



PACKAGE AIR CONDITIONER
RLNL-C/H SERIES

Ruud Commercial Achiever® Series Package Air Conditioner



RLNL-C Series

With ClearControl™

Nominal Sizes 6-12.5 Tons [21.1-44.0 kW]

ASHRAE 90.1-2010 Compliant (6-8.5 Tons)

ASHRAE 90.1-2007 Compliant (10-12.5 Tons)

RLNL-H Series

With ClearControl™

and VFD Technology

Nominal Sizes 7.5-12.5 Tons [26.4-44.0 kW]

ASHRAE 90.1-2010 Compliant



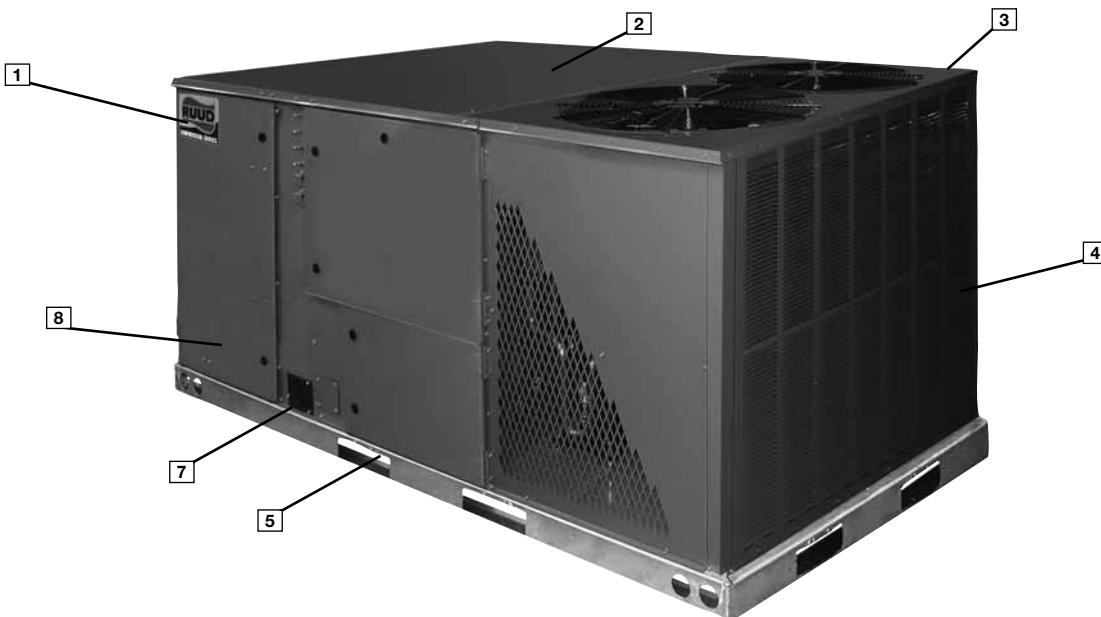
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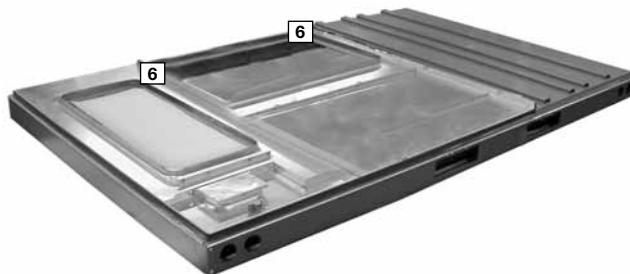
RLNL-C/H STANDARD FEATURES INCLUDE:

- R-410A HFC refrigerant.
- Complete factory charged, wired and run tested.
- Scroll compressors with internal line break overload and high-pressure protection.
- Single compressor on 6 Ton model.
- Two compressors on 7.5 - 12.5 Ton model.
- Convertible airflow.
- TXV refrigerant metering system on each circuit (except on 6 Ton).
- High Pressure and Low Pressure/Loss of charge protection standard on all models.
- Solid Core liquid line filter drier on each circuit.
- Single slab, single pass designed evaporator and condenser coils facilitate easy cleaning for maintained high efficiencies.
- Cooling operation up to 125 degree F ambient.
- Foil faced insulation encapsulated throughout entire unit minimizes airborne fibers from the air stream.
- Hinged major access door with heavy-duty gasketing, 1/4 turn latches and door retainers.
- Slide Out Indoor fan assembly for added service convenience.
- Powder Paint Finish meets ASTMB117 steel coated on each side for maximum protection. G90 galvanized.
- One piece base pan with drawn supply and return opening for superior water management.
- Forkable base rails for easy handling and lifting.
- Single point electrical connections.
- Internally sloped slide out condensate pan conforms to ASHRAE 62 standards.
- High performance belt drive motor with variable pitch pulleys and quick adjust belt system.
- Permanently lubricated evaporator and condenser motors.
- Condenser motors are internally protected, totally enclosed with shaft down design.
- 2 inch filter standard with slide out design.
- 24 volt control system with resettable circuit breakers.
- Colored and labeled wiring.
- Copper tube/Aluminum Fin coils (12 1/2 ton uses MicroChannel condenser).
- Molded compressor plug.
- Supplemental electric heat provides 100% efficient heating.
- Factory Installed Direct Digital Control (DDC) and sensors which can connect to LonWorks™ or BACnet® BAS systems for remote monitoring and control.
- -H Models with Variable Frequency Drives (VFD) meets ASHRAE 90.1-2010 and California Title 24.



Ruud Package equipment is designed from the ground up with the latest features and benefits required to compete in today's market. The clean design stands alone in the industry and is a testament to the quality, reliability, ease of installation and serviceability that goes into each unit. Outwardly, the large Ruud *Commercial Series™* label (1) identifies the brand to the customer. The sheet-metal cabinet (2) uses nothing less than 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 one-piece top with a 1/8" drip lip (3), gasket-protected panels and screws. The Ruud hail guard (optional) (4) is its trademark, and sets the standard for coil protection in the industry. Every Ruud package unit uses the toughest finish in the industry, using electro deposition baked-on enamel tested to withstand a rigorous 1000-hour salt spray test, per ASTM B117.

Anything built to last must start with the right foundation. In this case, the foundation is 14-gauge, commercial-grade, full-perimeter base rails (5), which integrate fork slots and rigging holes to save set-up time on the job site. The base pan is stamped, which forms a 1-1/8" flange around the supply and return cover and has eliminated the worry of water entering the conditioned space (6). The insulation has been placed on the underside of the basepan, removing areas that would allow for potential moisture accumulation, which can facilitate growth of harmful bacteria. All insulation is secured with both adhesive and mechanical fasteners, and all edges are hidden. The drainpan (7) is made of material that resists the growth of harmful bacteria and is sloped for the latest IAQ benefits. Furthermore, the drain pan slides out for easy cleaning.

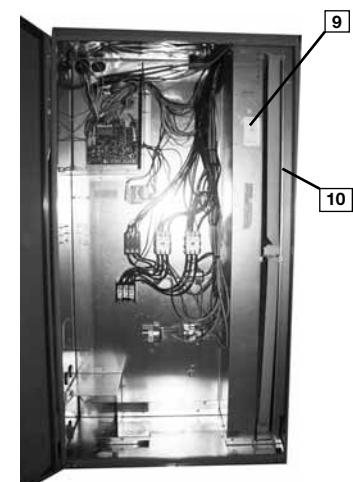


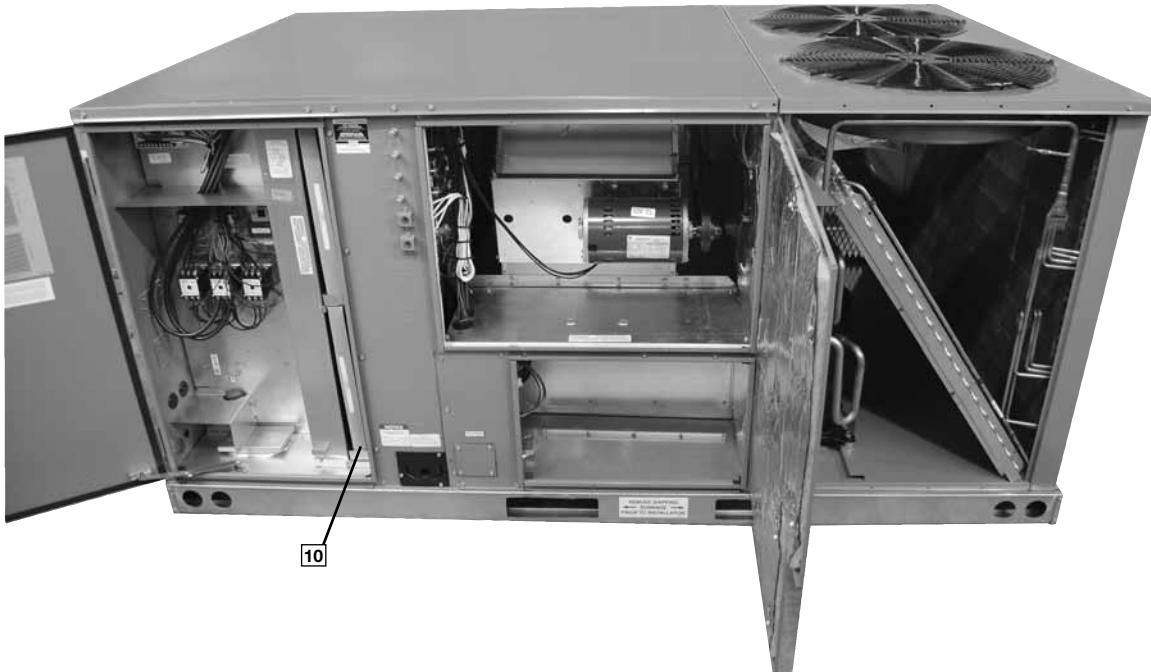
During development, each unit was tested to U.L. 1995, AHRI 340-370 and other Ruud-required reliability tests. Ruud adheres to stringent ISO 9002 quality procedures, and each unit bears the U.L. and AHRI certification labels located on the unit nameplate (8). Contractors can rest assured that when a Ruud package unit arrives at the job, it is ready to go with a factory charge and quality checks.

Access to all major compartments is from the front of the unit, including the filter and electrical compartment, blower compartment, heating section, and outdoor section. Each compartment has 1/4 turn fasteners and hinged access. Each panel is permanently embossed with the compartment name (control/filter access, blower access and electric heat access).

Electrical and filter compartment access is through a large, hinged-access panel. On the outside of the panel is the unit nameplate, which contains the model and serial number, electrical data and other important unit information.

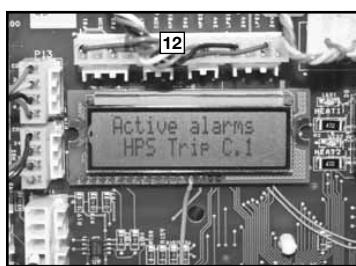
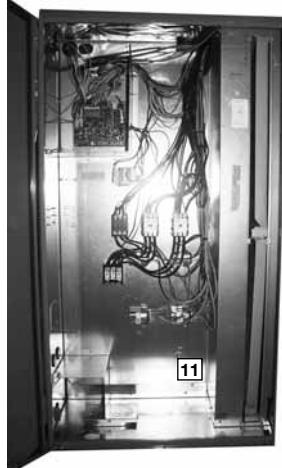
The unit charging chart is located on the inside of the electrical and filter compartment door. Electrical wiring diagrams are found on the control box cover, which allows contractors to move them to more readable locations. To the right of the control box the model and serial number can be found. Having this information on the inside will assure model identification for the life of the product. The production line quality test assurance label is also placed in this location (9). The two-inch throwaway filters (10) are easily removed on a tracked system for easy replacement.





Inside the control box ([11]), each electrical component is clearly identified with a label that matches the component to the wire diagram for ease of trouble shooting. All wiring is numbered on each end of the termination and color-coded to match the wiring diagram. The control transformer has a low voltage circuit breaker that trips if a low voltage electrical short occurs. There is a blower contactor and compressor for each compressor.

As part of the ClearControl™ system which allows real time monitoring and communication between rooftop units, the RLNL-C/H Package Air Conditioner has a Rooftop Unit Controller (RTU-C) factory mounted and wired in the control panel. The RTU-C is a solid-state microprocessor-based control board that provides flexible control and extensive diagnostics for all unit functions. The RTU-C through proportional/integral control algorithms perform 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. ([12]) New 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 freezestats to allow measurement of refrigerant suction line temperatures. The RLNL-C/H Package Air Conditioner with ClearControl™ is specifically designed to be applied in four distinct applications:



The RLNL-C/H 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 ClearControl™ 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.

The RLNL-C/H 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 ClearControl™ 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 ft. with no repeater. The LonWorks limit of 64 nodes per segment applies to this device.

The RLNL-C/H 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.

The RLNL-C/H is compatible with a zone sensor and 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.

A factory or field installed Comfort Alert® module is available for power phase-monitoring protection and additional compressor diagnostics. The alarms can be displayed on the RTU-C display, through the (BAS) network, or connected to the "L-Terminal" of a thermostat for notification.

-H models with factory installed supply fan, VFD (Variable Frequency Drive) optimizes energy usage year round by providing a lower speed for first stage cooling operation improving IEER's by up to 33% over the conventional constant fan system. Furthermore, operating in the constant fan mode at the reduced speed can use as little as 1/8th 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. The VFD supply fan factory option meets California Title 24 and ASHRAE 90.1-2010 requirements for multi blower speed control. VFD also ramps up to the desired speed reducing stress on the supply fan components and reducing the noise from 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.



For added convenience in the field, a factory-installed convenience outlet (**13**) is available. Low and High voltage can enter either from the side or through the base. Low-voltage connections are made integrated cooling control. The high-voltage connection is terminated at the number 1 compressor contactor. The suggested mounting for the field-installed disconnect is on the exterior side of the electrical control box.



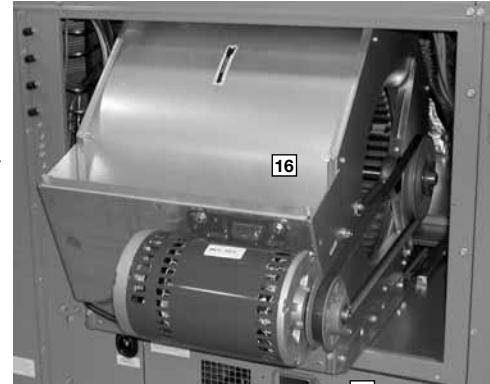
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To the right of the electrical and filter compartment are the externally mounted gauge ports, which are permanently identified by embossed wording that clearly identifies the compressor circuit, high pressure connection and low pressure connection (**14**). With the gauge ports mounted externally, an accurate diagnostic of system operation can be performed quickly and easily. The blower compartment is to the right of the gauge ports and can be accessed by 1/4 turn fasteners. To allow easy maintenance of the blower assembly, the entire assembly easily slides out by removing the 3/8" screws from the blower retention



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bracket. The adjustable motor pulley (**15**) 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 0 to 6 turns open. Where the demands for the job require high static, Ruud has high-static drives available 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 (**16**) and blower scroll provide quiet and efficient airflow.

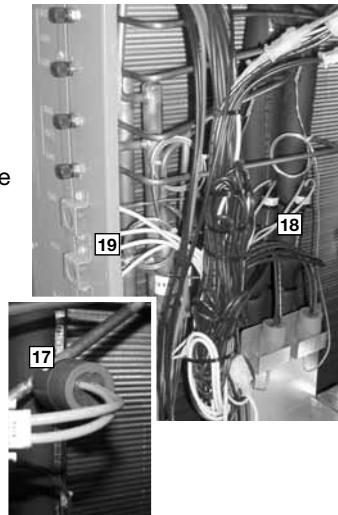


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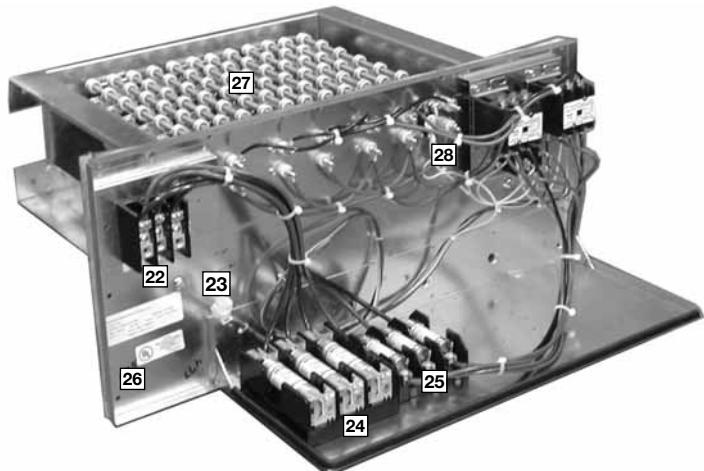
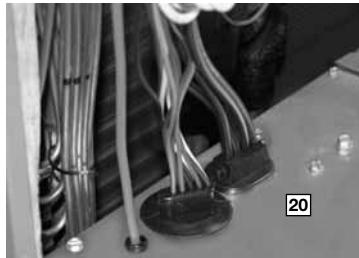
The blower sheave is secured by an "H" bushing which firmly secures the pulley to the blower shaft for years of trouble-free operation. The "H" bushing allows for easy removal of the blower pulley from the shaft, as opposed to the use of a set screw, which can score the shaft, creating burrs that make blower-pulley removal difficult.

Also inside the blower compartment is the low-ambient control (**[17]**), low-pressure switch (**[18]**), high-pressure switch (**[19]**) and freeze sensor refrigerant safety device (**[20]**). The low-ambient control allows for operation of the compressor down to 0 degrees ambient temperature by cycling the outdoor fans on high pressure. The high-pressure switch will shut off the compressors if pressures in excess of 610 PSIG are detected, this may occur if the outdoor fan motor fails. The low-pressure switch shuts off the compressors if low pressure is detected due to loss of charge. The freeze sensor protects the compressor if the evaporator coil gets too cold (below freezing) due to low airflow, and allows monitoring of the suction line temperature on the controller display. Each factory-installed option is brazed into the appropriate high or low side and wired appropriately. Use of polarized plugs and schrader fittings allow for easy field installation.



Inside the blower compartment the interlaced evaporator can also be viewed. The evaporator uses enhanced fin technology for maximum heat transfer. The TXV metering device assures even distribution of refrigerant throughout the evaporator. (Note: 6 ton single stage has an orifice refrigerant control.)

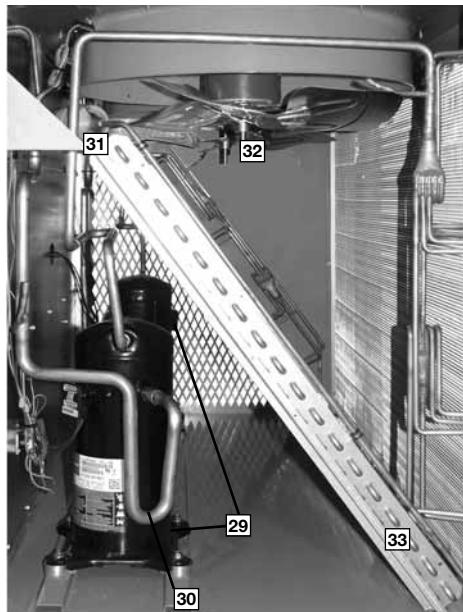
Wiring throughout the unit is neatly bundled and routed. Where wire harnesses go through the condenser bulkhead or blower deck, a molded wire harness assembly (**[20]**) provides an air-tight and water-tight seal, and provides strain relief. Care is also taken to tuck raw edges of insulation behind sheet metal to improve indoor air quality.



The heating compartment contains the latest electric furnace technology on the market. The 100% efficient electric furnace can be factory-installed or easily field-installed. Built with ease-of-installation in mind, the electric furnace is completely wired for slide-in, plug-and-play installation in the field. With choices of up to six kilowatt offerings, the contractor is assured to get the correct amount of heating output to meet the designed heating load.

Power hook-up in the field is easy with single-point wiring to a terminal block (**[22]**) and a polarized plug for the low-voltage connection (**[23]**). The electric furnace comes with fuses for the unit (**[24]**) and for the electric furnace (**[25]**), and is UL certified (**[26]**). The electric heating elements are of a wound-wire construction (**[27]**) and isolated with ceramic bushings. The limit switch (**[28]**) protects the design from over-temperature conditions. Each electric furnace has the capability to be converted from single-stage operation to two-stage operation by removing a jumper on the low-voltage terminal strip.

The compressor compartment houses the heart-beat of the unit. The scroll compressor (29) is known for its long life, and for reliable, quiet, and efficient operation. Each compressor has molded compressor plug eliminating potential for mis wiring. The suction and discharge lines are designed with shock loops (30) to absorb the strain and stress that the starting torque, steady state operation, and shut down cycle impose on the refrigerant tubing. Each compressor and circuit is independent for built-in redundancy, and each circuit is clearly marked throughout the system. Each unit has two stages of efficient cooling operation, first stage is approximately 50% of second stage (single stage).

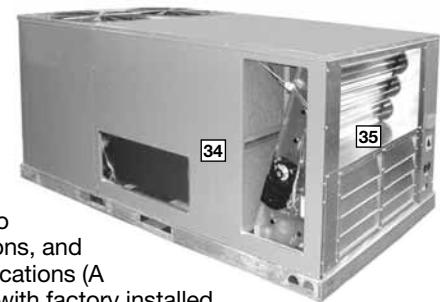


Each unit comes standard with filter dryer (31). The condenser fan motor (32) can easily be accessed and maintained through the compressor compartment. The polarized plug connection allows the motor to be changed quickly and eliminates the need to snake wires through the unit.

The outdoor coil uses the latest enhanced fin design (33) 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 Mother Nature and vandalism.

Each unit is designed for both downflow or horizontal applications (34) for job configuration flexibility. The return air compartment can also contain an economizer (35).

Three models exist, two for downflow applications, and one for horizontal applications (A downflow economizer with factory installed smoke detector in the return section is available). Each unit is pre-wired for the economizer to allow quick plug-in installation. The economizer is also available as a factory-installed option. The economizer, which provides free cooling when outdoor conditions are suitable and also provides fresh air to meet local requirements, comes standard with single enthalpy controls. The controls can be upgraded to dual enthalpy easily in the field. The direct drive actuator combined with gear drive dampers has eliminated the need for linkage adjustment in the field. The economizer control has a minimum position setpoint, an outdoor-air setpoint, a mix-air setpoint, and a CO₂ setpoint. 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 plug-in assembly. The wire harness to the economizer also has accommodations for a smoke detector.

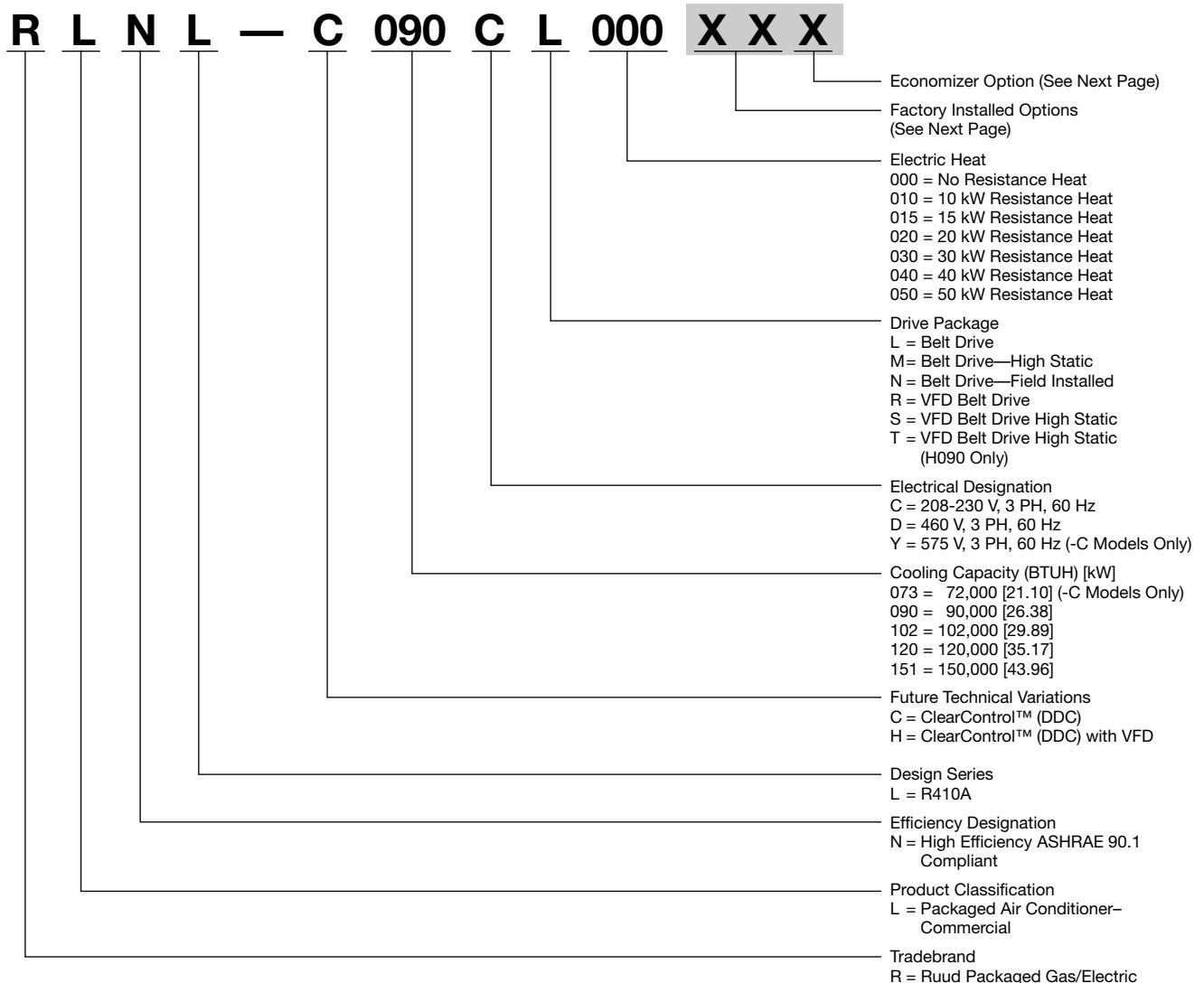


The damper minimum position, actual damper position, power exhaust on/off setpoint, mixed air temperature limit setpoint and Demand Controlled Ventilation (DCV) setpoint can be read and adjusted at the unit controller display or remotely through a network connection.

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.

The Ruud roofcurb (36) is made for toolless assembly at the job-site by engaging a pin into the hinged corners of adjacent curb sides, which makes the assembly process quick and easy.





[] Designates Metric Conversions

6 TO 12.5 TON [21.1 TO 44.0 kW]

Option Code	Hail Guard	Non-Powered Convenience Outlet	Low Ambient/Comfort Alert
AD	X		
AG		X	
AR			X
JD	X		X
BJ	X	X	
CZ	X	X	X
JE		X	X

"X" indicates factory installed option.

ECONOMIZER SELECTION FOR LNL 6 TO 12.5 TON [21.1 TO 44.0 kW]

Option Code	No Economizer	DDC Single Enthalpy Economizer with Barometric Relief	DDC Single Enthalpy Economizer with Barometric Relief and Smoke Detector
A	X		
H		X	
J			X

"X" indicates factory installed option.

Instructions for Factory Installed Option(s) Selection

Note: Three 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, nothing follows the model number.

Step 1. After a basic rooftop model is selected, choose a *two-character* option code from the FACTORY INSTALLED OPTION SELECTION TABLE.

Proceed to Step 2.

Step 2. The last option code character is utilized for factory-installed economizers. Choose a character from the FACTORY INSTALLED ECONOMIZER SELECTION TABLE.

Examples:

RLNL-C120CL000.....this unit has no factory installed options.

RLNL-C120CL000ADAthis unit is equipped with hail guards.

RLNL-C120CL000JDAthis unit is equipped with hail guards, low ambient and comfort alert.

RLNL-C120CL000JDHthis unit is equipped as above and includes an Economizer with single enthalpy sensor and with barometric relief.

RLNL-C120CL000AAJthis unit is equipped with an Economizer with single enthalpy sensor and barometric relief with smoke detector.

[] Designates Metric Conversions

To select an RLNL- 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—	208/240V 3 Phase
Total cooling capacity—	106,000 BTUH [31.26 kW]
Sensible cooling capacity—	82,000 BTUH [24.03 kW]
Heating capacity—	150,000 BTUH [43.96 kW]
*Condenser Entering Air—	95°F [35°C] DB
*Evaporator Mixed Air Entering—	65°F [18°C] WB; 78°F [26°C] DB
*Indoor Air Flow (vertical)—	3600 CFM [1699 L/s]
*External Static Pressure—	.40 in. WG

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

Since total cooling is within the range of a nominal 10 ton [35.2 kW] unit, enter cooling performance table at 95°F [35°C] DB condenser inlet air. Interpolate between 63°F [2°C] and 67°F [19°C] to determine total and sensible capacity and power input for 65°F [18°C] WB evap inlet air at 4000 CFM [1888 L/s] indoor air flow (table basis):

Total Capacity = 118,900 BTUH [34.80 kW]

Sensible Capacity = 99,950 BTUH [29.29 kW]

Power Input (Compressor and Cond. Fans) = 8,950 watts

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

Sensible Capacity = 92,268 BTUH [27.24 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, $118,900 \times .98 = 116,522$ BTUH [34.15 kW]

Sensible Capacity, $92,268 \times .95 = 87,655$ BTUH [25.67 kW]

Power Input $11,650 \times .99 = 8,861$ 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 3600 CFM [1699 L/s]. Total ESP (external static pressure) per the spec of .40 in. includes the system duct and grilles. Add from the table "Component Air Resistance," .076 for wet coil, .13 for vertical air flow, for a total selection static pressure of .606 (.6) inches of water, and determine:

RPM = 796

WATTS = 1,650

DRIVE = L (standard 2 H.P. motor)

5. CALCULATE INDOOR BLOWER BTUH HEAT EFFECT FROM MOTOR WATTS, STEP 4.

$$\text{BTUH} = 1,650 \times 3.412 = 5,630$$

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

$$\text{Net Total Capacity} = 116,522 - 5,630 = 110,892 \text{ BTUH [32.5 kW]}$$

$$\text{Net Sensible Capacity} = 87,655 - 5,630 = 82,025 \text{ BTUH [24.04 kW]}$$

7. CALCULATE UNIT INPUT AND JOB EER.

$$\text{Total Power Input} = 88,610 \text{ (step 3)} + 1,650 \text{ (step 4)} = 10,511 \text{ Watts}$$

$$\text{EER} = \frac{\text{Net Total BTUH [kW] (step 6)}}{\text{Power Input, Watts (above)}} = \frac{110,892}{10,511} = 10.55$$

8. SELECT UNIT HEATING CAPACITY.

Units with heater kits section find unit heater kw and convert watts to BTU: add blower BTUH heat effect (step 5).

CC50C Heater Kit

$$\text{kW} \times 3412 = 163,776 \text{ BTUH [48.00 kW]} \\ + 5,630 \text{ BTUH [1.65 kW]}$$

$$\text{Heating Capacity} = 169,406 \text{ BTUH [49.65 kW]}$$

CHOOSE MODEL RLNL-C/H120CL050

*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

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C073CL	C073CM	C073DL	C073DM
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	75,000 [21.97]	75,000 [21.97]	75,000 [21.97]	75,000 [21.97]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	2400/2325 [1133/1097]
AHRI Net Cooling Capacity Btu [kW]	72,000 [21.1]	72,000 [21.1]	72,000 [21.1]	72,000 [21.1]
Net Sensible Capacity Btu [kW]	52,800 [15.47]	52,800 [15.47]	52,800 [15.47]	52,800 [15.47]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]
IEER ³	11.8	11.8	11.8	11.8
Net System Power [kW]	6.42	6.42	6.42	6.42
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP			
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/11x12 [279x305]	1/11x12 [279x305]	1/11x12 [279x305]	1/11x12 [279x305]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single	Single	Single	Single
No. Motors	1	1	1	1
Motor HP	1 1/2	1 1/2	1 1/2	1 1/2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	125 [3544]	125 [3544]	125 [3544]	125 [3544]
Weights				
Net Weight lbs. [kg]	901 [409]	901 [409]	901 [409]	901 [409]
Ship Weight lbs. [kg]	938 [425]	938 [425]	938 [425]	938 [425]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C073YL	C073YM	C090CL H090CR	C090CM H090CS
Model RLNL- Series (with VFD)				
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	75,000 [21.97]	75,000 [21.97]	93,000 [27.25]	93,000 [27.25]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	3000/2775 [1416/1310]	3000/2775 [1416/1310]
AHRI Net Cooling Capacity Btu [kW]	72,000 [21.1]	72,000 [21.1]	90,000 [26.37]	90,000 [26.37]
Net Sensible Capacity Btu [kW]	52,800 [15.47]	52,800 [15.47]	63,100 [18.49]	63,100 [18.49]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	26,900 [7.88]	26,900 [7.88]
IEER ³ (Standard/VFD)	11.8	11.8	11.9/14.5	11.9/14.5
Net System Power [kW]	6.42	6.42	7.99	7.99
Compressor				
No./Type	1/Scroll	1/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]	13.5 [1.25]	27 [2.51]	27 [2.51]
Face Area sq. ft. [sq. m]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Refrigerant Control	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Drain Connection No./Size in. [mm]	TX Valves	TX Valves	TX Valves	TX Valves
Motor RPM	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]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/3 HP			
Motor Frame Size	1075	1075	1075	1075
Indoor Fan—Type				
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type	1/11x12 [279x305]	1/11x12 [279x305]	1/15x15 [381x381]	1/15x15 [381x381]
No. Speeds	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Motors	Single	Single	Single / Multiple	Single / Multiple
Motor HP	1	1	1	1
Motor RPM	1 1/2	1 1/2	2	2
Motor Frame Size	1725	1725	1725	1725
Filter—Type	56	56	56	56
Furnished	Disposable	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes	Yes
(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	125 [3544]	125 [3544]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
Weights				
Net Weight lbs. [kg]	901 [409]	901 [409]	1017 [461]	1017 [461]
Ship Weight lbs. [kg]	938 [425]	938 [425]	1054 [478]	1054 [478]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C090CN	C090DL	C090DM	C090DN
Model RLNL- Series (with VFD)	H090CT	H090DR	H090DS	H090DT
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2775 [1416/1310]	3000/2775 [1416/1310]	3000/2775 [1416/1310]	3000/2775 [1416/1310]
AHRI Net Cooling Capacity Btu [kW]	90,000 [26.37]	90,000 [26.37]	90,000 [26.37]	90,000 [26.37]
Net Sensible Capacity Btu [kW]	63,100 [18.49]	63,100 [18.49]	63,100 [18.49]	63,100 [18.49]
Net Latent Capacity Btu [kW]	26,900 [7.88]	26,900 [7.88]	26,900 [7.88]	26,900 [7.88]
IEER ³ (Standard/VFD)	11.9/14.5	11.9/14.5	11.9/14.5	11.9/14.5
Net System Power [kW]	7.99	7.99	7.99	7.99
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP			
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single / Multiple	Single / Multiple	Single / Multiple	Single / Multiple
No. Motors	1	1	1	1
Motor HP	3	2	2	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
Weights				
Net Weight lbs. [kg]	1025 [465]	1017 [461]	1017 [461]	1025 [465]
Ship Weight lbs. [kg]	1054 [478]	1054 [478]	1054 [478]	1054 [478]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C090YL	C090YM	C090YN	C102CL H102CR
Model RLNL- Series (with VFD)				
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]	101,000 [29.59]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2775 [1416/1310]	3000/2775 [1416/1310]	3000/2775 [1416/1310]	3200/3200 [1510/1510]
AHRI Net Cooling Capacity Btu [kW]	90,000 [26.37]	90,000 [26.37]	90,000 [26.37]	97,000 [28.42]
Net Sensible Capacity Btu [kW]	63,100 [18.49]	63,100 [18.49]	63,100 [18.49]	74,000 [21.68]
Net Latent Capacity Btu [kW]	26,900 [7.88]	26,900 [7.88]	26,900 [7.88]	23,000 [6.74]
IEER ³ (Standard/VFD)	11.9	11.9	11.9	12/14.4
Net System Power [kW]	7.99	7.99	7.99	8.59
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	2 / 18 [7]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP			
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single	Single	Single	Single / Multiple
No. Motors	1	1	1	1
Motor HP	2	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	154.4/166.6 [4377/4723]
Weights				
Net Weight lbs. [kg]	1017 [461]	1017 [461]	1025 [465]	1059 [480]
Ship Weight lbs. [kg]	1054 [478]	1054 [478]	1054 [478]	1096 [497]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL-Series	C102CM	C102DL	C102DM	C102YL
Model RLNL-Series (with VFD)	H102CS	H102DR	H102DS	
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]
AHRI Net Cooling Capacity Btu [kW]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]
Net Sensible Capacity Btu [kW]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]
Net Latent Capacity Btu [kW]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]
IEER ³ (Standard/VFD)	12/14.4	12/14.4	12/14.4	12
Net System Power [kW]	8.59	8.59	8.59	8.59
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP			
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single / Multiple	Single / Multiple	Single / Multiple	Single
No. Motors	1	1	1	1
Motor HP	3	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]
Weights				
Net Weight lbs. [kg]	1067 [484]	1059 [480]	1067 [484]	1059 [480]
Ship Weight lbs. [kg]	1096 [497]	1096 [497]	1096 [497]	1096 [497]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C102YM	C120CL H120CR	C120CM H120CS	C120DL H120DR
Model RLNL- Series (with VFD)				
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	101,000 [29.59]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3200/3200 [1510/1510]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]
AHRI Net Cooling Capacity Btu [kW]	97,000 [28.42]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]
Net Sensible Capacity Btu [kW]	74,000 [21.68]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]
Net Latent Capacity Btu [kW]	23,000 [6.74]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]
IEER ³ (Standard/VFD)	12	11.9/14.6	11.9/14.6	11.9/14.6
Net System Power [kW]	8.59	10.49	10.49	10.49
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	3 / 18 [7]	3 / 18 [7]	3 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP			
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single	Single / Multiple	Single / Multiple	Single / Multiple
No. Motors	1	1	1	1
Motor HP	3	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	154.4/166.6 [4377/4723]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]
Weights				
Net Weight lbs. [kg]	1059 [480]	1112 [504]	1120 [508]	1112 [504]
Ship Weight lbs. [kg]	1096 [497]	1149 [521]	1149 [521]	1149 [521]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C120DM	C120YL	C120YM	C151CL
Model RLNL- Series (with VFD)	H120DS			H151CR
Cooling Performance¹	CONTINUED →			
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]	146,000 [42.78]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]	99,500 [29.15]
Net Latent Capacity Btu [kW]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]	40,500 [11.87]
IEER ³ (Standard/VFD)	11.9/14.6	11.9	11.9	10.8/13.5
Net System Power [kW]	10.49	10.49	10.49	12.73
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	MicroChannel
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]	2 / 23 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	3 / 18 [7]	3 / 18 [7]	3 / 18 [7]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds	Single / Multiple	Single	Single	Single / Multiple
No. Motors	1	1	1	1
Motor HP	3	2	3	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	147.2/152 [4173/4309]
Weights				
Net Weight lbs. [kg]	1120 [508]	1112 [504]	1120 [508]	1266 [574]
Ship Weight lbs. [kg]	1149 [521]	1149 [521]	1149 [521]	1303 [591]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C151CM	C151DL	C151DM	C151YL
Model RLNL- Series (with VFD)	H151CS	H151DR	H151DS	
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]
EER/SEER ²	11/NA	11/NA	11/NA	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	99,500 [29.15]	99,500 [29.15]	99,500 [29.15]	99,500 [29.15]
Net Latent Capacity Btu [kW]	40,500 [11.87]	40,500 [11.87]	40,500 [11.87]	40,500 [11.87]
IEER ³	10.8/13.5	10.8/13.5	10.8/13.5	10.8
Net System Power [kW]	12.73	12.73	12.73	12.73
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴				
	88	88	88	88
Outdoor Coil—Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	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]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
Indoor Coil—Fin Type				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type				
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/2 HP			
	1075	1075	1075	1075
Indoor Fan—Type				
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
No. Speeds	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Motors	Single / Multiple	Single / Multiple	Single / Multiple	Single
Motor HP	1	1	1	1
Motor RPM	5	3	5	3
Motor Frame Size	1725	1725	1725	1725
	184	56	184	56
Filter—Type				
Furnished	Disposable	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes	Yes
	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]				
	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]
Weights				
Net Weight lbs. [kg]	1238 [562]	1230 [558]	1238 [562]	1230 [558]
Ship Weight lbs. [kg]	1267 [575]	1267 [575]	1267 [575]	1267 [575]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2010 COMPLIANT MODELS

Model RLNL- Series	C151YM
Model RLNL- Series (with VFD)	
Cooling Performance¹	
Gross Cooling Capacity Btu [kW]	146,000 [42.78]
EER/SEER ²	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	99,500 [29.15]
Net Latent Capacity Btu [kW]	40,500 [11.87]
IEER ³	10.8
Net System Power [kW]	12.73
Compressor	
No./Type	2/Scroll
Outdoor Sound Rating (dB)⁴	
	88
Outdoor Coil—Fin Type	
Tube Type	Louvered
Tube Size in. [mm] OD	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]
Rows / FPI [FPcm]	27 [2.51]
	2 / 23 [9]
Indoor Coil—Fin Type	
Tube Type	Louvered
Tube Size in. [mm]	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]
Refrigerant Control	4 / 15 [6]
Drain Connection No./Size in. [mm]	TX Valves
	1/1 [25.4]
Outdoor Fan—Type	
No. Used/Diameter in. [mm]	Propeller
Drive Type/No. Speeds	2/24 [609.6]
CFM [L/s]	Direct/1
No. Motors/HP	8000 [3775]
Motor RPM	2 at 1/2 HP
	1075
Indoor Fan—Type	
No. Used/Diameter in. [mm]	FC Centrifugal
Drive Type	1/15x15 [381x381]
No. Speeds	Belt (Adjustable)
No. Motors	Single
Motor HP	1
Motor RPM	5
Motor Frame Size	1725
	184
Filter—Type	
Furnished	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes
	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	
	147.2/152 [4173/4309]
Weights	
Net Weight lbs. [kg]	1238 [562]
Ship Weight lbs. [kg]	1267 [575]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
 2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
 3. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360.
 4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
- [] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA—C073

		ENTERING INDOOR AIR @ 80°F [26.7°C] dB _E ①									
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		2790 [1317]	2325 [1097]	1860 [878]	2790 [1317]	2325 [1097]	1860 [878]	2790 [1317]	2325 [1097]	1860 [878]	
DR ①		.06	.01	.15	.06	.01	.15	.06	.01	.15	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	92.8 [27.2]	89.5 [26.2]	86.3 [25.3]	86.4 [25.3]	83.4 [24.4]	80.3 [23.5]	81.8 [24.0]	78.9 [23.1]	76.1 [22.3]
	75 [23.9]	Sens BTUH [kW]	58.8 [17.2]	50.5 [14.8]	42.9 [12.6]	67.9 [19.9]	59.1 [17.3]	50.8 [14.9]	75.4 [22.1]	66.1 [19.4]	57.4 [16.8]
	75 [23.9]	Power	4.7	4.6	4.5	4.6	4.5	4.5	4.6	4.5	4.4
	80 [26.7]	Total BTUH [kW]	90.8 [26.6]	87.6 [25.7]	84.4 [24.7]	84.4 [24.7]	81.4 [23.8]	78.5 [23.0]	79.8 [23.4]	77.0 [22.6]	74.2 [21.7]
	80 [26.7]	Sens BTUH [kW]	58.1 [17.0]	49.9 [14.6]	42.3 [12.4]	67.0 [19.6]	58.3 [17.1]	50.2 [14.7]	74.7 [21.9]	65.5 [19.2]	56.8 [16.6]
	80 [26.7]	Power	4.9	4.8	4.7	4.9	4.8	4.7	4.8	4.7	4.7
	85 [29.4]	Total BTUH [kW]	88.6 [26.0]	85.5 [25.1]	82.4 [24.1]	82.2 [24.1]	79.4 [23.3]	76.5 [22.4]	77.7 [22.8]	74.9 [21.9]	72.2 [21.2]
	85 [29.4]	Sens BTUH [kW]	57.0 [16.7]	49.0 [14.4]	41.6 [12.2]	66.0 [19.3]	57.6 [16.9]	49.6 [14.5]	73.7 [21.6]	64.6 [18.9]	56.1 [16.4]
	85 [29.4]	Power	5.2	5.1	5.0	5.1	5.1	5.0	5.1	5.0	4.9
OUTDOOR DRY BULB TEMPERATURE °F [°C]	90 [32.2]	Total BTUH [kW]	86.3 [25.3]	83.2 [24.4]	80.2 [23.5]	79.9 [23.4]	77.1 [22.6]	74.3 [21.8]	75.3 [22.1]	72.7 [21.3]	70.0 [20.5]
	90 [32.2]	Sens BTUH [kW]	55.9 [16.4]	48.0 [14.1]	40.8 [12.0]	64.9 [19.0]	56.6 [16.6]	48.8 [14.3]	72.5 [21.2]	63.7 [18.7]	55.3 [16.2]
	90 [32.2]	Power	5.5	5.4	5.3	5.4	5.3	5.2	5.4	5.3	5.2
	95 [35]	Total BTUH [kW]	83.7 [24.5]	80.8 [23.7]	77.9 [22.8]	77.4 [22.7]	74.7 [21.9]	71.9 [21.1]	72.8 [21.3]	70.2 [20.6]	67.7 [19.8]
	95 [35]	Sens BTUH [kW]	54.4 [15.9]	46.9 [13.7]	39.9 [11.7]	63.6 [18.6]	55.5 [16.3]	47.8 [14.0]	71.2 [20.9]	62.5 [18.3]	54.4 [15.9]
	95 [35]	Power	5.8	5.7	5.6	5.7	5.6	5.5	5.7	5.6	5.5
	100 [37.8]	Total BTUH [kW]	81.0 [23.7]	78.2 [22.9]	75.4 [22.1]	74.7 [21.9]	72.1 [21.1]	69.4 [20.3]	70.1 [20.5]	67.6 [19.8]	65.2 [19.1]
	100 [37.8]	Sens BTUH [kW]	52.9 [15.5]	45.6 [13.4]	38.8 [11.4]	62.1 [18.2]	54.2 [15.9]	46.7 [13.7]	69.6 [20.4]	61.2 [17.9]	53.3 [15.6]
	100 [37.8]	Power	6.1	6.0	5.9	6.1	6.0	5.9	6.0	5.9	5.8
OUTDOOR DRY BULB TEMPERATURE °F [°C]	105 [40.6]	Total BTUH [kW]	78.2 [22.9]	75.4 [22.1]	72.7 [21.3]	71.8 [21.0]	69.3 [20.3]	66.8 [19.6]	67.2 [19.7]	64.8 [19.0]	62.5 [18.3]
	105 [40.6]	Sens BTUH [kW]	51.3 [15.0]	44.1 [12.9]	37.5 [11.0]	60.2 [17.6]	52.6 [15.4]	45.4 [13.3]	67.2 [19.7]	59.7 [17.5]	52.0 [15.2]
	105 [40.6]	Power	6.5	6.4	6.2	6.4	6.3	6.2	6.4	6.3	6.2
	110 [43.3]	Total BTUH [kW]	75.1 [22.0]	72.5 [21.2]	69.8 [20.5]	68.7 [20.1]	66.3 [19.4]	63.9 [18.7]	64.2 [18.8]	61.9 [18.1]	59.6 [17.5]
	110 [43.3]	Sens BTUH [kW]	49.2 [14.4]	42.4 [12.4]	36.0 [10.5]	58.3 [17.1]	50.9 [14.9]	44.0 [12.9]	64.2 [18.8]	58.0 [17.0]	50.5 [14.8]
	110 [43.3]	Power	6.8	6.7	6.6	6.8	6.7	6.6	6.8	6.6	6.5
	115 [46.1]	Total BTUH [kW]	71.9 [21.1]	69.3 [20.3]	66.8 [19.6]	65.5 [19.2]	63.2 [18.5]	60.9 [17.8]	60.9 [17.8]	58.8 [17.2]	56.6 [16.6]
	115 [46.1]	Sens BTUH [kW]	47.1 [13.8]	40.5 [11.9]	34.5 [10.1]	56.2 [16.5]	49.1 [14.4]	42.4 [12.4]	60.9 [17.8]	56.2 [16.5]	49.0 [14.4]
	115 [46.1]	Power	7.2	7.1	7.0	7.2	7.1	6.9	7.1	7.0	6.9

GROSS SYSTEMS PERFORMANCE DATA—C/H090

		ENTERING INDOOR AIR @ 80°F [26.7°C] dB _E ①									
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		3600 [1699]	2775 [1310]	2440 1152]	3600 [1699]	2775 [1310]	2440 1152]	3600 [1699]	2775 [1310]	2440 1152]	
DR ①		.06	.13	.17	.06	.13	.17	.06	.13	.17	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	111.2 [32.6]	105.5 [30.9]	102.9 [30.2]	107.2 [31.4]	101.7 [29.8]	99.2 [29.1]	101.3 [29.7]	96.1 [28.2]	93.8 [27.5]
	75 [23.9]	Sens BTUH [kW]	68.2 [20.0]	54.2 [15.9]	48.3 [14.2]	84.6 [24.8]	68.8 [20.2]	62.1 [18.2]	93.5 [27.4]	76.9 [22.5]	69.9 [20.5]
	75 [23.9]	Power	5.8	5.6	5.6	5.7	5.6	5.5	5.7	5.5	5.4
	80 [26.7]	Total BTUH [kW]	109.7 [32.1]	104.0 [30.5]	101.5 [29.7]	105.7 [31.0]	100.3 [29.4]	97.8 [28.7]	99.8 [29.2]	94.7 [27.8]	92.3 [27.1]
	80 [26.7]	Sens BTUH [kW]	68.3 [20.0]	54.3 [15.9]	48.5 [14.2]	84.6 [24.8]	68.9 [20.2]	62.2 [18.2]	93.5 [27.4]	77.0 [22.6]	69.9 [20.5]
	80 [26.7]	Power	6.1	6.0	5.9	6.0	5.9	5.8	6.0	5.8	5.8
	85 [29.4]	Total BTUH [kW]	107.7 [31.6]	102.2 [30.0]	99.7 [29.2]	103.7 [30.4]	98.4 [28.8]	96.0 [28.1]	97.8 [28.7]	92.8 [27.2]	90.5 [26.5]
	85 [29.4]	Sens BTUH [kW]	67.8 [19.9]	54.0 [15.8]	48.3 [14.2]	84.0 [24.6]	68.5 [20.1]	61.9 [18.2]	92.9 [27.2]	76.6 [22.5]	69.6 [20.4]
	85 [29.4]	Power	6.5	6.3	6.2	6.4	6.2	6.2	6.3	6.2	6.1
OUTDOOR DRY BULB TEMPERATURE °F [°C]	90 [32.2]	Total BTUH [kW]	105.3 [30.9]	99.9 [29.3]	97.5 [28.6]	101.4 [29.7]	96.2 [28.2]	93.8 [27.5]	95.4 [28.0]	90.5 [26.5]	88.3 [25.9]
	90 [32.2]	Sens BTUH [kW]	66.6 [19.5]	53.1 [15.6]	47.5 [13.9]	83.1 [24.4]	67.8 [19.9]	61.3 [18.0]	91.9 [26.9]	75.8 [22.2]	69.0 [20.2]
	90 [32.2]	Power	6.8	6.7	6.6	6.8	6.6	6.5	6.7	6.5	6.4
	95 [35]	Total BTUH [kW]	102.5 [30.0]	97.3 [28.5]	94.9 [27.8]	98.5 [28.9]	93.5 [27.4]	91.2 [26.7]	92.6 [27.1]	87.9 [25.8]	85.7 [25.1]
	95 [35]	Sens BTUH [kW]	65.1 [19.1]	52.0 [15.2]	46.5 [13.6]	81.5 [23.9]	66.6 [19.5]	60.2 [17.7]	90.4 [26.5]	74.7 [21.9]	67.9 [19.9]
	95 [35]	Power	7.2	7.0	6.9	7.2	7.0	6.9	7.1	6.9	6.8
	100 [37.8]	Total BTUH [kW]	99.3 [29.1]	94.2 [27.6]	91.9 [26.9]	95.3 [27.9]	90.4 [26.5]	88.2 [25.8]	89.4 [26.2]	84.8 [24.9]	82.7 [24.2]
	100 [37.8]	Sens BTUH [kW]	63.2 [18.5]	50.4 [14.8]	45.1 [13.2]	79.6 [23.3]	65.0 [19.1]	58.8 [17.2]	88.4 [25.9]	73.0 [21.4]	66.4 [19.5]
	100 [37.8]	Power	7.6	7.4	7.3	7.6	7.4	7.3	7.5	7.3	7.2
OUTDOOR DRY BULB TEMPERATURE °F [°C]	105 [40.6]	Total BTUH [kW]	95.6 [28.0]	90.7 [26.6]	88.5 [25.9]	91.6 [26.8]	86.9 [25.5]	84.8 [24.9]	85.7 [25.1]	81.3 [23.8]	79.3 [23.2]
	105 [40.6]	Sens BTUH [kW]	60.6 [17.8]	48.3 [14.2]	43.2 [12.7]	77.0 [22.6]	62.9 [18.4]	57.0 [16.7]	85.7 [25.1]	71.0 [20.8]	64.6 [18.9]
	105 [40.6]	Power	8.1	7.9	7.8	8.0	7.8	7.7	7.9	7.7	7.6
	110 [43.3]	Total BTUH [kW]	91.5 [26.8]	86.8 [25.4]	84.7 [24.8]	87.5 [25.6]	83.0 [24.3]	81.0 [23.7]	81.6 [23.9]	77.4 [22.7]	75.5 [22.1]
	110 [43.3]	Sens BTUH [kW]	57.6 [16.9]	45.9 [13.5]	41.0 [12.0]	73.9 [21.7]	60.4 [17.7]	54.7 [16.0]	81.6 [23.9]	68.5 [20.1]	62.4 [18.3]
	110 [43.3]	Power	8.5	8.3	8.2	8.4	8.2	8.1	8.4	8.2	8.1
	115 [46.1]	Total BTUH [kW]	87.0 [25.5]	82.5 [24.2]	80.5 [23.6]	83.0 [24.3]	78.7 [23.1]	76.8 [22.5]	77.1 [22.6]	73.1 [21.4]	71.3 [20.9]
	115 [46.1]	Sens BTUH [kW]	54.1 [15.9]	43.0 [12.6]	38.4 [11.3]	70.5 [20.7]	57.6 [16.9]	52.2 [15.3]	77.1 [22.6]	65.7 [19.3]	59.9 [17.6]
	115 [46.1]	Power	9.0	8.8	8.6	8.9	8.7	8.6	8.8	8.6	8.5

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

Total — Total capacity x 1000 BTUH
 Sens — Sensible capacity x 1000 BTUH
 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 (dB_E - 80)].

[] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA—C/H102

ENTERING INDOOR AIR @ 80°F [26.7°C] ①											
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		4100 [1935]	3200 [1510]	2700 [1274]	4100 [1935]	3200 [1510]	2700 [1274]	4100 [1935]	3200 [1510]	2700 [1274]	
DR ①		0	.05	.08	0	.05	.08	0	.05	.08	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	113.8 [33.4]	108.3 [31.7]	105.2 [30.8]	110.1 [32.3]	104.7 [30.7]	101.7 [29.8]	105.0 [30.8]	99.9 [29.3]	97.0 [28.4]
		Sens BTUH [kW]	69.9 [20.5]	56.3 [16.5]	49.3 [14.5]	91.3 [26.8]	75.3 [22.1]	67.0 [19.6]	103.1 [30.2]	86.0 [25.2]	77.0 [22.6]
		Power	6.4	6.3	6.2	6.3	6.2	6.1	6.2	6.1	6.0
	80 [26.7]	Total BTUH [kW]	113.7 [33.3]	108.2 [31.7]	105.1 [30.8]	110.0 [32.2]	104.6 [30.7]	101.7 [29.8]	104.9 [30.7]	99.8 [29.2]	96.9 [28.4]
		Sens BTUH [kW]	71.7 [21.0]	57.9 [17.0]	50.8 [14.9]	93.1 [27.3]	76.9 [22.5]	68.6 [20.1]	104.9 [30.8]	87.6 [25.7]	78.5 [23.0]
		Power	6.7	6.6	6.5	6.7	6.5	6.4	6.6	6.4	6.3
	85 [29.4]	Total BTUH [kW]	112.9 [33.1]	107.5 [31.5]	104.4 [30.6]	109.2 [32.0]	103.9 [30.5]	101.0 [29.6]	104.1 [30.5]	99.1 [29.0]	96.2 [28.2]
		Sens BTUH [kW]	72.6 [21.3]	58.8 [17.2]	51.6 [15.1]	94.0 [27.6]	77.8 [22.8]	69.4 [20.3]	104.1 [30.5]	88.5 [25.9]	79.4 [23.3]
		Power	7.1	6.9	6.8	7.0	6.8	6.7	6.9	6.7	6.7
	90 [32.2]	Total BTUH [kW]	111.5 [32.7]	106.1 [31.1]	103.1 [30.2]	107.8 [31.6]	102.5 [30.0]	99.6 [29.2]	102.7 [30.1]	97.7 [28.6]	94.9 [27.8]
		Sens BTUH [kW]	72.9 [21.4]	59.0 [17.3]	51.9 [15.2]	94.2 [27.6]	78.0 [22.9]	69.6 [20.4]	102.7 [30.1]	88.7 [26.0]	79.6 [23.3]
		Power	7.4	7.3	7.2	7.4	7.2	7.1	7.3	7.1	7.0
	95 [35]	Total BTUH [kW]	109.4 [32.1]	104.1 [30.5]	101.1 [29.6]	105.7 [31.0]	100.5 [29.5]	97.7 [28.6]	100.6 [29.5]	95.7 [28.0]	93.0 [27.3]
		Sens BTUH [kW]	72.2 [21.2]	58.5 [17.2]	51.5 [15.1]	93.6 [27.4]	77.5 [22.7]	69.3 [20.3]	100.6 [29.5]	88.2 [25.9]	79.3 [23.3]
		Power	7.8	7.6	7.5	7.7	7.6	7.4	7.7	7.5	7.4
	100 [37.8]	Total BTUH [kW]	106.6 [31.2]	101.4 [29.7]	98.6 [28.9]	102.9 [30.2]	97.9 [28.7]	95.1 [27.9]	97.8 [28.7]	93.0 [27.3]	90.4 [26.5]
		Sens BTUH [kW]	70.7 [20.7]	57.3 [16.8]	50.5 [14.8]	92.1 [27.0]	76.4 [22.4]	68.2 [20.0]	97.8 [28.7]	87.0 [25.5]	78.2 [22.9]
		Power	8.2	8.0	7.9	8.1	8.0	7.8	8.1	7.9	7.8
	105 [40.6]	Total BTUH [kW]	103.2 [30.2]	98.1 [28.8]	95.4 [28.0]	99.4 [29.1]	94.6 [27.7]	91.9 [26.9]	94.3 [27.6]	89.8 [26.3]	87.2 [25.6]
		Sens BTUH [kW]	68.4 [20.1]	55.4 [16.2]	48.9 [14.3]	89.7 [26.3]	74.5 [21.8]	66.6 [19.5]	94.3 [27.6]	85.2 [25.0]	76.6 [22.5]
		Power	8.7	8.4	8.3	8.6	8.4	8.2	8.5	8.3	8.2
	110 [43.3]	Total BTUH [kW]	99.0 [29.0]	94.2 [27.6]	91.5 [26.8]	95.3 [27.9]	90.7 [26.6]	88.1 [25.8]	90.2 [26.4]	85.8 [25.1]	83.4 [24.4]
		Sens BTUH [kW]	65.2 [19.1]	52.8 [15.5]	46.4 [13.6]	86.7 [25.4]	72.0 [21.1]	64.3 [18.9]	90.2 [26.4]	82.5 [24.2]	74.3 [21.8]
		Power	9.1	8.9	8.8	9.0	8.8	8.7	8.9	8.7	8.6
	115 [46.1]	Total BTUH [kW]	94.2 [27.6]	89.6 [26.3]	87.1 [25.5]	90.5 [26.5]	86.1 [25.2]	83.7 [24.5]	85.4 [25.0]	81.3 [23.8]	78.9 [23.1]
		Sens BTUH [kW]	61.3 [18.0]	49.6 [14.5]	43.7 [12.8]	82.7 [24.2]	68.7 [20.1]	61.5 [18.0]	85.4 [25.0]	79.4 [23.3]	71.4 [20.9]
		Power	9.6	9.3	9.2	9.5	9.3	9.1	9.4	9.2	9.1

GROSS SYSTEMS PERFORMANCE DATA—C/H120

ENTERING INDOOR AIR @ 80°F [26.7°C] dB E ①											
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]	
DR ①		0	.03	.07	0	.03	.07	0	.03	.07	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	149.3 [43.8]	142.1 [41.6]	138.3 [40.5]	139.6 [40.9]	132.8 [38.9]	129.3 [37.9]	130.9 [38.4]	124.6 [36.5]	121.3 [35.5]
		Sens BTUH [kW]	99.7 [29.2]	81.0 [23.7]	71.9 [21.1]	117.9 [34.6]	97.5 [28.6]	87.6 [25.7]	130.9 [38.4]	109.7 [32.2]	99.1 [29.1]
		Power	7.3	7.2	7.1	7.2	7.0	6.9	7.1	6.9	6.8
	80 [26.7]	Total BTUH [kW]	147.2 [43.1]	140.0 [41.0]	136.3 [39.9]	137.4 [40.3]	130.8 [38.3]	127.3 [37.3]	128.8 [37.7]	122.6 [35.9]	119.3 [35.0]
		Sens BTUH [kW]	99.2 [29.1]	80.5 [23.6]	71.5 [21.0]	117.1 [34.3]	97.0 [28.4]	87.1 [25.5]	128.8 [37.8]	109.3 [32.0]	98.7 [28.9]
		Power	7.8	7.6	7.5	7.7	7.5	7.4	7.6	7.4	7.3
	85 [29.4]	Total BTUH [kW]	144.7 [42.4]	137.7 [40.4]	134.0 [39.3]	135.0 [39.6]	128.5 [37.7]	125.0 [36.6]	126.4 [37.0]	120.2 [35.2]	117.0 [34.3]
		Sens BTUH [kW]	98.0 [28.7]	79.7 [23.4]	70.8 [20.8]	116.2 [34.1]	96.3 [28.2]	86.4 [25.3]	126.4 [37.1]	108.4 [31.8]	98.0 [28.7]
		Power	8.3	8.1	8.0	8.2	8.0	7.9	8.0	7.8	7.7
	90 [32.2]	Total BTUH [kW]	142.0 [41.6]	135.1 [39.6]	131.5 [38.5]	132.3 [38.8]	125.9 [36.9]	122.5 [35.9]	123.6 [36.2]	117.7 [34.5]	114.5 [33.6]
		Sens BTUH [kW]	96.8 [28.4]	78.7 [23.1]	70.0 [20.5]	114.9 [33.7]	95.2 [27.9]	85.5 [25.1]	123.6 [36.2]	107.5 [31.5]	97.2 [28.5]
		Power	8.8	8.6	8.5	8.7	8.5	8.4	8.6	8.4	8.3
	95 [35]	Total BTUH [kW]	139.0 [40.7]	132.3 [38.8]	128.8 [37.7]	129.3 [37.9]	123.0 [36.0]	119.7 [35.1]	120.7 [35.4]	114.8 [33.6]	111.8 [32.8]
		Sens BTUH [kW]	95.1 [27.9]	77.4 [22.7]	68.8 [20.2]	113.2 [33.2]	93.8 [27.5]	84.3 [24.7]	120.7 [35.4]	106.1 [31.1]	96.0 [28.1]
		Power	9.4	9.1	9.0	9.2	9.0	8.9	9.1	8.9	8.8
	100 [37.8]	Total BTUH [kW]	135.8 [39.8]	129.2 [37.9]	125.7 [36.8]	126.0 [36.9]	119.9 [35.1]	116.7 [34.2]	117.4 [34.4]	111.7 [32.7]	108.7 [31.9]
		Sens BTUH [kW]	93.1 [27.3]	75.7 [22.2]	67.3 [19.7]	111.1 [32.6]	92.2 [27.0]	82.9 [24.3]	117.4 [34.4]	104.4 [30.6]	94.5 [27.7]
		Power	9.9	9.7	9.6	9.8	9.6	9.5	9.7	9.5	9.3
	105 [40.6]	Total BTUH [kW]	132.2 [38.7]	125.8 [36.9]	122.5 [35.9]	122.5 [35.9]	116.5 [34.1]	113.4 [33.2]	113.8 [33.4]	108.3 [31.7]	105.4 [30.9]
		Sens BTUH [kW]	90.7 [26.6]	73.8 [21.6]	65.7 [19.3]	108.8 [31.9]	90.2 [26.4]	81.1 [23.8]	113.8 [33.4]	102.5 [30.0]	92.8 [27.2]
		Power	10.6	10.3	10.2	10.4	10.2	10.1	10.3	10.1	9.9
	110 [43.3]	Total BTUH [kW]	128.4 [37.6]	122.2 [35.8]	118.9 [34.8]	118.7 [34.8]	112.9 [33.1]	109.9 [32.2]	110.0 [32.2]	104.7 [30.7]	101.9 [29.9]
		Sens BTUH [kW]	88.0 [25.8]	71.6 [21.0]	63.6 [18.6]	106.2 [31.1]	88.1 [25.8]	79.3 [23.3]	110.0 [32.2]	100.3 [29.4]	90.8 [26.6]
		Power	11.2	10.9	10.8	11.1	10.8	10.7	11.0	10.7	10.6
	115 [46.1]	Total BTUH [kW]	124.3 [36.4]	118.3 [34.7]	115.1 [33.7]	114.6 [33.6]	109.0 [31.9]	106.1 [31.1]	105.9 [31.0]	100.8 [29.5]	98.1 [28.8]
		Sens BTUH [kW]	85.0 [24.9]	69.2 [20.3]	61.5 [18.0]	103.1 [30.2]	85.6 [25.1]	77.0 [22.6]	105.9 [31.0]	97.9 [28.7]	88.7 [26.0]
		Power	11.9	11.6	11.4	11.7	11.5	11.3	11.6	11.3	11.2

DR —Depression ratio

dB E —Entering air dry bulb

wbE —Entering air wet bulb

Total —Total capacity x 1000 BTUH

Sens —Sensible capacity x 1000 BTUH

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 (wbE - 80)].

[] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA—C/H151

		ENTERING INDOOR AIR @ 80°F [26.7°C] ①									
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		5800 [2737]	4225 [1994]	3800 [1793]	5800 [2737]	4225 [1994]	3800 [1793]	5800 [2737]	4225 [1994]	3800 [1793]	
DR ①		0	.03	.06	0	.03	.06	0	.03	.06	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	196.8 [57.7]	184.4 [54.0]	181.0 [53.0]	186.8 [54.7]	175.0 [51.3]	171.8 [50.3]	178.6 [52.3]	167.3 [49.0]	164.2 [48.1]
		Sens BTUH [kW]	135.5 [39.7]	103.0 [30.2]	94.9 [27.8]	156.7 [45.9]	121.7 [35.7]	112.9 [33.1]	177.9 [52.1]	140.2 [41.1]	130.7 [38.3]
		Power	10.2	9.9	9.8	10.0	9.7	9.6	9.7	9.4	9.3
	80 [26.7]	Total BTUH [kW]	192.1 [56.3]	179.9 [52.7]	176.6 [51.8]	182.1 [53.4]	170.6 [50.0]	167.4 [49.1]	173.9 [51.0]	162.9 [47.7]	159.9 [46.9]
		Sens BTUH [kW]	132.7 [38.9]	100.8 [29.6]	92.9 [27.2]	153.9 [45.1]	119.6 [35.1]	110.9 [32.5]	173.9 [51.0]	138.2 [40.5]	128.9 [37.8]
		Power	10.7	10.3	10.3	10.5	10.1	10.0	10.2	9.9	9.8
	85 [29.4]	Total BTUH [kW]	187.2 [54.9]	175.3 [51.4]	172.1 [50.4]	177.2 [51.9]	166.0 [48.6]	162.9 [47.7]	169.0 [49.5]	158.3 [46.4]	155.4 [45.5]
		Sens BTUH [kW]	129.7 [38.0]	98.6 [28.9]	90.9 [26.7]	151.1 [44.3]	117.5 [34.4]	109.0 [32.0]	169.0 [49.5]	136.0 [39.9]	126.9 [37.2]
		Power	11.2	10.9	10.8	11.0	10.6	10.5	10.7	10.4	10.3
	90 [32.2]	Total BTUH [kW]	182.1 [53.4]	170.5 [50.0]	167.4 [49.1]	172.1 [50.4]	161.2 [47.2]	158.2 [46.4]	163.9 [48.0]	153.5 [45.0]	150.7 [44.2]
		Sens BTUH [kW]	126.8 [37.2]	96.4 [28.3]	88.9 [26.1]	148.0 [43.4]	115.2 [33.8]	106.9 [31.3]	163.9 [48.0]	133.7 [39.2]	124.8 [36.6]
		Power	11.8	11.4	11.3	11.5	11.2	11.1	11.3	10.9	10.8
	95 [35]	Total BTUH [kW]	176.8 [51.8]	165.6 [48.5]	162.5 [47.6]	166.8 [48.9]	156.2 [45.8]	153.3 [44.9]	158.6 [46.5]	148.5 [43.5]	145.8 [42.7]
		Sens BTUH [kW]	123.6 [36.2]	94.1 [27.6]	86.7 [25.4]	144.9 [42.5]	112.8 [33.1]	104.7 [30.7]	158.6 [46.5]	131.3 [38.5]	122.6 [35.9]
		Power	12.3	11.9	11.8	12.1	11.7	11.6	11.9	11.5	11.4
	100 [37.8]	Total BTUH [kW]	171.3 [50.2]	160.4 [47.0]	157.5 [46.2]	161.3 [47.3]	151.0 [44.3]	148.3 [43.5]	153.1 [44.9]	143.3 [42.0]	140.7 [41.2]
		Sens BTUH [kW]	120.3 [35.3]	91.6 [26.9]	84.5 [24.8]	141.6 [41.5]	110.3 [32.3]	102.5 [30.0]	153.1 [44.9]	128.8 [37.8]	120.3 [35.3]
		Power	13.0	12.5	12.4	12.7	12.3	12.2	12.5	12.1	12.0
	105 [40.6]	Total BTUH [kW]	165.6 [48.5]	155.1 [45.5]	152.2 [44.6]	155.6 [45.6]	145.7 [42.7]	143.0 [41.9]	147.4 [43.2]	138.0 [40.4]	135.5 [39.7]
		Sens BTUH [kW]	116.9 [34.3]	89.1 [26.1]	82.2 [24.1]	138.2 [40.5]	107.8 [31.6]	100.2 [29.4]	147.4 [43.2]	126.3 [37.0]	118.0 [34.6]
		Power	13.6	13.2	13.0	13.4	12.9	12.8	13.1	12.7	12.6
	110 [43.3]	Total BTUH [kW]	159.7 [46.8]	149.6 [43.8]	146.8 [43.0]	149.7 [43.9]	140.2 [41.1]	137.6 [40.3]	141.5 [41.5]	132.5 [38.8]	130.1 [38.1]
		Sens BTUH [kW]	113.4 [33.2]	86.5 [25.4]	79.8 [23.4]	134.7 [39.5]	105.2 [30.8]	97.8 [28.7]	141.5 [41.5]	123.7 [36.3]	115.6 [33.9]
		Power	14.3	13.8	13.7	14.0	13.6	13.5	13.8	13.4	13.3
	115 [46.1]	Total BTUH [kW]	153.6 [45.0]	143.9 [42.2]	141.2 [41.4]	143.6 [42.1]	134.5 [39.4]	132.0 [38.7]	135.4 [39.7]	126.8 [37.2]	124.5 [36.5]
		Sens BTUH [kW]	109.8 [32.2]	83.8 [24.6]	77.3 [22.7]	131.0 [38.4]	102.5 [30.0]	95.3 [27.9]	135.4 [39.7]	121.0 [35.5]	113.1 [33.2]
		Power	15.0	14.5	14.4	14.7	14.3	14.2	14.5	14.1	13.9

DR —Depression ratio

dbE —Entering air dry bulb

wbE —Entering air wet bulb

Total —Total capacity x 1000 BTUH

Sens —Sensible capacity x 1000 BTUH

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—6 TON [21.1 kW]

Capacity 6 Ton [21.1 kW]		External Static Pressure—Inches of Water [kPa]																																									
Air Flow CFM [L/s]		0.1 [0.02]			0.2 [0.05]			0.3 [0.07]			0.4 [1.0]			0.5 [1.2]			0.6 [1.5]			0.7 [1.7]			0.8 [2.0]			0.9 [2.2]			1.0 [2.5]			1.1 [2.7]			1.2 [3.0]			1.3 [3.2]			1.4 [3.5]		
	Voltage 208/230, 460, 575 — 3 phase	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W								
1800	[849]	—	—	—	—	—	—	—	—	835	631	880	686	924	740	965	794	1005	847	1043	898	1079	949	1113	999	1146	1048	1177	1096	1206	1144	1206	1144										
1900	[897]	—	—	—	—	—	—	—	—	808	622	854	681	899	739	941	795	982	851	1021	906	1058	960	1093	1013	1127	1065	1159	1117	1189	1167	1217	1217	1217	1217								
2000	[944]	—	—	—	—	—	—	—	—	828	673	874	734	918	794	959	853	999	911	1037	968	1074	1025	1108	1080	1141	1135	1172	1189	1201	1242	1228	1293	1293	1293								
2100	[991]	—	—	—	—	—	—	—	—	803	663	850	727	894	790	987	853	978	914	1017	974	1055	1034	1190	1093	1124	1151	1566	1208	1264	1214	1319	1241	1373	1373	1373							
2200	[1038]	—	—	—	—	—	—	—	—	826	718	871	784	915	850	987	914	997	978	1036	1041	1107	1164	1224	1103	1107	1164	1223	1201	1342	1328	1399	1254	1456	1456	1456							
2300	[1085]	—	—	—	—	—	—	—	—	802	706	849	844	937	912	978	979	1017	1045	1055	1110	1091	1174	1125	1238	1157	1300	1187	1362	1216	1423	1242	1482	1267	1541	1541							
2400	[1133]	—	—	—	—	—	—	—	—	826	764	872	836	916	907	959	977	999	1047	1038	1115	1075	1183	1110	1249	1143	1315	1174	1380	1204	1444	1231	1507	1257	1669	1669	1669	1669					
2500	[1180]	—	—	—	—	—	—	—	—	805	751	882	826	897	900	940	973	981	1046	1021	1118	1059	1188	1095	1258	1129	1327	1162	1385	1192	1482	1221	1529	1248	1594	1273	1658	1658	1658	1658			
2600	[1227]	831	813	877	890	922	967	964	1043	1005	1118	1044	1191	1081	1265	1116	1337	1149	1408	1121	1548	1139	1478	1121	1801	1265	1684	1684	—	—	—	—	—	—	—								
2700	[1274]	858	878	904	958	947	1037	994	1115	1029	1192	1067	1288	1139	1344	1137	1418	1170	1494	1201	1565	1127	1687	1257	1708	1282	1778	1778	—	—	—	—	—	—	—								
2800	[1321]	886	947	931	1029	973	1110	1014	1190	1053	1270	1091	1349	1126	1426	1160	1503	1191	1579	1221	1654	1250	1728	1276	1802	1276	—	—	—	—	—	—	—										

NOTE: I-Drive left of hold line. M-Drive right of hold line.

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

Do not eat meat or choose below minimums for your animal.

Do not set motor sheave below minimum turns open shown.

Re-adjustment of sheave required to achieve rated airflow at AHR₁ minimum E.S.P.

Re-adjustment of sheave required to achieve rated airflow at AHR minimum E.S.P.

Re-adjustment of sleeve required to

AIRFLOW CORRECTION FACTORS 6 TON [21.1 kW]

ACTUAL—CFM [L/s]	1800 [849]	2000 [944]	2200 [1038]	2400 [1133]	2600 [1227]	2800 [1277]
TOTAL MBH	0.97	0.96	0.99	1.00	1.01	1.02
SENSIBLE MBH	0.91	0.94	0.97	1.00	1.02	1.05
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting capacity cannot exceed total capacity.

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COMPONENT AIR RESISTANCE, IWC 6 TON [21.1 kW]

Component	Standard Indoor Airflow—CFM [L/s]					
	1800 [849]	2000 [944]	2200 [1038]	2400 [1133]	2600 [1227]	2800 [1321]
	Resistance—Inches Water [kPa]					
Wet Coil	0.031 [0.038]	0.036 [0.039]	0.041 [0.001]	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	0.017 [0.042]	0.02 [0.050]
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA
Economizer	0.02 [0.005]	0.03 [0.007]	0.04 [0.01]	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]
100% R.A. Damper Open	Horizontal Economizer 100% R.A. Damper Open	0.002 [0.005]	0.02 [0.005]	0.03 [0.007]	0.03 [0.007]	0.04 [0.01]
Horizontal Economizer 100% R.A. Damper Open	0.07 [0.017]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]
100% OA Damper Open						

NOTE: Add component resistance to duct resistance to determine total external static pressure.

AIRFLOW PERFORMANCE—7.5 TON [26.4 kW]

Capacity		External Static Pressure—Inches of Water [kPa]																							
Air Flow	CFM [l/s]	0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.20]	0.9 [.22]	1.0 [.25]	1.1 [.27]	1.2 [.30]	1.3 [.32]	1.4 [.35]	1.5 [.37]	1.6 [.40]	1.7 [.42]	1.8 [.45]	1.9 [.47]	2.0 [.50]				
CFM [l/s]	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM				
2400 [1133]	—	—	—	—	540	580	582	664	612	729	645	812	711	890	740	952	770	1014	799	1076	828	1138	857		
2500 [1180]	—	—	—	—	633	593	717	624	791	656	878	720	950	749	1012	778	1074	808	1136	837	1198	866	1260	895	
2600 [1227]	—	—	—	—	564	687	603	635	853	667	945	729	1010	758	1072	787	1134	816	1196	846	1258	875	1320	914	
2700 [1274]	—	—	—	—	539	670	777	744	614	828	648	923	680	1017	737	1070	766	1132	796	1194	825	1256	854	1318	883
2800 [1321]	—	—	—	—	564	733	590	801	625	887	660	936	708	1069	746	1131	775	1192	804	1254	834	1316	863	1378	892
2900 [1369]	—	—	—	—	569	801	604	866	638	956	673	1069	725	1129	755	1191	784	1253	813	1315	842	1376	872	1458	906
3000 [1416]	546	741	854	869	617	931	650	1024	685	1144	734	1189	763	1251	792	1313	822	1345	851	1437	880	1489	913	1752	943
3100 [1463]	560	804	598	940	632	1010	664	1107	713	1187	743	1249	772	1311	801	1373	830	1435	860	1497	889	1559	921	1816	950
3200 [1510]	576	876	612	1011	646	1089	678	1189	722	1247	751	1309	781	1371	810	1433	839	1495	868	1557	898	1619	928	1880	957
3300 [1557]	592	954	628	1096	660	1163	692	1274	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617	906	1859	935	1944	965
3400 [1605]	607	1030	643	1180	673	1247	710	1306	739	1388	769	1430	798	1491	827	1553	856	1615	886	1677	913	1923	943	2008	972
3500 [1652]	622	1112	668	1271	689	1344	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737	920	1987	960	2158	1009
3600 [1699]	638	1202	672	1361	704	1440	728	1426	757	1438	786	1550	815	1612	844	1674	874	1735	903	1797	928	2051	957	2136	986

NOTE: L=Drive left of bold line, M=Drive right of bold line.

NOTE: 1. Factory sheave settings are shown in bold print.
2. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
3. Do not operate above blower RPM shown as motor overloading will occur.
4. Do not set motor sheave below one turn open.

Drive Package	L, R	M, S	N, T
Motor H.P. [W]	2.0 [1491.4]	2.0 [1491.4]	3.0 [2237.1]
Blower Sheave	BK110	BK90	BK65
Motor Sheave	1VP-44	1VP-44	1VP-44
Turns Open	1	2	3
RPM	682	650	620

NOTES: 1. Multiply correction factor times gross performance data.

2. Resulting sensible capacity cannot exceed total capacity.

3. Do not operate above blower RPM shown as motor overloading will occur.

4. Do not set motor sheave below one turn open.

**AIRFLOW CORRECTION FACTORS
7.5 TON [26.4 kW] (C090)**

ACTUAL—CFM [l/s]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]
TOTAL MBH	0.97	0.98	0.99	1.00	1.01	1.02	1.03
SENSIBLE MBH	0.91	0.94	0.97	1.00	1.02	1.05	1.08
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01	1.02

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.**[] Designates Metric Conversions**

Component	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]
	Standard Indoor Airflow—CFM [l/s]		Resistance—Inches Water [kPa]				
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]
Econizer	0.05	0.06	0.07	0.08	0.09	0.10	0.11
100% R.A. Damper Open	0.03 [0.007]	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.06 [0.012]	0.06 [0.014]	0.06 [0.015]
Horizontal Econizer	0.08 [0.020]	0.08 [0.020]	0.08 [0.020]	0.10 [0.024]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]
Horizontal Econizer	0.09 [0.021]	0.09 [0.021]	0.09 [0.021]	0.10 [0.025]	0.11 [0.028]	0.12 [0.031]	0.13 [0.034]

NOTE: Add component resistance to duct resistance to determine total external static pressure.

DNA = Data not Available.

AIRFLOW PERFORMANCE—8.5 TON [29.9 kW]

Capacity 8.5-Ton [29.9 kW]												External Static Pressure—Inches of Water [kPa]												
Air Flow	CFM [L/s]	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	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	
2700 [1274]	—	—	—	—	—	—	—	—	708	1099	1070	766	1132	796	1194	825	1256	854	1318	883	1380	921	1645	
2800 [1321]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	980	1816	1901	1938	1966	1068	2072	1997
2900 [1369]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1880	1916	1965	1046	2050	1075	2233
3000 [1416]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1880	1944	1944	1944	1944	1944	2307
3100 [1463]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	2371
3200 [1510]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	2435
3300 [1557]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	—
3400 [1605]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	—
3500 [1652]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	—
3600 [1699]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	987	1920	1929	1929	1929	1929	1929	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2297
3800 [1793]	686	1443	713	1592	768	1667	796	1741	823	1816	851	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	915	2048	968	2194	988	2307	1008	2421	1029	2539
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1981	878	2056	935	2085	955	2199	975	2263	1070	2367	1077	2880
4100 [1935]	726	1692	754	1766	811	1841	809	1915	836	1909	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L, R	M, S
Motor H.P. [W]	2.0 [1491.4]	3.0 [2237.1]
Blower Sheave	BK90	BK65
Motor Sheave	1VP-44	1VP-44
Turns Open	1	2
RPM	860	824

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

2. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum E.S.P.

3. Do not operate above blower RPM shown as motor overloading will occur.

4. Do not set motor sheave below one turn open.

COMPONENT AIR RESISTANCE, IWC 8.5 TON [29.9 kW]

Component	Standard Indoor Airflow—CFM [L/s]						Resistance—Inches Water [kPa]	
	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1888]
Wet Coil	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]
Concentric Diffuser RXRN-F465 or FA75 & Transition RXMC-CD04	0.17 [0.042]	0.20 [0.050]	0.25 [0.062]	0.31 [0.077]	0.37 [0.092]	DNA	DNA	DNA
Economizer	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]
100% R.A. Damper Open	0.96 [0.97]	0.98 [0.98]	1.00 [0.99]	1.02 [1.01]	1.03 [1.02]	1.04 [1.03]	1.05 [1.04]	1.06 [1.04]
Horizontal Economizer	0.88 [0.91]	0.91 [0.94]	0.97 [1.00]	1.00 [1.01]	1.03 [1.02]	1.07 [1.06]	1.05 [1.05]	1.08 [1.05]
Horizontal Economizer	0.99 [0.99]	0.99 [0.99]	1.00 [1.00]	1.01 [1.01]	1.02 [1.02]	1.03 [1.03]	1.04 [1.04]	1.05 [1.05]
100% O.A. Damper Open	0.99 [0.99]	0.99 [0.99]	1.00 [1.00]	1.01 [1.01]	1.02 [1.02]	1.03 [1.03]	1.04 [1.04]	1.05 [1.05]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

AIRFLOW CORRECTION FACTORS 8.5 TON [29.9 kW]

ACTUAL—CFM [L/s]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1882]
TOTAL MBH	0.96	0.97	0.98	0.99	1.00	1.01	1.02
SENSIBLE MBH	0.88	0.91	0.94	0.97	1.00	1.03	1.07
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01	1.03

NOTES: 1. Multiply correction factor times gross performance data.

2. Resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions

AIRFLOW PERFORMANCE—10 TON [35.2 kW]

Capacity		10 Ton [35.2 kW]		External Static Pressure—Inches of Water [kPa]																														
Air Flow CFM [l/s]	CFM [l/s]	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]	2.1 [0.52]	2.2 [0.55]	2.3 [0.57]										
RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W							
32000 [15.01]	—	—	—	657	1170	715	1245	742	1319	770	1394	797	1468	825	1543	862	1617	980	1737	1093	1930	1037	2044	1198	2394	1119	2398							
33000 [15.57]	—	—	—	673	1179	701	1253	728	1328	756	1402	783	1477	811	1561	838	1626	866	1707	948	1822	976	1935	1024	2049	1144	2396							
34000 [16.05]	—	—	—	687	1261	714	1336	742	1410	769	1485	797	1559	824	1634	852	1708	879	1763	950	1811	971	1827	962	1941	989	2054	1153	2397					
35000 [16.62]	—	—	—	673	1270	700	1344	728	1419	755	1493	783	1568	810	1642	838	1717	865	1791	958	1818	933	1832	978	1965	1003	2059	1161	2398					
36000 [17.19]	—	—	—	686	1352	714	1427	741	1501	769	1576	786	1650	824	1725	851	1789	877	1874	945	1882	966	1951	986	2065	1024	2071	1047	2159	1178	2399			
37000 [17.76]	672	1363	700	1495	727	1510	782	1584	792	1633	817	1808	953	1833	896	1973	902	2183	992	2297	1039	2410	1052	2524	1107	2622	1108	2746	1128	2873				
38000 [17.93]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1818	861	1890	878	1965	940	2003	960	2075	981	2189	1001	2320	1016	2459	1062	2576	1102	2870	1123	2983		
39000 [18.41]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	988	2307	1008	2421	1029	2534	1057	2648	1069	2757	1110	2988	1130	3097		
40000 [18.88]	713	1609	740	1683	768	1758	795	1832	803	1907	850	1861	878	2056	995	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1117	3107	1138	3222
41000 [19.35]	726	1751	766	1764	781	1841	809	1915	836	1990	864	2064	922	2091	947	2204	963	2318	983	2430	1001	2545	1024	2658	1056	2772	1084	2885	1084	2994	1116	3349	1133	3459
42000 [19.82]	740	1774	767	1784	795	1923	822	1898	850	2072	877	2147	930	2209	950	2323	971	2438	990	2550	1031	2777	1049	2897	1092	3117	1112	3231	1133	3345	1153	3459		
43000 [20.29]	753	1857	781	1932	808	2006	836	2081	853	2155	917	2215	937	2328	957	2442	978	2555	988	2669	1019	2782	1039	2896	1083	3009	1111	3123	1136	3236	1160	3377	1181	3690
44000 [20.77]	767	1940	794	2014	822	2089	849	2163	877	2238	924	2333	945	2447	965	2560	985	2674	1006	2787	1026	2901	1046	3014	1097	3128	1124	3241	1107	3345	1167	3452		
45000 [21.24]	780	2023	808	2079	835	2172	853	2248	863	2338	932	2452	952	2585	976	2693	993	2793	1013	2906	1033	3029	1054	3133	1110	3207	1138	3360	1171	3474	1191	3592		
46000 [21.71]	794	2105	811	2180	840	2251	871	2304	921	2400	950	2484	980	2598	1000	2911	1021	3138	1061	3252	1041	3376	1124	3365	1151	3592	1142	3706	1163	3819	1183	3933		
47000 [22.18]	807	2188	835	2263	862	2337	906	2392	917	2576	947	2689	967	2803	988	2916	1008	3030	1028	3143	1048	3257	1069	3371	1137	3484	1165	3598	1181	3711	1157	3830		
48000 [22.65]	821	2271	848	2345	876	2220	914	2561	934	2995	955	2808	975	2922	995	3035	1015	3149	1036	3226	1056	3376	1076	3489	1151	3603	1178	3716	1137	3830	1190	4057	1198	4170

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L, R	M, S
Motor H.P. [W]	2.0 [1491.4]	3.0 [2237.1]
Blower Sheave	BK90	BK65
Motor Sheave	1 VP-44	1VP-44
Turns Open	1	2
RPM	845	810

NOTES: 1 Factory sheave settings are shown in bold print

1. Factory site leave settings are shown in bold print.

2. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum

3. Do not operate above blower RPM shown as mo

COMPONENT AIR RESISTANCE, IWC 10 TON [35.2 kW]

Component	Standard Indoor Airflow—CFM [L/s]					
	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1883]	4200 [1982]
Resistance—Inches Water [kPa]						
Wet Coil	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	0.31 [0.077]	0.37 [0.092]	DNA	DNA	DNA	DNA
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	0.17 [0.042]	0.18 [0.045]	0.21 [0.052]	0.24 [0.060]
Concentric Diffuser RXRN-AA66 or AA76 & Transition RXMC-CF06	DNA	DNA	DNA	DNA	DNA	DNA
Economizer	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]
100% R.A. Damper Open						
Horizontal Economizer	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]
100% R.A. Damper Open						
Horizontal Economizer	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.035]	0.17 [0.038]	0.19 [0.041]
100% OA Damper Open						

NOTE: Add component resistance to duct resistance to determine total external static pressure.

AIRFLOW PERFORMANCE—12.5 TON [44.0 kW]

Capacity 12.5 Ton [44.0 kW]												
Voltage 208/230, 460, 575 — 3 phase 60 Hz												
Air Flow CFM [L/s]	External Static Pressure—Inches of Water [kPa]											
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	
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]	
3300 [1193]	—	—	—	—	820	1605	879	1661	929	1786	904	1722
4000 [1388]	—	—	—	—	830	1735	885	1859	955	1927	930	1997
4200 [1482]	—	—	—	—	832	1877	858	1941	983	2153	957	2230
4400 [2076]	836	2029	862	2096	886	2167	911	2241	936	2319	960	2400
4600 [2171]	867	2233	891	2337	916	2415	940	2496	964	2581	988	2669
4800 [2265]	897	2518	925	2599	946	2684	970	2772	993	2864	1017	2959
5000 [2359]	929	3035	953	2883	976	2875	1000	3070	1023	3148	1066	3375
5400 [2548]	961	3093	984	3188	1003	3308	1035	3494	1076	3603	1098	3715
56000 [2943]	1026	3752	1049	3861	1071	3974	1093	4089	1115	4209	1137	4331
58000 [2237]	1060	4114	1082	4230	1104	4349	1126	4467	1147	4588	1169	4728

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L, R					M, S		
Motor H.P. [W]	3.0 [237.1]					5.0 [3728.5]		
Blower Sheave	BK72H					BK85H		
Motor Sheave	1VP-44					1VP-65		
Turns Open	1	2	3	4	5	6	1	2
RPM	1051	1009	966	920	876	824	1294	1256
							1216	1177
							1136	1094

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

1. Factory site leave settings are shown in bold print.

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

3. Re-adjustment of sheave required to achieve rated airflow at AHP minimum External Static Pressure.
 4. Drive data shown is for horizontal ductflow with dry coil. Add component resistance (below) to duct resistance

AIRFLOW CORRECTION FACTORS 12.5 TON / 110 KW

ACTUAL—CFW [L/s]							
TOTAL MBH		SENSIBLE MBH		POWER kW		NET kW	
3800	[1793]	4000	[1888]	4200	[1982]	4400	[2077]
						4600	[2171]
						4800	[2265]
						5000	[2360]
						5200	[2454]
						5400	[2549]
						5600	[2643]
						5800	[2737]

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

COMPONENT AIR RESISTANCE, IWC 12.5 TON [44.0 kW]

Component	Standard Indoor Airflow—CFM [L/s]									
	3800 [1733]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2117]	5000 [2265]	5200 [2359]	5400 [2454]	5600 [2548]	5800 [2643]
Resistance—Inches Water (kPa)										
Wet Coil	0.08 [.02]	0.09 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.11 [.03]	0.12 [.03]	0.13 [.03]	0.14 [.03]
Downflow Economizer	0.12 [.03]	0.13 [.03]	0.14 [.03]	0.15 [.03]	0.16 [.04]	0.17 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.21 [.05]
RA Damper Open	0.07 [.02]	0.07 [.02]	0.08 [.02]	0.08 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.11 [.03]	0.12 [.03]
Horizontal Economizer	0.19 [.05]	0.21 [.05]	0.24 [.05]	0.27 [.07]	0.30 [.07]	0.33 [.08]	0.36 [.09]	0.40 [.10]	0.44 [.11]	0.48 [.12]
RA Damper Open	0.23 [.05]	0.25 [.05]	0.27 [.05]	0.29 [.07]	0.30 [.07]	0.32 [.08]	0.33 [.09]	0.36 [.10]	0.38 [.11]	0.43 [.12]
Concentric Grill RXRN-AA61 or RXRN-AA71 & Transition RXMC-CEO5	0.23 [.05]	0.25 [.05]	0.27 [.05]	0.29 [.07]	0.30 [.07]	0.32 [.08]	0.33 [.09]	0.36 [.10]	0.38 [.11]	0.41 [.12]
Concentric Grill RXRN-AA66 or RXRN-AA76 Transitions	0.23 [.05]	0.25 [.05]	0.27 [.05]	0.29 [.07]	0.30 [.07]	0.32 [.08]	0.33 [.09]	0.36 [.10]	0.38 [.11]	0.43 [.12]
Concentric Grill RXRN-AA66 or RXRN-AA76 Transitions	0.23 [.05]	0.25 [.05]	0.27 [.05]	0.29 [.07]	0.30 [.07]	0.32 [.08]	0.33 [.09]	0.36 [.10]	0.38 [.11]	0.43 [.12]

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ELECTRICAL DATA – RLNL- SERIES										
		C073CL	C073CM	C073DL	C073DM	C073YL	C073YM	C090CL H090CR	C090CM H090CS	C090CN H090CT
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632	187-253	187-253	187-253
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	Minimum Circuit Ampacity	35/35	35/35	16	16	13	13	43/43	43/43	48/48
	Minimum Overcurrent Protection Device Size	40/40	40/40	20	20	15	15	45/45	45/45	50/50
	Maximum Overcurrent Protection Device Size	50/50	50/50	20	20	15	15	50/50	50/50	60/60
Compressor Motor	No.	1	1	1	1	1	1	2	2	2
	Volts	200/240	200/240	480	480	600	600	200/240	200/240	200/240
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	6	6	6	6	6	6	3.25	3.25	3.25
	Amps (RLA), Comp. 1	19.6/19.6	19.6/19.6	8.2	8.2	6.6	6.6	13.1/13.1	13.1/13.1	13.1/13.1
	Amps (LRA), Comp. 1	136/136	136/136	66.1	66.1	55.3	55.3	83.1/83.1	83.1/83.1	83.1/83.1
	HP, Compressor 2	—	—	—	—	—	—	3.25	3.25	3.25
	Amps (RLA), Comp. 2	—	—	—	—	—	—	13.1/13.1	13.1/13.1	13.1/13.1
	Amps (LRA), Comp. 2	—	—	—	—	—	—	83.1/83.1	83.1/83.1	83.1/83.1
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	Phase	1	1	1	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	2.4/2.4	2.4/2.4	1.4	1.4	1	1	2.4/2.4	2.4/2.4	2.4/2.4
	Amps (LRA, each)	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5	4.7/4.7	4.7/4.7	4.7/4.7
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	Phase	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2	3
	Amps (FLA, each)	5.6/5.6	5.6/5.6	2.8	2.8	1.9	1.9	8/8	8/8	13/13
	Amps (LRA, each)	28.8/28.8	28.8/28.8	14.4	14.4	14	14	56/56	56/56	74.5/74.5

ELECTRICAL DATA – RLNL- SERIES

		C090DL H090DR	C090DM H090DS	C090DN H090DT	C090YL	C090YM	C090YN	C102CL H102CR	C102CM H102CS	C102DL H102DR
Unit Information	Unit Operating Voltage Range	414-506	414-506	414-506	518-632	518-632	518-632	187-253	187-253	414-506
	Volts	460	460	460	575	575	575	208/230	208/230	460
	Minimum Circuit Ampacity	21	21	24	16	16	21	49/49	54/54	23
	Minimum Overcurrent Protection Device Size	25	25	25	20	20	25	50/50	55/55	25
	Maximum Overcurrent Protection Device Size	25	25	30	20	20	25	60/60	60/60	25
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	480	480	480	600	600	600	200/230	200/230	460
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 3/4	3 3/4	3 3/4
	Amps (RLA), Comp. 1	6.1	6.1	6.1	4.4	4.4	4.4	16/16	16/16	7.1
	Amps (LRA), Comp. 1	41	41	41	33	33	33	91/91	91/91	46
	HP, Compressor 2	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 3/4	3 3/4	3 3/4
	Amps (RLA), Comp. 2	6.1	6.1	6.1	4.4	4.4	4.4	16/16	16/16	7.1
	Amps (LRA), Comp. 2	41	41	41	33	33	33	91/91	91/91	46
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	460	460	460	575	575	575	208/230	208/230	460
	Phase	1	1	1	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	1.4	1.4	1.4	1	1	1	2.4/2.4	2.4/2.4	1.4
	Amps (LRA, each)	2.4	2.4	2.4	1.5	1.5	1.5	4.7/4.7	4.7/4.7	2.4
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	460	460	460	575	575	575	208/230	208/230	460
	Phase	3	3	3	3	3	3	3	3	3
	HP	2	2	3	2	2	3	2	3	2
	Amps (FLA, each)	4	4	7	4	4	8	8/8	13/13	4
	Amps (LRA, each)	28	28	38.1	19	19	20	56/56	74.5/74.5	28

ELECTRICAL DATA – RLNL- SERIES										
		C102DM H102DS	C102YL	C102YM	C120CL H120CR	C120CM H120CS	C120DL H120DR	C120DM H120DS	C120YL	C120YM
Unit Information	Unit Operating Voltage Range	414-506	518-632	518-632	187-253	187-253	414-506	414-506	518-632	518-632
	Volts	460	575	575	208/230	208/230	460	460	575	575
	Minimum Circuit Ampacity	26	19	24	49/49	54/54	25	28	19	24
	Minimum Overcurrent Protection Device Size	30	20	25	50/50	55/55	25	30	20	25
	Maximum Overcurrent Protection Device Size	30	20	30	60/60	60/60	30	35	20	30
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	460	575	575	200/240	200/240	480	480	575	575
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	3 3/4	3 3/4	3 3/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 1	7.1	5.6	5.6	16/16	16/16	7.8	7.8	5.7	5.7
	Amps (LRA), Comp. 1	46	37	37	110/110	110/110	52	52	38.9	38.9
	HP, Compressor 2	3 3/4	3 3/4	3 3/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 2	7.1	5.6	5.6	16/16	16/16	7.8	7.8	5.7	5.7
	Amps (LRA), Comp. 2	46	37	37	110/110	110/110	52	52	38.9	38.9
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	460	575	575	208/230	208/230	460	460	575	575
	Phase	1	1	1	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	1.4	1	1	2.4/2.4	2.4/2.4	1.4	1.4	1	1
	Amps (LRA, each)	2.4	1.5	1.5	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	460	575	575	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	2	3	2	3	2	3	2	3
	Amps (FLA, each)	7	4	8	8/8	13/13	4	7	4	8
	Amps (LRA, each)	38.1	19	20	56/56	74.5/74.5	28	38.1	19	20

ELECTRICAL DATA – RLNL- SERIES

		C151CL H151CR	C151CM H151CS	C151DL H151DR	C151DM H151DS	C151YL	C151YM
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632
	Volts	208/230	208/230	460	460	575	575
	Minimum Circuit Ampacity	67/67	71/71	33	36	28	28
	Minimum Overcurrent Protection Device Size	70/70	75/75	35	40	30	30
	Maximum Overcurrent Protection Device Size	80/80	90/90	40	45	35	35
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
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4
	Amps (RLA), Comp. 1	22.4/22.4	22.4/22.4	10.6	10.6	7.7	7.7
	Amps (LRA), Comp. 1	149/149	149/149	75	75	54	54
	HP, Compressor 2	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4
	Amps (RLA), Comp. 2	19/19	19/19	9.7	9.7	7.4	7.4
	Amps (LRA), Comp. 2	123/123	123/123	62	62	50	50
Condenser Motor	No.	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575
	Phase	1	1	1	1	1	1
	HP	1/2	1/2	1/2	1/2	1/2	1/2
	Amps (FLA, each)	2.3/2.3	2.3/2.3	1.5	1.5	1	1
	Amps (LRA, each)	5.6/5.6	5.6/5.6	3.1	3.1	2.2	2.2
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	3	5	3	5	3	5
	Amps (FLA, each)	15/15	18.8/18.8	7	10	8	8
	Amps (LRA, each)	74.5/74.5	82.6/82.6	38.1	41.3	20	33

208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

Unit Model No. RLNL-	Single Power Supply For Both Unit and Heater Kit					Separate Power Supply For Both Unit and Heater Kit				
	RXJU- Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 208/240 V	Heater KBTU/Hr @ 208/240 V	Heater Amp. @ 208/240 V	Air Conditioner		Air Conditioner		
						Unit Min. Ckt. Ampacity @ 208/240 V	Protective Device Size Min./Max. @ 208 V	Over Current Protective Device Size Min./Max. @ 240 V	Min. Circuit Ampacity 208/240 V	Max. Fuse Size 208/240 V
C073CL	No Heat	—	—	24.56/32.75	20/23.1	35/35	40/50	—	—	35/35
	CC10C	1	7.2/9.6	36.84/49.13	30/34.6	45/50	45/50	25/29	25/30	40/50
	CC15C	1	10.8/14.4	49.13/65.5	40/46.2	45/51	60/60	38/44	40/45	—
	CC20C	1	14.4/19.2	73.69/98.25	60/69.3	57/65	60/60	50/58	50/60	—
C090CL H090CR	No Heat	—	—	24.56/32.75	20/23.1	43/43	45/50	—	—	43/43
	CC10C	1	7.2/9.6	36.84/49.13	30/34.6	48/54	50/50	25/29	25/30	45/50
	CC15C	1	10.8/14.4	49.13/65.5	40/46.2	60/68	60/60	38/44	40/45	—
	CC20C	1	14.4/19.2	73.69/98.25	60/69.3	85/97	60/60	50/58	50/60	—
C090CL H102CR	CC30C	1	21.6/28.8	80.1/92.4	111/126	125/125	150/150	100/100	75/87	80/90
	CC40C	1	28.8/38.4	98.25/131	—	—	101/116	101/116	110/125	—
	No Heat	—	—	24.56/32.75	20/23.1	49/49	50/60	—	—	49/49
	CC10C	1	7.2/9.6	36.84/49.13	30/34.6	49/54	60/60	25/29	25/30	50/60
C102CL H102CR	CC15C	1	10.8/14.4	49.13/65.5	40/46.2	60/68	60/60	38/44	40/45	—
	CC20C	1	14.4/19.2	73.69/98.25	60/69.3	85/97	60/60	50/58	50/60	—
	CC30C	1	21.6/28.8	80.1/92.4	111/126	125/125	150/150	100/100	75/87	80/90
	CC40C	1	28.8/38.4	98.25/131	—	—	101/116	101/116	110/125	—
C120CL H120CR	No Heat	—	—	24.56/32.75	20/23.1	49/49	50/60	—	—	49/49
	CC10C	1	7.2/9.6	36.84/49.13	30/34.6	49/54	60/60	25/29	25/30	50/60
	CC15C	1	10.8/14.4	49.13/65.5	40/46.2	60/68	60/60	38/44	40/45	—
	CC20C	1	14.4/19.2	73.69/98.25	60/69.3	85/97	60/60	50/58	50/60	—
C151CL H151CR	CC30C	1	21.6/28.8	80.1/92.4	111/126	125/125	150/150	100/100	75/87	80/90
	CC40C	1	28.8/38.4	98.25/131	100.1/115.5	136/155	150/150	101/116	110/125	126/145
	CC50C	1	36.1/48	123.16/163.75	—	—	126/145	126/145	150/150	—
	No Heat	—	—	24.56/32.75	20/23.1	67/67	70/80	—	—	67/67
C151CL H151CR	CC10C	1	7.2/9.6	36.84/49.13	30/34.6	67/67	80/80	25/29	25/30	50/60
	CC15C	1	10.8/14.4	49.13/65.5	40/46.2	69/77	80/80	38/44	40/45	—
	CC20C	1	14.4/19.2	73.69/98.25	60/69.3	94/106	100/100	50/58	50/60	—
	CC30C	1	21.6/28.8	80.1/92.4	119/135	125/125	150/150	101/116	80/90	110/125
	CC40C	1	28.8/38.4	98.25/131	100.1/115.5	144/164	150/150	175/175	126/145	150/150

* = For Canadian use only. Uses "P" fuses for inductive circuit.
+ = Field installed only.

208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

Unit Model No. RLNL-	Single Power Supply For Both Unit and Heater Kit						Separate Power Supply For Both Unit and Heater Kit					
	Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
	RXJL- Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 208/240 V	Heater KBTU/Hr @ 208/240 V	Heater Amp. @ 208/240 V	Unit Min. Ckt. Ampacity @ 208/240 V	Protective Device Size Min./Max. @ 208 V	Over Current Protective Device Size Min./Max. @ 240 V	Max. Ckt. Ampacity 208/240 V	Min. Fus. Size 208/240 V	Min. Circuit Ampacity 208/240 V	Over Current Protective Device Size Min./Max. @ 208 V
No Heat	—	—	—	—	—	35/35	40/50	—	—	35/35	40/50	40/50
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	35/36	45/50	25/29	25/30	—	—	—	—
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	45/51	45/50	38/44	40/45	—	—	—	—
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	57/65	60/60	70/70	50/58	50/60	—	—	—
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	82/94	90/90	100/100	75/87	80/90	—	—	—
No Heat	—	—	—	—	—	43/43	45/50	—	—	43/43	45/50	45/50
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	43/43	50/50	50/50	—	—	—	—	—
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	48/54	50/50	60/60	38/44	40/45	—	—	—
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	—	—	—
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/90	—	—	—
CC40C	1	28.8/38.4	98.25/131	80/1/92.4	111/126	125/125	150/150	101/116	110/125	—	—	—
No Heat	—	—	—	—	—	48/48	50/60	—	—	48/48	50/60	50/60
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	48/48	60/60	60/60	25/29	25/30	48/48	50/60	50/60
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	48/48	50/60	50/60
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	48/48	50/60	50/60
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	75/87	80/90	48/48	50/60	50/60
CC40C	1	28.8/38.4	98.25/131	80/1/92.4	117/132	125/125	150/150	101/116	110/125	48/48	50/60	50/60
No Heat	—	—	—	—	—	54/54	55/60	—	—	54/54	55/60	55/60
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	54/54	60/60	60/60	25/29	25/30	—	—	—
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	—	—	—
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	—	—	—
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	75/87	80/90	—	—	—
CC40C	1	28.8/38.4	98.25/131	80/1/92.4	117/132	125/125	150/150	101/116	110/125	—	—	—
No Heat	—	—	—	—	—	54/54	55/60	—	—	54/54	55/60	55/60
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	54/54	60/60	60/60	25/29	25/30	—	—	—
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	—	—	—
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	—	—	—
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	75/87	80/90	—	—	—
CC40C	1	28.8/38.4	98.25/131	80/1/92.4	117/132	125/125	150/150	101/116	110/125	—	—	—
CC50C	1	36.1/48	123.16/163.75	100.1/115.5	142/161	150/150	175/175	126/145	150/150	—	—	—
No Heat	—	—	—	—	—	71/71	75/90	—	—	71/71	75/90	75/90
CC10C	1	7.2/9.6	24.56/32.75	20/23.1	71/71	80/90	80/90	25/29	25/30	—	—	—
CC15C	1	10.8/14.4	36.84/49.13	30/34.6	71/71	80/90	80/90	38/44	40/45	—	—	—
CC20C	1	14.4/19.2	49.13/65.5	40/46.2	74/82	80/90	90/90	50/58	50/60	—	—	—
CC30C	1	21.6/28.8	73.69/98.25	60/69.3	99/111	100/100	125/125	75/87	80/90	—	—	—
CC40C	1	28.8/38.4	98.25/131	80/1/92.4	124/140	125/125	150/150	101/116	110/125	—	—	—
CC50C	1	36.1/48	123.16/163.75	100.1/115.5	149/168	150/150	175/175	126/145	150/150	—	—	—

* = For Canadian use only. Uses "P" fuses for inductive circuit.

+ = Field installed only.

480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

Unit Model No. RLNL-	Single Power Supply For Both Unit and Heater Kit				Separate Power Supply For Both Unit and Heater Kit			
	RXJU- Heater Kit Nominal kW	No. of Sequence Steps	Heater Kit		Air Conditioner		Air Conditioner	
			Rated Heater kW @ 480 V	Heater KBTU/Hr @ 480 V	Unit Min. Ckt. Ampacity @ 480 V	Unit Min. Ckt. Ampacity @ 480 V	Over Current Protective Device Size Min./Max. @ 480 V	Over Current Protective Device Size Min./Max. @ 480 V
C073DL	No Heat	—	—	—	16	20/20	—	—
	CC110D	1	9.6	32.75	11.5	18	15	15
	CC115D	1	14.4	49.13	17.3	26	22	25
	CC220D	1	19.2	65.5	23.1	33	29	30
	CC330D	1	28.8	98.25	34.6	47	44	45
C090DL H090DR	No Heat	—	—	—	21	25/25	—	—
	CC110D	1	9.6	32.75	11.5	21	15	15
	CC115D	1	14.4	49.13	17.3	27	22	25
	CC220D	1	19.2	65.5	23.1	34	29	30
	CC330D	1	28.8	98.25	34.6	49	44	45
C102DL H102DR	No Heat	—	—	—	63	70/70	58	60
	CC110D	1	9.6	32.75	11.5	23	25/25	—
	CC115D	1	14.4	49.13	17.3	27	15	15
	CC220D	1	19.2	65.5	23.1	34	22	25
	CC330D	1	28.8	98.25	34.6	49	29	30
C120DL H120DR	No Heat	—	—	—	63	70/70	58	60
	CC110D	1	9.6	32.75	11.5	25	25/30	—
	CC115D	1	14.4	49.13	17.3	27	15	15
	CC220D	1	19.2	65.5	23.1	34	22	25
	CC330D	1	28.8	98.25	34.6	49	29	30
C151DL H151DR	No Heat	—	—	—	48	163.75	57.7	78
	CC110D	1	9.6	32.75	11.5	33	35/40	—
	CC115D	1	14.4	49.13	17.3	33	40/40	15
	CC220D	1	19.2	65.5	23.1	38	40/40	22
	CC330D	1	28.8	98.25	34.6	52	60/60	29
C151DL H151DR	CC440D	1	38.4	131	46.2	67	70/70	44
	CC550D	1	48	163.75	57.7	81	90/90	60
								80
								73

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480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

		Single Power Supply For Both Unit and Heater Kit						Separate Power Supply For Both Unit and Heater Kit					
		Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
Unit Model No.	RXJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 480 V	Heater KBTU/Hr @ 480 V	Unit Min. Ckt. Ampacity @ 480 V	Unit Min. Ckt. Ampacity @ 480 V	Over Current Protective Device Size Min./Max. @ 480 V	Min. Ckt. Ampacity 480 V	Max. Fuse Size 480 V	Min. Circuit Ampacity 480 V	Over Current Protective Device Size Min./Max. @ 480 V	Min./Max. @ 480 V	
C073DM	No Heat	—	—	—	16	16	—	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	18	20/20	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	26	30/30	—	—	29	30	—	—
	CC20D	1	19.2	65.5	23.1	33	35/35	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	47	50/50	—	—	—	—	16	20/20
	No Heat	—	—	—	21	21	25/25	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	21	25/25	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	27	30/30	—	—	29	30	—	—
	CC20D	1	19.2	65.5	23.1	34	35/35	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	49	50/50	—	—	58	60	—	—
	CC40D	1	38.4	131	46.2	63	70/70	—	—	—	—	—	—
	No Heat	—	—	—	24	24	25/30	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	24	30/30	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	31	35/35	—	—	29	30	—	—
	CC20D	1	19.2	65.5	23.1	38	40/40	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	52	60/60	—	—	58	60	—	—
	CC40D	1	38.4	131	46.2	67	70/70	—	—	—	—	24	25/30
	No Heat	—	—	—	26	26	30/30	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	26	30/30	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	31	35/35	—	—	29	30	—	—
	CC20D	1	19.2	65.5	23.1	38	40/40	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	52	60/60	—	—	58	60	—	—
	CC40D	1	38.4	131	46.2	67	70/70	—	—	—	—	26	30/30
	No Heat	—	—	—	28	28	30/35	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	31	35/35	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	38	40/40	—	—	44	45	—	—
	CC20D	1	19.2	65.5	23.1	52	60/60	—	—	58	60	—	—
	CC30D	1	28.8	98.25	34.6	67	70/70	—	—	—	—	28	30/35
	CC40D	1	38.4	131	46.2	71	70/70	—	—	58	60	—	—
	CC50D	1	48	163.75	57.7	81	90/90	—	—	73	80	—	—
	No Heat	—	—	—	36	36	40/45	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	36	40/45	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	36	40/45	—	—	44	45	—	—
	CC20D	1	19.2	65.5	23.1	42	45/45	—	—	58	60	—	—
	CC30D	1	28.8	98.25	34.6	56	60/60	—	—	73	80	—	—
	CC40D	1	38.4	131	46.2	71	80/80	—	—	—	—	36	40/45
	CC50D	1	48	163.75	57.7	85	90/90	—	—	—	—	—	—
C102DM	No Heat	—	—	—	—	—	—	—	—	—	—	—	—
H102DS	CC10D	1	9.6	32.75	11.5	26	30/30	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	31	35/35	—	—	29	30	—	—
	CC20D	1	19.2	65.5	23.1	38	40/40	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	52	60/60	—	—	58	60	—	—
	CC40D	1	38.4	131	46.2	67	70/70	—	—	—	—	—	—
	No Heat	—	—	—	28	28	30/35	—	—	15	15	—	—
	CC10D	1	9.6	32.75	11.5	31	35/35	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	38	40/40	—	—	44	45	—	—
	CC20D	1	19.2	65.5	23.1	52	60/60	—	—	58	60	—	—
	CC30D	1	28.8	98.25	34.6	67	70/70	—	—	—	—	28	30/35
	CC40D	1	38.4	131	46.2	71	70/70	—	—	58	60	—	—
	CC50D	1	48	163.75	57.7	81	90/90	—	—	73	80	—	—
C120DM	No Heat	—	—	—	36	36	40/45	—	—	15	15	—	—
H120DS	CC10D	1	9.6	32.75	11.5	36	40/45	—	—	22	25	—	—
	CC15D	1	14.4	49.13	17.3	36	40/45	—	—	44	45	—	—
	CC20D	1	19.2	65.5	23.1	42	45/45	—	—	58	60	—	—
	CC30D	1	28.8	98.25	34.6	56	60/60	—	—	73	80	—	—
	CC40D	1	38.4	131	46.2	71	80/80	—	—	—	—	36	40/45
	CC50D	1	48	163.75	57.7	85	90/90	—	—	—	—	—	—
C151DM	No Heat	—	—	—	—	—	—	—	—	—	—	—	—
H151DS	CC10D	1	9.6	32.75	11.5	36	40/45	—	—	15	15	—	—
	CC15D	1	14.4	49.13	17.3	36	40/45	—	—	22	25	—	—
	CC20D	1	19.2	65.5	23.1	42	45/45	—	—	44	45	—	—
	CC30D	1	28.8	98.25	34.6	56	60/60	—	—	58	60	—	—
	CC40D	1	38.4	131	46.2	71	80/80	—	—	73	80	—	—
	CC50D	1	48	163.75	57.7	85	90/90	—	—	—	—	—	—

* = For Canadian use only. Uses "IP" fuses for inductive circuit.

+ = Field installed only.

600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

Unit Model No. RLNL-	Single Power Supply For Both Unit and Heater Kit					Separate Power Supply For Both Unit and Heater Kit				
	Heater Kit					Air Conditioner				
	RXJL- Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 600 V	Heater KBTU/Hr @ 600 V	Heater Amp. @ 600 V	Unit Min. Ckt. Ampacity @ 600 V	Unit Min. Ckt. Ampacity @ 600 V	Over Current Protective Device Size Min./Max. @ 600 V	Min./Max. @ 600 V	Over Current Protective Device Size Min./Max. @ 600 V
C073YL	No Heat	—	—	—	—	13	15/15	—	—	15/15
	CC10Y	1	9.6	32.75	9.2	14	15/15	—	—	—
	CC15Y	1	14.4	49.13	13.9	20	20/20	—	—	—
	CC20Y	1	19.2	65.5	18.5	26	30/30	—	—	—
	CC30Y	1	28.8	98.25	27.7	38	40/40	—	—	—
C090YL	No Heat	—	—	—	—	16	20/20	—	—	20/20
	CC10Y	1	9.6	32.75	9.2	17	20/20	—	—	—
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	—	—
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	—	—
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	—	—
C102YL	CC40Y	1	38.4	131	37	52	60/60	—	—	—
	No Heat	—	—	—	—	19	20/20	—	—	20/20
	CC10Y	1	9.6	32.75	9.2	19	20/20	—	—	—
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	—	—
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	—	—
C120YL	CC30Y	1	28.8	98.25	27.7	40	40/40	—	—	—
	CC40Y	1	38.4	131	37	52	60/60	—	—	—
	No Heat	—	—	—	—	19	20/20	—	—	20/20
	CC10Y	1	9.6	32.75	9.2	19	25/25	—	—	—
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	—	—
C151YL	CC20Y	1	19.2	65.5	18.5	29	30/30	—	—	—
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	—	—
	CC40Y	1	38.4	131	37	52	60/60	—	—	—
	No Heat	—	—	—	—	28	30/35	—	—	30/35
	CC10Y	1	9.6	32.75	9.2	28	30/35	—	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35	—	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	—	—
	CC40Y	1	38.4	131	37	57	60/60	—	—	—
	CC50Y	1	48	163.75	46.2	68	70/70	—	—	—

*= For Canadian use only. Uses "P" fuses for inductive circuit.
+= Field installed only.

600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

Single Power Supply For Both Unit and Heater Kit							Separate Power Supply For Both Unit and Heater Kit						
Unit Model No. RLNL-	RXJU-Heater Kit Nominal kW	Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
		No. of Sequence Steps	Rated Heater kW @ 600 V	Heater KBTU/Hr @ 600 V	Unit Min. Ckt. Ampacity @ 600 V	Unit Max. Ckt. Ampacity @ 600 V	Over Current Protective Device Size Min./Max. @ 600 V	Min. Ckt. Ampacity 600 V	Max. Fuse Size 600 V	Min. Circuit Ampacity 600 V	Min./Max. @ 600 V	Protective Device Size Min./Max. @ 600 V	Over Current Protective Device Size Min./Max. @ 600 V
C073YM	No Heat	—	—	—	—	—	15/15 @ 600 V	—	—	12	15	—	—
	CC10Y	1	9.6	32.75	9.2	14	15/15 @ 600 V	—	—	18	20	—	—
	CC15Y	1	14.4	49.13	13.9	20	20/20 @ 600 V	—	—	24	25	—	—
	CC20Y	1	19.2	65.5	18.5	26	30/30 @ 600 V	—	—	35	35	—	—
	CC30Y	1	28.8	98.25	27.7	38	40/40 @ 600 V	—	—	—	—	—	—
C090YM	No Heat	—	—	—	—	16	20/20 @ 600 V	—	—	12	15	—	—
	CC10Y	1	9.6	32.75	9.2	17	20/20 @ 600 V	—	—	18	20	—	—
	CC15Y	1	14.4	49.13	13.9	23	25/25 @ 600 V	—	—	24	25	—	—
	CC20Y	1	19.2	65.5	18.5	29	30/30 @ 600 V	—	—	35	35	—	—
	CC30Y	1	28.8	98.25	27.7	40	40/40 @ 600 V	—	—	47	50	—	—
C090YN	No Heat	—	—	—	—	21	25/25 @ 600 V	—	—	—	—	—	—
	CC10Y	1	9.6	32.75	9.2	22	25/25 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/30 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
C102YM	No Heat	—	—	—	—	37	60/60 @ 600 V	—	—	47	50	—	—
	CC10Y	1	9.6	32.75	9.2	24	25/30 @ 600 V	—	—	—	—	21	25/25 @ 600 V
	CC15Y	1	14.4	49.13	13.9	28	30/30 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	57	60/60 @ 600 V	—	—	35	35	—	—
C120YM	No Heat	—	—	—	—	37	60/60 @ 600 V	—	—	47	50	—	—
	CC10Y	1	9.6	32.75	9.2	24	25/30 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/30 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
C151YM	No Heat	—	—	—	—	37	60/60 @ 600 V	—	—	47	50	—	—
	CC10Y	1	9.6	32.75	9.2	68	70/70 @ 600 V	—	—	58	60	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35 @ 600 V	—	—	12	15	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	18	20	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60 @ 600 V	—	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70 @ 600 V	—	—	58	60	—	—
	No Heat	—	—	—	—	24	25/30 @ 600 V	—	—	—	—	24	25/30 @ 600 V
	CC10Y	1	9.6	32.75	9.2	24	30/30 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/30 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60 @ 600 V	—	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70 @ 600 V	—	—	58	60	—	—
	No Heat	—	—	—	—	28	30/35 @ 600 V	—	—	—	—	28	30/35 @ 600 V
	CC10Y	1	9.6	32.75	9.2	28	30/35 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60 @ 600 V	—	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70 @ 600 V	—	—	58	60	—	—
	No Heat	—	—	—	—	28	30/35 @ 600 V	—	—	—	—	28	30/35 @ 600 V
	CC10Y	1	9.6	32.75	9.2	28	30/35 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60 @ 600 V	—	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70 @ 600 V	—	—	58	60	—	—
	No Heat	—	—	—	—	28	30/35 @ 600 V	—	—	—	—	28	30/35 @ 600 V
	CC10Y	1	9.6	32.75	9.2	28	30/35 @ 600 V	—	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35 @ 600 V	—	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35 @ 600 V	—	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45 @ 600 V	—	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60 @ 600 V	—	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70 @ 600 V	—	—	58	60	—	—

* = For Canadian use only. Uses "P" fuses for inductive circuit.
+ = Field installed only.



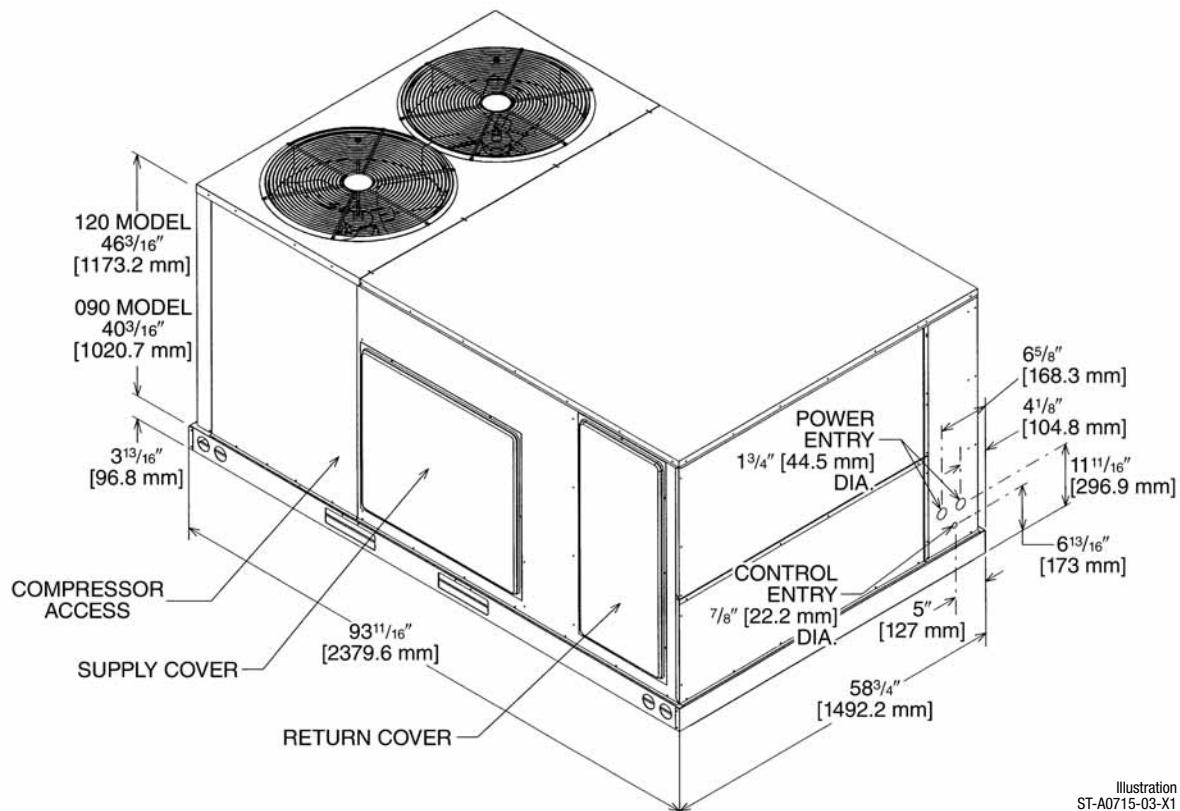
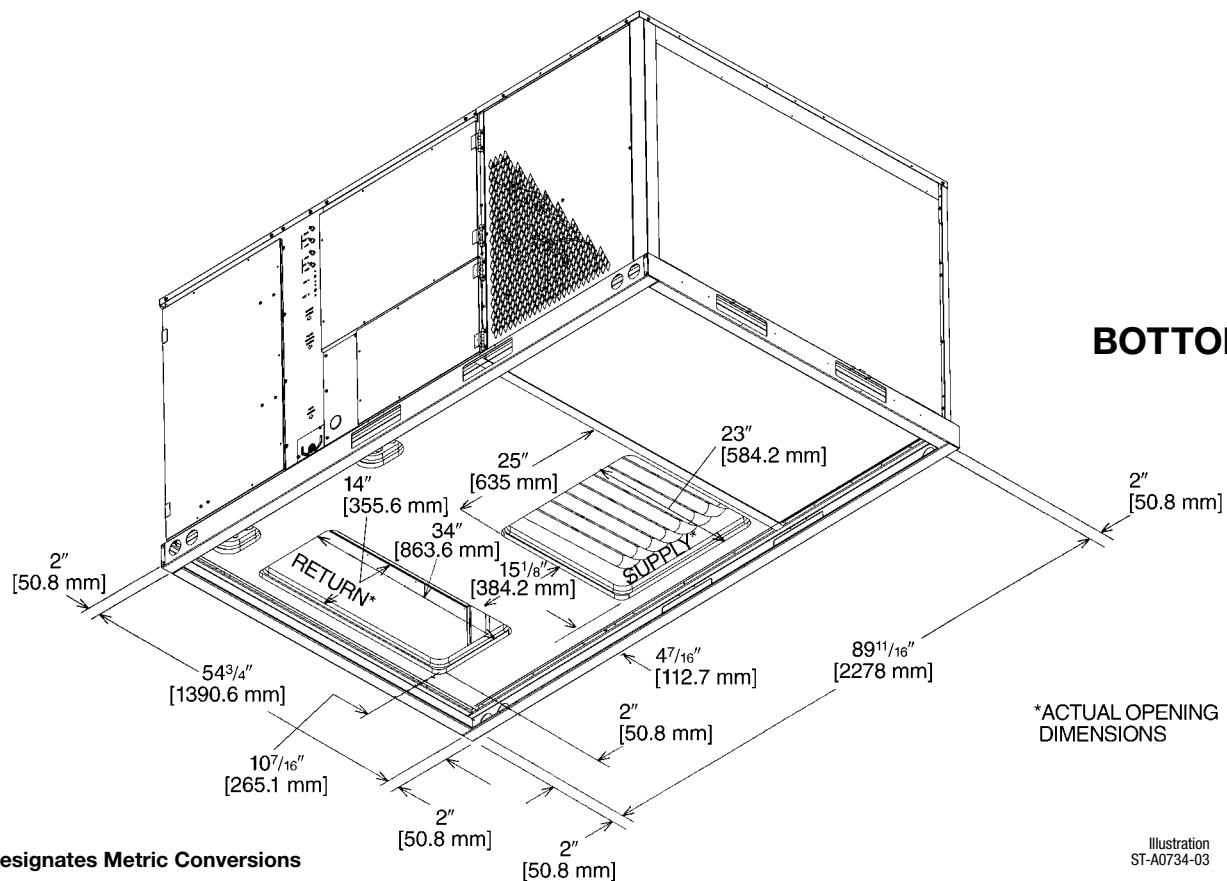


Illustration
ST-A0715-03-X1

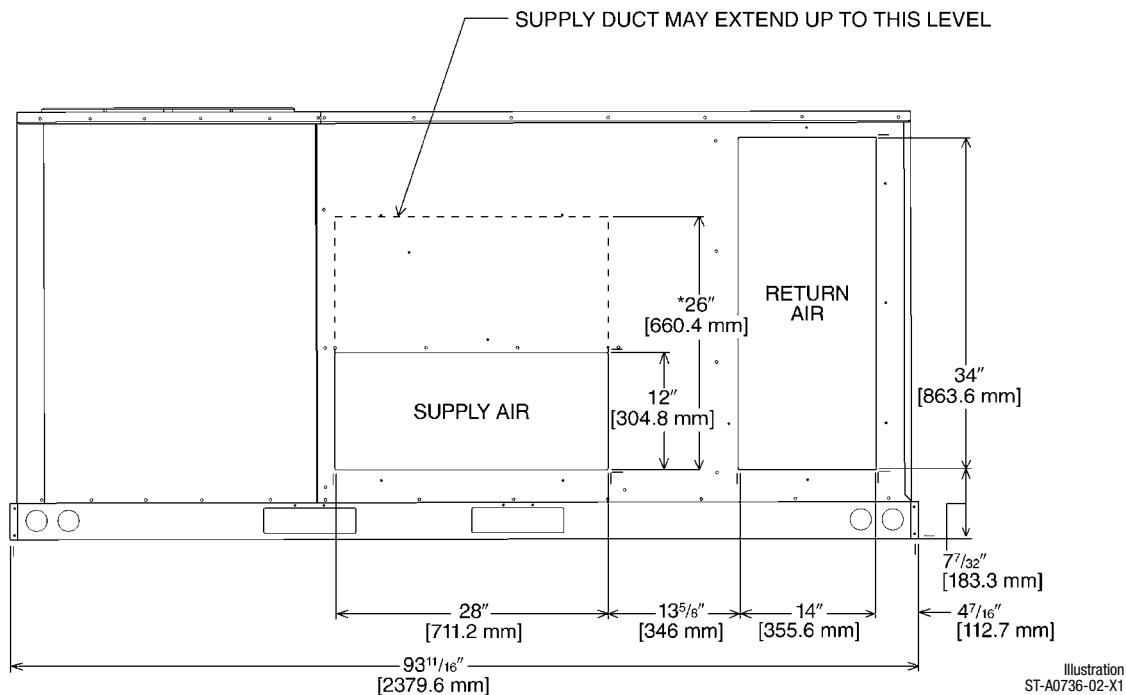
BOTTOM VIEW



[] Designates Metric Conversions

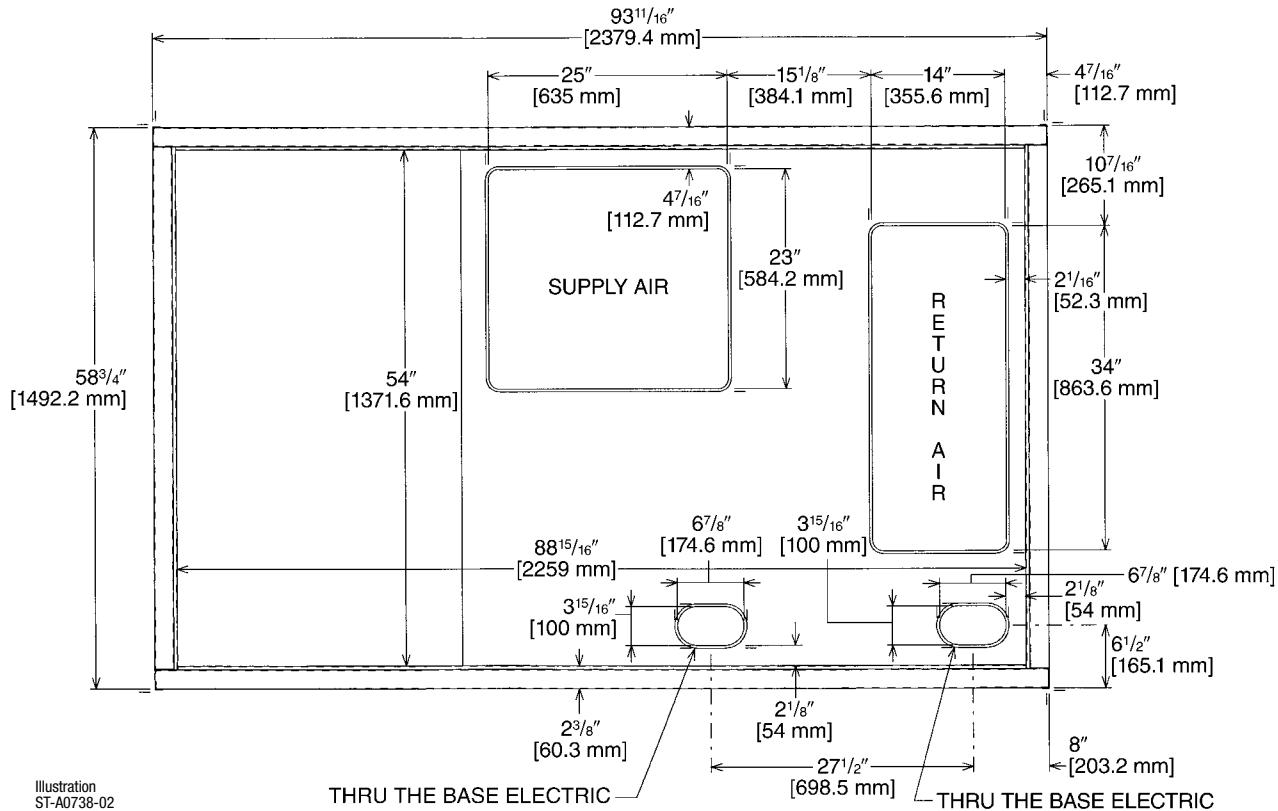
Illustration
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SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS

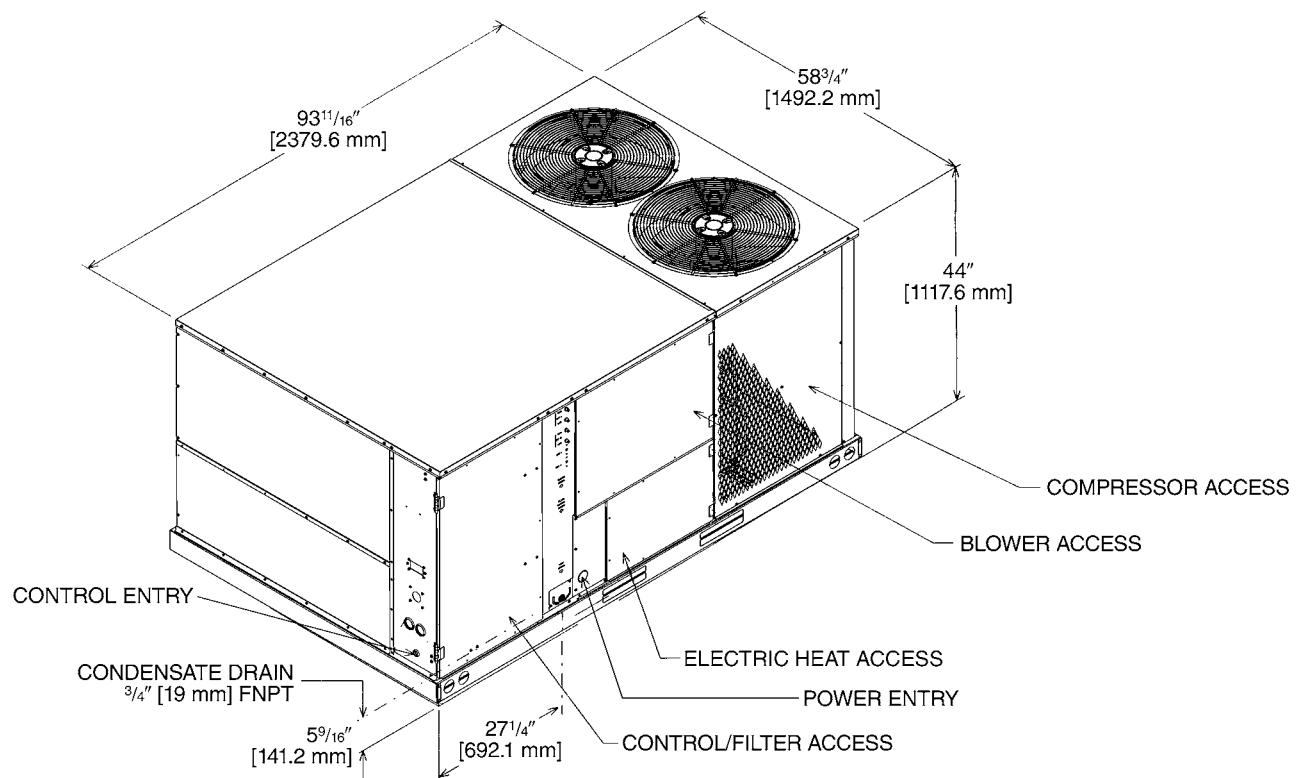


*RECOMMENDED DUCT DIMENSIONS ARE 26"

SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS



[] Designates Metric Conversions

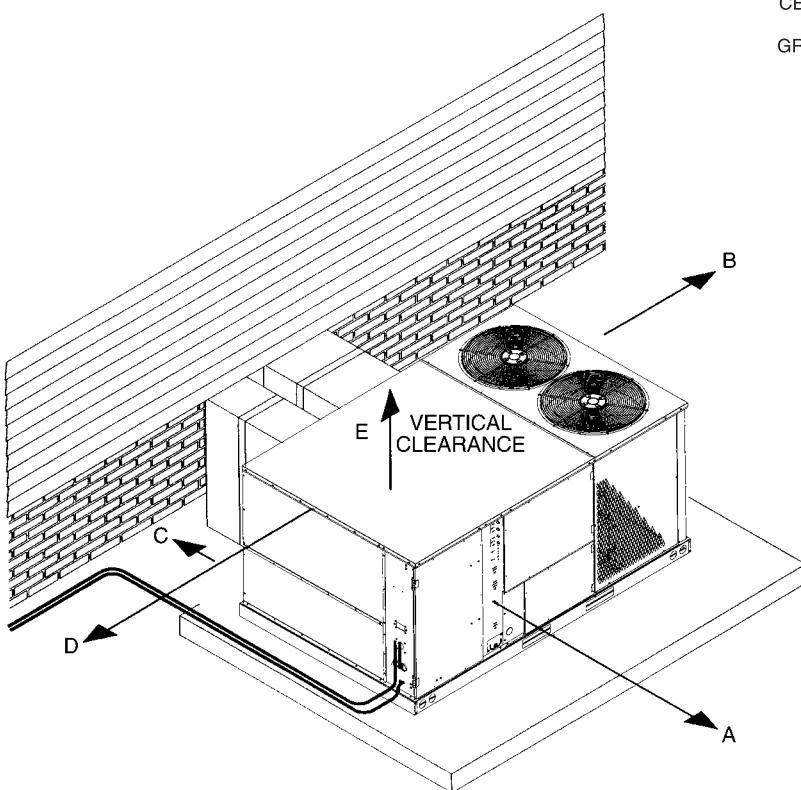
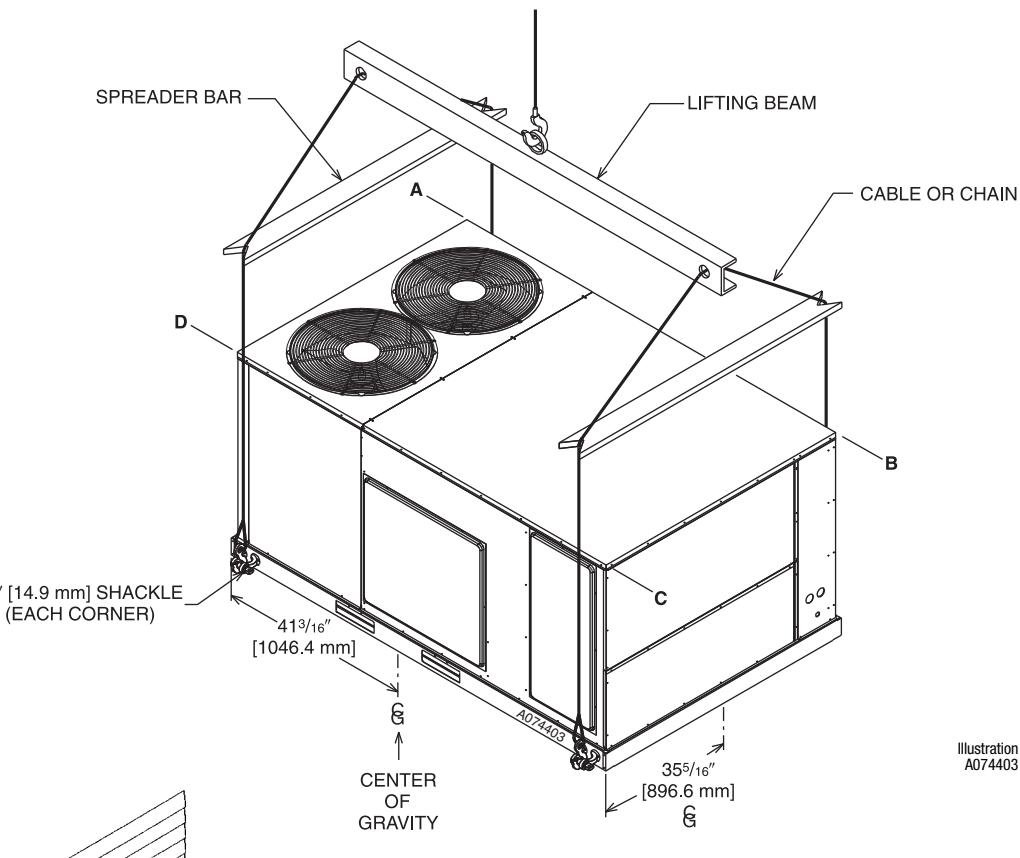


[] Designates Metric Conversions

WEIGHTS

Accessory	Shipping—lbs [kg]	Operating—lbs [kg]
Economizer	90 [40.82]	81 [36.70]
Power Exhaust	44 [19.96]	42 [19.05]
Fresh Air Damper (Manual)	26 [11.79]	21 [9.53]
Fresh Air Damper (Motorized)	43 [19.50]	38 [17.24]
Roof Curb 14"	90 [40.82]	85 [38.60]
Roof Curb 24"	140 [63.50]	135 [61.23]

Capacity Tons [kW]	Corner Weights by Percentage			
	A	B	C	D
6-12.5 [21.1-44.0]	33%	27%	17%	23%



CLEARANCES

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

Recommended Clearance In. [mm]	Location
48 [1219]	A - Front
18 [457]	B - Condenser Coil
18 [457]	C - Duct Side
18 [457]	*D - Evaporator End
60 [1524]	E - Above

*Without Economizer. 48" [1219 mm] With Economizer

[] Designates Metric Conversions

FIELD INSTALLED ACCESSORY EQUIPMENT

Accessory	Model Number	Shipping Weight Lbs. [kg]	Installed Weight Lbs. [kg]	Factory Installation Available?
Thermostats	See Thermostat Specification Sheet for Details (T22-001)			No
	RXJJ-CC10 (C,D,Y)	46 [20.9]	36 [16.3]	Yes
	RXJJ-CC15 (C,D,Y)	46 [20.9]	36 [16.3]	Yes
	RXJJ-CC20 (C,D,Y)	46 [20.9]	36 [16.3]	Yes
	RXJJ-CC30 (C,D,Y)	47 [21.3]	37 [16.8]	Yes
	RXJJ-CC40 (C,D,Y)	49 [22.2]	39 [17.7]	Yes
	RXJJ-CC50 (C,D,Y)	51 [23.1]	41 [18.6]	Yes
Economizer w/Single Enthalpy	AXRD-PJCM3	90 [40.8]	81 [36.7]	Yes
Economizer w/Single Enthalpy and Smoke Dectector	AXRD-SJCM3	91 [41.3]	82 [37.2]	Yes
Dual Enthalpy Kit	RXRX-AV03	1 [0.5]	1 [0.5]	No
Horizontal Economizer w/Single Enthalpy	AXRD-RJCM3	94 [42.6]	89 [40.4]	No
Carbon Dioxide Sensor	RXRX-AR02	3 [1.4]	2 [1.0]	No
Power Exhaust	RXRX-BFF02 (C,D,Y)	43 [19.5]	38 [17.2]	No
Manual Fresh Air (Left Panel Mounted)	AXRF-KDA1	38 [17.2]	31 [14.0]	No
Manual Fresh Air (Return Panel)	AXRF-JDA1	26 [11.8]	21 [9.5]	No
Motorized Fresh Air (Return Panel)	AXRF-JDB1	43 [19.5]	21 [9.5]	No
Motor Kit for RXRF-KDA1 (Left Panel Mounted)	RXRX-AW02	35 [15.19]	27 [17.7]	No
Modulating Motor Kit w/position feedback for RXRF-KDA1	RXRX-AW04	38 [17.2]	30 [13.6]	No
Roofcurb, 14"	RXKG-CAE14	90 [40.8]	85 [38.5]	No
Roofcurb, 24"	RXKG-CAE24	140 [63.5]	135 [61.2]	No
	RXRX-CDCE50	300 [136.1]	290 [131.5]	No
	RXRX-CFCE54	325 [147.4]	315 [142.9]	No
	RXRX-CFCE56	350 [158.8]	340 [154.2]	No
	RXRX-CGCC12	450 [204.1]	410 [186.0]	No
Concentric Diffuser (Step-Down, 18 x 28)	RXRN-AA61	200 [90.7]	185 [83.9]	No
Concentric Diffuser (Step-Down, 18 x 32)	RXRN-AA66	247 [112.0]	227 [103.0]	No
Concentric Diffuser (Flush, 18 x 28)	RXRN-AA71	170 [77.1]	155 [70.3]	No
Concentric Diffuser (Flush, 18 x 32)	RXRN-AA76	176 [79.8]	161 [73.0]	No
Downflow Adapters (Rect. to Round)	RXMC-CD04	15 [6.8]	13 [5.9]	No
Downflow Adapters (Rect. to Rect., 18 x 28)	RXMC-CE05 ①	18 [8.2]	16 [7.3]	No
Downflow Adapters (Rect. to Rect., 18 x 32)	RXMC-CF06 ②	20 [9.1]	18 [8.2]	No
Low-Ambient Control Kit (1 Per Compressor)	RXRZ-C02	3 [1.4]	2 [1.0]	Yes
Outdoor Coil Louver Kit	AXRX-AAD01C ④	29 [11.3]	26 [11.8]	Yes
Outdoor Louver Kit	AXRX-AAD02A ⑤	29 [11.3]	26 [11.8]	Yes
Unwired Convenience Outlet	RXRX-AN01	2 [1.0]	1.5 [0.7]	Yes
Comfort Alert (1 per compressor)	RXRX-AZ01	3 [1.4]	2 [0.9]	Yes
BACnet Communication Card	RXRX-AY01	1 [0.5]	1 [0.5]	No
LonWorks Communication Card	RXRX-AY02	1 [0.5]	1 [0.5]	No

NOTES: ① Used with RXRN-AA61 and RXRN-AA71 concentric diffusers.

② Used with RXRN-AA66 and RXRN-AA76 concentric diffusers.

④ 6-10 Ton Models

⑤ 12.5 Ton Model

[] Designates Metric Conversions

THERMOSTATS



200-Series *
Programmable



300-Series *
Deluxe
Programmable



400-Series *
Special Applications/
Programmable

500-Series *
Communicating/
Programmable

Brand	Descriptor (3 Characters)	Series (3 Characters)	System (2 Characters)	Type (2 Characters)
UHC	-	TST	213	UN
UHC=Ruud	TST=Thermostat	200=Programmable 300=Deluxe Programmable 400=Special Applications/ Programmable 500=Communicating/ Programmable	GE=Gas/Electric UN=Universal (AC/HP/GE) MD=Modulating Furnace DF=Dual Fuel CM=Communicating	SS=Single-Stage MS=Multi-Stage

* Photos are representative. Actual models may vary.

For detailed thermostat match-up information,
see specification sheet form number T22-001.

FLUSH MOUNT ROOM TEMPERATURE SENSORS FOR NETWORKED DDC APPLICATIONS



ROOM TEMPERATURE SENSOR **ZNS-101**
with TIMED OVERRIDE BUTTON

10kΩ room temperature sensor transmits room temperature to DDC system. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time.



ROOM TEMPERATURE SENSOR **ZNS-102**
with TIMED OVERRIDE BUTTON and STATUS INDICATOR

10kΩ room temperature sensor transmits room temperature to DDC system. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time. Status Indicator Light transmits ALARM flash code to occupied space.

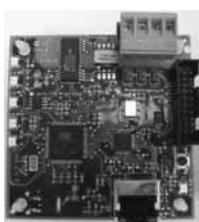


ROOM TEMPERATURE SENSOR **ZNS-103**
with SETPOINT ADJUSTMENT and TIMED OVERRIDE BUTTON

10kΩ room temperature sensor with setpoint adjustment transmits room temperature to DDC system along with desired occupied room temperature setpoint. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time.

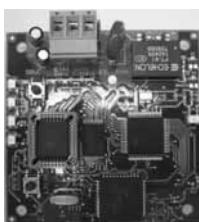
COMMUNICATION CARDS

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.

ECONOMIZER FOR DOWNSFLOW DUCT INSTALLATION

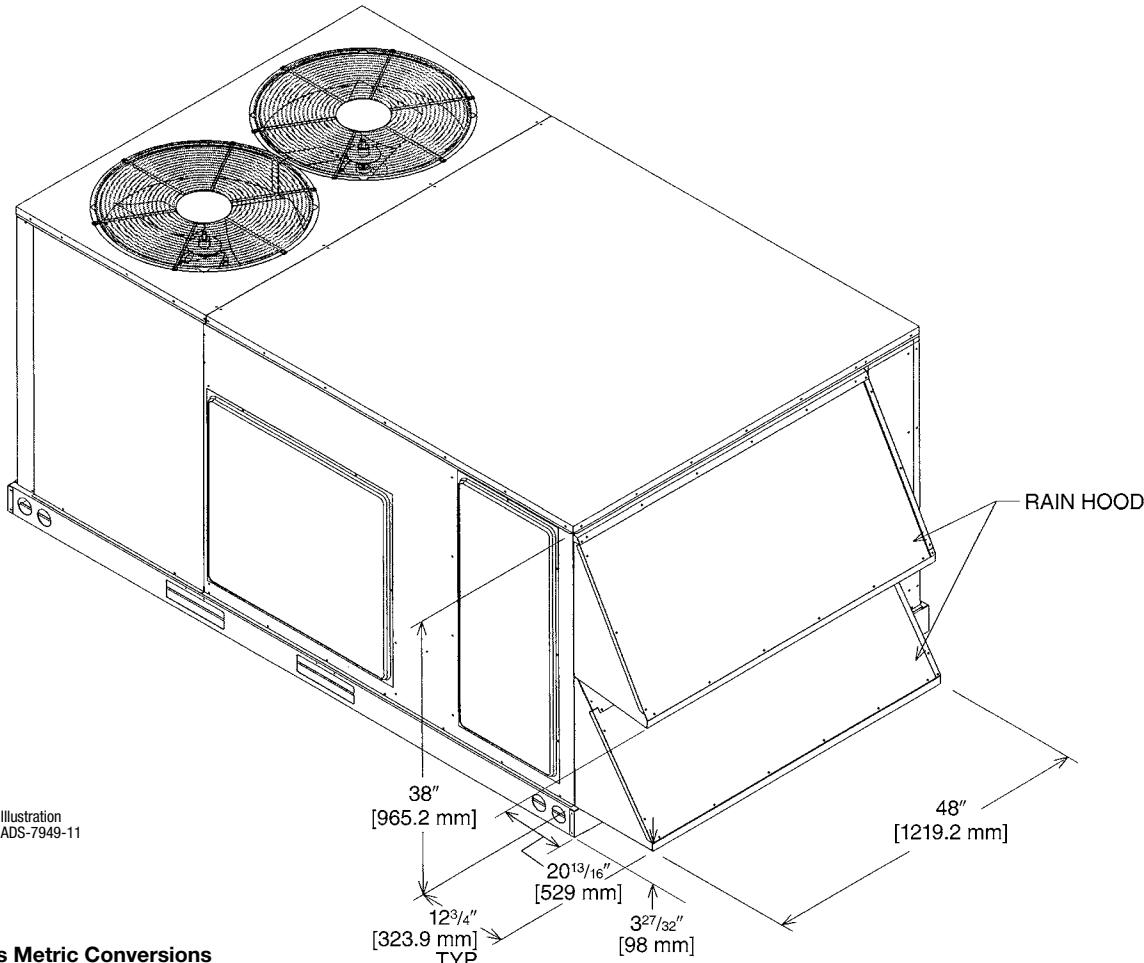
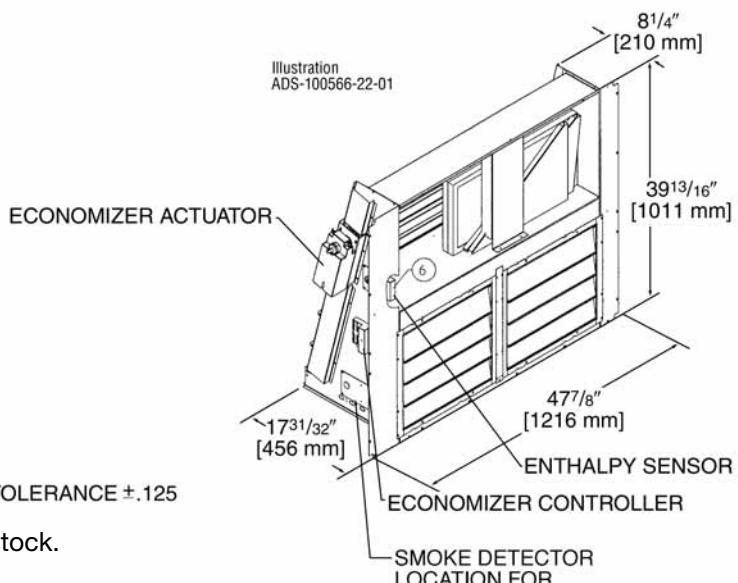
Use to Select Factory Installed Options Only

AXRD-PJCM3—Single Enthalpy (Outdoor) and AXRD-SJCM3 Single Enthalpy with Smoke Detector

RXRX-AV03—Dual Enthalpy Upgrade Kit

RXRX-AR02—Optional Wall-Mounted CO₂ Sensor

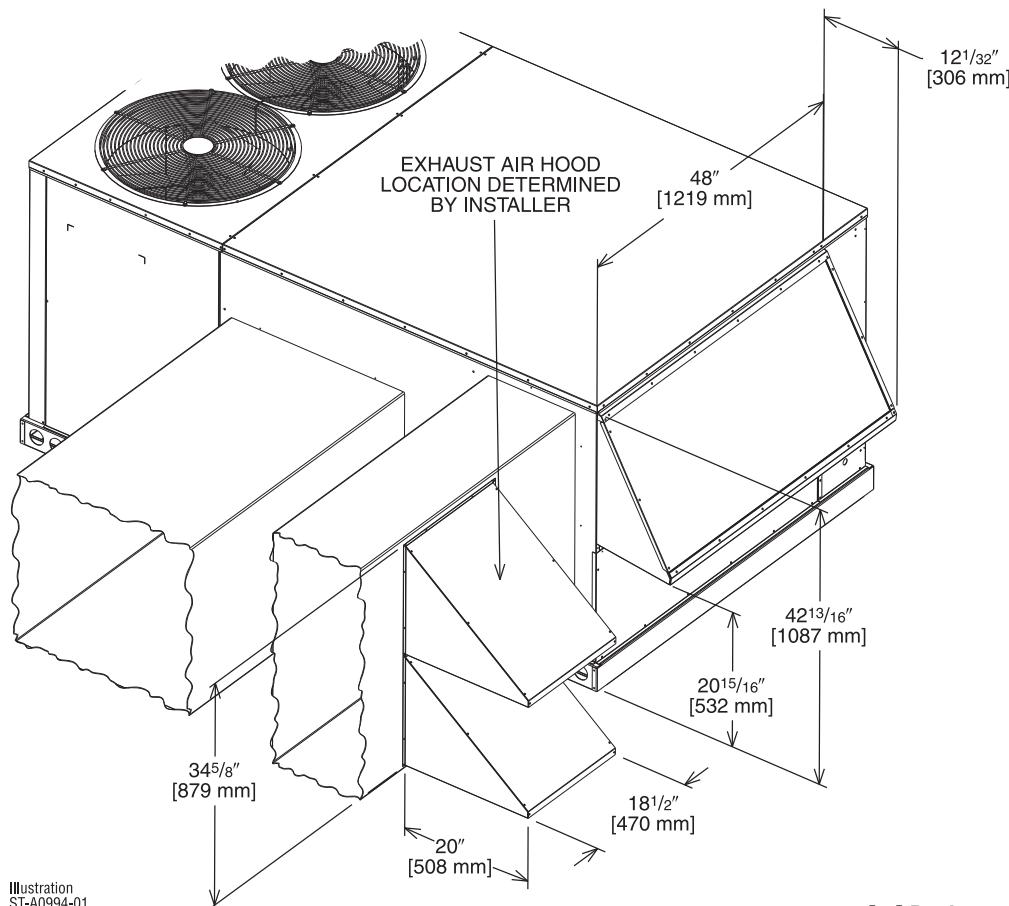
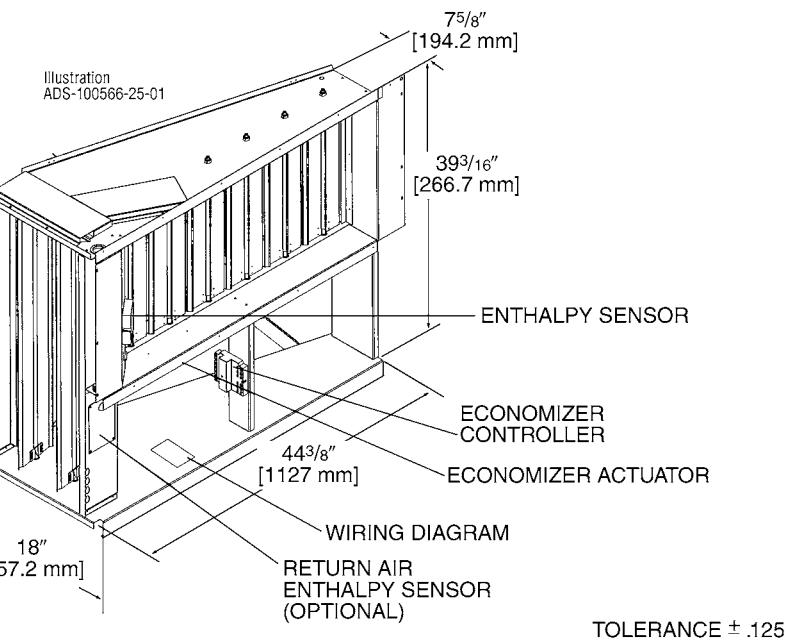
- Features Honeywell Controls
- Available Factory Installed or Field Accessory
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin and 4-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO₂ Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Downflow Duct Application.
- Optional Remote Minimum Position Potentiometer (270 ohm) (Honeywell #S963B1136) is Available from Prostock.
- Field Installed Power Exhaust Available
- 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



[] Designates Metric Conversions

ECONOMIZER FOR HORIZONTAL DUCT INSTALLATION**Field Installed Only****AXRD-RJCM3—Single Enthalpy (Outdoor)****RXRX-AV03—Dual Enthalpy Upgrade Kit****RXRX-AR02—Wall-mounted CO₂ Sensor**

- Features **Honeywell** Controls
- Available as a Field Installed Accessory Only
- 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
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO₂ Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Horizontal Duct Application
- Optional Remote Minimum Position Potentiometer (270 ohm) (Honeywell #S963B1136) is Available from Prostock
- Field Installed Power Exhaust Available
- 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



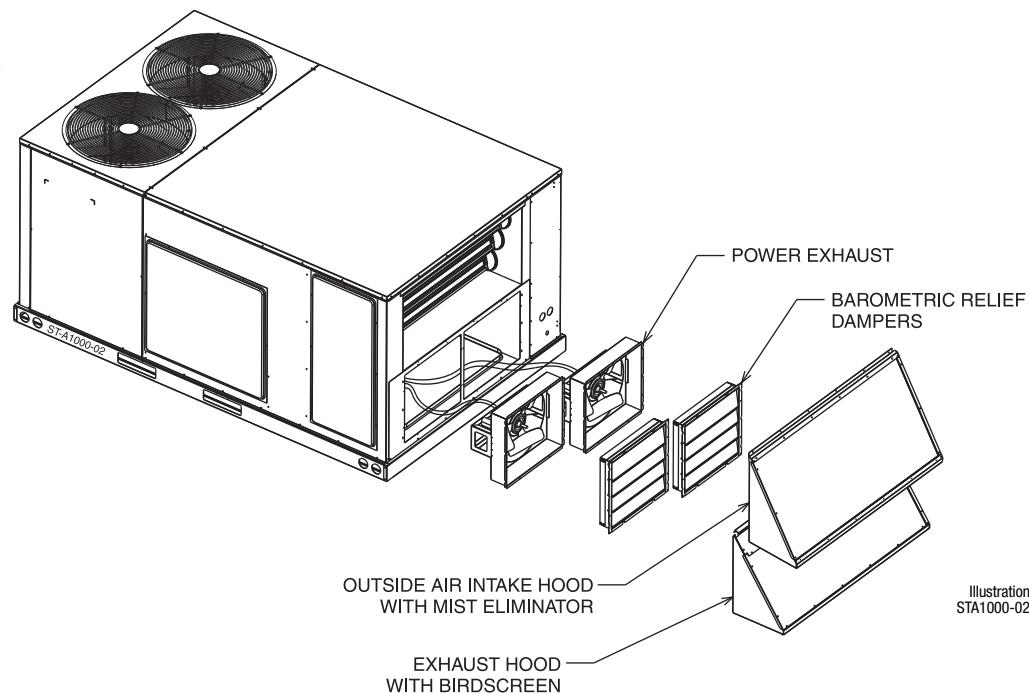
[] Designates Metric Conversions

POWER EXHAUST KIT FOR AXRD-PJCM3(-), AXRD-RJCM3(-), AXRD-SJCM3 ECONOMIZERS

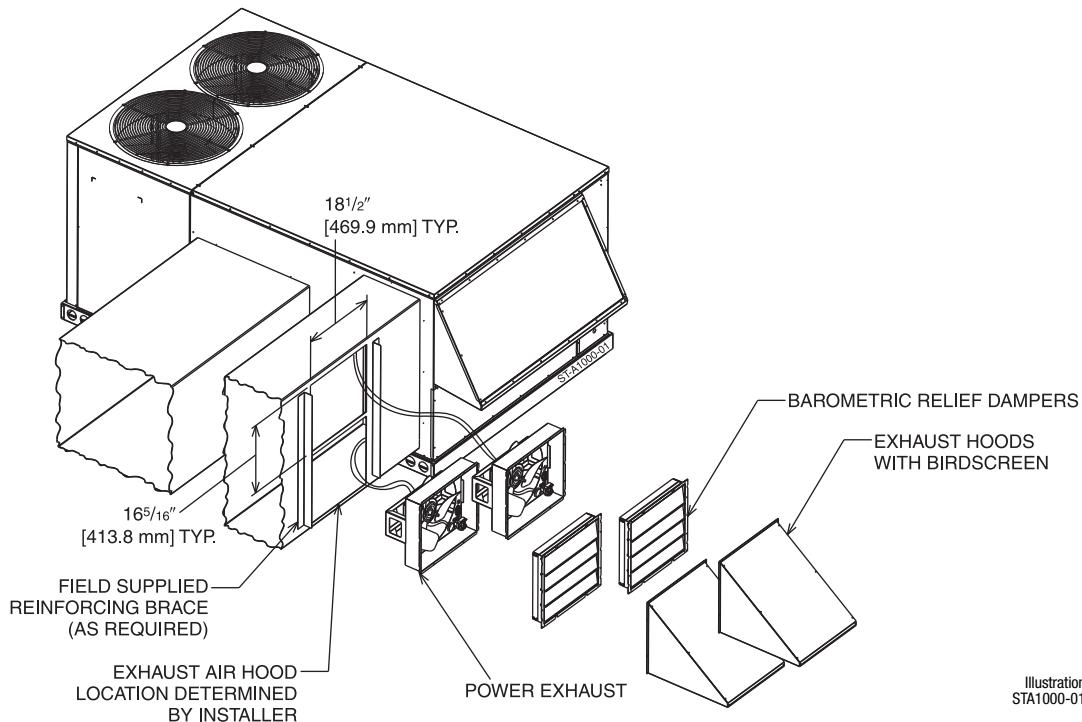
RXRX-BFF02 (C, D, or Y*)

*Voltage Code

VERTICAL AIRFLOW



HORIZONTAL AIRFLOW



Model No.	No. of Fans	Volts	Phase	HP (ea.)	Low Speed		High Speed ①		FLA (ea.)	LRA (ea.)
					CFM [L/s] ②	RPM	CFM [L/s] ②	RPM		
RXRX-BFF02C	2	208-230	1	0.33	2200 [1038]	1518	2500 [1179]	1670	1.48	3.6
RXRX-BFF02D	2	460	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.75	1.8
RXRX-BFF02Y	2	575	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.81	1.5

NOTES: ① Power exhaust is factory set on high speed motor tap.

② CFM is per fan at 0" w.c. external static pressure.

[] Designates Metric Conversions

FRESH AIR DAMPER

MOTORIZED DAMPER KIT

RXRX-AW02

(Motor Kit for AXRF-KDA1)

RXRX-AW04

(Modulating Motor Kit with position feedback for AXRF-KDA1)

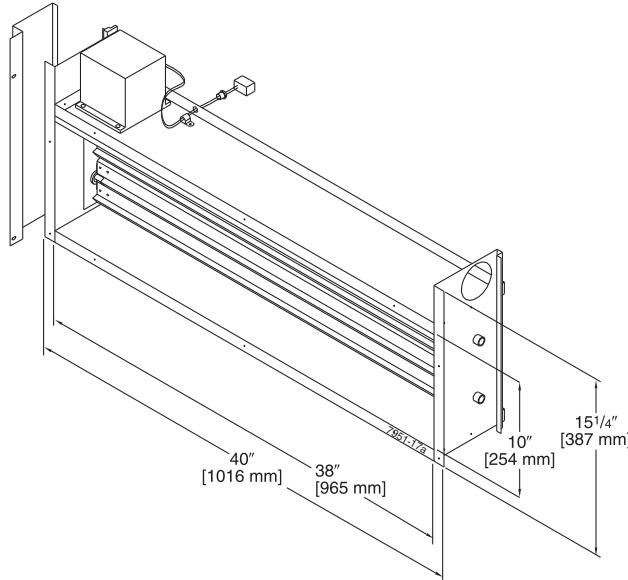


Illustration
ST-7951-17

AXRF-KDA1 (Manual)

DOWNTIME OR HORIZONTAL APPLICATION

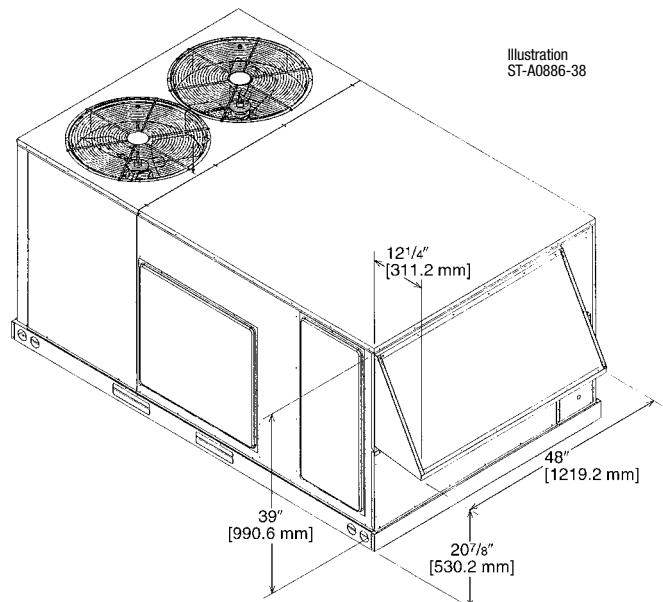


Illustration
ST-A0886-38

MOTORIZED DAMPER KIT

RXRX-AW02

(Motor Kit for AXRF-KDA1)

RXRX-AW04

(Modulating Motor Kit w/position feedback for AXRF-KDA1)

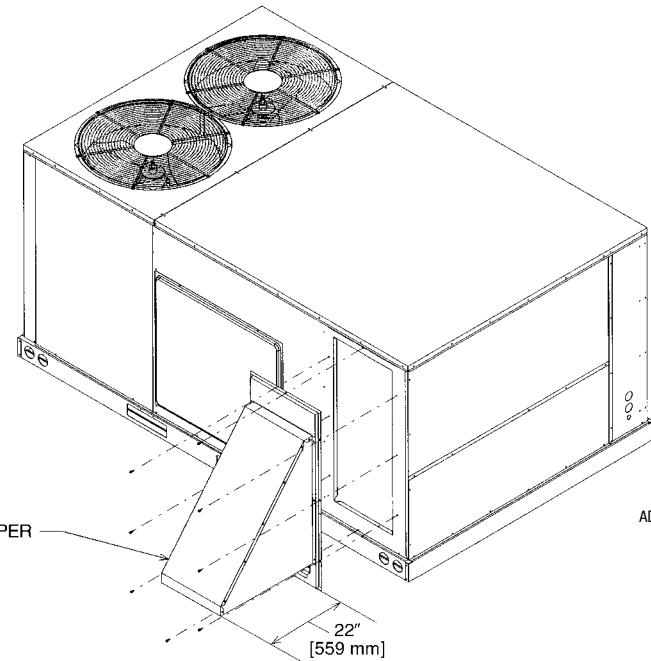
- Features Honeywell Controls
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin and 4-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Addition of Dual Enthalpy Upgrade Kit allows limited economizer function
- CO₂ Sensor Input Available for Demand Control Ventilation (DCV)
- Optional Remote Minimum Position Potentiometer (270 ohm) (Honeywell #S963B1136) is available from Prostock
- All fresh air damper functions can be viewed at the RTU-C unit controller display
- If connected to a Building Automation System (BAS), all fresh air damper functions can be viewed on the (BAS)

[] Designates Metric Conversions

FRESH AIR DAMPER (Cont.)

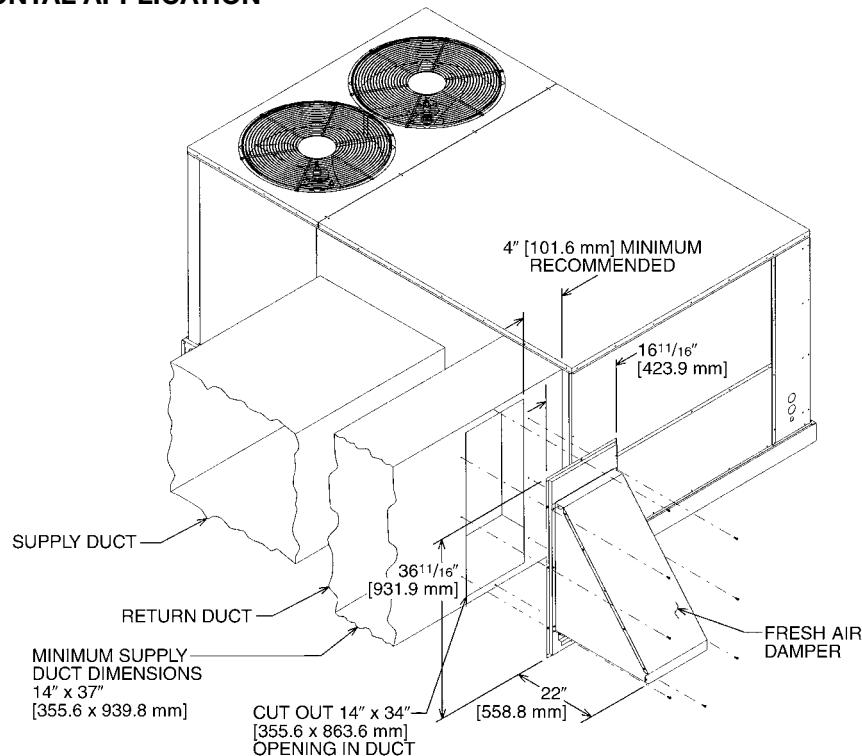
AXRF-JDA1 (Manual)
AXRF-JDB1 (Motorized)

DOWNTIME APPLICATION



HORIZONTAL APPLICATION

Illustration
ST-A0901-01



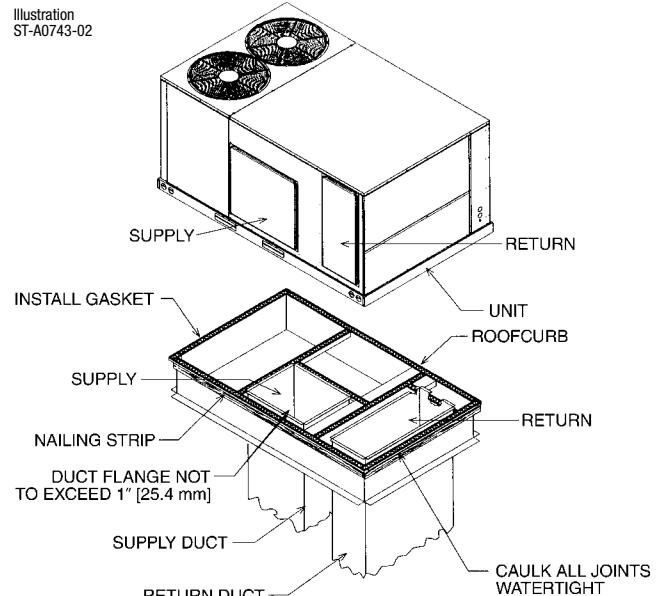
[] Designates Metric Conversions

ROOFCURBS (Full Perimeter)

- Ruud's roofcurb design can be utilized on all 6-12.5 ton [21.1-44.0 kW] RLNL-C/H models.
- Two available heights (14" [356 mm] and 24" [610 mm]) for ALL models.
- Quick assembly corners for simple and fast assembly.
- Opening provided in bottom pan to match the "Thru the Curb" electrical connection opening provided on the unit base pan.
- 1" [25 mm] x 4" [102 mm] Nailer provided.
- Insulating panels not required because of insulated outdoor base pan.
- Sealing gasket (40' [12.2 m]) provided with Roofcurb.
- Packaged for easy field assembly.

Roofcurb Model	Height of Curb
RXKG-CAE14	14" [356 mm]
RXKG-CAE24	24" [610 mm]

TYPICAL INSTALLATION



ROOFCURB INSTALLATION

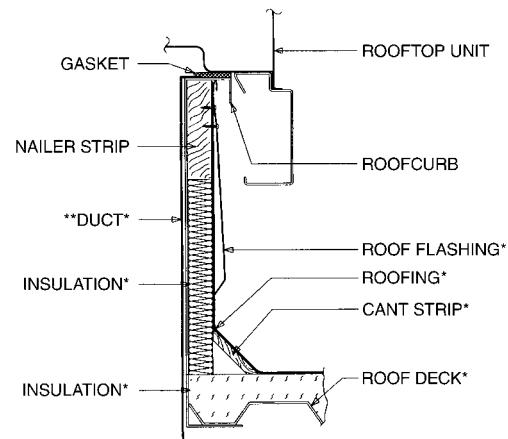
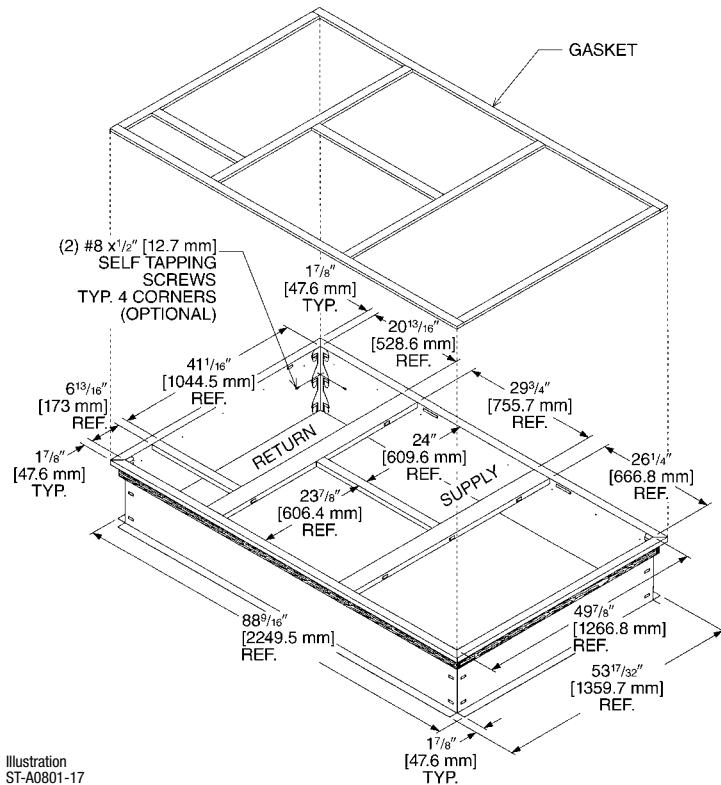


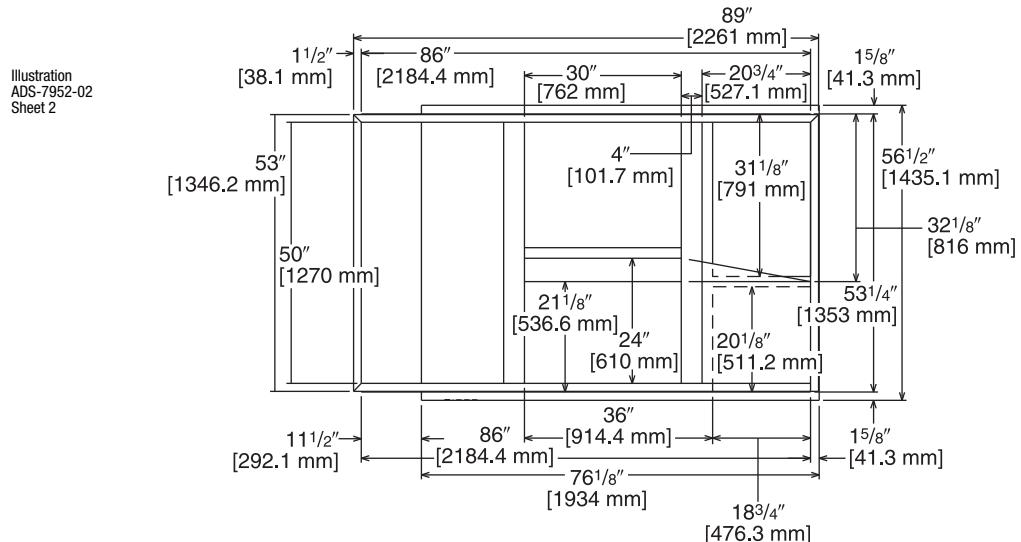
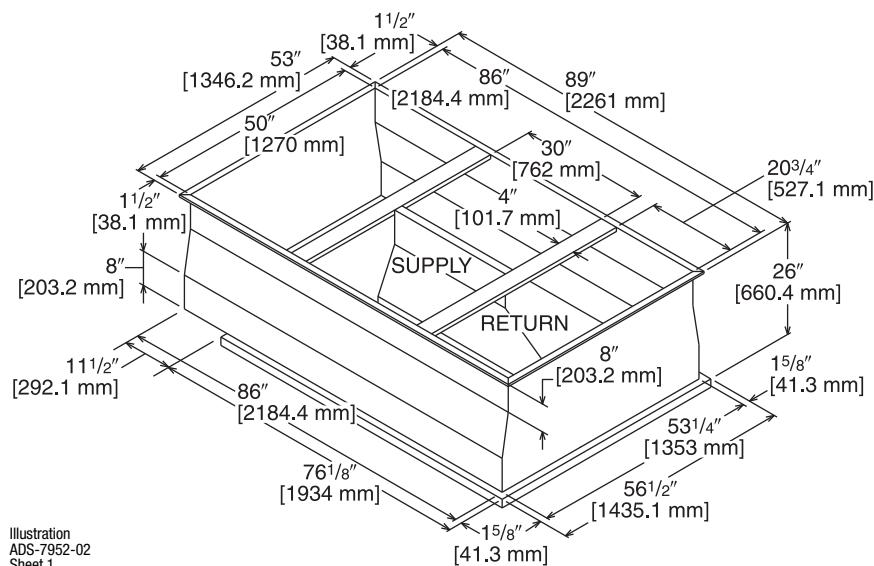
Illustration
ST-A0743-02

[] Designates Metric Conversions

ROOFCURB ADAPTERS

OLD MODELS	OLD ROOFCURB	ROOFCURB ADAPTER	NEW MODELS (All Share Common Cabinet)
(-)RCF, (-)REF-075/076 (-)RGF-150075, (-)RGF-131076 (-)RGF-201076	RXRK-E50	RXRX-CDCE50	
(-)RGF-200075 (-)RGG, (-)REG, (-)RCG-075 (-)RGF, (-)REF, (-)RCF-085 (-)RGF, (-)REF, (-)RCF-100 (-)RGG, (-)REG, (-)RCG-100	RXRK-E54	RXRX-CFCE54	→ RLNL-C073 RLNL-C/H090 RLNL-C/H102 RLNL-C/H120 RLNL-C/H151
(-)RGF, (-)REF, (-)RCF-125	RXRK-E56	RXRX-CFCE56	
(-)PDC-075 (-)PDC-100/101	RXPK-C12	RXRX-CGCC12	

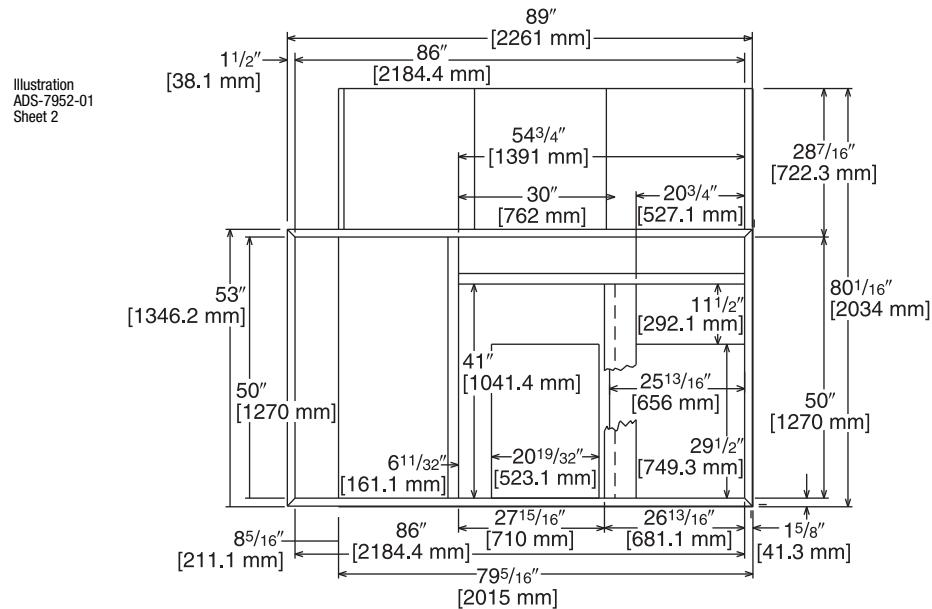
NOTE: Ductwork modifications may be necessary if the capacity and/or indoor airflow rate of replacement unit is not equivalent to that of the unit being replaced.
RLNL-C/H073, -C/H090, -C/H102, -C/H120, -C/H151 fit on same roof curb as the RLKB-A090, A102, A120, A150, A181, RLMB- A090, A102, A120, A150,
RLNB- A090, A102, A120, 151

ROOFCURB ADAPTERS (Cont.)**RXRX-CDCE50****TOP VIEW**

[] Designates Metric Conversions

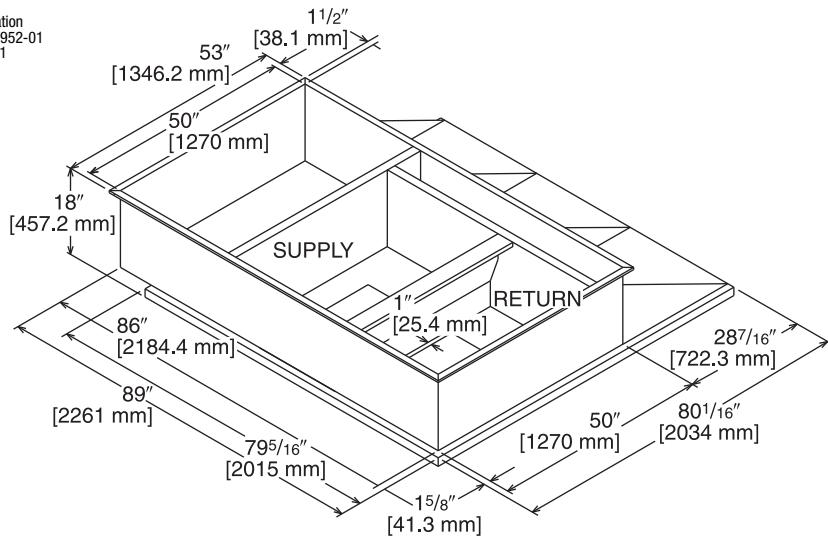
ROOFCURB ADAPTERS (Cont.)

RXRX-CFCE54



TOP VIEW

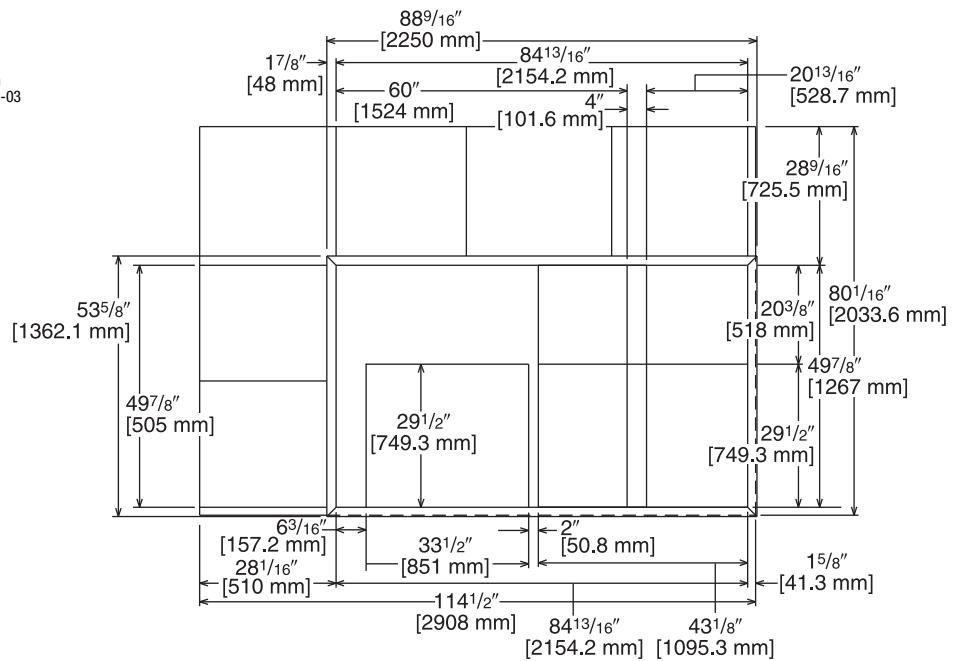
Illustration
ADS-7952-01
Sheet 1



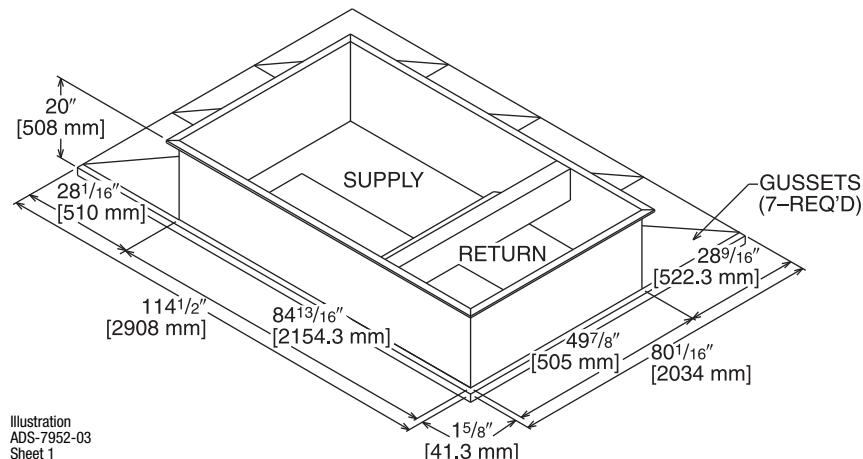
[] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

RXRX-CFCE56

Illustration
ADS-7952-03
Sheet 2

TOP VIEW

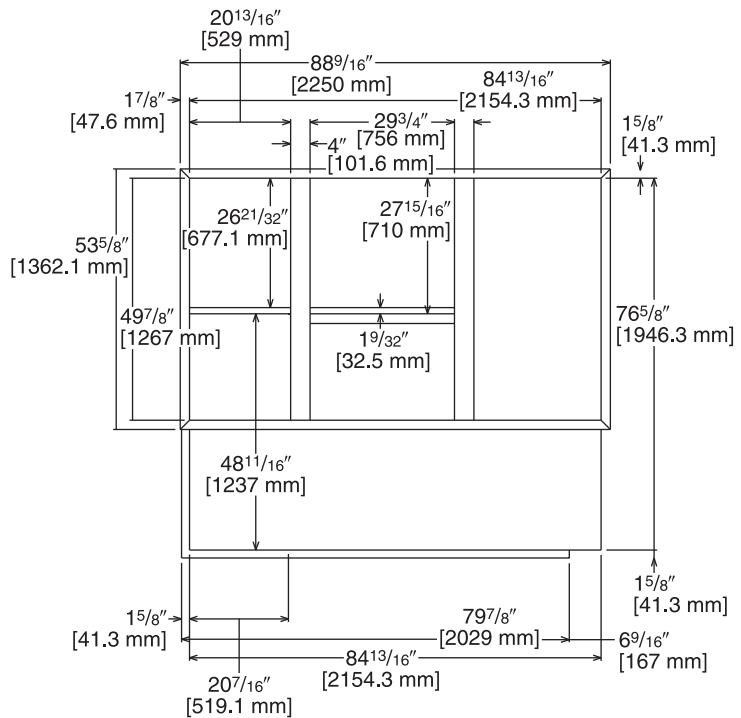
Illustration
ADS-7952-03
Sheet 1

[] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

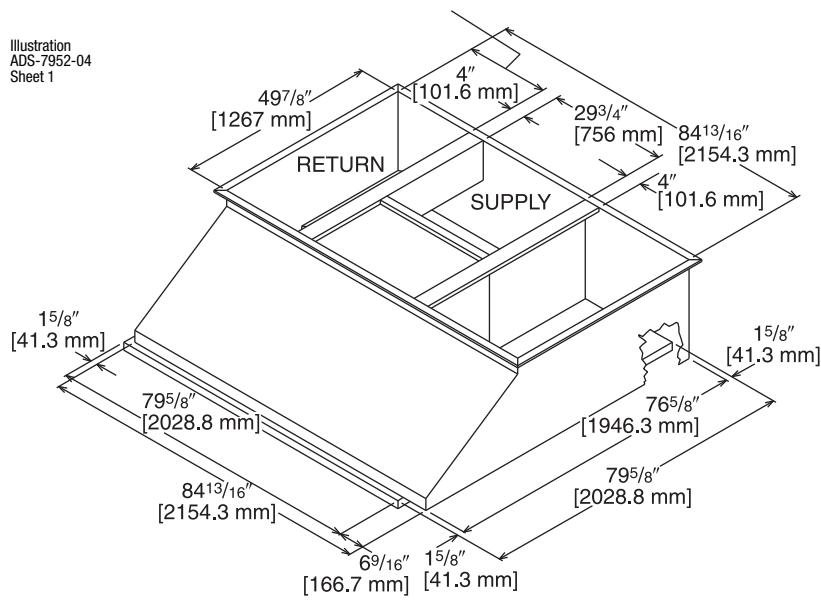
RXRX-CGCC12

Illustration
ADS-7952-04
Sheet 2



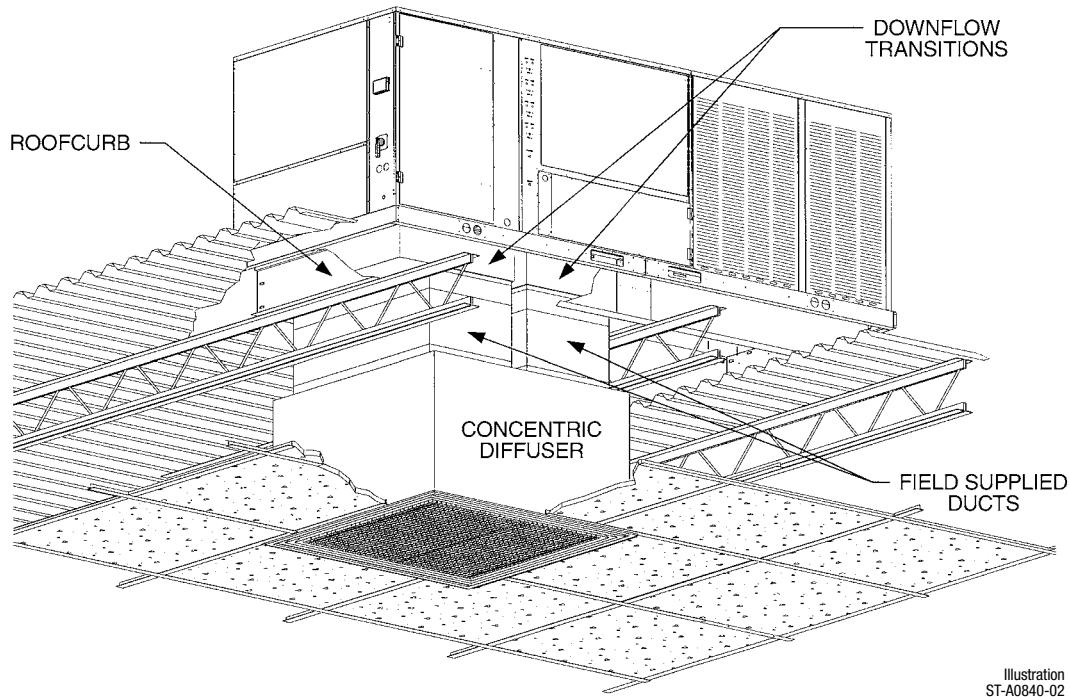
TOP VIEW

Illustration
ADS-7952-04
Sheet 1



[] Designates Metric Conversions

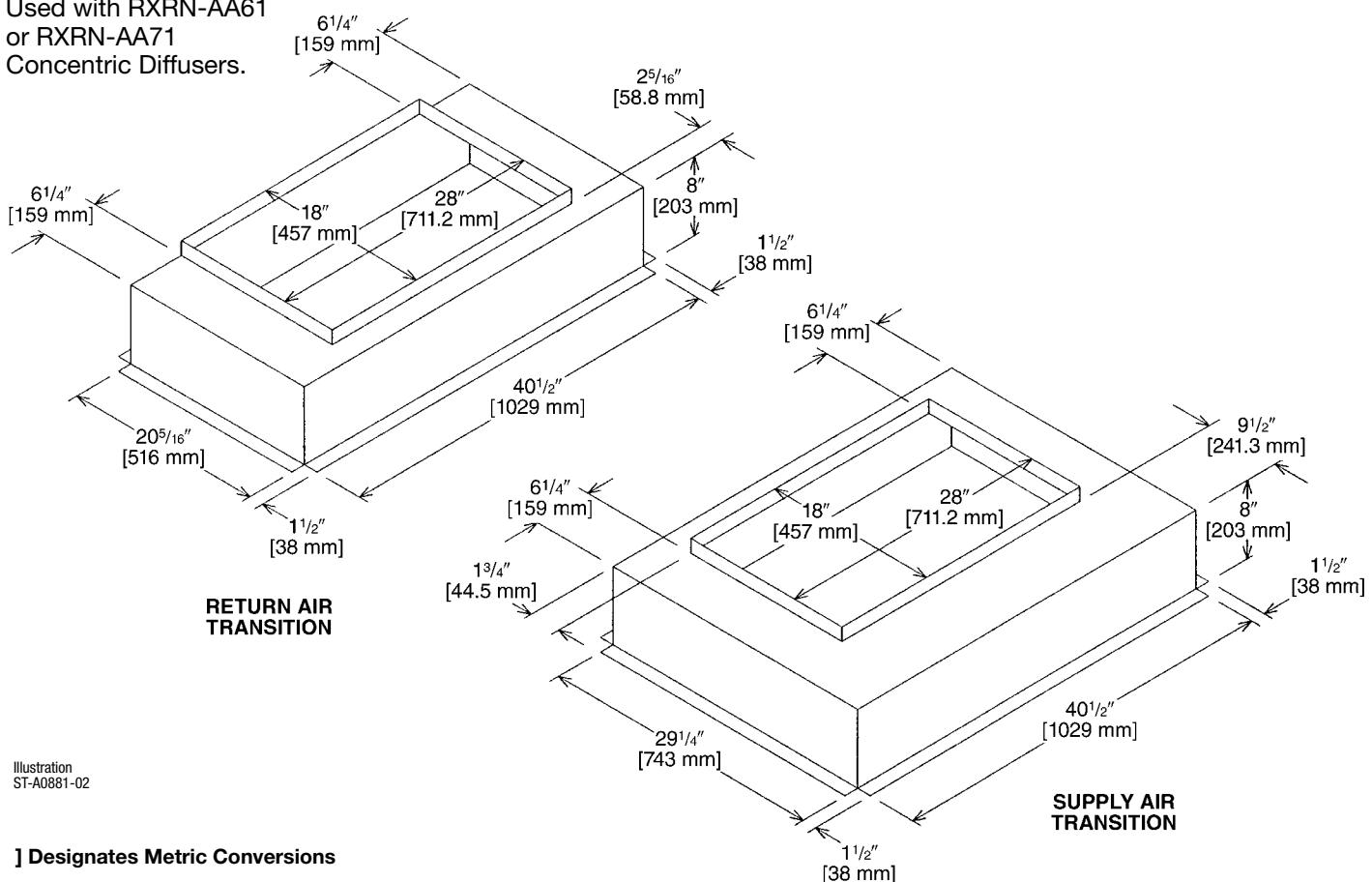
CONCENTRIC DIFFUSER APPLICATION



DOWNFLOW TRANSITION DRAWINGS

RXMC-CE05

- Used with RXRN-AA61 or RXRN-AA71 Concentric Diffusers.



[] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS (Cont.)

RXMC-CF06

- Used with RXRN-AA66 or RXRN-AA76 Concentric Diffusers.

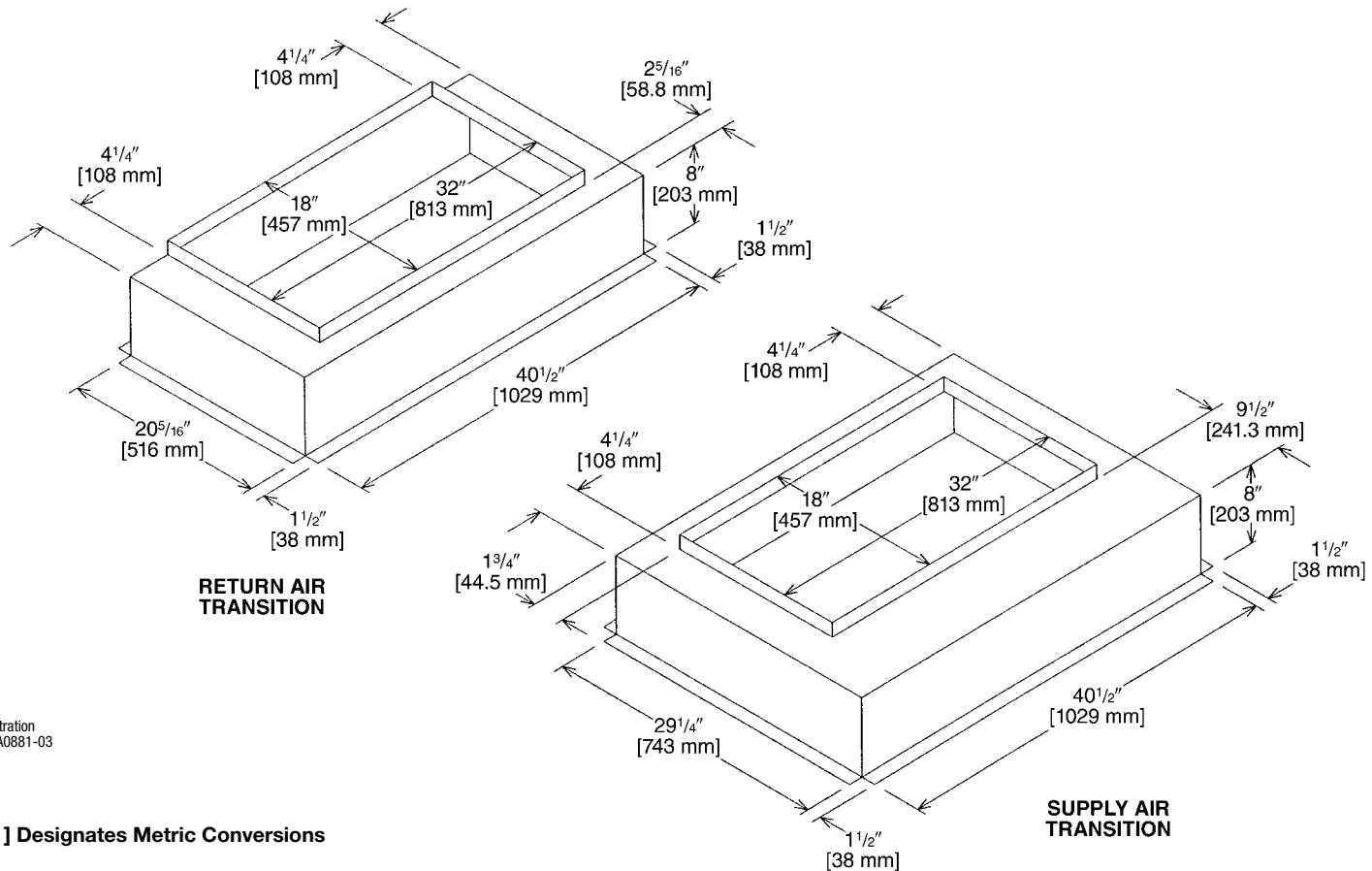


Illustration
ST-A0881-03

[] Designates Metric Conversions

DNDFLOW TRANSITION DRAWINGS (Cont.)

RXMC-CD04

- Used with RXRN-FA65 or RXRN-FA75 Concentric Diffusers.

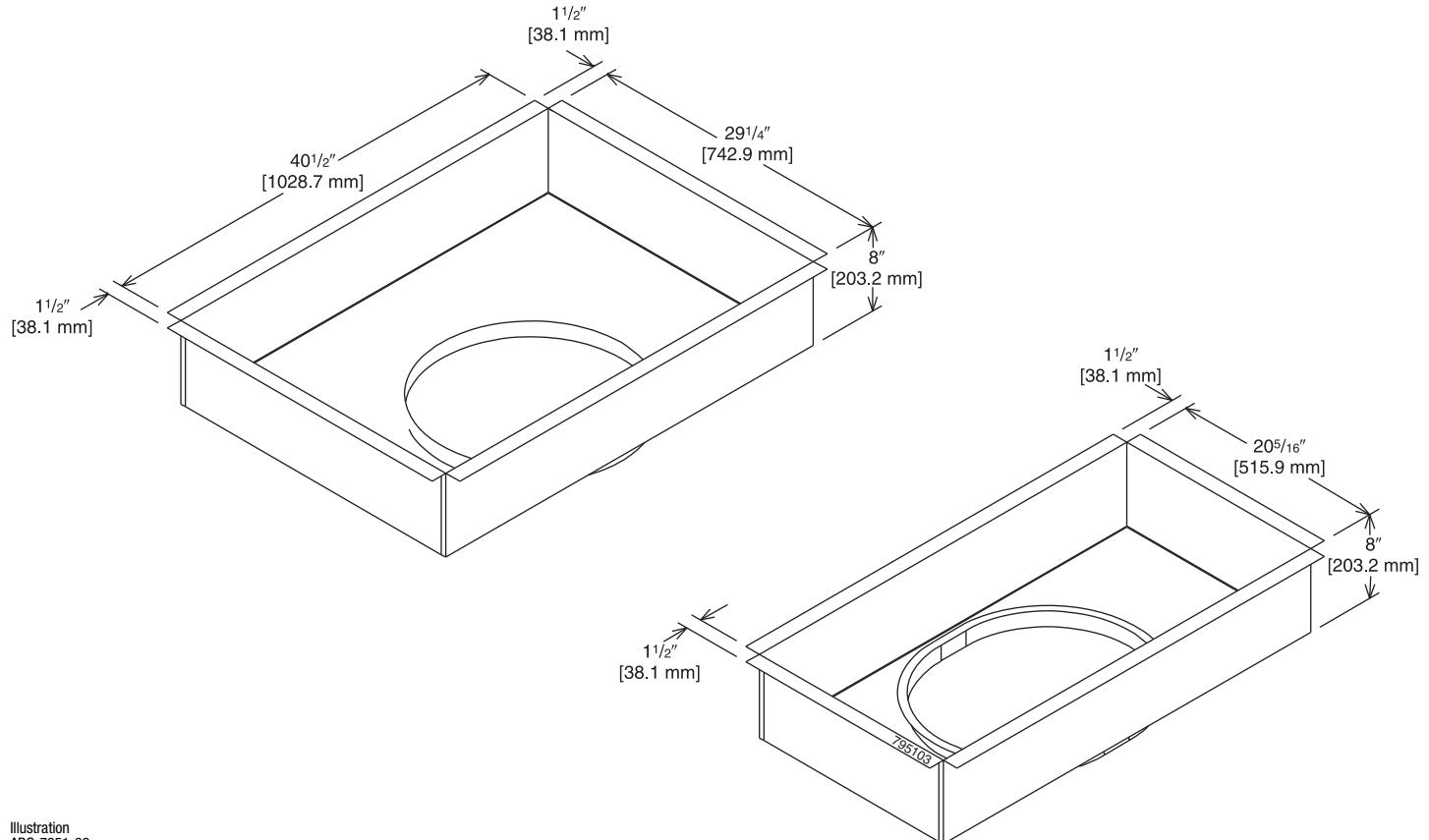


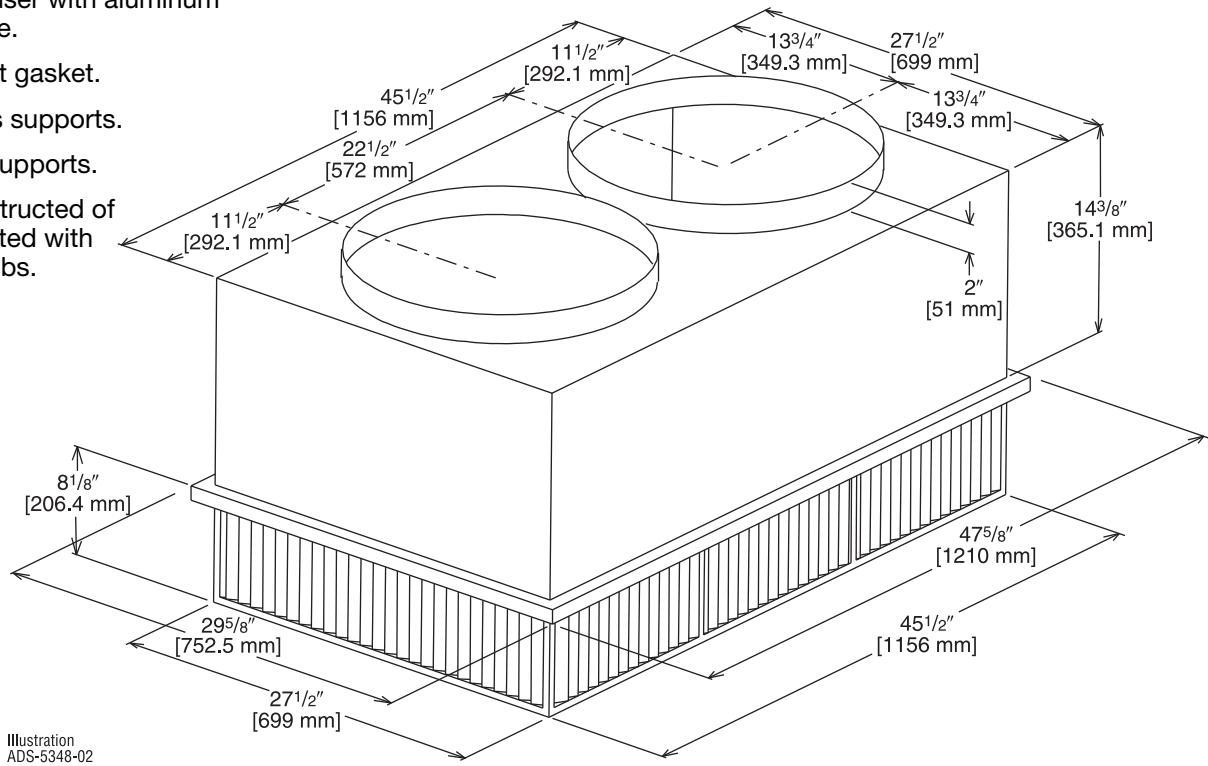
Illustration
ADS-7951-03

CONCENTRIC DIFFUSER—STEP DOWN

RXRN-FA65 (7.5 & 8.5 Ton [26.4 & 29.9 kW] Models)

**For Use With Downflow Transition (RXMC-CD04)
and 20" [508 mm] Round 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.



ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in. w.c. [kPa]	Throw ^{②③} Feet [m]	Neck Velocity fpm [m/s]	Noise Level ^④ (dBa)
RXRN-FA65	2600 [1227]	0.17 [0.042]	24-29 [7.3-8.8]	669 [3.4]	20
	2800 [1321]	0.20 [0.050]	25-30 [7.6-9.1]	720 [3.7]	25
	3000 [1416]	0.25 [0.062]	27-33 [8.2-10.1]	772 [3.9]	25
	3200 [1510]	0.31 [0.077]	28-35 [8.5-10.7]	823 [4.2]	25
	3400 [1604]	0.37 [0.092]	30-37 [9.1-11.3]	874 [4.4]	30

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

CONCENTRIC DIFFUSER—STEP DOWN

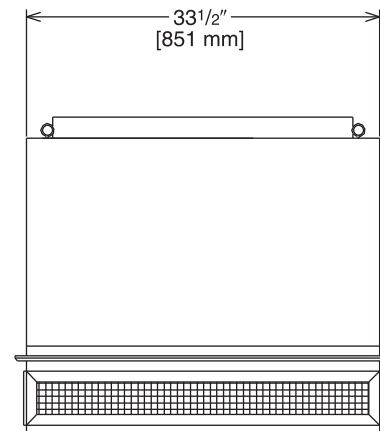
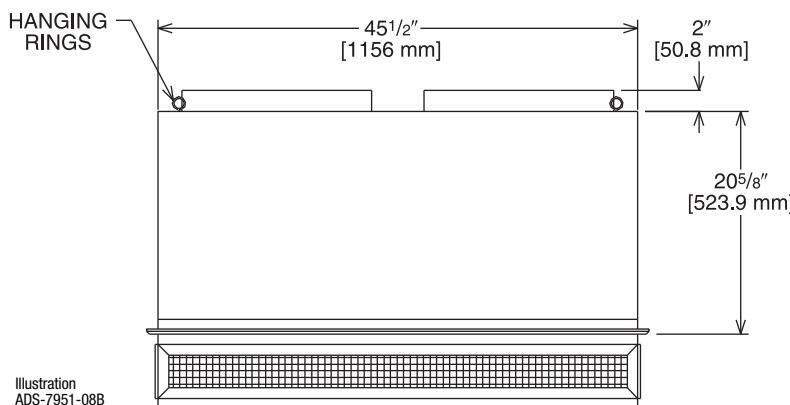
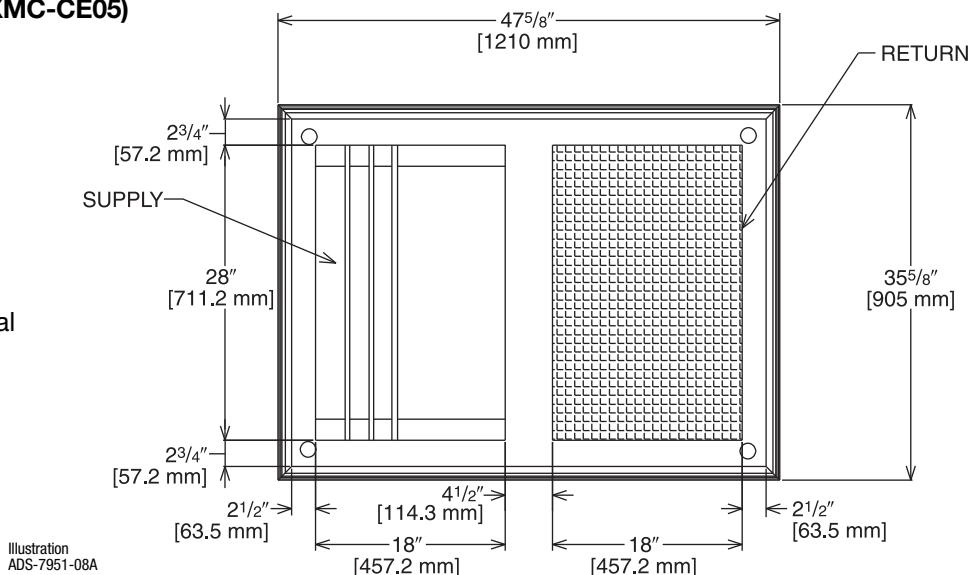
18" x 28" [457.2 x 711.2 mm]

RXRN-AA61 (8.5 & 10 Ton [29.9 kW & 35.2] Models)

For Use With Downflow Transition (RXMC-CE05)
and 18" x 28" [457.2 x 711.2 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs.
.7 kg] duct liner.
- Double deflection diffuser with the blades secured by spring steel.



ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw ^{②③} Feet [m]	Neck Velocity fpm [m/s]	Noise Level ^④ (dBa)
RXRN-AA61	3600 [1699]	0.17 [0.042]	25-33 [7.6-10.1]	851 [4.3]	30
	3800 [1793]	0.18 [0.045]	27-35 [8.2-10.7]	898 [4.6]	30
	4000 [1888]	0.21 [0.052]	29-37 [8.8-11.3]	946 [4.8]	30
	4200 [1982]	0.24 [0.060]	32-40 [9.8-12.2]	993 [5.0]	30
	4400 [2076]	0.27 [0.067]	34-42 [10.4-12.8]	1040 [5.3]	30

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

CONCENTRIC DIFFUSER—STEP DOWN

18" x 32" [457.2 x 813 mm]

RXRN-AA66 (12.5 Ton [44.0 kW] Models)

**For Use With Downflow Transition (RXMC-CF06)
and 18" x 32" [457.2 x 813 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.
- Double deflection diffuser with the blades secured by spring steel.

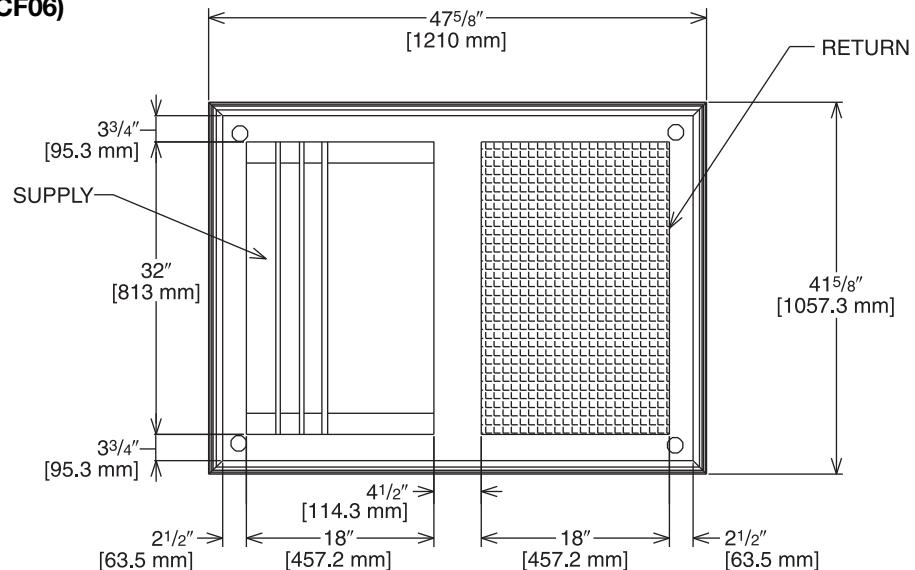


Illustration
ADS-7951-09A

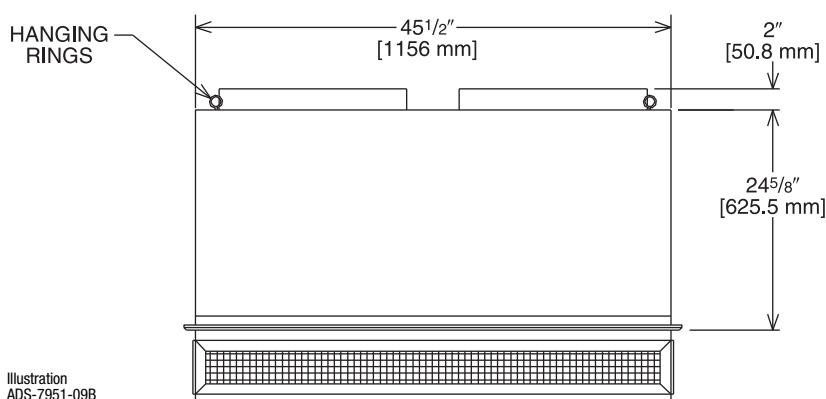


Illustration
ADS-7951-09B

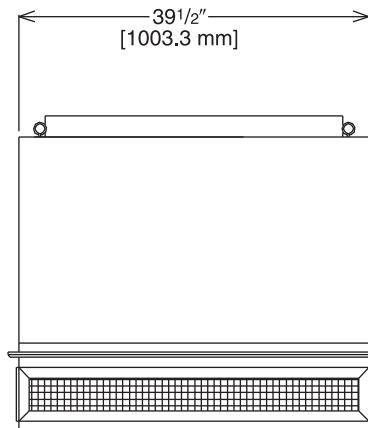


Illustration
ADS-7951-09C

ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw ^{②③} Feet [m]	Neck Velocity fpm [m/s]	Noise Level ^④ (dBa)
RXRN-AA66	4600 [2171]	0.31 [0.077]	26-31 [7.9-9.4]	841 [4.3]	30
	4800 [2265]	0.32 [0.080]	27-32 [8.2-9.8]	878 [4.5]	30
	5000 [2359]	0.34 [0.085]	28-33 [8.5-10.1]	915 [4.6]	30
	5200 [2454]	0.36 [0.090]	28-34 [8.5-10.4]	951 [4.8]	30
	5400 [2548]	0.39 [0.097]	29-35 [8.8-10.7]	988 [6.0]	30

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

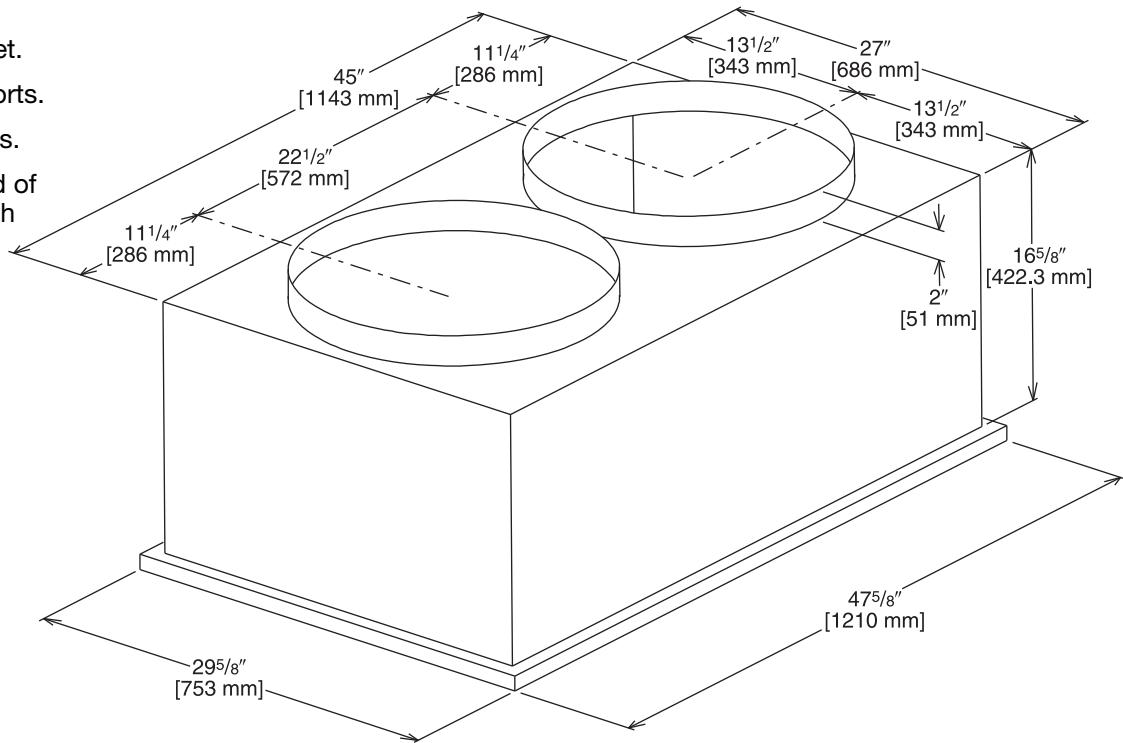
FLUSH MOUNT CONCENTRIC DIFFUSER—FLUSH

RXRN-FA75 (7.5 & 8.5 Ton [26.4 & 29.9 kW] Models)

**For Use With Downflow Transition (RXMC-CD04)
and 20" [508 mm] Round 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.

Illustration
ADS-5348-04



ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in. w.c. [kPa]	Throw ^{② ③} Feet [m]	Neck Velocity fpm [m/s]	Noise Level ^④ (dBa)
RXRN-FA75	2600 [1227]	.17 [0.042]	19-24 [5.8-7.3]	663 [3.4]	30
	2800 [1321]	.20 [0.050]	20-28 [6.1-8.5]	714 [3.6]	35
	3000 [1416]	.25 [0.062]	21-29 [6.4-8.8]	765 [3.9]	35
	3200 [1510]	.31 [0.077]	22-29 [6.7-8.8]	816 [4.1]	40
	3400 [1604]	.37 [0.092]	22-30 [6.7-9.1]	867 [4.4]	40

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

CONCENTRIC DIFFUSER—FLUSH and 18" x 28" [457.2 x 711.2 mm]

RXRN-AA71 (8.5 & 10 Ton [29.9 & 35.2] Models)

For Use With Downflow Transition (RXMC-CE05)
and 18" x 28" [457.2 x 711.2 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs.
.7 kg duct liner.

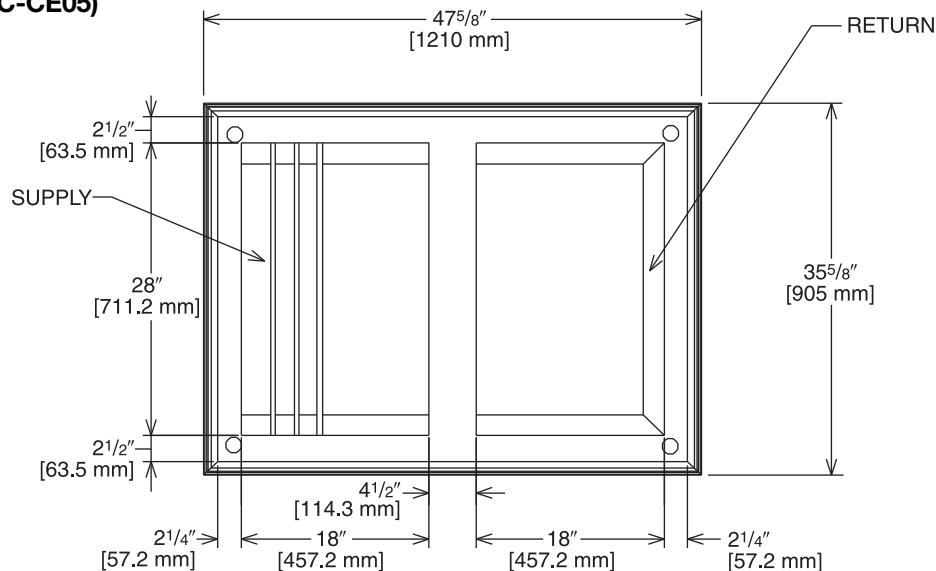


Illustration
ADS-7951-06A

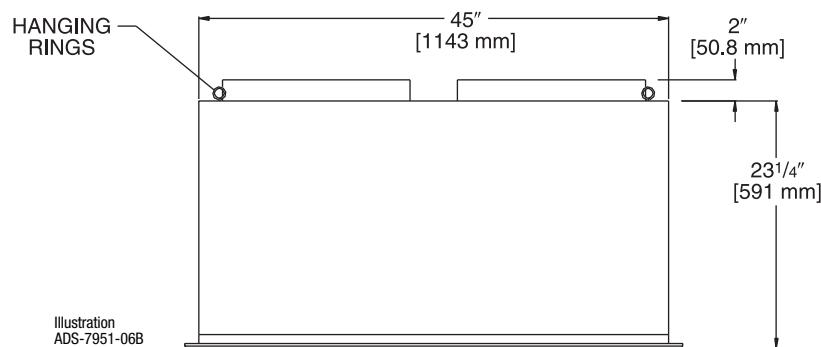


Illustration
ADS-7951-06B

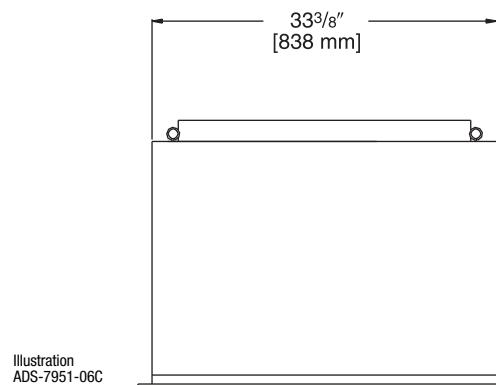


Illustration
ADS-7951-06C

ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw ^{② ③} Feet [m]	Neck Velocity fpm [m/s]	Noise Level ^④ (dBa)
RXRN-AA71	3600 [1699]	0.17 [0.042]	22-29 [6.7-8.8]	844 [4.3]	35
	3800 [1793]	0.18 [0.045]	22-30 [6.7-9.1]	891 [4.5]	40
	4000 [1888]	0.21 [0.052]	24-33 [7.3-10.1]	938 [4.8]	40
	4200 [1982]	0.24 [0.060]	26-35 [7.9-10.7]	985 [5.0]	40
	4400 [2076]	0.27 [0.067]	28-37 [8.5-11.3]	1032 [5.2]	40

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

CONCENTRIC DIFFUSER—FLUSH

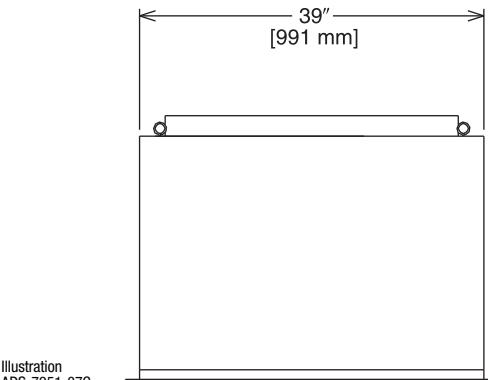
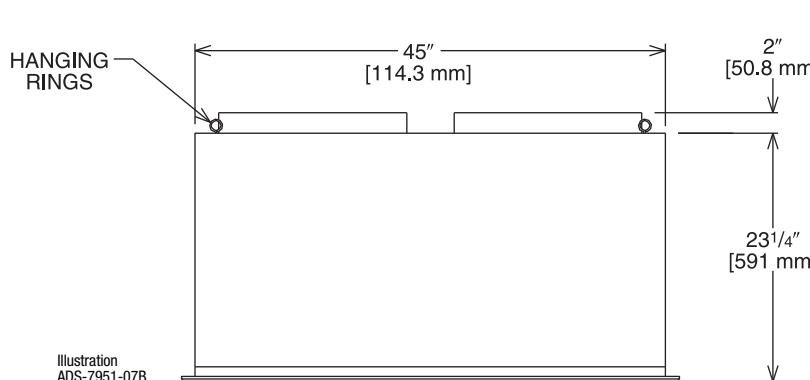
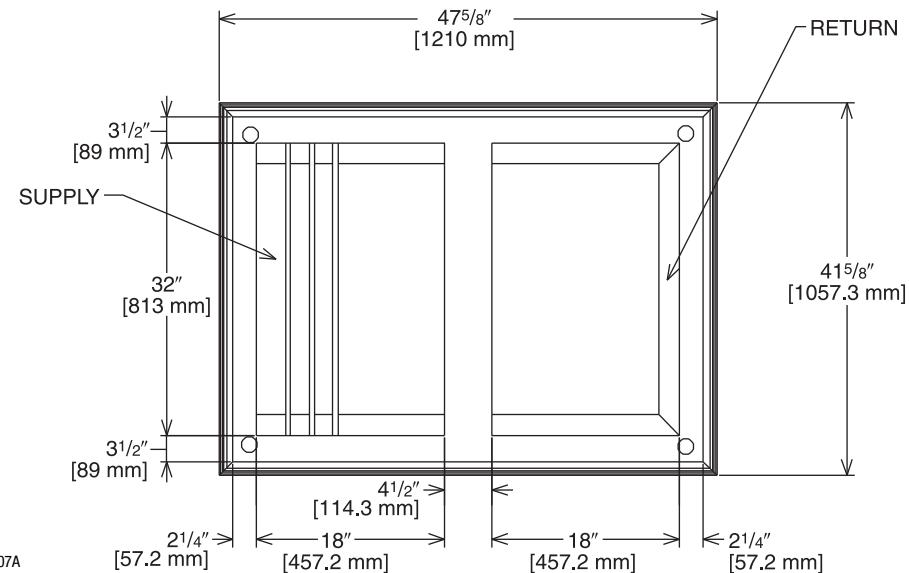
18" x 32" [457.2 x 813 mm]

RXRN-AA76 (12.5 Ton [44.0 kW] Models)

For Use With Downflow Transition (RXMC-CF06)
and 18" x 32" [457.2 x 813 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 sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.



ENGINEERING DATA^①

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw ②③ Feet [m]	Neck Velocity fpm [m/s]	Noise Level ④ (dBa)
RXRN-AA76	4600 [2171]	0.31 [0.077]	25-34 [7.6-10.4]	922 [4.7]	40
	4800 [2265]	0.32 [0.080]	26-35 [7.9-10.7]	962 [4.9]	40
	5000 [2359]	0.34 [0.085]	27-36 [8.2-11.0]	1002 [5.1]	40
	5200 [2454]	0.36 [0.090]	30-39 [9.1-11.9]	1043 [5.3]	45
	5400 [2548]	0.39 [0.097]	32-41 [9.8-12.5]	1083 [5.5]	45

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.

Adequate duct attenuation must be provided to reduce sound output from the unit.

[] Designates Metric Conversions

GUIDE SPECIFICATIONS – RLNL-C073 thru C151 and H090 thru H151

You may copy this document directly into your building specification. This specification is written to comply with the 2004 version of the “master format” as published by the Construction Specification Institute. www.csinet.org.

ELECTRIC HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 6 to 12.5 Nominal Tons

Section Description

23 06 80 Schedules for Decentralized HVAC Equipment

23 06 80.13 Decentralized Unitary HVAC Equipment Schedule

23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

23 07 16.13 Decentralized, Rooftop Units:

1. Interior cabinet surfaces shall be insulated with a minimum 3/4-in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, with aluminum foil facing on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 09 13 Instrumentation and Control Devices for HVAC

23 09 13.23 Sensors and Transmitters

23 09 13.23.A. Thermostats

1. Thermostat must
 - a. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
 - b. must include capability for occupancy scheduling.

23 09 23 Direct-digital Control system for HVAC

23 09 23.13 Decentralized, Rooftop Units:

23 09 23.13.A. RTU-C controller

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-32VAC input power.
3. Shall have an operating temperature range from -40°F (-40°C) to 158°F (70°C), 10% - 95% RH (non-condensing).
4. 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.
5. Shall accept a CO₂ sensor in the conditioned space, and be Demand Control Ventilation (DCV) ready.
6. Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust, occupied.
7. Unit shall provide surge protection for the controller through a circuit breaker.
8. Shall have a field installed communication card allowing the unit to be Internet capable, and communicate at a Baud rate of 19.2K or faster
9. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
10. 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.
11. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.
12. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.
13. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.
14. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000 ft sections.

23 09 23.13.B. Open protocol, direct digital controller:

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.
3. Shall have an operating temperature range from -40°F (-40°C) to 130°F (54°C), 10% - 90% RH (non-condensing).
4. Shall 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.
5. The BACnet® plug in communication card shall include built-in protocol for BACNET (MS/TP and PTP modes)
6. The LonWorks™ plug in communication card shall include the Echelon processor required for all Lon applications.
7. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
8. Baud rate Controller shall be selectable through the EIA-485 protocol communication port.
9. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
10. 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.
11. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust.
12. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

23 09 33 Electric and Electronic Control System for HVAC

23 09 33.13 Decentralized, Rooftop Units:

23 09 33.13.A. General:

1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 100VA capabilities.
2. Shall utilize color-coded wiring.
3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, loss of charge, freeze sensor, high pressure switches.
4. Unit shall include a minimum of one 10-pin screw terminal connection board for connection of control wiring.

23 09 33.23.B. Safeties:

1. Compressor over-temperature, over current.
2. Loss of charge switch.
 - a. Units with 2 compressors shall have different colored wires for the circuit 1 and circuit 2 low and high pressure switches.
 - b. Loss of charge switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
 - c. Loss of charge switch shall have a different sized connector than the high pressure switch. They shall physically prevent the cross-wiring of the safety switches between the high and low pressure side of the system.
3. High-pressure switch.
 - a. Units with 2 compressors shall have different colored wires for the circuit 1 and circuit 2 low and high pressure switches.
 - b. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service person to correctly wire and or troubleshoot the rooftop unit.
 - c. High pressure switch shall have a different sized connector than the loss of charge switch. They shall physically prevent the cross-wiring of the safety switches between the high and low pressure side of the system.
4. Freeze protection sensor, evaporator coil.
5. Automatic reset, motor thermal overload protector.

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section shall

1. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Filters shall be accessible through an access panel as described in the unit cabinet section of this specification (23 81 19.13.H).

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Small-Capacity Self-Contained Air Conditioners

23 81 19.13.A. General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty and heat pump for heating duty.
2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
3. Unit shall use environmentally sound R-410a refrigerant.
4. Unit shall be installed in accordance with the manufacturer's instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19.13.B. Quality Assurance

1. Unit meets ASHRAE 90.1-2004 minimum efficiency requirements.
2. 3 phase units are Energy Star qualified.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.
5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
10. Roof curb shall be designed to conform to NRCA Standards.
11. 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.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.

23 81 19.13.C. Delivery, Storage, and Handling

1. Unit shall be stored and handled per manufacturer's recommendations.
2. Lifted by crane requires either shipping top panel or spreader bars.
3. Unit shall only be stored or positioned in the upright position.

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation from 40°F (4°C), ambient outdoor temperatures. Accessory low ambient kit is necessary if mechanically cooling at ambient temperatures below 40°F (4°C).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal configuration.

23 81 19.13.G. Electrical Requirements

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 3/4-in. thick, 1 lb density, flexible fiberglass insulation, aluminum foil-faced on the air side.
4. Base of unit shall have locations for thru-the-base electrical connections (factory installed or field installed), standard.
5. Base Rail
 - a. Unit shall have base rails on all sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 14 gauge thickness.
6. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 1" -11 1/2 NPT drain connection, through the side of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
 - a. Indoor section shall be a single piece top panel.
8. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - (2.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Stainless steel metal hinges are standard on all doors.
 - c. Panels covering control box, indoor fan, indoor fan motor, and electric or gas heater components (where applicable), shall have 1/4 turn latches.

23 81 19.13.J. Coils

1. Standard Aluminum/Copper Coils: on all models.
 - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
 - b. Evaporator and Condenser coils shall be leak tested to 150 psig, pressure tested to 550 psig, and qualified to UL 1995 burst test at 2,200 psig.

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. Thermal Expansion Valve (TXV) with venturi type distributor except the 073 model which shall use small orifice refrigerant control expansion device.
 - b. Refrigerant filter drier.
 - c. External service gauge connections to unit suction and discharge lines.

2. Compressors

- a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
- b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- c. Compressors shall be internally protected from high discharge temperature conditions.
- e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
- f. Compressor shall be factory mounted on rubber grommets.
- g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
- h. Crankcase heaters shall not be required for normal operating range.

23 81 19.13.L. Filter Section

1. Filters access is specified in the unit cabinet section of this specification.
2. Filters shall be held in place by a sliding filter tray, facilitating easy removal and installation.
3. Shall consist of factory-installed, low velocity, throw-away 2-in. thick fiberglass filters.
4. Filters shall be standard, commercially available sizes.
5. Filter face velocity shall not exceed 365 fpm at nominal airflows.

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
2. Belt-driven Evaporator Fan:
 - a. Belt drive shall include an adjustable-pitch motor pulley.
 - b. Shall use sealed, permanently lubricated ball-bearing type.
 - c. Blower fan shall be double-inlet type with forward-curved blades.
 - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

23 81 19.13.N. Condenser Fans and Motors

1. Condenser fan motors:
 - a. Shall be a totally enclosed motor.
 - b. Shall use permanently lubricated bearings.
 - c. Shall have inherent thermal overload protection with an automatic reset feature.
 - d. Shall use a shaft-down design. Shaft-up designs including those with "rain-slinger devices" shall not be allowed.
2. Condenser Fans:
 - a. Shall be a direct-driven propeller type fan.
 - b. Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

23 81 19.13.O. Special Features, Options and Accessories

1. Integrated Economizers:
 - a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
 - c. Damper blades shall be galvanized steel with metal gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Shall be capable of introducing up to 100% outdoor air.
 - g. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - h. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - i. An outdoor single enthalpy sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from the enthalpy equivalent of 63°F @ 50% rh to 73°F @ 50% rh. Additional sensor options shall be available as accessories.
 - j. 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%.
 - k. 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 setpoint.
 - l. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - m. 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.

- n. 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..
 - o. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - p. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
 - q. Economizer wire harness will have provision for smoke detector.
2. Two-Position Motorized Damper
- a. Damper shall be a Two-Position Motorized Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter
3. Manual damper
- a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
4. Head Pressure Control Package
- a. Controller shall control coil head pressure by condenser-fan cycling.
5. Condenser Coil Hail Guard Assembly
- a. Shall protect against damage from hail.
 - b. Shall be louvered design.
6. Convenience Outlet:
- a. Non-Powered convenience outlet.
 - (1.) Outlet shall be powered from a separate 115-120v power source.
 - (2.) A transformer shall not be included.
 - (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.) Outlet shall include 15 amp GFI receptacles.
 - (5.) Outlet shall be accessible from outside the unit.
7. Fan/Filter Status Switch:
- a. Switch shall provide status of indoor evaporator fan (ON/OFF) or filter (CLEAN/DIRTY).
 - b. Status shall be displayed either over communication bus (when used with direct digital controls) or through the controller LCD display inside the unit control box.
8. Propeller Power Exhaust:
- a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
9. Roof Curbs (Vertical):
- a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
10. High-Static Indoor Fan Motor(s) and Drive(s):
- a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
11. Outdoor Air Enthalpy Sensor:
- a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
13. Return Air Enthalpy Sensor:
- a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
14. Indoor Air Quality (CO₂) Sensor:
- a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in wall mount with LED display. The setpoint shall have adjustment capability.

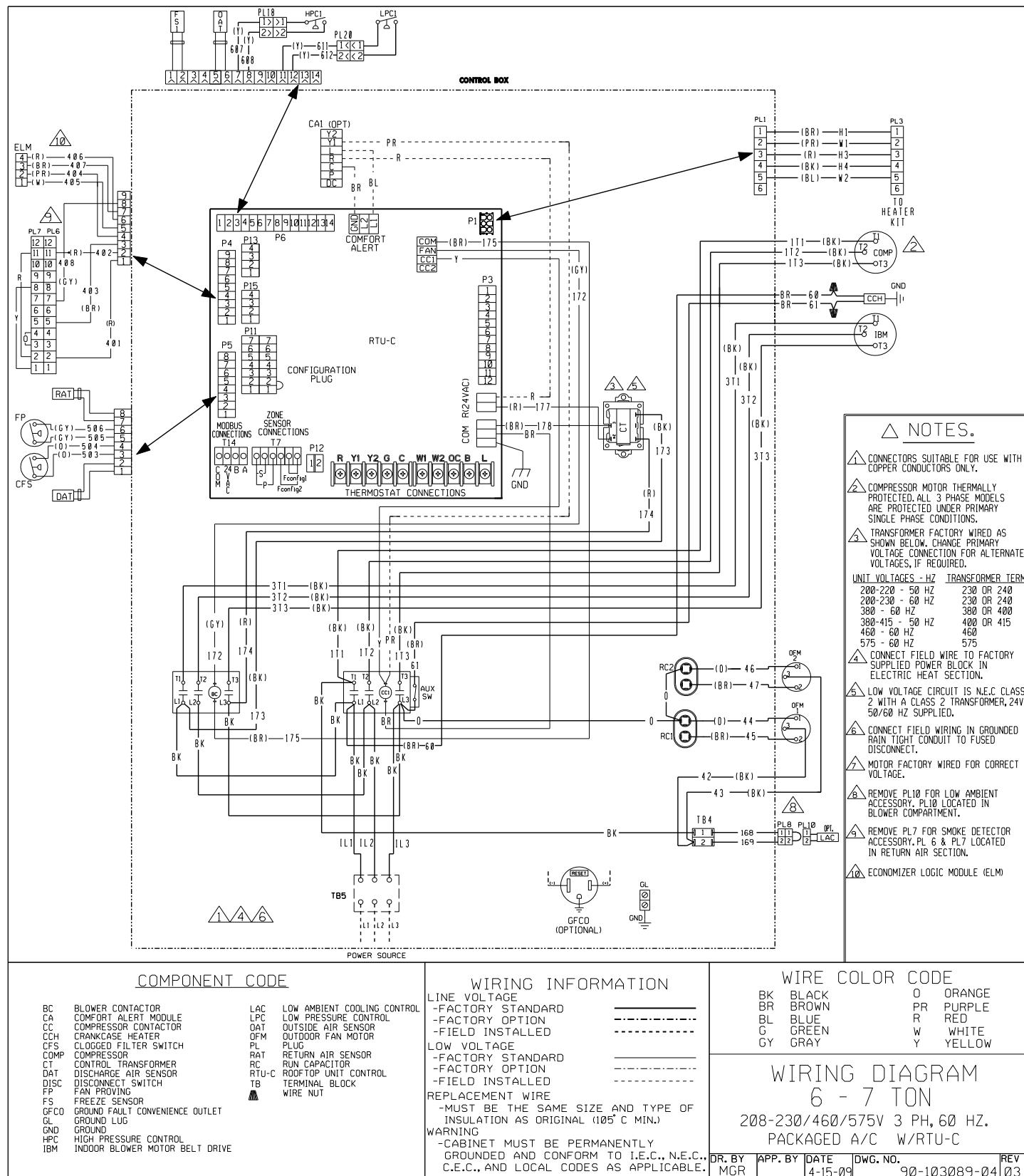
15. Smoke detectors:
 - a. Shall be a Four-Wire Controller and Detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have a recessed momentary switch for testing and resetting the detector.
 - e. Controller shall include:
 - (1.) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - (2.) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - (3.) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - (4.) Capable of direct connection to two individual detector modules.
 - (5.) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.

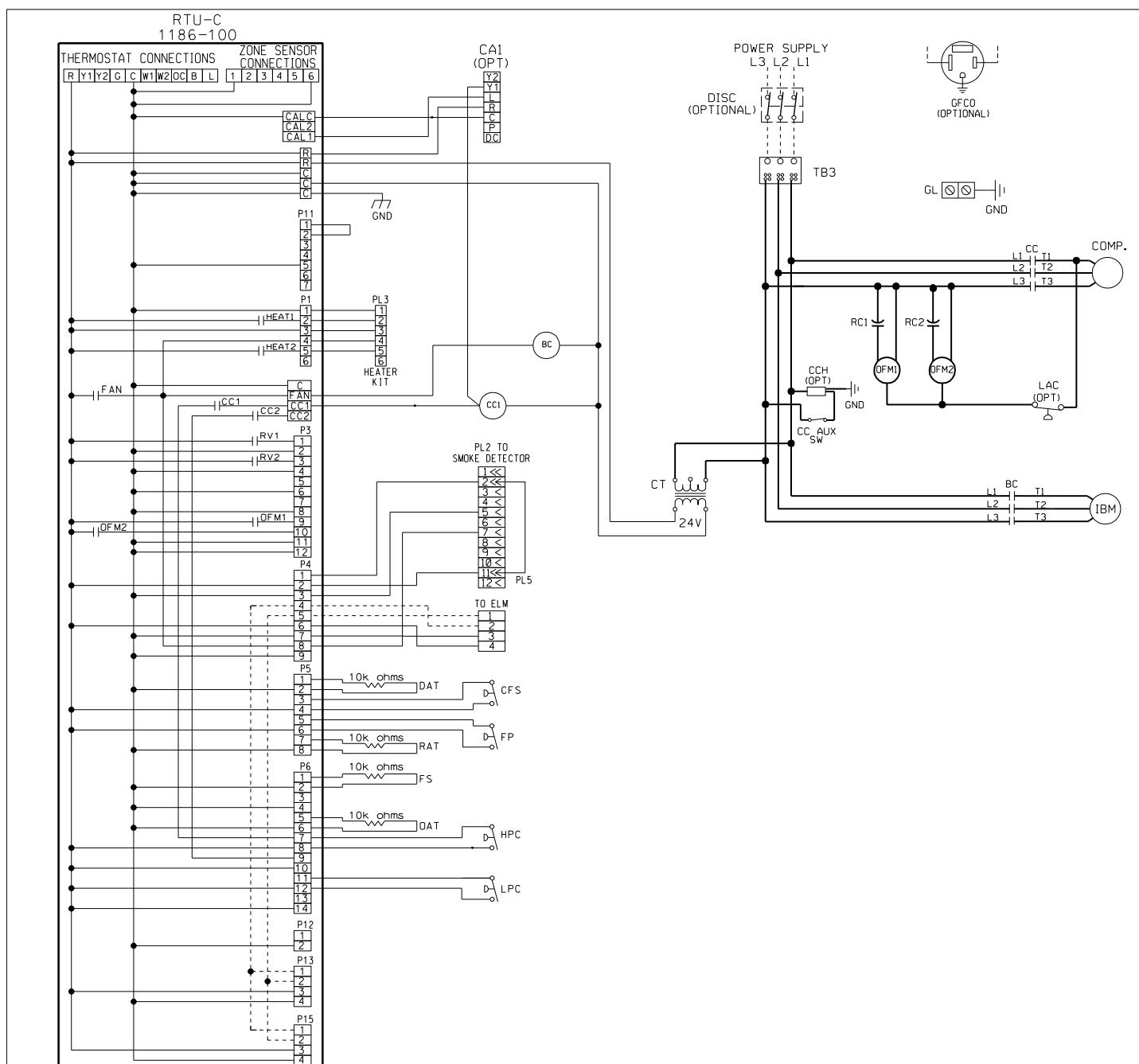
16. Electric Heat:

- a. Heating Section
 - (1.) 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.
 - (2.) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.

26 29 23.12.Adjustable Frequency Drive

1. Unit shall be supplied with an electronic variable frequency drive for the supply air fan.
2. Drive shall be factory installed in an enclosed cabinet.
3. Drive shall meet UL Standard 95-5V.
4. The completed unit assembly shall be UL listed.
5. Drives are to be accessible through a toolled access hinged door assembly.
6. The unit manufacturer shall install all power and control wiring.
7. 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.
8. Drive shall be programmed and factory run tested in the unit.



**COMPONENT CODE**

BC	BLOWER CONTACTOR
CA	COMFORT ALERT MODULE
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
CFS	CLOGGED FILTER SWITCH
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FP	FAN PROVING
FS	FREEZE SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE

WIRING INFORMATION

LINE VOLTAGE	—
-FACTORY STANDARD	—
-FACTORY OPTION	-----
-FIELD INSTALLED	-----
LOW VOLTAGE	—
-FACTORY STANDARD	—
-FACTORY OPTION	-----
-FIELD INSTALLED	-----
REPLACEMENT WIRE	—
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105°C MIN.)	—
WARNING	—
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.	—

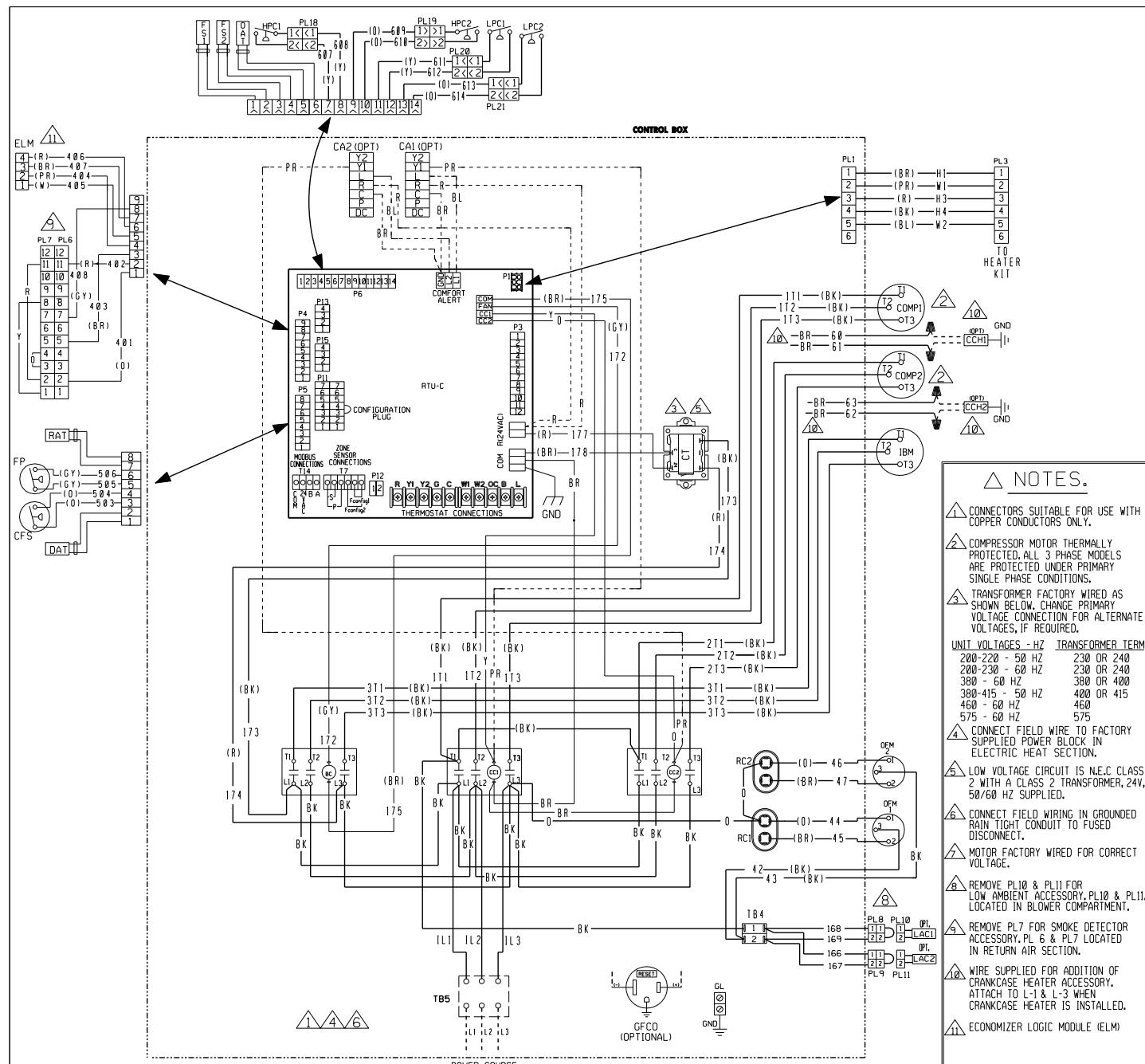
WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC

6 - 7 TON

208-230/460/575V 3 PH, 60 HZ.
PACKAGED A/CDR. BY APP. BY DATE DWG. NO. REV
MGR 7-16-09 90-103246-04 02



COMPONENT CODE

BC	BLOWER CONTACTOR	LAC	LOW AMBIENT COOLING CONTROL
CA	COMFORT ALERT MODULE	LPC	LOW PRESSURE CONTROL
CC	COMPRESSOR CONTACTOR	DAT	OUTSIDE AIR SENSOR
CCH	CRANKCASE HEATER	DF-M	DOOR FAN MOTOR
CFS	CLOCK FILTER SWITCH	PL	PLUG
COMP	COMPRESSOR	RAT	RETURN AIR SENSOR
CT	CONTROL TRANSFORMER	RC	RUN CAPACITOR
DISC	DISCONNECT TRANSFORMER	RTU-C	ROOFTOP UNIT CONTROL
DAT	DISCHARGE AIR SENSOR	TB	TERMINAL BLOCK
DISC	DISCONNECT SWITCH		WIRE NUT
FP	FAN PROVING		
FS	FREEZE SENSOR		
GFC	GROUND FAULT CONVENIENCE OUTLET		
GL	GROUND LUG		
GND	GROUND		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR BELT DRIVE		

WIRING INFORMATION

LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105°C MIN.)

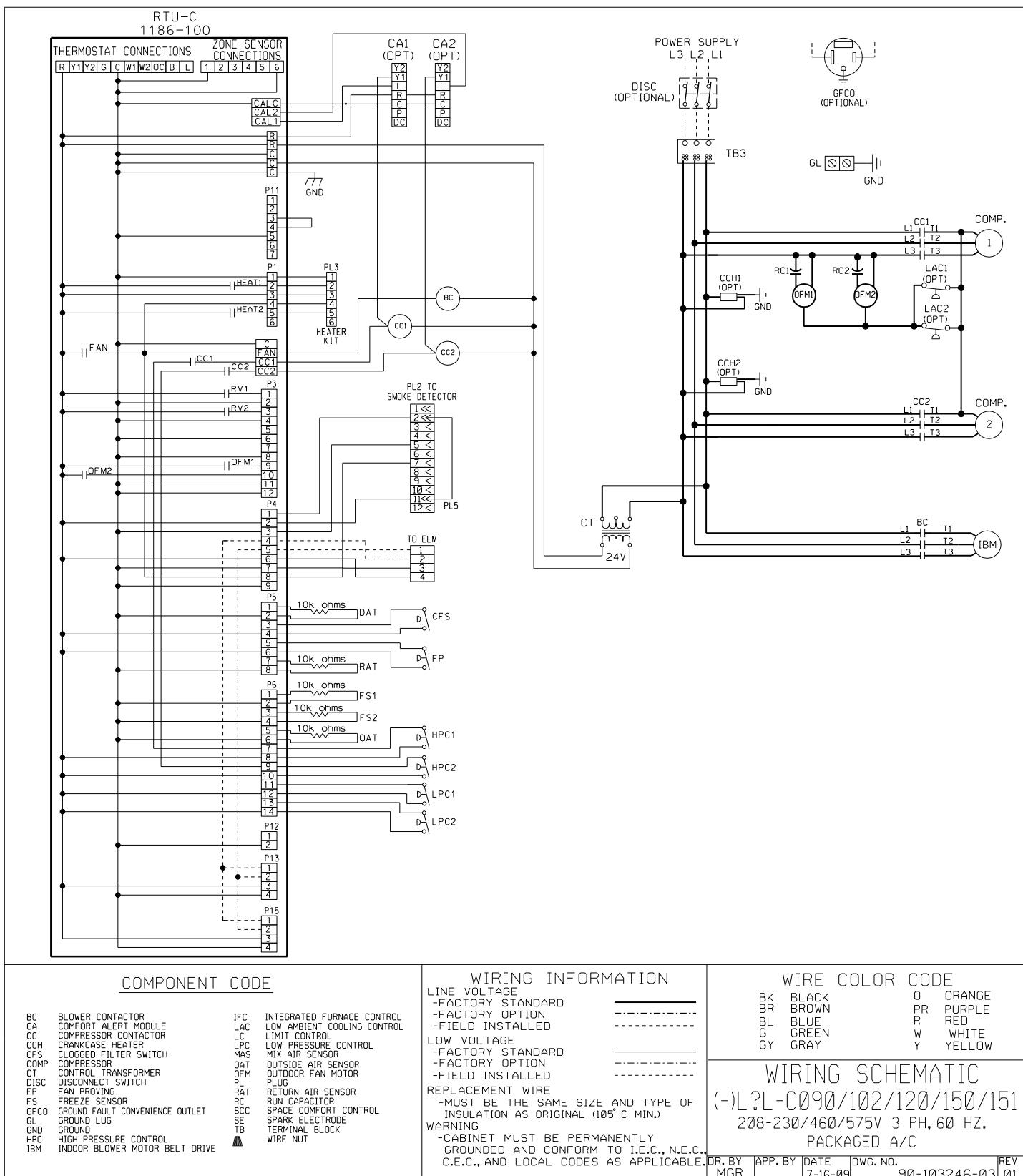
WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

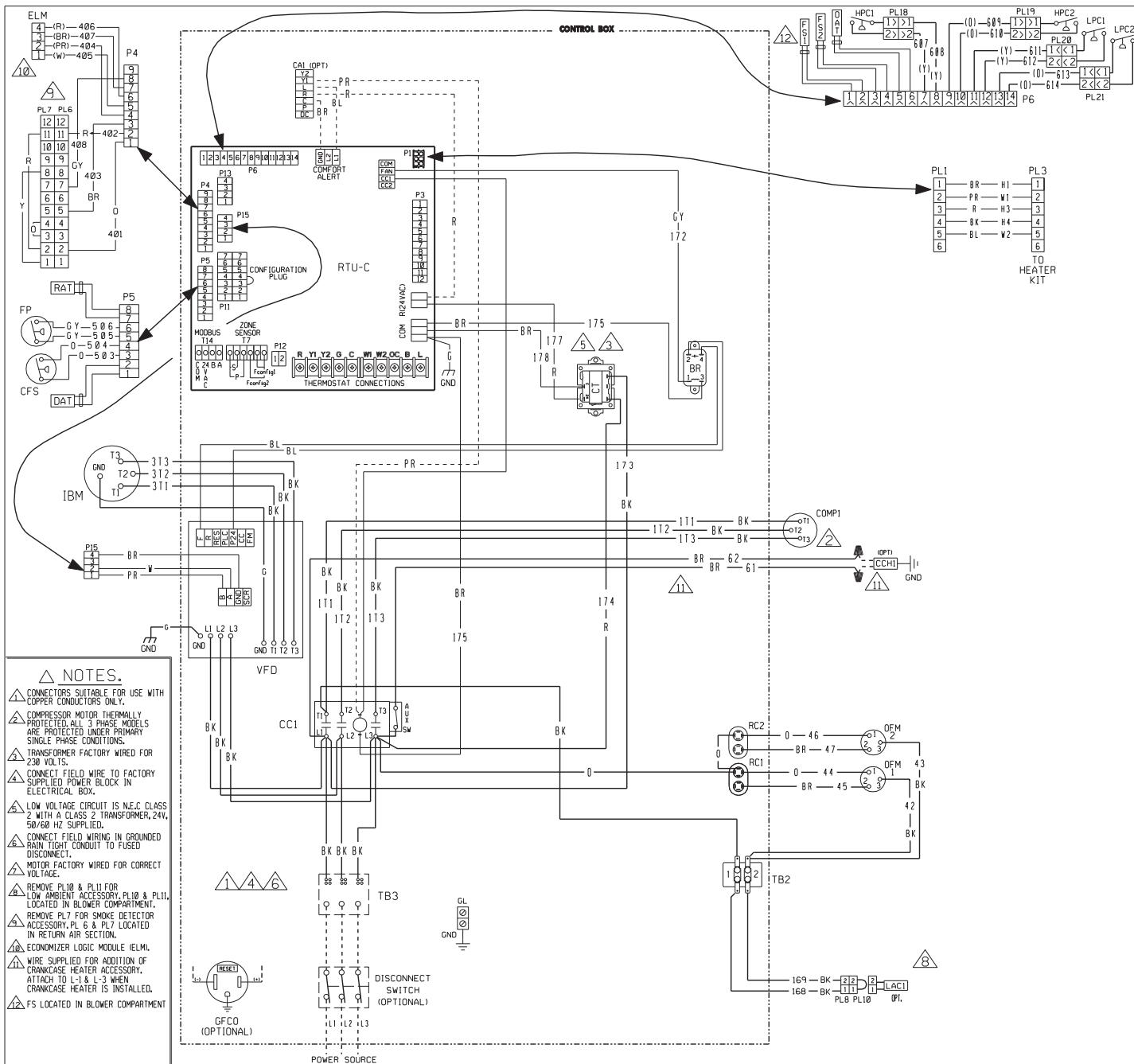
BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING DIAGRAM
(-)L?L-C090/102/120/150/151
208-230/460/575V 3 PH, 60 Hz.
PACKAGED A/C W/RTU-C

DR. BY APP. BY DATE DWG. NO. REV
MGR 4-15-09 90-103089-03 04



DR. BY APP. BY DATE DWG. NO. REV
MGR 7-16-09 90-103246-03 01



COMPONENT CODE

BR	BLOWER RELAY	HPC	HIGH PRESSURE CONTROL
CA	COMFORT ALERT MODULE	IBM	INDOOR BLOWER MOTOR BELT DRIVE
CC	COMPRESSOR CONTACTOR	LAC	LOW AMBIENT COOLING CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
CFS	CLOGGED FILTER SWITCH	LPC	LOW PRESSURE CONTROL
COMP	COMPRESSOR	OAT	OUTSIDE AIR SENSOR
CT	CONTROL TRANSFORMER	OFM	OUTDOOR FAN MOTOR
DAT	DISCHARGE AIR SENSOR	PL	PLUG
DISC	DISCONNECT SWITCH	RAT	RETURN AIR SENSOR
FP	FAN PROVING	RC	RUN CAPACITOR
FS	FREEZE SENSOR	RTU-C	ROOFTOP UNIT CONTROL
GFCO	GROUND FAULT CONVENIENCE OUTLET	TB	TERMINAL BLOCK
GND	GROUND	VFD	VARIABLE FREQUENCY DRIVE

WIRING INFORMATION

LINE VOLTAGE
 -FACTORY STANDARD _____
 -FACTORY OPTION _____
 -FIELD INSTALLED _____

LOW VOLTAGE
 -FACTORY STANDARD _____
 -FACTORY OPTION _____
 -FIELD INSTALLED _____

REPLACEMENT WIRE
 -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)

WARNING
 -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

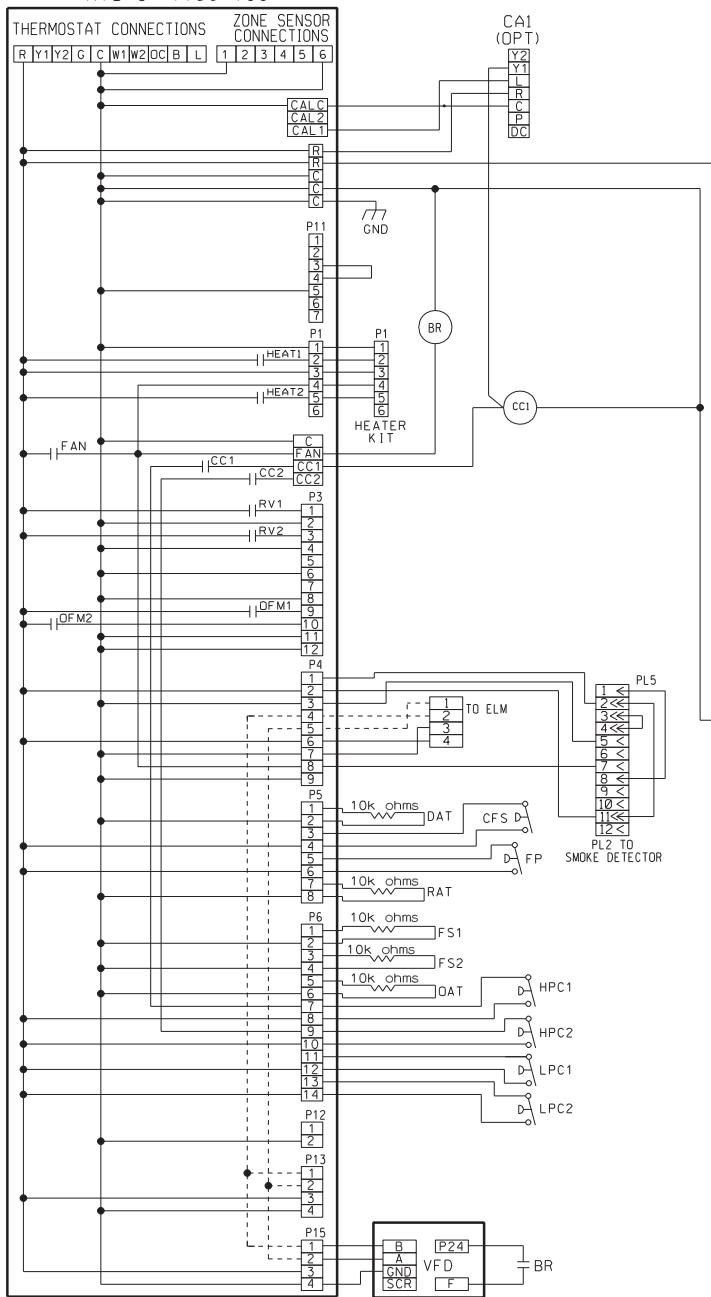
WIRING DIAGRAM

085 W/VFD

208-230/460V 3 PH, 60 HZ.
PACKAGED A/C W/RTU-C

DR. BY APP. BY DATE DWG. NO.
JRW 01-12-12 90-103089-33 REV 00

RTU-C 1186-100



POWER SUPPLY

L3, L2, L1

DISC (OPTIONAL)

GL (S) GND

TB3

CC1 T1 COMP.

L1 L2 T2

L3 T3

RC1 OFM1

RC2 OFM2

LAC1 (OPT)

LAC2 (OPT)

GND

CCH1 (OPT)

GND

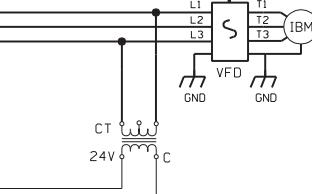
CC1 T1 IBM

L1 L2 T2

L3 T3

VFD GND

CT 24V C



COMPONENT CODE

BR	BLOWER RELAY
CA	COMFORT ALERT MODULE
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
CFS	CLOGGED FILTER SWITCH
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FP	FAN PROVING
FS	FREEZE SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND

HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
LAC	LOW AMBIENT COOLING CONTROL
LC	LIMIT CONTROL
LPC	LOW PRESSURE CONTROL
OAT	OUTSIDE AIR SENSOR
OFM	OUTDOOR FAN MOTOR
PL	PLUG
RAT	RETURN AIR SENSOR
RC	RUN CAPACITOR
TB	TERMINAL BLOCK
VFD	VARIABLE FREQUENCY DRIVE
	WIRE NUT

WIRING INFORMATION

LINE VOLTAGE

-FACTORY STANDARD

-FACTORY OPTION

-FIELD INSTALLED

LOW VOLTAGE

-FACTORY STANDARD

-FACTORY OPTION

-FIELD INSTALLED

REPLACEMENT WIRE

-MUST BE THE SAME SIZE AND TYPE OF

INSULATION AS ORIGINAL (105°C MIN.)

WARNING

-CABINET MUST BE PERMANENTLY

GROUNDED AND CONFORM TO I.E.C., N.E.C.,

C.E.C., AND LOCAL CODES AS APPLICABLE.

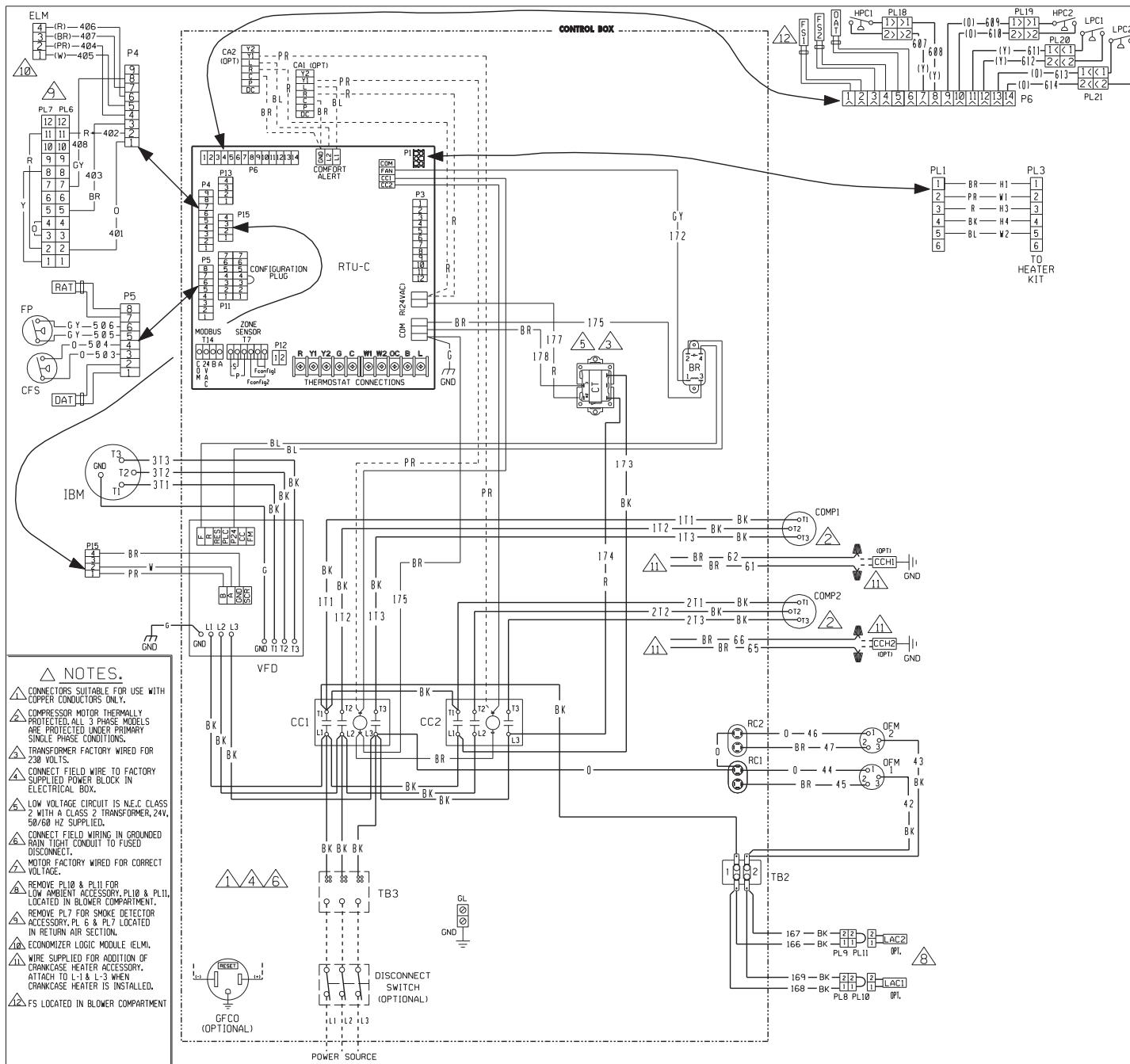
WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC

085 W/VFD

208-230/460V 3 PH, 60 Hz,
PACKAGED A/CDR. BY APP. BY DATE DWG. NO.
JRJ APP. BY 01-12-12 DWG. NO. 90-103246-29 REV 01



COMPONENT CODE

BR	BLOWER RELAY
CA	COMFORT ALERT MODULE
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
CFS	CLOGGED FILTER SWITCH
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DAT	DISCHARGE AIR SENSOR
DISC	DISCONNECT SWITCH
FP	FAN PROVING
FS	FREEZE SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
LAC	LOW AMBIENT COOLING CONTROL
LC	LIMIT CONTROL
LPC	LOW PRESSURE CONTROL
DAT	OUTDOOR AIR SENSOR
OFM	OUTDOOR FAN MOTOR
PL	PLUG
RAT	RETURN AIR SENSOR
RC	RUN CAPACITOR
RTU-C	ROOFTOP UNIT CONTROL
TB	TERMINAL BLOCK
VFD	VARIABLE FREQUENCY DRIVE
WIRE NUT	

WIRING INFORMATION

LINE VOLTAGE	---
-FACTORY STANDARD	---
-FACTORY OPTION	---
-FIELD INSTALLED	---
LOW VOLTAGE	---
-FACTORY STANDARD	---
-FACTORY OPTION	---
-FIELD INSTALLED	---
REPLACEMENT WIRE	---
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)	---
WARNING	---
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.	---

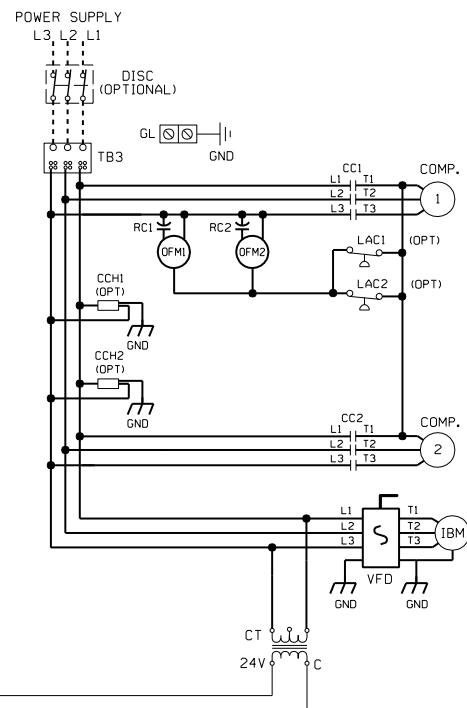
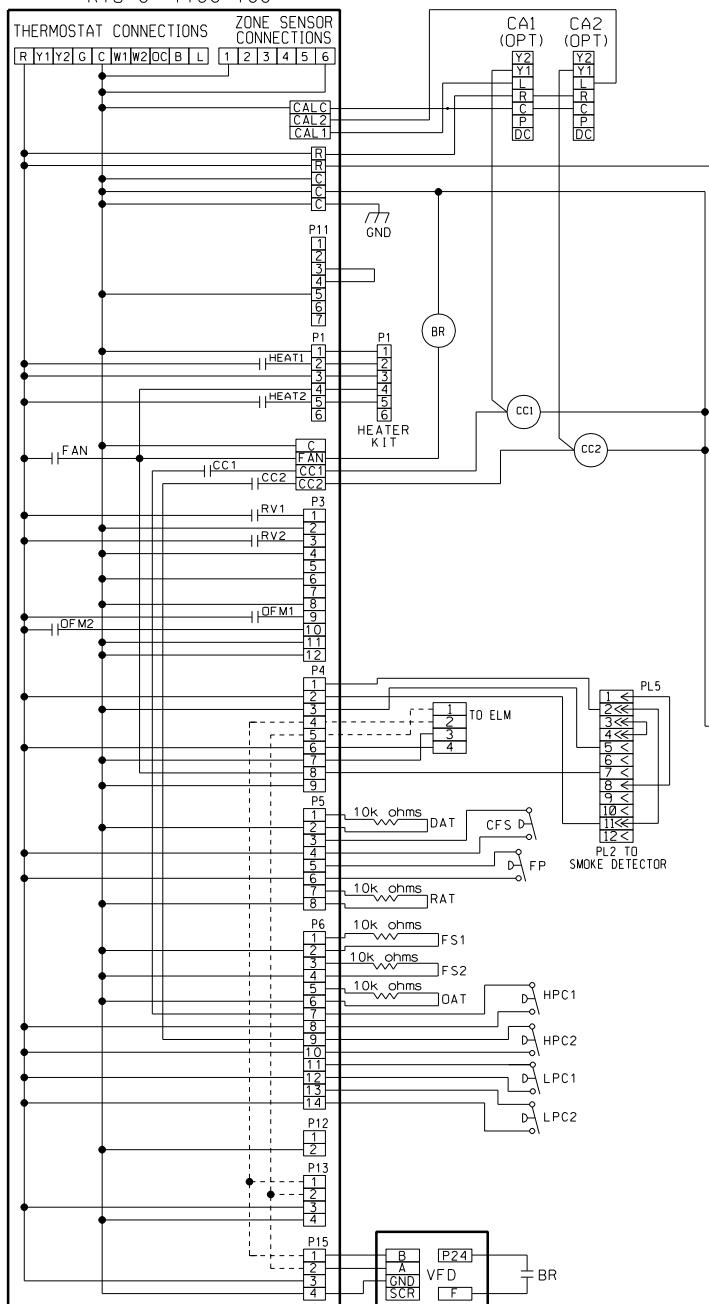
WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
C	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING DIAGRAM
090/102/120/151 W/VFD
208-230/460V 3 PH, 60 HZ.
PACKAGED A/C W/RTU-C

DR. BY APP. BY DATE DWG. NO.
JRJ 01-12-12 90-103089-32 REV 00

RTU-C 1186-100

COMPONENT CODE

BR	BLOWER RELAY	HPC	HIGH PRESSURE CONTROL
CA	COMFORT ALERT MODULE	IBM	INDOOR BLOWER MOTOR BELT DRIVE
CC	COMPRESSOR CONTACTOR	LAC	LOW AMBIENT COOLING CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
CFS	CLOGGED FILTER SWITCH	LPC	LOW PRESSURE CONTROL
COMP	COMPRESSOR	DAT	OUTSIDE AIR SENSOR
CT	CONTROL TRANSFORMER	OFM	OUTDOOR FAN MOTOR
CT	CONTROL TRANSFORMER	PL	PLUG
DISC	DISCONNECT SWITCH	RAT	RETURN AIR SENSOR
FP	FAN PROVING	RC	RUN CAPACITOR
FS	FREEZE SENSOR	RTU-C	ROOFTOP UNIT CONTROL
GFCO	GROUND FAULT CONVENIENCE OUTLET	TB	TERMINAL BLOCK
GL	GROUND LUG	VFD	VARIABLE FREQUENCY DRIVE
GND	GROUND		WIRE NUT

WIRING INFORMATION

LINE VOLTAGE	-----
-FACTORY STANDARD	-----
-FACTORY OPTION	-----
-FIELD INSTALLED	-----
LOW VOLTAGE	-----
-FACTORY STANDARD	-----
-FACTORY OPTION	-----
-FIELD INSTALLED	-----
REPLACEMENT WIRE	-----
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105°C MIN.)	-----
WARNING	-----
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.	-----

WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC
090/102/120/151 W/VFD
208-230/460V 3 PH, 60 HZ.
PACKAGED A/C

DR. BY APP. BY DATE DWG. NO. REV
JRJ 01-12-12 90-103246-28 01

BEFORE PURCHASING THIS APPLIANCE, READ IMPORTANT ENERGY COST AND EFFICIENCY INFORMATION AVAILABLE FROM YOUR RETAILER.

GENERAL TERMS OF LIMITED WARRANTY*

Ruud 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.

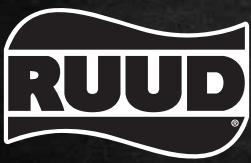
*For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.

Compressor

3 Phase, Commercial Applications.....Five (5) Years

Parts

3 Phase, Commercial Applications.....One (1) Year



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

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