Conditioner				Air Conditioner					
Base Electric Unit Model Number	Model No. RXJJ-	Rated Heater kW @ 575	Heater Kit FLA	Unit Min. Ckt. Ampacity	Unit Min. Ckt. Ampacity with Optional Powered Exhaust	Max. Fuse or Ckt. Bkr. Size	Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust	Heater Kit Min. Ckt. Ampacity	Heater Kit Max. Fuse or Ckt. Bkr. Size	Air Cond. Min. Ckt. Ampacity with Optional Powered Exhaust	Air Cond. Max. Fuse or Ckt. Bkr. Size	Air Cond. Max. Fuse or Ckt. Bkr. Size with Optional Powered Exhaust
300AYF	NONE*	—	—	43	46	50	50	—	—	43	46	50
	G36KWY	36.0	34.6	53	57	60	60	44	45	43	46	50
	G54KWY	54.0	52.0	75	79	80	80	65	70	43	46	50
	G72KWY	72.0	69.3	97	100	100	100	87	90	43	46	50
300AYG	NONE*	—	—	46	49	50	60	—	—	46	49	60
	G36KWY	36.0	34.6	56	60	60	60	44	45	46	49	60
	G54KWY	54.0	52.0	78	82	80	90	65	70	46	49	60
	G72KWY	72.0	69.3	100	103	100	110	87	90	46	49	60
300AYH	NONE*	—	—	46	49	50	60	—	—	46	49	60
	G36KWY	36.0	34.6	56	60	60	60	44	45	46	49	60
	G54KWY	54.0	52.0	78	82	80	90	65	70	46	49	60
	G72KWY	72.0	69.3	100	103	100	110	87	90	46	49	60

A2L REFRIGERANT INSTALLATION SAFETY DATA

		RACGYB180	RACGYB210	RACGYB240	RACGYB300
Refrigerant Charge weight (oz) Circuit 1/Circuit 2		163/168	205/205	197/205	212/213
Minimum circulation airflow, Qmin (cfm)		559	682	682	708
Installed Altitude (Ft. Above Sea Level)	Altitude Adjustment Factor	Minimum Total Conditioned Room Area, TAmin (Sq. Ft.)			
0	1.000	310	378	378	393
1000	1.025	317	387	387	402
2000	1.051	325	397	397	413
3000	1.078	334	407	407	423
4000	1.107	343	418	418	435
5000	1.138	352	430	430	447
6000	1.170	362	442	442	459
6500	1.187	368	449	449	466

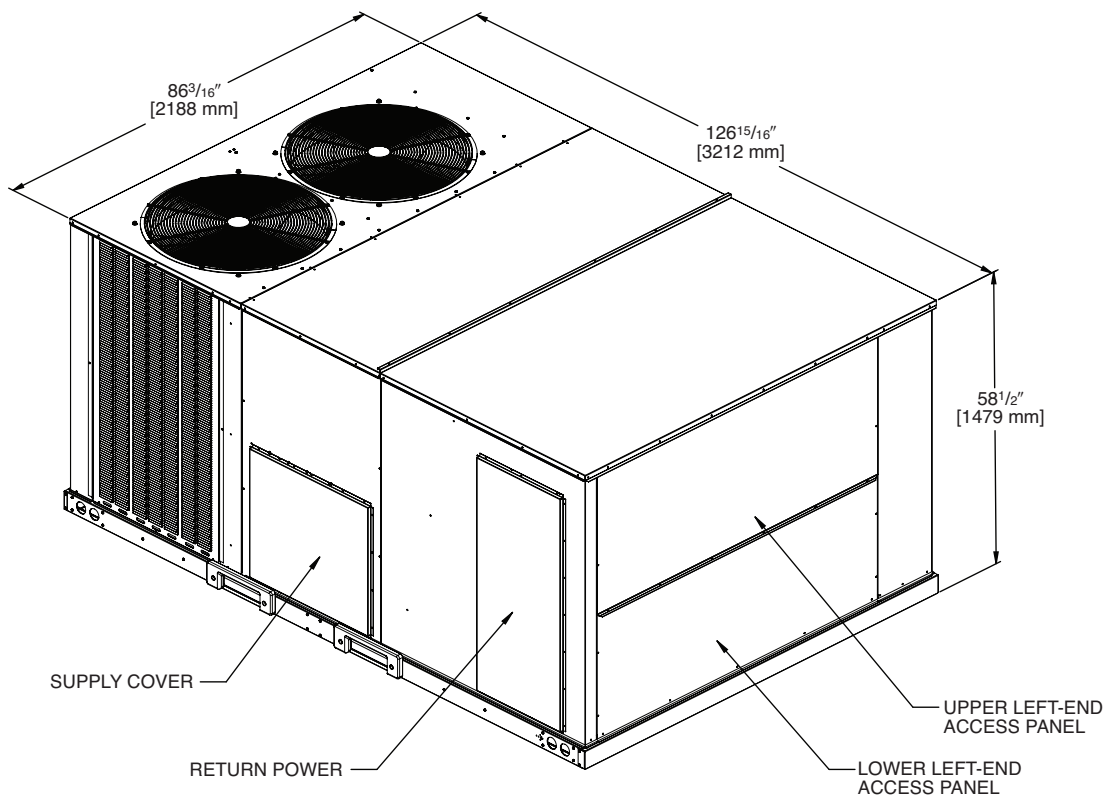


Illustration
ST-A1321-02

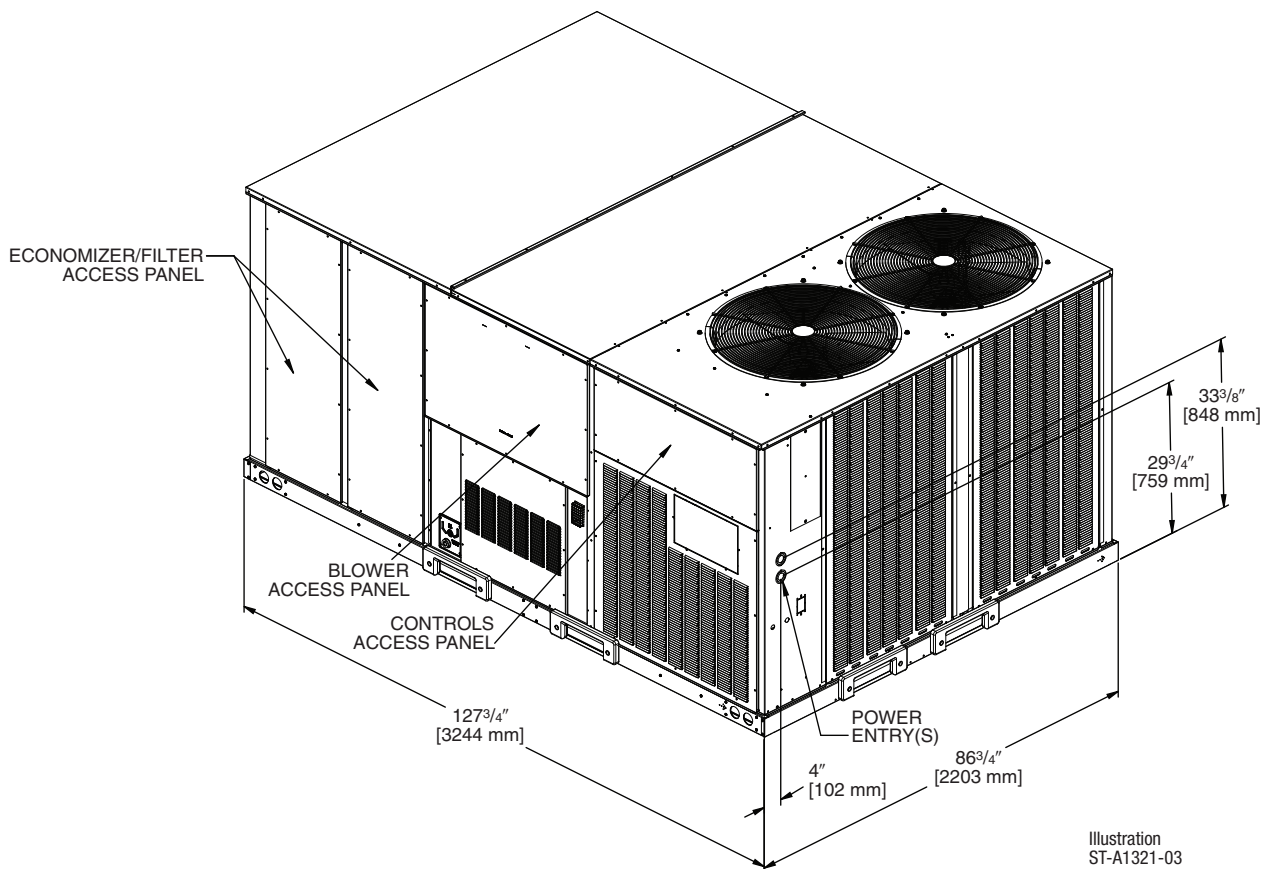


Illustration
ST-A1321-03

[] Designates Metric Conversions

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS

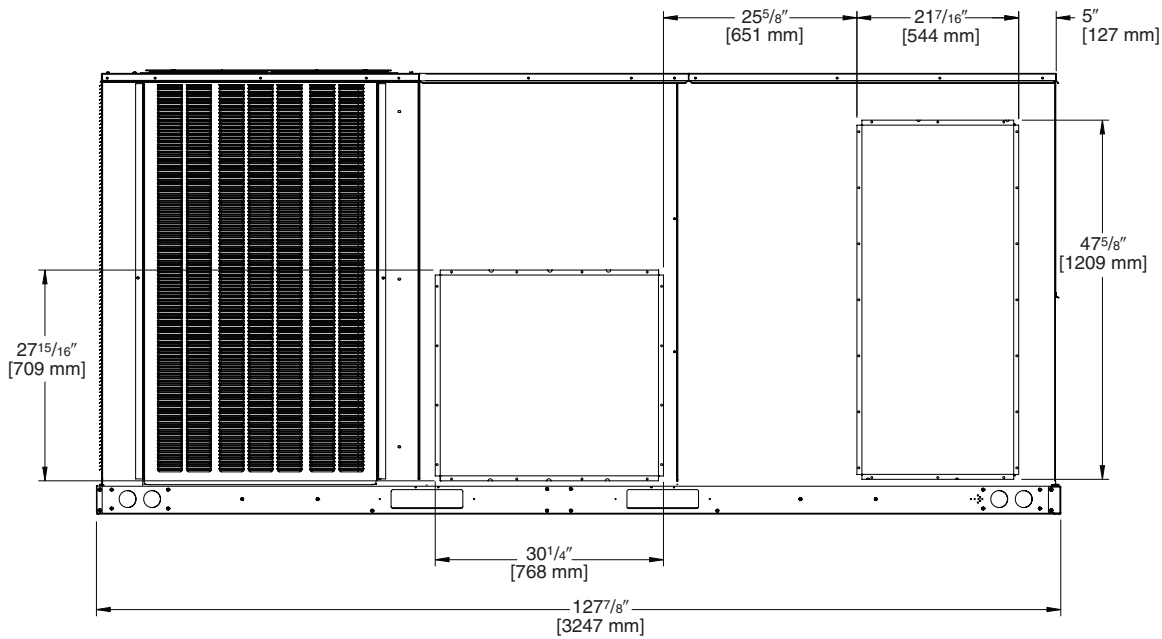


Illustration
ST-A1321-05

SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS
(VIEW FROM BOTTOM UP)

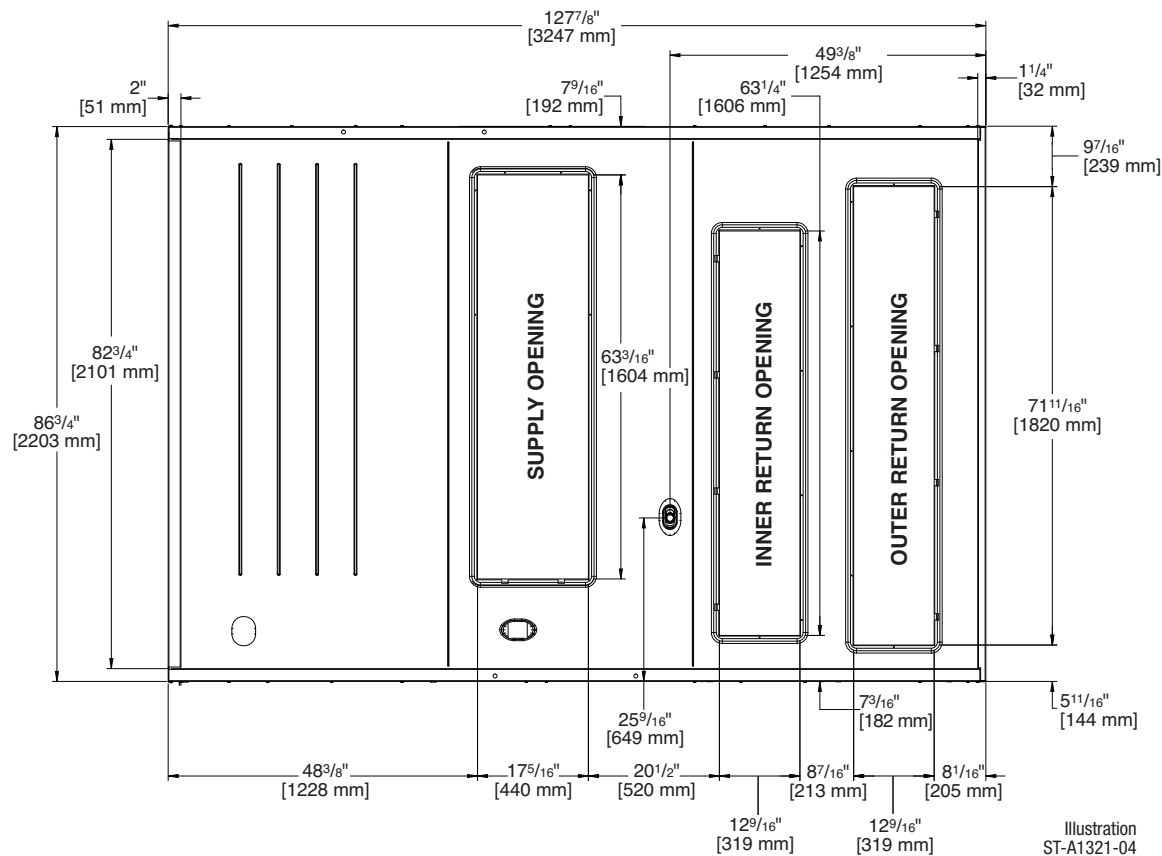
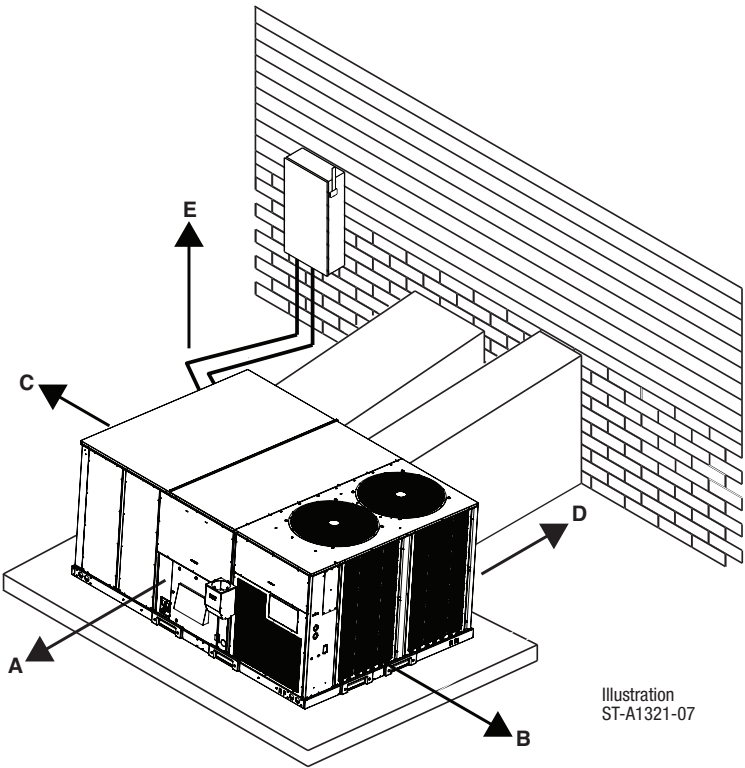
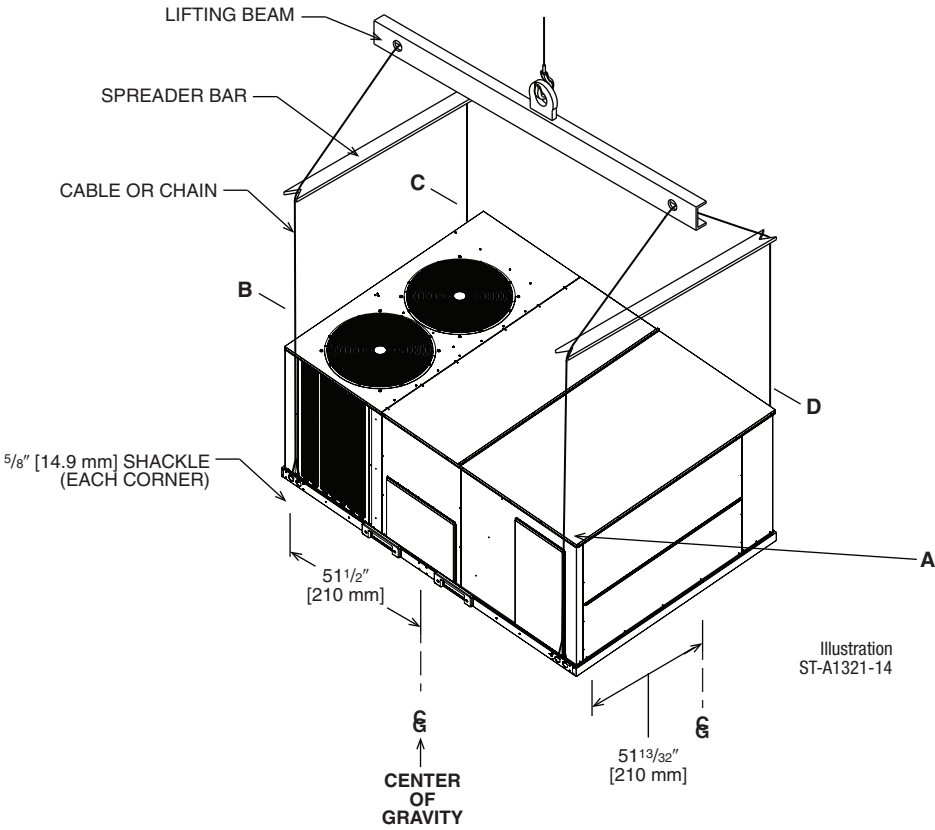


Illustration
ST-A1321-04

[] Designates Metric Conversions

WEIGHTS

Capacity Tons [kW]	Corner Weights by Percentage			
15.0 - 25.0 [52.8 - 87.9]	A	B	C	D
	27%	14%	45%	14%



CLEARANCES

The following minimum clearances must be observed for proper unit performance and serviceability.

RECOMMENDED CLEARANCE IN. [mm]	LOCATION
80 [2032] ①	A - FRONT
36 [914]	B - CONDENSER END
48 [1219] ②	C - ECONOMIZER
24 [609]	D - DUCT SIDE
60 [1524]	E - TOP

- ① 18" [457 mm] minimum if drainpan will not be removed.
② 48" [1219 mm] minimum if economizer is installed.

[] Designates Metric Conversions

FIELD-INSTALLED ACCESSORY EQUIPMENT

ACCESSORY	MODEL NUMBER	SHIPPING WEIGHT LBS. [KG]	INSTALLED WEIGHT LBS. [KG]	FACTORY INSTALLATION AVAILABLE?
Economizers				
Non-DDC Economizer with Single Enthalpy (Downflow/Vertical) <i>MicroMetl Economizer with Siemens Controls</i>	RXRD-11MGDAM3	445 [202.0]	269.0 [122.1]	Yes
Non-DDC Economizer with Single Enthalpy (Downflow/Vertical) <i>Ruskin Rooftop Systems Economizer with Siemens Controller</i>	RXRD-51MGDAM3	445 [202.0]	269.0 [122.1]	Yes
Non-DDC Economizer with Single Enthalpy (Horizontal) <i>MicroMetl Economizer with Siemens Controls</i>	RXRD-11MGHAM3	616 [279.7]	427.3 [194.0]	No
Non-DDC Economizer with Single Enthalpy (Horizontal) <i>Ruskin Rooftop Systems Economizer with Siemens Controller</i>	RXRD-51MGHAM3	616 [279.7]	427.3 [194.0]	No
Economizer Universal DDC Interface Kit	RXRX-DDC01	40 [18.1]	34.0 [15.4]	Yes

[] Designates Metric Conversions

FIELD-INSTALLED ACCESSORY EQUIPMENT (CONTINUED)

ACCESSORY		MODEL NUMBER	SHIPPING WEIGHT LBS. [KG]	INSTALLED WEIGHT LBS. [KG]	FACTORY INSTALLATION AVAILABLE?
Comfort Alert (3 phase) Non-DDC		RXR-AXG3	1 [0.5]	1 [0.5]	No
Comfort Alert (3 Phase) DDC		RXR-AXG2	1 [0.5]	1 [0.5]	Yes
Communication Card, BACnet		RXR-AY01	1 [0.5]	1 [0.5]	No
Communication Card, LonWorks		RXR-AY02	1 [0.5]	1 [0.5]	No
Concentric Adapter/Transition (15 & 17.5 ton)		RXMC-GG01	468 [212.5]	450 [204.3]	No
Concentric Adapter/Transition (20 ton)		RXMC-GG02	468 [212.5]	450 [204.3]	No
Concentric Adapter/Transition (25 ton)		RXMC-GG03	468 [212.5]	450 [204.3]	No
Concentric Flush Mount Diffuser (15 & 17.5 ton)		RXRN-AEF2042	240 [109]	220 [99.9]	No
Concentric Flush Mount Diffuser (20 ton)		RXRN-AEF2348	270 [122.6]	250 [113.5]	No
Concentric Flush Mount Diffuser (25 ton)		RXRN-AEF2852	335 [152.1]	315 [143]	No
Concentric Step Down Diffuser (15 & 17.5 ton)		RXRN-AED2042	350 [158.9]	330 [149.8]	No
Concentric Step Down Diffuser (20 ton)		RXRN-AED2348	405 [183.9]	385 [174.8]	No
Concentric Step Down Diffuser (25 ton)		RXRN-AED2852	410 [186.1]	390 [177.1]	No
Convenience Outlet, Non-Powered		RXR-BN01	2.2 [1]	2 [0.9]	Yes
Dual Enthalpy, Temperature and Humidity Sensor (for Siemens)		PD555460	1 [0.5]	1 [0.5]	No
Electric Heater Kits (with Single Point Wiring)	18 kW 208 - 230 V	RXJJ-G18KWC	173 [78.5]	68 [30.9]	Yes
	18 kW 460 V	RXJJ-G18KWD	173 [78.5]	68 [30.9]	Yes
	18 kW 575 V	RXJJ-G18KWY	173 [78.5]	68 [30.9]	Yes
	36 kW 208 - 230 V	RXJJ-G36KWC	176 [79.9]	71 [32.2]	Yes
	36 kW 460 V	RXJJ-G36KWD	173 [78.5]	68 [30.9]	Yes
	36 kW 575 V	RXJJ-G36KWY	173 [78.5]	68 [30.9]	Yes
	54 kW 208 - 230 V	RXJJ-G54KWC	180 [81.7]	75 [34.1]	Yes
	54 kW 460 V	RXJJ-G54KWD	176 [79.9]	71 [32.2]	Yes
	54 kW 575 V	RXJJ-G54KWY	176 [79.9]	71 [32.2]	Yes
	72 kW 208 - 230 V	RXJJ-G72KWC	180 [81.7]	75 [34.1]	Yes
	72 kW 460 V	RXJJ-G72KWD	176 [79.9]	71 [32.2]	Yes
	72 kW 575 V	RXJJ-G72KWY	176 [79.9]	71 [32.2]	Yes
Freeze Stat Kit (Non-DDC)		RXR-AM06	1 [0.5]	1 [0.5]	Yes
Fresh Air Damper, Manual		RXRF-AGA1	110 [49.9]	104 [47.2]	No
Fresh Air Damper, Motorized		RXRF-AGB1	118 [53.6]	112 [50.8]	No
Fresh Air Damper, Motorized DDC		RXRF-AGC1	118 [53.6]	112 [50.8]	No
Low-Ambient Control Kit		RXRZ-A05	3 [1.4]	2 [0.9]	Yes
MERV 8 Filter		RXMF-M08A22420	8 [3.6]	7 [3.2]	Yes
MERV 13 Filter		RXMF-M13A22420	8 [3.6]	7 [3.2]	Yes
Outdoor Coil Louver Kit		RXR-LKG01	94.5 [42.9]	90 [40.9]	No
Power Exhaust (230V) Kit, Convertible (<i>MicroMetl</i>)		RXR-CGF01C	104 [47.2]	98.65 [44.8]	No
Power Exhaust (460V) Kit, Convertible (<i>MicroMetl</i>)		RXR-CGF01D	97 [44]	91.65 [41.6]	No
Power Exhaust (575V) Kit, Convertible (<i>MicroMetl</i>)		RXR-CGF01Y	140 [63.6]	134.65 [61.1]	No
Power Exhaust (230V) Kit, Convertible (<i>RRS</i>)		RXR-RGF01C	104 [47.2]	98.65 [44.8]	No
Power Exhaust (460V) Kit, Convertible (<i>RRS</i>)		RXR-RGF01D	97 [44]	91.65 [41.6]	No
Power Exhaust (575V) Kit, Convertible (<i>RRS</i>)		RXR-RGF01Y	140 [63.6]	134.65 [61.1]	No
Roofcurb, 14"		RXR-DGC14	210 [95.3]	205 [93.1]	No
Roofcurb, 18"		RXR-DGC18	250 [113.5]	245 [111.2]	No
Roofcurb, 24"		RXR-DGC24	293 [133]	288 [130.8]	No
Roofcurb - Restraint Clips		RXR-DGCRC	8.5 [3.9]	7.5 [3.4]	No
Roofcurb Adapter		RXR-DGCAE	358 [162.5]	350 [158.9]	No
Roofcurb Adapter Z-Bracket		RXR-DGCAZ	60 [27.2]	42 [19.1]	No
Sensor, Carbon Dioxide (Wall Mount)		RXR-AR02	1 [0.5]	1 [0.5]	No
Smoke Detector, Return (Downflow/Vertical)		RXR-BSG1	7 [3.2]	6 [2.7]	Yes
Smoke Detector, Return (Horizontal)		RXR-BSG2	7 [3.2]	6 [2.7]	No
Smoke Detector, Return/Supply (Downflow/Vertical)		RXR-BSG3	10 [4.5]	9 [4.1]	Yes
Smoke Detector, Return/Supply (Horizontal)		RXR-BSG4	10 [4.5]	9 [4.1]	No
Unfused Service Disconnect		RXR-BPG1	12 [5.4]	10 [4.5]	No

[] Designates Metric Conversions

COMMUNICATION CARDS

Field Installed



BACnet COMMUNICATION CARD RXRX-AY01

The field installed BACnet Communication Card allows the RTU-C unit controller to communicate with a third party building management system that supports the BACnet Application Specific Controller device profile. The BACnet Communication Module plugs onto the unit RTU-C controller and allows communication between the RTU-C and the BACnet MSTP network.



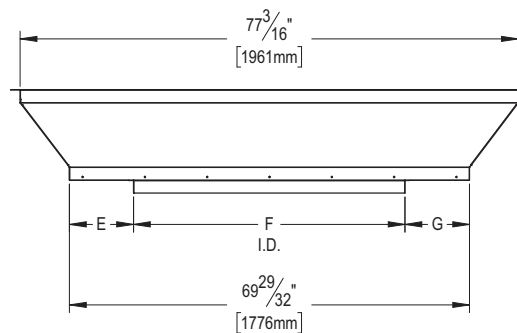
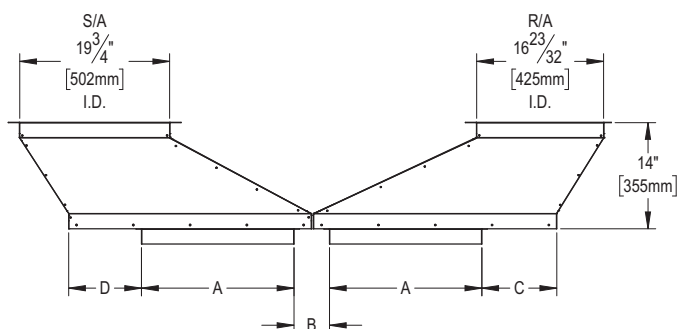
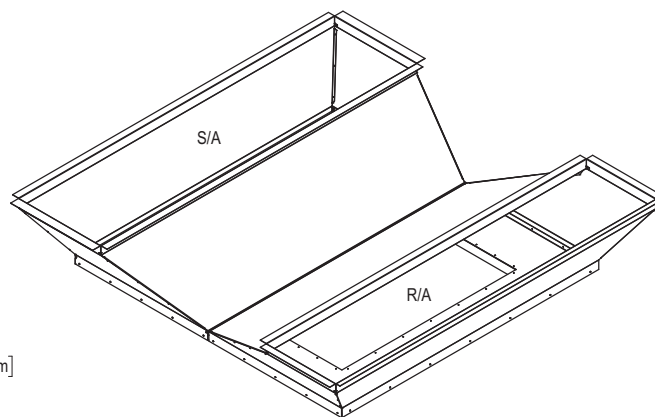
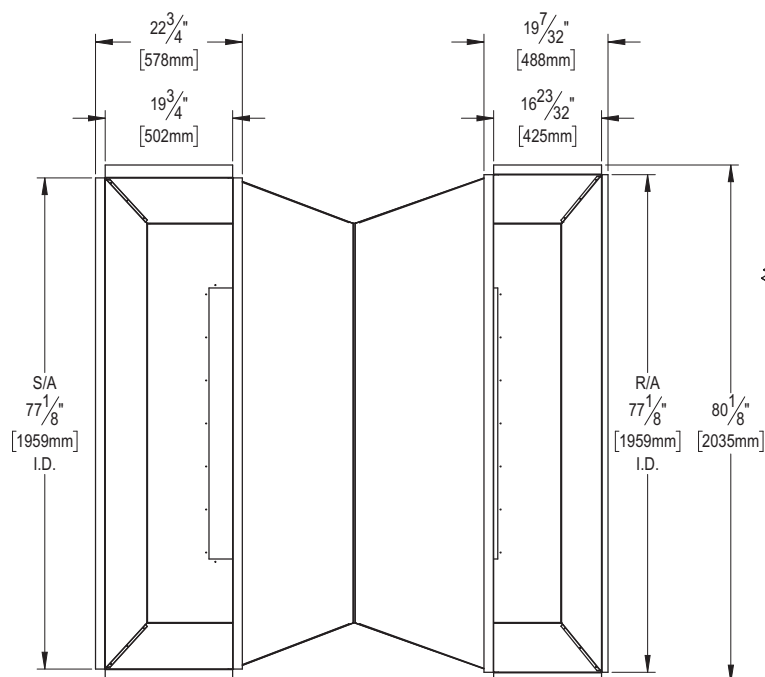
LonWorks COMMUNICATION CARD RXRX-AY02

The field installed LonWorks Communication Card allows the RTU-C unit controller to communicate with a third party building management system that supports the LonMark Space Comfort Controller (SCC) functional profile or LonMark Discharge Air Controller (DAC) functional profile. The LonMark Communication Module plugs onto the RTU-C controller and allows communication between the RTU-C and a LonWorks Network.

DOWNFLOW CONCENTRIC TRANSITION DRAWINGS

RXMC-GG01 – Concentric Adapter/Transition (15 & 17.5 Ton)

- Used with Concentric Diffusers RXRN-AEF2042 and RXRN-AED2042



ST-A1328-07-01

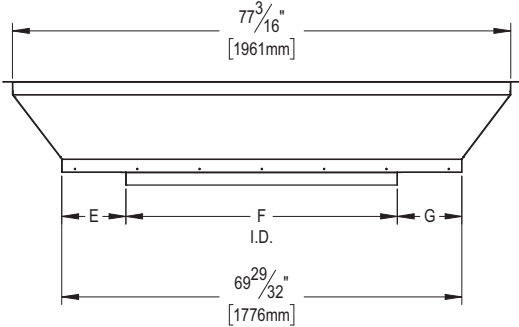
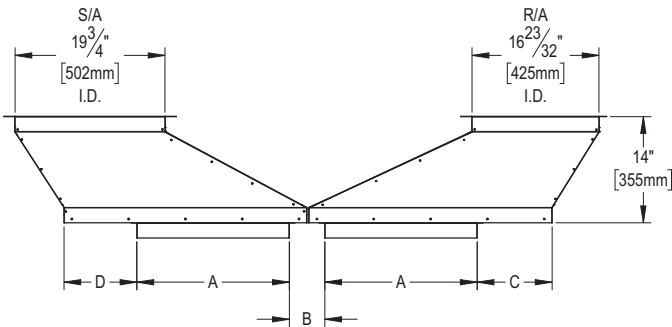
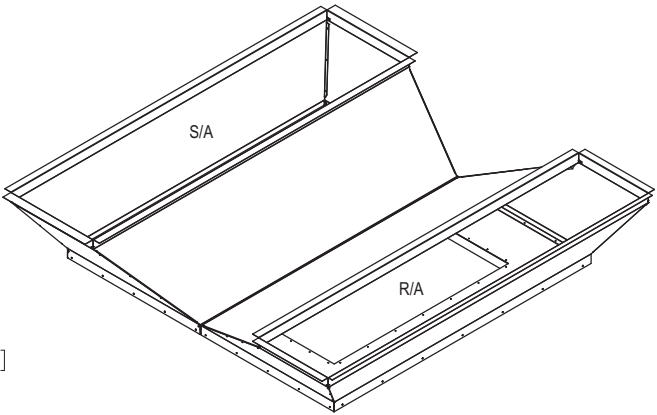
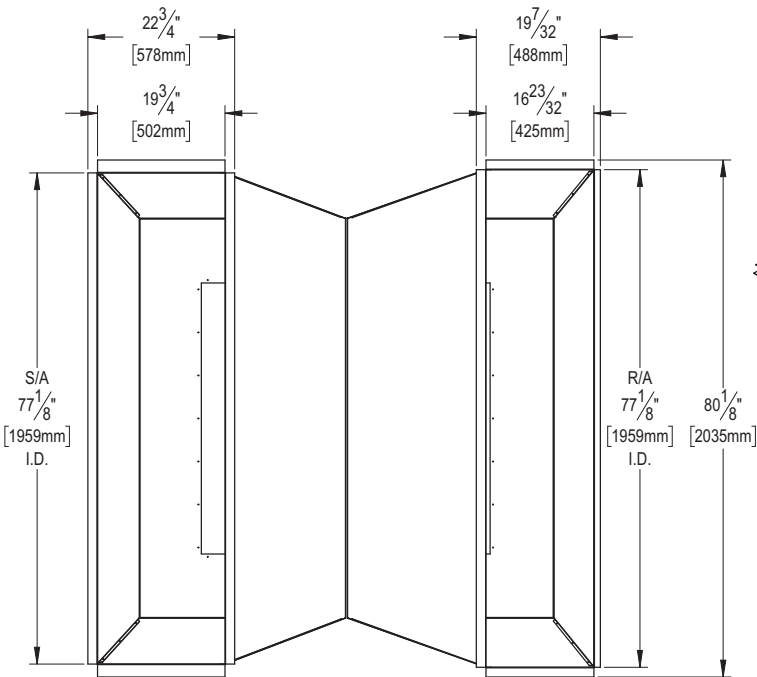
CONCENTRIC ADAPTER/ TRANSITION MODEL	DIMENSION	
RXMC-GG01	A	20.000"
	B	4.750"
	C	9.561"
	D	9.963"
	E	9.862"
	F	42.000"
	G	10.038"

[] Designates Metric Conversions

DOWNFLOW CONCENTRIC TRANSITION DRAWINGS

RXMC-GG02—Concentric Adapter/Transition (20 Ton)

- Used with Concentric Diffusers RXRN-AEF2348 and RXRN-AED2348



ST-A1328-07-01

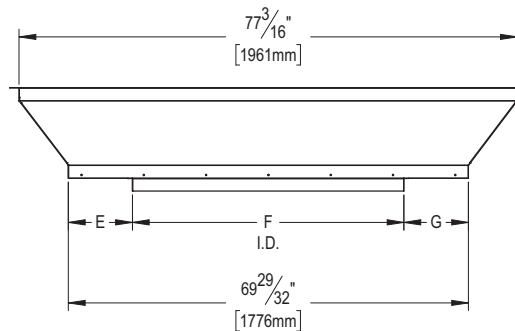
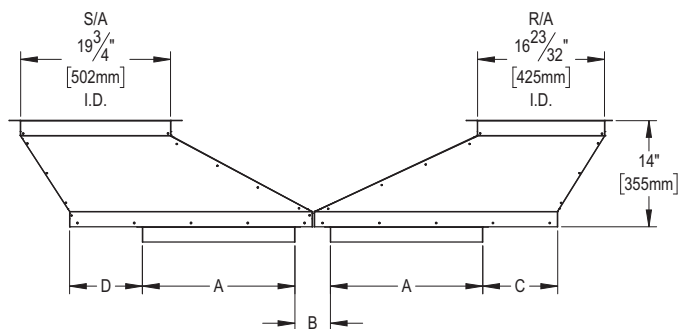
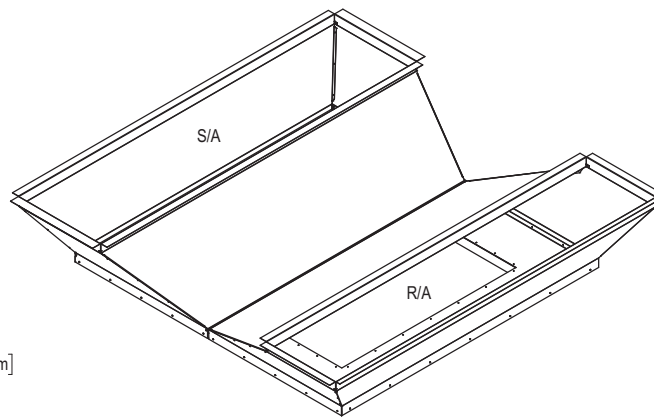
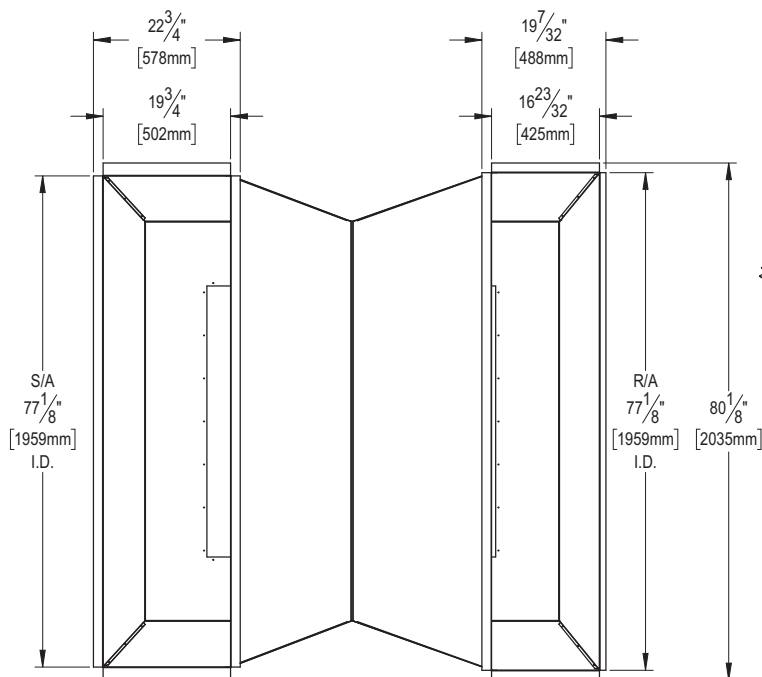
CONCENTRIC ADAPTER/ TRANSITION MODEL	DIMENSION	
RXMC-GG02	A	23.000"
	B	3.126"
	C	7.674"
	D	7.373"
	E	6.963"
	F	48.000"
	G	7.038"

[] Designates Metric Conversions

DOWNFLOW CONCENTRIC TRANSITION DRAWINGS

RXMC-GG03—Concentric Adapter/Transition (25 Ton)

- Used with Concentric Diffusers RXRN-AEF2852 and RXRN-AED2852



ST-A1328-07-01

CONCENTRIC ADAPTER/ TRANSITION MODEL	DIMENSION	
RXMC-GG03	A	28.000"
	B	2.500"
	C	2.987"
	D	2.686"
	E	4.964"
	F	52.000"
	G	5.037"

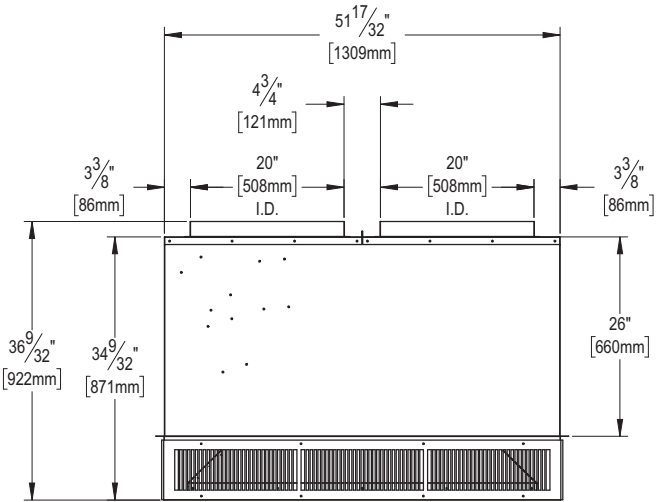
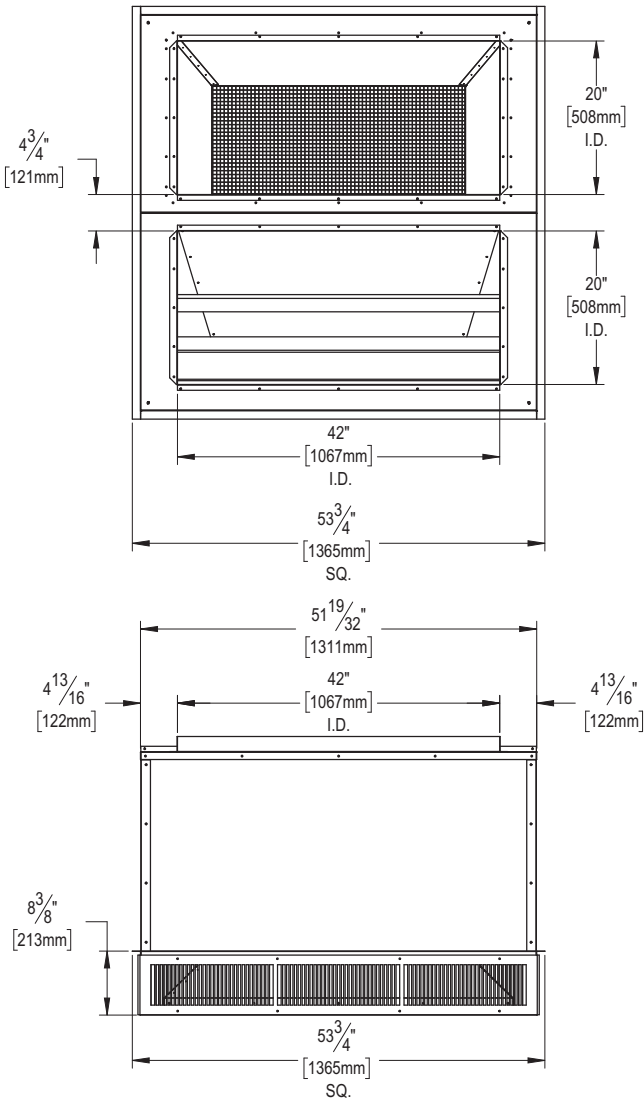
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 15 & 17.5 TON FLUSH
20" x 42" [508 x 1067 mm]

RXRN-AEF2042

For use with Concentric Adapter RXMC-GG01 and 20" x 42" [508 x 1067 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-13-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] ^{2, 3}	NECK VELOCITY FPM [m/s]	NOISE LEVEL ^{4, 5} [dBa]
RXRN-AEF2042	6000 [2832]	16-32 [4.9-9.8]	743 [3.7]	37
	7200 [3398]	22-44 [6.7-13.4]	891 [4.5]	47

NOTES: 1. All data is based on the air diffusion council guidelines.
2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
3. Throw is based on diffuser blades being directed in a straight pattern.
4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
5. Adequate duct attenuation must be provided to reduce sound output from unit.

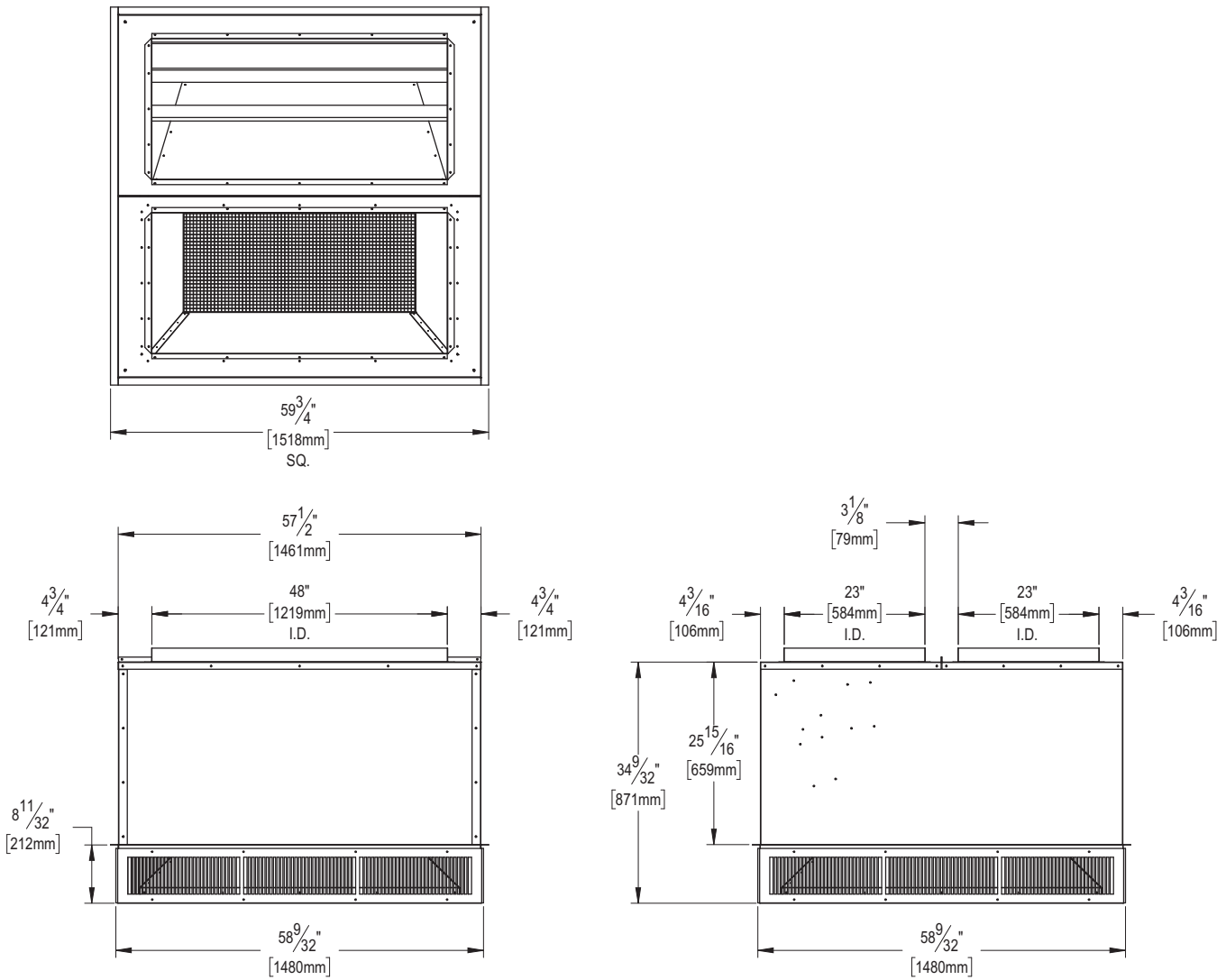
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 20 TON FLUSH 23" x 48" [584 x 1219 mm]

RXRN-AEF2348

For use with Concentric Adapter RXMC-GG02 and 23" x 48" [584 x 1219 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-14-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] ^{2, 3}	NECK VELOCITY FPM [m/s]	NOISE LEVEL ^{4, 5} [dba]
RXRN-AEF2348	7200 [3398]	47-80 [14.3-24.4]	663 [3.3]	39
	8000 [3776]	51-84 [15.5-25.6]	737 [3.7]	39

- NOTES:**
1. All data is based on the air diffusion council guidelines.
 2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
 3. Throw is based on diffuser blades being directed in a straight pattern.
 4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
 5. Adequate duct attenuation must be provided to reduce sound output from unit.

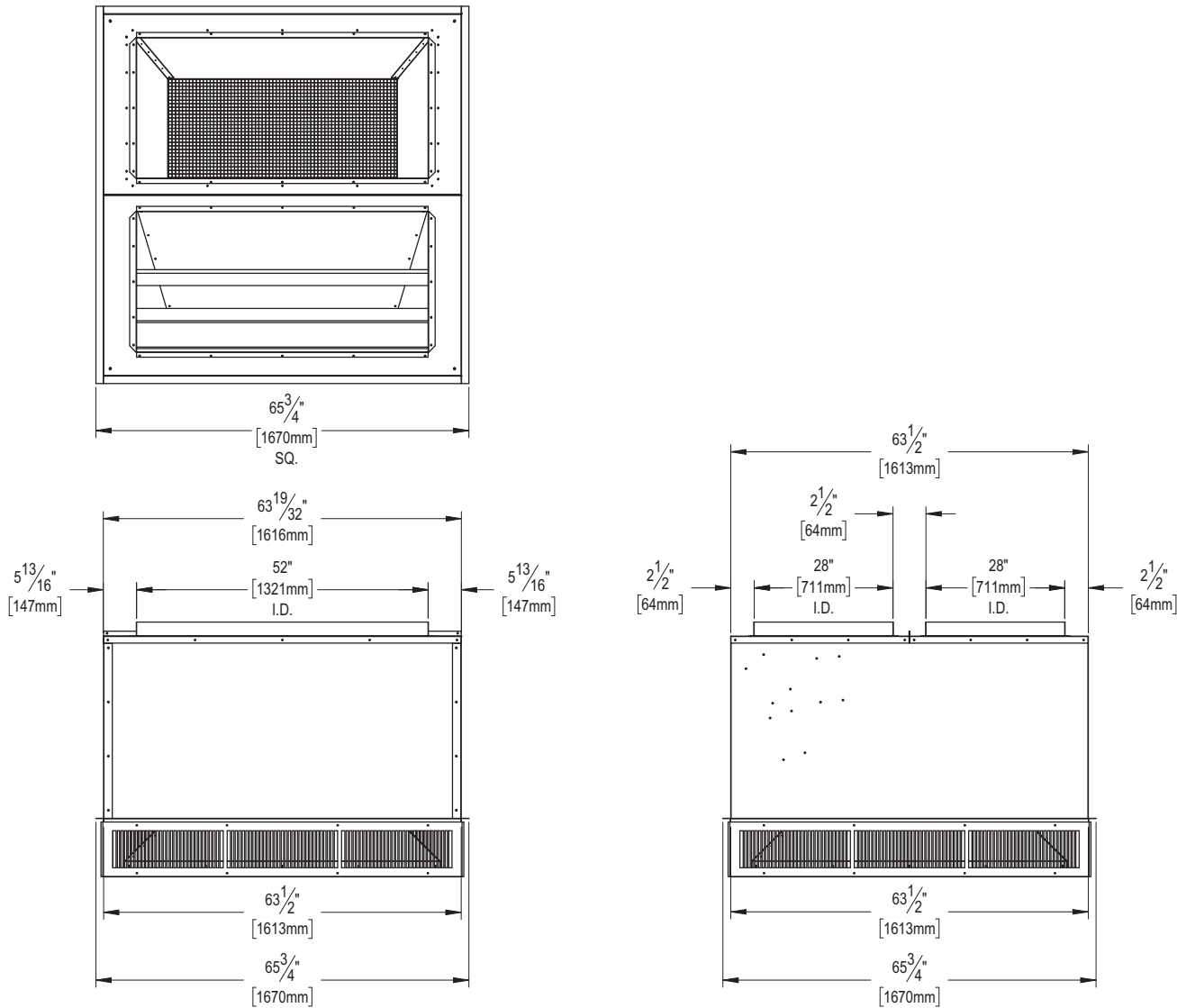
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 25 TON FLUSH
28" x 52" [711 x 1321 mm]

RXRN-AEF2852

For use with Concentric Adapter RXMC-GG03 and 28" x 52" [711 x 1321 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-12-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] 2, 3	NECK VELOCITY FPM [m/s]	NOISE LEVEL 4, 5 [dBa]
RXRN-AEF2852	10,000 [4720]	21-45 [6.4-13.7]	954 [4.8]	41

- NOTES:
1. All data is based on the air diffusion council guidelines.
 2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
 3. Throw is based on diffuser blades being directed in a straight pattern.
 4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
 5. Adequate duct attenuation must be provided to reduce sound output from unit.

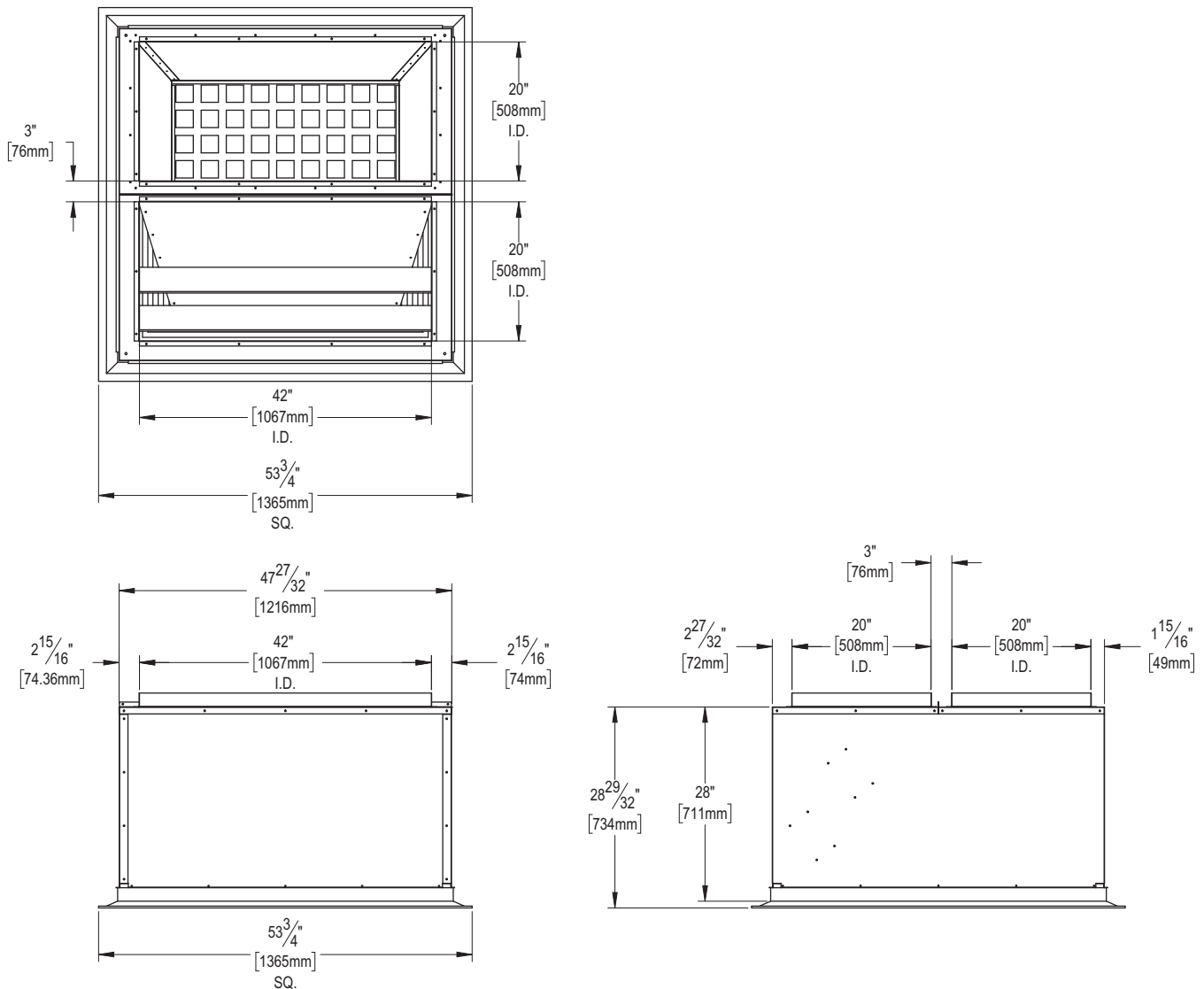
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 15 & 17.5 TON DROP 20" x 42" [508 x 1067 mm]

RXRN-AED2042

For use with Concentric Adapter RXMC-GG01 and 20" x 42" [508 x 1067 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-10-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] ^{2, 3}	NECK VELOCITY FPM [m/s]	NOISE LEVEL ^{4, 5} [dba]
RXRN-AED2042	6000 [2832]	40-70 [12.2-21.3]	843 [4.2]	37
	7200 [3398]	46-79 [14-24.1]	1011 [5.1]	47

- NOTES:**
1. All data is based on the air diffusion council guidelines.
 2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
 3. Throw is based on diffuser blades being directed in a straight pattern.
 4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
 5. Adequate duct attenuation must be provided to reduce sound output from unit.

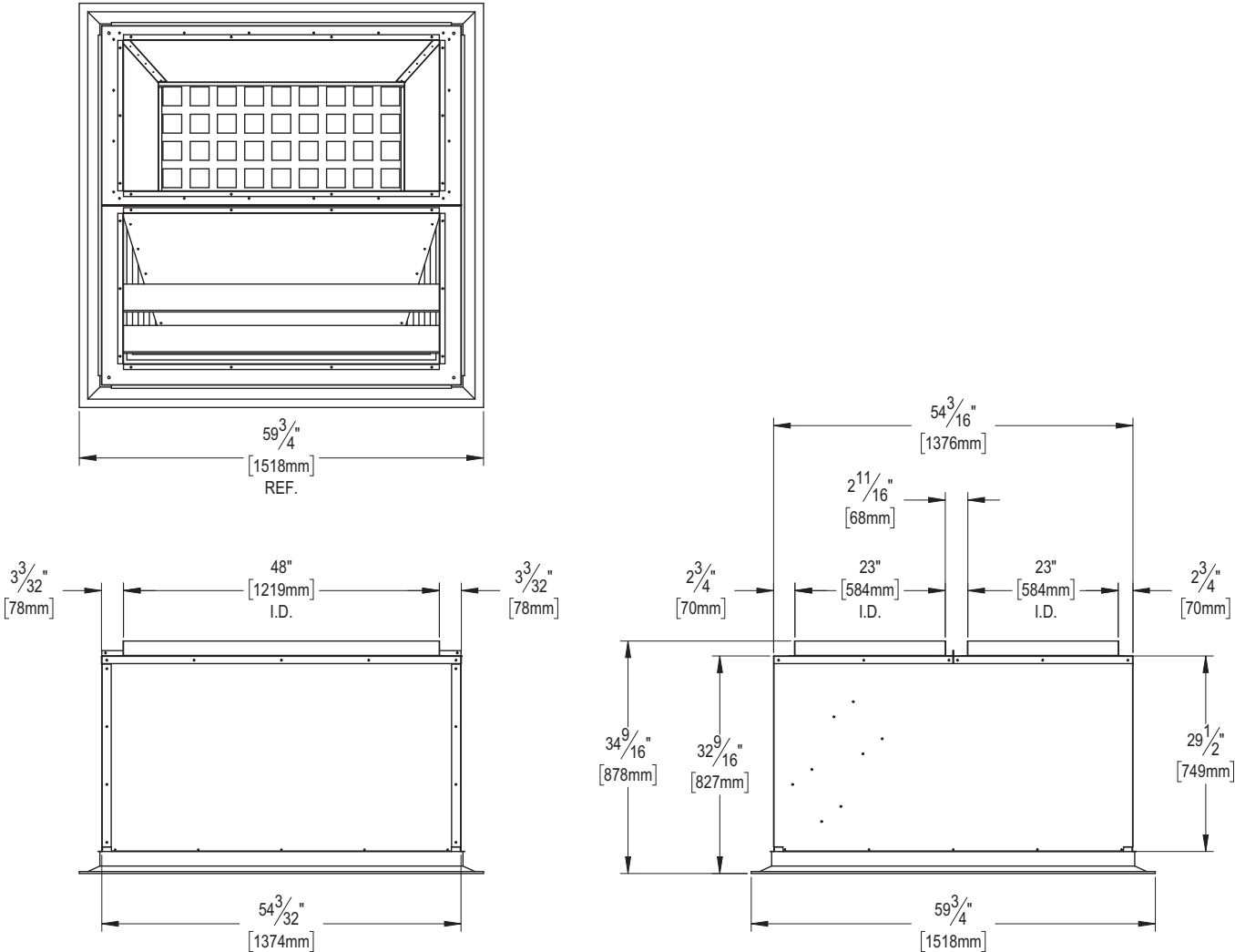
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 20 TON DROP
23" x 48" [584 x 1219 mm]

RXRN-AED2348

For use with Concentric Adapter RXMC-GG02 and 23" x 48" [584 x 1219 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-11-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] 2, 3	NECK VELOCITY FPM [m/s]	NOISE LEVEL 4, 5 [dba]
RXRN-AED2348	7200 [3398]	47-80 [14.3-24.4]	891 [4.5]	39
	8000 [3776]	48-82 [14.6-25]	990 [5.0]	39

NOTES: 1. All data is based on the air diffusion council guidelines.
2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
3. Throw is based on diffuser blades being directed in a straight pattern.
4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
5. Adequate duct attenuation must be provided to reduce sound output from unit.

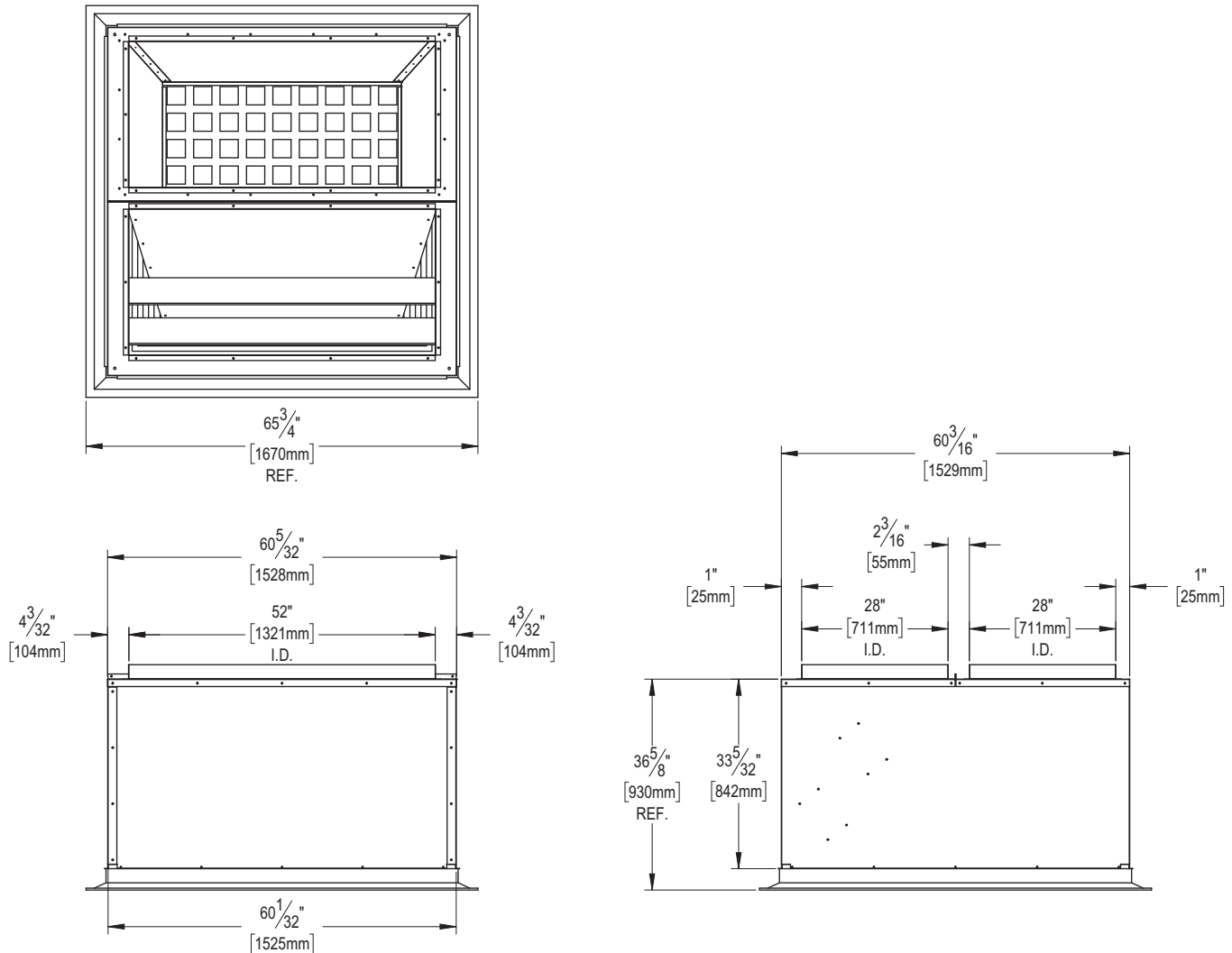
[] Designates Metric Conversions

CONCENTRIC DIFFUSER 25 TON DROP 28" x 52" [711 x 1321 mm]

RXRN-AED2852

For use with Concentric Adapter RXMC-GG03 and 28" x 52" [711 x 1321 mm] Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate
- Built-in anti-sweat gasket
- Molded fiberglass supports
- Built-in hanging supports
- Diffuser box constructed of sheet metal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner
- Double deflection diffuser with the blades secured by spring steel



ST-A1328-09-01

MODEL NO.	FLOW RATE CFM [L/s]	THROW FEET [m] ^{2, 3}	NECK VELOCITY FPM [m/s]	NOISE LEVEL ^{4, 5} [dba]
RXRN-AED2852	10,000 [4720]	52-90 [15.8-27.4]	1115 [5.6]	41

- NOTES:**
1. All data is based on the air diffusion council guidelines.
 2. Throw data is based on 75 FPM Terminal Velocities using Isothermal Air.
 3. Throw is based on diffuser blades being directed in a straight pattern.
 4. Actual noise levels may vary due to duct design and do not include transmitted unit noise.
 5. Adequate duct attenuation must be provided to reduce sound output from unit.

[] Designates Metric Conversions

NON-DDC ECONOMIZER WITH SINGLE ENTHALPY (DOWNFLOW/VERTICAL) MICROMETL ECONOMIZER WITH SIEMENS CONTROLS

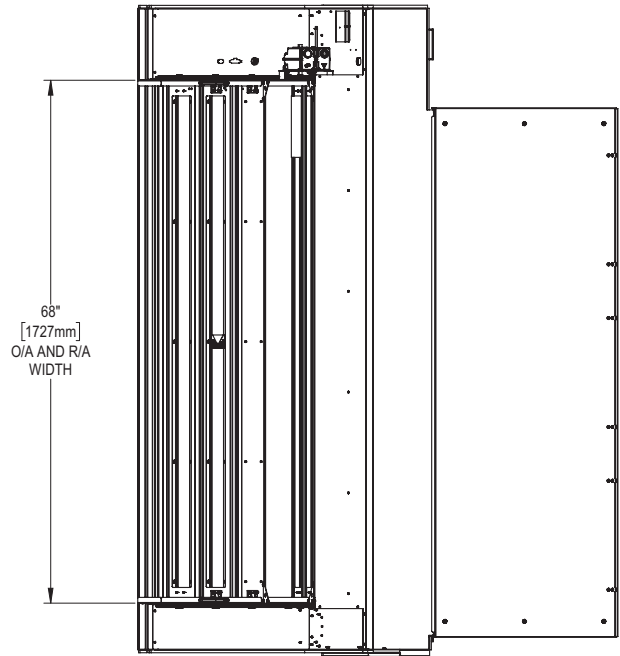
Factory or Field-Installed

RXRD-11MGDAM3—Single Enthalpy (Outdoor)

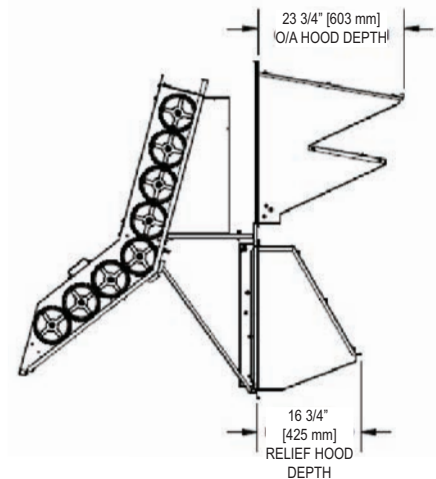
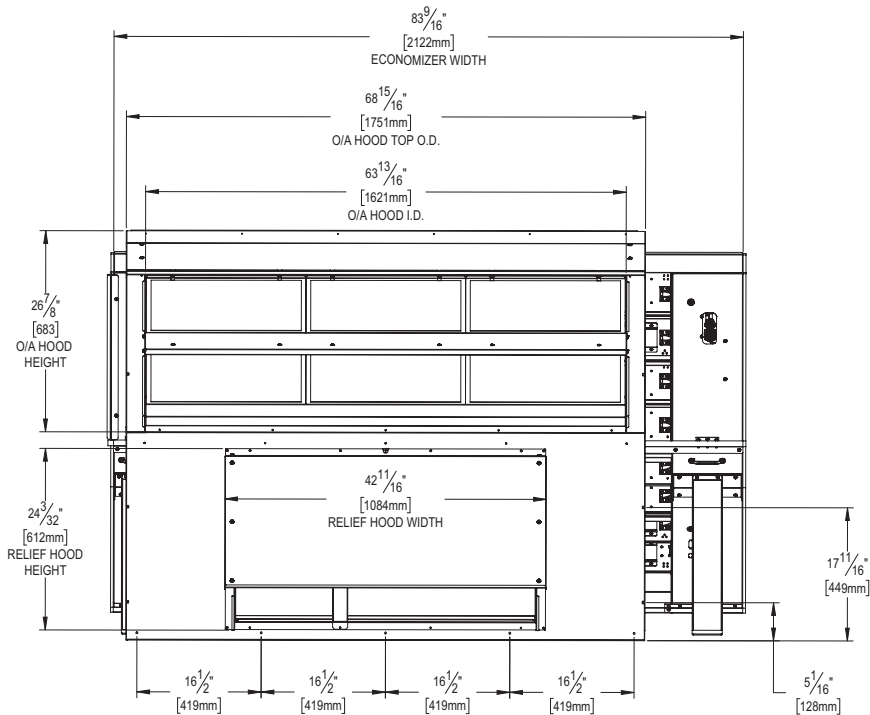
**PD555460—Dual Enthalpy, Temperature and Humidity Sensor
(for Siemens Controller)**

RRRX-AR02—Optional Wall-Mounted CO₂ Sensor

- California Energy Commission (CEC) Title 24 Listed
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO₂ Input Sensor Option
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Downflow Duct Application
- Field-Installed Power Exhaust Option
- Prewired for Smoke Detector
- If connected to a Building Automation System (BAS), all economizer functions can be viewed on the (BAS) or 16 x 2 LCD screen
- If connected to thermostat, all economizer functions can be viewed on 16 x 2 LCD screen
- Siemens WiFi Programming Stick (PD555462) Option



ST-A1341-58-01



ST-A1341-59-01

ST-A1341-60-01

NON-DDC ECONOMIZER WITH SINGLE ENTHALPY (DOWNFLOW/VERTICAL) RUSKIN ROOFTOP SYSTEMS ECONOMIZER WITH SIEMENS CONTROLLER

Field-Installed Only

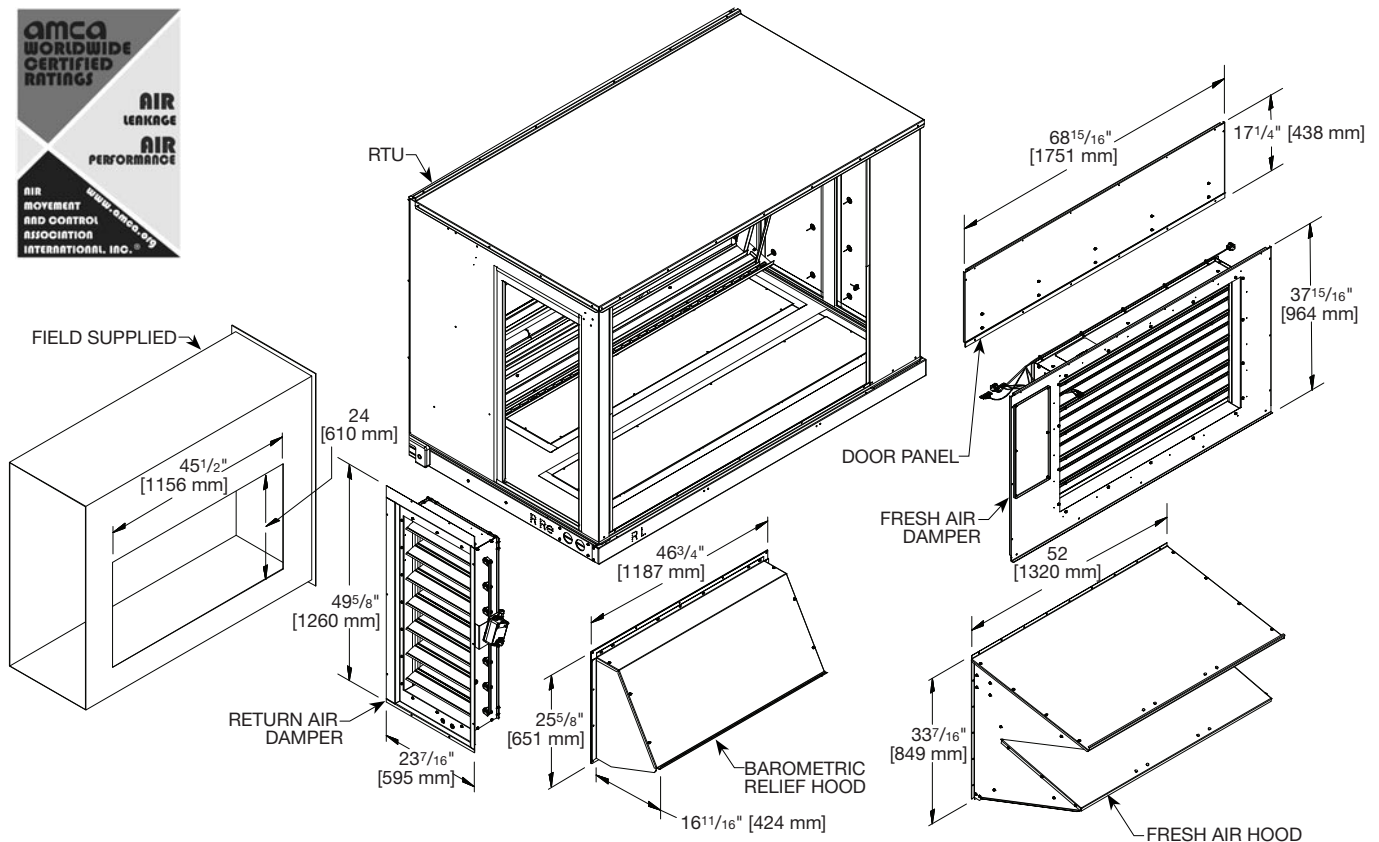
RXRD-51MGDAM3—Single Enthalpy (Outdoor)

PD555460—Dual Enthalpy, Temperature and Humidity Sensor (for Siemens Controller)

RXRX-AR02—Optional Wall-Mounted CO₂ Sensor

These ultra-low leak economizer dampers meet the following minimum construction standards:

1. Frame shall be 14 to 24 gauge galvanized steel channel.
2. Damper blades are galvanized steel airfoil shaped, double skin construction of 14 gauge [2.0] equivalent thickness, 6" [152 mm] wide. Parallel action.
3. Blade edge seals shall be Ruskiprene™ type or equivalent suitable for -72°F [-60°C] to +275°F [+135°C] mechanically locked into the blade edge. Adhesive or clip-on type seals are unacceptable.
4. Jamb seals shall be flexible metal, compression type to prevent leakage between blade end and damper frame. Blade end overlapping frame is unacceptable.
5. Bearings shall be stainless steel or nylon bushing.
6. Axles shall be hexagonal positively locked into the damper blade.
7. Drive mechanism shall be concealed out of airstream to reduce pressure drop and noise.
8. Economizer damper is tested and rated based upon AMCA Publication 500-D.
9. Controls feature the Seimens controller with JCI 24v actuator. Controls capable of Economizer Fault Detection and Diagnostics for code compliance.
10. Damper shall meet the leakage requirements of the International Energy Conservation Code by leaking less than 3 cfm/sq. ft. at 1" of static pressure and shall be AMCA licensed as a class 1A damper. Complies with reliability and performance requirements as specified by the California Energy Commission's Title 24 Standard and ASHRAE 90.1 2022. Economizer dampers shall be Ruskin Rooftop Systems ECD60 model.
11. Can be converted to DDC operation with the Economizer Universal DDC Interface Kit.



[] Designates Metric Conversions

NON-DDC ECONOMIZER WITH SINGLE ENTHALPY (HORIZONTAL) MICROMETL ECONOMIZER WITH SIEMENS CONTROLS

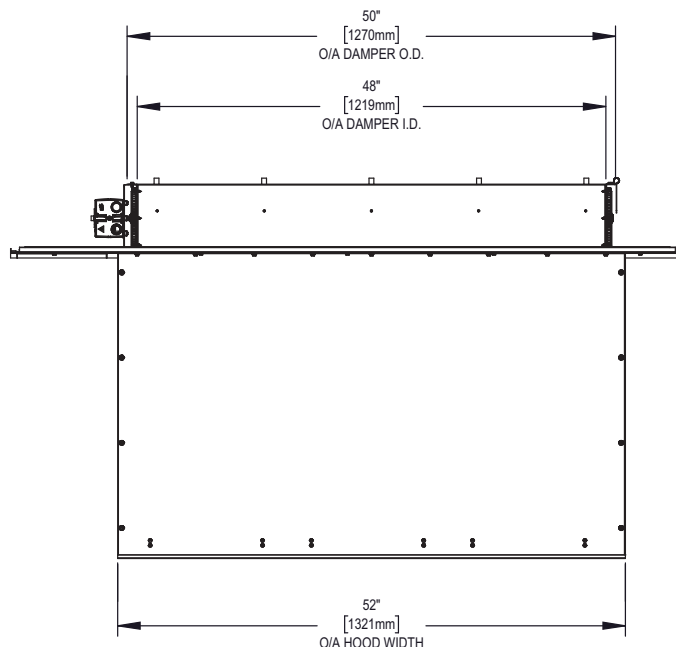
Field-Installed Only

RXRD-11MGHAM3—Single Enthalpy (Outdoor)

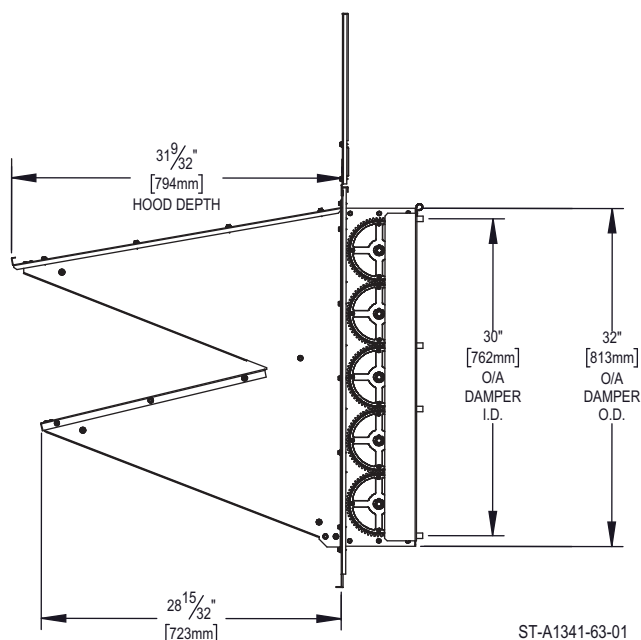
**PD555460—Dual Enthalpy, Temperature and Humidity Sensor
(for Siemens Controller)**

RXXR-AR02—Optional Wall-Mounted CO₂ Sensor

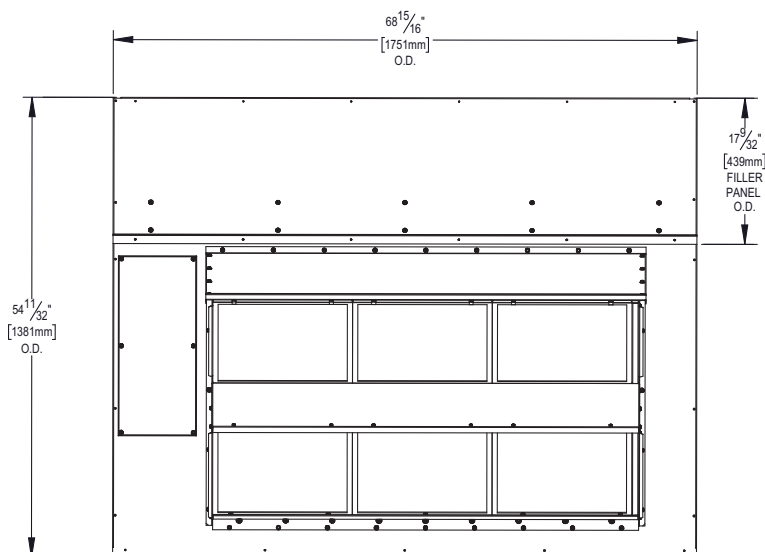
- California Energy Commission (CEC) Title 24 Listed
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO₂ Input Sensor Option
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Horizontal Duct Application
- Field Installed Power Exhaust Option
- Prewired for Smoke Detector
- If connected to a Building Automation System (BAS),
all economizer functions can be viewed on the (BAS)
or 16 x 2 LCD screen
- If connected to thermostat, all economizer functions
can be viewed on 16 x 2 LCD screen
- Siemens WiFi Programming Stick (PD555462) Option



ST-A1341-61-01



ST-A1341-63-01



ST-A1341-62-01

[] Designates Metric Conversions

NON-DDC ECONOMIZER WITH SINGLE ENTHALPY (HORIZONTAL) RUSKIN ROOFTOP SYSTEMS ECONOMIZER WITH SIEMENS CONTROLLER

Field-Installed Only

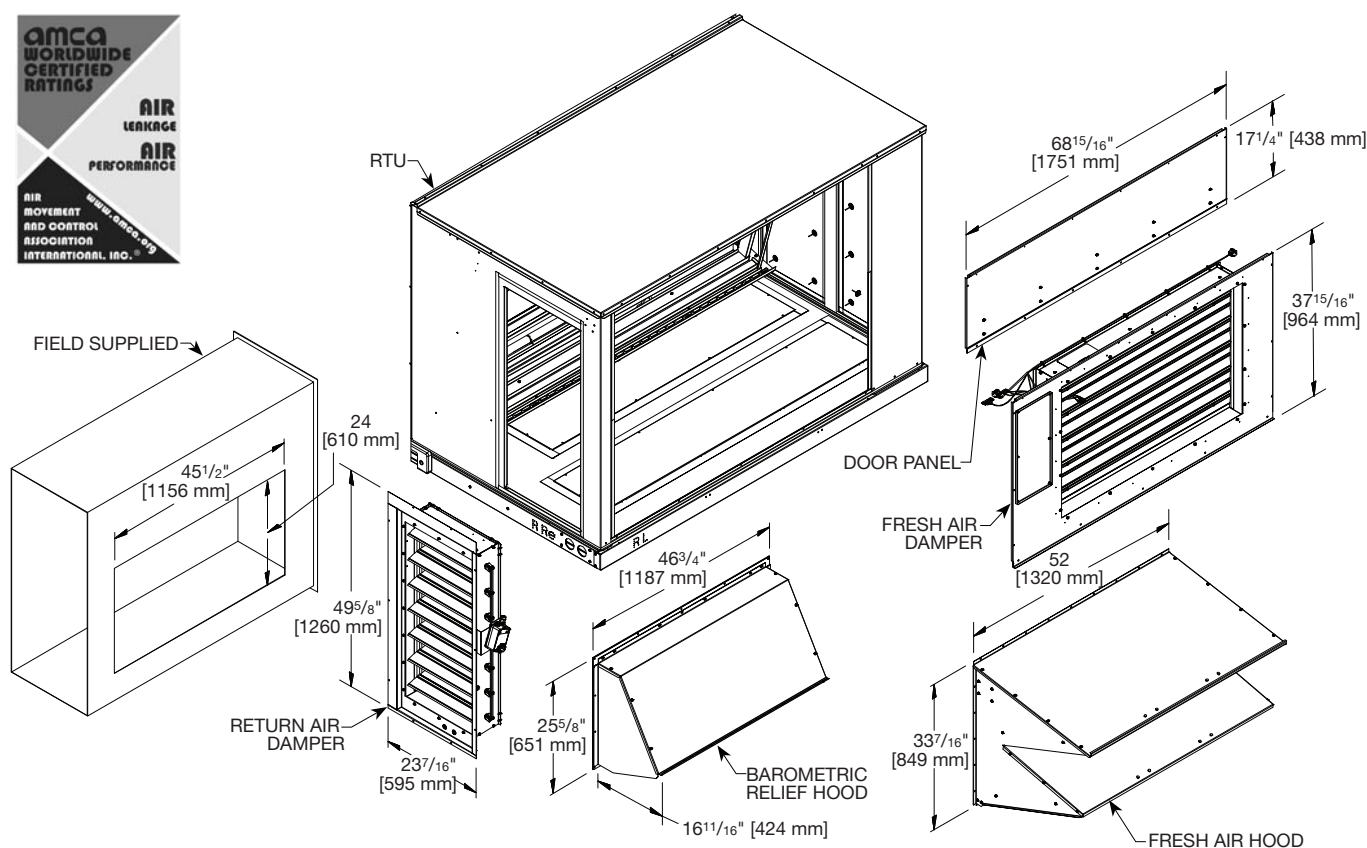
RXRD-51MGHAM3—Single Enthalpy (Outdoor)

PD555460—Dual Enthalpy, Temperature and Humidity Sensor (for Siemens Controller)

RXRX-AR02—Optional Wall-Mounted CO₂ Sensor

These ultra-low leak economizer dampers meet the following minimum construction standards:

1. Frame shall be 14 to 24 gauge galvanized steel channel.
2. Damper blades are galvanized steel airfoil shaped, double skin construction of 14 gauge [2.0] equivalent thickness, 6" [152 mm] wide. Parallel action.
3. Blade edge seals shall be Ruskiprene type or equivalent suitable for -72°F [-60°C] to +275°F [+135°C] mechanically locked into the blade edge. Adhesive or clip-on type seals are unacceptable.
4. Jamb seals shall be flexible metal, compression type to prevent leakage between blade end and damper frame. Blade end overlapping frame is unacceptable.
5. Bearings shall be stainless steel or nylon bushing.
6. Axles shall be hexagonal positively locked into the damper blade.
7. Drive mechanism shall be concealed out of airstream to reduce pressure drop and noise.
8. Economizer damper is tested and rated based upon AMCA Publication 500-D.
9. Controls feature the Siemens controller with JCI 24v actuator. Controls capable of Economizer Fault Detection and Diagnostics for code compliance.
10. Damper shall meet the leakage requirements of the International Energy Conservation Code by leaking less than 3 cfm/sq. ft. at 1" of static pressure and shall be AMCA licensed as a class 1A damper. Complies with reliability and performance requirements as specified by the California Energy Commission's Title 24 Standard and ASHRAE 90.1 2022. Economizer dampers shall be Ruskin Rooftop Systems ECD60 model.
11. Can be converted to DDC operation with the Economizer Universal DDC Interface Kit.



[] Designates Metric Conversions

ECONOMIZER UNIVERSAL DDC INTERFACE KIT

Available Factory or Field-Installed

RXXRX-DDC01

- Allows any Non-DDC Economizer to be used with a ClearControl DDC models
- Mounts on the Economizer
- Provides Mounting location for Economizer Controller
- Provides wire management for excess wire

NOTE: Older DDC models, prior to A2L may require a field update to the ClearControl software. The minimum version required is 3.15. A2L Models will come with a software 4.0 or higher.

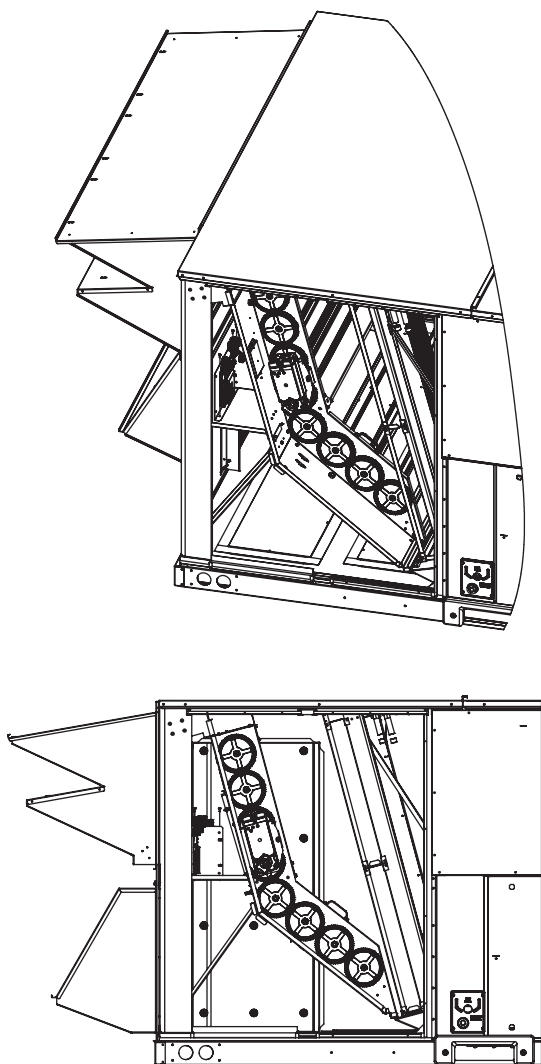


Illustration
ST-A1365-18-00

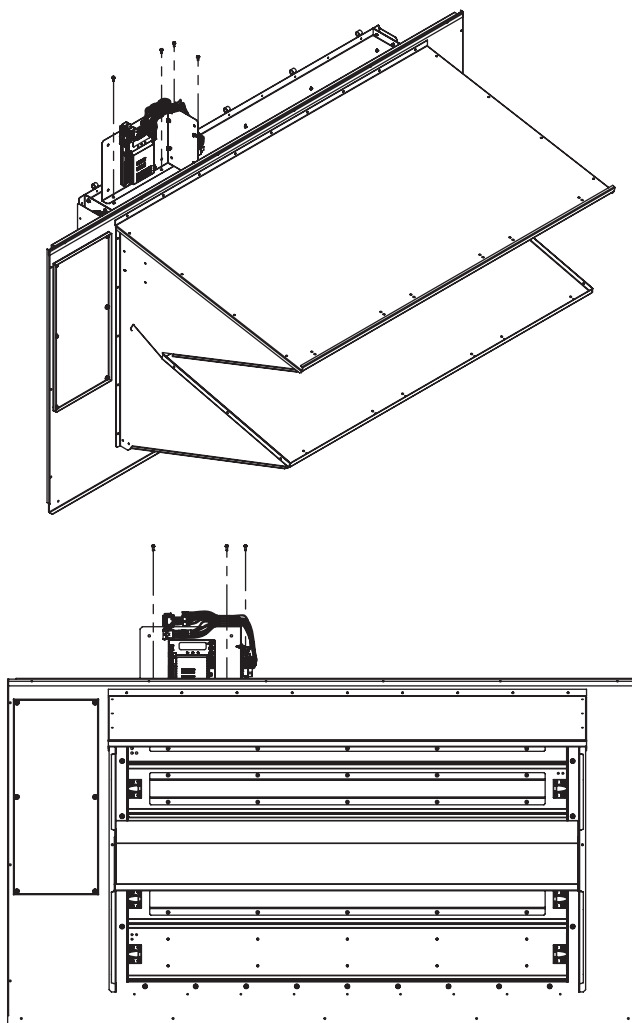


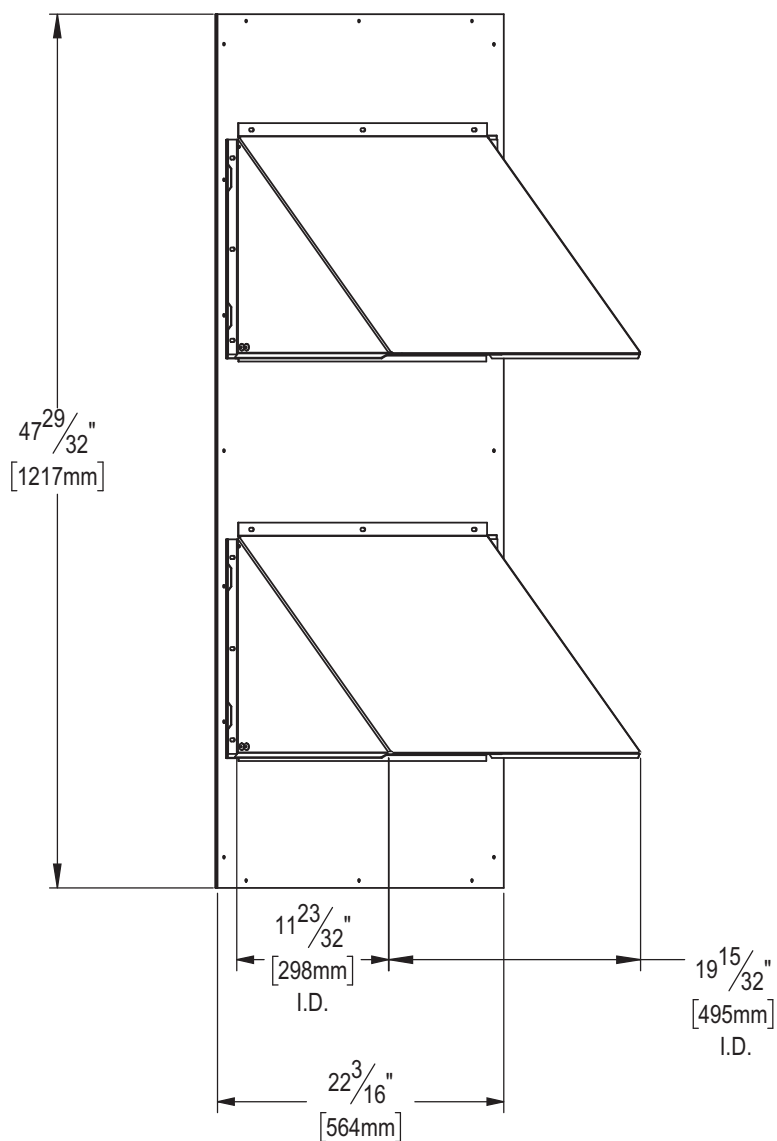
Illustration
ST-A1365-19-00

DDC Interface Kit Location may vary.

FRESH AIR DAMPER

FRESH AIR DAMPER, MANUAL RXRF-AGA1

- For mounting instructions, see the accessory installation and operation manual



ST-A1328-05-01

FRESH AIR DAMPER (CONTINUED)

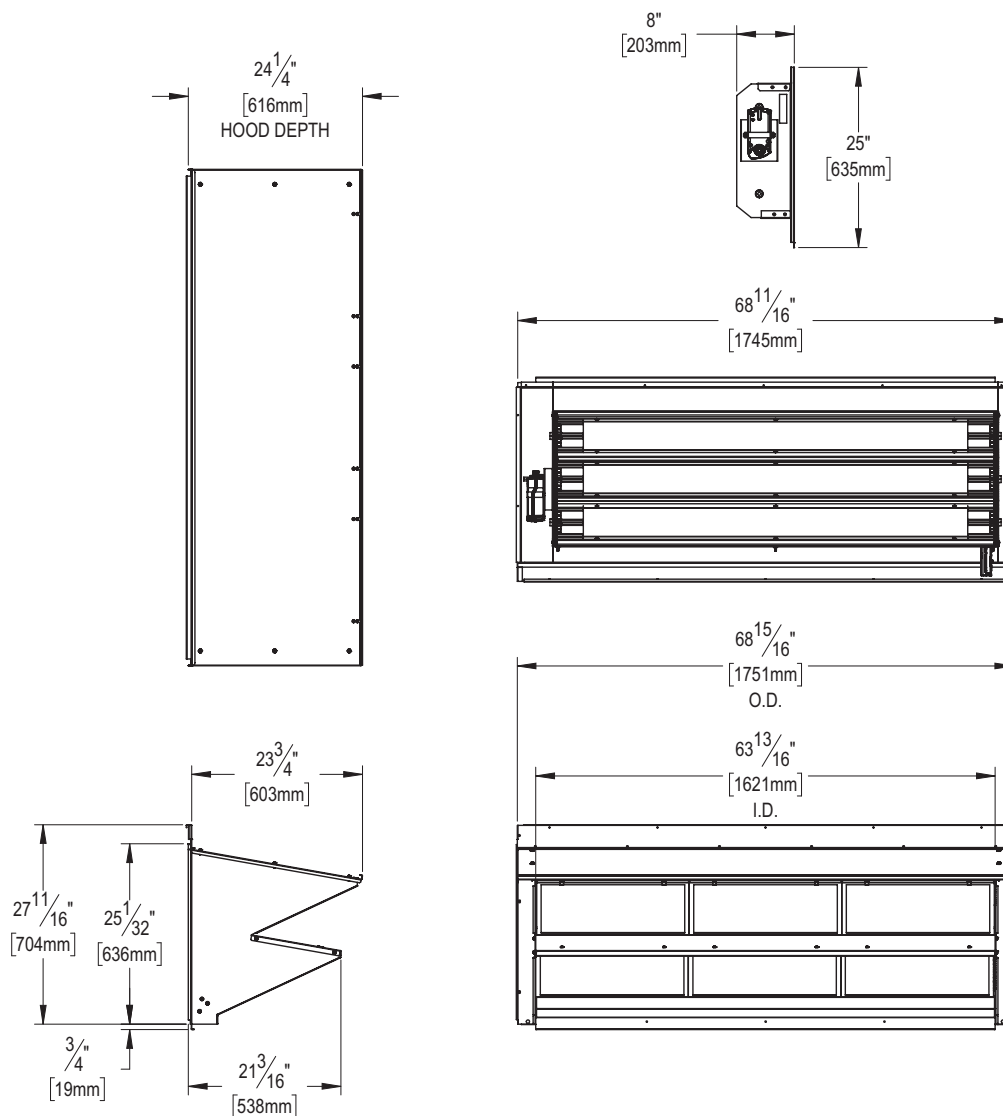
FRESH AIR DAMPER, MOTORIZED RXRF-AGB1

FRESH AIR DAMPER, MOTORIZED (DDC) RXRF-AGC1

(Modulating Motor Kit with position feedback for DDC Models)

- Features Siemens Controls
- Gear Driven Direct Drive
- Actuator Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin and 4-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Addition of Dual Enthalpy Upgrade Kit allows limited economizer function
- CO₂ Sensor Input Available for Demand Control Ventilation (DCV)
- All DDC fresh air damper functions can be viewed at the RTU-C unit controller display

For mounting instructions, see the accessory installation and operation manual



ST-A1328-06-01

[] Designates Metric Conversions

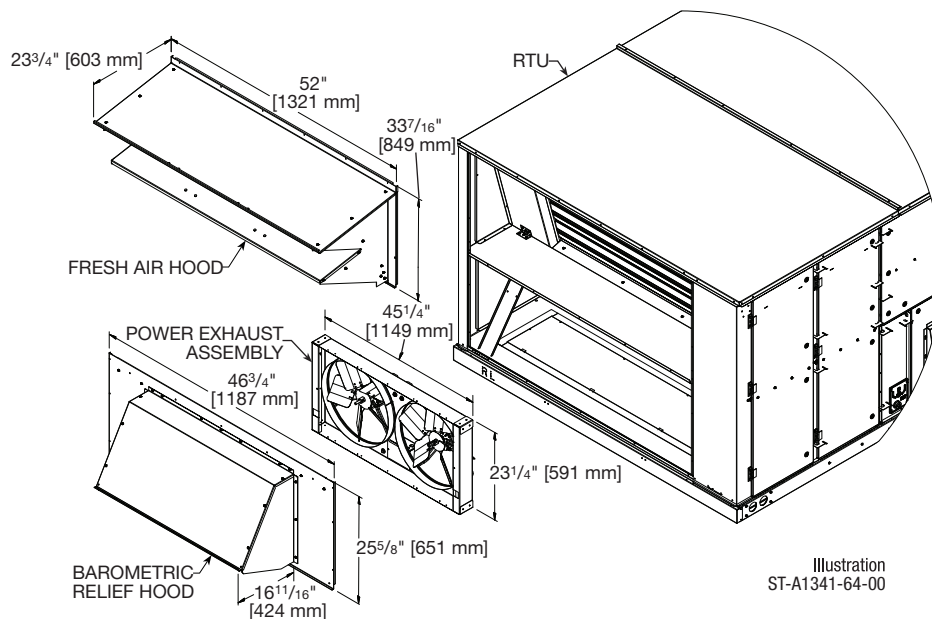
POWER EXHAUST KIT, CONVERTIBLE (MICROMETL)

RXXRX-CGF01*

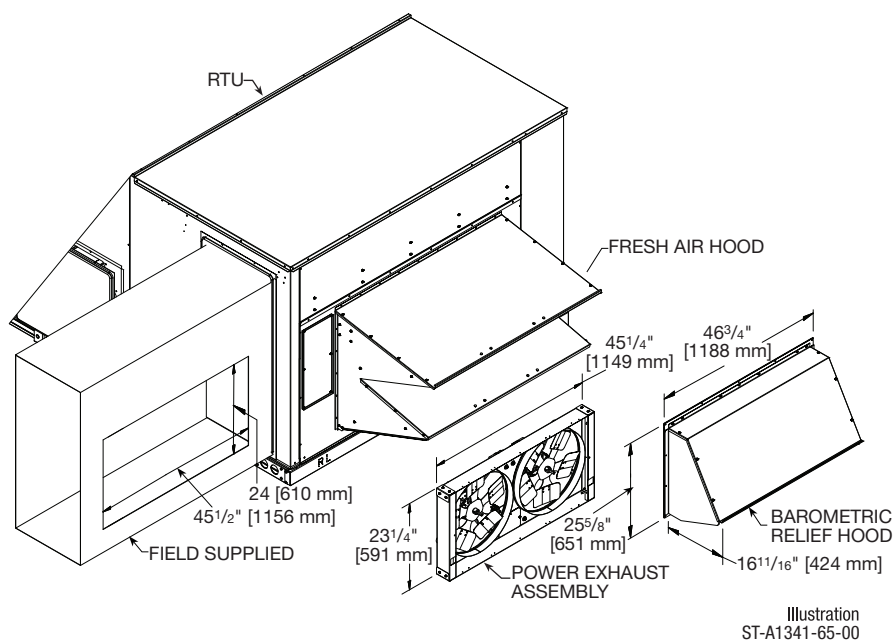
*Voltage Code: C, D, or Y

- Convertible between vertical and horizontal airflow
- Compatible with all G-cabinet economizers

VERTICAL AIRFLOW INSTALLATION



HORIZONTAL AIRFLOW INSTALLATION



MODEL NO.	NO. OF FANS	VOLT	PHASE	HP (ea.)	FLA (ea.)
RXXRX-CGF01C	2	208/230	1	0.50	1.55
RXXRX-CGF01D	2	460	3	0.50	0.51
RXXRX-CGF01Y*	2	575	1	0.50	0.62

*Use step down transformer from 575V to 208-230V.

[] Designates Metric Conversions

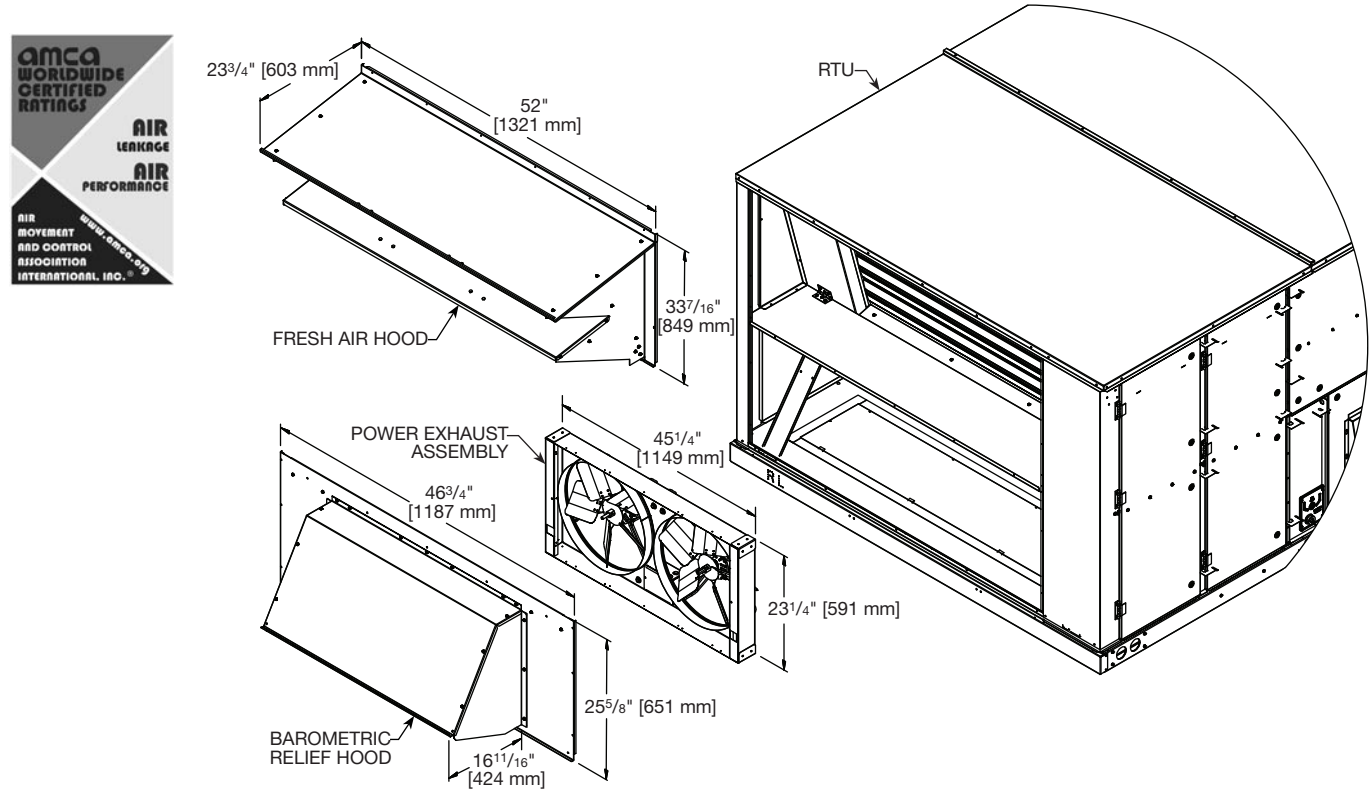
POWER EXHAUST KIT, CONVERTIBLE (RRS)

RXXR-RGF01*

*Voltage Code: C, D, or Y

- Shipped completely assembled
- All wiring from control box to economizer is supplied
- Color coordinated with the unit
- Fully insulated with 1" 1.5 lb. fiberglass insulation
- Motors are factory wired and tested
- Economizer, Fresh Air Hood and Barometric Relief Hood Sold Separately

VERTICAL AIRFLOW INSTALLATION



MODEL NO.	NO. OF FANS	VOLT	PHASE	HP (ea.)	CFM [L/s]*	RPM	FLA (ea.)	LRA (ea.)
RXXR-RGF01C	2	208/230	1	0.75	4013 [1893]	1050	5.00	5.9
RXXR-RGF01D	2	460	1	0.75	4013 [1893]	1050	2.20	3.3
RXXR-RGF01Y	2	575	1	0.75	4013 [1893]	1050	1.50	2.5

*CFM is per fan at 0.1" w.c. external static pressure.

[] Designates Metric Conversions

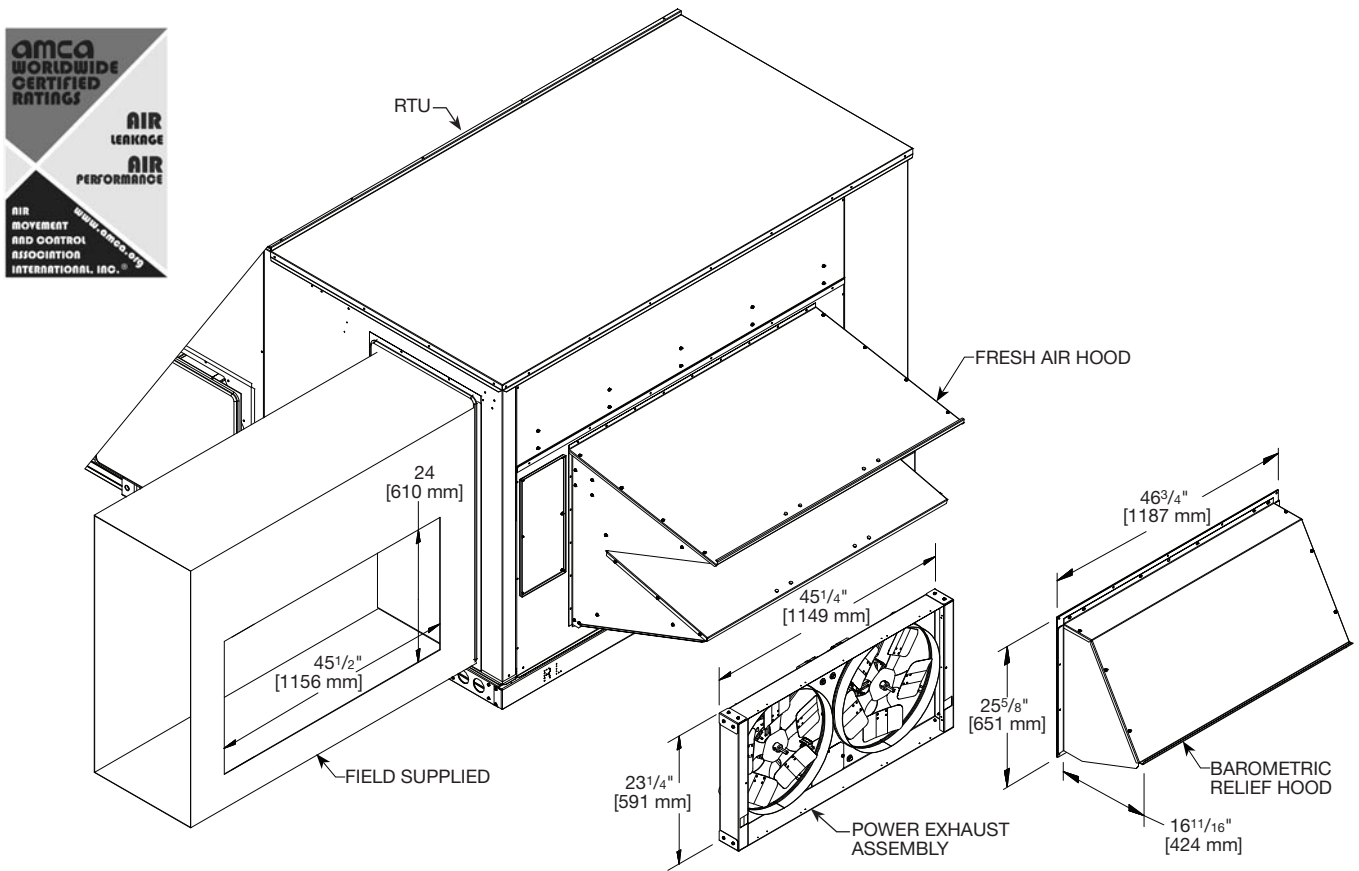
POWER EXHAUST KIT, CONVERTIBLE (RRS)

RXXR-RGF01*

*Voltage Code: C, D, or Y

- Shipped completely assembled
- All wiring from control box to economizer is supplied
- Color coordinated with the unit
- Fully insulated with 1" 1.5 lb. fiberglass insulation
- Motors are factory wired and tested
- Economizer, Fresh Air Hood and Barometric Relief Hood Sold Separately

HORIZONTAL AIRFLOW INSTALLATION



MODEL NO.	NO. OF FANS	VOLT	PHASE	HP (ea.)	CFM [L/s]*	RPM	FLA (ea.)	LRA (ea.)
RXXR-RGF01C	2	208/230	1	0.75	4013 [1893]	1050	5.00	5.9
RXXR-RGF01D	2	460	1	0.75	4013 [1893]	1050	2.20	3.3
RXXR-RGF01Y	2	575	1	0.75	4013 [1893]	1050	1.50	2.5

*CFM is per fan at 0.1" w.c. external static pressure.

[] Designates Metric Conversions

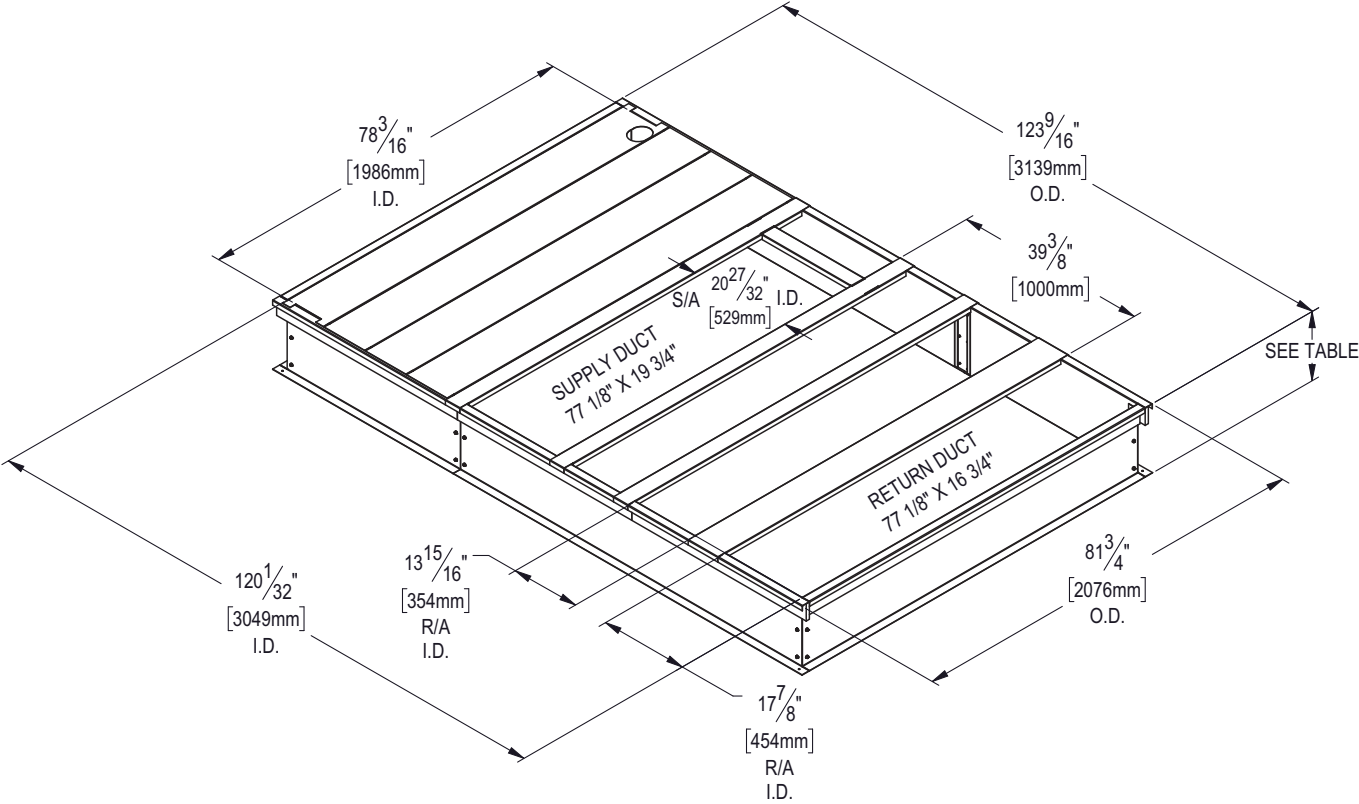
ROOFCURBS (Full Perimeter)

Roofcurb, 14" — RXRX-DGC14
Roofcurb, 18" — RXRX-DGC18
Roofcurb, 24" — RXRX-DGC24

- Friedrich®’s roofcurb design can be utilized on all 15-25 ton RACG models
- Three available heights (14", 18" and 24") for ALL models
- Quick assembly corners for simple and fast assembly
- Opening provided in bottom pan to match the “Thru the Curb” electrical, gas piping, condensate, connection opening provided on the unit base pan
- 1" [25 mm] x 4" [102 mm] Nailor provided
- Sealing gasket (40' [12.2 m]) provided with Roofcurb
- Packaged for easy field assembly

ROOFCURB ADAPTERS

RXRX-DGCAE
Roofcurb Adapter Z-Bracket — RXRX-DGCAZ
Roofcurb — Restraint Clips — RXRX-DGCRC



ST-A1328-04-01

VIEW	ROOF CURB	HEIGHT OF CURB
A	RXRX-DGC14	14.0
A	RXRX-DGC18	18.0
A	RXRX-DGC24	24.0

[] Designates Metric Conversions

Guide Specifications RACG—180-300

You may copy this document directly into your building specification. This specification is written to comply with the 2016 version of the “master format” as published by the Construction Specification Institute. www.csinet.org.

ELECTRIC HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 15 to 25 Nominal Tons

- 1.00 General:
 - A. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing two hermetic scroll compressors for cooling duty.
 - B. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
 - C. Unit shall use environmentally safe, R-454B refrigerant.
 - D. Unit shall be installed in accordance with the manufacturer’s instructions.
 - E. Unit must be selected and installed in compliance with local, state, and federal codes.
 - F. Model and serial data shall be printed inside the control box.
- 1.01 Quality Assurance:
 - A. Unit meets ASHRAE 90.1 2022 minimum efficiency requirements.
 - B. Unit shall be rated in accordance with AHRI Standards 340/360.
 - C. Unit shall be designed to conform to ASHRAE 15.
 - D. Unit shall be UL-tested and certified in accordance with Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
 - E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
 - F. Unit casing shall be capable of withstanding 1000-hour salt spray exposure per ASTM B117 (scribed specimen).
 - G. Roof curb shall be designed to conform to NRCA Standards.
 - H. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
 - I. Unit shall be designed in accordance with UL Standard 60335-2-40 4th Edition, including tested to withstand rain.
 - J. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
- 1.02 Manufacturer Qualifications
 - A. Unit shall be designed in accordance with ISO 9001:2015, and shall be manufactured in a facility registered by ISO 9001:2015.
- 1.03 Installer Qualifications
 - A. The installer shall be trained to install and service equipment with A2L refrigerants.
- 1.04 Delivery, Storage, and Handling:
 - A. Unit shall be stored and handled per manufacturer’s recommendations.
 - B. Lifted by crane requires either shipping top panel or spreader bars.
 - C. Unit shall only be stored or positioned in the upright position.
 - D. Plastic bumpers for handling and protection of unit during transportation and storage.
- 1.05 Unit Cabinet:
 - A. Shall be constructed of galvanized steel.
 - B. Exterior paint shall be pre-painted steel.
 - C. The sheet-metal cabinet shall be constructed of 18-gauge material for structural components with an underlying coat of G90.
 - D. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1.6 lb density, flexible fiberglass insulation, foil faced on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
 - E. Shall utilize uniform screw sizing.
 - F. Base of unit shall have a location for thru-the-base gas and electrical connections standard.

- G. Base Rail:
 - i. Unit shall have base rails on a minimum of 4 sides.
 - ii. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - iii. Holes shall be provided in the base rail for moving the rooftop for fork truck.
 - iv. Base rail shall be a minimum of 14 gauge thickness.
- H. Condensate pan and connections:
 - i. Shall be a sloped condensate drain pan made of a non-corrosive material and be removable for cleaning and maintenance.
 - ii. Shall comply with ASHRAE Standard 62.
 - iii. Shall use a 1" NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
 - iv. Shall be able to slide out completely.
 - v. Shall be separate from the coil.
- I. Standard factory installed condensate overflow sensor included with Non-DDC models.
- J. Top panel
 - i. Shall be a single piece top panel over indoor section.
- K. Electrical Connections:
 - i. All unit power wiring shall enter unit cabinet via a single, factory-prepared, knockout location.
 - ii. Thru-the-base capability:
 - a. Standard unit shall have a thru-the-base electrical location(s) using a raised, continuous raised flange opening in the basepan.
 - b. No basepan penetration, other than those authorized by the manufacturer, is permitted.
- L. Component access panels (standard)
 - i. Cabinet panels shall be easily opened for servicing.
 - ii. Stainless steel metal hinges are optional on all doors.
 - iii. Panels covering control box, indoor fan, indoor fan motor, and filters shall have hinges with 1/4 turn fasteners on units with factory-installed hinged option.
- 1.06 Operating Characteristics:
 - A. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ± 10% voltage.
 - B. Compressor with standard controls shall be capable of operation down to 50°F (10°C), ambient outdoor temperatures. Low ambient accessory kit is necessary if mechanically cooling at ambient temperatures to 0°F (-17.7°C).
 - C. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
 - D. Unit shall be shipped with both horizontal and vertical openings covered with insulated panels.
 - E. Unit shall be field convertible.
 - F. Unit shall have two vertical return openings to accommodate multiple curb configuration options [only one shall be utilized].
 - G. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.
- 1.07 Electrical Requirements
 - A. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
- 1.08 Evaporator Fan Compartment:
 - A. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1.6 LB density, flexible fiberglass insulation bonded with foil face on the air side.
 - B. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
 - C. Insulation shall also be mechanically fastened with welded pin and retainer washer.
- 1.09 Thermostats
 - A. Thermostat must:
 - i. Energize both "W" and "G" when calling for heat.
 - ii. Have capability to energize 2 different stages of cooling, and 2 different stages of heating.
 - iii. Include capability for occupancy scheduling.
- 1.10 Electronic Control System for HVAC:
 - A. Shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side. Transformer shall have 100VA capabilities.
 - B. Shall utilize color-coded wiring.

- C. Shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.
- D. Unit control board shall be provided with 7 segment readout via LCD display for status and diagnostics.
- E. Shall include a central control terminal board to provide connection points conveniently and safely for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, loss of charge, freeze sensor, high pressure switches.

1.10.01 Safeties:

- A. Compressor over-temperature, over current.
- B. Standard Low-pressure switch:
 - i. Units shall have low pressure, loss of charge automatic reset device that will shut off compressor when tripped.
 - ii. Low pressure control:
 - a. Provides active protection in both heating and cooling modes at all outdoor ambient temperatures. The low pressure control is an automatic reset type and opens at approximately 50 PSIG $\pm$ 7 and closes at approximately 95 PSIG $\pm$. Operation is slightly different between cooling and heating modes.
- C. Standard High-pressure switch:
 - i. Shall be equipped with high pressure switch device that will shut off compressor when tripped.
 - ii. High pressure control:
 - a. The high pressure control is an automatic reset type and opens at approximately 650 PSIG $\pm$ 10 and closes at approximately 450 PSIG $\pm$ 15. The compressor and fan motor will stop when the high pressure control opens and will start again if the high side pressure drops to approximately 420 psig where the automatic reset high pressure control resets. If the high pressure control opens 3 times within a particular call for heating or cooling operation, the defrost control will lock out compressor and outdoor fan operation. Freeze protection sensor comes standard on DDC models and is available as an option for Non-DDC models.
- D. Automatic reset, motor thermal overload protector.
- E. The unit must be permanently grounded.
- F. Components are not compatible between different refrigerants. Do not use R-410A service equipment or components on R-454B equipment. System or part failure could occur.

1.11 Standard Filter Section:

- A. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
- B. Unit will accept only 2-inch filters.
- C. Filter face velocity shall not exceed 365 fpm at nominal airflows.
- D. Filters access is specified in the unit cabinet section of this specification.
- E. Filters shall be held in place by a sliding filter tray, facilitating easy removal and installation.
- F. Filters shall be standard, commercially available sizes.

1.12 Coils

- A. Standard Aluminum/MicroChannel Coils:
 - i. Standard evaporator and condenser coils shall be aluminum.
 - ii. MicroChannel intertwined coils for both evaporator and condenser coils.
 - iii. Evaporator and condenser coils shall be leak tested to 150 psig, pressure tested to 400 psig, and qualified to burst test at 1,800 psi.

1.13 Refrigerant Components:

- A. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - i. TXV metering system shall prevent mal-distribution of two-phase refrigerant.
 - ii. Thermal Expansion Valve (TXV).
 - iii. Refrigerant filter drier.
 - iv. Service gauge connections on suction and discharge lines.
 - v. External pressure gauge ports access shall be located in front exterior of cabinet.
 - vi. Access panels can be removed without disrupting condenser air flow.

B. Compressors:

- i. Shall use two fully hermetic scroll compressors.
- ii. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- iii. Shall be internally protected from high discharge temperature conditions.
- iv. Shall be protected from an over-temperature and over-ampereage conditions by an internal, motor overload device.
- v. Shall be factory mounted on rubber grommets.
- vi. Compressor motors shall have internal line break thermal and current overload.
- vii. Crankcase heaters shall not be required for normal operating range.
- viii. Compressor lockout sensor on the unit controller is factory set at 35°F and is adjustable from 30°F (-1°C) to 50°F (10°C) and resets the cooling lockout at 5°F (+2.7°C) above the set point.

1.14 Evaporator Fan and Motor

A. Evaporator Fan Motor:

- i. Shall have permanently lubricated bearings
- ii. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
- iii. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.

B. Belt-Driven Evaporator Fan:

- i. Belt drive shall include an adjustable-pitch motor pulley.
- ii. Shall use sealed, permanently lubricated ball-bearing type.
- iii. Blower fan shall be double-inlet type with forward-curved blades.
- iv. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

C. Blower Assembly:

- i. Entire assembly shall be able to slide out completely including VFD, two blowers, and motor.
- ii. Shall be able to slide-out without the removal of the roof and condenser fan motors.

1.15 Condenser Fans and Motors

A. Condenser Fan Motors:

- i. Shall be a totally enclosed motor.
- ii. Shall use permanently lubricated bearings.
- iii. Shall have inherent thermal overload protection with an automatic reset feature.
- iv. Shall use a shaft-down design.

B. Condenser Fans:

- i. Shall be a direct-driven propeller type fan
- ii. Shall have blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

1.16 RTU-C Controller:

- A. Shall accept 18-30VAC input power.
- B. Shall have an operating temperature range from -22°F (-30°C) to 158°F (70°C), 10%– 95% RH (non-condensing).
- C. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air enthalpy, fire shutdown, return air enthalpy, fan status, remote time clock/door switch.
- D. Shall accept a CO2 sensor in the conditioned space and be Demand Control Ventilation (DCV) ready.
- E. Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust, occupied.
- F. Unit shall provide surge protection for the controller through a circuit breaker.
- G. Shall have a field installed communication card allowing the unit to be able to communicate at a Baud rate of 19.2K or faster.
- H. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
- I. Optional field-installed BACnet plug-in communication card which includes an EIA-485 protocol communication port, or an optional field-installed LonWorks plug-in communications card.
- J. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.
- K. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.
- L. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000 ft sections.

- M. Unit shall be compatible with a programmable 24 volt thermostat.
- N. Unit shall be compatible with a zone sensor and a mechanical or solid state time clock connected to the RTU-C.
- 1.17 Open Protocol, Direct Digital Controller:
 - A. Shall accept 18-30VAC, 50-60Hz, and consume 17.4VA or less power.
 - B. Shall have an operating temperature range from -22°F (-30°C) to 130°F (54°C), 10%–90% RH (non-condensing).
 - C. Shall have either a field installed BACnet plug-in communication card which includes an EIA-485 protocol communication port, or a field installed LonWorks plug-in communications card.
 - D. The BACnet plug in communication card shall include built-in protocol for BACNET (MS/TP and PTP modes)
 - E. The LonWorks plug in communication card shall include the Echelon processor required for all Lon applications.
 - F. Shall allow access of up to 62 network variables (SNVT).
 - G. Shall be compatible with all open controllers.
 - H. Baud rate Controller shall be selectable through the EIA-485 protocol communication port.
 - I. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
 - J. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air enthalpy, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/humidity/remote occupancy.
 - K. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust.
 - L. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.
 - M. Shall be natively equipped with Modbus communication protocol.
- 1.18 Adjustable Frequency Drive:
 - A. Shall be supplied with an electronic variable frequency drive for the supply air fan.
 - B. Shall be factory installed in an enclosed cabinet.
 - C. Shall meet UL Standard 60335-2-40 4th Edition.
 - D. The completed unit assembly shall be UL listed.
 - E. Drives are to be accessible through an access panel (optional hinged doors).
 - F. The unit manufacturer shall install all power and control wiring.
 - G. The supply air fan drive output shall be controlled by the factory installed main unit control system and drive status and operating speed shall be monitored and displayed at the main unit control panel.
 - H. Shall be programmed and factory run tested in the unit.
 - I. VFD shall be modular and designed for easy disconnect via wiring harness.
- 1.19 Special Features:
 - A. Integrated Economizers:
 - i. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
 - ii. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
 - iii. Damper blades shall be galvanized steel with metal gears. Plastic or composite blades on intake or return shall not be acceptable.
 - iv. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - v. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - vi. Shall be equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
 - vii. Shall be capable of introducing up to 100% outdoor air.
 - viii. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - ix. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - x. Enthalpy sensor shall be provided as standard. Outdoor air sensor set point shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
 - xi. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 70%, with a range of 0% to 100%.

- xii. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper set point.
 - xiii. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - xiv. Economizer controller shall accept a 2-10Vdc CO2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor-air damper to provide ventilation based on the sensor input.
 - xv. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - xvi. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
 - xvii. Economizer wire harness will have provision for smoke detector available in supply and return options.
 - xviii. Shall provide fault detection and diagnostics (FDD) system in accordance with local code. Faults shall be communicated out on an alarm signal.
- B. Two-Position Motorized Damper:
- i. Shall be a Two-Position Motorized Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - ii. Shall include adjustable damper travel from 25% to 100% (full open).
 - iii. Shall include single or dual blade, gear driven dampers and actuator motor.
 - iv. Actuator shall be directly coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - v. Will admit up to 100% outdoor air for applicable rooftop units.
 - vi. Shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - vii. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - viii. Outside air hood shall include aluminum water entrainment filter.
- C. Manual Damper:
- i. Package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year-round ventilation.
- D. Condenser Coil Hail Guard Assembly:
- i. Shall protect against damage from hail.
 - ii. Shall be louvered style.
- E. Unit-Mounted, Non-Fused Disconnect Switch:
- i. Shall be factory or field-installed.
 - ii. Shall be internally mounted with external access.
 - iii. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
 - iv. Shall be accessible from outside the unit.
 - v. Shall provide local shutdown and lockout capability.
- F. Convenience Outlet:
- i. Optional Non-Powered convenience outlet.
 - ii. Shall be powered from a separate 115-120v power source.
 - iii. A transformer shall not be included.
 - iv. Shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
 - v. Shall include 15 amp GFI receptacle with independent fuse protection.
 - vi. Shall be accessible from outside the unit.
- G. Propeller Power Exhaust:
- i. Shall be used in conjunction with an integrated economizer.
 - ii. Configurable for vertical or horizontal installation.
 - iii. Horizontal power exhaust shall be mounted in return ductwork.
 - iv. Shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
 - v. Capable of constant volume.
- H. Roof Curbs (Vertical):
- i. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - ii. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
 - iii. Shall be available in heights of 14, 18, and 24 inches.
- I. Outdoor Air Enthalpy Sensor

- i. Shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
- J. Return Air Enthalpy Sensor
 - i. Shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
- K. Indoor Air Quality (CO₂) Sensor:
 - i. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - ii. Shall be available in duct mount, wall mount, or wall mount with LED display. The set point shall have adjustment capability.
- L. Smoke Detectors:
 - i. Shall be a Four-Wire Controller and Detector.
 - ii. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - ii. Shall use magnet-activated test/reset sensor switches.
 - iv. Shall have tool-less connection terminal access.
 - v. Shall have a recessed momentary switch for testing and resetting the detector.
 - vi. Controller shall include:
 - a. One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel
 - b. Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment
 - c. One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station
 - d. Capable of direct connection to two individual detector modules.
 - e. Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
- M. Electric Heat:
 - i. Heater element open coil resistance wire, nickel-chrome alloy, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
 - ii. Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermostat limit controls, magnetic heater contactors (24VAC coil) and terminal block all mounted in electric heater control box (minimum 18 gauge galvanized steel) attached to end of heater assembly.
- N. Refrigerant Detection System:
 - i. In the event of a detected refrigerant leak, the refrigerant leak detection sensor(s) will trigger the mitigation procedure that shuts off the compressor(s) and turns on the indoor blower motor.
 - ii. In the event of a detected refrigerant leak, the system will display a fault code on the unitary controller. For DDC systems, "A2L Event" will appear on the LCD module. For Non-DDC systems, a fault code of 40 will appear on the dual seven segment display.



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GENERAL TERMS OF LIMITED WARRANTY*

Friedrich® will furnish a replacement for any part of this product which fails in normal use and service within the applicable periods stated, in accordance with the terms of the limited warranty.

***For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Parts

Commercial ApplicationsOne (1) Year

Compressor

Commercial ApplicationsFive (5) Year

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

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In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

5600 Old Greenwood Road
Fort Smith, Arkansas 72908 • www.friedrich.com

125 Edgeware Road, Unit 1
Brampton, Ontario • L6Y 0P5