The new degree of comfort.™

Rheem *Commercial Classic® Series* Package Gas Electric Unit featuring HumidiDry™ Technology

Unit shown with optional louvered coil protection.

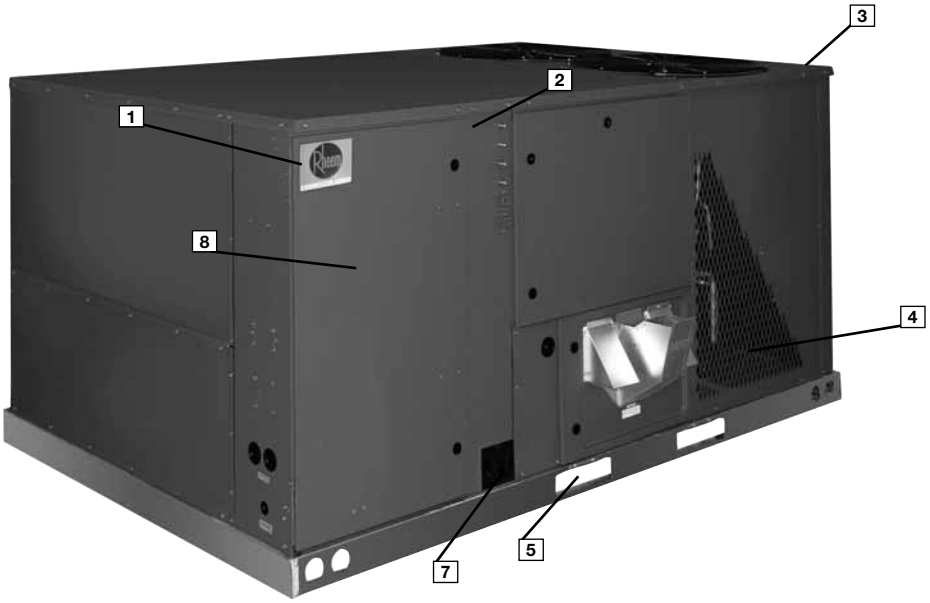
RKNL-G Series

With ClearControl™
and VFD Technology
Nominal Sizes 7.5, 10 & 12.5 Tons [26.4, 35.2 & 44 kW]
ASHRAE 90.1-2010 Compliant

TABLE OF CONTENTS

RKNL-G STANDARD FEATURES INCLUDE:

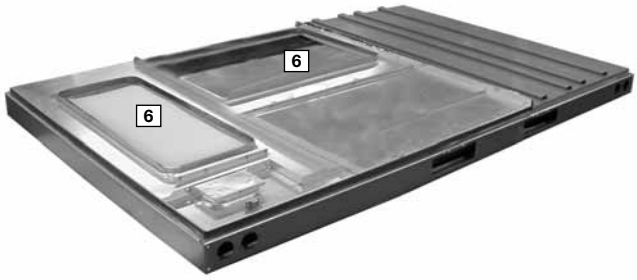
- R-410A HFC refrigerant.
- Complete factory charged, wired and run tested.
- Scroll compressors with internal line break overload and high-pressure protection.
- Two independent scroll compressors provide two stage operation.
- Convertible airflow.
- TXV refrigerant metering system on each circuit.
- 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 top cover and 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 and gas 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, condenser and gas heat inducer motors.
- Condenser motors are internally protected, totally enclosed with shaft down design.
- 2 inch filter standard with slide out design.
- Two stage gas valve, direct spark ignition, and induced draft for efficiency and reliability.
- Tubular heat exchange for long life and induced draft for efficiency and reliability.
- Solid state furnace control with on board diagnostics.
- 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.
- Factory Installed ClearControl™, a Direct Digital Control (DDC) and sensors which can connect to LonWorks™ or BACnet® BAS systems for remote monitoring and control.
- Variable Frequency Drive (VFD)
- HumidiDry™ Dehumidification System



Rheem 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 Rheem *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 Rheem hail guard (4) (optional) is its trademark, and sets the standard for coil protection in the industry. Every Rheem 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.

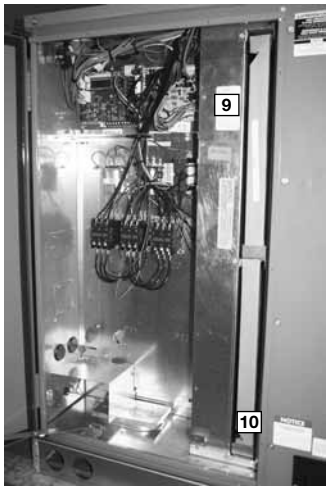
Anything built to last must start with the right foundation. In this case, the foundation is 14-gauge, commercial-grade, full-perimeter base rails (5), which integrate fork slots and rigging holes to save set-up time on the job site. The base pan is stamped, which forms a 1-1/8" flange around the supply and return opening and has eliminated the worry of water entering the conditioned space (6). 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. 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.

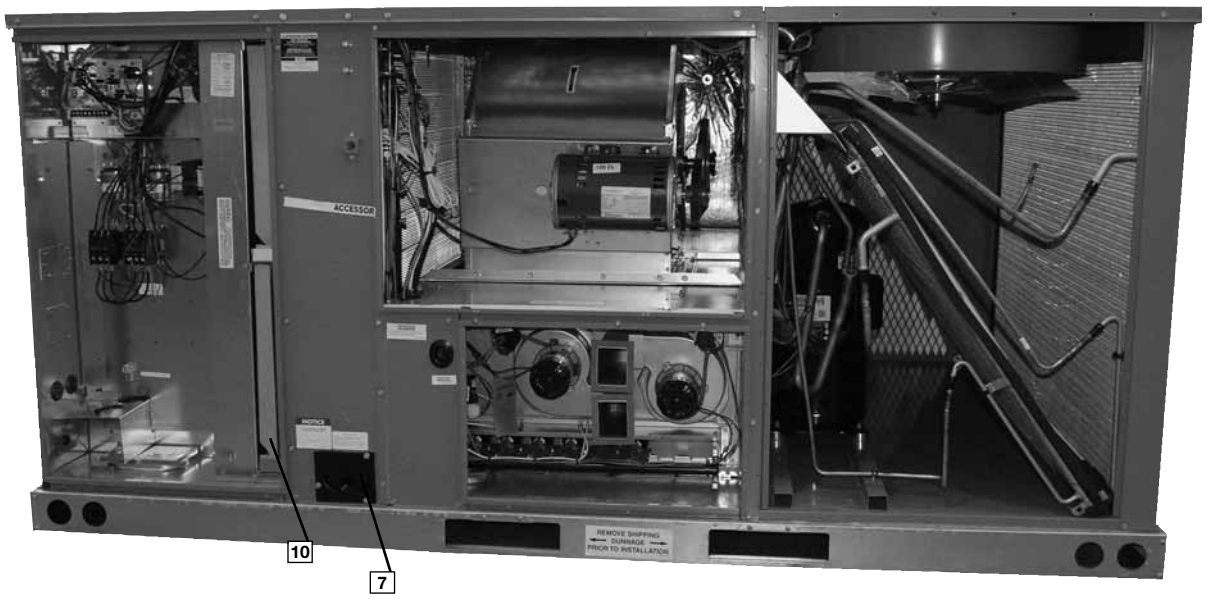


During development, each unit was tested to U.L. 1995, ANSI 21.47, AHRI 340-360 and other Rheem-required reliability tests. Rheem adheres to stringent IS0 9002 quality procedures, and each unit bears the U.L. and AHRI certification labels located on the unit nameplate (8). Contractors can rest assured that when a Rheem package unit arrives at the job, it is ready to go with a factory charge and quality checks.

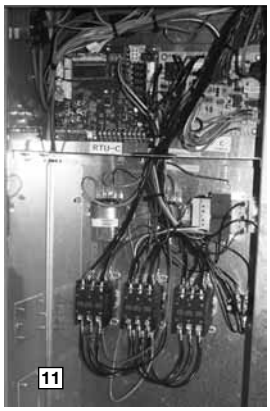
Access is granted with 1/4 turn fasteners and hinged access panels. Access to all major compartments is from the front of the unit, including the filter and electrical compartment, blower compartment, furnace section, and outdoor section. Each panel is permanently embossed with the compartment name (control/filter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

Electrical and filter compartment access is through a large hinged-access panel. 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.

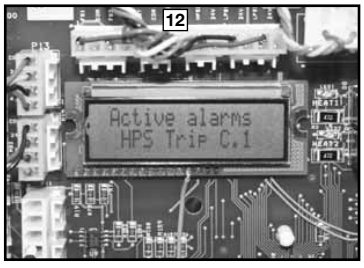




Inside the control box (11), each electrical component is clearly identified with a label that matches the component to the wire diagram for ease of trouble shooting. All wiring is numbered on each end of the termination and color-coded to match the wiring diagram. The integrated furnace control, used to control furnace operation, incorporates a flashing LED troubleshooting device. Flash codes are clearly outlined on the unit 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 contactor for each compressor.



As part of the ClearControl™ system which allows real time monitoring and communication between rooftop units, the RKNL-G Package Gas Electric Unit 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 RKNL-G Package Gas/Electric with the RTU-C is specifically designed to be applied in four distinct applications:



The RKNL-G is compatible with a third party building management system that supports the BACnet Application Specific Controller device profile, with the use of a field installed BACnet Communication Module. The BACnet Communication Module plugs onto the unit RTU-C controller and allows communication between the RTU-C and the BACnet MSTP network. A zone sensor, a BACnet network zone sensor, a BACnet thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the RTU-C. The BACnet Communication Module is compatible with MSTP EIA-485 daisy chain networks communicating at 38.4 bps. It is compatible with twisted pair, shielded cables.

The RKNL-G is compatible with a third party building management system that supports the LonMark Space Comfort Controller (SCC) functional profile or LonMark Discharge Air Controller (DAC) functional profile. This is accomplished with a field installed LonMark communication module. The LonMark Communication Module plugs onto the RTU-C controller and allows communication between the RTU-C and a LonWorks Network. A zone sensor, a LonTalk network zone sensor, or a LonTalk thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the RTU-C. The LonMark Communication Module utilizes an FTT-10A free topology transceiver communicating at 78.8 kbps. It is compatible with Echelon qualified twisted pair cable, Belden 8471 or NEMA Level 4 cables. The Module can communicate up to 1640 ft. with no repeater. The LonWorks limit of 64 nodes per segment applies to this device.

The RKNL-G 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 RKNL-G 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.

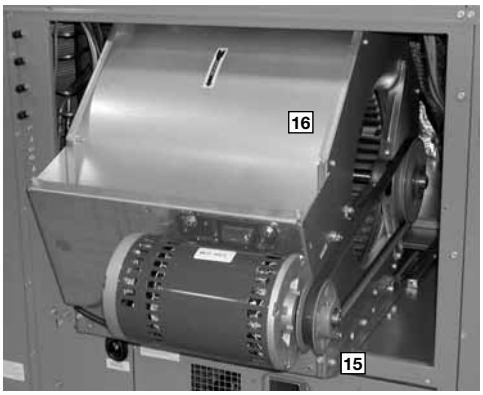
A factory or field installed Comfort Alert® module is available for power phase-monitoring protection and additional compressor diagnostics. The alarms can be displayed on the RTU-C display, through the (BAS) network, or connected to the “L-Terminal” of a thermostat for notification.

Factory installed VFD (variable frequency drive) supply fan optimizes energy usage year round by providing a lower speed for first stage cooling operation improving IEER's over the conventional constant fan system. Furthermore, operating in the constant fan mode at the reduced speed can use as little as 1/5th of the energy of a conventional constant fan system. Also, by operating at a lower speed on first stage cooling up to 51% more moisture is removed improving comfort during low load operation. The VFD supply fan factory option meet's 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.

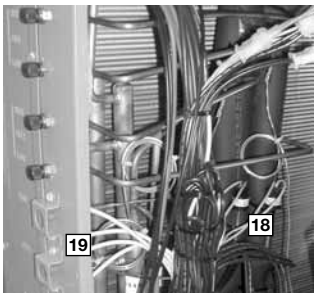
For added convenience in the field, a factory-installed convenience outlet and disconnect (13) are available. Low and High voltage can enter either from the side or through the base. Low-voltage connections are made through the low-voltage terminal strip. For ease of access, the U.L.-required low voltage barrier can be temporarily removed for low-voltage termination and then reinstalled. 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.

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. Brass caps on the schrader fitting assure that the gauge parts are leak proof.

The blower compartment is to the right of the gauge ports and can be accessed by 1/4 turn fastener. To allow easy maintenance of the blower assembly, the entire assembly easily slides out by removing two 3/8" screws from the blower retention 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 belt 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, Rheem 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. 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.

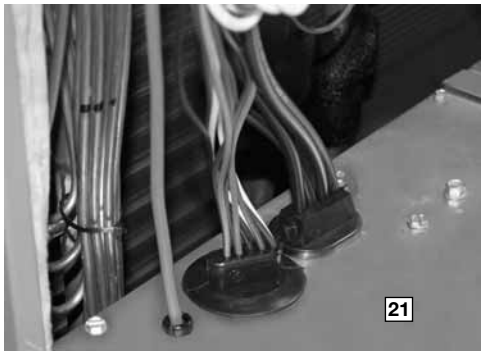


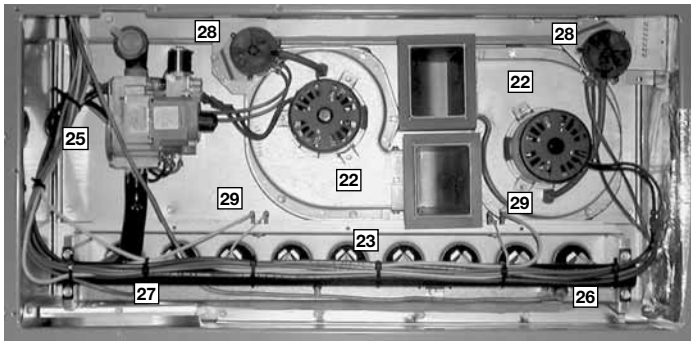
Also inside the blower compartment is the low-ambient control (17), low-pressure switch (18), high-pressure switch (19) and freeze sensor (20). The low-ambient control allows for operation of the compressor down to 0 degrees ambient temperature by cycling the outdoor fans on high pressure. The high-pressure switch will shut off the compressors if pressures in excess of 610 PSIG are detected, as 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: the single stage 6 ton utilizes an orifice).

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 (21) 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.



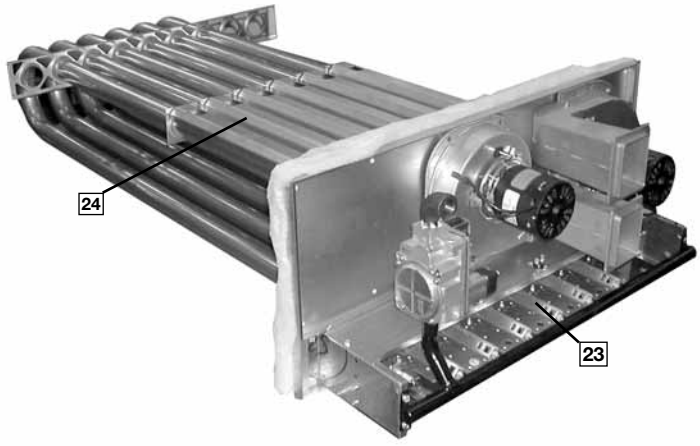


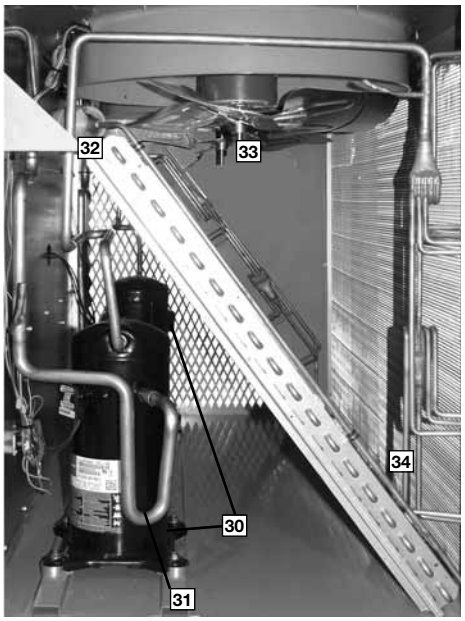
The furnace compartment contains the latest furnace technology on the market. The draft inducers (22) draw the flame from the Rheem exclusive in-shot burners (23) into the aluminized tubular heat exchanger (24) for clean, efficient gas heat. Stainless steel heat exchangers can be factory installed for those applications that have high fresh-air requirements, or applications in corrosive environments. Each furnace is equipment with a two-stage gas valve (25), which provides two stages of gas heat input. The first stage operates at 50% of the second stage (full fire). 81% steady state efficiency is maintained on both first and second stage by staging the multiple inducers to optimize the combustion airflow and maintain a near stoichiometric burn at each stage.

The direct spark igniter (26) assures reliable ignition in the most adverse conditions. This is coupled with remote flame sense (27) to assure that the flame has carried across the entire length of the burner assembly. Gas supply can be routed from the side or up through the base.

Each furnace has the following safety devices to assure consistent and reliable operation after ignition:

- Pressures switches (28) to assure adequate combustion airflow before ignition.
- Rollout switches (29) to assure no obstruction or cracks in the heat exchanger.
- A limit device that protects the furnace from over-temperature problems.

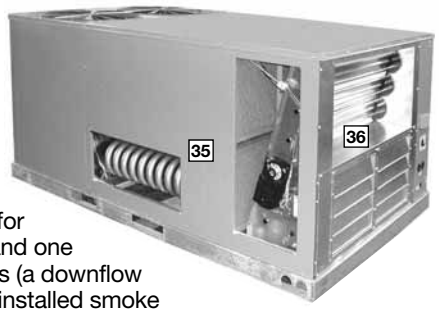




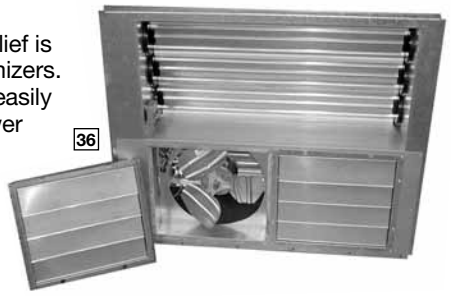
The compressor compartment houses the heartbeat of the unit. The scroll compressor (30) is known for its long life, and for reliable, quiet, and efficient operation. The suction and discharge lines are designed with shock loops (31) to absorb the strain and stress that the starting torque, steady state 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. (072 single stage)

Each unit comes standard with filter dryer 32. The condenser fan motor (33) can easily be accessed and maintained through the top. 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 (34) 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 (35) for job configuration flexibility. The return air compartment can also contain an economizer (36). 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 CO_2 setpoint. Barometric relief is standard on all economizers. Power Exhaust (36) 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 CO_2 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 Rheem roofcurb (37) is made for toolless assembly at the jobsite by engaging a pin into the hinged corners of adjacent curb sides, which makes the assembly process quick and easy.

HUMIDIDRY™ SYSTEM FEATURES

HumidiDry™ is Rheem's exclusive dehumidification package unit solution. It delivers maximum humidity control without compromising desired temperature set point for a high degree of comfort. HumidiDry maintains humidity levels at a desired set point when there's little or no demand for air conditioning. The HumidiDry rooftop unit is controlled by a thermostat and humidistat. The thermostat takes priority on single-stage system. When the thermostat is activated by temperatures that exceed it set point, HumidiDry operates like a standard rooftop unit. It can operate on first stage cooling when demand is low or at full capacity when air conditioning load is high. Unlike other rooftop or reheat units, HumidiDry is uniquely designed so the VFD (38) will operate at a low speed, increasing moisture removal during first-stage cooling operation. This provides initial defense for controlling humidity. When temperature is desirable but humidity exceeds the humidistat set point, the HumidiDry rooftop unit initiates a dehumidification cycle using a combination of hot gas and sub-cooled liquid reheat and the VFD operates at low speed. During this cycle, the HumidiDry rooftop unit delivers dry, neutral air. On a two-stage system, it is possible for both a thermostat and humidistat to register readings above set point. Under this condition, the first-stage system runs in the dehumidification cycle, the second-stage system runs in a cooling cycle and the VFD operates on high speed. This provides dry conditioned air.

Figure 1 shows the refrigerant path during the normal cooling mode. The liquid refrigerant leaves the TXV with the sudden pressure drop causing the liquid to expand to a vapor and absorbing the heat from the supply air going through the evaporator coil. The refrigerant vapor then travels to the compressor where it is elevated to a higher pressure and temperature. The superheated refrigerant vapor next carries the heat to the outside coil where the heat is then rejected and the refrigerant condenses into a subcooled liquid where the process repeats itself.

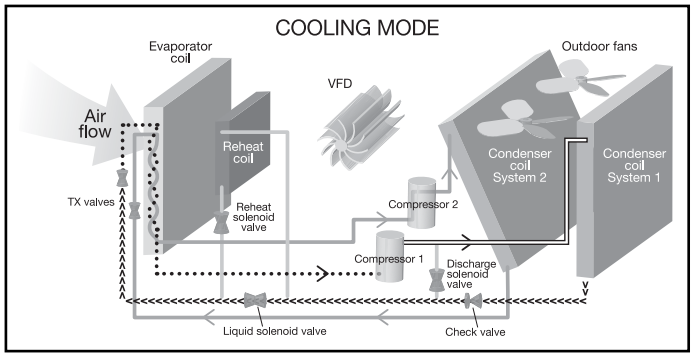


Figure 1

Figure 2 shows the refrigerant path during the reheat mode. When the reheat cycle is energized by the RTU-C, the reheat solenoid valve (39), downstream of the reheat coil (40), opens. The liquid solenoid valve (41), ahead of the TXV, closes. The discharge solenoid valve (42), in the compressor discharge line, opens. The liquid refrigerant leaves the TXV with the sudden pressure drop causing the liquid to expand to a vapor and absorbing the heat from the supply air going through the evaporator coil. The refrigerant vapor then travels to the compressor where it is elevated to a higher pressure and temperature. The refrigerant next carries the heat to a parallel path between the outside condenser coil and a bypass circuit. Some of the heat is rejected outdoors. The ratio of heat rejected outdoors versus indoors is controlled by an outdoor fan motor controller (OFMC) (43) that monitors the two phase temperature (44) and varies the fan speed. This 2-phase refrigerant vapor is then sent to the reheat coil. As the refrigerant travels through the reheat coil it condenses into a subcooled liquid where the process repeats itself.

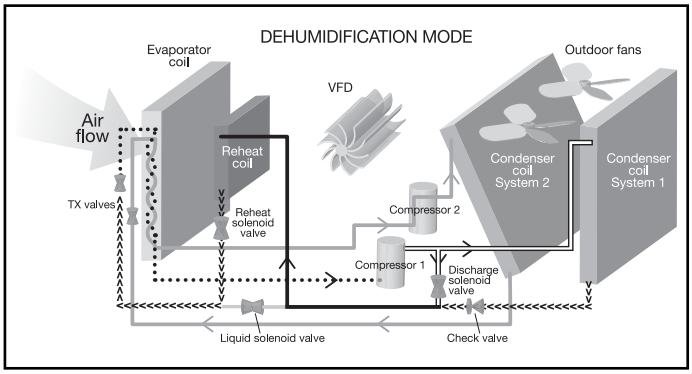
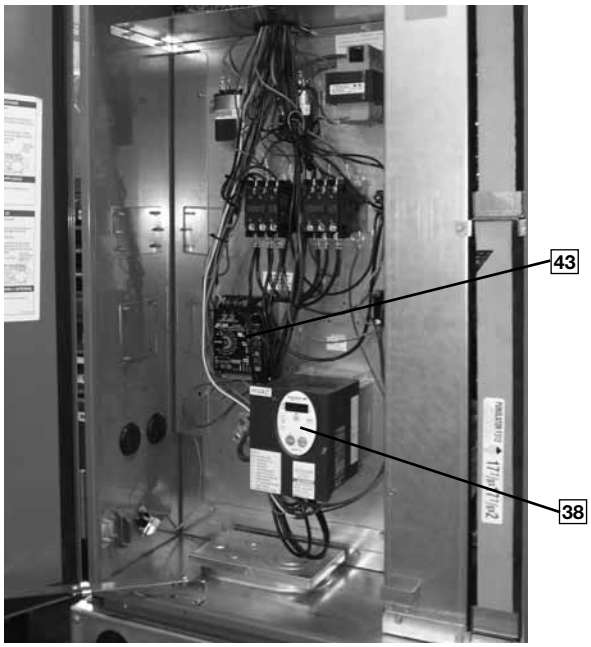


Figure 2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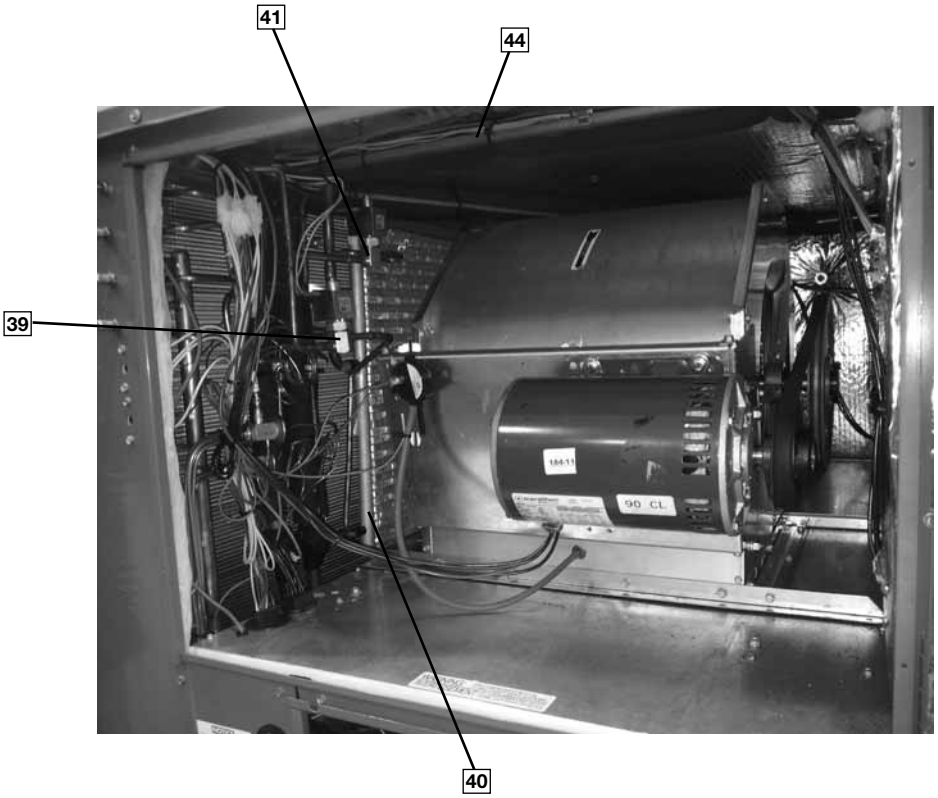
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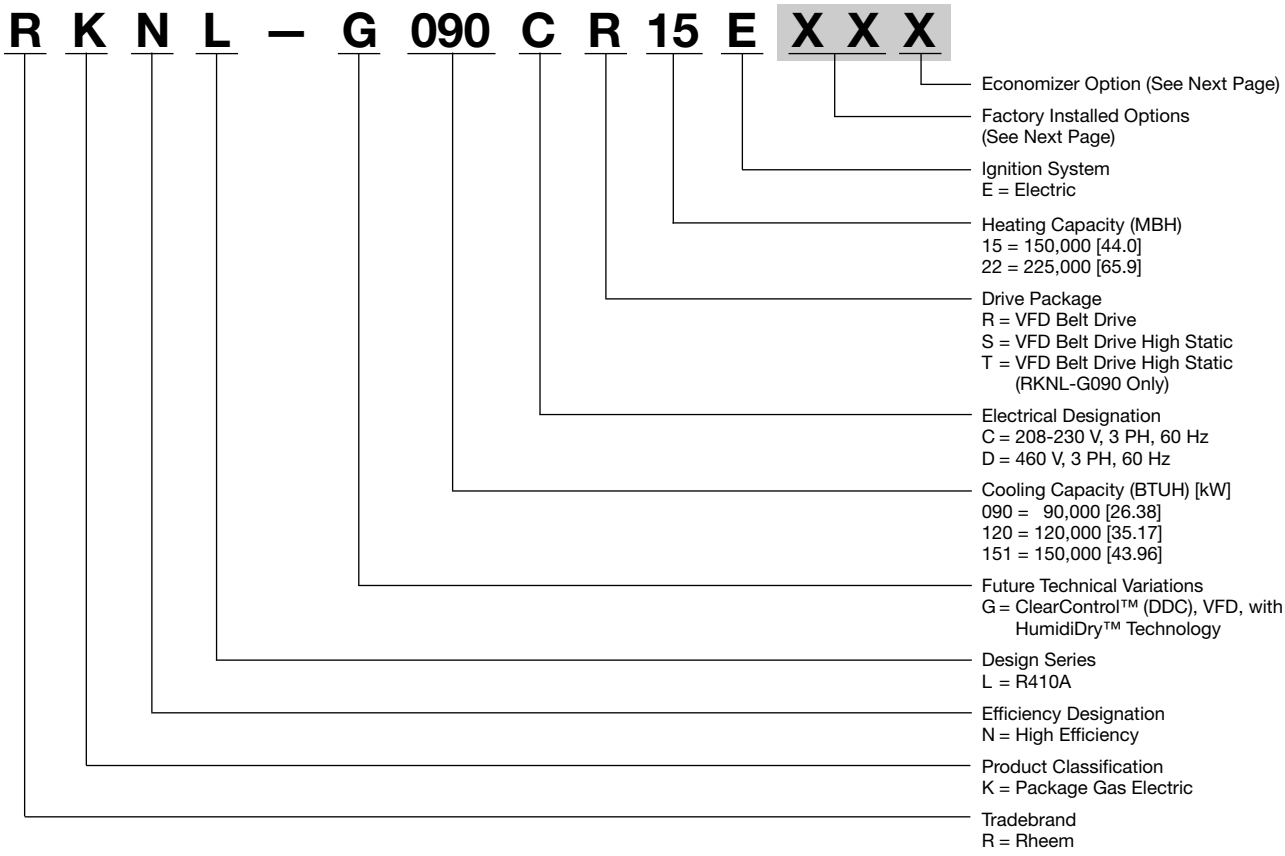


[ ] Designates Metric Conversions

FACTORY INSTALLED OPTION CODES FOR KNL-G (7.5, 10 & 12.5 TON) [26.4, 35.2 & 43.96 kW]

Option Code	Hail Guard	Stainless Steel Heat Exchanger	Non-Powered Convenience Outlet/Unfused Service Disconnect	Low Ambient/ Comfort Alert
AD	x			
AJ		x		
AH			x	
AR				x
BF	x		x	
BG	x	x		
JD	x			x
JB		x	x	x
DP	x	x	x	x

NOTES: (1) High and low pressure is standard on all models.
"x" indicates factory installed option.

ECONOMIZER SELECTION FOR KNL-G (7.5, 10 & 12.5 TON) [26.4, 35.2 & 43.96 kW]

Option Code	No Economizer	DDC Single Enthalpy Economizer w/Barometric Relief	DDC Single Enthalpy Economizer w/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:

RKNL-G120CR22E .....this unit has no factory installed options.

RKNL-G120CR22E**BGA** .....this unit is equipped with *hail guard and stainless steel heat exchanger.*

RKNL-G120CR22E**AHA** .....this unit is equipped with a *non-powered convenience outlet and unfused service disconnect.*

RKNL-G120CR22E**AHD** .....this unit is equipped as above *and* includes an *Economizer with single enthalpy sensor and with barometric relief.*

RKNL-G120CR22E**AAD** .....this unit is equipped with an *Economizer with single enthalpy sensor and Barometric Relief.*

[ ] Designates Metric Conversions

To select an RKNL-G 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 60 Hz
Total cooling capacity—	106,000 BTUH [31.0 kW]
Sensible Cooling Capacity —	82,000 BTUH [24.0 kW]
Heating Capacity —	150,000 BTUH [43.9 kW]
*Condenser Entering Air —	95°F [35.0 °C] DB
*Evaporator Mixed Air Entering —	65°F [18.3 °C] WB
	78°F [25.6 °C] DB
*Indoor Air Flow (vertical) —	3600 CFM [1699 L/s]
*External Static Pressure —	0.40 in. WG [.10 kPa]

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

Since total cooling is within the range of a nominal 10 ton [35.1 kW] unit, enter cooling performance table at 95°F [35.0 °C] DB condenser inlet air. Interpolate between 63°F [17.2 °C] WB and 67°F [19.4 °C] WB to determine total and sensible capacity and power input for 65°F [18.3 °C] WB evaporator inlet air at 3750 CFM [1770 L/s] indoor air flow (table basis):

Total Cooling Capacity = 118,900 BTUH [34.82 kW]
Sensible Cooling Capacity = 99,950 BTUH [29.27 kW]
Power Input (Compressor and Cond. Fans) = 8,950 watts

Use formula in note (1) to determine sensible capacity at 78°F [25.6 °C] DB evaporator entering air:

99,950 + (1.10 x 3,600 x (1 – 0.03) x (78 – 80))

Sensible Cooling Capacity = 92,268 BTUH [27.02 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 x 0.98 = 116,522 BTUH [34.12 kW]
Sensible Capacity = 92,268 x 0.95 = 87,655 BTUH [25.67 kW]
Power Input = 8,950 x 0.99 = 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 0.40 in. WG [.10 kPa] includes the system duct and grilles. Add from the table 'Component Air Resistance', 0.076 in. WG [.02 kPa] for wet coil, 0 in. WG [.00 kPa] for downflow air flow, for a total selection static pressure of 0.476 (0.5) in. WG [.12 kPa], and determine:

RPM = 796
WATTS = 1,576
DRIVE = L (standard 2 H.P. motor)

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

1,576 x 3.412 = 5,377 BTUH [1.57 kW]

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

Net Total Capacity = 116,522 – 5,377 = 111,145 BTUH [32.54 kW]

Net Sensible Capacity = 87,655 – 5,377 = 82,278 BTUH [24.09 kW]

7. CALCULATE UNIT INPUT AND JOB EER.

Total Power Input = 8,861 (step 3) + 1,576 (step 4) = 10,437 Watts

$$\text{EER} = \frac{\text{Net Total BTUH [kW] (step 6)}}{\text{Power Input, Watts (above)}} = \frac{111{,}145}{10{,}437} = 10.65$$

8. SELECT UNIT HEATING CAPACITY.

From Physical Data Table read that gas heating output (input rating x efficiency) is:

Heating Capacity = 182,250 BTUH [53.4 kW]

9. CHOOSE MODEL RKNL-G120CR22E

*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 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G090CR15E	G090CR22E	G090CS15E	G090CS22E
Cooling Performance[1]				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]	14.5	14.5	14.5	14.5
Net System Power kW	7.99	7.99	7.99	7.99
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	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]
Re-Heat Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/3 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	Multiple	Multiple	Multiple	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. (Sys. 1/Sys. 2) [g]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]
Weights				
Net Weight lbs. [kg]	1067 [484]	1103 [500]	1075 [488]	1103 [500]
Ship Weight lbs. [kg]	1104 [501]	1140 [517]	1112 [504]	1140 [517]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G090CT15E	G090CT22E	G090DR15E	G090DR22E
Cooling Performance[1]				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]	14.5	14.5	14.5	14.5
Net System Power kW	7.99	7.99	7.99	7.99
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/3 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	Multiple	Multiple	Multiple	Multiple
No. Motors	1	1	1	1
Motor HP	3	3	2	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. (Sys. 1/Sys. 2) [g]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]
Weights				
Net Weight lbs. [kg]	1075 [488]	1100 [499]	1075 [488]	1103 [500]
Ship Weight lbs. [kg]	1112 [504]	1137 [516]	1112 [504]	1140 [517]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G090DS15E	G090DS22E	G090DT15E	G090DT22E
Cooling Performance[1]				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]	14.5	14.5	14.5	14.5
Net System Power kW	7.99	7.99	7.99	7.99
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	40-70 [22.2-38.9] 40-70 [22.2-38.9]
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/3 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	Multiple	Multiple	Multiple	Multiple
No. Motors	1	1	1	1
Motor HP	2	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. (Sys. 1/Sys. 2) [g]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]	146/112 [4139/3175]
Weights				
Net Weight lbs. [kg]	1067 [484]	1103 [500]	1075 [488]	1100 [499]
Ship Weight lbs. [kg]	1104 [501]	1140 [517]	1112 [504]	1137 [516]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G120CR15E	G120CR22E	G120CS15E	G120CS22E
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	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]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]
AHRI Net Cooling Capacity Btu [kW]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]
Net Sensible Capacity Btu [kW]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]
Net Latent Capacity Btu [kW]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]
IEER[3]	14.4	14.4	14.4	14.4
Net System Power kW	10.49	10.49	10.49	10.49
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	15-45 [8.3-25] 5-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	15-45 [8.3-25] 5-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	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 / 22 [9]	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]	3 / 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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/3 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	Multiple	Multiple	Multiple	Multiple
No. Motors	1	1	1	1
Motor HP	2	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. (Sys. 1/Sys. 2) [g]	221/176 [6265/4990]	221/176 [6265/4990]	221/176 [6265/4990]	221/176 [6265/4990]
Weights				
Net Weight lbs. [kg]	1162 [527]	1198 [543]	1170 [531]	1195 [542]
Ship Weight lbs. [kg]	1199 [544]	1235 [560]	1207 [547]	1232 [559]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G120DR15E	G120DR22E	G120DS15E	G120DS22E
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	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]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	4000/3750 [1888/1770]
AHRI Net Cooling Capacity Btu [kW]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]	118,000 [34.57]
Net Sensible Capacity Btu [kW]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]	88,800 [26.02]
Net Latent Capacity Btu [kW]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]	29,200 [8.56]
IEER[3]	14.4	14.4	14.4	14.4
Net System Power kW	10.49	10.49	10.49	10.49
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	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 / 22 [9]	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]	3 / 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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]	5.9 [0.55]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/3 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	Multiple	Multiple	Multiple	Multiple
No. Motors	1	1	1	1
Motor HP	2	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. (Sys. 1/Sys. 2) [g]	221/176 [6265/4990]	221/176 [6265/4990]	221/176 [6265/4990]	221/176 [6265/4990]
Weights				
Net Weight lbs. [kg]	1162 [527]	1198 [543]	1170 [531]	1195 [542]
Ship Weight lbs. [kg]	1199 [544]	1235 [560]	1207 [547]	1232 [559]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G151CR15E	G151CR25E	G151CS15E	G151CS25E
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	148,000 [43.36]	148,000 [43.36]	148,000 [43.36]	148,000 [43.36]
EER/SEER[2]	11/NA	11/NA	11/NA	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4250 [2360/2006]	5000/4250 [2360/2006]	5000/4250 [2360/2006]	5000/4250 [2360/2006]
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]	14	14	14	14
Net System Power kW	13.29	13.29	13.29	13.29
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 23 [9]	2 / 23 [9]	2 / 23 [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]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]	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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/2 HP	2 at 1/2 HP	2 at 1/2 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	Single	Single	Single
No. Motors	1	1	1	1
Motor HP	5	5	5	5
Motor RPM	1725	1725	1725	1725
Motor Frame Size	184	184	184	184
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. (Sys. 1/Sys. 2) [g]	203/155 [5755/4394]	203/155 [5755/4394]	203/155 [5755/4394]	203/155 [5755/4394]
Weights				
Net Weight lbs. [kg]	1278 [580]	1314 [596]	1283 [582]	1319 [598]
Ship Weight lbs. [kg]	1315 [596]	1351 [613]	1320 [599]	1356 [615]

See Page 21 for Notes.

[ ] Designates Metric Conversions

NOM. SIZES 6-12.5 TONS [21.1-44.0 kW] ASHRAE 90.1-2007 COMPLIANT MODELS

Model RKNL- Series	G151DR15E	G151DR25E	G151DS15E	G151DS25E
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	148,000 [43.36]	148,000 [43.36]	148,000 [43.36]	148,000 [43.36]
EER/SEER[2]	11/NA	11/NA	11/NA	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4250 [2360/2006]	5000/4250 [2360/2006]	5000/4250 [2360/2006]	5000/4250 [2360/2006]
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]	14	14	14	14
Net System Power kW	13.29	13.29	13.29	13.29
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]
Temperature Rise Range ºF [ºC] (1st Stage / 2nd Stage)	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]	15-45 [8.3-25] 15-45 [8.3-25]	25-55 [13.9-30.6] 25-55 [13.9-30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 23 [9]	2 / 23 [9]	2 / 23 [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]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]	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]
Re-Heat Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
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 1/2 HP	2 at 1/2 HP	2 at 1/2 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	Single	Single	Single
No. Motors	1	1	1	1
Motor HP	5	5	5	5
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	184	184
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. (Sys. 1/Sys. 2) [g]	203/155 [5755/4394]	203/155 [5755/4394]	203/155 [5755/4394]	203/155 [5755/4394]
Weights				
Net Weight lbs. [kg]	1278 [580]	1314 [596]	1283 [582]	1319 [598]
Ship Weight lbs. [kg]	1315 [596]	1351 [613]	1320 [599]	1356 [615]

See Page 21 for Notes.

[ ] Designates Metric Conversions

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. Heating Performance limit settings and rating data were established and approved under laboratory test conditions using American National Standard Institute standards. Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet, ratings should be reduced at the rate of 4% for each 1000 feet above sea level.
5. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

GROSS SYSTEMS PERFORMANCE DATA—G090

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]
DR ①			.17	.13	.11	.17	.13	.11	.17	.13	.11
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	119.6 [35]	119.6 [35]	110.7 [32.4]	112.7 [33]	107 [31.3]	104.3 [30.6]	107.8 [31.6]	102.3 [30]	99.8 [29.2]
		Sens BTUH [kW]	70.3 [20.6]	70.3 [20.6]	57.9 [17]	83.3 [24.4]	73.2 [21.4]	68.5 [20.1]	96 [28.1]	84.3 [24.7]	79 [23.2]
		Power	5.2	5.2	5.0	5.1	5.0	4.9	5.1	4.9	4.9
	80 [26.7]	Total BTUH [kW]	116.1 [34]	116.1 [34]	107.4 [31.5]	109.2 [32]	103.6 [30.4]	101.1 [29.6]	104.3 [30.6]	99 [29]	96.5 [28.3]
		Sens BTUH [kW]	68.4 [20.1]	68.4 [20.1]	56.3 [16.5]	81.4 [23.9]	71.5 [20.9]	67 [19.6]	94.1 [27.6]	82.7 [24.2]	77.4 [22.7]
		Power	5.6	5.6	5.4	5.5	5.4	5.3	5.5	5.3	5.3
	85 [29.4]	Total BTUH [kW]	112.6 [33]	112.6 [33]	104.2 [30.5]	105.7 [31]	100.3 [29.4]	97.8 [28.7]	100.8 [29.5]	95.6 [28]	93.3 [27.3]
		Sens BTUH [kW]	66.6 [19.5]	66.6 [19.5]	54.8 [16]	79.5 [23.3]	69.8 [20.5]	65.4 [19.2]	92.3 [27]	81 [23.7]	75.9 [22.2]
		Power	6.0	6.0	5.8	6.0	5.8	5.8	5.9	5.8	5.7
	90 [32.2]	Total BTUH [kW]	109 [31.9]	109 [31.9]	100.9 [29.6]	102.1 [29.9]	96.9 [28.4]	94.5 [27.7]	97.2 [28.5]	92.2 [27]	90 [26.4]
		Sens BTUH [kW]	64.7 [19]	64.7 [19]	53.2 [15.6]	77.7 [22.8]	68.2 [20]	63.9 [18.7]	90.4 [26.5]	79.4 [23.3]	74.4 [21.8]
		Power	6.6	6.6	6.3	6.5	6.4	6.3	6.5	6.3	6.2
	95 [35]	Total BTUH [kW]	105.4 [30.9]	105.4 [30.9]	97.5 [28.6]	98.5 [28.9]	93.5 [27.4]	91.2 [26.7]	93.6 [27.4]	88.8 [26]	86.6 [25.4]
		Sens BTUH [kW]	62.9 [18.4]	62.9 [18.4]	51.7 [15.2]	75.8 [22.2]	66.6 [19.5]	62.4 [18.3]	88.6 [26]	77.8 [22.8]	72.9 [21.4]
		Power	7.2	7.2	6.9	7.2	7.0	6.9	7.1	6.9	6.8
	100 [37.8]	Total BTUH [kW]	101.7 [29.8]	101.7 [29.8]	94.2 [27.6]	94.9 [27.8]	90 [26.4]	87.8 [25.7]	90 [26.4]	85.4 [25]	83.3 [24.4]
		Sens BTUH [kW]	61 [17.9]	61 [17.9]	50.2 [14.7]	74 [21.7]	65 [19]	60.9 [17.8]	86.7 [25.4]	76.2 [22.3]	71.4 [20.9]
		Power	7.9	7.9	7.6	7.9	7.7	7.6	7.8	7.6	7.5
	105 [40.6]	Total BTUH [kW]	98.1 [28.7]	98.1 [28.7]	90.7 [26.6]	91.2 [26.7]	86.5 [25.4]	84.4 [24.7]	86.3 [25.3]	81.9 [24]	79.8 [23.4]
		Sens BTUH [kW]	59.3 [17.4]	59.3 [17.4]	48.8 [14.3]	72.2 [21.2]	63.4 [18.6]	59.4 [17.4]	84.9 [24.9]	74.6 [21.9]	69.9 [20.5]
		Power	8.7	8.7	8.4	8.6	8.4	8.3	8.6	8.4	8.3
	110 [43.3]	Total BTUH [kW]	94.3 [27.6]	94.3 [27.6]	87.3 [25.6]	87.5 [25.6]	83 [24.3]	81 [23.7]	82.6 [24.2]	78.3 [23]	76.4 [22.4]
		Sens BTUH [kW]	57.5 [16.8]	57.5 [16.8]	47.3 [13.9]	70.4 [20.6]	61.9 [18.1]	57.9 [17]	82.6 [24.2]	73 [21.4]	68.4 [20.1]
		Power	9.5	9.5	9.2	9.5	9.2	9.1	9.4	9.2	9.1
	115 [46.1]	Total BTUH [kW]	90.6 [26.5]	90.6 [26.5]	83.8 [24.6]	83.7 [24.5]	79.4 [23.3]	77.5 [22.7]	78.8 [23.1]	74.8 [21.9]	72.9 [21.4]
		Sens BTUH [kW]	55.7 [16.3]	55.7 [16.3]	45.8 [13.4]	68.7 [20.1]	60.3 [17.7]	56.5 [16.6]	78.8 [23.1]	71.5 [20.9]	67 [19.6]
		Power	10.5	10.5	10.1	10.4	10.2	10.0	10.4	10.1	10.0
	120 [48.9]	Total BTUH [kW]	86.8 [25.4]	86.8 [25.4]	80.3 [23.5]	79.9 [23.4]	75.8 [22.2]	74 [21.7]	75 [22]	71.1 [20.8]	69.4 [20.3]
		Sens BTUH [kW]	54 [15.8]	54 [15.8]	44.4 [13]	66.9 [19.6]	58.8 [17.2]	55.1 [16.1]	75 [22]	70 [20.5]	65.5 [19.2]
		Power	11.5	11.5	11.1	11.4	11.1	11	11.4	11.1	11
	125 [51.7]	Total BTUH [kW]	82.9 [24.3]	82.9 [24.3]	76.8 [22.5]	76.1 [22.3]	72.2 [21.2]	70.4 [20.6]	71.2 [20.9]	67.5 [19.8]	65.8 [19.3]
		Sens BTUH [kW]	52.3 [15.3]	52.3 [15.3]	43 [12.6]	65.2 [19.1]	57.3 [16.8]	53.7 [15.7]	71.2 [20.9]	67.5 [19.8]	64.1 [18.8]
		Power	12.6	12.6	12.1	12.5	12.2	12.1	12.5	12.1	12

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

GROSS SYSTEMS PERFORMANCE DATA—G120

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]
DR ①			.09	.03	0	.09	.03	0	.09	.03	0
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	155.3 [45.5]	147.8 [43.3]	143.8 [42.2]	147.8 [43.3]	140.7 [41.2]	136.9 [40.1]	142.8 [41.8]	135.8 [39.8]	132.2 [38.7]
		Sens BTUH [kW]	97.3 [28.5]	86.1 [25.2]	80.2 [23.5]	115.8 [33.9]	102.4 [30]	95.4 [28]	132.9 [38.9]	117.5 [34.4]	109.5 [32.1]
		Power	7.5	7.3	7.2	7.4	7.2	7.1	7.3	7.1	7.0
	80 [26.7]	Total BTUH [kW]	150.6 [44.1]	143.4 [42]	139.5 [40.9]	143.2 [42]	136.2 [39.9]	132.6 [38.9]	138.1 [40.5]	131.4 [38.5]	127.9 [37.5]
		Sens BTUH [kW]	94.9 [27.8]	84 [24.6]	78.2 [22.9]	113.5 [33.2]	100.3 [29.4]	93.5 [27.4]	130.5 [38.2]	115.4 [33.8]	107.5 [31.5]
		Power	7.9	7.7	7.6	7.8	7.6	7.5	7.7	7.5	7.4
	85 [29.4]	Total BTUH [kW]	146 [42.8]	138.9 [40.7]	135.2 [39.6]	138.5 [40.6]	131.8 [38.6]	128.3 [37.6]	133.5 [39.1]	127 [37.2]	123.6 [36.2]
		Sens BTUH [kW]	92.5 [27.1]	81.8 [24]	76.2 [22.3]	111 [32.5]	98.2 [28.8]	91.5 [26.8]	128.1 [37.5]	113.3 [33.2]	105.5 [30.9]
		Power	8.3	8.1	8.0	8.2	8.0	7.9	8.2	8.0	7.9
	90 [32.2]	Total BTUH [kW]	141.4 [41.4]	134.5 [39.4]	131 [38.4]	133.9 [39.2]	127.4 [37.3]	124 [36.3]	128.8 [37.8]	122.6 [35.9]	119.3 [35]
		Sens BTUH [kW]	90.1 [26.4]	79.7 [23.3]	74.2 [21.7]	108.6 [31.8]	96 [28.1]	89.5 [26.2]	125.6 [36.8]	111.1 [32.6]	103.5 [30.3]
		Power	8.8	8.6	8.5	8.7	8.5	8.4	8.6	8.4	8.3
	95 [35]	Total BTUH [kW]	136.8 [40.1]	130.2 [38.1]	126.7 [37.1]	129.3 [37.9]	123 [36.1]	119.7 [35.1]	124.2 [36.4]	118.2 [34.6]	115.1 [33.7]
		Sens BTUH [kW]	87.6 [25.7]	77.5 [22.7]	72.2 [21.1]	106.1 [31.1]	93.8 [27.5]	87.4 [25.6]	123.1 [36.1]	108.9 [31.9]	101.5 [29.7]
		Power	9.3	9.1	9.0	9.2	9.0	8.9	9.1	8.9	8.8
	100 [37.8]	Total BTUH [kW]	132.2 [38.7]	125.8 [36.9]	122.4 [35.9]	124.7 [36.5]	118.7 [34.8]	115.5 [33.8]	119.6 [35.1]	113.8 [33.4]	110.8 [32.5]
		Sens BTUH [kW]	85.1 [24.9]	75.2 [22]	70.1 [20.5]	103.6 [30.3]	91.6 [26.8]	85.3 [25]	119.6 [35.1]	106.7 [31.3]	99.4 [29.1]
		Power	9.9	9.6	9.5	9.8	9.5	9.4	9.7	9.5	9.3
	105 [40.6]	Total BTUH [kW]	127.6 [37.4]	121.4 [35.6]	118.2 [34.6]	120.1 [35.2]	114.3 [33.5]	111.2 [32.6]	115.1 [33.7]	109.5 [32.1]	106.6 [31.2]
		Sens BTUH [kW]	82.5 [24.2]	73 [21.4]	68 [19.9]	101 [29.6]	89.3 [26.2]	83.2 [24.4]	115.1 [33.7]	104.4 [30.6]	97.3 [28.5]
		Power	10.5	10.2	10.1	10.4	10.1	10.0	10.3	10.0	9.9
	110 [43.3]	Total BTUH [kW]	123 [36.1]	117.1 [34.3]	114 [33.4]	115.5 [33.9]	109.9 [32.2]	107 [31.4]	110.5 [32.4]	105.1 [30.8]	102.3 [30]
		Sens BTUH [kW]	79.9 [23.4]	70.6 [20.7]	65.8 [19.3]	98.4 [28.8]	87 [25.5]	81.1 [23.8]	110.5 [32.4]	102.1 [29.9]	95.1 [27.9]
		Power	11.1	10.8	10.7	11.0	10.7	10.6	10.9	10.6	10.5
	115 [46.1]	Total BTUH [kW]	118.5 [34.7]	112.7 [33]	109.7 [32.2]	111 [32.5]	105.6 [31]	102.8 [30.1]	105.9 [31]	100.8 [29.5]	98.1 [28.8]
		Sens BTUH [kW]	77.2 [22.6]	68.3 [20]	63.6 [18.6]	95.7 [28.1]	84.7 [24.8]	78.9 [23.1]	105.9 [31]	99.8 [29.2]	92.9 [27.2]
		Power	11.7	11.4	11.3	11.6	11.3	11.2	11.5	11.2	11.1
	120 [48.9]	Total BTUH [kW]	113.9 [33.4]	108.4 [31.8]	105.5 [30.9]	106.5 [31.2]	101.3 [29.7]	98.6 [28.9]	101.4 [29.7]	96.5 [28.3]	93.9 [27.5]
		Sens BTUH [kW]	74.5 [21.8]	65.9 [19.3]	61.4 [18]	93 [27.3]	82.3 [24.1]	76.7 [22.5]	101.4 [29.7]	96.5 [28.3]	90.7 [26.6]
		Power	12.4	12.1	11.9	12.3	12	11.8	12.2	11.9	11.7
	125 [51.7]	Total BTUH [kW]	109.4 [32.1]	104.1 [30.5]	101.3 [29.7]	101.9 [29.9]	97 [28.4]	94.4 [27.7]	96.9 [28.4]	92.2 [27]	89.7 [26.3]
		Sens BTUH [kW]	71.8 [21]	63.5 [18.6]	59.2 [17.3]	90.3 [26.5]	79.9 [23.4]	74.4 [21.8]	96.9 [28.4]	92.2 [27]	88.5 [25.9]
		Power	13.1	12.8	12.6	13.0	12.7	12.5	12.9	12.6	12.4

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

GROSS SYSTEMS PERFORMANCE DATA—G151

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			6000 [2832]	4250 [2006]	4000 [1888]	6000 [2832]	4250 [2006]	4000 [1888]	6000 [2832]	4250 [2006]	4000 [1888]
DR ①			.14	.08	.07	.14	.08	.07	.14	.08	.07
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	190.2 [55.7]	177 [51.9]	175.1 [51.3]	179.1 [52.5]	166.6 [48.8]	164.8 [48.3]	170.2 [49.9]	158.3 [46.4]	156.6 [45.9]
		Sens BTUH [kW]	115 [33.7]	96.5 [28.3]	93.8 [27.5]	136.8 [40.1]	114.7 [33.6]	111.6 [32.7]	157.1 [46.0]	131.8 [38.6]	128.1 [37.6]
		Power	9.5	9.1	9.1	9.3	9.0	9.0	9.2	8.9	8.8
	80 [26.7]	Total BTUH [kW]	184.9 [54.2]	172 [50.4]	170.2 [49.9]	173.7 [50.9]	161.6 [47.4]	159.9 [46.9]	164.8 [48.3]	153.3 [44.9]	151.7 [44.5]
		Sens BTUH [kW]	112.8 [33.1]	94.7 [27.7]	92.1 [27.0]	134.6 [39.4]	112.9 [33.1]	109.8 [32.2]	154.9 [45.4]	129.9 [38.1]	126.4 [37.0]
		Power	10.0	9.6	9.6	9.8	9.5	9.4	9.7	9.4	9.3
	85 [29.4]	Total BTUH [kW]	179.6 [52.6]	167.1 [49]	165.3 [48.4]	168.5 [49.4]	156.8 [45.9]	155.1 [45.4]	159.6 [46.8]	148.5 [43.5]	146.9 [43.0]
		Sens BTUH [kW]	110.5 [32.4]	92.7 [27.2]	90.2 [26.4]	132.3 [38.8]	111 [32.5]	107.9 [31.6]	152.6 [44.7]	128 [37.5]	124.5 [36.5]
		Power	10.5	10.1	10.1	10.4	10.0	10.0	10.2	9.9	9.8
	90 [32.2]	Total BTUH [kW]	174.5 [51.1]	162.3 [47.6]	160.6 [47.1]	163.4 [47.9]	152 [44.5]	150.4 [44.1]	154.4 [45.3]	143.7 [42.1]	142.2 [41.7]
		Sens BTUH [kW]	108.1 [31.7]	90.7 [26.6]	88.2 [25.8]	129.9 [38.1]	108.9 [31.9]	106 [31.1]	150.2 [44.0]	126 [36.9]	122.5 [35.9]
		Power	11.1	10.7	10.6	10.9	10.6	10.5	10.8	10.4	10.4
	95 [35]	Total BTUH [kW]	169.5 [49.7]	157.7 [46.2]	156 [45.7]	158.3 [46.4]	147.3 [43.2]	145.7 [42.7]	149.4 [43.8]	139 [40.7]	137.5 [40.3]
		Sens BTUH [kW]	105.6 [30.9]	88.5 [25.9]	86.1 [25.2]	127.3 [37.3]	106.8 [31.3]	103.9 [30.4]	147.6 [43.3]	123.8 [36.3]	120.4 [35.3]
		Power	11.7	11.3	11.2	11.6	11.2	11.1	11.4	11	11
	100 [37.8]	Total BTUH [kW]	164.5 [48.2]	153.1 [44.9]	151.4 [44.4]	153.4 [45.0]	142.7 [41.8]	141.2 [41.4]	144.5 [42.3]	134.4 [39.4]	133 [39.0]
		Sens BTUH [kW]	102.9 [30.1]	86.3 [25.3]	83.9 [24.6]	124.6 [36.5]	104.5 [30.6]	101.7 [29.8]	144.5 [42.3]	121.6 [35.6]	118.2 [34.6]
		Power	12.3	11.9	11.8	12.2	11.8	11.7	12.1	11.6	11.6
	105 [40.6]	Total BTUH [kW]	159.7 [46.8]	148.6 [43.5]	147 [43.1]	148.6 [43.5]	138.2 [40.5]	136.8 [40.1]	139.7 [40.9]	130 [38.1]	128.6 [37.7]
		Sens BTUH [kW]	100.1 [29.3]	83.9 [24.6]	81.6 [23.9]	121.8 [35.7]	102.2 [29.9]	99.4 [29.1]	139.7 [40.9]	119.2 [34.9]	115.9 [34.0]
		Power	13.0	12.6	12.5	12.9	12.4	12.4	12.7	12.3	12.2
	110 [43.3]	Total BTUH [kW]	155 [45.4]	144.2 [42.3]	142.7 [41.8]	143.9 [42.2]	133.9 [39.2]	132.4 [38.8]	135 [39.6]	125.6 [36.8]	124.2 [36.4]
		Sens BTUH [kW]	97.1 [28.5]	81.5 [23.9]	79.2 [23.2]	118.9 [34.8]	99.7 [29.2]	97 [28.4]	135 [39.6]	116.7 [34.2]	113.5 [33.3]
		Power	13.7	13.2	13.2	13.6	13.1	13.0	13.5	13	12.9
	115 [46.1]	Total BTUH [kW]	150.4 [44.1]	139.9 [41.0]	138.4 [40.6]	139.3 [40.8]	129.6 [38]	128.2 [37.6]	130.4 [38.2]	121.3 [35.5]	120 [35.2]
		Sens BTUH [kW]	94 [27.6]	78.9 [23.1]	76.7 [22.5]	115.8 [33.9]	97.2 [28.5]	94.5 [27.7]	130.4 [38.2]	114.2 [33.5]	111 [32.5]
		Power	14.5	14.0	13.9	14.3	13.8	13.8	14.2	13.7	13.6
	120 [48.9]	Total BTUH [kW]	145.9 [42.8]	135.8 [39.8]	134.3 [39.4]	134.8 [39.5]	125.4 [36.8]	124.1 [36.4]	125.9 [36.9]	117.1 [34.3]	115.9 [34.0]
		Sens BTUH [kW]	90.8 [26.6]	76.2 [22.3]	74.1 [21.7]	112.6 [33.0]	94.5 [27.7]	91.9 [26.9]	125.9 [36.9]	111.5 [32.7]	108.4 [31.8]
		Power	15.2	14.7	14.6	15.1	14.6	14.5	15.0	14.5	14.4
	125 [51.7]	Total BTUH [kW]	141.5 [41.5]	131.7 [38.6]	130.3 [38.2]	130.4 [38.2]	121.3 [35.6]	120 [35.2]	121.5 [35.6]	113 [33.1]	111.8 [32.8]
		Sens BTUH [kW]	87.5 [25.6]	73.4 [21.5]	71.4 [20.9]	109.3 [32.0]	91.7 [26.9]	89.2 [26.1]	121.5 [35.6]	108.7 [31.9]	105.7 [31.0]
		Power	16.1	15.5	15.4	15.9	15.4	15.3	15.8	15.2	15.2

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

GROSS SYSTEMS PERFORMANCE DATA (LOW REHEAT MODE)—G090

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			1800 [850]	1388 [655]	1200 [566]	1800 [850]	1388 [655]	1200 [566]	1800 [850]	1388 [655]	1200 [566]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	28.0 [8.2]	26.5 [7.8]	25.9 [7.6]	26.6 [7.8]	25.3 [7.4]	24.6 [7.2]	26.0 [7.6]	24.6 [7.2]	24.0 [7.0]
		Sens BTUH [kW]	6.3 [1.8]	5.5 [1.6]	5.2 [1.5]	8.6 [2.5]	7.5 [2.2]	7.0 [2.1]	11.6 [3.4]	10.2 [3.0]	9.6 [2.8]
		Power	2.8	2.7	2.7	2.8	2.7	2.7	2.8	2.7	2.7
	65 [18.3]	Total BTUH [kW]	26.7 [7.8]	25.3 [7.4]	24.7 [7.2]	25.3 [7.4]	24.0 [7.0]	23.4 [6.9]	24.7 [7.2]	23.4 [6.9]	22.8 [6.7]
		Sens BTUH [kW]	5.0 [1.5]	4.4 [1.3]	4.1 [1.2]	7.3 [2.1]	6.4 [1.9]	6.0 [1.8]	10.4 [3.0]	9.1 [2.7]	8.5 [2.5]
		Power	2.8	2.8	2.7	2.9	2.8	2.7	2.8	2.8	2.7
	70 [21.1]	Total BTUH [kW]	25.3 [7.4]	24.0 [7.0]	23.4 [6.9]	24.0 [7.0]	22.7 [6.7]	22.2 [6.5]	23.3 [6.8]	22.1 [6.5]	21.6 [6.3]
		Sens BTUH [kW]	3.7 [1.1]	3.3 [1.0]	3.1 [0.9]	6.0 [1.8]	5.3 [1.5]	5.0 [1.5]	9.1 [2.7]	8.0 [2.3]	7.5 [2.2]
		Power	2.9	2.8	2.8	2.9	2.9	2.8	2.9	2.8	2.8
	75 [23.9]	Total BTUH [kW]	23.9 [7.0]	22.7 [6.6]	22.1 [6.5]	22.5 [6.6]	21.4 [6.3]	20.9 [6.1]	21.9 [6.4]	20.8 [6.1]	20.3 [5.9]
		Sens BTUH [kW]	2.4 [0.7]	2.1 [0.6]	2.0 [0.6]	4.7 [1.4]	4.1 [1.2]	3.8 [1.1]	7.7 [2.3]	6.8 [2.0]	6.4 [1.9]
		Power	3.0	2.9	2.9	3.0	2.9	2.9	3.0	2.9	2.9
	80 [26.7]	Total BTUH [kW]	22.4 [6.6]	21.3 [6.2]	20.7 [6.1]	21.1 [6.2]	20.0 [5.9]	19.5 [5.7]	20.4 [6.0]	19.4 [5.7]	18.9 [5.5]
		Sens BTUH [kW]	1.0 [0.3]	0.9 [0.3]	0.8 [0.2]	3.2 [1.0]	2.9 [0.8]	2.7 [0.8]	6.3 [1.8]	5.5 [1.6]	5.2 [1.5]
		Power	3.1	3.0	3.0	3.1	3.0	3.0	3.1	3.0	3.0
	85 [29.4]	Total BTUH [kW]	20.9 [6.1]	19.8 [5.8]	19.3 [5.7]	19.5 [5.7]	18.5 [5.4]	18.1 [5.3]	18.9 [5.5]	17.9 [5.3]	17.5 [5.1]
		Sens BTUH [kW]	-0.5 [-0.1]	-0.4 [-0.1]	-0.4 [-0.1]	1.8 [0.5]	1.6 [0.5]	1.5 [0.4]	4.8 [1.4]	4.2 [1.2]	4.0 [1.2]
		Power	3.2	3.2	3.1	3.2	3.2	3.1	3.2	3.1	3.1
	90 [32.2]	Total BTUH [kW]	19.3 [5.7]	18.3 [5.4]	17.9 [5.2]	18.0 [5.3]	17.0 [5.0]	16.6 [4.9]	17.3 [5.1]	16.4 [4.8]	16.0 [4.7]
		Sens BTUH [kW]	-2.0 [-0.6]	-1.8 [-0.5]	-1.7 [-0.5]	0.2 [0.1]	0.2 [0.1]	0.2 [0.1]	3.3 [1.0]	2.9 [0.9]	2.7 [0.8]
		Power	3.4	3.3	3.2	3.4	3.3	3.2	3.4	3.3	3.2

GROSS SYSTEMS PERFORMANCE DATA (HIGH REHEAT MODE)—G090

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	91.0 [26.7]	86.3 [25.3]	84.2 [24.7]	89.8 [26.3]	85.2 [25.0]	83.1 [24.4]	88.0 [25.8]	83.5 [24.5]	81.4 [23.9]
		Sens BTUH [kW]	49.7 [14.6]	43.7 [12.8]	40.9 [12.0]	55.7 [16.3]	49.0 [14.3]	45.9 [13.4]	61.5 [18.0]	54.0 [15.8]	50.6 [14.8]
		Power	4.8	4.7	4.6	4.8	4.7	4.6	4.8	4.6	4.6
	70 [21.1]	Total BTUH [kW]	84.2 [24.7]	79.9 [23.4]	77.9 [22.8]	83.0 [24.3]	78.8 [23.1]	76.8 [22.5]	81.2 [23.8]	77.0 [22.6]	75.1 [22.0]
		Sens BTUH [kW]	43.4 [12.7]	38.1 [11.2]	35.7 [10.5]	49.5 [14.5]	43.4 [12.7]	40.7 [11.9]	55.2 [16.2]	48.5 [14.2]	45.4 [13.3]
		Power	5.3	5.2	5.1	5.3	5.2	5.1	5.3	5.2	5.1
	80 [26.7]	Total BTUH [kW]	76.6 [22.5]	72.7 [21.3]	70.9 [20.8]	75.5 [22.1]	71.6 [21.0]	69.8 [20.5]	73.6 [21.6]	69.9 [20.5]	68.1 [20.0]
		Sens BTUH [kW]	37.2 [10.9]	32.7 [9.6]	30.6 [9.0]	43.3 [12.7]	38.0 [11.1]	35.6 [10.4]	49.0 [14.4]	43.0 [12.6]	40.3 [11.8]
		Power	5.9	5.8	5.7	5.9	5.8	5.7	5.9	5.8	5.7
	90 [32.2]	Total BTUH [kW]	68.3 [20.0]	64.8 [19.0]	63.2 [18.5]	67.1 [19.7]	63.7 [18.7]	62.1 [18.2]	65.3 [19.1]	61.9 [18.1]	60.4 [17.7]
		Sens BTUH [kW]	31.1 [9.1]	27.3 [8.0]	25.6 [7.5]	37.1 [10.9]	32.6 [9.6]	30.5 [9.0]	42.9 [12.6]	37.6 [11.0]	35.3 [10.3]
		Power	6.6	6.5	6.4	6.6	6.5	6.4	6.6	6.4	6.4
	100 [37.8]	Total BTUH [kW]	59.1 [17.3]	56.1 [16.4]	54.7 [16.0]	58.0 [17.0]	55.0 [16.1]	53.6 [15.7]	56.1 [16.4]	53.3 [15.6]	51.9 [15.2]
		Sens BTUH [kW]	25.0 [7.3]	22.0 [6.4]	20.6 [6.0]	31.1 [9.1]	27.3 [8.0]	25.6 [7.5]	36.8 [10.8]	32.3 [9.5]	30.3 [8.9]
		Power	7.4	7.2	7.1	7.4	7.2	7.1	7.4	7.2	7.1
	110 [43.3]	Total BTUH [kW]	49.2 [14.4]	46.7 [13.7]	45.5 [13.3]	48.0 [14.1]	45.6 [13.4]	44.5 [13.0]	46.2 [13.5]	43.8 [12.8]	42.8 [12.5]
		Sens BTUH [kW]	19.1 [5.6]	16.7 [4.9]	15.7 [4.6]	25.1 [7.4]	22.0 [6.5]	20.7 [6.1]	30.8 [9.0]	27.1 [7.9]	25.4 [7.4]
		Power	8.3	8.1	8.0	8.3	8.1	8.0	8.3	8.0	8.0
	120 [48.9]	Total BTUH [kW]	38.5 [11.3]	36.5 [10.7]	35.6 [10.4]	37.3 [10.9]	35.4 [10.4]	34.5 [10.1]	35.5 [10.4]	33.7 [9.9]	32.8 [9.6]
		Sens BTUH [kW]	13.2 [3.9]	11.6 [3.4]	10.8 [3.2]	19.2 [5.6]	16.9 [4.9]	15.8 [4.6]	24.9 [7.3]	21.9 [6.4]	20.5 [6.0]
		Power	9.2	9.0	8.9	9.2	9.0	8.9	9.2	9.0	8.9

GROSS SYSTEMS PERFORMANCE DATA (LOW REHEAT MODE)—G120

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			2400 [1133]	1875 [885]	1600 [755]	2400 [1133]	1875 [885]	1600 [755]	2400 [1133]	1875 [885]	1600 [755]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	30.2 [8.9]	28.7 [8.4]	28.0 [8.2]	27.6 [8.1]	26.3 [7.7]	25.6 [7.5]	24.8 [7.3]	23.6 [6.9]	23.0 [6.7]
		Sens BTUH [kW]	3.8 [1.1]	3.4 [1.0]	3.2 [0.9]	6.2 [1.8]	5.5 [1.6]	5.1 [1.5]	9.1 [2.7]	8.0 [2.3]	7.5 [2.2]
		Power	3.8	3.7	3.6	3.7	3.7	3.6	3.8	3.7	3.6
	65 [18.3]	Total BTUH [kW]	28.7 [8.4]	27.3 [8.0]	26.6 [7.8]	26.1 [7.7]	24.9 [7.3]	24.2 [7.1]	23.3 [6.8]	22.2 [6.5]	21.6 [6.3]
		Sens BTUH [kW]	2.6 [0.8]	2.3 [0.7]	2.1 [0.6]	5.0 [1.5]	4.4 [1.3]	4.1 [1.2]	7.8 [2.3]	6.9 [2.0]	6.4 [1.9]
		Power	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
	70 [21.1]	Total BTUH [kW]	27.2 [8.0]	25.9 [7.6]	25.2 [7.4]	24.6 [7.2]	23.4 [6.9]	22.8 [6.7]	21.8 [6.4]	20.8 [6.1]	20.2 [5.9]
		Sens BTUH [kW]	1.4 [0.4]	1.2 [0.4]	1.1 [0.3]	3.7 [1.1]	3.3 [1.0]	3.1 [0.9]	6.6 [1.9]	5.8 [1.7]	5.4 [1.6]
		Power	3.9	3.8	3.8	3.9	3.8	3.7	3.9	3.8	3.8
	75 [23.9]	Total BTUH [kW]	25.7 [7.5]	24.5 [7.2]	23.8 [7.0]	23.2 [6.8]	22.0 [6.5]	21.5 [6.3]	20.4 [6.0]	19.4 [5.7]	18.9 [5.5]
		Sens BTUH [kW]	0.1 [0.0]	0.1 [0.0]	0.1 [0.0]	2.5 [0.7]	2.2 [0.7]	2.1 [0.6]	5.4 [1.6]	4.7 [1.4]	4.4 [1.3]
		Power	4.0	3.9	3.8	4.0	3.9	3.8	4.0	3.9	3.8
	80 [26.7]	Total BTUH [kW]	24.3 [7.1]	23.1 [6.8]	22.5 [6.6]	21.7 [6.4]	20.7 [6.1]	20.1 [5.9]	18.9 [5.6]	18.0 [5.3]	17.5 [5.1]
		Sens BTUH [kW]	-1.1 [-0.3]	-0.9 [-0.3]	-0.9 [-0.3]	1.3 [0.4]	1.2 [0.3]	1.1 [0.3]	4.2 [1.2]	3.7 [1.1]	3.4 [1.0]
		Power	4.1	4.0	3.9	4.0	3.9	3.9	4.1	4.0	3.9
	85 [29.4]	Total BTUH [kW]	22.9 [6.7]	21.8 [6.4]	21.2 [6.2]	20.4 [6.0]	19.4 [5.7]	18.9 [5.5]	17.6 [5.1]	16.7 [4.9]	16.3 [4.8]
		Sens BTUH [kW]	-2.2 [-0.7]	-2.0 [-0.6]	-1.8 [-0.5]	0.2 [0.0]	0.1 [0.0]	0.1 [0.0]	3.0 [0.9]	2.7 [0.8]	2.5 [0.7]
		Power	4.2	4.1	4.0	4.1	4.0	4.0	4.1	4.0	4.0
	90 [32.2]	Total BTUH [kW]	21.6 [6.3]	20.5 [6.0]	20.0 [5.9]	19.0 [5.6]	18.1 [5.3]	17.6 [5.2]	16.2 [4.7]	15.4 [4.5]	15.0 [4.4]
		Sens BTUH [kW]	-3.4 [-1.0]	-3.0 [-0.9]	-2.8 [-0.8]	-1.0 [-0.3]	-0.9 [-0.3]	-0.8 [-0.2]	1.8 [0.5]	1.6 [0.5]	1.5 [0.4]
		Power	4.3	4.2	4.1	4.2	4.1	4.1	4.2	4.1	4.1

GROSS SYSTEMS PERFORMANCE DATA (HIGH REHEAT MODE)—G120

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]	4800 [2265]	3750 [1770]	3200 [1510]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	114.4 [33.5]	108.8 [31.9]	105.9 [31.0]	111.5 [32.7]	106.1 [31.1]	103.3 [30.3]	108.5 [31.8]	103.2 [30.3]	100.5 [29.4]
		Sens BTUH [kW]	56.8 [16.7]	50.3 [14.7]	46.8 [13.7]	62.8 [18.4]	55.5 [16.3]	51.7 [15.2]	70.8 [20.8]	62.7 [18.4]	58.4 [17.1]
		Power	6.0	5.9	5.8	6.0	5.9	5.8	5.9	5.8	5.7
	70 [21.1]	Total BTUH [kW]	106.3 [31.2]	101.2 [29.6]	98.5 [28.9]	103.5 [30.3]	98.5 [28.9]	95.8 [28.1]	100.4 [29.4]	95.6 [28.0]	93.0 [27.3]
		Sens BTUH [kW]	49.4 [14.5]	43.7 [12.8]	40.7 [11.9]	55.3 [16.2]	48.9 [14.3]	45.6 [13.4]	63.4 [18.6]	56.1 [16.4]	52.2 [15.3]
		Power	6.7	6.5	6.4	6.6	6.5	6.4	6.6	6.4	6.3
	80 [26.7]	Total BTUH [kW]	97.5 [28.6]	92.8 [27.2]	90.3 [26.5]	94.7 [27.7]	90.1 [26.4]	87.7 [25.7]	91.6 [26.9]	87.2 [25.6]	84.9 [24.9]
		Sens BTUH [kW]	42.2 [12.4]	37.3 [10.9]	34.7 [10.2]	48.1 [14.1]	42.5 [12.5]	39.6 [11.6]	56.2 [16.5]	49.7 [14.6]	46.3 [13.6]
		Power	7.4	7.2	7.1	7.4	7.2	7.1	7.3	7.2	7.1
	90 [32.2]	Total BTUH [kW]	87.9 [25.8]	83.7 [24.5]	81.4 [23.9]	85.1 [24.9]	81.0 [23.7]	78.8 [23.1]	82.0 [24.0]	78.1 [22.9]	76.0 [22.3]
		Sens BTUH [kW]	35.2 [10.3]	31.1 [9.1]	29.0 [8.5]	41.1 [12.0]	36.4 [10.7]	33.9 [9.9]	49.2 [14.4]	43.5 [12.7]	40.5 [11.9]
		Power	8.3	8.1	8.0	8.3	8.1	8.0	8.2	8.0	7.9
	100 [37.8]	Total BTUH [kW]	77.6 [22.7]	73.8 [21.6]	71.8 [21.1]	74.7 [21.9]	71.1 [20.8]	69.2 [20.3]	71.7 [21.0]	68.2 [20.0]	66.4 [19.5]
		Sens BTUH [kW]	28.4 [8.3]	25.1 [7.4]	23.4 [6.9]	34.4 [10.1]	30.4 [8.9]	28.3 [8.3]	42.4 [12.4]	37.5 [11.0]	35.0 [10.2]
		Power	9.3	9.1	8.9	9.2	9.0	8.9	9.2	9.0	8.9
	110 [43.3]	Total BTUH [kW]	66.4 [19.5]	63.2 [18.5]	61.5 [18.0]	63.6 [18.6]	60.5 [17.7]	58.9 [17.3]	60.6 [17.8]	57.6 [16.9]	56.1 [16.4]
		Sens BTUH [kW]	21.9 [6.4]	19.4 [5.7]	18.0 [5.3]	27.8 [8.2]	24.6 [7.2]	22.9 [6.7]	35.9 [10.5]	31.8 [9.3]	29.6 [8.7]
		Power	10.4	10.1	10.0	10.4	10.1	10.0	10.3	10.1	9.9
	120 [48.9]	Total BTUH [kW]	54.6 [16.0]	51.9 [15.2]	50.5 [14.8]	51.7 [15.2]	49.2 [14.4]	47.9 [14.0]	48.7 [14.3]	46.3 [13.6]	45.1 [13.2]
		Sens BTUH [kW]	15.6 [4.6]	13.8 [4.0]	12.9 [3.8]	21.6 [6.3]	19.1 [5.6]	17.8 [5.2]	29.6 [8.7]	26.2 [7.7]	24.4 [7.2]
		Power	11.6	11.3	11.2	11.6	11.3	11.2	11.5	11.3	11.1

GROSS SYSTEMS PERFORMANCE DATA (LOW REHEAT MODE)—G151

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			3000 [1416]	2125 [1003]	2000 [944]	3000 [1416]	2125 [1003]	2000 [944]	3000 [1416]	2125 [1003]	1600 [755]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	40.1 [11.7]	37.3 [10.9]	36.9 [10.8]	38.5 [11.3]	35.8 [10.5]	35.4 [10.4]	36.9 [10.8]	34.3 [10.0]	33.9 [9.9]
		Sens BTUH [kW]	9.4 [2.8]	7.9 [2.3]	7.7 [2.2]	12.5 [3.7]	10.5 [3.1]	10.2 [3.0]	16.6 [4.9]	13.9 [4.1]	13.6 [4.0]
		Power	4.5	4.3	4.3	4.5	4.4	4.3	4.5	4.3	4.3
	65 [18.3]	Total BTUH [kW]	38.3 [11.2]	35.6 [10.4]	35.2 [10.3]	36.7 [10.7]	34.1 [10.0]	33.7 [9.9]	35.0 [10.3]	32.6 [9.6]	32.3 [9.5]
		Sens BTUH [kW]	7.5 [2.2]	6.3 [1.8]	6.1 [1.8]	10.6 [3.1]	8.9 [2.6]	8.7 [2.5]	14.7 [4.3]	12.3 [3.6]	12.0 [3.5]
		Power	4.6	4.4	4.4	4.6	4.4	4.4	4.6	4.4	4.4
	70 [21.1]	Total BTUH [kW]	36.5 [10.7]	33.9 [9.9]	33.6 [9.8]	34.9 [10.2]	32.5 [9.5]	32.1 [9.4]	33.3 [9.7]	30.9 [9.1]	30.6 [9.0]
		Sens BTUH [kW]	5.7 [1.7]	4.8 [1.4]	4.7 [1.4]	8.8 [2.6]	7.4 [2.2]	7.2 [2.1]	12.9 [3.8]	10.8 [3.2]	10.5 [3.1]
		Power	4.6	4.5	4.5	4.6	4.5	4.5	4.6	4.5	4.5
	75 [23.9]	Total BTUH [kW]	34.7 [10.2]	32.3 [9.5]	32.0 [9.4]	33.1 [9.7]	30.8 [9.0]	30.5 [8.9]	31.5 [9.2]	29.3 [8.6]	29.0 [8.5]
		Sens BTUH [kW]	4.0 [1.2]	3.4 [1.0]	3.3 [1.0]	7.2 [2.1]	6.0 [1.8]	5.8 [1.7]	11.3 [3.3]	9.5 [2.8]	9.2 [2.7]
		Power	4.7	4.6	4.5	4.7	4.6	4.5	4.7	4.6	4.5
	80 [26.7]	Total BTUH [kW]	33.0 [9.7]	30.7 [9.0]	30.4 [8.9]	31.4 [9.2]	29.2 [8.6]	28.9 [8.5]	29.8 [8.7]	27.7 [8.1]	27.4 [8.0]
		Sens BTUH [kW]	2.5 [0.7]	2.1 [0.6]	2.0 [0.6]	5.6 [1.6]	4.7 [1.4]	4.6 [1.3]	9.7 [2.8]	8.2 [2.4]	7.9 [2.3]
		Power	4.8	4.7	4.7	4.8	4.7	4.7	4.8	4.7	4.7
	85 [29.4]	Total BTUH [kW]	31.4 [9.2]	29.2 [8.6]	28.9 [8.5]	29.8 [8.7]	27.7 [8.1]	27.4 [8.0]	28.2 [8.3]	26.2 [7.7]	25.9 [7.6]
		Sens BTUH [kW]	1.1 [0.3]	0.9 [0.3]	0.9 [0.3]	4.2 [1.2]	3.5 [1.0]	3.4 [1.0]	8.3 [2.4]	7.0 [2.0]	6.8 [2.0]
		Power	5.0	4.8	4.8	5.0	4.8	4.8	5.0	4.8	4.8
	90 [32.2]	Total BTUH [kW]	29.7 [8.7]	27.7 [8.1]	27.4 [8.0]	28.2 [8.2]	26.2 [7.7]	25.9 [7.6]	26.5 [7.8]	24.7 [7.2]	24.4 [7.2]
		Sens BTUH [kW]	-0.2 [-0.1]	-0.2 [-0.1]	-0.2 [-0.1]	2.9 [0.9]	2.4 [0.7]	2.4 [0.7]	7.0 [2.1]	5.9 [1.7]	5.7 [1.7]
		Power	5.1	4.9	4.9	5.1	5.0	4.9	5.1	4.9	4.9

GROSS SYSTEMS PERFORMANCE DATA (HIGH REHEAT MODE)—G151

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE			65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]		
CFM [L/s]			6000 [2832]	4250 [2006]	4000 [1888]	6000 [2832]	4250 [2006]	4000 [1888]	6000 [2832]	4250 [2006]	4000 [1888]
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	136.4 [40.0]	126.9 [37.2]	125.6 [36.8]	133.7 [39.2]	124.4 [36.5]	123.1 [36.1]	130.6 [38.3]	121.5 [35.6]	120.2 [35.2]
		Sens BTUH [kW]	71.7 [21.0]	60.2 [17.6]	58.5 [17.1]	79.7 [23.3]	66.8 [19.6]	65.0 [19.0]	89.5 [26.2]	75.0 [22.0]	73.0 [21.4]
		Power	7.2	7.0	7.0	7.2	6.9	6.9	7.1	6.9	6.9
	70 [21.1]	Total BTUH [kW]	126.3 [37.0]	117.5 [34.4]	116.2 [34.1]	123.6 [36.2]	115.0 [33.7]	113.7 [33.3]	120.4 [35.3]	112.0 [32.8]	110.8 [32.5]
		Sens BTUH [kW]	62.1 [18.2]	52.1 [15.3]	50.7 [14.9]	70.1 [20.5]	58.8 [17.2]	57.2 [16.8]	79.9 [23.4]	67.0 [19.6]	65.2 [19.1]
		Power	8	7.7	7.7	7.9	7.7	7.6	7.9	7.6	7.6
	80 [26.7]	Total BTUH [kW]	115.9 [34.0]	107.8 [31.6]	106.6 [31.3]	113.2 [33.2]	105.3 [30.9]	104.2 [30.5]	110.0 [32.2]	102.3 [30.0]	101.2 [29.7]
		Sens BTUH [kW]	53.0 [15.5]	44.5 [13.0]	43.3 [12.7]	61.0 [17.9]	51.1 [15.0]	49.7 [14.6]	70.8 [20.7]	59.4 [17.4]	57.7 [16.9]
		Power	8.9	8.6	8.5	8.8	8.5	8.5	8.8	8.5	8.4
	90 [32.2]	Total BTUH [kW]	105.3 [30.8]	97.9 [28.7]	96.9 [28.4]	102.6 [30.1]	95.4 [28.0]	94.4 [27.7]	99.4 [29.1]	92.4 [27.1]	91.5 [26.8]
		Sens BTUH [kW]	44.4 [13.0]	37.2 [10.9]	36.2 [10.6]	52.3 [15.3]	43.9 [12.9]	42.7 [12.5]	62.1 [18.2]	52.1 [15.3]	50.7 [14.8]
		Power	9.9	9.6	9.5	9.8	9.5	9.5	9.8	9.5	9.4
	100 [37.8]	Total BTUH [kW]	94.4 [27.7]	87.9 [25.7]	86.9 [25.5]	91.7 [26.9]	85.3 [25.0]	84.4 [24.7]	88.5 [25.9]	82.4 [24.1]	81.5 [23.9]
		Sens BTUH [kW]	36.1 [10.6]	30.3 [8.9]	29.5 [8.6]	44.1 [12.9]	37.0 [10.8]	36.0 [10.5]	53.9 [15.8]	45.2 [13.2]	44.0 [12.9]
		Power	11.1	10.7	10.6	11	10.6	10.6	11.0	10.6	10.5
	110 [43.3]	Total BTUH [kW]	83.4 [24.4]	77.6 [22.7]	76.8 [22.5]	80.7 [23.6]	75.1 [22.0]	74.3 [21.8]	77.5 [22.7]	72.1 [21.1]	71.3 [20.9]
		Sens BTUH [kW]	28.4 [8.3]	23.8 [7.0]	23.2 [6.8]	36.3 [10.6]	30.5 [8.9]	29.6 [8.7]	46.1 [13.5]	38.7 [11.3]	37.6 [11.0]
		Power	12.4	11.9	11.9	12.3	11.9	11.8	12.3	11.8	11.8
	120 [48.9]	Total BTUH [kW]	72.1 [21.1]	67.1 [19.7]	66.4 [19.5]	69.4 [20.3]	64.6 [18.9]	63.9 [18.7]	66.3 [19.4]	61.6 [18.1]	61.0 [17.9]
		Sens BTUH [kW]	21.1 [6.2]	17.7 [5.2]	17.2 [5.0]	29.0 [8.5]	24.4 [7.1]	23.7 [6.9]	38.8 [11.4]	32.6 [9.5]	31.7 [9.3]
		Power	13.8	13.3	13.2	13.7	13.3	13.2	13.7	13.2	13.2

AIRFLOW PERFORMANCE— 7.5 TON [26.4 kW] — 60 Hz — SIDEFLOW

Air Flow CFM [L/s]	Capacity 7.5 Tons [26.4 kW]																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	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	RPM	W	RPM	W
2400 [1133]	—	—	—	—	574	520	612	592	650	665	687	739	723	815	757	893	791	971	824	1051	857	1133	888	1216	918	1300	948	1386	976	1473	1004	1561	1031	1651	1057	1742	1082	1834	1106	1928
2500 [1180]	—	—	545	490	584	560	622	632	659	705	695	780	730	856	765	933	798	1012	831	1092	863	1174	894	1257	924	1341	953	1427	981	1514	1008	1603	1035	1693	1060	1784	1085	1877	1108	1971
2600 [1227]	—	—	555	537	594	608	632	680	668	753	704	828	739	904	773	982	806	1061	838	1141	870	1223	900	1306	930	1390	958	1476	986	1563	1013	1652	1039	1742	1064	1833	1088	1926	1111	2020
2700 [1274]	—	—	567	593	605	663	642	735	678	809	714	884	748	960	782	1038	814	1117	846	1197	877	1279	907	1362	936	1447	964	1533	992	1620	1018	1709	1043	1799	1068	1891	1092	1983	1115	2078
2800 [1321]	—	—	578	655	616	726	653	799	689	872	724	947	758	1024	791	1101	823	1181	854	1261	885	1343	914	1426	943	1511	971	1597	998	1685	1024	1773	1049	1864	1073	1955	1096	2048	1119	2143
2900 [1368]	552	656	591	726	628	797	664	869	700	943	734	1018	768	1095	800	1173	832	1252	863	1332	893	1415	922	1498	951	1583	978	1669	1004	1757	1030	1846	1055	1936	1078	2028	1101	2121	1123	2215
3000 [1416]	566	734	603	804	640	875	676	947	711	1021	745	1097	778	1173	811	1251	842	1331	872	1411	902	1494	931	1577	959	1662	985	1748	1012	1836	1037	1925	1061	2016	1084	2108	1107	2201	1128	2295
3100 [1463]	579	820	617	890	653	961	688	1033	723	1107	757	1183	789	1259	821	1338	852	1417	882	1498	912	1580	940	1664	967	1749	994	1835	1019	1923	1044	2012	1068	2103	1091	2195	1113	2288	1134	2383
3200 [1510]	594	913	631	983	666	1054	701	1127	736	1201	769	1276	801	1353	833	1432	863	1511	893	1592	921	1675	949	1758	976	1844	1002	1930	1027	2018	1052	2107	1075	2198	1098	2290	1119	2384	1140	2478
3300 [1557]	608	1014	645	1084	680	1155	715	1228	749	1302	781	1378	813	1455	844	1533	874	1613	904	1694	932	1776	959	1860	986	1946	1012	2032	1036	2120	1060	2210	1083	2301	1105	2393	1126	2486	1146	2581
3400 [1604]	624	1122	660	1192	695	1264	729	1337	762	1411	795	1487	826	1564	857	1642	886	1722	915	1803	943	1886	970	1970	996	2055	1021	2142	1046	2230	1069	2320	1091	2411	1113	2503	1134	2597	1154	2692
3500 [1652]	640	1238	675	1308	710	1380	744	1453	776	1527	808	1603	839	1680	870	1759	899	1839	927	1920	955	2003	981	2087	1007	2173	1032	2259	1055	2348	1078	2437	1100	2528	1122	2621	1142	2715	1161	2810
3600 [1699]	656	1361	691	1432	725	1503	759	1577	791	1651	823	1727	853	1804	883	1883	912	1963	940	2045	967	2128	993	2212	1018	2297	1042	2384	1066	2473	1088	2563	1110	2654	1131	2746	1151	2840	1169	2936

NOTE: R-Drive left of the 1st bold line, S-Drive between bold lines, T-Drive right of the 2nd bold line.

Drive Package	R						S						T					
Motor H.P. [W]	2.0 [1491.4]						2.0 [1491.4]						3.0 [2237.1.4]					
Blower Sheave	BK110						BK90						BK65					
Motor Sheave	1VP-44						1VP-44						1VP-44					
Turns Open	1	2	**3**	4	5	6	1	2	**3**	4	5	6	1	2	3	4	5	**6**
RPM	705	674	**640**	608	576	544	865	830	**789**	750	711	673	1179	1143	1092	1040	987	**933**

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.

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 AIR RESISTANCE, IWC 7.5 TON [26.4 kW] (C090)

Component	Standard Indoor Airflow—CFM [L/s]						
	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]
	Resistance—Inches Water [kPa]						
Wet Coil	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-FA65 or FA75 & Transition RXMC-CD04	DNA	.017 [0.042]	.020 [0.050]	.025 [0.062]	.031 [0.077]	.037 [0.092]	DNA
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA	.017 [0.042]
Economizer 100% R.A. Damper Open	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]
Horizontal Economizer 100% R.A. Damper Open	0.03 [0.007]	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]
Horizontal Economizer 100% O.A. Damper Open	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]

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

AIRFLOW PERFORMANCE—10 TON [35.2 kW] — 60 Hz — SIDEFLOW]

Air Flow CFM [L/s]	Capacity 10 Tons [35.1 kW]																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]	
	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		
3200 [1510]	—	—	676	1090	709	1153	741	1219	772	1288	804	1360	834	1436	865	1514	895	1596	924	1681	953	1769	981	1861	1009	1955	1037	2053	1064	2154	1091	2258	1117	2365	1143	2476	1168	2590
3300 [1557]	—	—	689	1144	721	1210	753	1280	784	1353	815	1429	845	1508	875	1590	905	1675	934	1764	962	1856	991	1951	1018	2049	1046	2151	1072	2255	1099	2363	1125	2474	1150	2588	1175	2705
3400 [1604]	670	1137	702	1204	734	1274	765	1347	796	1423	827	1503	857	1585	886	1671	915	1760	944	1853	972	1948	1000	2047	1027	2149	1054	2254	1081	2362	1107	2473	1132	2588	1157	2706	—	—
3500 [1652]	683	1198	715	1268	747	1342	778	1419	808	1499	838	1582	868	1668	897	1758	926	1851	954	1947	982	2046	1010	2148	1037	2253	1063	2362	1089	2474	1115	2589	1140	2707	1165	2829	—	—
3600 [1699]	697	1265	729	1339	760	1416	790	1496	821	1580	850	1667	880	1757	908	1850	937	1946	965	2046	992	2149	1019	2255	1046	2364	1072	2476	1098	2592	1123	2710	1148	2832	1172	2957	—	—
3700 [1746]	711	1337	742	1415	773	1495	803	1580	833	1667	862	1757	891	1851	920	1948	948	2048	975	2151	1003	2257	1029	2367	1055	2480	1081	2596	1107	2715	1131	2837	1156	2962	1180	3091	—	—
3800 [1793]	725	1415	756	1496	786	1580	816	1668	846	1759	875	1853	903	1950	931	2051	959	2154	986	2261	1013	2371	1039	2484	1065	2601	1090	2720	1115	2843	1140	2969	1164	3098	—	—	—	—
3900 [1840]	740	1498	770	1583	800	1671	829	1762	858	1857	887	1954	915	2055	943	2159	970	2267	997	2377	1023	2491	1049	2608	1075	2728	1100	2851	1125	2977	1149	3107	1172	3240	—	—	—	—
4000 [1888]	754	1586	784	1675	814	1767	843	1862	871	1960	900	2061	927	2166	955	2273	982	2384	1008	2498	1034	2616	1060	2736	1085	2860	1110	2987	1134	3117	1158	3250	1181	3386	—	—	—	—
4100 [1935]	768	1680	798	1772	827	1868	856	1966	884	2068	912	2173	940	2281	967	2393	993	2507	1019	2625	1045	2746	1070	2870	1095	2997	1119	3128	1143	3261	1167	3398	—	—	—	—	—	—
4200 [1982]	783	1780	813	1875	841	1975	870	2077	898	2182	925	2291	952	2403	979	2518	1005	2636	1031	2757	1056	2882	1081	3009	1105	3140	1129	3275	1153	3412	1176	3552	—	—	—	—	—	—
4300 [2029]	798	1884	827	1984	856	2087	884	2193	911	2302	938	2414	965	2529	991	2648	1017	2770	1042	2895	1067	3023	1092	3154	1116	3289	1139	3427	1162	3568	—	—	—	—	—	—	—	—
4400 [2076]	813	1995	842	2098	870	2204	897	2314	925	2427	951	2542	978	2662	1004	2784	1029	2909	1054	3038	1079	3170	1103	3305	1126	3443	1150	3584	1172	3729	—	—	—	—	—	—	—	—
4500 [2123]	828	2111	857	2217	884	2327	912	2441	938	2557	965	2676	991	2799	1016	2925	1041	3054	1066	3186	1090	3322	1114	3461	1137	3602	1160	3747	—	—	—	—	—	—	—	—	—	—
4600 [2171]	844	2232	872	2342	899	2456	926	2573	952	2693	978	2816	1004	2942	1029	3072	1054	3204	1078	3340	1102	3479	1125	3622	1148	3767	1170	3916	—	—	—	—	—	—	—	—	—	—
4700 [2218]	859	2359	887	2473	914	2590	940	2710	966	2834	992	2961	1017	3091	1042	3224	1066	3360	1090	3500	1114	3643	1137	3789	1159	3938	—	—	—	—	—	—	—	—	—	—	—	—
4800 [2265]	875	2491	902	2609	929	2729	955	2853	981	2981	1006	3111	1031	3245	1055	3382	1079	3522	1103	3665	1126	3811	1148	3961	1170	4113	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: R-Drive left of bold line, S-Drive right of bold line.

Drive Package	R						S					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1.4]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	1	2	**3**	4	5	6	1	2	**3**	4	5	6
RPM	860	825	**785**	747	709	670	1169	1114	**1063**	1015	956	909

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.

AIRFLOW CORRECTION FACTORS 10 TON [35.2 kW]

ACTUAL—CFM [L/s]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]
TOTAL MBH	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
SENSIBLE MBH	0.91	0.93	0.95	0.97	1.00	1.02	1.05	1.07	1.09
POWER kW	0.98	0.98	0.99	0.99	1.00	1.00	1.01	1.01	1.01

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

[ ] Designates Metric Conversions

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 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]
	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]	0.099 [0.025]	0.105 [0.026]	0.110 [0.027]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	0.31 [0.077]	0.37 [0.092]	DNA	DNA	DNA	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]	0.27 [0.067]	DNA	DNA
Concentric Diffuser RXRN-AA66 or AA76 & Transition RXMC-CF06	DNA	DNA	DNA	DNA	DNA	DNA	DNA	0.31 [0.077]	0.32 [0.080]
Economizer 100% R.A. Damper Open	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]	0.15 [0.037]	0.16 [0.040]	0.17 [0.042]
Horizontal Economizer 100% R.A. Damper Open	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]	0.09 [0.022]	0.10 [0.024]	0.10 [0.025]
Horizontal Economizer 100% O.A. Damper Open	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.0.36]	0.16 [0.040]	0.18 [0.044]	0.19 [0.047]	0.20 [0.50]	0.21 [0.052]

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

AIRFLOW PERFORMANCE— 12.5 TON [44.0 kW] — SIDEFLOW]

Air Flow CFM [L/s]	Capacity 12.5 Tons [43.9 kW] Voltage 208/230, 460, 575 — 3 Phase 60 Hz External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	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	RPM	W	RPM	W
3800 [1793]	—	—	—	—	—	—	860	1675	886	1752	912	1832	937	1914	962	1998	987	2084	1011	2172	1035	2262	1059	2354	1082	2448	1105	2544	1128	2643	1150	2743	1172	2846	1193	2950	1214	3057	1235	3166
4000 [1888]	—	—	—	—	863	1768	889	1850	914	1934	939	2020	964	2108	988	2199	1012	2291	1036	2385	1059	2482	1082	2580	1105	2681	1127	2784	1149	2889	1170	2995	1191	3104	1212	3215	1233	3328	1253	3444
4200 [1982]	—	—	868	1878	893	1965	918	2053	943	2144	967	2236	991	2331	1015	2428	1038	2526	1061	2627	1083	2730	1106	2835	1127	2942	1149	3051	1170	3162	1191	3276	1212	3391	1232	3508	1252	3628	1271	3749
4400 [2076]	874	2006	899	2097	923	2190	948	2284	972	2381	995	2480	1019	2581	1041	2685	1064	2790	1086	2897	1108	3006	1130	3118	1151	3231	1172	3347	1192	3464	1212	3584	1232	3706	1252	3830	1271	3955	1290	4083
4600 [2171]	906	2246	930	2343	954	2443	978	2544	1001	2647	1024	2753	1047	2860	1069	2970	1091	3081	1112	3195	1134	3311	1154	3428	1175	3548	1195	3670	1215	3794	1234	3920	1254	4048	1272	4179	1291	4311	—	—
4800 [2265]	939	2514	962	2618	986	2724	1009	2831	1031	2941	1053	3053	1075	3167	1097	3283	1118	3401	1139	3521	1160	3643	1180	3767	1200	3893	1219	4022	1238	4152	1257	4285	1275	4419	1293	4556	—	—	—	—
5000 [2359]	972	2811	995	2921	1018	3033	1040	3147	1062	3263	1083	3381	1105	3501	1125	3624	1146	3748	1166	3875	1186	4003	1205	4134	1225	4267	1243	4401	1262	4538	1280	4677	1298	4818	—	—	—	—	—	—
5200 [2454]	1006	3135	1028	3251	1050	3370	1072	3490	1093	3613	1114	3737	1134	3864	1155	3993	1174	4124	1194	4257	1213	4392	1232	4529	1250	4668	1268	4809	1286	4952	—	—	—	—	—	—	—	—	—	—
5400 [2548]	1040	3487	1062	3610	1083	3735	1104	3862	1125	3991	1145	4122	1165	4255	1184	4390	1203	4527	1222	4667	1240	4808	1259	4952	1276	5097	1294	5245	—	—	—	—	—	—	—	—	—	—	—	—
5600 [2643]	1075	3868	1096	3997	1117	4128	1137	4261	1157	4397	1176	4534	1195	4674	1214	4815	1233	4959	1251	5105	1268	5253	1286	5403	1303	5555	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800 [2737]	1111	4276	1131	4412	1151	4549	1170	4689	1189	4831	1208	4975	1227	5121	1245	5269	1263	5419	1280	5571	1297	5725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: R-Drive left of bold line, S-Drive right of bold line.

Drive Package	R						S					
Motor H.P. [W]	5.0 [3728.5]						5.0 [3728.5]					
Blower Sheave	BK72H						BK85H					
Motor Sheave	1VP-44						1VP-65					
Turns Open	1	2	3	4	**5**	6	1	2	**3**	4	5	6
RPM	1075	1032	995	947	**899**	849	1292	1253	**1216**	1178	1136	1095

NOTES: 1. Factory sheave 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 AHRI minimum External Static Pressure.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

AIRFLOW CORRECTION FACTORS 12.5 TON [44.0 kW]

ACTUAL—CFM [L/s]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]	5000 [2360]	5200 [2454]	5400 [2549]	5600 [2643]	5800 [2737]
TOTAL MBH	0.98	0.99	1.00	1.01	1.02	1.02	1.03	1.04	1.05	1.06	1.07
SENSIBLE MBH	0.93	0.96	1.00	1.04	1.07	1.11	1.14	1.18	1.21	1.25	1.28
POWER kW	0.99	1.00	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03	1.03

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 12.5 TON [44.0 kW]

Component	Standard Indoor Airflow—CFM [L/s]										
	3800 [1793]	**4000 [1888]**	**4200 [1982]**	**4400 [2076]**	**4600 [2171]**	**4800 [2265]**	**5000 [2359]**	**5200 [2454]**	**5400 [2548]**	**5600 [2643]**	**5800 [2737]**
	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]	0.13 [.03]	0.14 [.03]
Downflow Economizer RA Damper Open	0.12 [.03]	0.13 [.03]	0.14 [.03]	0.15 [.04]	0.16 [.04]	0.17 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.21 [.05]	0.22 [.05]
Horizontal Economizer 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]	0.13 [.03]
Concentric Grill RXRN-AA61 or RXRN-AA71 & Transition RXMC-CE05	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]	0.52 [.13]
Concentric Grill RXRN-AA66 or RXRN-AA76 & Transition RXMC-CF06	0.23 [0.6]	0.25 [0.6]	0.27 [0.7]	0.29 [0.7]	0.30 [0.7]	0.32 [0.8]	0.34 [0.8]	0.36 [0.8]	0.38 [0.9]	0.40 [.10]	0.43 [.11]

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

ELECTRICAL DATA – RKNL- SERIES

		G090CR	G090CS	G090CT	G090DR	G090DS	G090DT	G120CR	G120CS	G120DR	G120DS
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	187-253	187-253	414-506	414-506
	Volts	208/230	208/230	208/230	460	460	460	208/230	208/230	460	460
	Minimum Circuit Ampacity	43/43	43/43	48/48	21	21	24	49/49	54/54	25	28
	Minimum Overcurrent Protection Device Size	45/45	45/45	50/50	25	25	25	50/50	55/55	25	30
	Maximum Overcurrent Protection Device Size	50/50	50/50	60/60	25	25	30	60/60	60/60	30	35
Compressor Motor	No.	2	2	2	2	2	2	2	2	2	2
	Volts	200/240	200/240	200/240	480	480	480	200/240	200/240	480	480
	Phase	3	3	3	3	3	3	3	3	3	3
	RPM	3450	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	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 1	13.1/13.1	13.1/13.1	13.1/13.1	6.1	6.1	6.1	16/16	16/16	7.8	7.8
	Amps (LRA), Comp. 1	83.1/83.1	83.1/83.1	83.1/83.1	41	41	41	110/110	110/110	52	52
	HP, Compressor 2	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 2	13.1/13.1	13.1/13.1	13.1/13.1	6.1	6.1	6.1	16/16	16/16	7.8	7.8
	Amps (LRA), Comp. 2	83.1/83.1	83.1/83.1	83.1/83.1	41	41	41	110/110	110/110	52	52
Condenser Motor	No.	2	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	208/230	208/230	460	460
	Phase	1	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	1/3
	Amps (FLA, each)	2.4/2.4	2.4/2.4	2.4/2.4	1.4	1.4	1.4	2.4/2.4	2.4/2.4	1.4	1.4
	Amps (LRA, each)	4.7/4.7	4.7/4.7	4.7/4.7	2.4	2.4	2.4	4.7/4.7	4.7/4.7	2.4	2.4
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	208/230	208/230	460	460
	Phase	3	3	3	3	3	3	3	3	3	3
	HP	2	2	3	2	2	3	2	3	2	3
	Amps (FLA, each)	8/8	8/8	13/13	4	4	7	8/8	13/13	4	7
	Amps (LRA, each)	56/56	56/56	74.5/74.5	28	28	38.1	56/56	74.5/74.5	28	38.1

ELECTRICAL DATA – RKNL- SERIES

		G151CR	G151CS	G151DR	G151DS
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506
	Volts	208/230	208/230	460	460
	Minimum Circuit Ampacity	68/68	68/68	30	32
	Minimum Overcurrent Protection Device Size	80/80	80/80	35	35
	Maximum Overcurrent Protection Device Size	80/80	80/80	40	40
Compressor Motor	No.	2	2	2	2
	Volts	208/230	208/230	460	460
	Phase	3	3	3	3
	RPM	3450	3450	3450	3450
	HP, Compressor 1	5	5	5	5
	Amps (RLA), Comp. 1	19.6/19.6	19.6/19.6	8.2	8.2
	Amps (LRA), Comp. 1	136/136	136/136	66.1	66.1
	HP, Compressor 2	5	5	5	5
	Amps (RLA), Comp. 2	19.6/19.6	19.6/19.6	8.2	8.2
	Amps (LRA), Comp. 2	136/136	136/136	66.1	66.1
Condenser Motor	No.	2	2	2	2
	Volts	208/230	208/230	460	460
	Phase	1	1	1	1
	HP	1/2	1/2	1/2	1/2
	Amps (FLA, each)	2.3/2.3	2.3/2.3	1.5	1.5
	Amps (LRA, each)	5.6/5.6	5.6/5.6	3.1	3.1
Evaporator Fan	No.	1	1	1	1
	Volts	208/230	208/230	460	460
	Phase	3	3	3	3
	HP	5	5	5	5
	Amps (FLA, each)	18.8/18.8	18.8/18.8	10	10
	Amps (LRA, each)	82.6/82.6	82.6/82.6	41.3	41.3

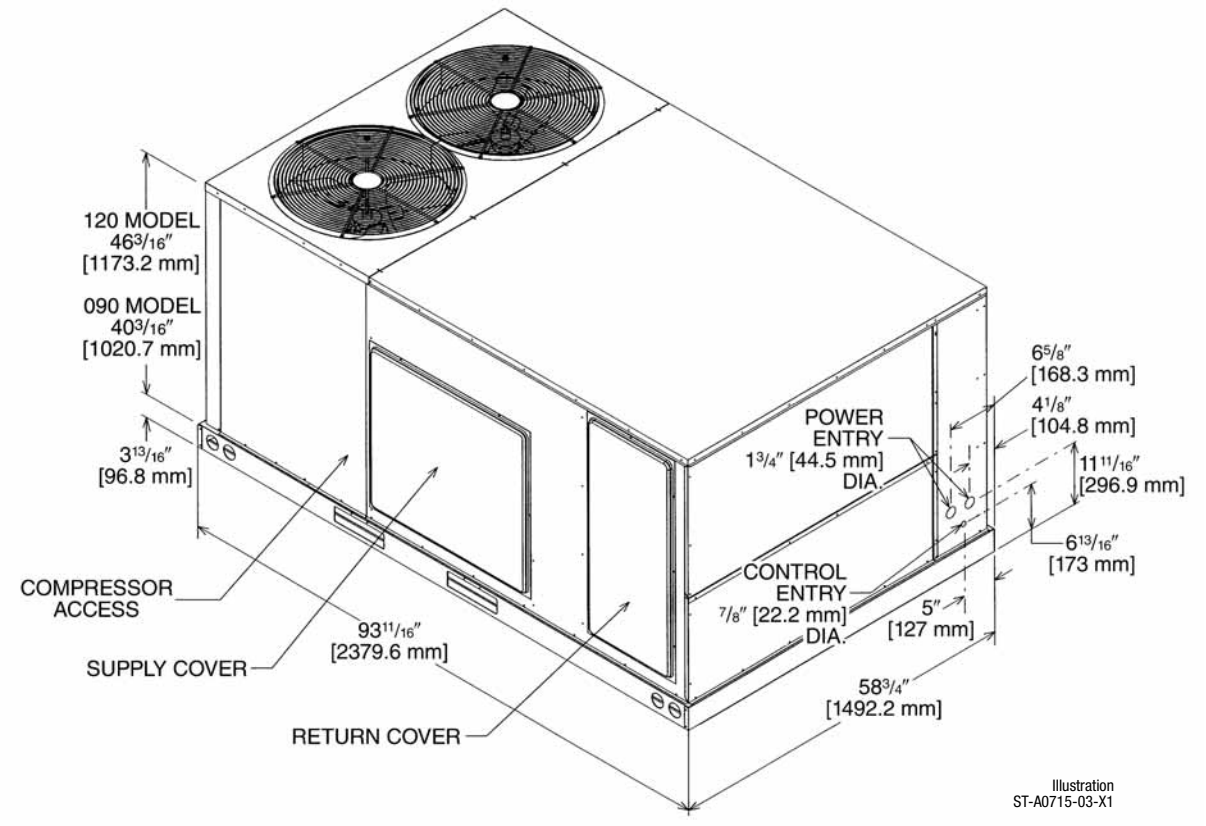


Illustration
ST-A0715-03-X1

BOTTOM VIEW

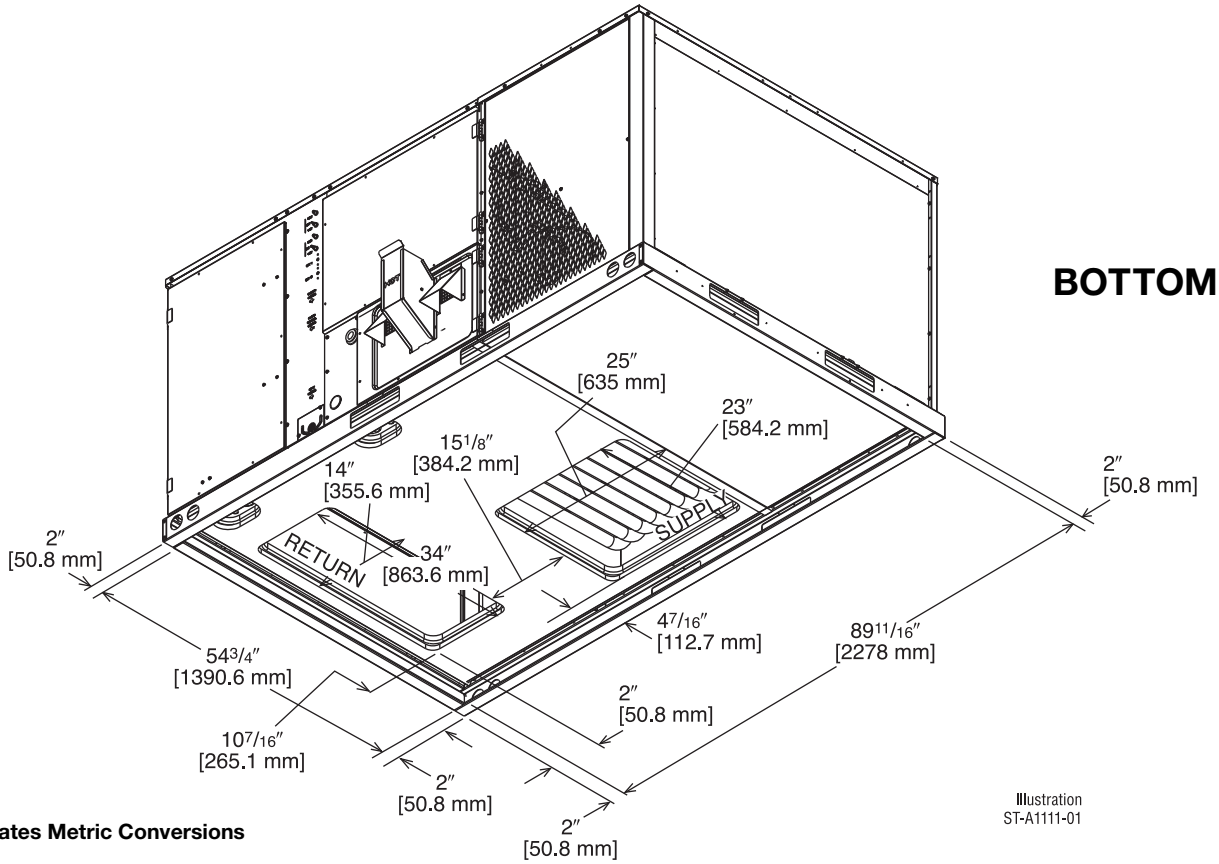


Illustration
ST-A1111-01

[ ] Designates Metric Conversions

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS

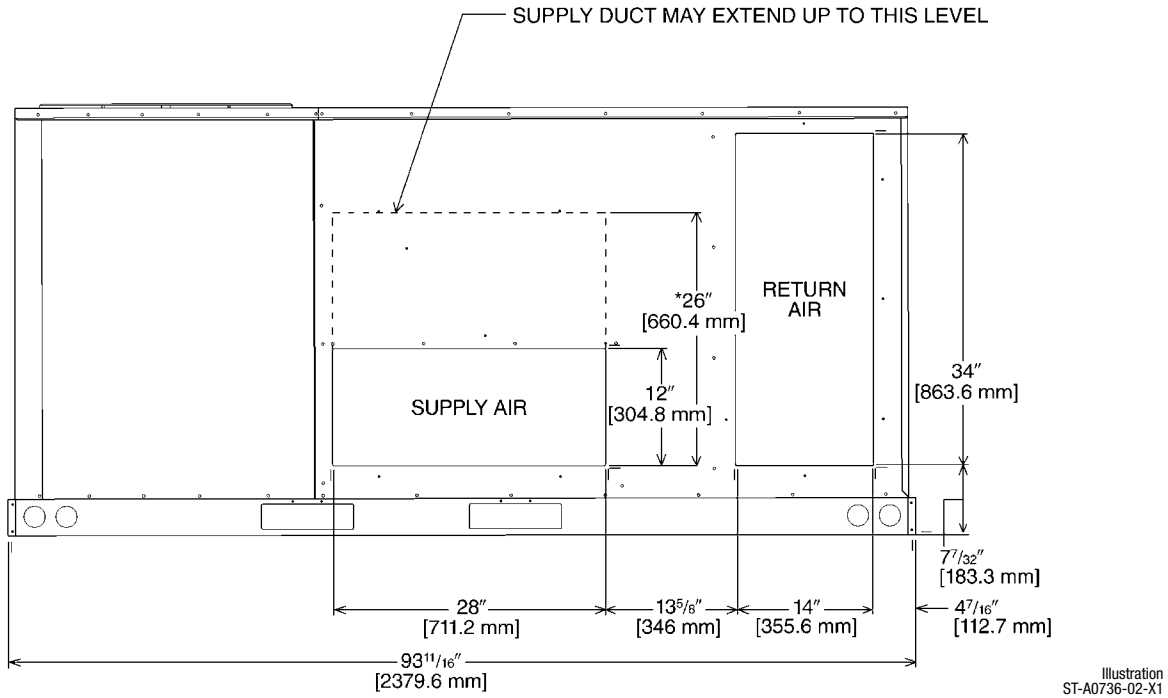


Illustration
ST-A0736-02-X1

***RECOMMENDED DUCT DIMENSIONS ARE 26"**

SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS

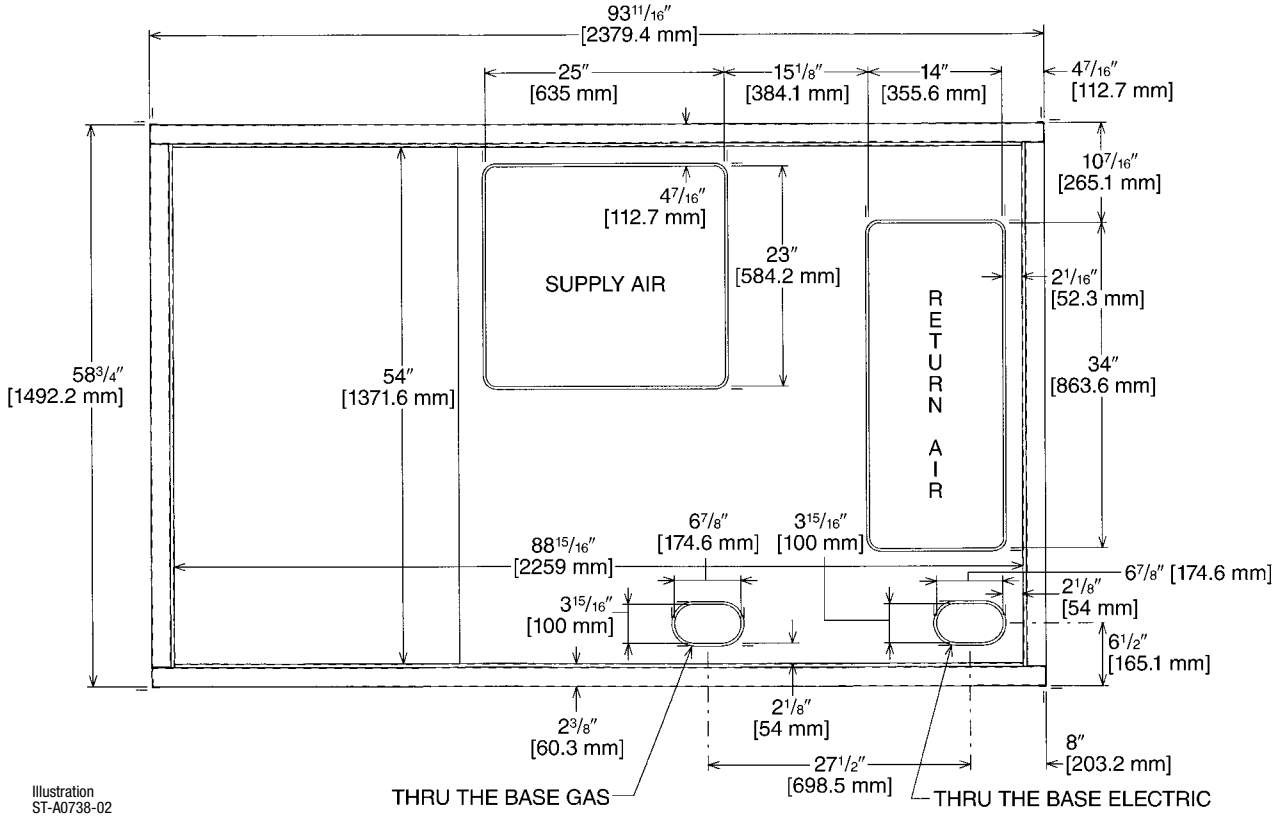


Illustration
ST-A0738-02

[ ] Designates Metric Conversions

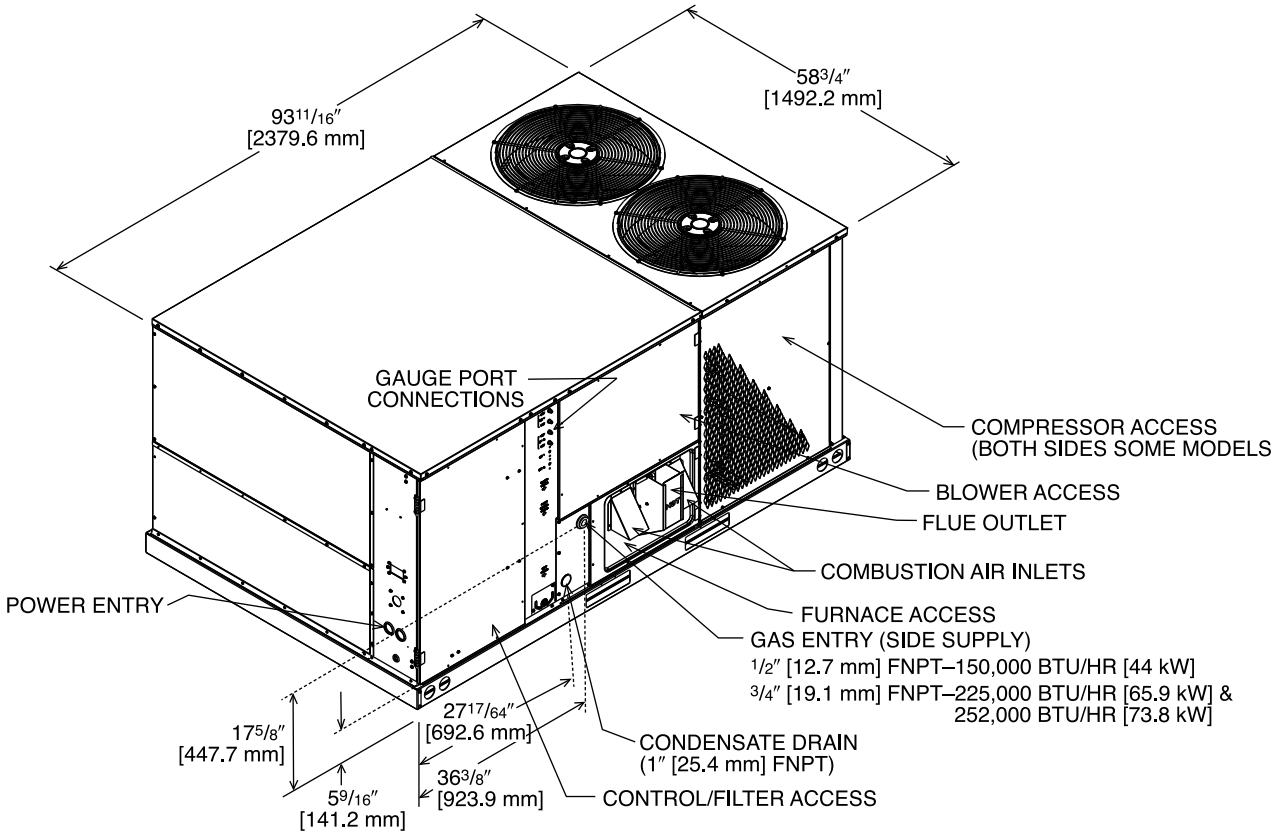


Illustration
ST-A1111-03

[ ] 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%

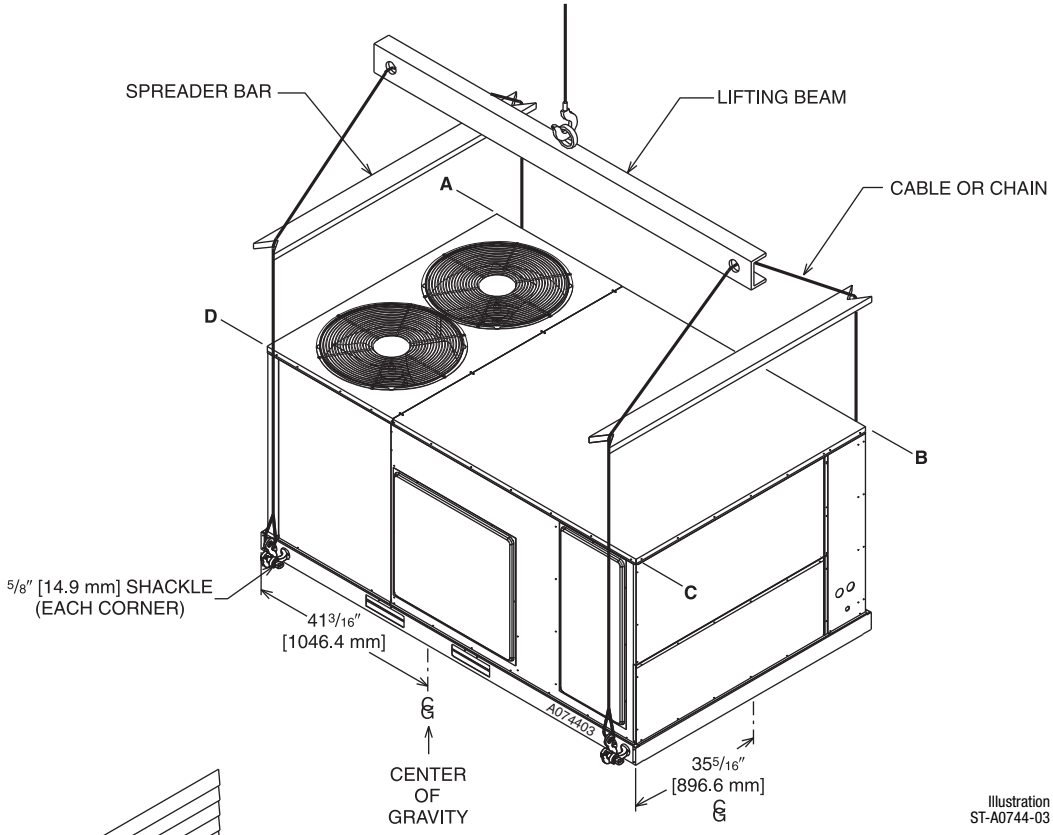


Illustration
ST-A0744-03

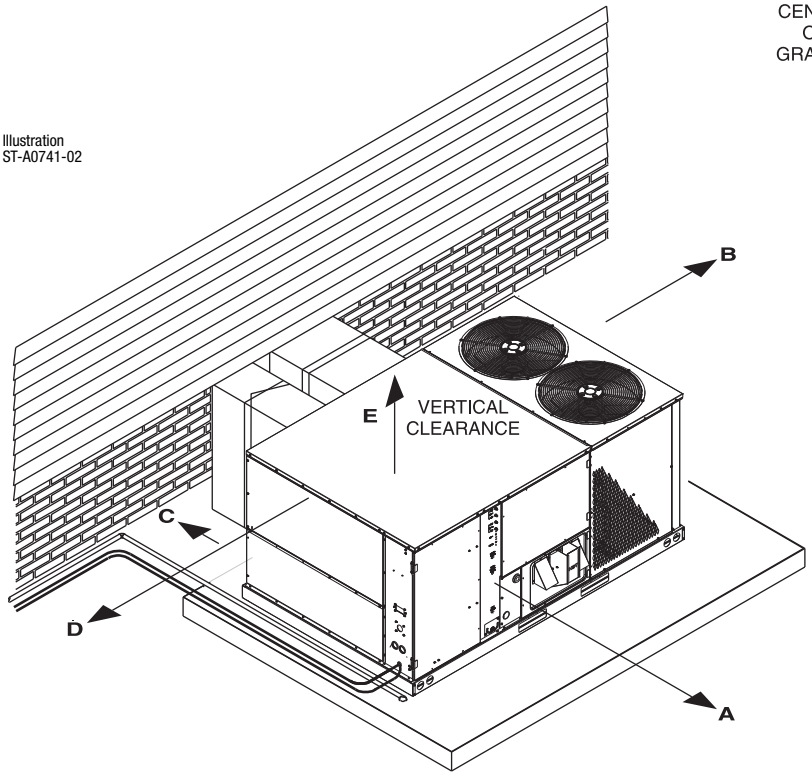


Illustration
ST-A0741-02

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 (T11-001)			No
Economizer w/Single Enthalpy (Downflow)	AXRD-PJCM3	90 [40.8]	81 [36.7]	Yes
Economizer w/Single Enthalpy and Smoke Detector (Downflow)	AXRD-SJCM3	91 [41.3]	82 [37.2]	Yes
Dual Enthalpy Kit	RXRX-AV03	1 [.5]	1 [.5]	No
Horizontal Economizer w/Single Enthalpy	AXRD-RJCM3	94 [42.6]	89 [40.4]	No
Carbon Dioxide Sensor (Wall Mount)	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 Damper (Horizontal Return Mounted)	AXRF-JDA1	26 [11.8]	21 [9.5]	No
Manual Fresh Air Damper (Left Panel Mounted)	AXRF-KDA1	38 [17.2]	31 [14.1]	No
Motor Kit for RXRF-KDA1 (Left Panel Mounted)	RXRX-AW02	35 [15.9]	27 [12.2]	No
Modulating Motor Kit w/position feedback for RXRF-KDA1	RXRX-AW04	38 [17.2]	30 [13.6]	No
Motorized Fresh Air Damper (Horizontal Return Mounted)	AXRF-JDB1	43 [19.5]	38 [17.2]	No
Roofcurb, 14"	RXKG-CAE14	90 [40.8]	85 [38.5]	No
Roofcurb, 24"	RXKG-CAE24	140 [63.5]	135 [61.2]	No
Roofcurb Adapters	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, 20" Round)	RXRN-FA65	139 [63.0]	60 [27.2]	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, 20" Round)	RXRN-FA75	54 [24.4]	42 [19.0]	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 Transition (Rect. to 20" Round)	RXMC-CD04 ①	15 [6.8]	13 [5.9]	No
Downflow Transition (Rect. to Rect., 18 x 28)	RXMC-CE05 ②	18 [8.2]	16 [7.3]	No
Downflow Transition (Rect. to Rect., 18 x 32)	RXMC-CF06 ③	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 (6-10 Ton)	29 [11.3]	26 [11.8]	Yes
Outdoor Coil Louver Kit	AXRX-AAD02A (12.5 Ton)	29 [11.3]	26 [11.8]	Yes
Unwired Convenience Outlet	RXRX-AN01	2 [1.0]	1.5 [.7]	Yes
Unfused Service Disconnect	RXRX-AP01	10 [4.5]	9 [4.1]	Yes
Comfort Alert (1 Per Compressor)	RXRX-AZ01	3 [1.5]	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
Room Humidity Sensor	RHC-ZNS4	1 [0.5]	1 [0.5]	No
Room Temperature and Relative Humidity Sensor	RHC-ZNS5	1 [0.5]	1 [0.5]	No

NOTES: ① Used with RXRN-FA65 and RXRN-FA75 concentric diffusers.
② Used with RXRN-AA61 and RXRN-AA71 concentric diffusers.
③ Used with RXRN-AA66 and RXRN-AA76 concentric diffusers.

NOTICE: Please refer to conversion kit index provided with the unit for LP conversion kit.

[ ] Designates Metric Conversions

THERMOSTATS

200-Series *
Programmable

300-Series *
Deluxe
Programmable

400-Series *
Special Applications/
Programmable

500-Series *
Communicating/
Programmable

Brand		Descripter (3 Characters)	Series (3 Characters)	System (2 Characters)	Type (2 Characters)
RHC	**-**	**TST**	**213**	**UN**	**MS**
RHC=Rheem		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 T11-001.

FLUSH MOUNT ROOM TEMPERATURE SENSORS FOR NETWORKED DDC APPLICATIONS

ROOM TEMPERATURE SENSOR with TIMED OVERRIDE BUTTON **RHC-ZNS1**

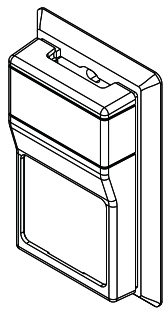
10kΩ room temperature sensor transmits room temperature to DDC system. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time.

ROOM TEMPERATURE SENSOR with TIMED OVERRIDE BUTTON and STATUS INDICATOR **RHC-ZNS2**

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.

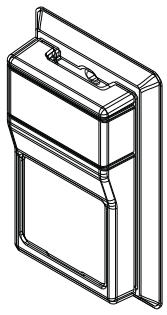
ROOM TEMPERATURE SENSOR with SETPOINT ADJUSTMENT and TIMED OVERRIDE BUTTON **RHC-ZNS3**

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.



ROOM HUMIDITY SENSOR **RHC-ZNS4**

Transmits room relative humidity to DDC System.



ROOM TEMPERATURE AND RELATIVE HUMIDITY SENSOR **RHC-ZNS5**

Transmits room temperature and relative humidity to DDC System.

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

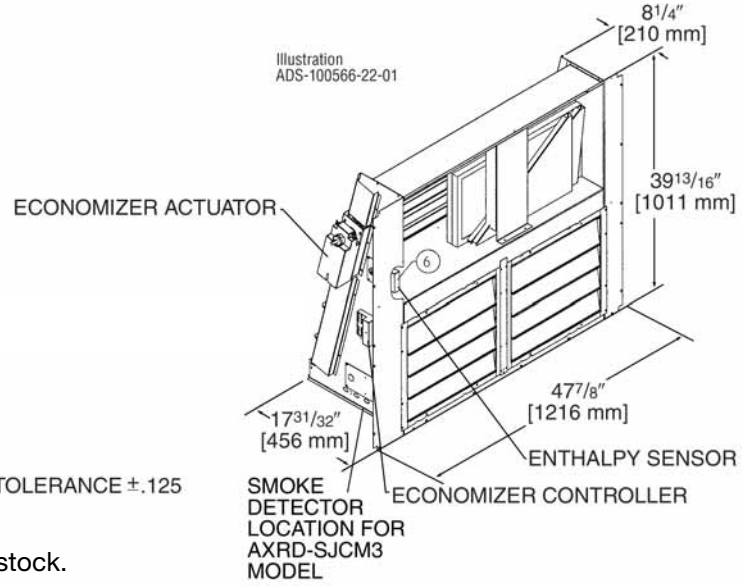
The field installed LonWorks® Communication Card allows the RTU-C unit controller to communicate with a third party building management system that supports the LonMark Space Comfort Controller (SCC) functional profile or LonMark Discharge Air Controller (DAC) functional profile. The LonMark Communication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

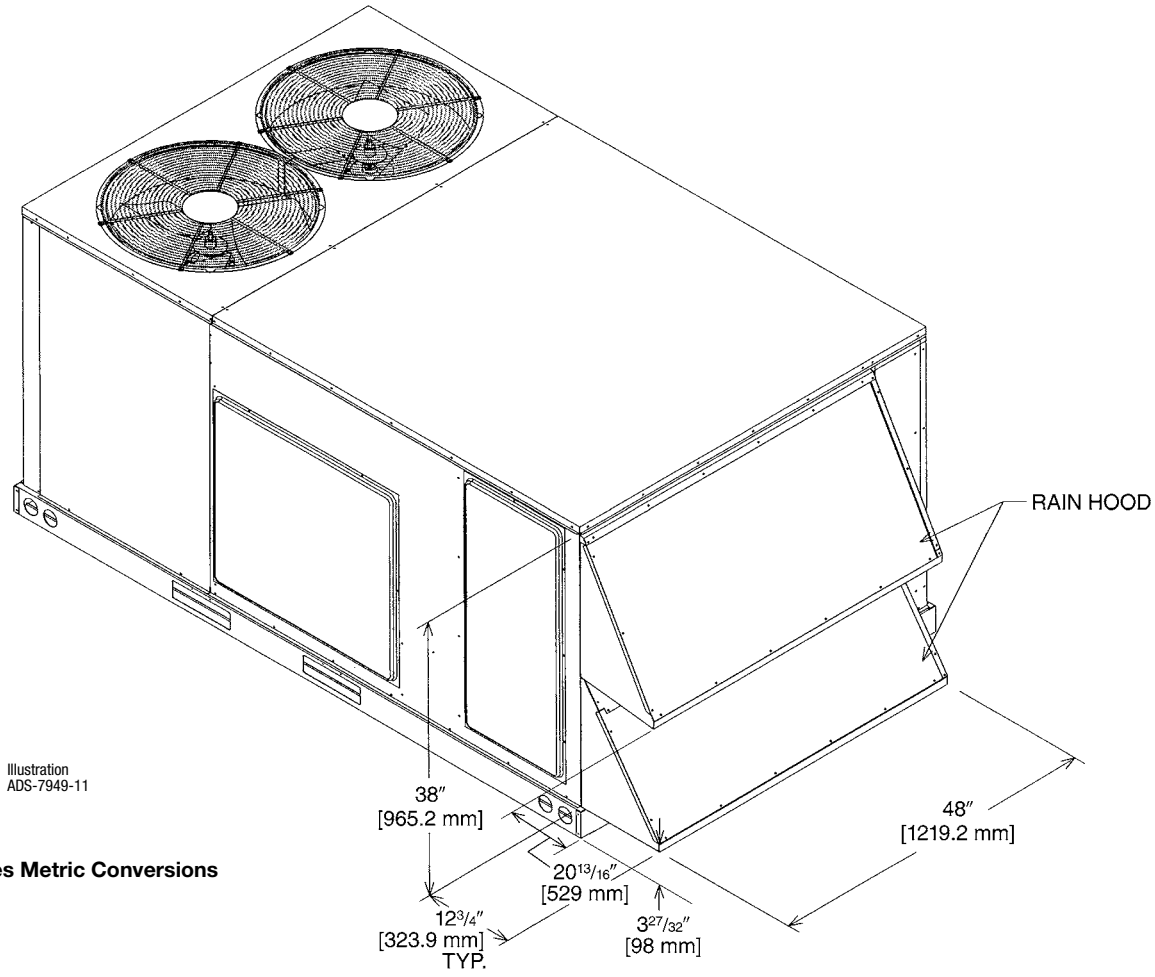
ECONOMIZER FOR DOWNFLOW DUCT INSTALLATION

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 CO_2 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
- CO_2 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



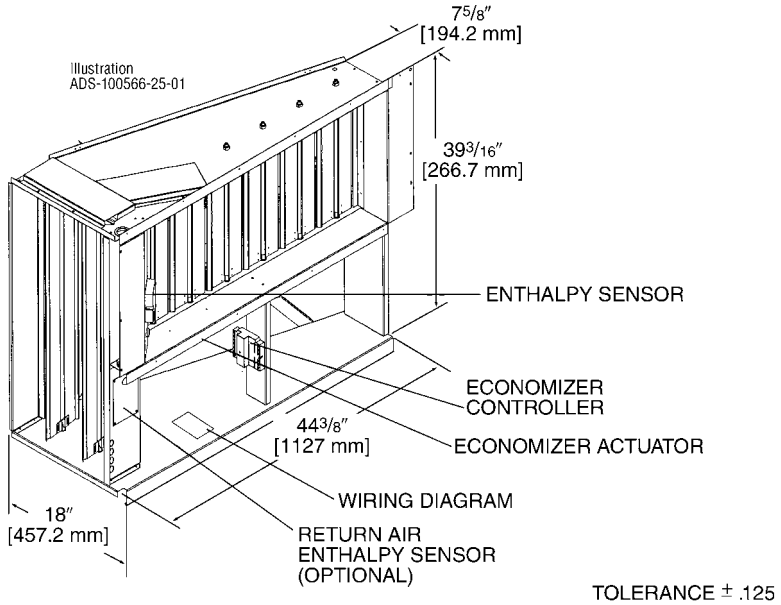


[ ] Designates Metric Conversions

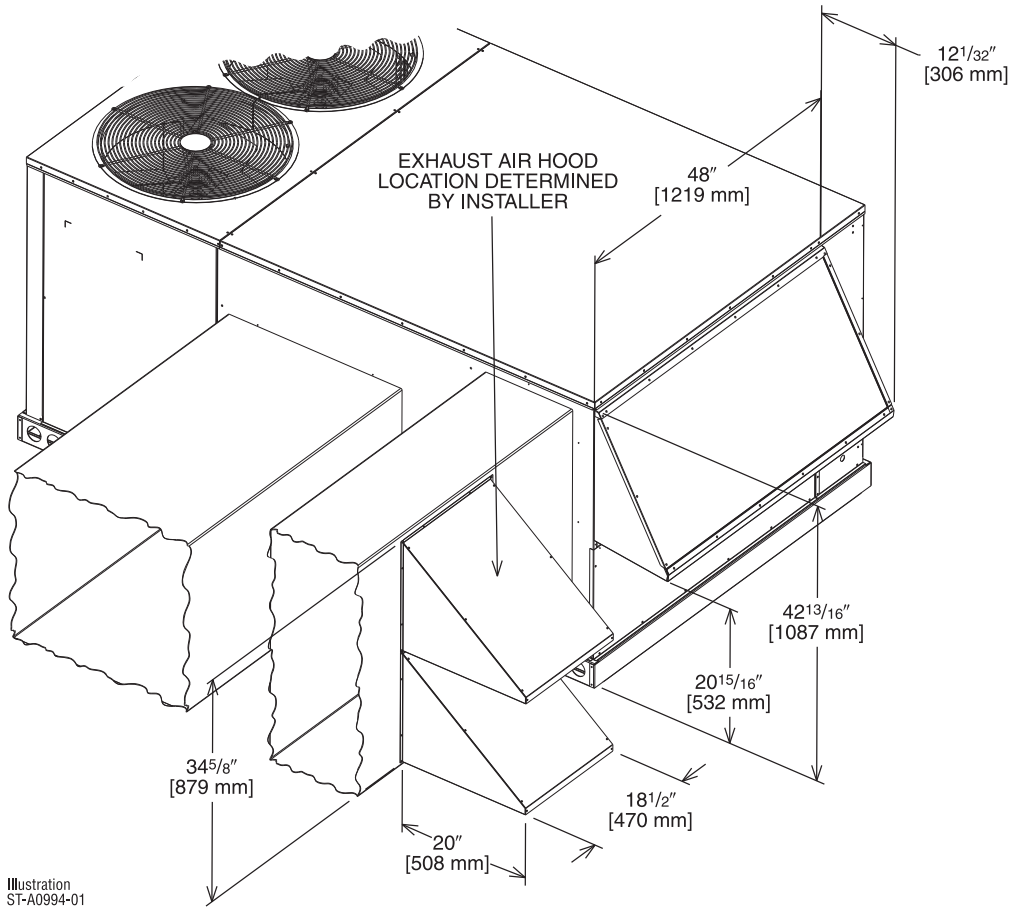
ECONOMIZER FOR HORIZONTAL DUCT INSTALLATION

Field Installed Only

AXRD-RJCM3—Single Enthalpy (Outdoor)
RXRX-AV03—Dual Enthalpy Upgrade Kit
RXRX-AR02—Wall-mounted CO_2 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
- CO_2 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-SJCM3(-), AXRD-RJCM3 ECONOMIZERS

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

***Voltage Code**

VERTICAL AIRFLOW

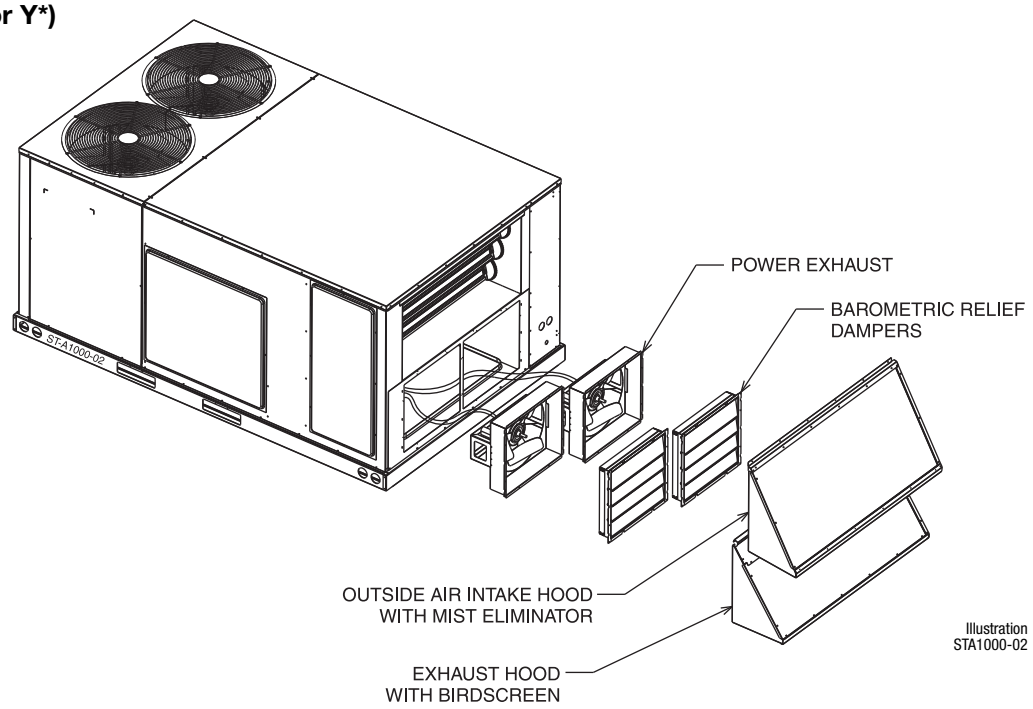


Illustration STA1000-02

HORIZONTAL AIRFLOW

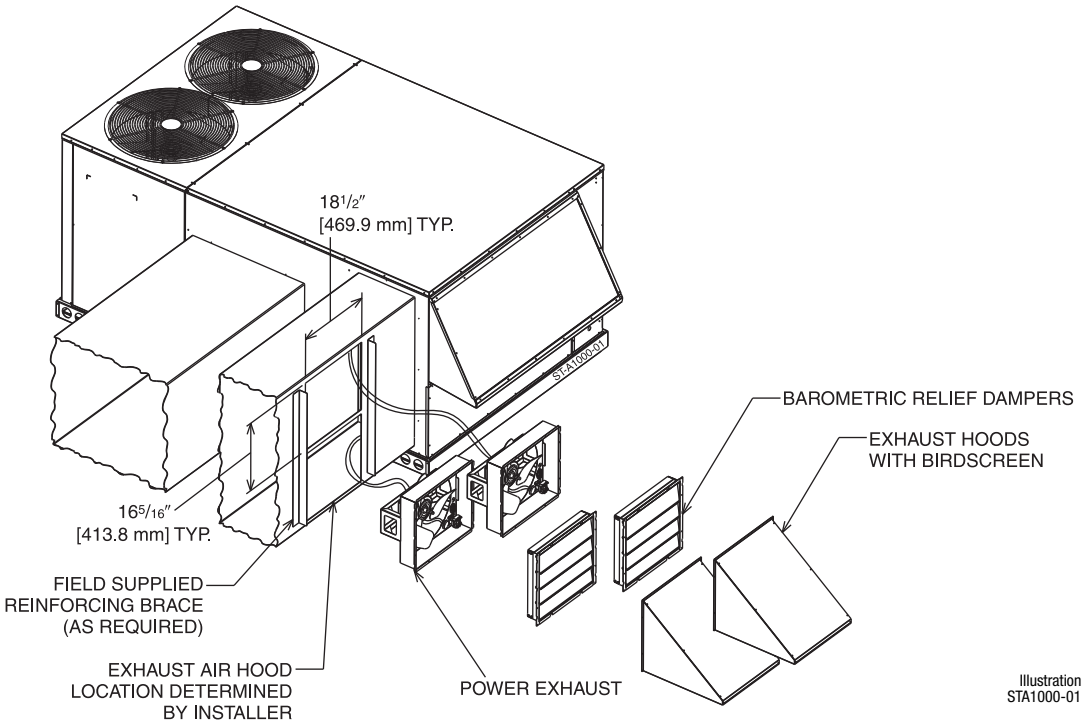


Illustration STA1000-01

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

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)

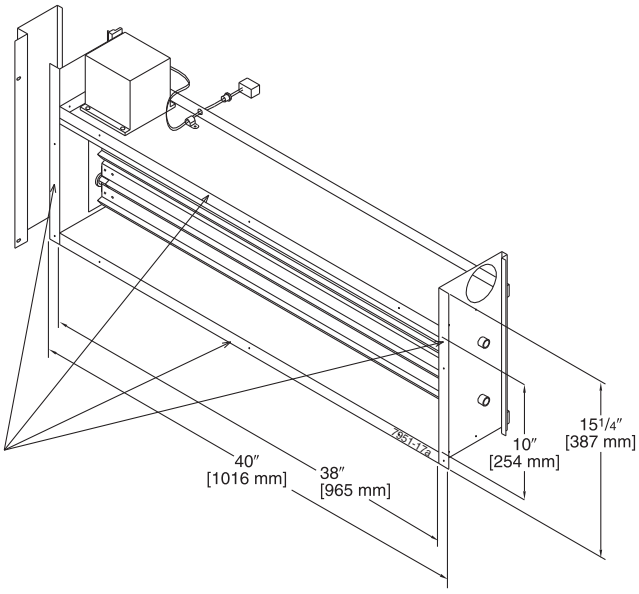


Illustration
ST-7951-17

[ ] Designates Metric Conversions

AXRF-KDA1 (Manual)

DOWNFLOW OR HORIZONTAL APPLICATION

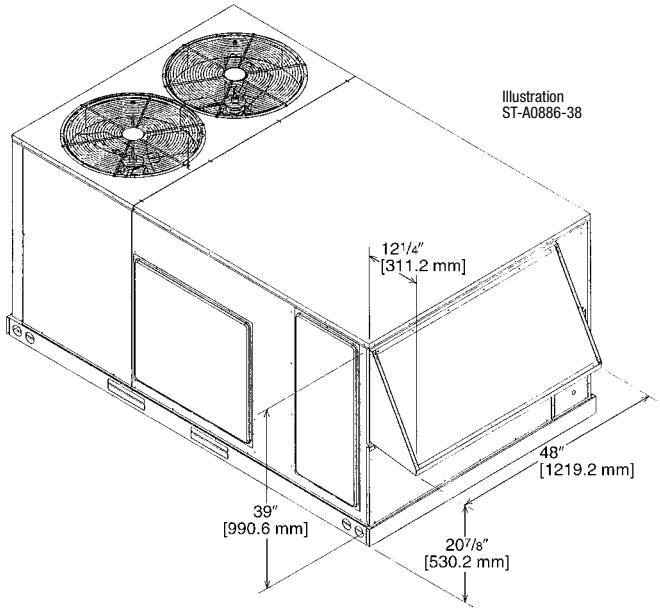


Illustration
ST-A0886-38

MOTORIZED DAMPER KIT
RXRX-AW04 (Modulating Motor Kit with 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
- CO_2 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), or 16 x 2 LCD screen
- If connected to thermostat, all fresh air damper functions can be viewed on 16 x 2 LCD screen

FRESH AIR DAMPER (Cont.)

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

DOWNFLOW APPLICATION

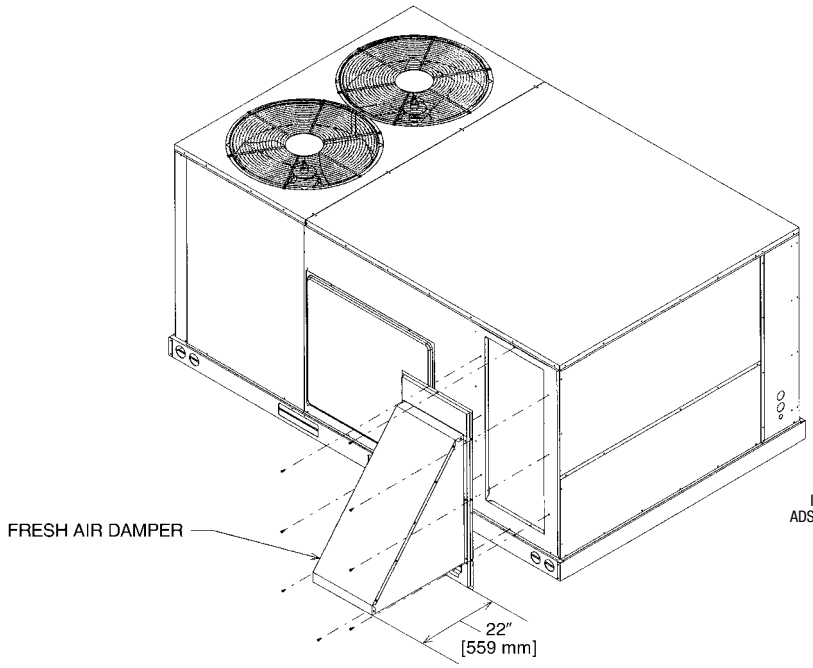
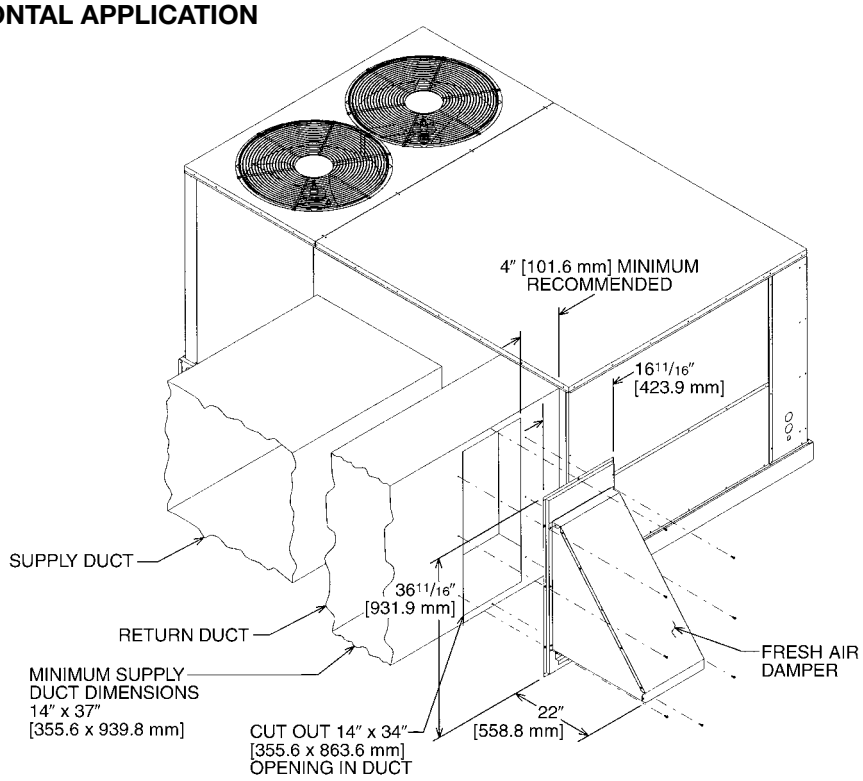


Illustration
ADS-7937-58

HORIZONTAL APPLICATION

Illustration
ST-A0901-01



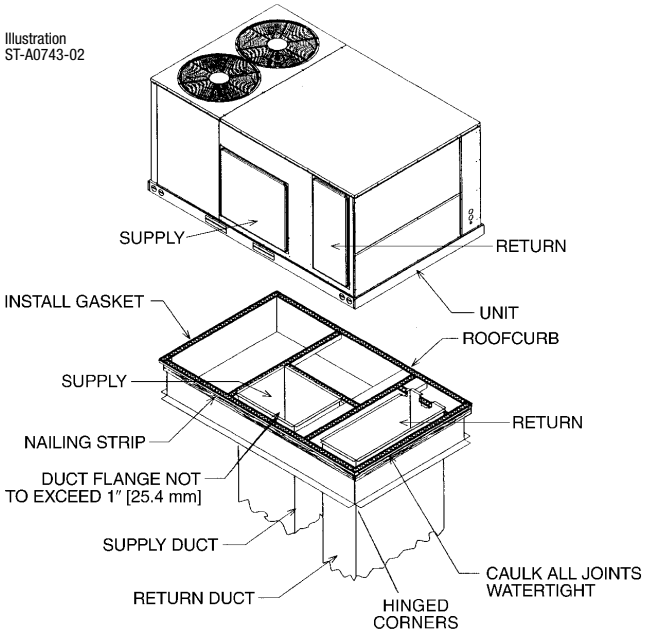
[ ] Designates Metric Conversions

ROOFCURBS (Full Perimeter)

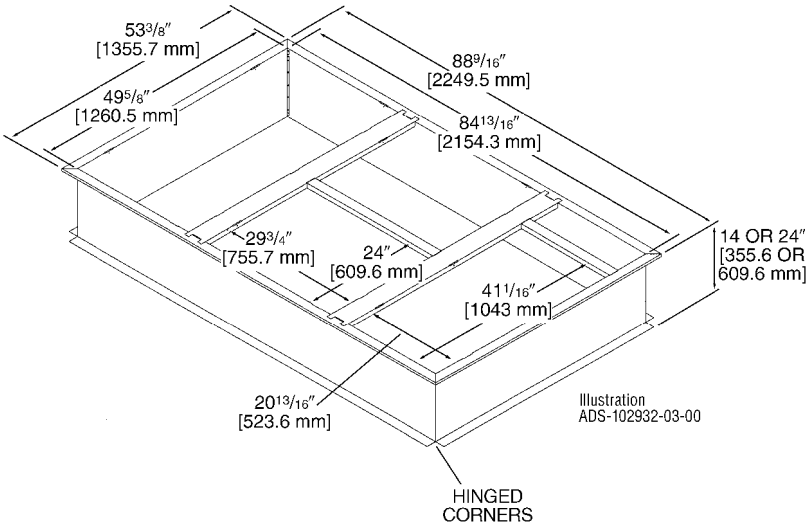
- Rheem's roofcurb design can be utilized on all 6-12.5 ton [21.1-44.0 kW] RKNL- models.
- Two available heights (14" [356 mm] and 24" [610 mm]) for ALL models.
- Quick assembly corners for simple and fast assembly.
- Opening provided in bottom pan to match the "Thru the Curb" electrical connection opening 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.

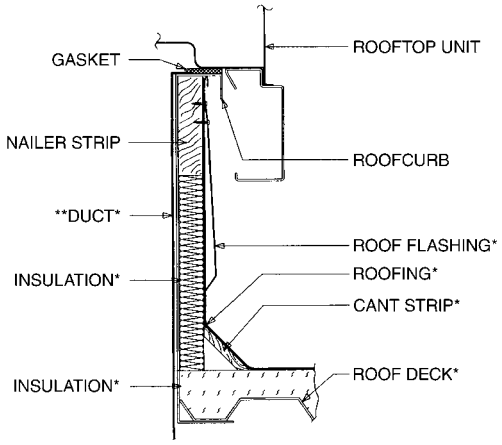
Roofcurb Model	Height of Curb
RXKG-CAE14	14" [356 mm]
RXKG-CAE24	24" [610 mm]

TYPICAL INSTALLATION



ROOFCURB INSTALLATION





*BY CONTRACTOR

**FOR INSTALLATION OF DUCT AS SHOWN, USE RECOMMENDED DUCT SIZES FROM ROOFCURB INSTALLATION INSTRUCTIONS. FOR DUCT FLANGE ATTACHMENT TO UNIT, SEE UNIT INSTALLATION INSTRUCTIONS FOR RECOMMENDED DUCT SIZES.

Illustration
ST-A0743-02

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS

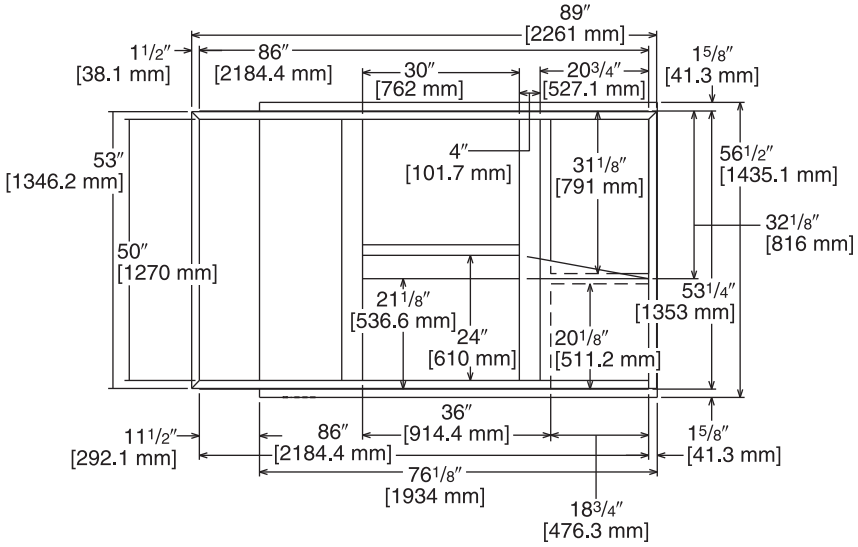
OLD MODELS	OLD ROOFCURB	ROOFCURB ADAPTER	NEW MODELS (All Share Common Cabinet)
(-)RCF, (-)REF-075/076 (-)RGF-150075, (-)RGF-131076 (-)RGF-201076	RXRK-E50	RXRX-CDCE50	RKNL- G090, G120, G151
(-)RGF-200075 (-)RGG, (-)REG, (-)RCG-075 (-)RGF, (-)REF, (-)RCF-085 (-)RGF, (-)REF, (-)RCF-100 (-)RGG, (-)REG, (-)RCG-100	RXRK-E54	RXRX-CFCE54	
(-)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.
RKNL, -G090, -G120 fit on the same curb as the RKKB-A090, A120, RKMB- A090, A120, RKNB- A090, A120

ROOFCURB ADAPTERS (Cont.)

RXRX-CDCE50

Illustration
ADS-7952-02
Sheet 2



TOP VIEW

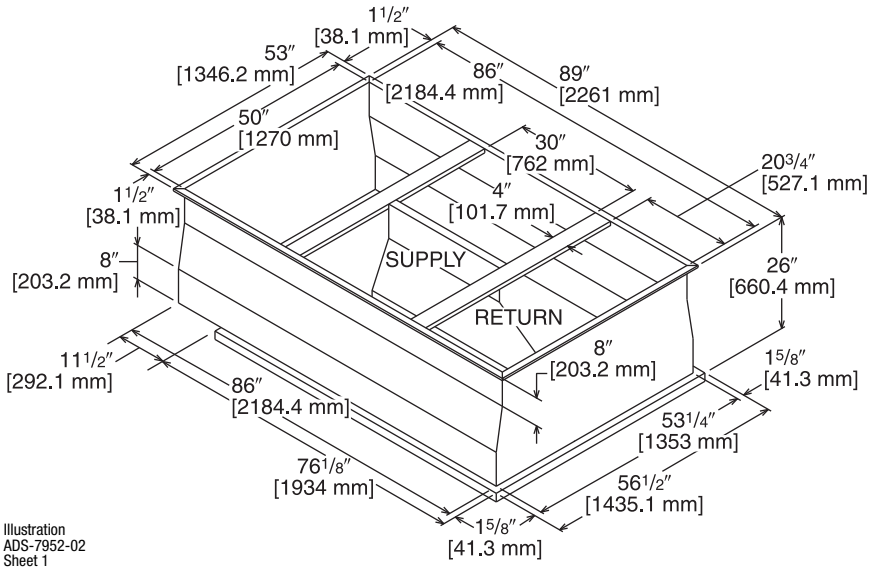


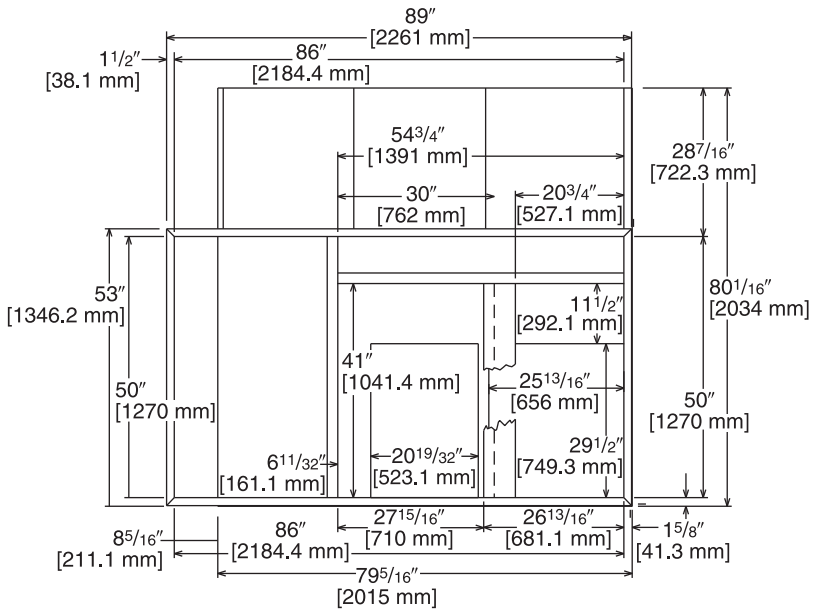
Illustration
ADS-7952-02
Sheet 1

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

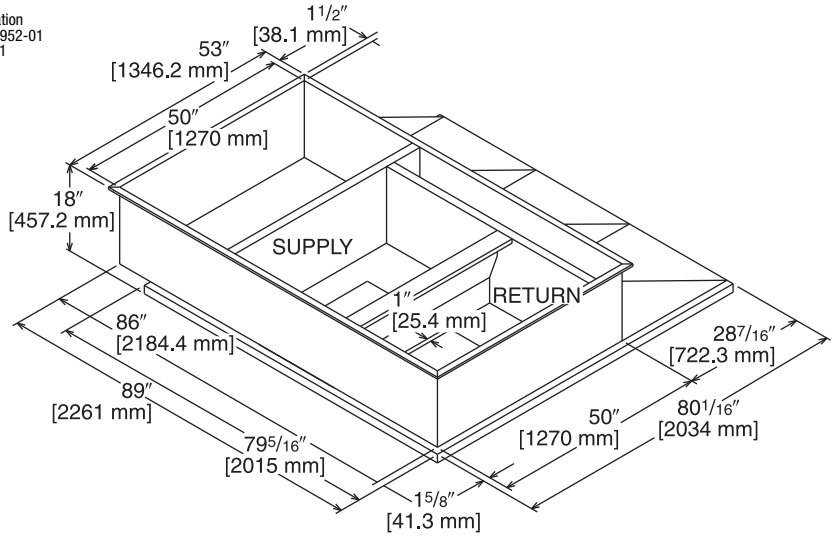
RXRX-CFCE54

Illustration
ADS-7952-01
Sheet 2



TOP VIEW

Illustration
ADS-7952-01
Sheet 1

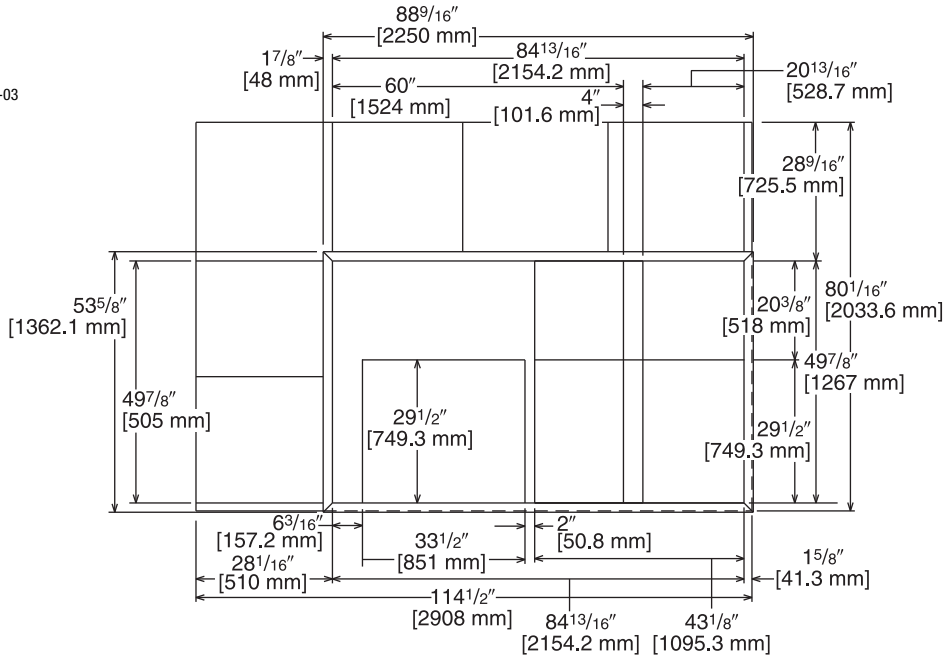


[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

RXRX-CFCE56

Illustration
ADS-7952-03
Sheet 2



TOP VIEW

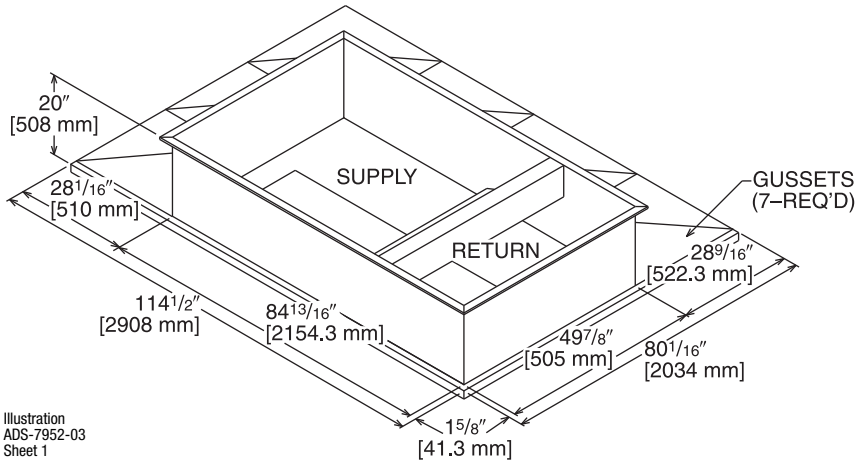


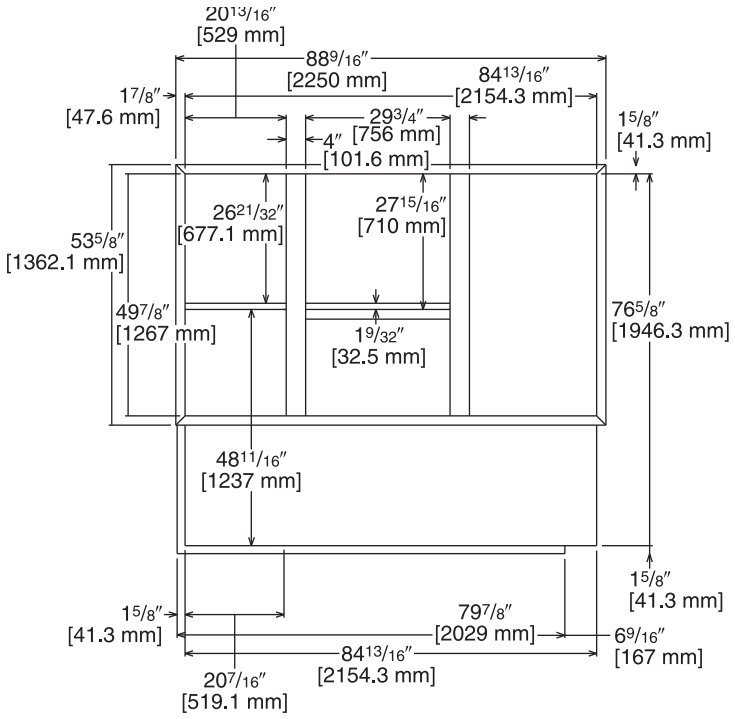
Illustration
ADS-7952-03
Sheet 1

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

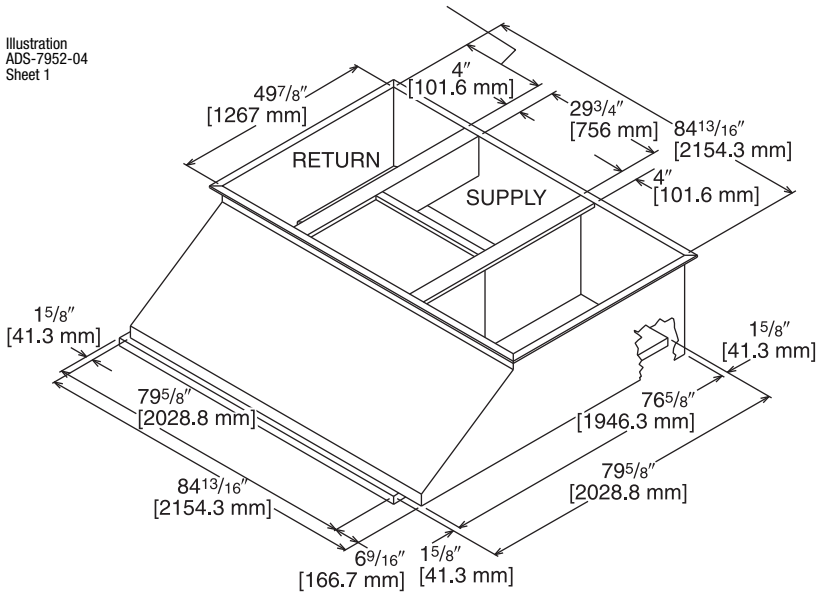
RXRX-CGCC12

Illustration
ADS-7952-04
Sheet 2



TOP VIEW

Illustration
ADS-7952-04
Sheet 1



[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER APPLICATION

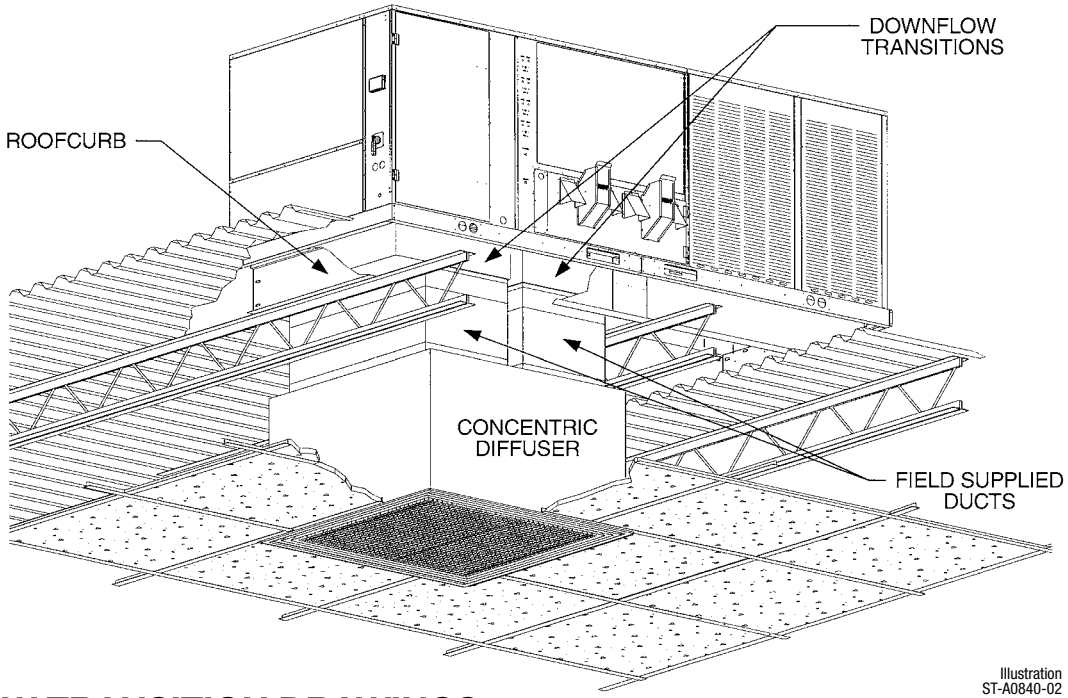


Illustration
ST-A0840-02

DOWNFLOW TRANSITION DRAWINGS

RXMC-CE05

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

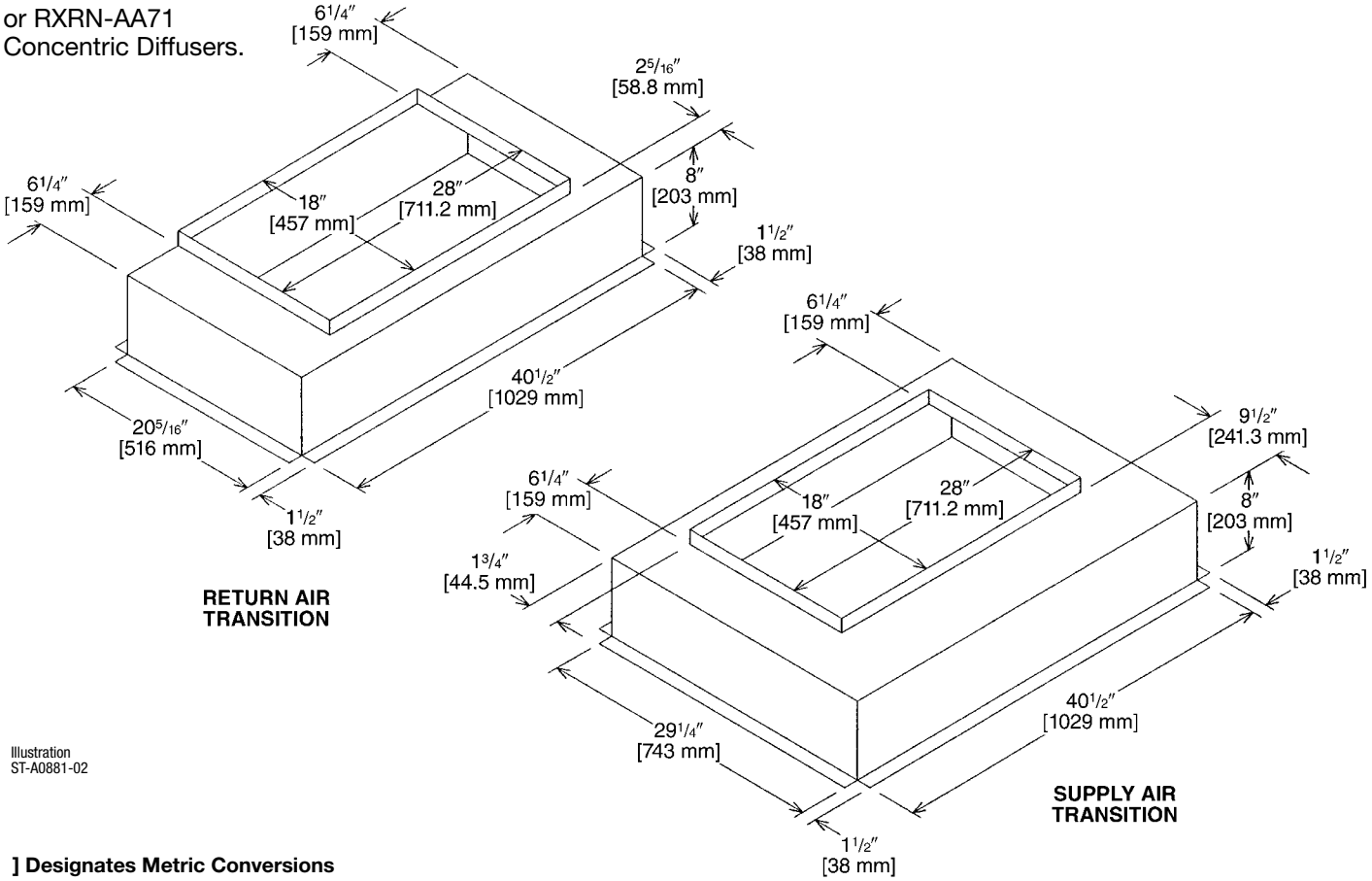


Illustration
ST-A0881-02

[ ] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS

RXMC-CF06

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

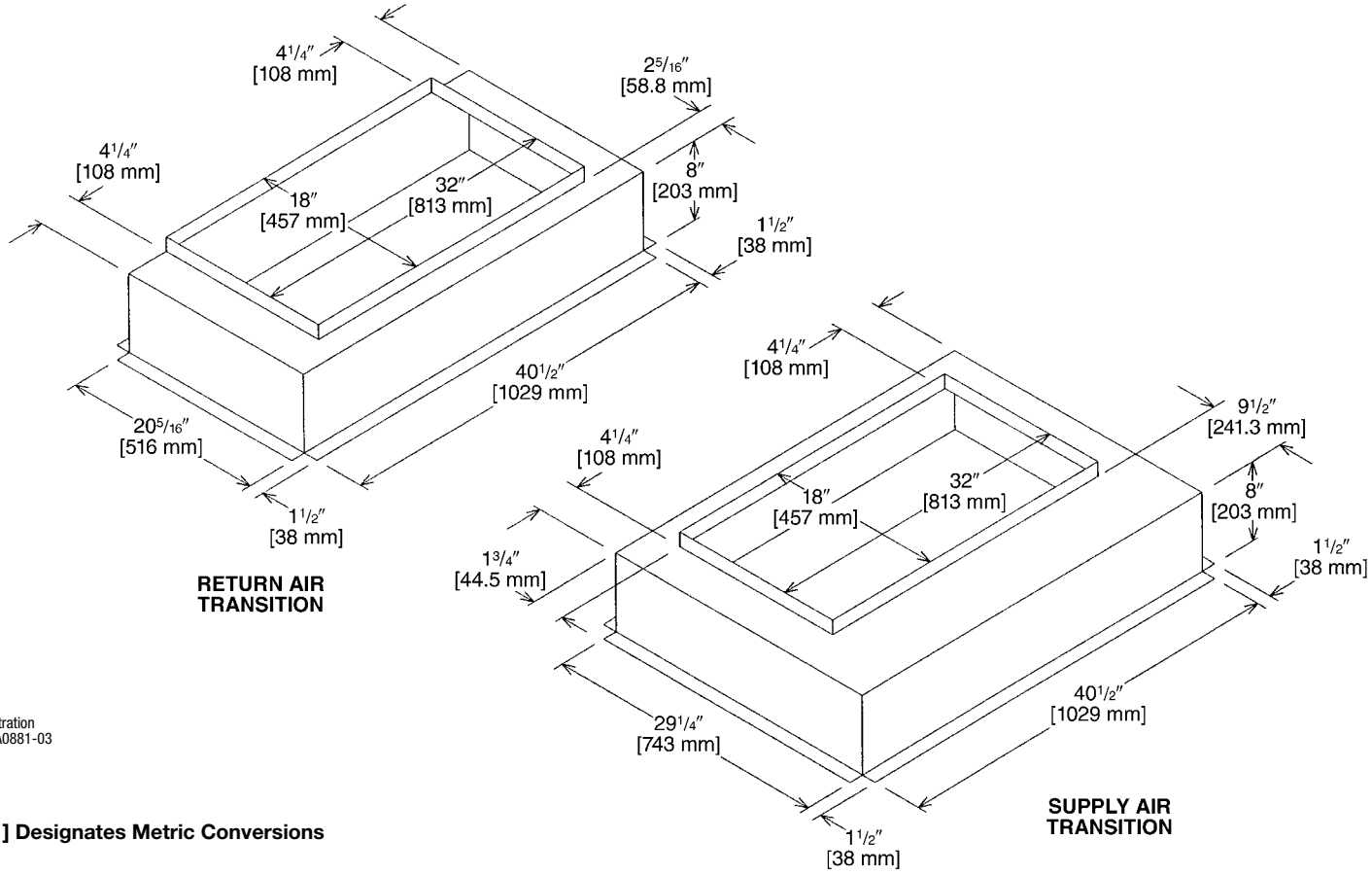


Illustration
ST-A0881-03

[ ] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS

RXMC-CD04

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

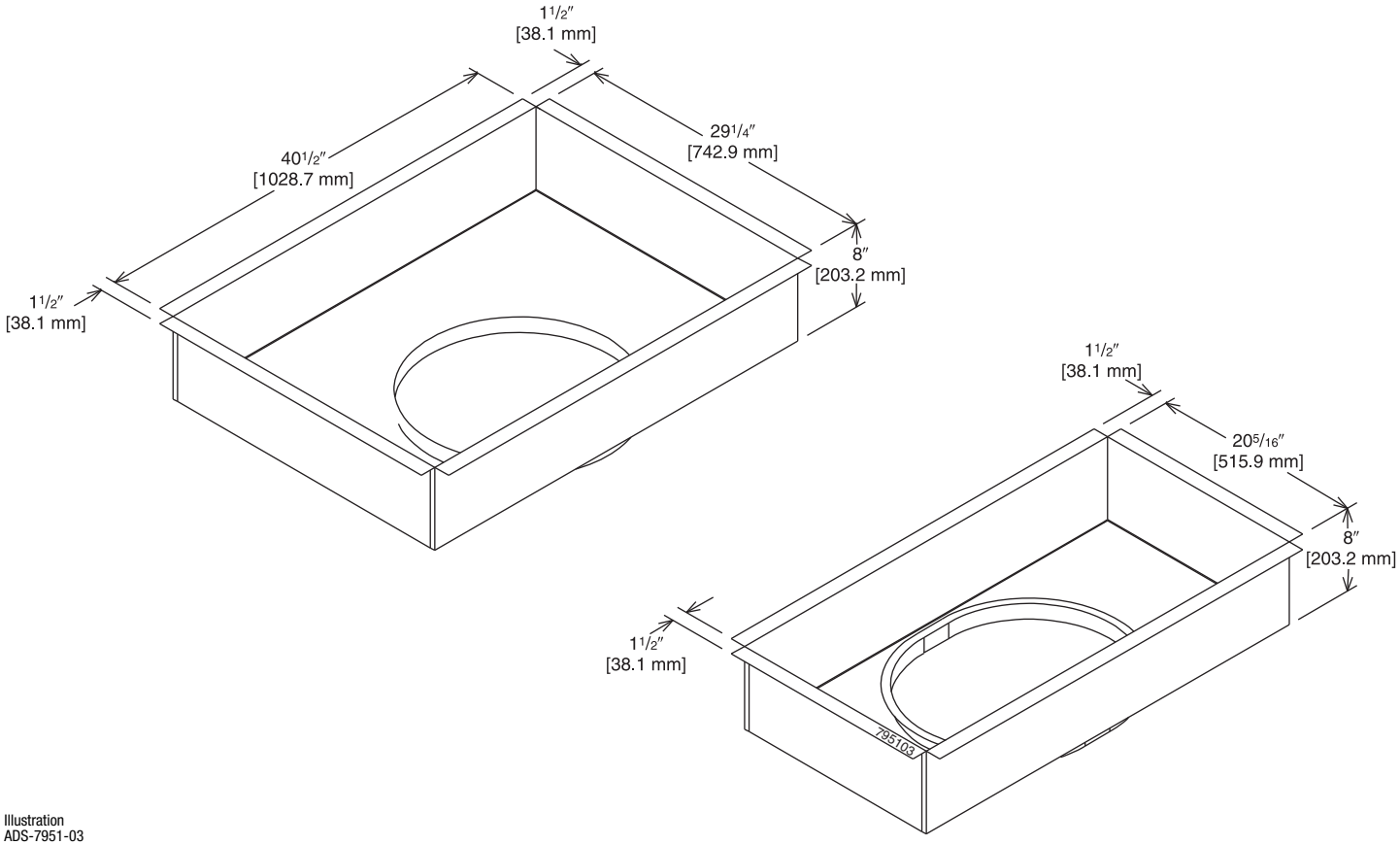


Illustration
ADS-7951-03

[ ] Designates Metric Conversions

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.

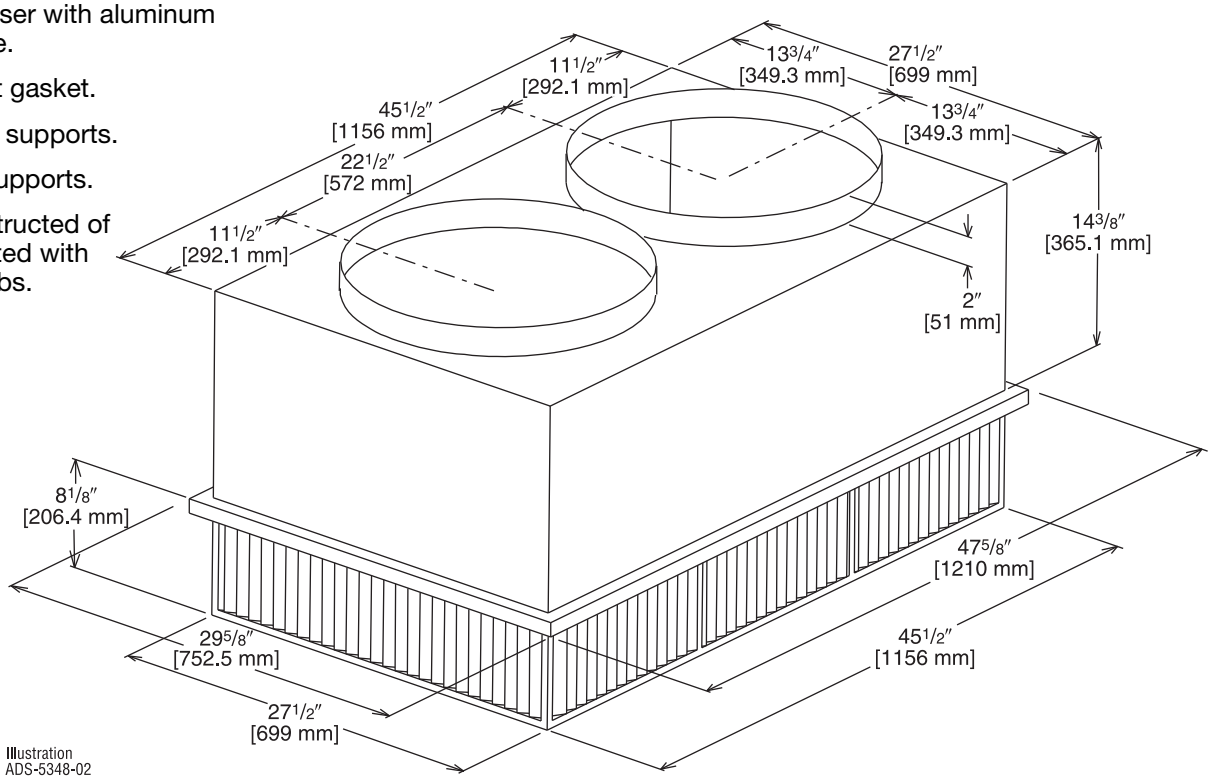


Illustration ADS-5348-02

ENGINEERING DATA①

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-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.

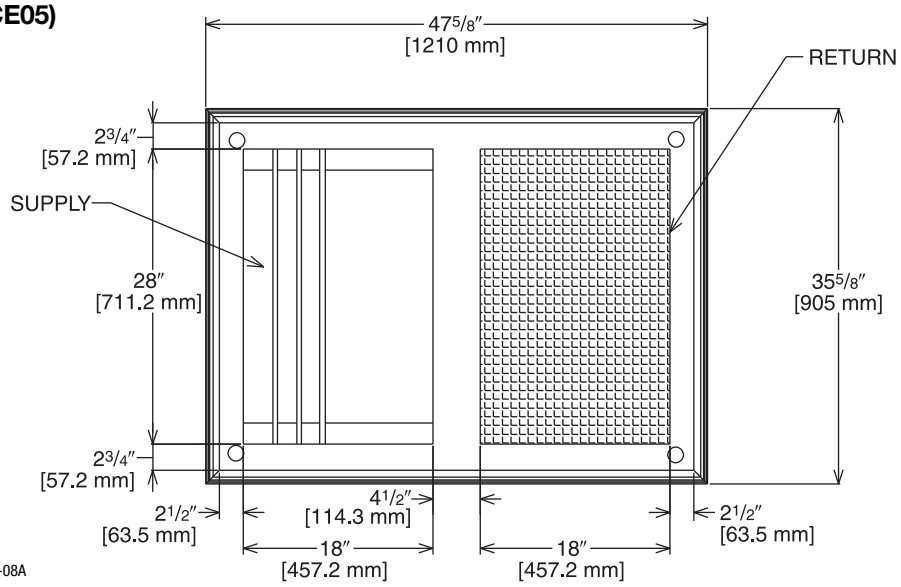


Illustration ADS-7951-08A

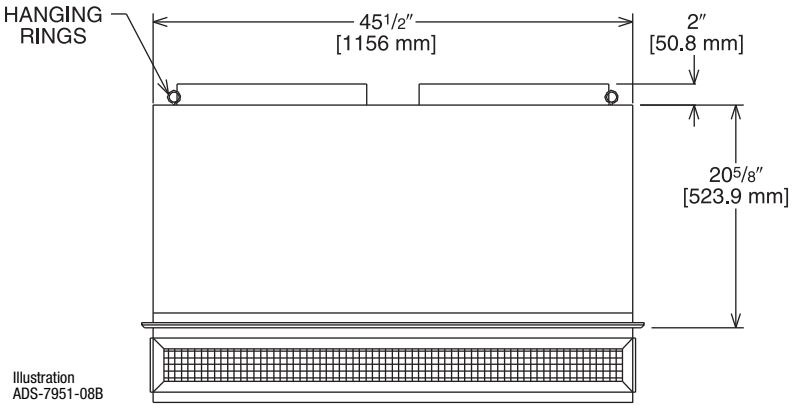


Illustration ADS-7951-08B

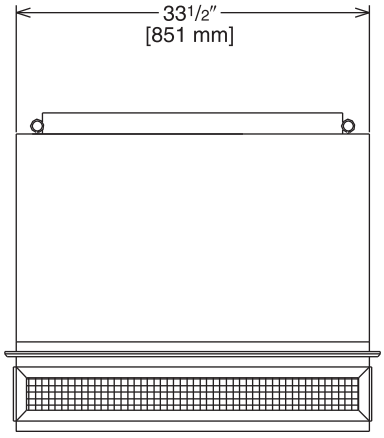


Illustration ADS-7951-08C

ENGINEERING DATA①

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-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 & 15 Ton [44.0 & 52.8 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.

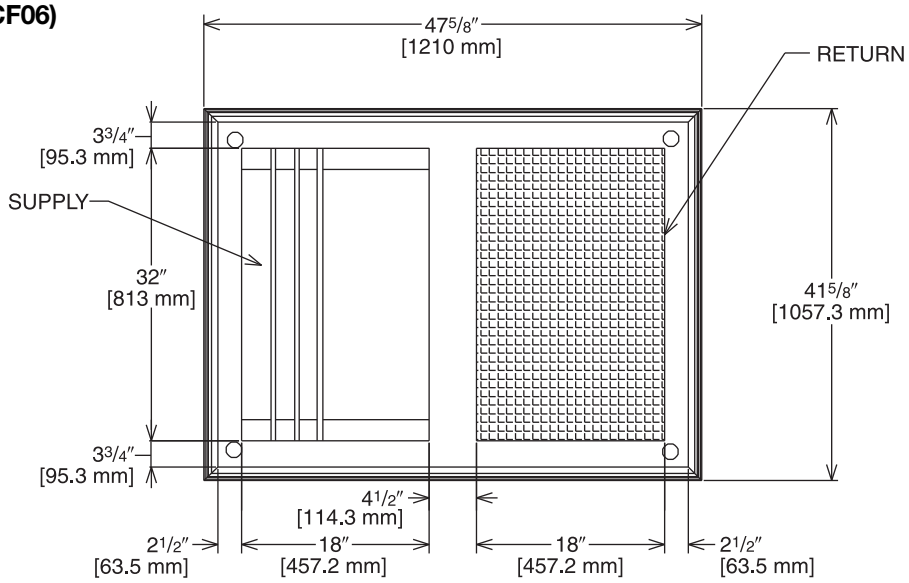


Illustration
ADS-7951-09A

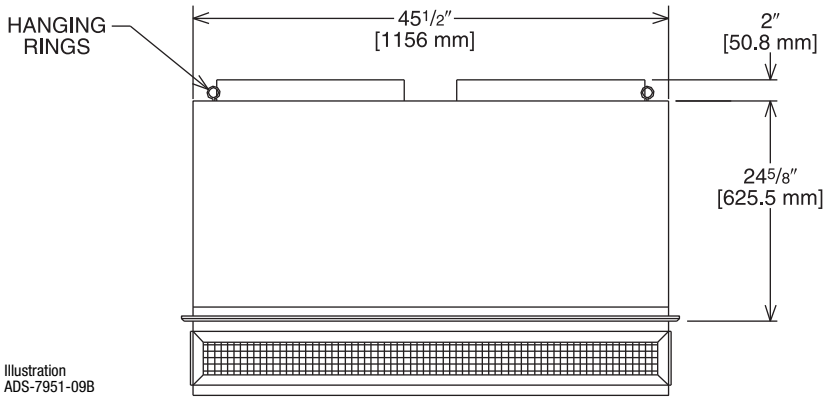


Illustration
ADS-7951-09B

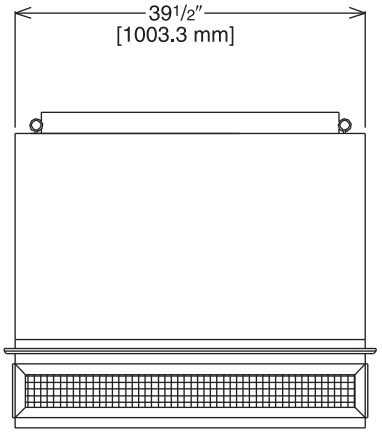


Illustration
ADS-7951-09C

ENGINEERING DATA①

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-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.

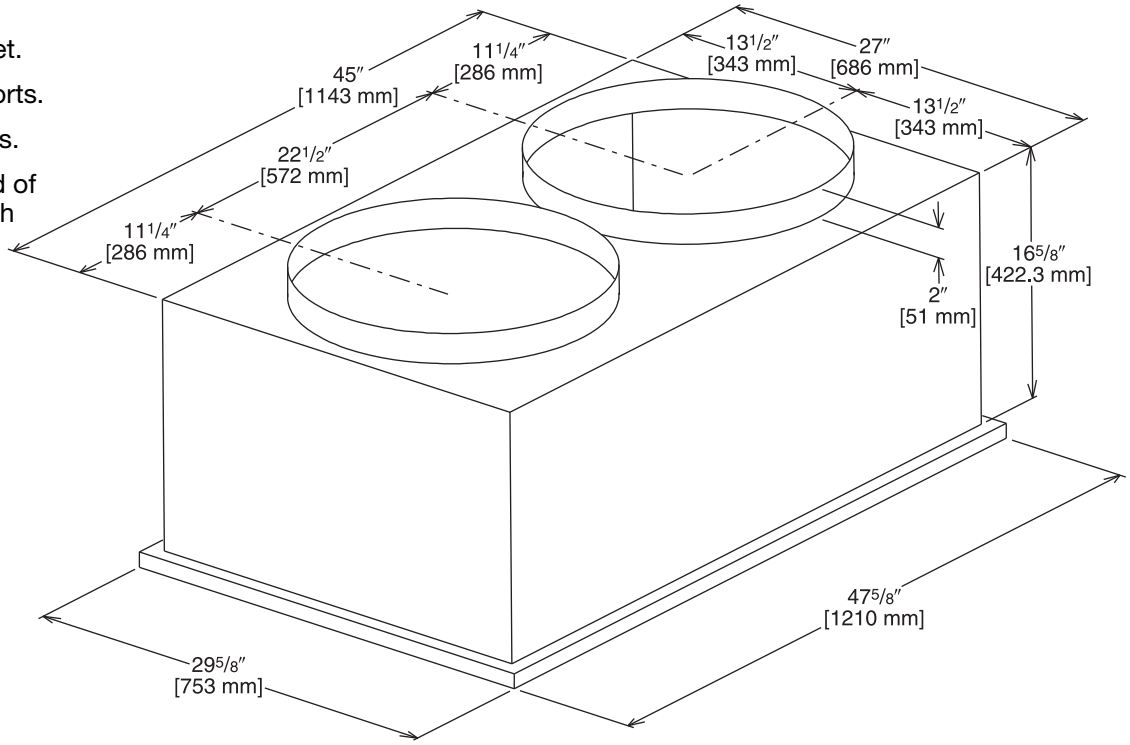


Illustration
ADS-5348-04

ENGINEERING DATA①

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.

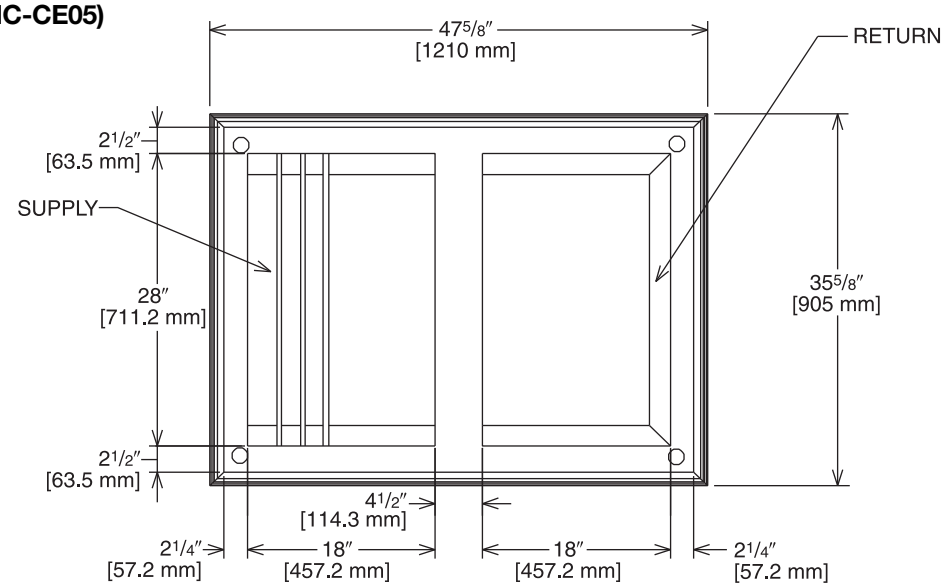


Illustration ADS-7951-06A

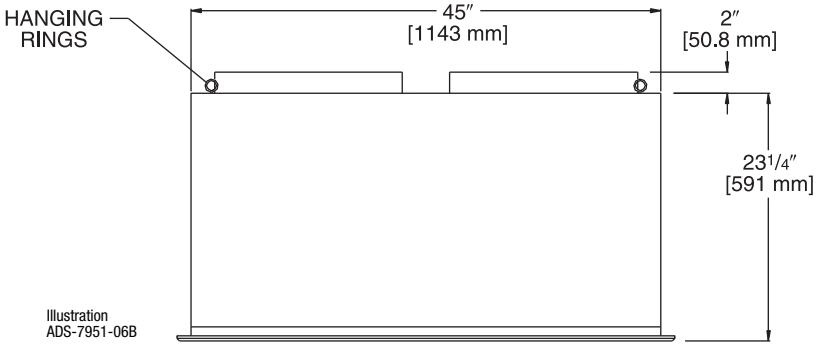


Illustration ADS-7951-06B

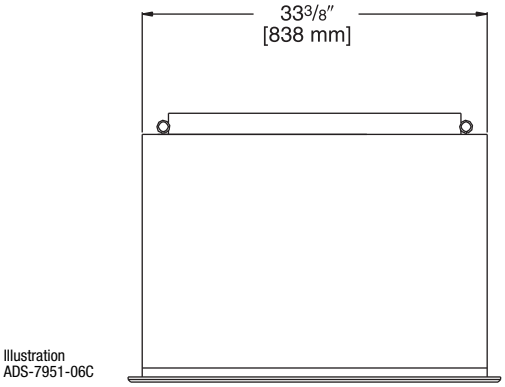


Illustration ADS-7951-06C

ENGINEERING DATA①

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 & 15 Ton [44.0 & 52.8 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.

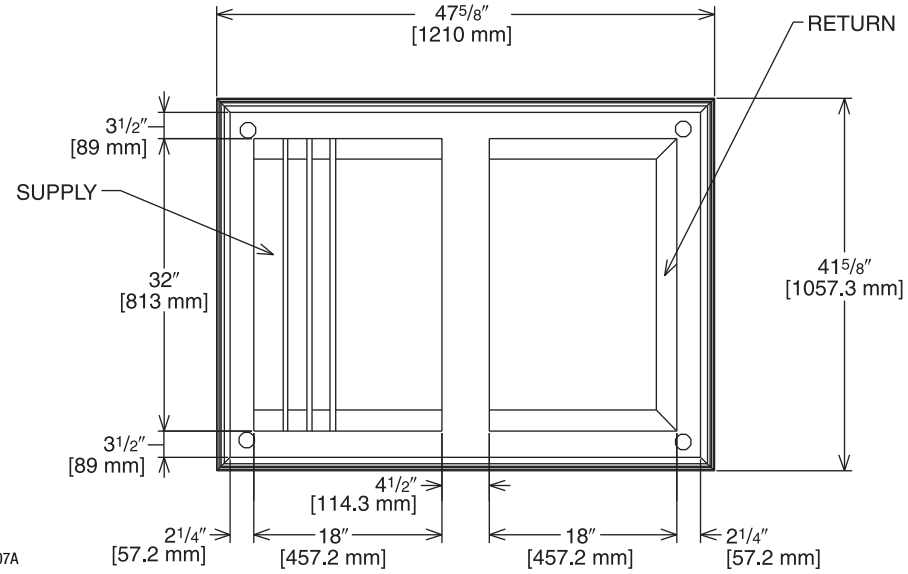


Illustration ADS-7951-07A

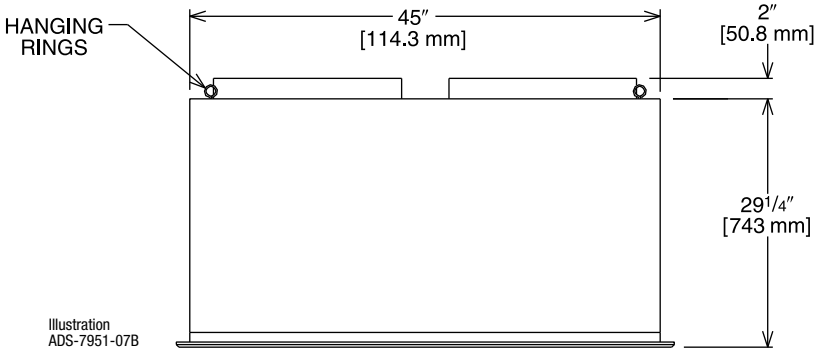


Illustration ADS-7951-07B

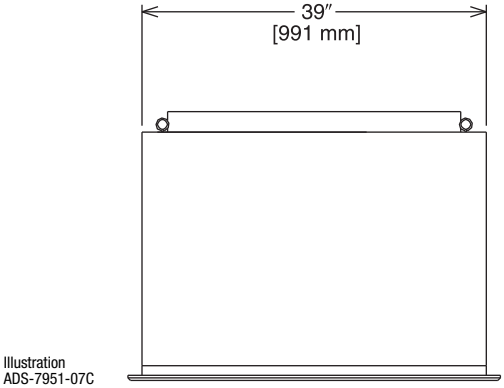


Illustration ADS-7951-07C

ENGINEERING DATA①

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-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 RKNL-G090 & G120

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GAS HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 6 to 12½ 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:

23 07 16.13.A. Evaporator fan compartment:

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 foil face on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
3. Insulation shall also be mechanically fastened with welded pin and retainer washer.

23 07 16.13.B. Gas heat compartment:

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
3. Insulation shall also be mechanically fastened with welded pin and retainer washer.

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 -40ºF (-40ºC) to 158ºF (70ºC), 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 CO_2 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 -40ºF (-40ºC) to 130ºF (54ºC), 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 13.13.A. General:

1. Shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side (C072-C151 units have a resettable circuit breaker).
2. Shall utilize color-coded wiring.
3. Unit shall be include self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side with a resettable circuit breaker.
4. 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.
5. The heat exchanger shall be controlled by an integrated furnace controller (IFC) microprocessor. See heat exchanger section of this specification.
6. 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.
6. Heating section shall be provided with the following minimum protections:
   a. High-temperature limit switches.
   b. Induced draft motor pressure switch.
   c. Flame rollout switch.
   d. Flame proving controls.

23 09 33 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. Unit shall use only one filter size. Multiple sizes are not acceptable.
3. Filter face velocity shall not exceed 365 fpm at nominal airflows.
4. Filters shall be accessible through an access panel with “no-tool” removal as described in the unit cabinet section of the specification (23 81 19.13.H).

23 81 19 Self-Contained Air Conditioners

23 81 19.13 (6-12.5 Ton) 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 gas combustion 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 safe, R410A 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 90.1-2010 minimum efficiency requirements.
2. 3 phase units are Energy Star qualified.
3. Unit shall be rated in accordance with AHRI Standards 210 and 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 1000-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 360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 50°F (10°C), ambient outdoor temperatures. Low ambient accessory kit is necessary if mechanically cooling at ambient temperatures to 0°F (-17.7°C).
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.
2. Unit cabinet exterior paint shall be: powder coat paint.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210 or 360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 3/4-in. thick, 1-1/2 lb density, flexible fiberglass insulation, foil faced on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
4. Base of unit shall have a location for thru-the-base gas and electrical connections standard.
5. Base Rail
   a. Unit shall have base rails on a minimum of 4 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 for 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 and be removable for cleaning.
   b. Shall comply with ASHRAE Standard 62.
   c. Shall use a 1" x 11-1/2 NPT drain connection, through the side of the drain pan. Connection shall be made per manufacturer's recommendations.
   d. Shall be able to be easily removed.
7. Top panel:
   a. Shall be a single piece top panel over indoor section.
8. Gas Connections:
   a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   b. Thru-the-base capability
      i. Standard unit shall have a thru-the-base gas-line location using a continuous raised, flange around opening in the basepan.
      ii. No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Electrical Connections
   a. All unit power wiring shall enter unit cabinet a a single, factory-prepared, continuous raised flange opening in the basepan.
   b. Thru-the-base capability
      i. Standard unit shall have a thru-the-base electrical location(s) using a raised, continuous raised flange opening in the basepan.
      ii. No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Component access panels (standard)
    a. Cabinet panels shall be easily opened for servicing.
    b. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and filters shall have hinges with 1/4 turn fasteners.
    c. 1/4 fasteners shall be permanently attached.

23 81 19.13.I. Gas Heat

1. General
   a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
   b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
   c. Heat exchanger design shall allow combustion process condensate to gravity drain; maintenance to drain the gas heat exchanger shall not be required.
   d. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated furnace controller (IFC) microcompressor.
   a. IFC board shall notify users of fault using a LED (light-emitting diode).
3. Standard Heat Exchanger construction
   a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gauge steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
   b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610m) elevation. Additional accessory kits may be required for applications above 2000 ft (610m) elevation, depending on local gas supply conditions.
   d. Each heat exchanger tube shall contain tubulators for increased heating effectiveness.

4. Optional Stainless Steel Heat Exchanger construction
   a. Use energy saving, direct-spark ignition system.
   b. Use a redundant main gas valve.
   c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gauge type 409 stainless steel.
   f. Type 409 stainless steel shall be used in heat exchanger tubes.
   g. Complete stainless steel heat exchanger allows for greater application flexibility.
5. Induced draft combustion motor and blower
   a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.
   b. Shall be made from steel with a corrosion-resistant finish.
   c. Shall be permanently lubricated sealed bearings.
   d. Shall have inherent thermal overload protection.
   e. Shall have an automatic reset feature.

23 81 19.13.J. Coils

1. Standard Aluminum/Copper Coils:
   a. Standard evaporator and condenser coils shall be aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed. (Note: 12-1/2 ton utilizes MicroChannel condensing coil).
   b. Evaporator and condenser coils shall be leak tested to 150 psig, pressure tested to 400 psig, and qualified to UL 1995 burst test at 2,200 psi.

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
   a. TXV metering system shall prevent mal-distribution of two-phase refrigerant. C072 shall use orifice refrigerant control.
   b. Refrigerant filter drier.
   c. Service gauge connections on suction and discharge lines.
   d. External pressure gauge ports access shall be located in front exterior of cabinet.
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.
   d. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
   e. Compressor shall be factory mounted on rubber grommets.
   f. Compressor motors shall have internal line break thermal and current overload protection.
   g. Crankcase heaters shall not be required for normal operating range.
   h. Compressor shall have molded electrical plug.

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 filter tray, facilitating easy removal and installation.
3. Shall consist of factory-installed, low velocity, throw-away 2-in. thick fiberglass filters.
4. Filter face velocity shall not exceed 320 fpm at nominal airflows.
5. Filters shall be standard, commercially available sizes.
6. Only one size filter per unit is allowed.

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.
   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 shall:
   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.

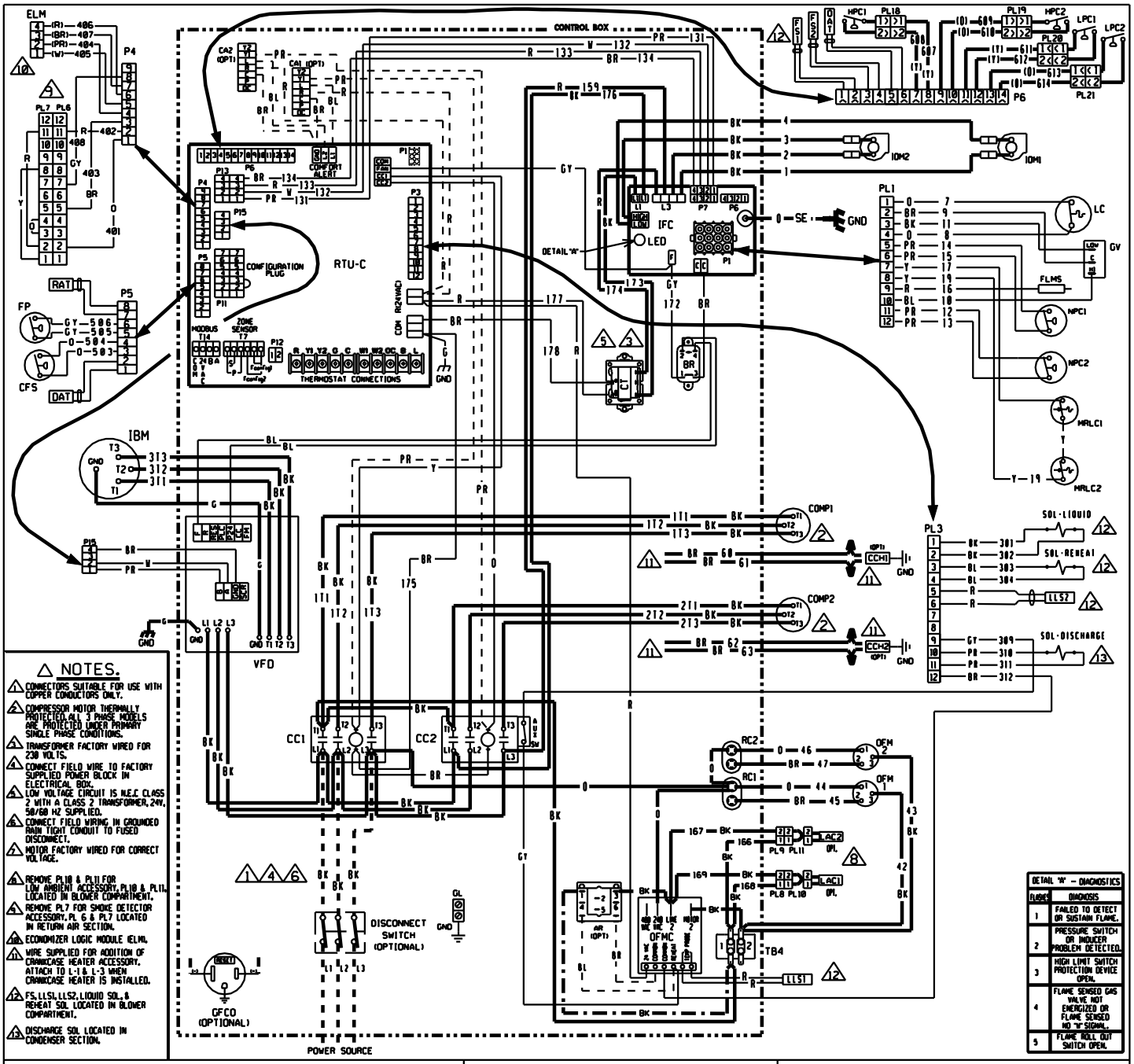
23 81 19.13.O. Special Features

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. Enthalpy sensor shall be provided as standard. Outdoor air sensor set point shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
   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 set point.
   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. 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.
3. Liquid Propane (LP) Conversion Kit
   a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane, up to 2000 ft (610m) elevation.
4. Flue Shield
   a. Flue shield shall provide protection from the hot sides of the gas flue hood.
5. Condenser Coil Hail Guard Assembly
   a. Shall protect against damage from hail.
   b. Shall be louvered style.
6. Unit-Mounted, Non-Fused Disconnect Switch:
   a. Switch shall be factory-installed, internally mounted.
   b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
   c. Shall be accessible from outside the unit.
   d. Shall provide local shutdown and lockout capability.

7. Convenience Outlet:
   a. Non-Powered convenience outlet.
   b. Outlet shall be powered from a separate 115-120v power source.
   c. A transformer shall not be included.
   d. Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
   e. Outlet shall include 15 amp GFI receptacle with independent fuse protection.
   f. Outlet shall be accessible from outside the unit.
8. Flue Discharge Deflector:
   a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
   b. Deflector shall be defined as a “natural draft” device by the National Fuel and Gas (NFG) code.
9. 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 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.
10. Roof Curbs (Vertical):
    a. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
    b. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
11. Universal Gas Conversion Kit:
    a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000-7000 ft (610 to 2134m) elevation with natural gas or from 0-7000 ft (90-2134m) elevation with liquefied propane.
12. 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.
13. 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 duct mount, wall mount, or wall mount with LED display. The set point shall have adjustment capability.
14. 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 tool-less connection terminal access.
    e. Shall have a recessed momentary switch for testing and resetting the detector.
    f. Controller shall include:
       i. One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel
       ii. Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment
       iii. One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station
       iv. Capable of direct connection to two individual detector modules.
       v. Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
15. Barometric relief
    a. Shall include damper, seals, hard-ware, and hoods to relieve excess building pressure.
    b. Damper shall gravity-close upon shutdown.

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 tooled 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.



NOTES.

1. CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2. COMPRESSOR MOTOR THERMALLY PROTECTED.ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
3. TRANSFORMER FACTORY WIRED FOR 230 VOLTS.
4. CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5. LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8. REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY.PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR SMOKE DETECTOR ACCESSORY.PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. ECONOMIZER LOGIC MODULE (ELM).
11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
12. FS, LLS1, LLS2, LIQUID SOL. & REHEAT SOL LOCATED IN BLOWER COMPARTMENT.
13. DISCHARGE SOL LOCATED IN CONDENSER SECTION.

DETAIL 'A' - DIAGNOSTICS

FLASHES	DIAGNOSIS
1	FAILED TO DETECT OR SUSTAIN FLAME.
2	PRESSURE SWITCH OR INDUCER PROBLEM DETECTED.
3	HIGH LIMIT SWITCH PROTECTION DEVICE OPEN.
4	FLAME SENSED GAS VALVE NOT ENERGIZED OR FLAME SENSED NO "R" SIGNAL.
5	FLAME ROLL OUT SWITCH OPEN.

COMPONENT CODE

BR	BLOWER RELAY	IDM	INDUCED DRAFT MOTOR
CA	COMFORT ALERT MODULE	IFC	INTEGRATED FURNACE CONTROL
CC	COMPRESSOR CONTACTOR	LAC	LOW AMBIENT COOLING CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
CFS	CLOGGED FILTER SWITCH	LPC	LOW PRESSURE CONTROL
COMP	COMPRESSOR	MRLC	MANUAL RESET LIMIT CONTROL
CT	CONTROL TRANSFORMER	NPC	NEGATIVE PRESSURE CONTROL
DAT	DISCHARGE AIR SENSOR	OAT	OUTSIDE AIR SENSOR
DSR	DISCHARGE SOLENOID RELAY	OFM	OUTDOOR FAN MOTOR
DISC	DISCONNECT SWITCH	OFMC	OUTDOOR FAN MOTOR CONTROLLER
FLMS	FLAME SENSOR	PL	PLUG
FP	FAN PROVING	PT	POWER TRANSFORMER
FS	FREEZE SENSOR	RAT	RETURN AIR SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET	RC	RUN CAPACITOR
GL	GROUND LUG	RTU-C	ROOFTOP UNIT CONTROL
GND	GROUND	SE	SPARK ELECTRODE
GV	GAS VALVE	TB	TERMINAL BLOCK
HPC	HIGH PRESSURE CONTROL	VFD	VARIABLE FREQUENCY DRIVE
IBM	INDOOR BLOWER MOTOR BELT 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.)

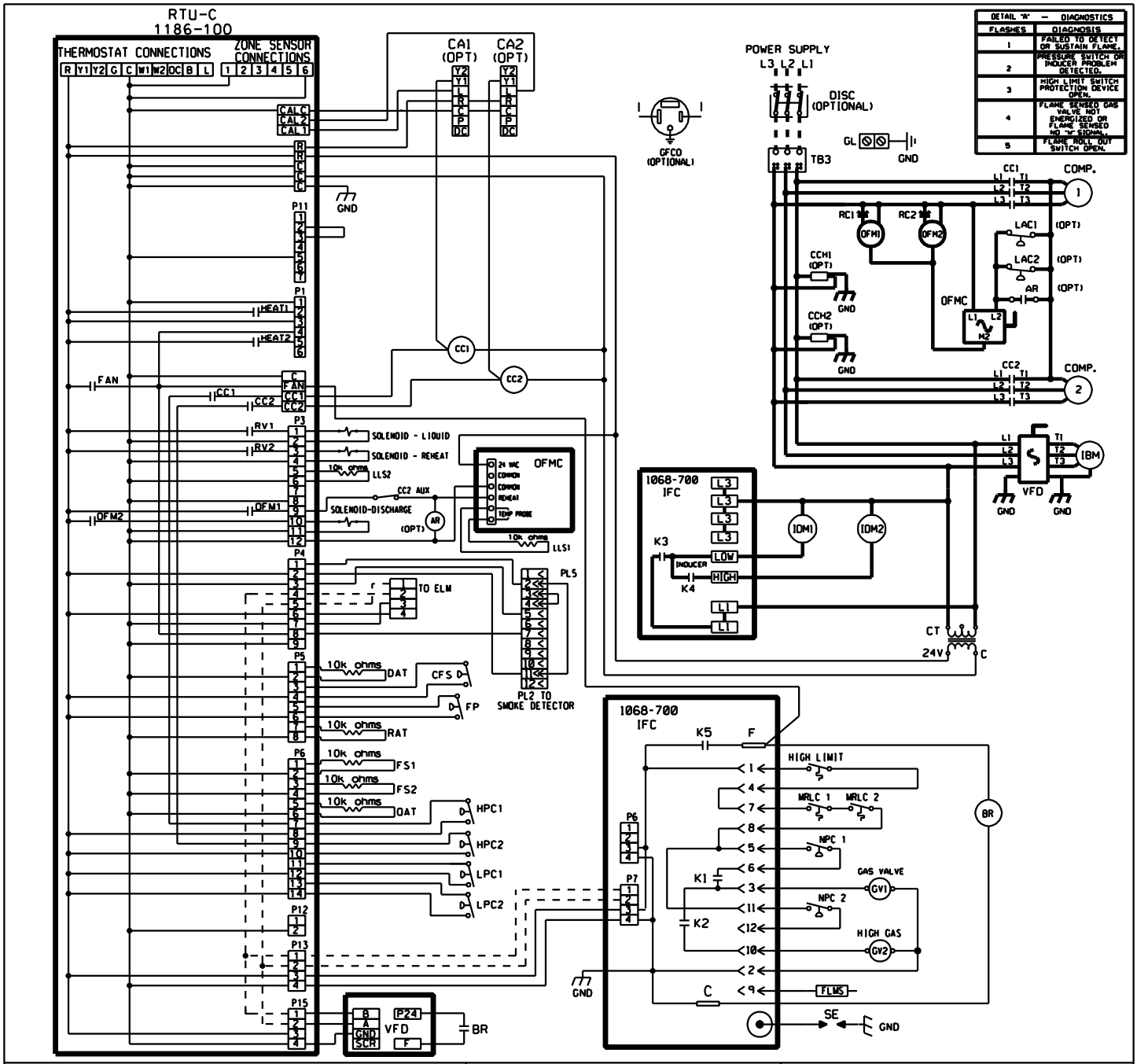
WARNING
- -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

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

WIRING DIAGRAM
REHEAT 090/120/151
208-230/460V 3 PH, 60 HZ.
ROOFTOP W/RTU-C

DR. BY	APP. BY	DATE	DWG. NO.	REV
JRJ		10-24-11	90-103089-21	03



COMPONENT CODE

AR	ACCESSORY RELAY
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
DSR	DISCHARGE SOLENOID RELAY
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FP	FAN PROVING
FS	FREEZE SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
GV	GAS VALVE
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
IDM	INDUCED DRAFT MOTOR
IFC	INTEGRATED FURNACE CONTROL
LAC	LOW AMBIENT COOLING CONTROL
LC	LIMIT CONTROL
LLS	LIQUID LINE SENSOR
LPC	LOW PRESSURE CONTROL
MRLC	MANUAL RESET LIMIT CONTROL
NPC	NEGATIVE PRESSURE CONTROL
OAT	OUTSIDE AIR SENSOR
OFM	OUTDOOR FAN MOTOR
OFMC	OUTDOOR FAN MOTOR CONTROLLER
PL	PLUG
RAT	RETURN AIR SENSOR
RC	RUN CAPACITOR
RTU-C	ROOFTOP UNIT CONTROL
SE	SPARK ELECTRODE
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.)

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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
REHEAT 090/120/151
208-230/460V 3 PH, 60 HZ.
ROOFTOP W/RTU-C

DR. BY	APP. BY	DATE	DWG. NO.	REV
JRJ		10-24-11	90-103246-18	03

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

GENERAL TERMS OF LIMITED WARRANTY*

Rheem 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
Factory Standard Heat Exchanger
3 Phase, Commercial Applications .....Ten (10) Years
Stainless Steel Heat Exchanger
3 Phase, Commercial Applications .....Twenty (20) Years

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

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PRINTED IN U.S.A 03/13 QG FORM NO. R11-861 REV. 1