



The new degree of comfort.™

## Rheem *Commercial Classic*® Series Package Gas Electric Unit



### **RKNL-B Series**

Nominal Sizes 6-12.5 Tons [21.1-44.0 kW]  
ASHRAE 90.1-2010 Compliant Models



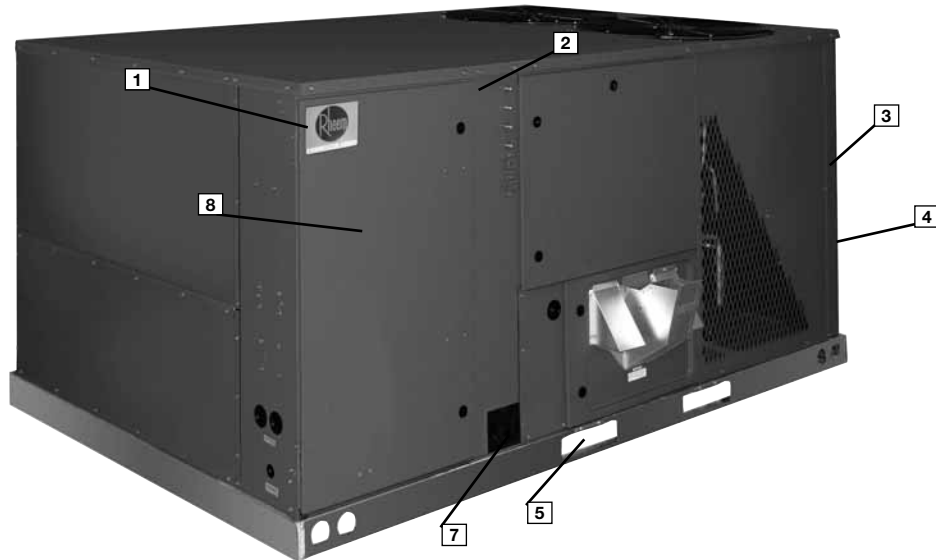
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## RKNL-B STANDARD FEATURES INCLUDE:

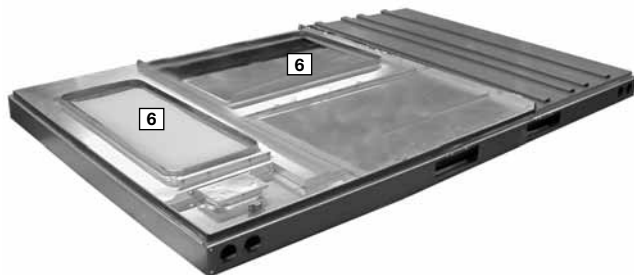
- R-410A HFC refrigerant.
- Complete factory charged, wired and run tested.
- Scroll compressors with internal line break overload and high-pressure protection.
- Single stage compressor on B073 model.
- Dual stage compressor on B090 – B151 models.
- Convertible airflow.
- TXV refrigerant metering system on each circuit (except on B073).
- 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 ASTM B117 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<sup>1</sup>/<sub>2</sub> uses MicroChannel condenser).
- Molded compressor plug.



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*<sup>™</sup> 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.

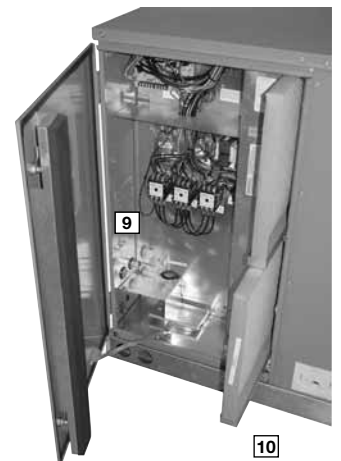
Anything built to last must start with the right foundation. In this case, the foundation is 14-gauge, commercial-grade, full-perimeter base rails (5), which integrate fork slots and rigging holes to save set-up time on the job site. The base pan is stamped, which forms a 1-1/8" flange around the supply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

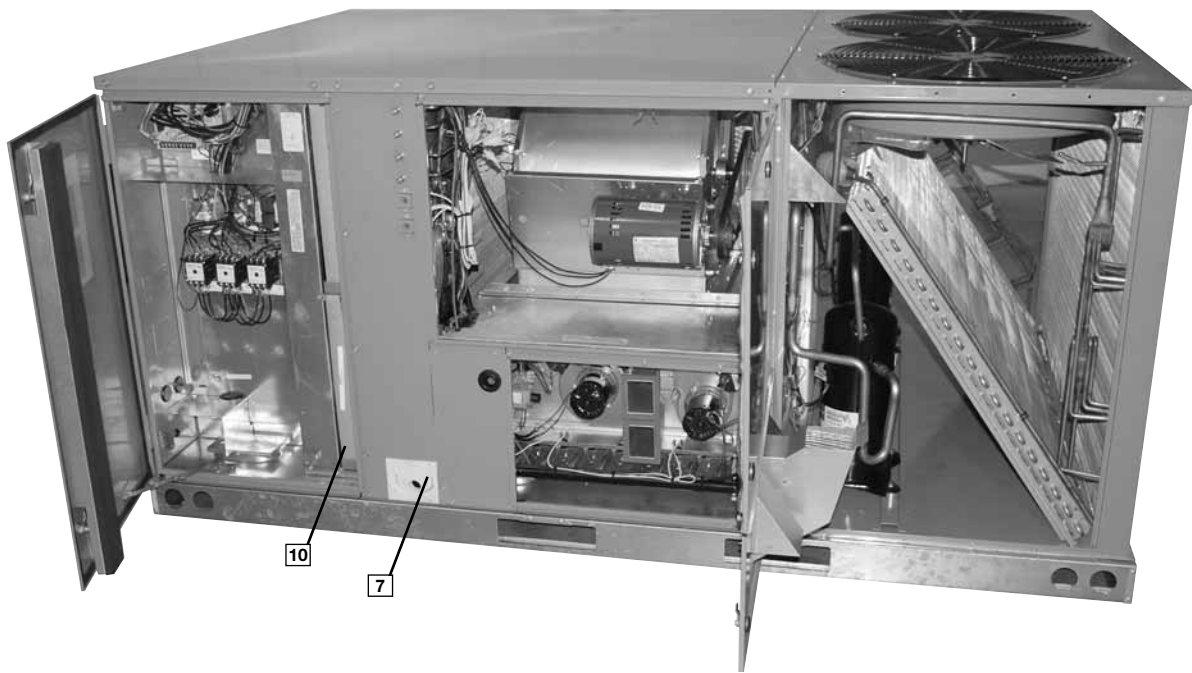


During development, each unit was tested to U.L. 1995, ANSI 21.47, AHRI 340-370 and other Rheem-required reliability tests. Rheem adheres to stringent ISO 9002 quality procedures, and each unit bears the U.L. and AHRI certification labels located on the unit nameplate (8). Contractors can rest assured that when a Rheem package unit arrives at the job, it is ready to go with a factory charge and quality checks. Each unit also proudly displays the "Made in the USA" designation.

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 motor and compressor motor for each compressor.



For added convenience in the field, a factory-installed convenience outlet and disconnect (12) 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.

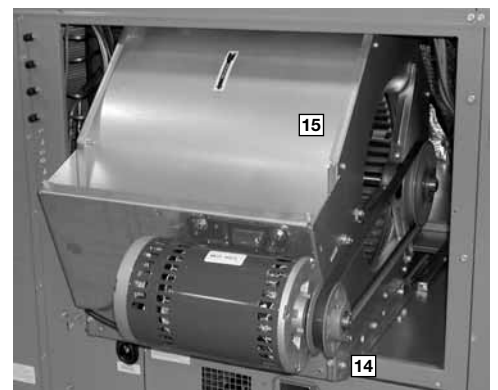


To the right of the electrical and filter compartment are the externally mounted gauge ports, which are permanently identified by embossed wording that clearly identifies the compressor circuit, high pressure connection and low pressure connection (13). With the gauge ports mounted externally, an accurate diagnostic of system

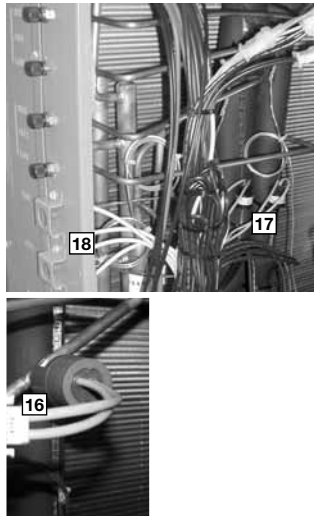


operation can be performed quickly and easily. Brass caps on the shraeder fitting assure that the gauge parts are leak proof.

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 (14) 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 (15) 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.

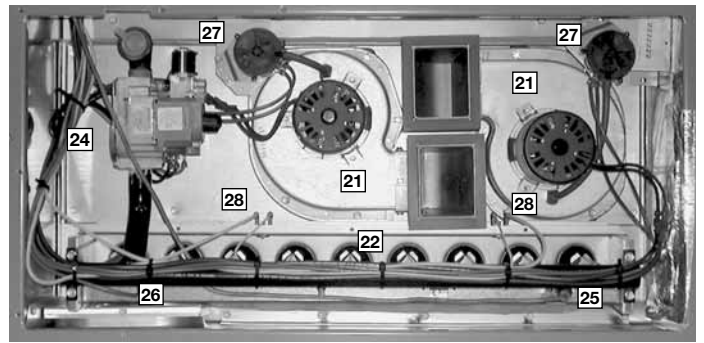
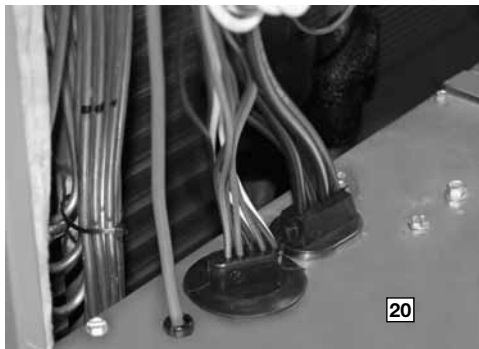


Also inside the blower compartment is the low-ambient control (16), low-pressure switch (17), high-pressure switch (18) and freeze stat refrigerant safety device (19). The low-ambient control allows for operation of the compressor down to 0 degrees ambient temperature by cycling the outdoor fans on high pressure. The high-pressure switch will shut off the compressors if pressures in excess of 610 PSIG are detected, this may occur if the outdoor fan motor fails. The low-pressure switch shuts off the compressors if low pressure is detected due to loss of charge. The freeze stat protects the compressor if the evaporator coil gets too cold (below freezing) due to low airflow. Each factory-installed option is brazed into the appropriate high or low side and wired appropriately. Use of polarized plugs and sharder 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 utilizes orifices).

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

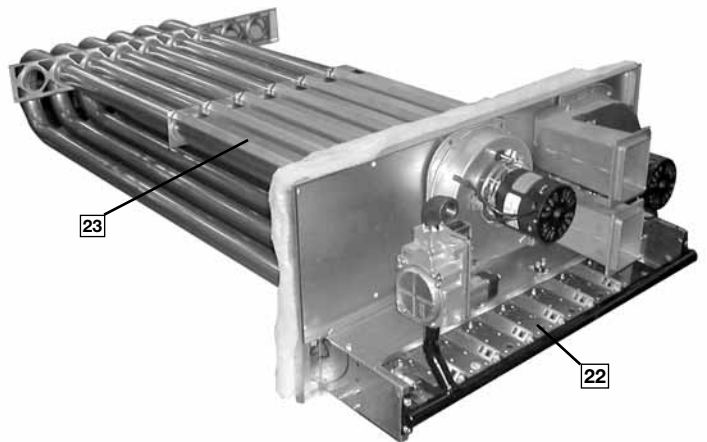


The furnace compartment contains the latest furnace technology on the market. The draft inducers (21) draw the flame from the Rheem exclusive in-shot burners (22) into the aluminized tubular heat exchanger (23) for clean, efficient gas heat. Stainless steel heat exchangers can be factory installed for those applications that have high fresh-air requirements, or applications in corrosive environments. Each furnace is equipped with a two-stage gas valve (24), 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 stioceometric burn at each stage.

The direct spark igniter (25) assures reliable ignition in the most adverse conditions. This is coupled with remote flame sense (26) 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:

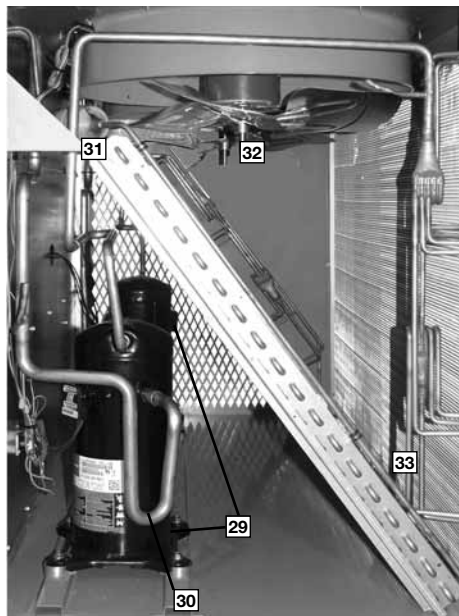
- Pressures switches (27) to assure adequate combustion airflow before ignition.
- Rollout switches (28) to assure no obstruction or cracks in the heat exchanger.
- A limit device that protects the furnace from over-temperature problems.





Air

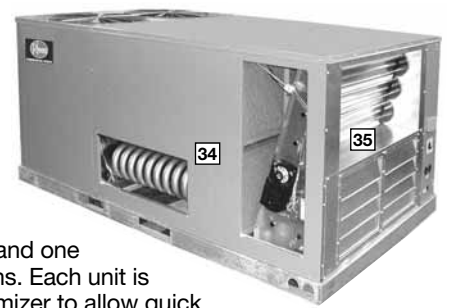
The compressor compartment houses the heart-beat of the unit. The scroll compressor (29) is known for its long life, and for reliable, quiet, and efficient operation. The suction and discharge lines are designed with shock loops (30) to absorb the strain and stress that the starting torque, steady state operation, and shut down cycle impose on the refrigerant tubing. Each compressor and circuit is independent for built-in redundancy, and each circuit is clearly marked throughout the system. Each unit has two stages of efficient cooling operation, first stage is approximately 50% of second stage. (073 single stage)



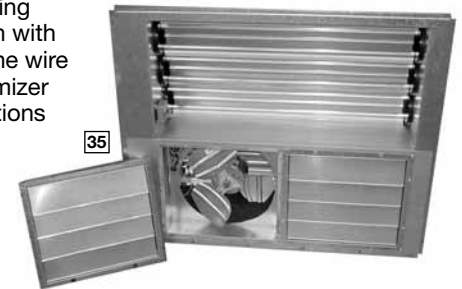
Each unit comes standard with filter dryer (31). The condenser fan motor (32) can easily be accessed and maintained through the blower compartment. The polarized plug connection allows the motor to be changed quickly and eliminates the need to snake wires through the unit.

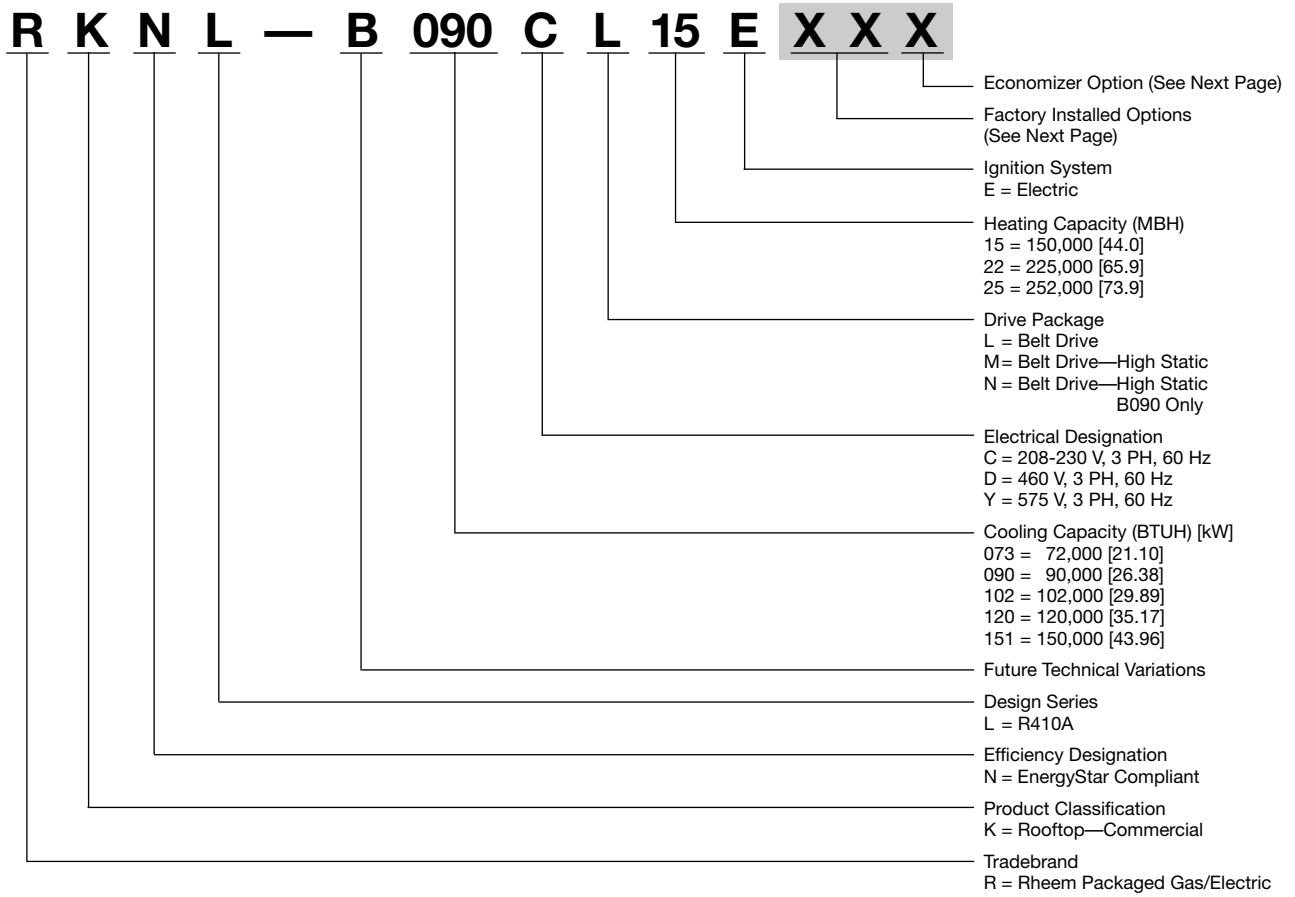
The outdoor coil uses the latest enhanced fin design (33) for the most effective method of heat transfer. The outdoor coil is protected by optional\* louvered panels, which allow unobstructed airflow while protecting the unit from both Mother Nature and vandalism.

Each unit is designed for both downflow or horizontal applications (34) for job configuration flexibility. The return air compartment can also contain an economizer (35). Two models exits, one for downflow applications, and one for horizontal applications. Each unit is pre-wired for the economizer to allow quick plug-in installation. The economizer is also available as a factory-installed option. Power Exhaust is easily field-installed. 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<sub>2</sub> setpoint. Barometric relief is standard on all economizers. 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 Rheem roofcurb (36) 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.





[ ] Designates Metric Conversions





## FACTORY INSTALLED OPTION CODES FOR KNL (6 TO 12.5 TON) [21.1 TO 44.0 kW]

Option Code	Hail Guard	Stainless Steel Heat Exchanger	Non-Powered Convenience Outlet/Unfused Service Disconnect	Low Ambient/ Freeze Stat
AD	x			
AJ		x		
AH			x	
AP				x
BF	x		x	
BG	x	x		
BY	x			x
JB		x	x	
CR	x	x		x
DN	x	x	x	x

## ECONOMIZER SELECTION FOR KNL (6 TO 12.5 TON) [21.1 TO 44.0 kW]

Option Code	No Economizer	Single Enthalpy Economizer w/Barometric Relief	Single Enthalpy Economizer w/Barometric Relief and Smoke Detector
A	x		
F		x	
G			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-B120CL22E .....this unit has no factory installed options.

RKNL-B120CL22E**BGA**.....this unit is equipped with *hail guard and stainless steel heat exchanger*.

RKNL-B120CL22E**AHA**.....this unit is equipped with a *non-powered convenience outlet and service disconnect*.

RKNL-B120CL22E**AHF** .....this unit is equipped as above *and* includes an *Economizer with single enthalpy sensor and with barometric relief*.

RKNL-B120CL22E**AAF** .....this unit is equipped with an *Economizer with single enthalpy sensor and Barometric Relief*.

[ ] Designates Metric Conversions



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

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

**Example:**

Voltage — 208/230V — 3 Phase — 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:

$99,950 + (1.10 \times 3,600 \times (1 - 0.03) \times (78 - 80))$   
 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 = 769  
 WATTS = 1,576  
 DRIVE = L (standard 2 H.P. motor)

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

$$1,576 \times 3.412 = 5,377 \text{ BTUH [1.57 kW]}$$

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

$$\text{Net Total Capacity} = 116,522 - 5,377 = 111,145 \text{ BTUH [32.54 kW]}$$

$$\text{Net Sensible Capacity} = 87,655 - 5,377 = 82,278 \text{ BTUH [24.09 kW]}$$

**7. CALCULATE UNIT INPUT AND JOB EER.**

$$\text{Total Power Input} = 8,861 \text{ (step 3)} + 1,576 \text{ (step 4)} = 10,437 \text{ Watts}$$

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

**8. SELECT UNIT HEATING CAPACITY.**

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

$$\text{Heating Capacity} = 182,250 \text{ BTUH [53.4 kW]}$$


**9. CHOOSE MODEL RKNL-B120CL22E**

\*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	B073CL15E	B073CM15E	B073DL15E	B073DM15E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> 
Gross Cooling Capacity Btu [kW]	75,000 [21.97]	75,000 [21.97]	75,000 [21.97]	75,000 [21.97]
EER/SEER <sup>2</sup>	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	2400/2325 [1133/1097]
AHRI Net Cooling Capacity Btu [kW]	72,000 [21.1]	72,000 [21.1]	72,000 [21.1]	72,000 [21.1]
Net Sensible Capacity Btu [kW]	52,800 [15.47]	52,800 [15.47]	52,800 [15.47]	52,800 [15.47]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]
IEER <sup>3</sup>	11.8	11.8	11.8	11.8
Net System Power kW	6.42	6.42	6.42	6.42
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C] (1st Stage / 2nd Stage)	30-60 [16.7-33.3] / 30-60 [16.7-33.3]	30-60 [16.7-33.3] / 30-60 [16.7-33.3]	30-60 [16.7-33.3] / 30-60 [16.7-33.3]	30-60 [16.7-33.3] / 30-60 [16.7-33.3]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	6	6	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.5 [12.7]	0.5 [12.7]	0.5 [12.7]
<b>Compressor</b>				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/11x12 [279x305]	1/11x12 [279x305]	1/11x12 [279x305]	1/11x12 [279x305]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	1 1/2	1 1/2	1 1/2	1 1/2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	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]
<b>Refrigerant Charge Oz. [g]</b>	125 [3544]	125 [3544]	125 [3544]	125 [3544]
<b>Weights</b>				
Net Weight lbs. [kg]	901 [409]	901 [409]	901 [409]	901 [409]
Ship Weight lbs. [kg]	938 [425]	938 [425]	938 [425]	938 [425]

See Page 24 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	B073YL15E	B073YM15E	B090CL15E	B090CL22E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	75,000 [21.97]	75,000 [21.97]	93,000 [27.25]	93,000 [27.25]
EER/SEER <sup>2</sup>	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2400/2325 [1133/1097]	2400/2325 [1133/1097]	3000/2775 [1416/1310]	3000/2775 [1416/1310]
AHRI Net Cooling Capacity Btu [kW]	72,000 [21.1]	72,000 [21.1]	90,000 [26.37]	90,000 [26.37]
Net Sensible Capacity Btu [kW]	52,800 [15.47]	52,800 [15.47]	63,100 [18.49]	63,100 [18.49]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	26,900 [7.88]	26,900 [7.88]
IEER <sup>3</sup>	11.8	11.8	11.9	11.9
Net System Power kW	6.42	6.42	7.99	7.99
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	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]	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range °F [°C] (1st Stage / 2nd Stage)	30-60 [16.7-33.3] / 30-60 [16.7-33.3]	30-60 [16.7-33.3] / 30-60 [16.7-33.3]	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	6	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.5 [12.7]	0.5 [12.7]	0.75 [19]
<b>Compressor</b>				
No./Type	1/Scroll	1/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/11x12 [279x305]	1/11x12 [279x305]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	1 1/2	1 1/2	2	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	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]
<b>Refrigerant Charge Oz. [g]</b>	125 [3544]	125 [3544]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
<b>Weights</b>				
Net Weight lbs. [kg]	901 [409]	901 [409]	1017 [461]	1053 [478]
Ship Weight lbs. [kg]	938 [425]	938 [425]	1054 [478]	1090 [494]

See Page 24 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	B090CM15E	B090CM22E	B090CN15E	B090CN22E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]
EER/SEER <sup>2</sup>	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 <sup>3</sup>	11.9	11.9	11.9	11.9
Net System Power kW	7.99	7.99	7.99	7.99
<b>Heating Performance (Gas)<sup>4</sup></b>				
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 °F [°C]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	25-55 [13.9/30.6]	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]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	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]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
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
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. [g]</b>	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
<b>Weights</b>				
Net Weight lbs. [kg]	1017 [461]	1053 [478]	1025 [465]	1061 [481]
Ship Weight lbs. [kg]	1054 [478]	1090 [494]	1062 [482]	1098 [498]

See Page 24 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	B090DL15E	B090DL22E	B090DM15E	B090DM22E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]
EER/SEER <sup>2</sup>	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 <sup>3</sup>	11.9	11.9	11.9	11.9
Net System Power kW	7.99	7.99	7.99	7.99
<b>Heating Performance (Gas)<sup>4</sup></b>				
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 °F [°C]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	25-55 [13.9/30.6]	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]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	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]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	2	2	2	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. [g]</b>	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
<b>Weights</b>				
Net Weight lbs. [kg]	1025 [465]	1053 [478]	1017 [461]	1053 [478]
Ship Weight lbs. [kg]	1062 [482]	1090 [494]	1054 [478]	1090 [494]

See Page 24 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	B090DN15E	B090DN22E	B090YL22E	B090YM22E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]	93,000 [27.25]
EER/SEER <sup>2</sup>	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 <sup>3</sup>	11.9	11.9	11.9	11.9
Net System Power kW	7.99	7.99	7.99	7.99
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	112,500/225,000 [32.96/65.92]	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]	91,125/182,250 [26.7/53.4]	91,125/182,250 [26.7/53.4]
Temperature Rise Range °F [°C]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	40-70 [22.2/38.9]	40-70 [22.2/38.9]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	9	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.75 [19]	0.75 [19]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	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]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
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
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. [g]</b>	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
<b>Weights</b>				
Net Weight lbs. [kg]	1025 [465]	1061 [481]	1053 [478]	1053 [478]
Ship Weight lbs. [kg]	1062 [482]	1098 [498]	1090 [494]	1090 [494]

See Page 24 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	B090YN22E	B102CL15E	B102CL22E	B102CM15E
<b>Cooling Performance<sup>1</sup></b>				
<b>CONTINUED →</b>				
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]
EER/SEER <sup>2</sup>	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2775 [1416/1310]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]
AHRI Net Cooling Capacity Btu [kW]	90,000 [26.37]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]
Net Sensible Capacity Btu [kW]	63,100 [18.49]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]
Net Latent Capacity Btu [kW]	26,900 [7.88]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]
IEER <sup>3</sup>	11.9	12	12	12
Net System Power kW	7.99	8.59	8.59	8.59
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	9,113/182,250 [2.67/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C]	40-70 [22.2/38.9]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	25-55 [13.9/30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	6	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>				
	88	88	88	88
<b>Outdoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
	1 / 22 [9]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
<b>Indoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
	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]
<b>Outdoor Fan—Type</b>				
	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
<b>Indoor Fan—Type</b>				
	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	2	2	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>				
	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]</b>				
	107.5/110.7 [3048/3138]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]
<b>Weights</b>				
Net Weight lbs. [kg]	1061 [481]	1059 [480]	1095 [497]	1067 [484]
Ship Weight lbs. [kg]	1098 [498]	1096 [497]	1132 [513]	1104 [501]

See Page 24 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	B102CM22E	B102DL15E	B102DL22E	B102DM15E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]
EER/SEER <sup>2</sup>	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]
AHRI Net Cooling Capacity Btu [kW]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]
Net Sensible Capacity Btu [kW]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]
Net Latent Capacity Btu [kW]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]
IEER <sup>3</sup>	12	12	12	12
Net System Power kW	8.59	8.59	8.59	8.59
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C]	40-70 [22.2/38.9]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	25-55 [13.9/30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	6	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	2	2	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]</b>	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]
<b>Weights</b>				
Net Weight lbs. [kg]	1103 [500]	1059 [480]	1095 [497]	1067 [484]
Ship Weight lbs. [kg]	1140 [517]	1096 [497]	1132 [513]	1104 [501]

See Page 24 for Notes.

[ ] Designates Metric Conversions



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

Model RKLN- Series	B102DM22E	B102YL22E	B102YM22E	B120CL15E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	101,000 [29.59]	101,000 [29.59]	101,000 [29.59]	123,000 [36.04]
EER/SEER <sup>2</sup>	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	4000/3750 [1888/1770]
AHRI Net Cooling Capacity Btu [kW]	97,000 [28.42]	97,000 [28.42]	97,000 [28.42]	118,000 [34.57]
Net Sensible Capacity Btu [kW]	74,000 [21.68]	74,000 [21.68]	74,000 [21.68]	88,800 [26.02]
Net Latent Capacity Btu [kW]	23,000 [6.74]	23,000 [6.74]	23,000 [6.74]	29,200 [8.56]
IEER <sup>3</sup>	12	12	12	12
Net System Power kW	8.59	8.59	8.59	10.49
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	112,500/22,500 [32.96/6.59]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	91,125/182,250 [26.7/53.4]	91,250/182,250 [26.69/53.4]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C]	40-70 [22.2/38.9]	40-70 [22.2/38.9]	40-70 [22.2/38.9]	15-45 [8.3/25]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	9	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.75 [19]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 22 [9]
<b>Indoor Coil—Fin Type</b>	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]	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]</b>	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	172.8/180.8 [4899/5126]
<b>Weights</b>				
Net Weight lbs. [kg]	1103 [500]	1095 [497]	1103 [500]	1112 [504]
Ship Weight lbs. [kg]	1140 [517]	1132 [513]	1140 [517]	1149 [521]

See Page 24 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	B120CL22E	B120CM15E	B120CM22E	B120DL15E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]
EER/SEER <sup>2</sup>	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 <sup>3</sup>	12	11.9	11.9	11.9
Net System Power kW	10.49	10.49	10.49	10.49
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C]	25-55 [13.9/30.6]	15-45 [8.3/25]	25-55 [13.9/30.6]	15-45 [8.3/25]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	6	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>	88	88	88	88
<b>Outdoor Coil—Fin Type</b>	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]
<b>Indoor Coil—Fin Type</b>	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]
<b>Outdoor Fan—Type</b>	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
<b>Indoor Fan—Type</b>	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	2	3	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]</b>	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]
<b>Weights</b>				
Net Weight lbs. [kg]	1148 [521]	1120 [508]	1156 [524]	1112 [504]
Ship Weight lbs. [kg]	1185 [538]	1157 [525]	1193 [541]	1149 [521]

See Page 24 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	B120DL22E	B120DM15E	B120DM22E	B120YL22E
<b>Cooling Performance<sup>1</sup></b>				<b>CONTINUED</b> →
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]
EER/SEER <sup>2</sup>	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 <sup>3</sup>	11.9	11.9	11.9	11.9
Net System Power kW	10.49	10.49	10.49	10.49
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	91,125/182,250 [26.7/53.4]
Temperature Rise Range °F [°C]	25-55 [13.9/30.6]	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	9	6	9	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.75 [19]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>				
	88	88	88	88
<b>Outdoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
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]
<b>Indoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
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]
<b>Outdoor Fan—Type</b>				
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
<b>Indoor Fan—Type</b>				
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	2	3	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
<b>Filter—Type</b>				
Furnished	Disposable	Disposable	Disposable	Disposable
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]</b>				
	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]
<b>Weights</b>				
Net Weight lbs. [kg]	1148 [521]	1120 [508]	1156 [524]	1148 [521]
Ship Weight lbs. [kg]	1185 [538]	1157 [525]	1193 [541]	1185 [538]

See Page 24 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	B120YM22E	B151CL15E	B151CL25E	B151CM15E
<b>Cooling Performance<sup>1</sup></b>				
<b>CONTINUED</b> 				
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]
EER/SEER <sup>2</sup>	11.2/NA	10.8/NA	10.8/NA	10.8/NA
Nominal CFM/AHRI Rated CFM [L/s]	4000/3750 [1888/1770]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	118,000 [34.57]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	88,800 [26.02]	99,500 [29.15]	99,500 [29.15]	99,500 [29.15]
Net Latent Capacity Btu [kW]	29,200 [8.56]	40,500 [11.87]	40,500 [11.87]	40,500 [11.87]
IEER <sup>3</sup>	11.9	10.8	10.8	10.8
Net System Power kW	10.49	12.73	12.73	12.73
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C] (1st Stage / 2nd Stage)	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]	15-45 [8.3-25] / 15-45 [8.3-25]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	6	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>				
	88	88	88	88
<b>Outdoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	Rifled	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	0.375 [9.5]	1 [25.4]	1 [25.4]	1 [25.4]
Rows / FPI [FPCm]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
	2 / 22 [9]	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
<b>Indoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPCm]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
	3 / 18 [7]	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]
<b>Outdoor Fan—Type</b>				
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/3 HP	2 at 1/2 HP	2 at 1/2 HP	2 at 1/2 HP
	1075	1075	1075	1075
<b>Indoor Fan—Type</b>				
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
No. Motors	Belt/Variable	Belt (Adjustable)/Single	Belt (Adjustable)/Single	Belt (Adjustable)/Single
Motor HP	1	1	1	1
Motor RPM	3	3	3	5
Motor Frame Size	1725	1725	1725	1725
	56	56	56	184
<b>Filter—Type</b>				
Furnished	Disposable	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes	Yes
	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. [g]</b>				
	172.8/180.8 [4899/5126]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]
<b>Weights</b>				
Net Weight lbs. [kg]	1156 [524]	1266 [574]	1266 [574]	1238 [562]
Ship Weight lbs. [kg]	1193 [541]	1303 [591]	1267 [575]	1267 [575]

See Page 24 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	B151CM25E	B151DL15E	B151DL25E	B151DM15E
<b>Cooling Performance<sup>1</sup></b>				
Gross Cooling Capacity Btu [kW]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]
EER/SEER <sup>2</sup>	10.8/NA	10.8/NA	10.8/NA	10.8/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	99,500 [29.15]	99,500 [29.15]	99,500 [29.15]	99,500 [29.15]
Net Latent Capacity Btu [kW]	40,500 [11.87]	40,500 [11.87]	40,500 [11.87]	40,500 [11.87]
IEER <sup>3</sup>	10.8	10.8	10.8	10.8
Net System Power kW	12.73	12.73	12.73	12.73
<b>Heating Performance (Gas)<sup>4</sup></b>				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	126,000/252,000 [36.92/73.84]	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]	75,000/150,000 [21.97/43.95]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	102,000/204,000 [29.89/59.77]	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]	60,750/121,500 [17.8/35.6]
Temperature Rise Range °F [°C] (1st Stage / 2nd Stage)	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]	15-45 [8.3-25] / 15-45 [8.3-25]
Steady State Efficiency (%)	81	81	81	81
No. Burners	9	6	9	6
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.5 [12.7]	0.75 [19]	0.5 [12.7]
<b>Compressor</b>				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>				
	88	88	88	88
<b>Outdoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Rows / FPI [FPcm]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
<b>Indoor Coil—Fin Type</b>				
Tube Type	Louvered	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Refrigerant Control	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]
Drain Connection No./Size in. [mm]	TX Valves	TX Valves	TX Valves	TX Valves
<b>Outdoor Fan—Type</b>				
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/2 HP	2 at 1/2 HP	2 at 1/2 HP	2 at 1/2 HP
<b>Indoor Fan—Type</b>				
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
No. Motors	Belt (Adjustable)/Single	Belt (Adjustable)/Single	Belt (Adjustable)/Single	Belt (Adjustable)/Single
Motor HP	1	1	1	1
Motor RPM	5	3	3	5
Motor Frame Size	1725	1725	1725	1725
<b>Filter—Type</b>				
Furnished	Disposable	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes	Yes
Refrigerant Charge Oz. [g]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Weights</b>				
Net Weight lbs. [kg]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]
Ship Weight lbs. [kg]	1265 [574]	1230 [558]	1266 [574]	1238 [562]
	1267 [575]	1267 [575]	1267 [575]	1267 [575]

See Page 24 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	B151DM25E	B151YL25E	B151YM25E
<b>Cooling Performance<sup>1</sup></b>			
Gross Cooling Capacity Btu [kW]	146,000 [42.78]	146,000 [42.78]	146,000 [42.78]
EER/SEER <sup>2</sup>	10.8/NA	10.8/NA	10.8/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	140,000 [41.02]	140,000 [41.02]	140,000 [41.02]
Net Sensible Capacity Btu [kW]	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]
IEER <sup>3</sup>	10.8	10.8	10.8
Net System Power kW	12.73	12.73	12.73
<b>Heating Performance (Gas)<sup>4</sup></b>			
Heating Input Btu [kW] (1st Stage / 2nd Stage)	126,000/252,000 [36.92/73.84]	126,000/252,000 [36.92/73.84]	126,000/252,000 [36.92/73.84]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	102,000/204,000 [29.89/59.77]	102,000/204,000 [29.89/59.77]	102,000/204,000 [29.89/59.77]
Temperature Rise Range °F [°C] (1st Stage / 2nd Stage)	25-55 [13.9-30.6] / 25-55 [13.9-30.6]	25-55 [13.9-30.6] / 25-55 [13.9-30.6]	25-55 [13.9-30.6] / 25-55 [13.9-30.6]
Steady State Efficiency (%)	81	81	81
No. Burners	9	9	9
No. Stages	2	2	2
Gas Connection Pipe Size in. [mm]	0.75 [19]	0.75 [19]	0.75 [19]
<b>Compressor</b>			
No./Type	2/Scroll	2/Scroll	2/Scroll
<b>Outdoor Sound Rating (dB)<sup>5</sup></b>			
	88	88	88
<b>Outdoor Coil—Fin Type</b>			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
<b>Indoor Coil—Fin Type</b>			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled
Tube Size in. [mm]	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]
Rows / FPI [FPcm]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
<b>Outdoor Fan—Type</b>			
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/2 HP	2 at 1/2 HP	2 at 1/2 HP
	1075	1075	1075
<b>Indoor Fan—Type</b>			
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
No. Motors	Belt (Adjustable)/Single	Belt (Adjustable)/Single	Belt (Adjustable)/Single
Motor HP	1	1	1
Motor RPM	5	3	5
Motor Frame Size	1725	1725	1725
	184	56	184
<b>Filter—Type</b>			
Furnished	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes
	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
<b>Refrigerant Charge Oz. [g]</b>			
	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]
<b>Weights</b>			
Net Weight lbs. [kg]	1265 [574]	1266 [574]	1265 [574]
Ship Weight lbs. [kg]	1267 [575]	1267 [575]	1267 [575]

See Page 24 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  $\pm 20\%$  of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 340/360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. 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—B073

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

## GROSS SYSTEMS PERFORMANCE DATA—B090

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

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—B102

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]		4100 [6035]	3200 [1510]	2700 [1274]	4100 [6035]	3200 [1510]	2700 [1274]	4100 [6035]	3200 [1510]	2700 [1274]	
DR ①		0	.05	.08	0	.05	.08	0	.05	.08	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	113.8 [33.4]	108.3 [31.7]	105.2 [30.8]	110.1 [32.3]	104.7 [30.7]	101.7 [29.8]	105.0 [30.8]	99.9 [29.3]	97.0 [28.4]
		Sens BTUH [kW]	69.9 [20.5]	56.3 [16.5]	49.3 [14.5]	91.3 [26.8]	75.3 [22.1]	67.0 [19.6]	103.1 [30.2]	86.0 [25.2]	77.0 [22.6]
		Power	6.4	6.3	6.2	6.3	6.2	6.1	6.2	6.1	6.0
	80 [26.7]	Total BTUH [kW]	113.7 [33.3]	108.2 [31.7]	105.1 [30.8]	110.0 [32.2]	104.6 [30.7]	101.7 [29.8]	104.9 [30.7]	99.8 [29.2]	96.9 [28.4]
		Sens BTUH [kW]	71.7 [21.0]	57.9 [17.0]	50.8 [14.9]	93.1 [27.3]	76.9 [22.5]	68.6 [20.1]	104.9 [30.8]	87.6 [25.7]	78.5 [23.0]
		Power	6.7	6.6	6.5	6.7	6.5	6.4	6.6	6.4	6.3
	85 [29.4]	Total BTUH [kW]	112.9 [33.1]	107.5 [31.5]	104.4 [30.6]	109.2 [32.0]	103.9 [30.5]	101.0 [29.6]	104.1 [30.5]	99.1 [29.0]	96.2 [28.2]
		Sens BTUH [kW]	72.6 [21.3]	58.8 [17.2]	51.6 [15.1]	94.0 [27.6]	77.8 [22.8]	69.4 [20.3]	104.1 [30.5]	88.5 [25.9]	79.4 [23.3]
		Power	7.1	6.9	6.8	7.0	6.8	6.7	6.9	6.7	6.7
	90 [32.2]	Total BTUH [kW]	111.5 [32.7]	106.1 [31.1]	103.1 [30.2]	107.8 [31.6]	102.5 [30.0]	99.6 [29.2]	102.7 [30.1]	97.7 [28.6]	94.9 [27.8]
Sens BTUH [kW]		72.9 [21.4]	59.0 [17.3]	51.9 [15.2]	94.2 [27.6]	78.0 [22.9]	69.6 [20.4]	102.7 [30.1]	88.7 [26.0]	79.6 [23.3]	
Power		7.4	7.3	7.2	7.4	7.2	7.1	7.3	7.1	7.0	
95 [35]	Total BTUH [kW]	109.4 [32.1]	104.1 [30.5]	101.1 [29.6]	105.7 [31.0]	100.5 [29.5]	97.7 [28.6]	100.6 [29.5]	95.7 [28.0]	93.0 [27.3]	
	Sens BTUH [kW]	72.2 [21.2]	58.5 [17.2]	51.5 [15.1]	93.6 [27.4]	77.5 [22.7]	69.3 [20.3]	100.6 [29.5]	88.2 [25.9]	79.3 [23.3]	
	Power	7.8	7.6	7.5	7.7	7.6	7.4	7.7	7.5	7.4	
100 [37.8]	Total BTUH [kW]	106.6 [31.2]	101.4 [29.7]	98.6 [28.9]	102.9 [30.2]	97.9 [28.7]	95.1 [27.9]	97.8 [28.7]	93.0 [27.3]	90.4 [26.5]	
	Sens BTUH [kW]	70.7 [20.7]	57.3 [16.8]	50.5 [14.8]	92.1 [27.0]	76.4 [22.4]	68.2 [20.0]	97.8 [28.7]	87.0 [25.5]	78.2 [22.9]	
	Power	8.2	8.0	7.9	8.1	8.0	7.8	8.1	7.9	7.8	
105 [40.6]	Total BTUH [kW]	103.2 [30.2]	98.1 [28.8]	95.4 [28.0]	99.4 [29.1]	94.6 [27.7]	91.9 [26.9]	94.3 [27.6]	89.8 [26.3]	87.2 [25.6]	
	Sens BTUH [kW]	68.4 [20.1]	55.4 [16.2]	48.9 [14.3]	89.7 [26.3]	74.5 [21.8]	66.6 [19.5]	94.3 [27.6]	85.2 [25.0]	76.6 [22.5]	
	Power	8.7	8.4	8.3	8.6	8.4	8.2	8.5	8.3	8.2	
110 [43.3]	Total BTUH [kW]	99.0 [29.0]	94.2 [27.6]	91.5 [26.8]	95.3 [27.9]	90.7 [26.6]	88.1 [25.8]	90.2 [26.4]	85.8 [25.1]	83.4 [24.4]	
	Sens BTUH [kW]	65.2 [19.1]	52.8 [15.5]	46.4 [13.6]	86.7 [25.4]	72.0 [21.1]	64.3 [18.9]	90.2 [26.4]	82.5 [24.2]	74.3 [21.8]	
	Power	9.1	8.9	8.8	9.0	8.8	8.7	8.9	8.7	8.6	
115 [46.1]	Total BTUH [kW]	94.2 [27.6]	89.6 [26.3]	87.1 [25.5]	90.5 [26.5]	86.1 [25.2]	83.7 [24.5]	85.4 [25.0]	81.3 [23.8]	78.9 [23.1]	
	Sens BTUH [kW]	61.3 [18.0]	49.6 [14.5]	43.7 [12.8]	82.7 [24.2]	68.7 [20.1]	61.5 [18.0]	85.4 [25.0]	79.4 [23.3]	71.4 [20.9]	
	Power	9.6	9.3	9.2	9.5	9.3	9.1	9.4	9.2	9.1	

## GROSS SYSTEMS PERFORMANCE DATA—B120

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

DR —Depression ratio  
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  $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$ .

[ ] Designates Metric Conversions

# GROSS SYSTEMS PERFORMANCE DATA—B151

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]		5070 [2393]	4225 [1994]	3380 [1595]	5070 [2393]	4225 [1994]	3380 [1595]	5070 [2393]	4225 [1994]	3380 [1595]	
DR ①		0.11	0.08	0.05	0.11	0.08	0.05	0.11	0.08	0.05	
OUTDOOR DRY BULB TEMPERATURE [°C]	75 [23.9]	Total BTUH [kW] Sens BTUH [kW] Power	180.7 [52.9] 98.6 [28.9] 9.2	174.3 [51.1] 90.2 [26.4] 9.1	168 [49.2] 81.8 [24.0] 8.9	171.0 [50.1] 119.8 [35.1] 9	165 [48.3] 109.6 [32.1] 8.8	159 [46.6] 99.4 [29.1] 8.7	163 [47.8] 137.4 [40.3] 8.8	157.3 [46.1] 125.7 [36.8] 8.6	151.6 [44.4] 114 [33.4] 8.5
	80 [26.7]	Total BTUH [kW] Sens BTUH [kW] Power	176.1 [51.6] 98.5 [28.9] 9.7	169.9 [49.8] 90.1 [26.4] 9.5	163.7 [48.0] 81.7 [23.9] 9.4	166.4 [48.8] 119.7 [35.1] 9.5	160.6 [47.1] 109.5 [32.1] 9.3	154.7 [45.3] 99.3 [29.1] 9.2	158.4 [46.4] 137.3 [40.2] 9.3	152.9 [44.8] 125.6 [36.8] 9.1	147.3 [43.2] 113.9 [33.4] 8.9
	85 [29.4]	Total BTUH [kW] Sens BTUH [kW] Power	171.3 [50.2] 97.8 [28.7] 10.2	165.3 [48.4] 89.4 [26.2] 10	159.3 [46.7] 81.1 [23.8] 9.9	161.6 [47.4] 119 [34.9] 10	156 [45.7] 108.8 [31.9] 9.8	150.3 [44.0] 98.7 [28.9] 9.6	153.6 [45.0] 136.6 [40.0] 9.8	148.3 [43.4] 124.9 [36.6] 9.6	142.9 [41.9] 113.3 [33.2] 9.4
	90 [32.2]	Total BTUH [kW] Sens BTUH [kW] Power	166.4 [48.8] 96.4 [28.2] 10.8	160.5 [47.0] 88.2 [25.8] 10.6	154.7 [45.3] 79.9 [23.4] 10.4	156.7 [45.9] 117.6 [34.5] 10.5	151.2 [44.3] 107.6 [31.5] 10.4	145.7 [42.7] 97.5 [28.6] 10.2	148.7 [43.6] 135.2 [39.6] 10.3	143.5 [42.0] 123.7 [36.2] 10.1	138.2 [40.5] 112.1 [32.9] 9.9
	95 [35]	Total BTUH [kW] Sens BTUH [kW] Power	161.2 [47.2] 94.4 [27.7] 11.3	155.6 [45.6] 86.3 [25.3] 11.1	149.9 [43.9] 78.3 [22.9] 10.9	151.5 [44.4] 115.6 [33.9] 11.1	146.2 [42.8] 105.7 [31.0] 10.9	140.9 [41.3] 95.8 [28.1] 10.7	143.5 [42.1] 133.2 [39.0] 10.9	138.5 [40.6] 121.8 [35.7] 10.7	133.5 [39.1] 110.4 [32.4] 10.5
	100 [37.8]	Total BTUH [kW] Sens BTUH [kW] Power	155.9 [45.7] 91.7 [26.9] 11.9	150.4 [44.1] 83.9 [24.6] 11.7	144.9 [42.5] 76 [22.3] 11.5	146.2 [42.8] 112.9 [33.1] 11.7	141 [41.3] 103.3 [30.3] 11.5	135.9 [39.8] 93.6 [27.4] 11.3	138.2 [40.5] 130.5 [38.2] 11.5	133.3 [39.1] 119.4 [35] 11.3	128.5 [37.7] 108.2 [31.7] 11.1
	105 [40.6]	Total BTUH [kW] Sens BTUH [kW] Power	150.3 [44.1] 88.4 [25.9] 12.6	145.1 [42.5] 80.8 [23.7] 12.4	139.8 [41.0] 73.3 [21.5] 12.1	140.6 [41.2] 109.6 [32.1] 12.3	135.7 [39.8] 100.2 [29.4] 12.1	130.8 [38.3] 90.9 [26.6] 11.9	132.7 [38.9] 127.2 [37.3] 12.1	128 [37.5] 116.3 [34.1] 11.9	123.4 [36.1] 105.5 [30.9] 11.7
	110 [43.3]	Total BTUH [kW] Sens BTUH [kW] Power	144.6 [42.4] 84.4 [24.7] 13.2	139.6 [40.9] 77.2 [22.6] 13	134.5 [39.4] 70 [20.5] 12.8	134.9 [39.5] 105.6 [30.9] 13	130.2 [38.2] 96.6 [28.3] 12.8	125.5 [36.8] 87.6 [25.7] 12.6	126.9 [37.2] 123.2 [36.1] 12.8	122.5 [35.9] 112.7 [33] 12.6	118 [34.6] 102.2 [29.9] 12.3
	115 [46.1]	Total BTUH [kW] Sens BTUH [kW] Power	138.7 [40.7] 79.8 [23.4] 13.9	133.9 [39.2] 73 [21.4] 13.7	129 [37.8] 66.2 [19.4] 13.4	129 [37.8] 101 [29.6] 13.7	124.5 [36.5] 92.4 [27.1] 13.5	120 [35.2] 83.8 [24.5] 13.2	121 [35.5] 118.6 [34.8] 13.5	116.8 [34.2] 108.5 [31.8] 13.2	112.6 [33] 98.4 [28.8] 13
	120 [48.9]	Total BTUH [kW] Sens BTUH [kW] Power	132.6 [38.9] 74.6 [21.8] 14.7	128 [37.5] 68.2 [20.0] 14.4	123.3 [36.1] 61.8 [18.1] 14.1	122.9 [36.0] 95.8 [28.1] 14.4	118.6 [34.8] 87.6 [25.7] 14.2	114.3 [33.5] 79.4 [23.3] 13.9	115 [33.7] 113.4 [33.2] 14.2	110.9 [32.5] 103.7 [30.4] 14	106.9 [31.3] 94 [27.6] 13.7
125 [51.7]	Total BTUH [kW] Sens BTUH [kW] Power	126.4 [37.0] 68.7 [20.1] 15.4	121.9 [35.7] 62.8 [18.4] 15.1	117.5 [34.4] 56.9 [16.7] 14.9	116.7 [34.2] 89.9 [26.3] 15.2	112.6 [33.0] 82.2 [24.1] 14.9	108.5 [31.8] 74.5 [21.8] 14.7	108.7 [31.8] 107.5 [31.5] 15	104.9 [30.7] 98.3 [28.8] 14.7	101 [29.6] 89.1 [26.1] 14.4	

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  $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$ .

[ ] Designates Metric Conversions

# AIRFLOW PERFORMANCE—6 TON [21.1 kW] B073

Air Flow CFM [L/s]		External Static Pressure—Inches of Water [kPa]																												
		0.1 [ .02]		0.2 [ .05]		0.3 [ .07]		0.4 [ .10]		0.5 [ .12]		0.6 [ .15]		0.7 [ .17]		0.8 [ .20]		0.9 [ .22]		1.0 [ .25]		1.1 [ .27]		1.2 [ .30]		1.3 [ .32]		1.4 [ .35]		1.5 [ .37]
RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	
1800 [849]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1900 [897]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000 [944]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100 [991]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200 [1038]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300 [1085]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400 [1133]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500 [1180]	805	751	852	826	826	897	900	940	973	981	1046	1021	1118	1069	1188	1095	1258	1129	1327	1162	1395	1192	1462	1221	1529	1248	1594	1273	1658	—
2600 [1227]	831	813	877	890	922	967	964	1043	1005	1118	1044	1191	1081	1265	1116	1337	1149	1408	1181	1478	1211	1548	1239	1616	1265	1684	—	—	—	—
2700 [1274]	858	878	904	958	947	1037	989	1115	1029	1192	1067	1268	1103	1344	1137	1418	1170	1492	1201	1565	1230	1637	1257	1708	1282	1778	—	—	—	—
2800 [1321]	886	947	931	1029	973	1110	1014	1190	1053	1270	1091	1349	1126	1426	1160	1503	1191	1579	1221	1654	1250	1728	1276	1802	—	—	—	—	—	—

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

Drive Package	L												M											
	0		1		2		3		4		5		0		1		2		3		4		5	
Motor H.P. [W]	1.5 [1118.6]																							
Blower Sheave	AK66																							
Motor Sheave	1VP-44																							
Turns Open	0		1		2		3		4		5		0		1		2		3		4		5	
RPM	1119		1072		<b>1019</b>		967		915		859		1267		1215		1163		1113		1064		1015	

- NOTES: 1. Factory sheave settings are shown in bold type.  
 2. Do not set motor sheave below minimum turns open shown.  
 3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum E.S.P.  
 4. Drive data shown is for horizontal airflow with dry coil. Add component resistance to duct resistance to determine total E.S.P.

# AIRFLOW CORRECTION FACTORS 6 TON [21.1 kW]

ACTUAL—CFM [L/s]	1800 [849]	2000 [944]	2200 [1038]	2400 [1133]	2600 [1227]	2800 [1321]
TOTAL MBH	0.97	0.98	0.99	1.00	1.01	1.02
SENSIBLE MBH	0.91	0.94	0.97	1.00	1.02	1.05
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01

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

## [ ] Designates Metric Conversions

# COMPONENT AIR RESISTANCE, IWC 6 TON [21.1 kW]

Component	Standard Indoor Airflow—CFM [L/s]											
	1800 [849]		2000 [944]		2200 [1038]		2400 [1133]		2600 [1227]		2800 [1321]	
Wet Coil	0.031 [0.008]	0.036 [0.009]	0.041 [0.01]	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]	DNA	DNA	DNA	DNA	DNA	DNA
Concentric Diffuser RXRIN-FA65 or FA75 & Transition RXMC-CD04	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA
Concentric Diffuser RXRIN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA
Economizer	0.02 [0.005]	0.03 [0.007]	0.04 [0.01]	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]	0.02 [0.005]	0.03 [0.007]	0.04 [0.01]	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]
100% R.A. Damper Open	0.02 [0.005]	0.02 [0.005]	0.03 [0.007]	0.03 [0.007]	0.04 [0.01]	0.04 [0.01]	0.02 [0.005]	0.03 [0.007]	0.03 [0.007]	0.04 [0.01]	0.04 [0.01]	0.05 [0.012]
Horizontal Economizer	0.07 [0.017]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]
100% O.A. Damper Open	0.07 [0.017]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]

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

# AIRFLOW PERFORMANCE—7.5 TON [26.4 kW] (B090)

Air Flow CFM [L/s]	Capacity 7.5 Ton [26.4 kW]																			
	External Static Pressure—Inches of Water [kPa]																			
	0.1 [1.02]	0.2 [1.05]	0.3 [1.07]	0.4 [1.10]	0.5 [1.12]	0.6 [1.15]	0.7 [1.17]	0.8 [1.20]	0.9 [1.22]	1.0 [1.25]	1.1 [1.27]	1.2 [1.30]	1.3 [1.32]	1.4 [1.35]	1.5 [1.37]	1.6 [1.40]	1.7 [1.42]	1.8 [1.45]	1.9 [1.47]	2.0 [1.50]
2400 [1133]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500 [1180]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600 [1227]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700 [1274]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800 [1321]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900 [1369]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000 [1416]	546	741	854	869	617	931	650	1024	685	1144	734	1189	763	1251	792	1313	822	1375	851	1437
3100 [1463]	560	804	598	940	632	1010	664	1107	713	1187	743	1249	772	1311	801	1373	860	1497	889	1559
3200 [1510]	576	876	612	1011	646	1089	678	1189	722	1247	751	1309	781	1371	810	1433	839	1495	868	1557
3300 [1557]	592	954	628	1096	660	1168	692	1274	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617
3400 [1605]	607	1030	643	1180	673	1247	710	1306	739	1368	769	1430	798	1491	827	1553	856	1675	886	1737
3500 [1652]	622	1112	658	1271	689	1344	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737
3600 [1699]	638	1202	672	1361	704	1440	728	1426	757	1488	786	1550	815	1612	844	1674	874	1735	903	1797

NOTE: L-Drive left of 1st bold line, M-Drive in middle of bold lines, N-Drive right of 2nd bold line.

Drive Package	L	M	N
Motor H.P. [W]	2.0 [1491.4]	2.0 [1491.4]	3.0 [2237.1]
Blower Sheave	BK110	BK90	BK65
Motor Sheave	1VP-44	1VP-44	1VP-44
Turns Open	1 2 3 4	1 2 3 4	1 2 3 4 5 6
RPM	682 650 620 587	806 774 742 710	1056 1005 954 904

- NOTES: 1. Factory sheave settings are shown in bold print.  
 2. Re-adjustment of sheave required to achieve rated airflow at AHRH 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] (B090)

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] (B090)

Component	Standard Indoor Airflow—CFM [L/s]								Resistance—Inches Water [kPa]							
	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]		2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]	
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]		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	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	
Economizer	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]		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]	
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]		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	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]		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]	
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]		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—8.5 TON [29.9 kW] (B102)

Air Flow CFM [L/s]	Capacity 8.5 Ton [29.9 kW]																			
	External Static Pressure—Inches of Water [kPa]																			
	0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
2700 [1274]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800 [1321]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900 [1369]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000 [1416]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100 [1463]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200 [1510]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300 [1557]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400 [1605]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500 [1652]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600 [1699]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1886	953	1956
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1816	851	1890	878	1965	940	2003	960	2075
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1981	878	2056	935	2085	955	2199	975	2312
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	892	2091	942	2204	963	2318	983	2431

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

Drive Package	L						M					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	1	2	3	4	5	6	1	2	3	4	5	6
RPM	860	824	791	757	723	690	1148	1098	1049	999	949	899

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

# COMPONENT AIR RESISTANCE, IWC 8.5 TON [29.9 kW]

Component	Standard Indoor Airflow—CFM [L/s]											
	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]			
Wet Coil	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]			
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	0.17 [0.042]	0.20 [0.050]	0.25 [0.062]	0.31 [0.077]	0.37 [0.092]	DNA	DNA	DNA	DNA			
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	0.17 [0.042]	0.18 [0.045]	0.21 [0.052]	0.24 [0.060]			
Economizer	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]			
100% R.A. Damper Open	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]			
Horizontal Economizer	0.08 [0.020]	0.08 [0.020]	0.10 [0.024]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.036]	0.16 [0.040]	0.18 [0.044]			

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

# AIRFLOW CORRECTION FACTORS 8.5 TON [29.9 kW]

ACTUAL—CFM [L/s]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]
TOTAL MBH	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
SENSIBLE MBH	0.88	0.91	0.94	0.97	1.00	1.03	1.05	1.07	1.09
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01	1.01	1.02	1.03

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

## [ ] Designates Metric Conversions

**AIRFLOW PERFORMANCE—10 TON [35.2 kW]**

Capacity 10 Ton [35.2 kW]
Air Flow CFM [L/s]
External Static Pressure—Inches of Water [kPa]
Table with columns for Air Flow (3200-4800 CFM/L/s) and External Static Pressure (0.1-1.5 inches/kPa).

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

Table with columns for Drive Package, Motor H.P. [W], Blower Sheave, Motor Sheave, Turns Open, RPM. Includes sub-tables for L and M drive packages and a section for Turns Open and RPM.

**COMPONENT AIR RESISTANCE, IWC 10 TON [35.2 kW]**

Component Air Resistance table with columns: Component, Standard Indoor Airflow—CFM [L/s], Resistance—Inches Water [kPa].

**AIRFLOW CORRECTION FACTORS 10 TON [35.2 kW]**

Table with columns: ACTUAL—CFM [L/s], TOTAL MBH, SENSIBLE MBH, POWER kW. Rows for 3200, 3400, 3600, 3800, 4000, 4200, 4400, 4600, 4800.

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

**[ ] Designates Metric Conversions**

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

# AIRFLOW PERFORMANCE—12.5 TON [44.0 kW]

Air Flow CFM [L/s]		External Static Pressure—Inches of Water [kPa]																							
		Voltage 208/230, 460, 575 — 3 phase 60 Hz																							
		0.1 [1.793]	0.2 [1.05]	0.3 [0.7]	0.4 [1.10]	0.5 [1.12]	0.6 [1.15]	0.7 [1.17]	0.8 [1.20]	0.9 [1.22]	1.0 [1.25]	1.1 [1.27]	1.2 [1.30]	1.3 [1.32]	1.4 [1.35]	1.5 [1.37]	1.6 [1.40]	1.7 [1.42]	1.8 [1.45]	1.9 [1.47]	2.0 [1.50]				
3800 [11888]	—	—	—	—	828 [1605]	854 [1661]	879 [1722]	904 [1786]	929 [1853]	954 [1924]	979 [1998]	1004 [2075]	1028 [2156]	1052 [2241]	1076 [2328]	1099 [2420]	1123 [2514]	1146 [2613]	1169 [2714]	1192 [2819]	1215 [2928]				
4000 [11982]	—	—	—	830 [1735]	855 [1796]	880 [1859]	905 [1927]	930 [1997]	955 [2072]	979 [2149]	1004 [2230]	1028 [2315]	1052 [2403]	1075 [2494]	1099 [2589]	1122 [2687]	1145 [2789]	1168 [2894]	1190 [3002]	1213 [3114]	1235 [3230]				
4200 [12076]	836 [2029]	862 [2096]	886 [2167]	911 [2241]	936 [2319]	960 [2400]	984 [2485]	1008 [2573]	1031 [2664]	1055 [2759]	1078 [2858]	1101 [2959]	1124 [3065]	1146 [3173]	1169 [3285]	1191 [3401]	1213 [3520]	1235 [3642]	1256 [3768]	1278 [3897]	1299 [4030]				
4400 [12171]	867 [2263]	891 [2337]	916 [2415]	940 [2496]	964 [2581]	988 [2669]	1012 [2760]	1035 [2855]	1058 [2954]	1081 [3056]	1104 [3161]	1127 [3270]	1149 [3382]	1171 [3497]	1193 [3616]	1215 [3739]	1236 [3865]	1258 [3994]	1279 [4127]	1300 [4263]	1321 [4401]				
4600 [12265]	897 [2518]	922 [2599]	946 [2684]	970 [2772]	993 [2864]	1017 [2959]	1040 [3057]	1063 [3159]	1086 [3265]	1108 [3373]	1131 [3485]	1153 [3601]	1175 [3720]	1196 [3843]	1218 [3969]	1239 [4098]	1261 [4231]	1282 [4367]	1303 [4505]	1324 [4644]	1345 [4784]				
4800 [12359]	929 [2795]	953 [2883]	976 [2975]	1000 [3070]	1023 [3168]	1046 [3270]	1069 [3375]	1091 [3484]	1114 [3597]	1136 [3712]	1158 [3831]	1179 [3954]	1201 [4080]	1222 [4209]	1244 [4342]	1264 [4479]	1285 [4618]	1305 [4758]	1325 [4898]	1345 [5039]	1365 [5180]				
5000 [12454]	961 [3093]	984 [3188]	1007 [3286]	1030 [3388]	1053 [3494]	1076 [3603]	1098 [3715]	1120 [3831]	1142 [3950]	1164 [4072]	1186 [4199]	1207 [4328]	1228 [4461]	1249 [4597]	1270 [4737]	1290 [4880]	1310 [5022]	1329 [5165]	1348 [5309]	1367 [5454]	1386 [5600]				
5200 [12548]	993 [3412]	1016 [3514]	1039 [3619]	1062 [3728]	1084 [3841]	1106 [3956]	1128 [4076]	1150 [4198]	1171 [4324]	1193 [4454]	1214 [4587]	1235 [4723]	1256 [4863]	1276 [5007]	1296 [5153]	1315 [5299]	1334 [5446]	1353 [5594]	1371 [5742]	1389 [5890]	1407 [6038]				
5400 [12643]	1026 [3752]	1049 [3861]	1071 [3974]	1093 [4089]	1115 [4209]	1137 [4331]	1159 [4458]	1180 [4587]	1201 [4720]	1222 [4857]	1243 [4997]	1263 [5140]	1284 [5287]	1303 [5436]	1322 [5585]	1341 [5734]	1359 [5884]	1377 [6034]	1395 [6184]	1413 [6334]	1431 [6484]				
5600 [12737]	1060 [4114]	1082 [4230]	1104 [4349]	1126 [4472]	1147 [4598]	1169 [4728]	1190 [4861]	1211 [4997]	1232 [5137]	1252 [5281]	1272 [5428]	1292 [5578]	1311 [5728]	1330 [5878]	1349 [6028]	1367 [6178]	1385 [6328]	1403 [6478]	1421 [6628]	1439 [6778]	1457 [6928]				

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

Drive Package	L	M
Motor H.P. [W]	3.0 [2237.1]	5.0 [3728.5]
Blower Sheave	BK2H	BK85H
Motor Sheave	1VP-44	1VP-65
Turns Open	1 2 3 4 5 6	1 2 3 4 5 6
RPM	1051 1009 966 920 876 824	1216 1177 1136 1094

- 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 [11793]	4000 [11888]	4200 [11982]	4400 [12077]	4600 [12171]	4800 [12265]	5000 [12360]	5200 [12454]	5400 [12549]	5600 [12643]	5800 [12737]
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.

## [ J ] Designates Metric Conversions

# COMPONENT AIR RESISTANCE, IWC 12.5 TON [44.0 kW]

Component	Standard Indoor Airflow—CFM [L/s]												Resistance—Inches Water [kPa]											
	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]		
	Wet Coil	0.08 [0.02]	0.09 [0.02]	0.09 [0.02]	0.10 [0.02]	0.10 [0.02]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.12 [0.03]	0.13 [0.03]	0.14 [0.03]	0.12 [0.02]	0.13 [0.02]	0.14 [0.02]	0.15 [0.04]	0.16 [0.04]	0.17 [0.04]	0.18 [0.04]	0.19 [0.04]	0.20 [0.05]	0.21 [0.05]	0.22 [0.05]	0.14 [0.03]
Downflow Economizer RA Damper Open	0.12 [0.03]	0.13 [0.03]	0.14 [0.03]	0.15 [0.04]	0.16 [0.04]	0.17 [0.04]	0.18 [0.05]	0.19 [0.05]	0.20 [0.05]	0.21 [0.06]	0.22 [0.06]	0.12 [0.02]	0.13 [0.02]	0.14 [0.02]	0.15 [0.02]	0.16 [0.02]	0.17 [0.02]	0.18 [0.02]	0.19 [0.02]	0.20 [0.02]	0.21 [0.02]	0.22 [0.02]	0.13 [0.03]	
Horizontal Economizer RA Damper Open	0.07 [0.02]	0.07 [0.02]	0.08 [0.02]	0.08 [0.02]	0.09 [0.02]	0.09 [0.02]	0.10 [0.02]	0.10 [0.02]	0.11 [0.02]	0.11 [0.02]	0.12 [0.02]	0.07 [0.02]	0.07 [0.02]	0.08 [0.02]	0.08 [0.02]	0.09 [0.02]	0.10 [0.02]	0.10 [0.02]	0.11 [0.02]	0.11 [0.02]	0.12 [0.02]	0.13 [0.02]	0.13 [0.03]	
Concentric Grill RXRN-AA61 or RXRN-AA71 & Transition RXMC-CE05	0.19 [0.05]	0.21 [0.05]	0.21 [0.05]	0.22 [0.05]	0.23 [0.05]	0.24 [0.05]	0.25 [0.05]	0.26 [0.05]	0.27 [0.05]	0.28 [0.05]	0.29 [0.05]	0.19 [0.05]	0.21 [0.05]	0.21 [0.05]	0.22 [0.05]	0.23 [0.05]	0.24 [0.05]	0.25 [0.05]	0.26 [0.05]	0.27 [0.05]	0.28 [0.05]	0.29 [0.05]	0.30 [0.05]	
Concentric Grill RXRN-AA66 or RXRN-AA76 & Transition RXMC-CF06	0.23 [0.06]	0.25 [0.06]	0.25 [0.06]	0.26 [0.06]	0.27 [0.06]	0.28 [0.06]	0.29 [0.06]	0.30 [0.06]	0.31 [0.06]	0.32 [0.06]	0.33 [0.06]	0.23 [0.06]	0.25 [0.06]	0.25 [0.06]	0.26 [0.06]	0.27 [0.06]	0.28 [0.06]	0.29 [0.06]	0.30 [0.06]	0.31 [0.06]	0.32 [0.06]	0.33 [0.06]	0.34 [0.06]	

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



### ELECTRICAL DATA – RKNL SERIES

		B073CL	B073CM	B073DL	B073DM	B073YL	B073YM	B090CL	B090CM	B090CN	B090DL	B090DM
<b>Unit Information</b>	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632	187-253	187-253	187-253	414-506	414-506
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230	460	460
	Minimum Circuit Ampacity	35/35	35/35	16	16	13	13	43/43	43/43	48/48	21	21
	Minimum Overcurrent Protection Device Size	40/40	40/40	20	20	15	15	45/45	45/45	50/50	25	25
	Maximum Overcurrent Protection Device Size	50/50	50/50	20	20	15	15	50/50	50/50	60/60	25	25
<b>Compressor Motor</b>	No.	1	1	1	1	1	1	2	2	2	2	2
	Volts	200/240	200/240	480	480	600	600	200/240	200/240	200/240	480	480
	Phase	3	3	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	6	6	5	6	5	6	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4
	Amps (RLA), Comp. 1	19.6/19.6	19.6/19.6	8.2	8.2	6.6	6.6	13.1/13.1	13.1/13.1	13.1/13.1	6.1	6.1
	Amps (LRA), Comp. 1	136/136	136/136	66.1	66.1	55.3	55.3	83.1/83.1	83.1/83.1	83.1/83.1	41	41
<b>Condenser Motor</b>	No.	2	2	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230	460	460
	Phase	1	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	1/3
	Amps (FLA, each)	2.4/2.4	2.4/2.4	1.4	1.4	1	1	2.4/2.4	2.4/2.4	2.4/2.4	1.4	1.4
	Amps (LRA, each)	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5	4.7/4.7	4.7/4.7	4.7/4.7	2.4	2.4
<b>Evaporator Fan</b>	No.	1	1	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230	460	460
	Phase	3	3	3	3	3	3	3	3	3	3	3
	HP	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2	3	2	2
	Amps (FLA, each)	5.6/5.6	5.6/5.6	2.8	2.8	1.9	1.9	8/8	8/8	13/13	4	4
	Amps (LRA, each)	28.8/28.8	28.8/28.8	14.4	14.4	14	14	56/56	56/56	74.5/74.5	28	28

**ELECTRICAL DATA – RKNL SERIES** (REV. 11/07/2008)

		<b>B090DN</b>	<b>B090YL</b>	<b>B090YM</b>	<b>B090YN</b>	<b>B102CL</b>	<b>B102CM</b>	<b>B102DL</b>	<b>B102DM</b>	<b>B102YL</b>	<b>B102YM</b>
<b>Unit Information</b>	Unit Operating Voltage Range	414-506	518-632	518-632	518-632	187-253	187-253	414-506	414-506	518-632	518-632
	Volts	460	575	575	575	208/230	208/230	460	460	575	575
	Minimum Circuit Ampacity	24	16	16	21	49/49	54/54	23	26	19	24
	Minimum Overcurrent Protection Device Size	25	20	20	25	50/50	55/55	25	30	20	25
	Maximum Overcurrent Protection Device Size	30	20	20	25	60/60	60/60	25	30	20	30
<b>Compressor Motor</b>	No.	2	2	2	2	2	2	2	2	2	2
	Volts	480	600	600	600	200/230	200/230	460	460	575	575
	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 3/4	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4
	Amps (RLA), Comp. 1	6.1	4.4	4.4	4.4	16/16	16/16	7.1	7.1	5.6	5.6
	Amps (LRA), Comp. 1	41	33	33	33	91/91	91/91	46	46	37	37
	HP, Compressor 2	3 1/4	3 1/4	3 1/4	3 1/4	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4
	Amps (RLA), Comp. 2	6.1	4.4	4.4	4.4	16/16	16/16	7.1	7.1	5.6	5.6
Amps (LRA), Comp. 2	41	33	33	33	91/91	91/91	46	46	37	37	
<b>Condenser Motor</b>	No.	2	2	2	2	2	2	2	2	2	2
	Volts	460	575	575	575	208/230	208/230	460	460	575	575
	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)	0.7	0.5	0.5	0.5	1.2/1.2	1.2/1.2	0.7	0.7	0.5	0.5
	Amps (LRA, each)	2.4	1.5	1.5	1.5	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5
<b>Evaporator Fan</b>	No.	1	1	1	1	1	1	1	1	1	1
	Volts	460	575	575	575	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3	3	3	3	3
	HP	3	2	2	3	2	3	2	3	2	3
	Amps (FLA, each)	5	4	4	8	8/8	13/13	4	7	4	8
	Amps (LRA, each)	38.1	19	19	20	56/56	74.5/74.5	28	38.1	19	20



**ELECTRICAL DATA – RKNL SERIES** (REV. 11/07/2008)

		B120CL	B120CM	B120DL	B120DM	B120YL	B120YM	B151CL	B151CM	B151DL	B151DM
<b>Unit Information</b>	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632	187-253	187-253	414-506	414-506
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	460	460
	Minimum Circuit Ampacity	49/49	54/54	25	28	19	24	67/67	71/71	33	36
	Minimum Overcurrent Protection Device Size	50/50	55/55	25	30	20	25	70/70	75/75	35	40
	Maximum Overcurrent Protection Device Size	60/60	60/60	30	35	20	30	80/80	90/90	40	45
<b>Compressor Motor</b>	No.	2	2	2	2	2	2	2	2	2	2
	Volts	200/240	200/240	480	480	575	575	208/230	208/230	460	460
	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	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	5 3/4	5 3/4	5 3/4	5 3/4
	Amps (RLA), Comp. 1	16/16	16/16	9.8	9.8	5.7	5.7	22.4/22.4	22.4/22.4	10.6	11.8
	Amps (LRA), Comp. 1	110/110	110/110	52	52	38.9	38.9	149/149	149/149	75	75
	HP, Compressor 2	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	5 1/4	5 1/4	5 1/4	5 1/4
	Amps (RLA), Comp. 2	16/16	16/16	9.8	9.8	5.7	5.7	19/19	19/19	9.7	9.7
Amps (LRA), Comp. 2	110/110	110/110	52	52	38.9	38.9	123/123	123/123	62	62	
<b>Condenser Motor</b>	No.	2	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575	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	1/2	1/2	1/2	1/2
	Amps (FLA, each)	1.2/1.2	1.2/1.2	0.7	0.7	0.5	0.5	1.15/1.15	1.15/1.15	0.75	0.75
	Amps (LRA, each)	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5	5.6/5.6	5.6/5.6	3.1	3.1
<b>Evaporator Fan</b>	No.	1	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	460	460
	Phase	3	3	3	3	3	3	3	3	3	3
	HP	2	3	2	3	2	3	3	5	3	5
	Amps (FLA, each)	8/8	13/13	4	7	4	8	15/15	18.8/18.8	7	10
	Amps (LRA, each)	56/56	74.5/74.5	28	38.1	19	20	74.5/74.5	82.6/82.6	38.1	41.3

<b>ELECTRICAL DATA – RKNL SERIES</b> (REV. 11/07/2008)			
		<b>B151YL</b>	<b>B151YM</b>
<b>Unit Information</b>	Unit Operating Voltage Range	518-632	518-632
	Volts	575	575
	Minimum Circuit Ampacity	28	28
	Minimum Overcurrent Protection Device Size	30	30
	Maximum Overcurrent Protection Device Size	35	35
<b>Compressor Motor</b>	No.	2	2
	Volts	575	575
	Phase	3	3
	RPM	3450	3450
	HP, Compressor 1	5 3/4	5 3/4
	Amps (RLA), Comp. 1	7.7	7.7
	Amps (LRA), Comp. 1	54	54
	HP, Compressor 2	5 1/4	5 1/4
	Amps (RLA), Comp. 2	7.4	7.4
	Amps (LRA), Comp. 2	50	50
<b>Condenser Motor</b>	No.	2	2
	Volts	575	575
	Phase	1	1
	HP	1/2	1/2
	Amps (FLA, each)	0.5	0.5
	Amps (LRA, each)	2.2	2.2
<b>Evaporator Fan</b>	No.	1	1
	Volts	575	575
	Phase	3	3
	HP	3	5
	Amps (FLA, each)	8	8
	Amps (LRA, each)	20	33

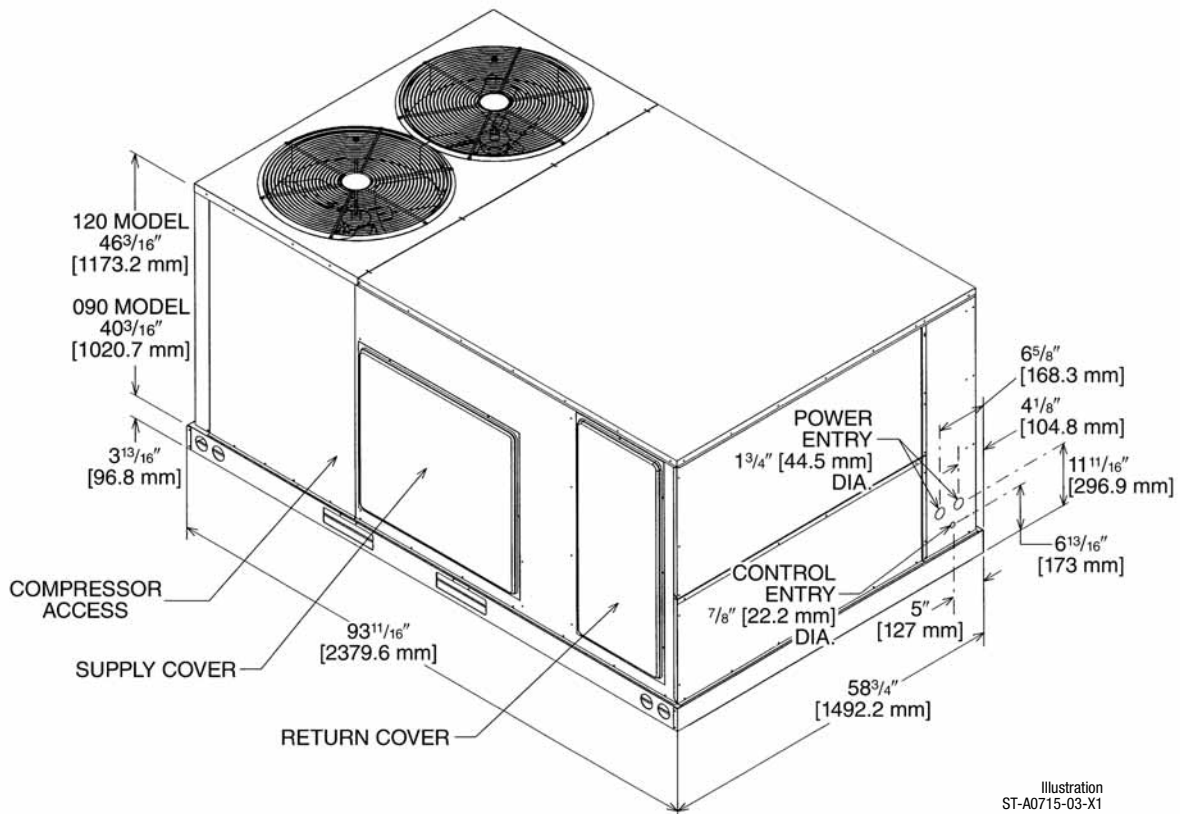
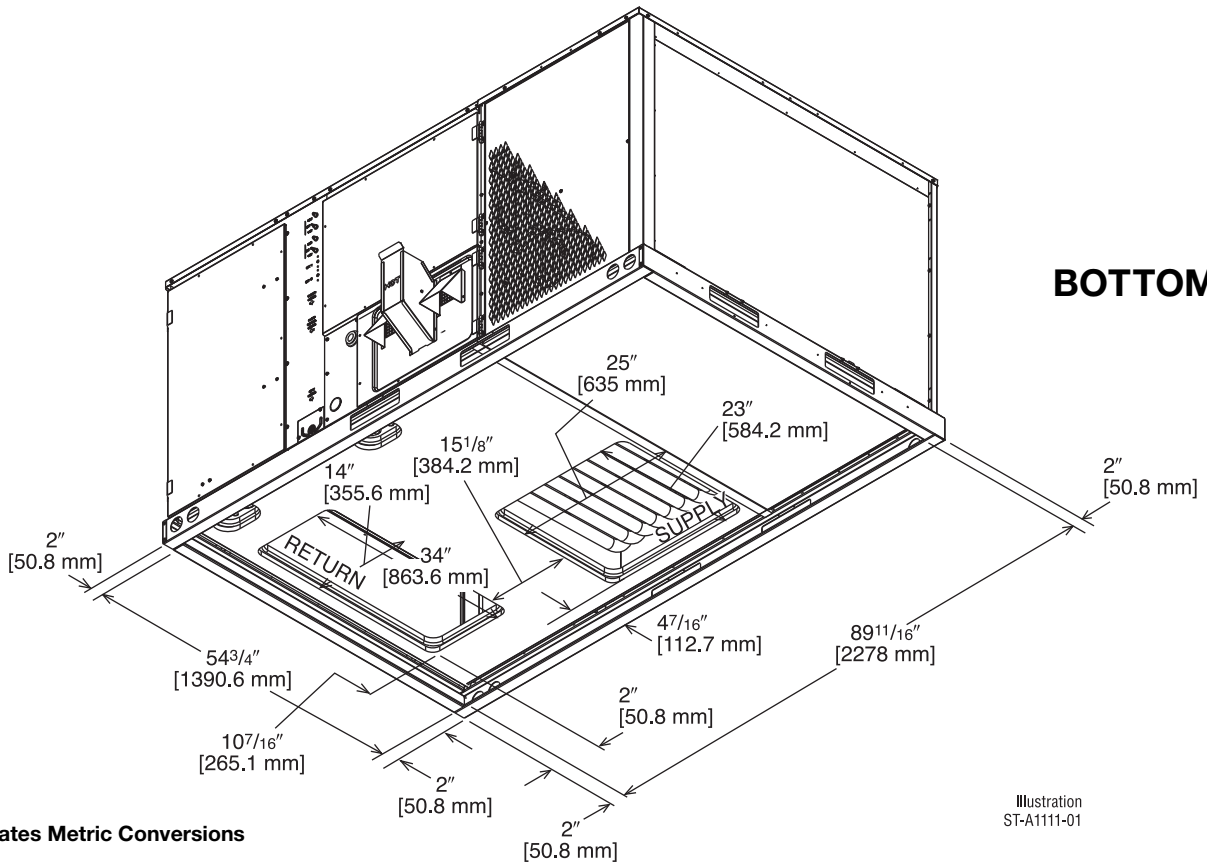


Illustration  
ST-A0715-03-X1



[ ] Designates Metric Conversions

Illustration  
ST-A1111-01

**SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS**

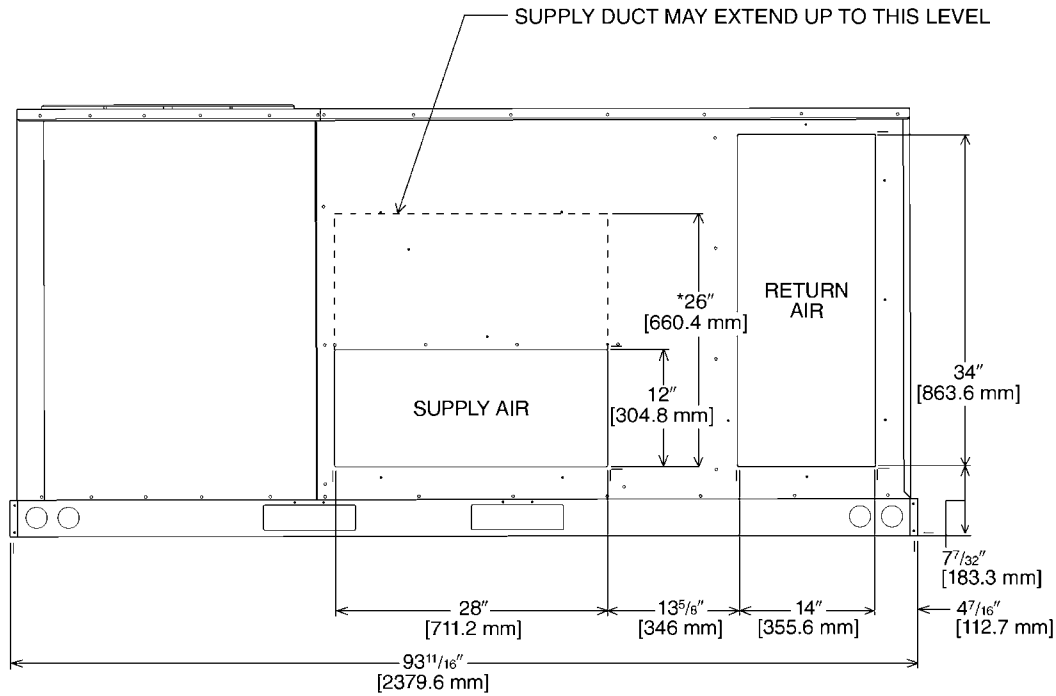


Illustration  
ST-A0736-02-X1

**\*RECOMMENDED DUCT DIMENSIONS ARE 26"**

**SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS**

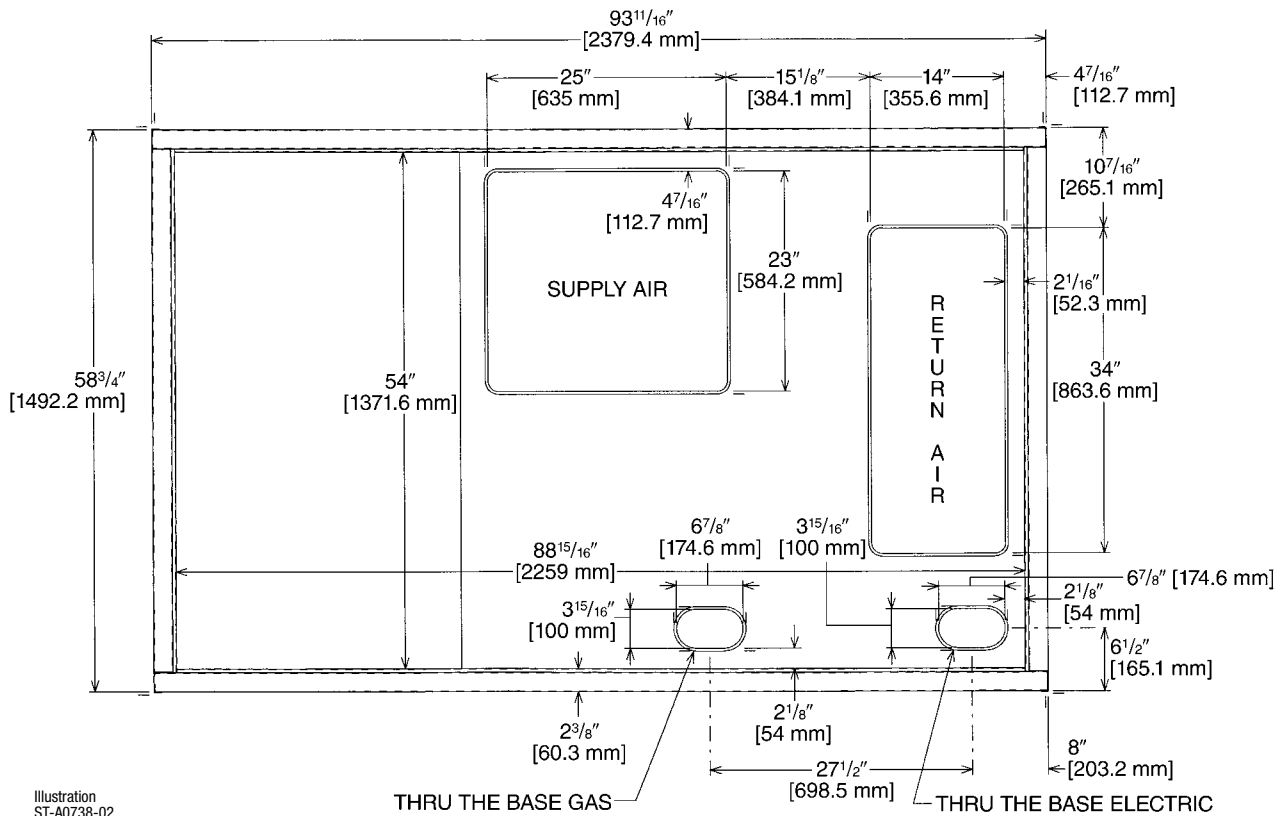
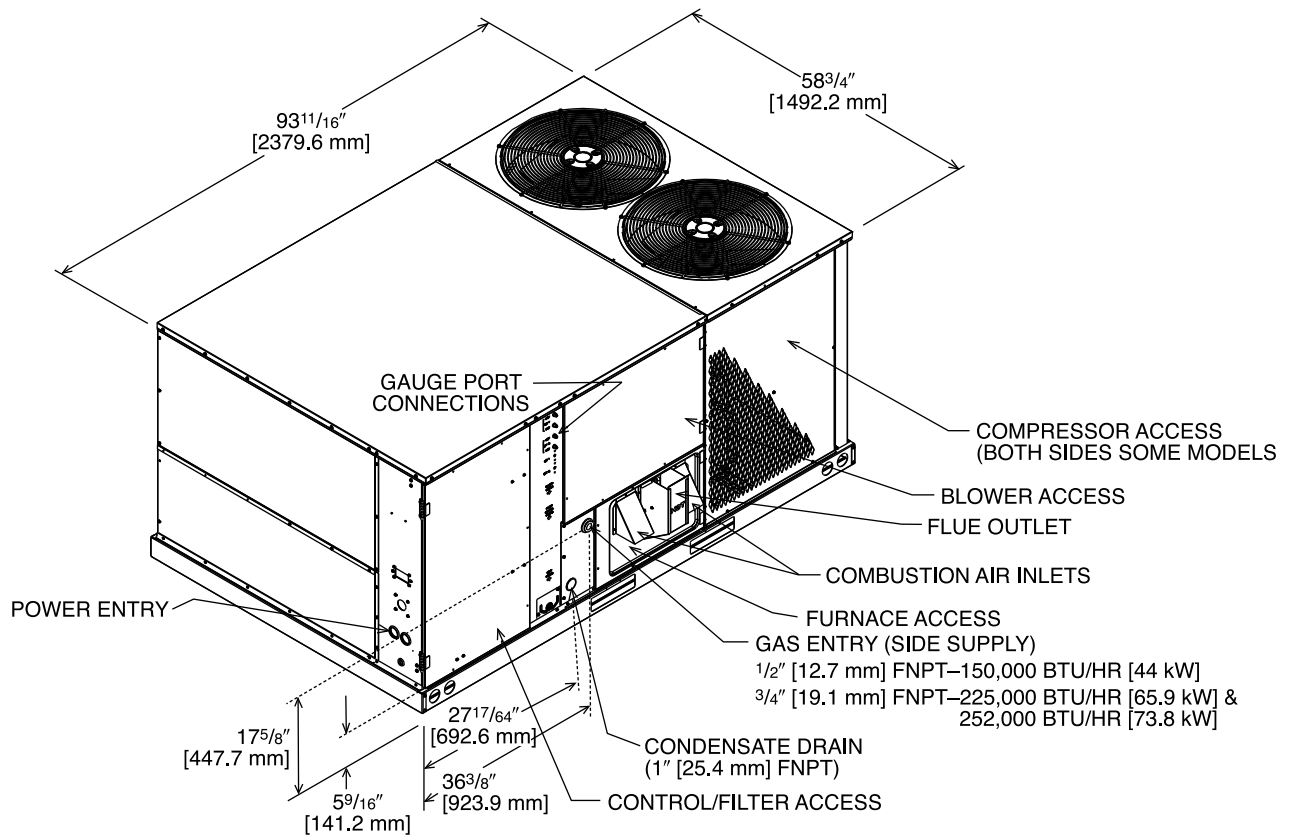


Illustration  
ST-A0738-02

[ ] Designates Metric Conversions



[ ] Designates Metric Conversions

Illustration  
 ST-A1111-03

# 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%

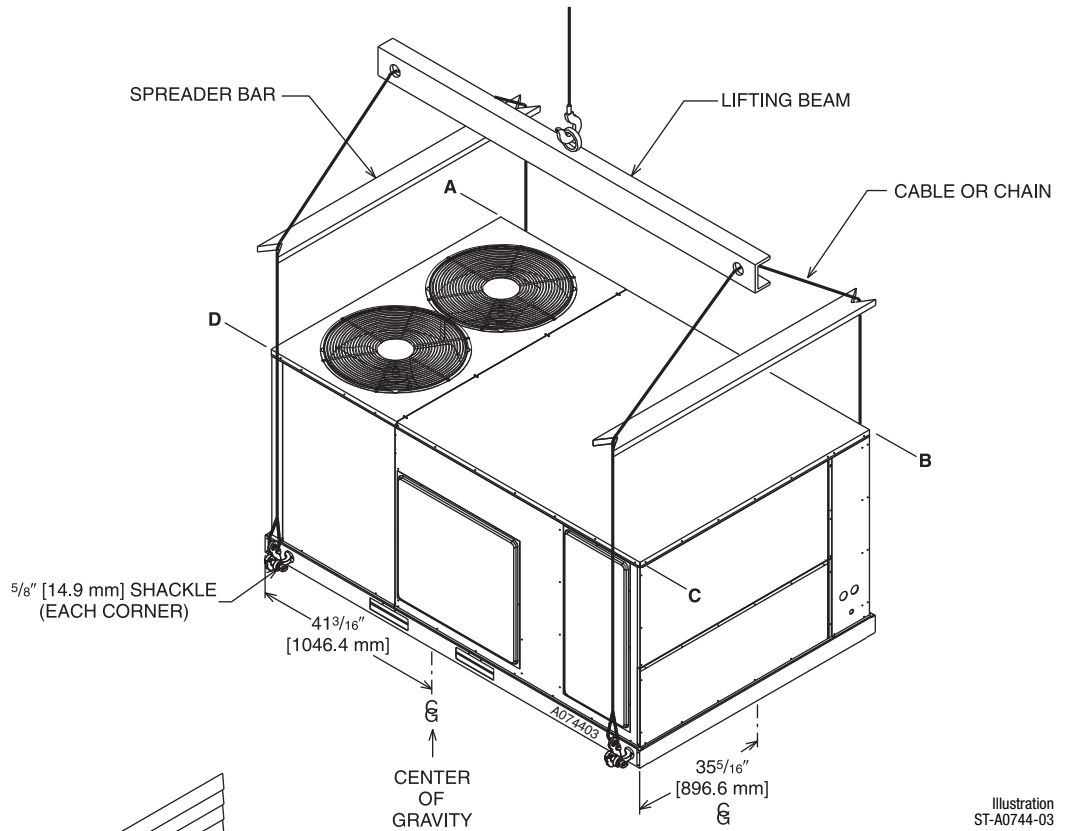
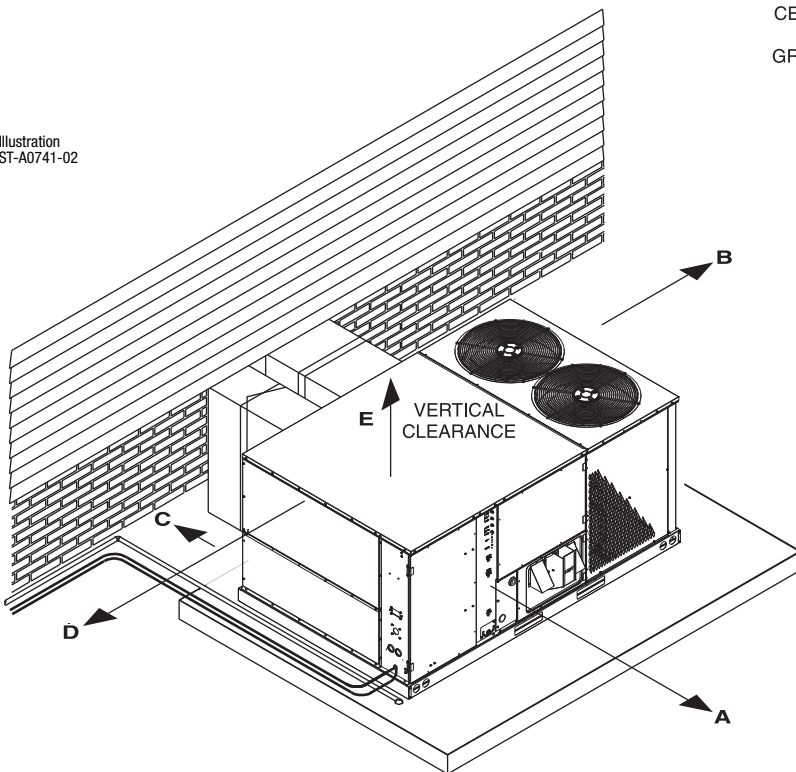


Illustration  
ST-A0744-03

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-PDCM3	90 [40.8]	81 [36.7]	Yes
Economizer w/Single Enthalpy and Smoke Detector (Downflow)	AXRD-SDCM3	91 [41.3]	82 [37.2]	Yes
Dual Enthalpy Kit	RXXR-AV02	1 [.5]	1 [.5]	No
Horizontal Economizer w/Single Enthalpy	AXRD-RDCM3	94 [42.6]	89 [40.4]	No
Carbon Dioxide Sensor (Wall Mount)	RXXR-AR02	3 [1.4]	2 [1.0]	No
Power Exhaust	RXXR-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)	RXXR-AW02	35 [15.9]	27 [12.2]	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	RXXR-CDCE50	300 [136.1]	290 [131.5]	No
	RXXR-CFCE54	325 [147.4]	315 [142.9]	No
	RXXR-CFCE56	350 [158.8]	340 [154.2]	No
	RXXR-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
Compressor Time-Delay Relay Kit	RXMD-A04	2 [1.0]	1 [.5]	No
Low-Ambient Control Kit (1 Per Compressor)	RXRZ-C02	3 [1.4]	2 [1.0]	Yes
Freeze-Stat Kit	RXXR-AM01	1 [.5]	0.5 [.2]	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	RXXR-AN01	2 [1.0]	1.5 [.7]	Yes
Unfused Service Disconnect	RXXR-AP01	10 [4.5]	9 [4.1]	Yes

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	Descriptor (3 Characters)	Series (3 Characters)	System (2 Characters)	Type (2 Characters)
<b>RHC</b>	<b>- TST</b>	<b>213</b>	<b>UN</b>	<b>MS</b>
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.

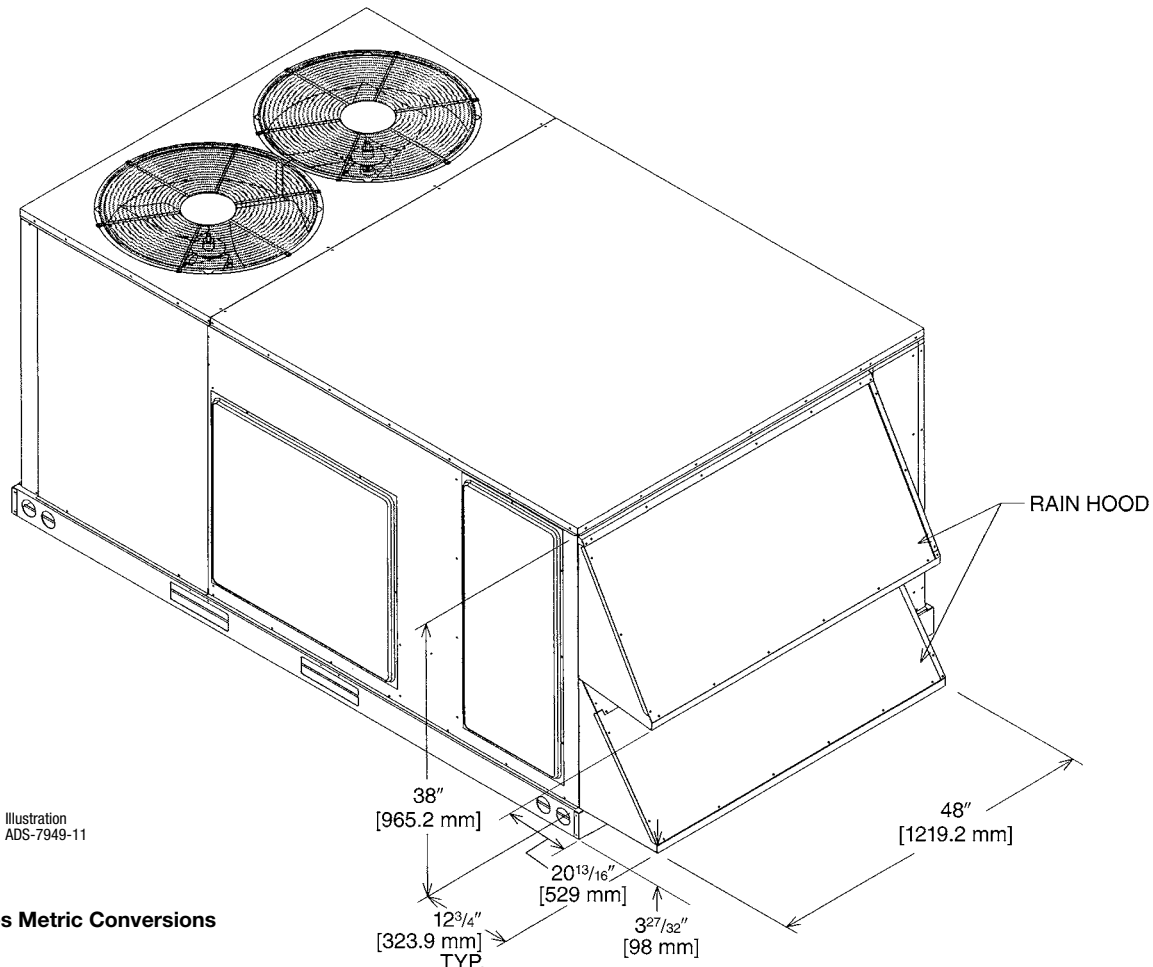
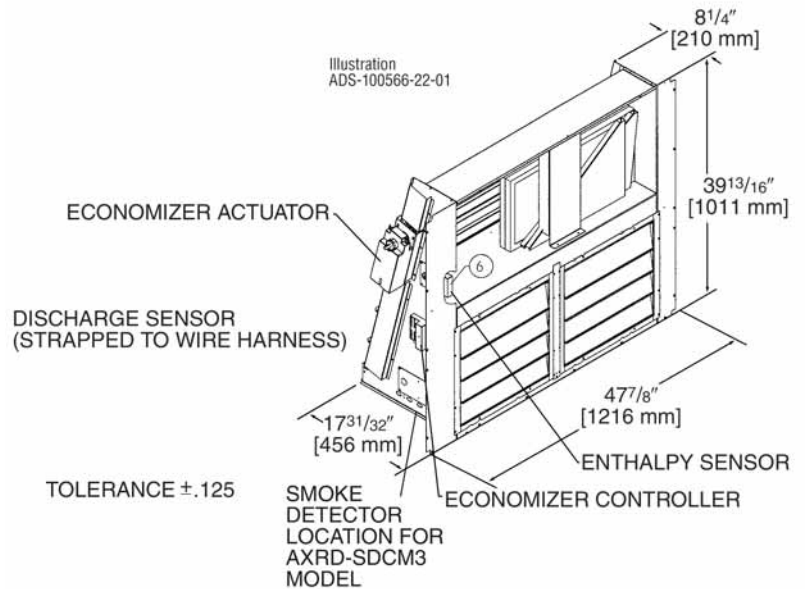
For detailed thermostat match-up information,  
 see specification sheet form number T11-001.

# ECONOMIZER FOR DOWNFLOW DUCT INSTALLATION

## Use to Select Factory Installed Options Only

**AXRD-PDCM3—Single Enthalpy (Outdoor) and AXRD-SDCM3 Single Enthalpy with Smoke Detector**  
**RXXR-AV02—Dual Enthalpy Upgrade Kit**  
**RXXR-AR02—Optional Wall-Mounted CO<sub>2</sub> 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 Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO<sub>2</sub> Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Downflow Duct Application.
- Optional Remote Minimum Position Potentiometer (Honeywell #S963B1128) is Available from Prostock.
- Field Installed Power Exhaust Available
- Prewired for Smoke Detector



[ ] Designates Metric Conversions

# ECONOMIZER FOR HORIZONTAL DUCT INSTALLATION

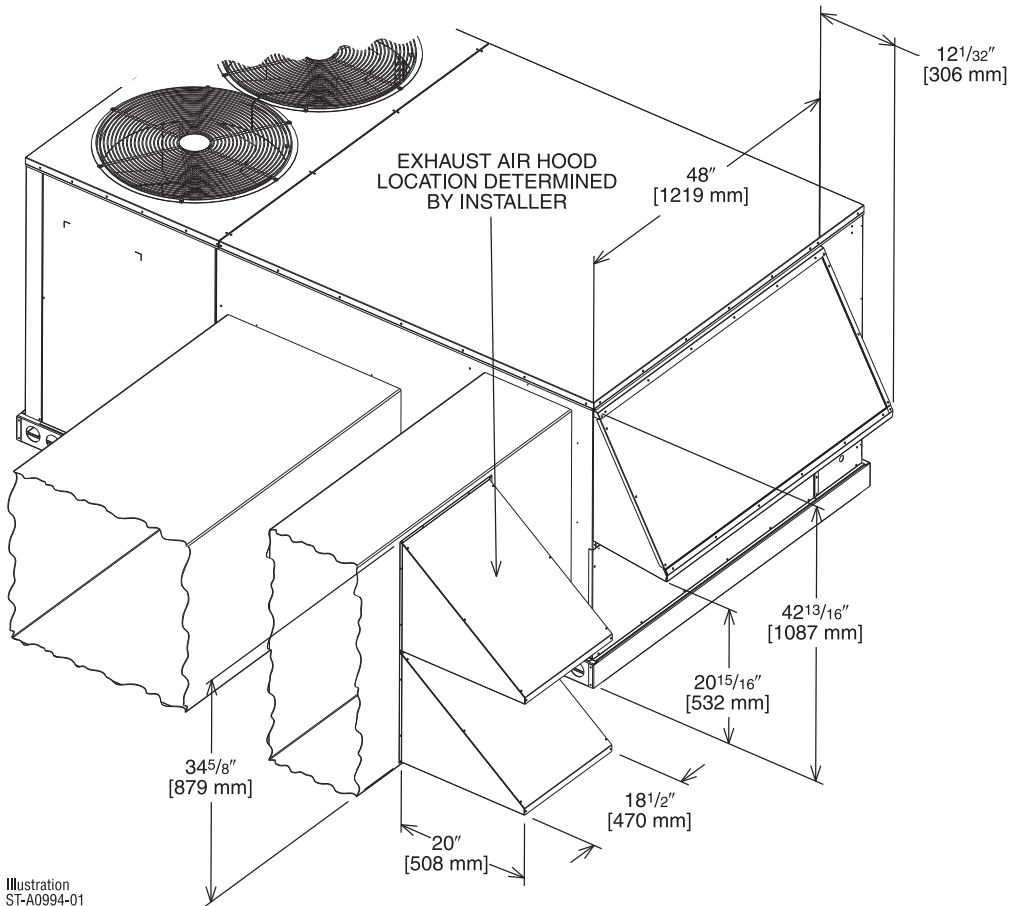
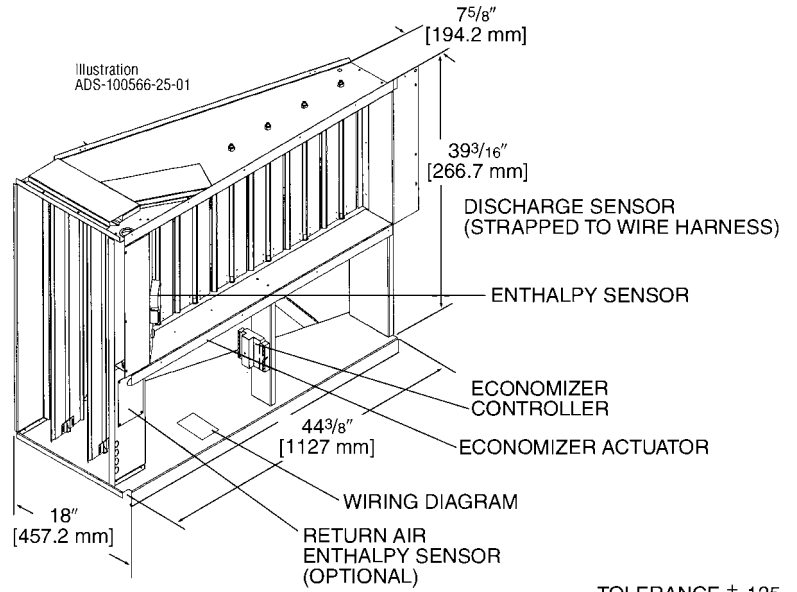
## Field Installed Only

**AXRD-RDCM3—Single Enthalpy (Outdoor)**

**RXXR-AV02—Dual Enthalpy Upgrade Kit**

**RXXR-AR02—Wall-mounted CO<sub>2</sub> 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 Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO<sub>2</sub> Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Horizontal Duct Application
- Optional Remote Minimum Position Potentiometer (Honeywell #S963B1128) is Available from Prostock
- Field Installed Power Exhaust Available



[ ] Designates Metric Conversions

# POWER EXHAUST KIT FOR AXRD-MDCM3(-), AXRD-NDCM3(-) ECONOMIZERS

RXXR-BFF02 (C, D, or Y\*)

\*Voltage Code

## VERTICAL AIRFLOW

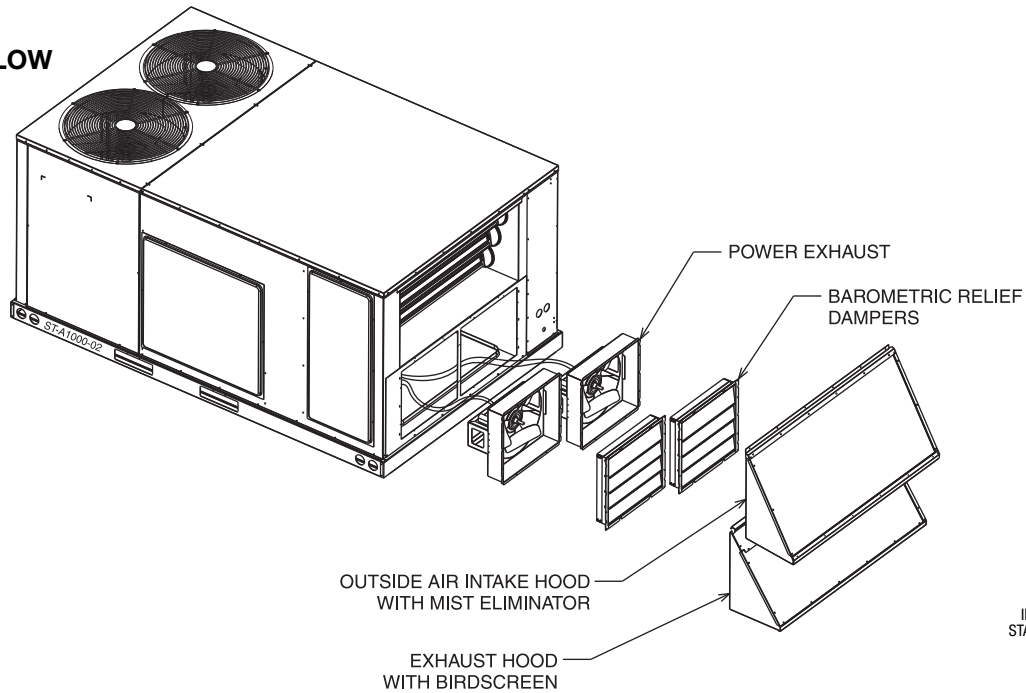


Illustration  
STA1000-02

## HORIZONTAL AIRFLOW

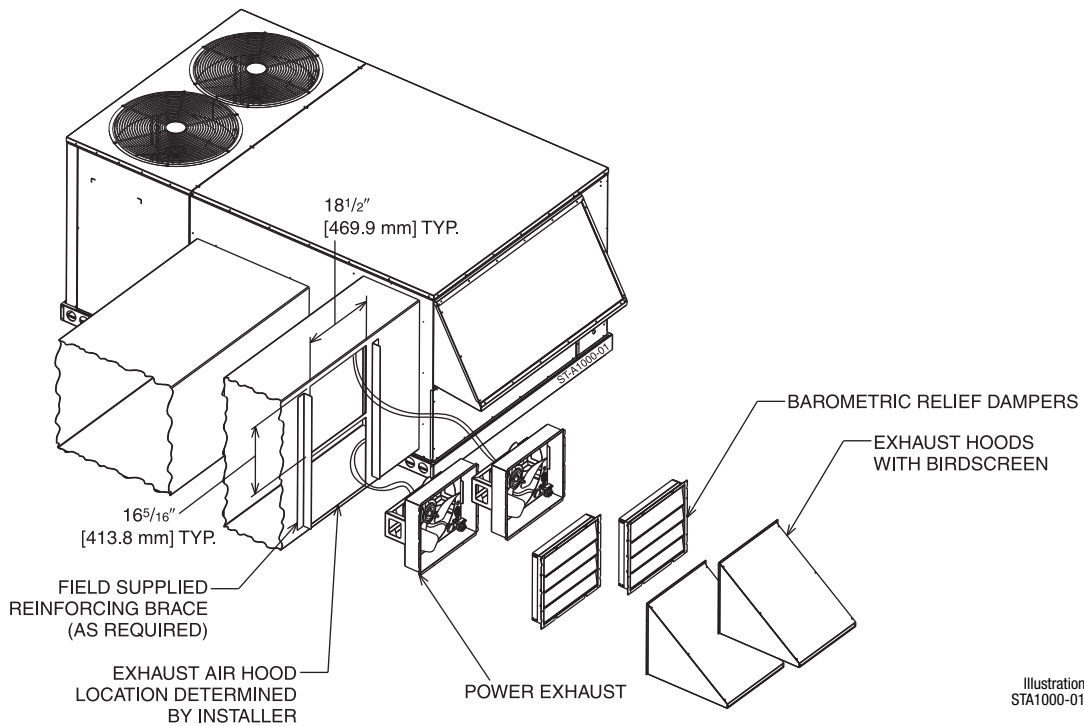


Illustration  
STA1000-01

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		
RXXR-BFF02C	2	208-230	1	0.33	2200 [1038]	1518	2500 [1179]	1670	1.48	3.6
RXXR-BFF02D	2	460	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.75	1.8
RXXR-BFF02Y	2	575	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.81	1.5

NOTES: ① Power exhaust is factory set on high speed motor tap.  
② CFM is per fan at 0" w.c. external static pressure.

[ ] Designates Metric Conversions

# FRESH AIR DAMPER

**MOTORIZED DAMPER KIT**  
**RXRX-AW02**  
**(Motor Kit for AXRF-KDA1)**

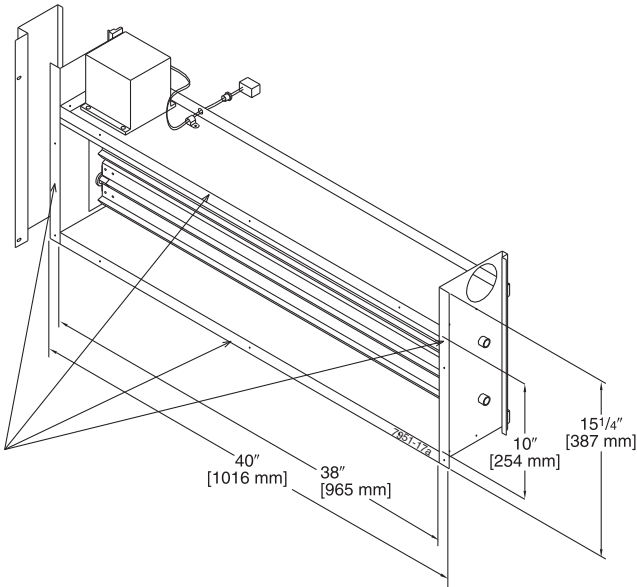


Illustration ST-7951-17

**AXRF-KDA1 (Manual)**  
**DOWNFLOW OR HORIZONTAL APPLICATION**

[ ] Designates Metric Conversions

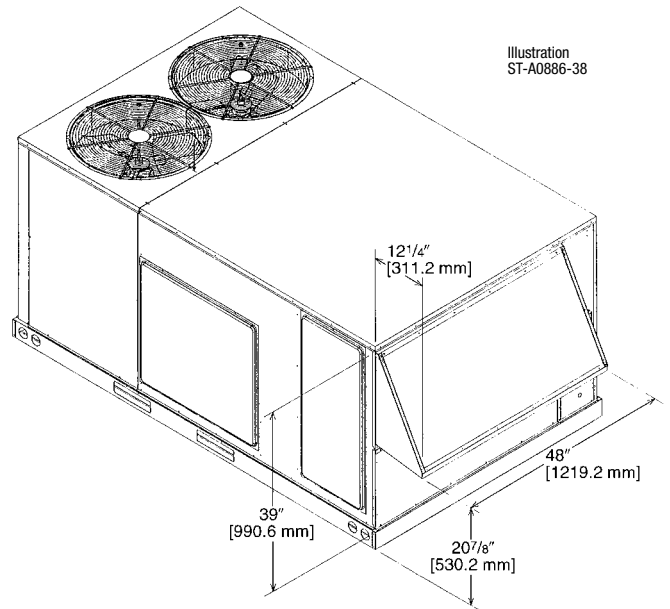


Illustration ST-A0886-38

## FRESH AIR DAMPER (Cont.)

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

### DOWNFLOW APPLICATION

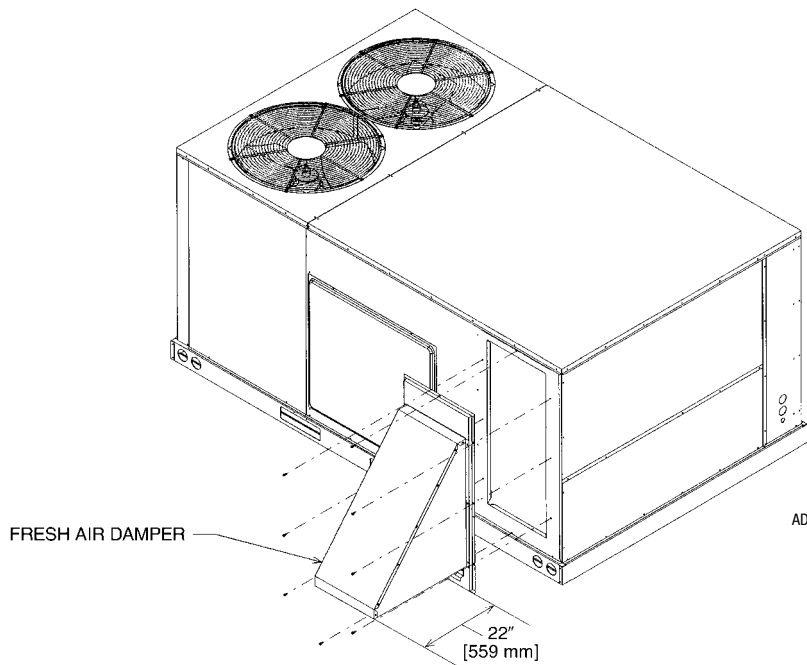
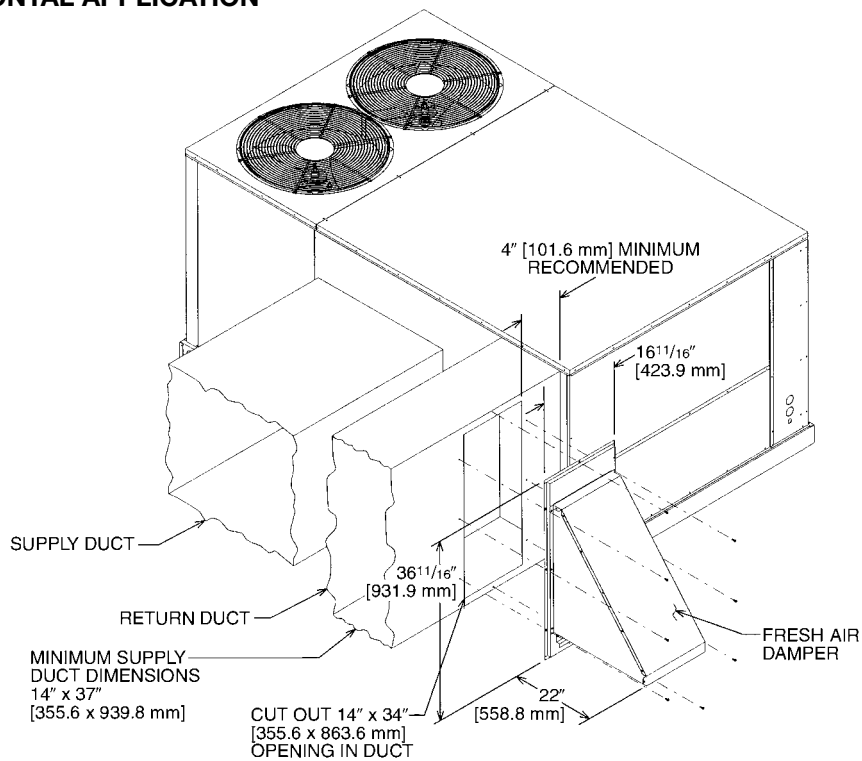


Illustration  
ADS-7937-58

### HORIZONTAL APPLICATION

Illustration  
ST-A0901-01



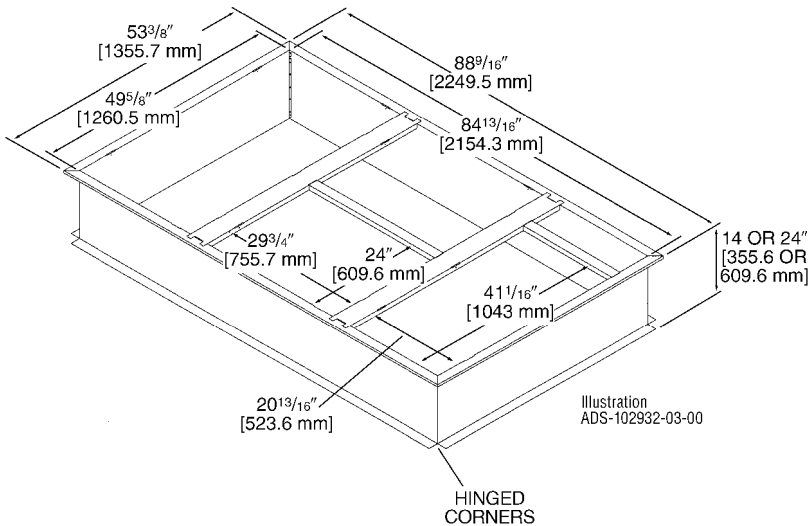
[ ] Designates Metric Conversions

## 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] Nailier 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.

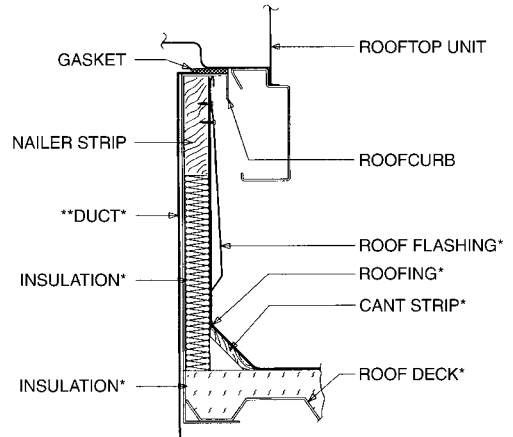
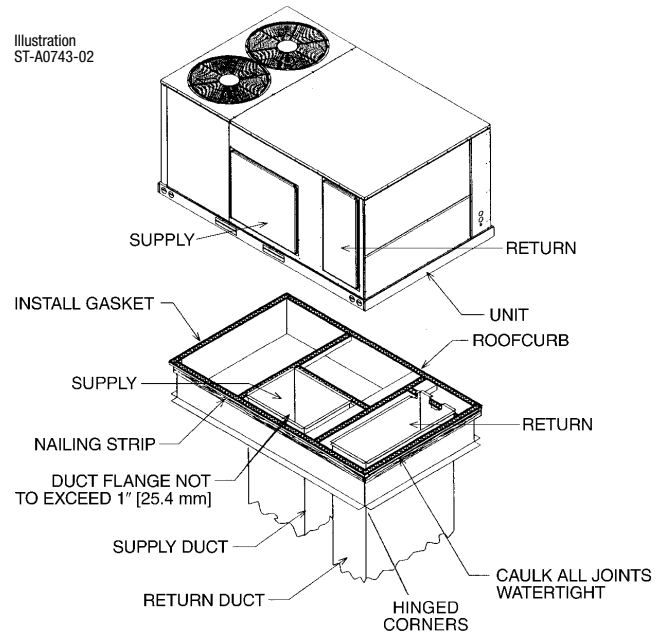
Roofcurb Model	Height of Curb
RXKG-CAE14	14" [356 mm]
RXKG-CAE24	24" [610 mm]

## ROOFCURB INSTALLATION



## TYPICAL INSTALLATION

Illustration ST-A0743-02



\*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

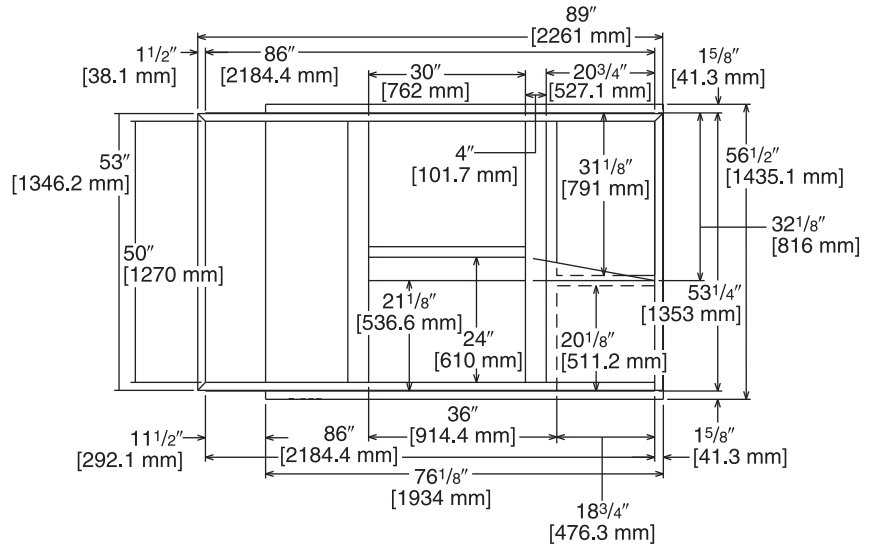
OLD MODELS	OLD ROOFCURB	ROOFCURB ADAPTER	NEW MODELS (All Share Common Cabinet)
(-)RCF, (-)REF-075/076 (-)RGF-150075, (-)RGF-131076 (-)RGF-201076	RXRK-E50	RXRX-CDCE50	RKNL- B073, B090, B102, B120, B151
(-)RGF-200075 (-)RGG, (-)REG, (-)RCG-075 (-)RGF, (-)REF, (-)RCF-085 (-)RGF, (-)REF, (-)RCF-100 (-)RGG, (-)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-B073, B090, B102, B120, B151 fit on the same curb as the RKKB-A090, A102, A120, A150, A181, RKMB- A090, A102, A120, A150, RKNB- A090, A102, A120

# ROOFCURB ADAPTERS (Cont.)

RXRX-CDCE50

Illustration  
ADS-7952-02  
Sheet 2



**TOP VIEW**

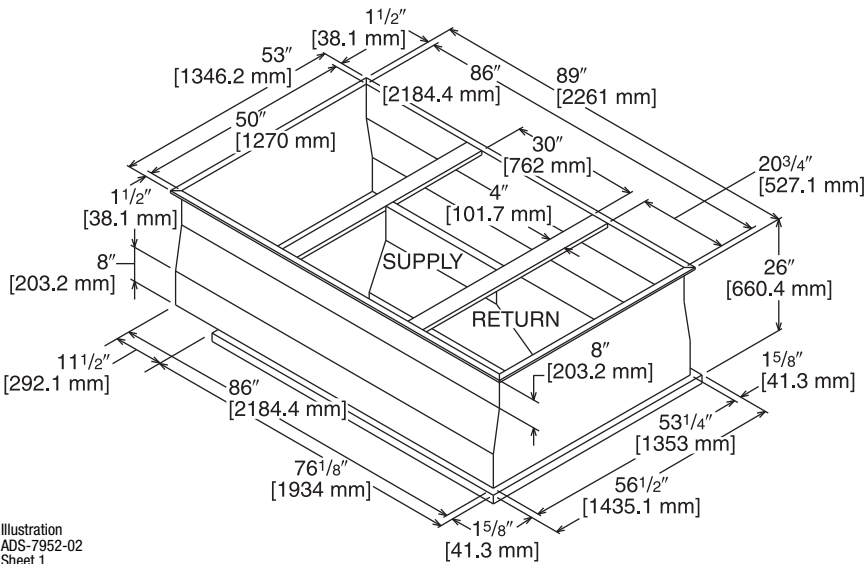


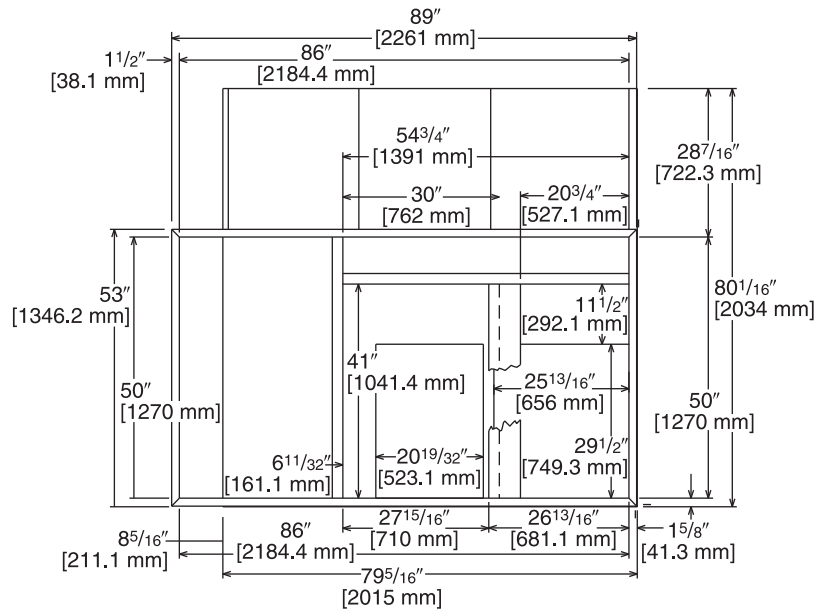
Illustration  
ADS-7952-02  
Sheet 1

[ ] Designates Metric Conversions

# ROOFCURB ADAPTERS (Cont.)

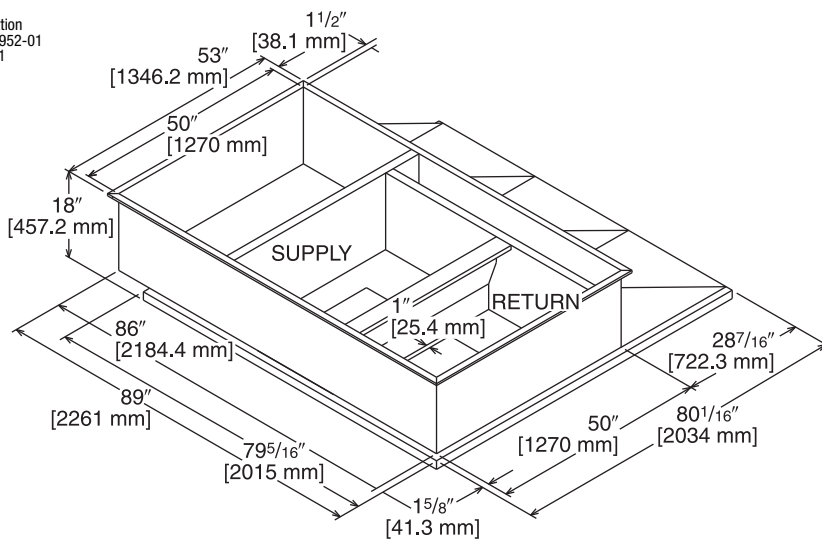
RXRX-CFCE54

Illustration  
 ADS-7952-01  
 Sheet 2



**TOP VIEW**

Illustration  
 ADS-7952-01  
 Sheet 1

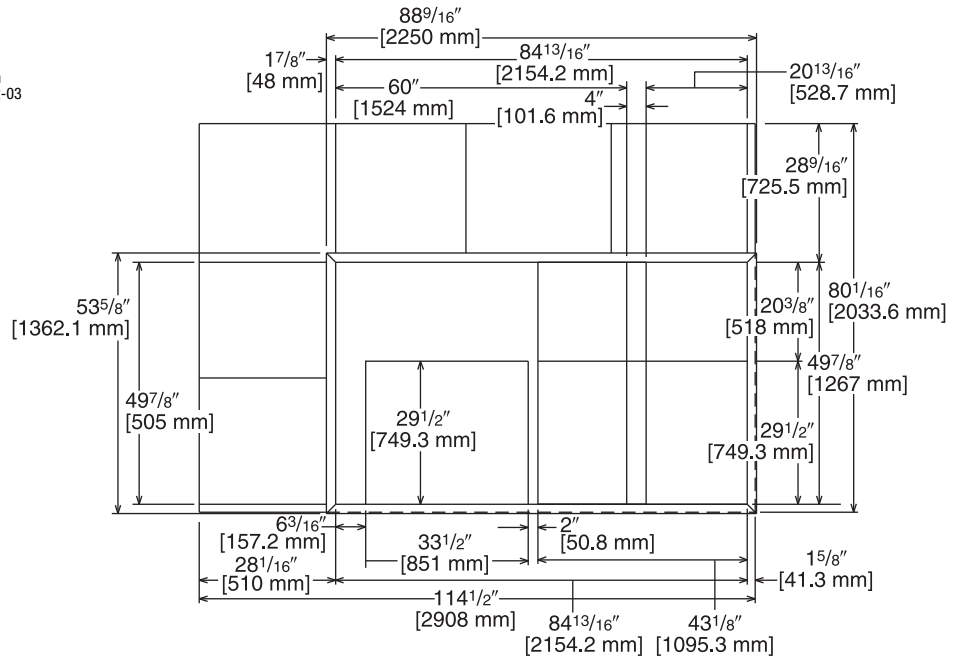


[ ] Designates Metric Conversions

# ROOFCURB ADAPTERS (Cont.)

RXRX-CFCE56

Illustration  
 ADS-7952-03  
 Sheet 2



**TOP VIEW**

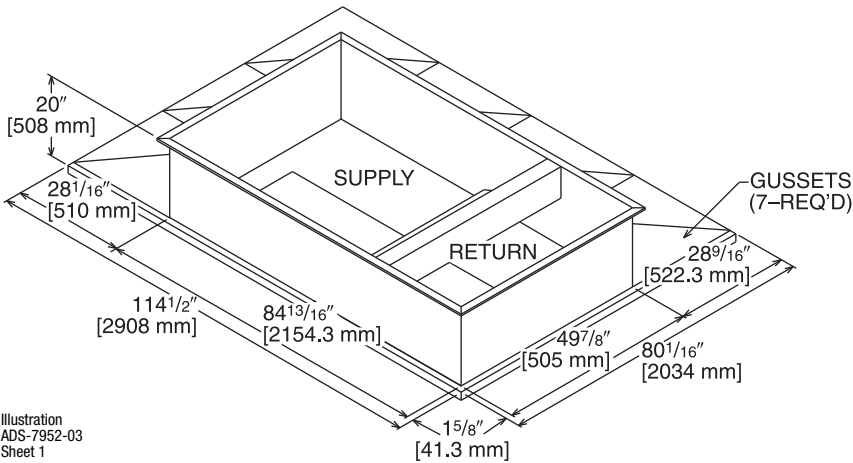


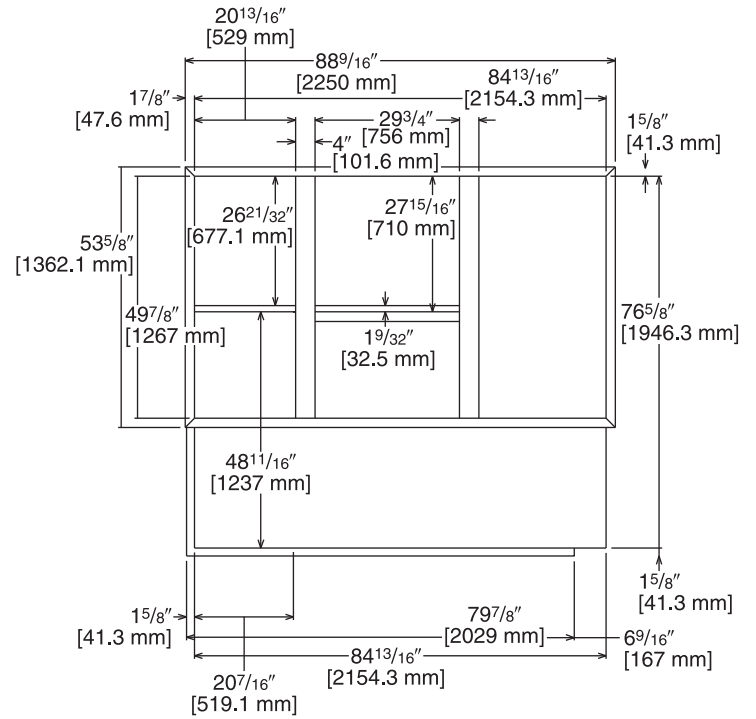
Illustration  
 ADS-7952-03  
 Sheet 1

[ ] Designates Metric Conversions

# ROOFCURB ADAPTERS (Cont.)

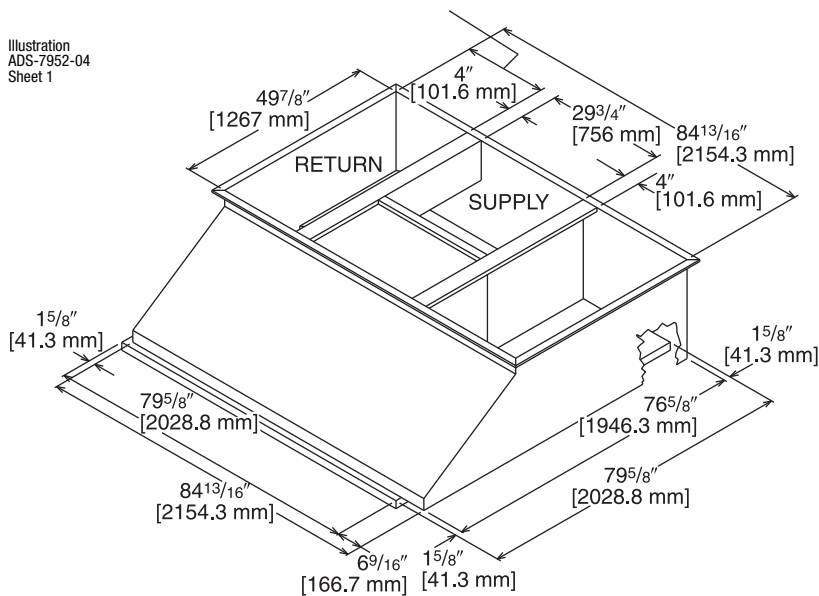
RXRX-CGCC12

Illustration  
ADS-7952-04  
Sheet 2



**TOP VIEW**

Illustration  
ADS-7952-04  
Sheet 1



[ ] Designates Metric Conversions

# CONCENTRIC DIFFUSER APPLICATION

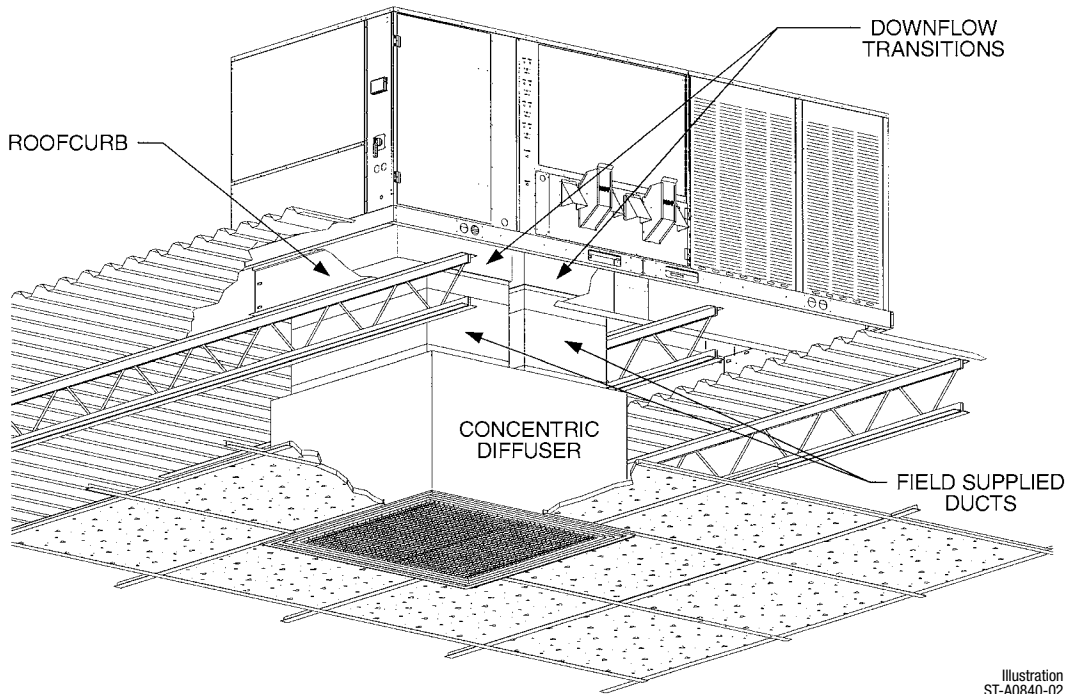


Illustration  
ST-A0840-02

## DOWNFLOW TRANSITION DRAWINGS

### RXMC-CE05

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

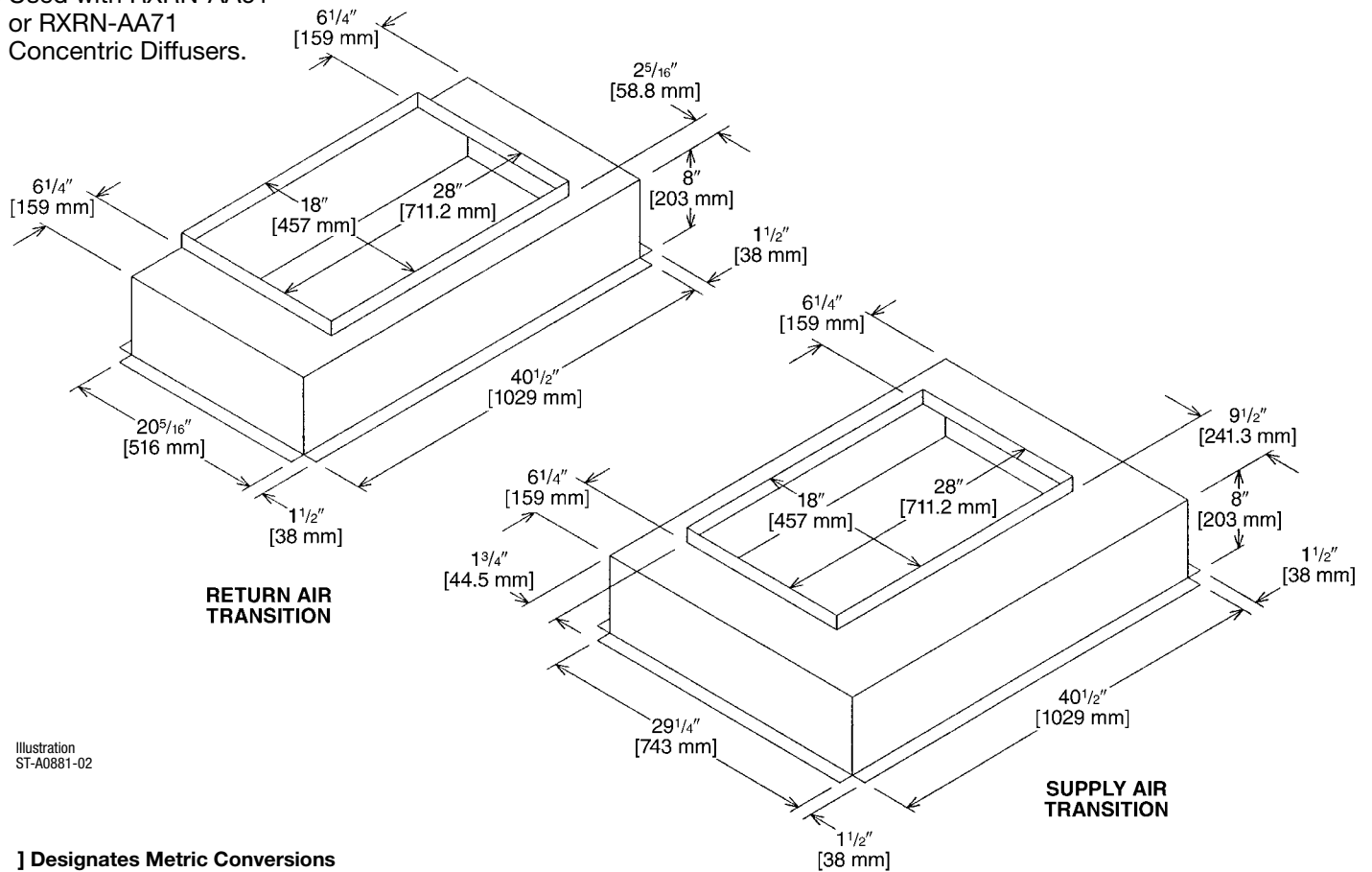


Illustration  
ST-A0881-02

[ ] Designates Metric Conversions

# DOWNFLOW TRANSITION DRAWINGS

## RXMC-CF06

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

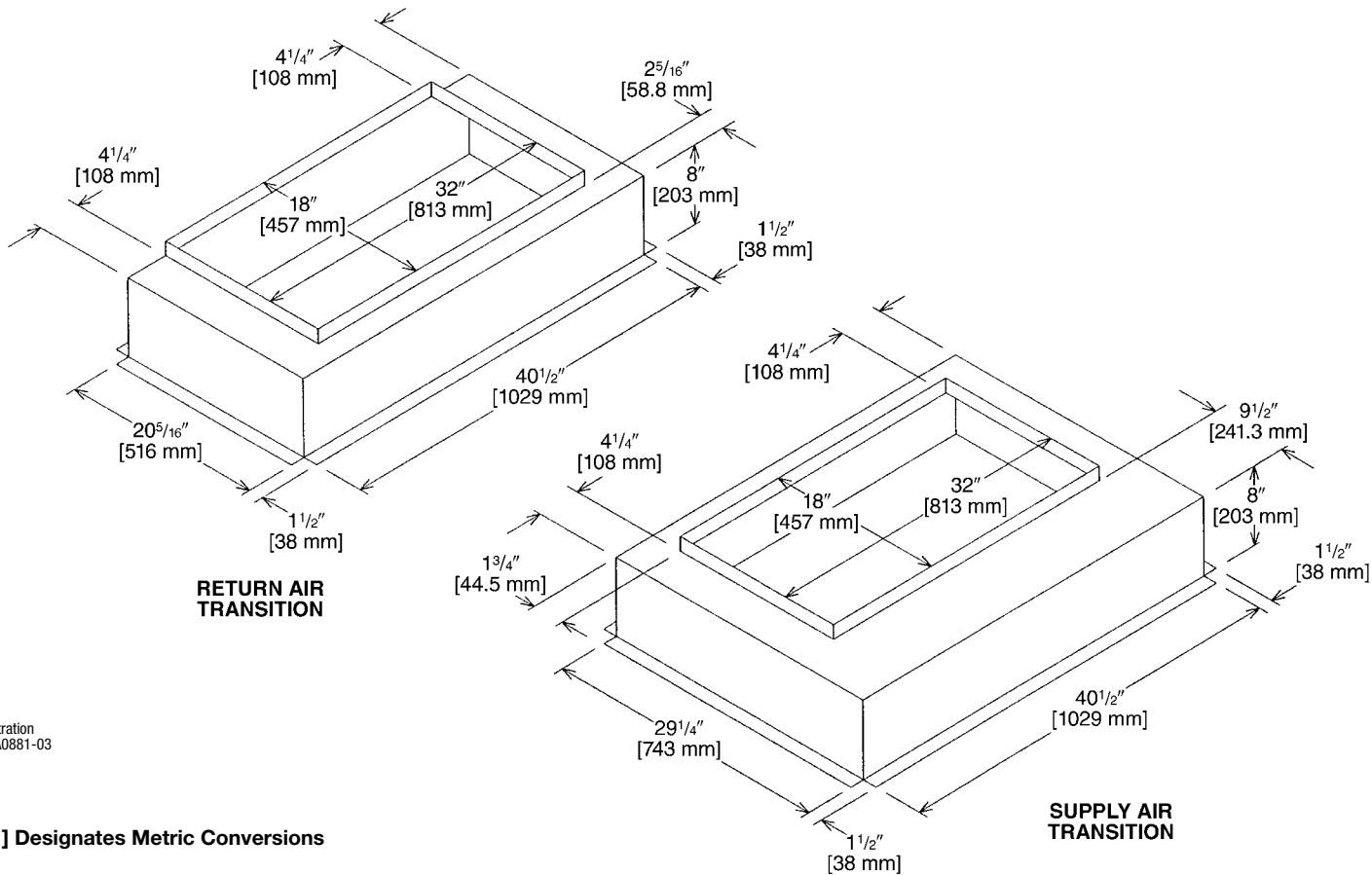


Illustration  
 ST-A0881-03

[ ] Designates Metric Conversions

# DOWNFLOW TRANSITION DRAWINGS

## RXMC-CD04

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

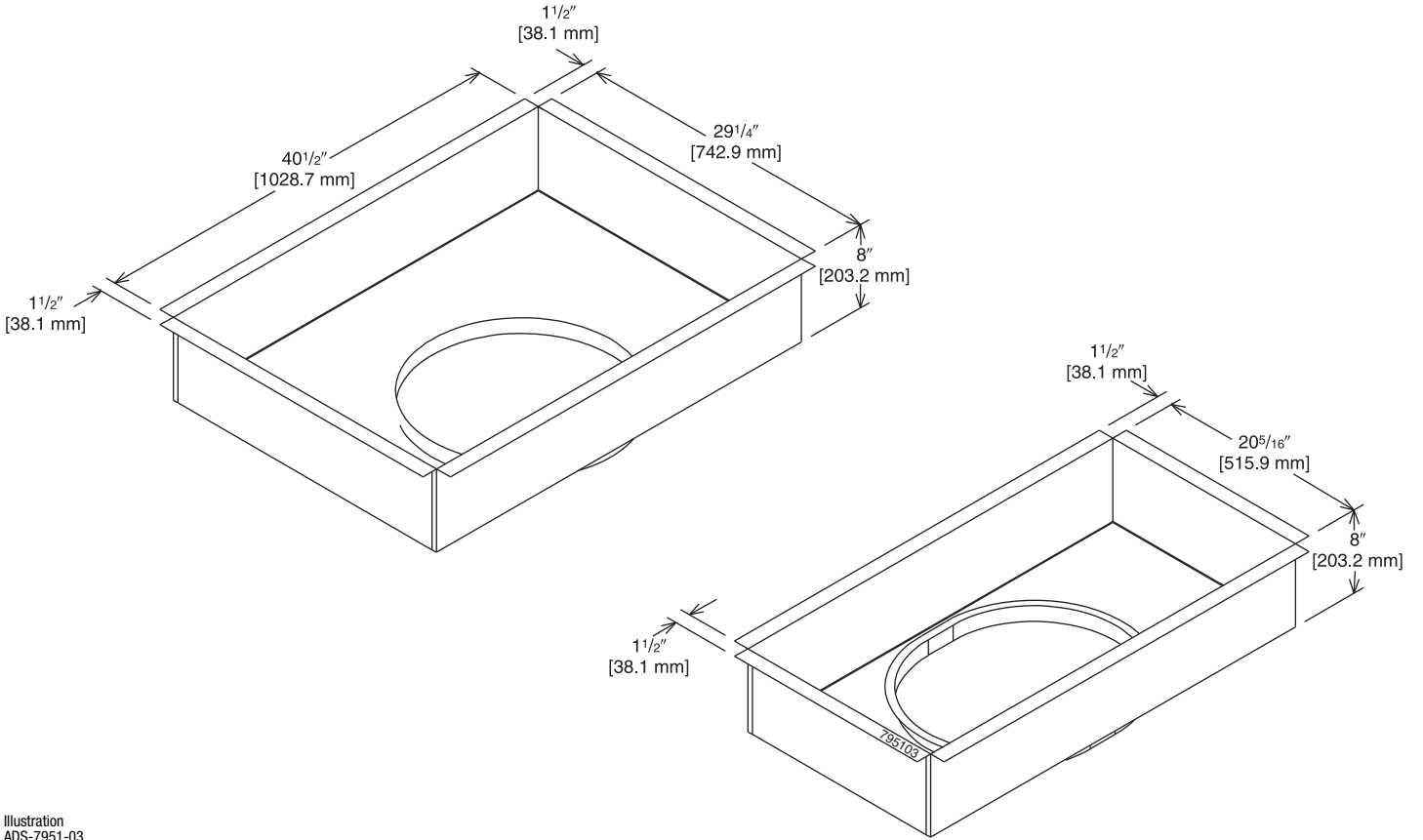


Illustration  
ADS-7951-03

[ ] 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.

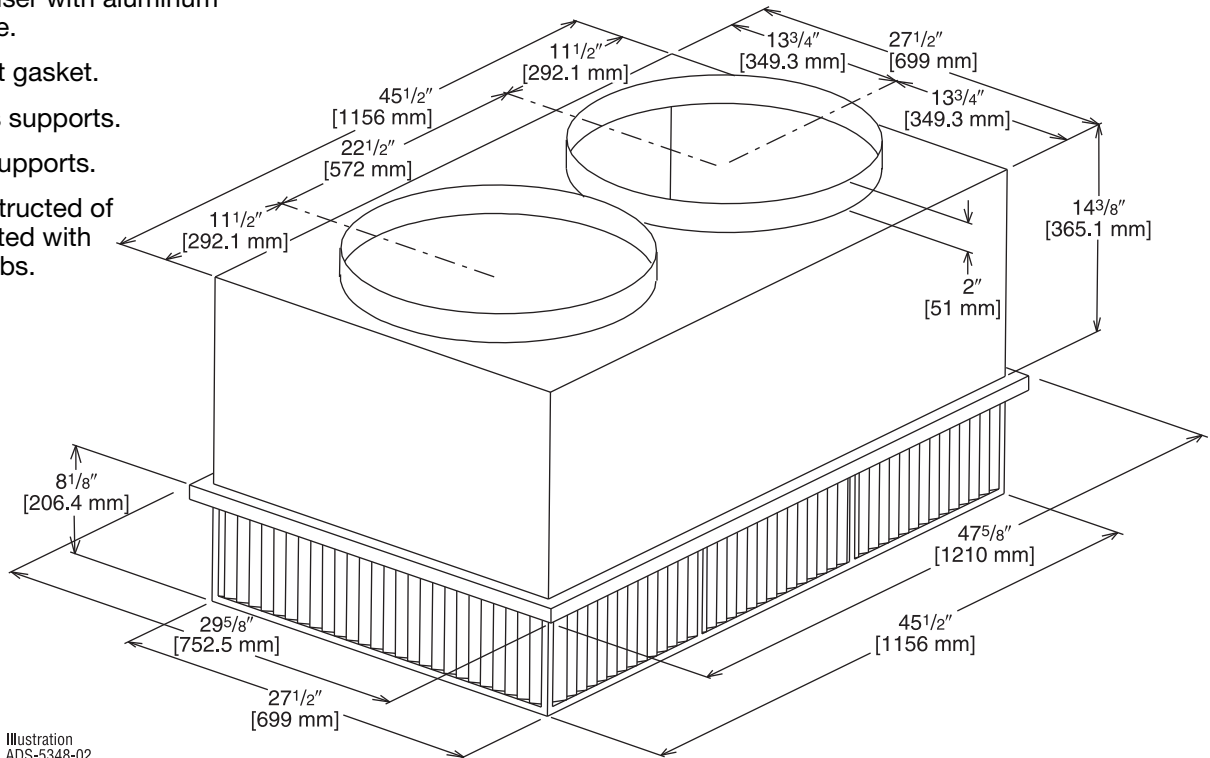


Illustration  
ADS-5348-02

### ENGINEERING DATA<sup>①</sup>

Model No.	Flow Rate CFM [L/s]	Static Pressure in. w.c. [kPa]	Throw <sup>② ③</sup> Feet [m]	Neck Velocity fpm [m/s]	Noise Level <sup>④</sup> (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.

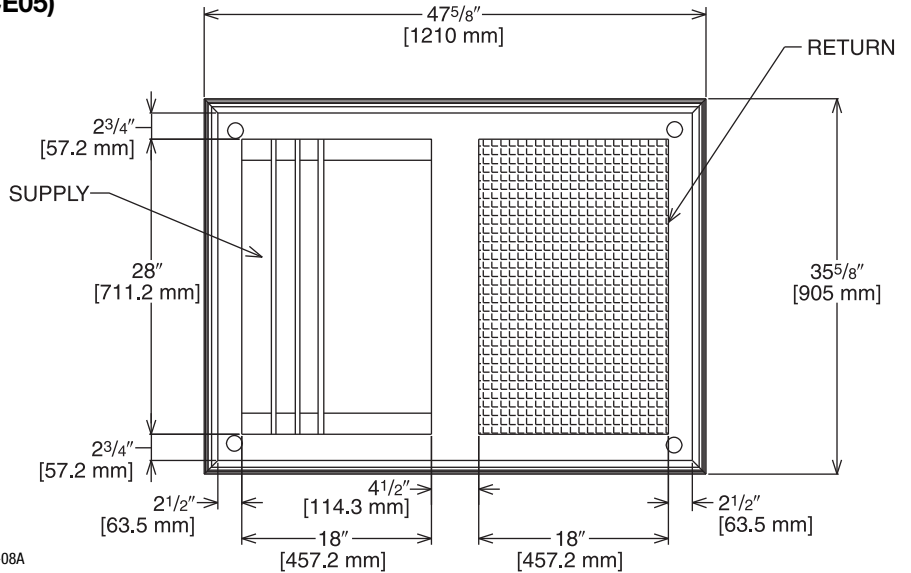


Illustration  
ADS-7951-08A

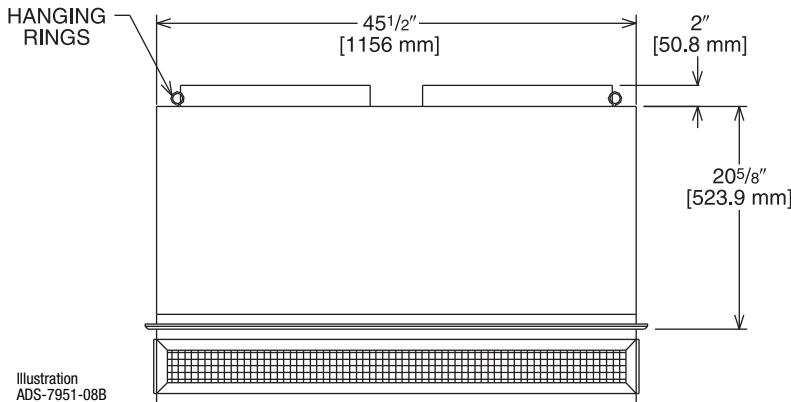


Illustration  
ADS-7951-08B

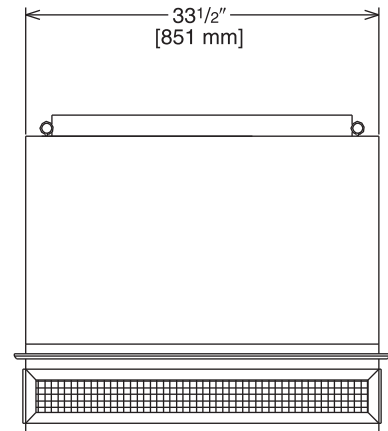


Illustration  
ADS-7951-08C

## ENGINEERING DATA<sup>①</sup>

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw <sup>② ③</sup> Feet [m]	Neck Velocity fpm [m/s]	Noise Level <sup>④</sup> (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.

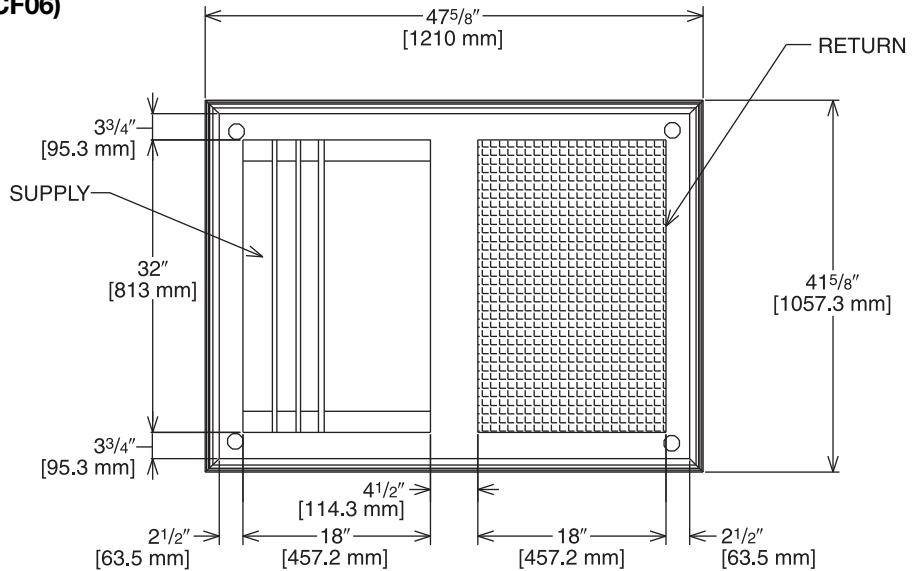


Illustration  
ADS-7951-09A

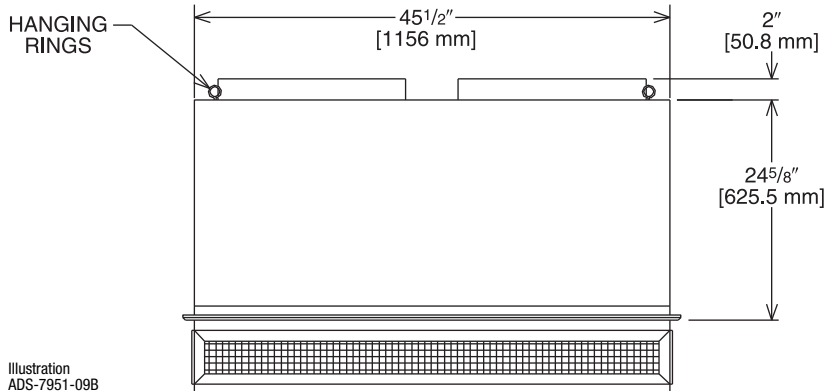


Illustration  
ADS-7951-09B

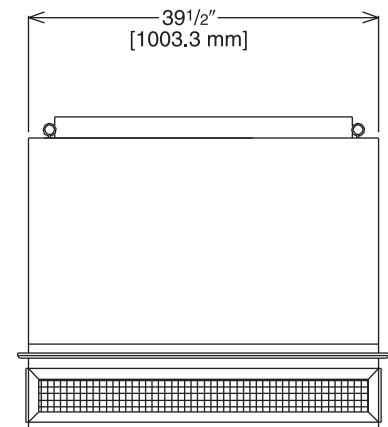


Illustration  
ADS-7951-09C

## ENGINEERING DATA<sup>①</sup>

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw <sup>② ③</sup> Feet [m]	Neck Velocity fpm [m/s]	Noise Level <sup>④</sup> (dbA)
RXRN-AA66	4600 [2171]	0.31 [0.077]	26-31 [7.9-9.4]	841 [4.3]	30
	4800 [2265]	0.32 [0.080]	27-32 [8.2-9.8]	878 [4.5]	30
	5000 [2359]	0.34 [0.085]	28-33 [8.5-10.1]	915 [4.6]	30
	5200 [2454]	0.36 [0.090]	28-34 [8.5-10.4]	951 [4.8]	30
	5400 [2548]	0.39 [0.097]	29-35 [8.8-10.7]	988 [6.0]	30

NOTES: ① All data is based on the air diffusion council guidelines.

② Throw data is based on 75 FPM Terminal Velocities using isothermal air.

③ Throw is based on diffuser blades being directed in a straight pattern.

④ Actual noise levels may vary due to duct design and do not include transmitted unit noise. Adequate duct attenuation must be provided to reduce sound output from the unit.

[ ] Designates Metric Conversions

# FLUSH MOUNT CONCENTRIC DIFFUSER—FLUSH

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

For Use With Downflow Transition (RXMC-CD04)  
and 20" [508 mm] Round Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate.
- Built-in anti-sweat gasket.
- Molded fiberglass supports.
- Built-in hanging supports.
- Diffuser box constructed of sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.

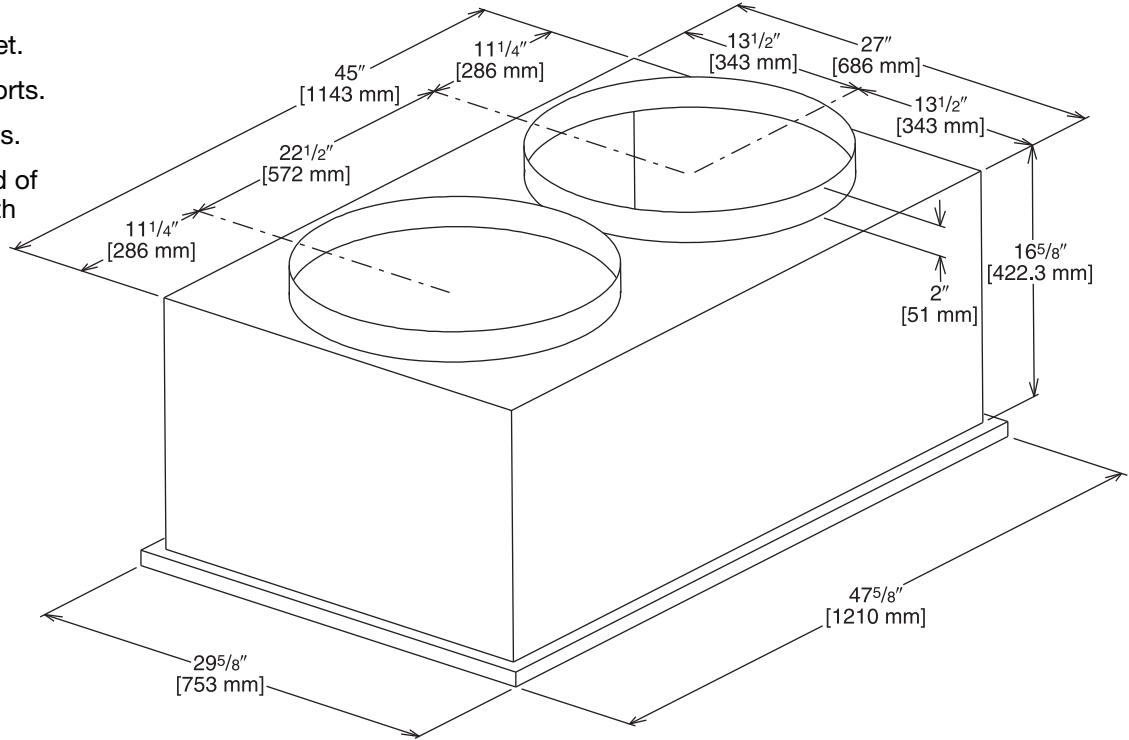


Illustration  
ADS-5348-04

## ENGINEERING DATA<sup>①</sup>

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

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

[ ] Designates Metric Conversions

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

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

For Use With Downflow Transition (RXMC-CE05)  
and 18" x 28" [457.2 x 711.2 mm]  
Supply and Return Ducts

- All aluminum diffuser with aluminum return air eggcrate.
- Built-in anti-sweat gasket.
- Molded fiberglass supports.
- Built-in hanging supports.
- Diffuser box constructed of sheetmetal insulated with 1" [25.4 mm] 1.5 lbs. [.7 kg] duct liner.

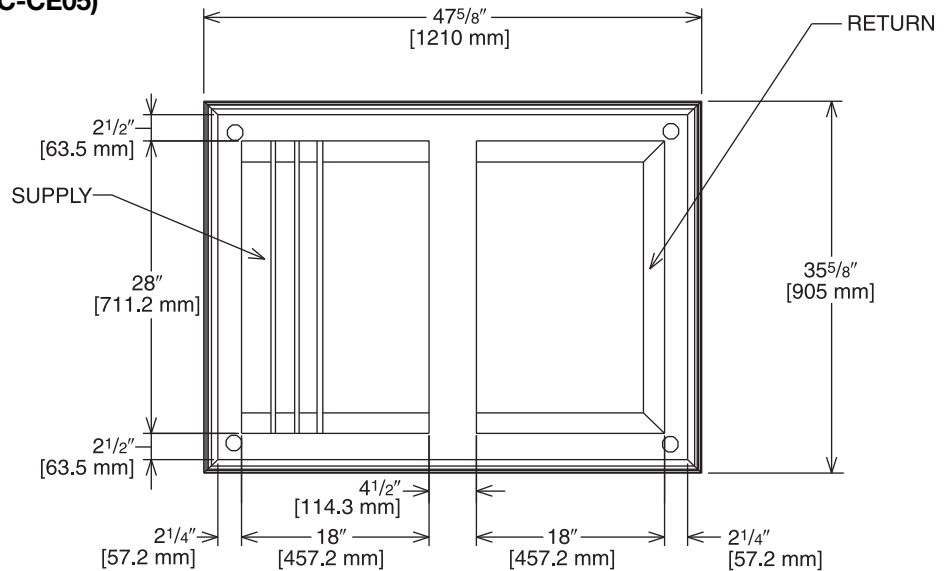


Illustration  
ADS-7951-06A

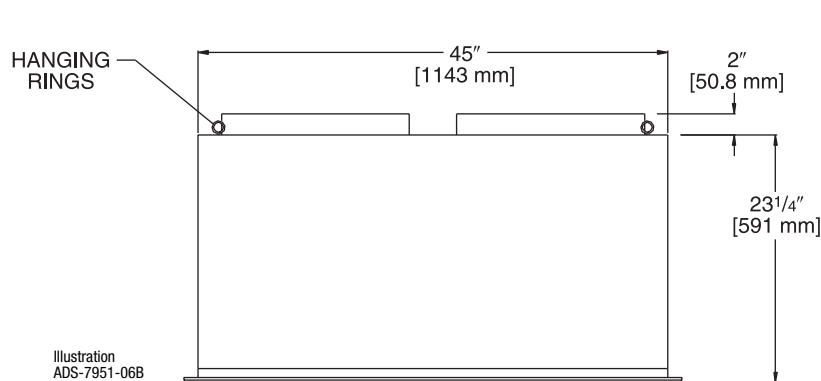


Illustration  
ADS-7951-06B

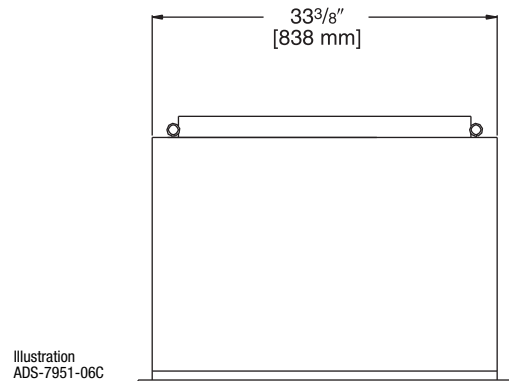


Illustration  
ADS-7951-06C

## ENGINEERING DATA<sup>①</sup>

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw <sup>②③</sup> Feet [m]	Neck Velocity fpm [m/s]	Noise Level <sup>④</sup> (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.

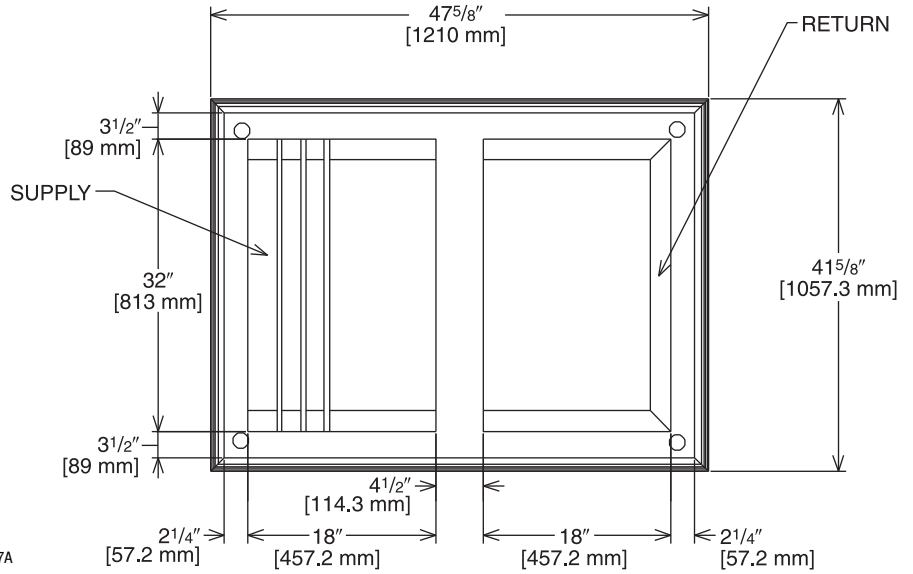


Illustration  
ADS-7951-07A

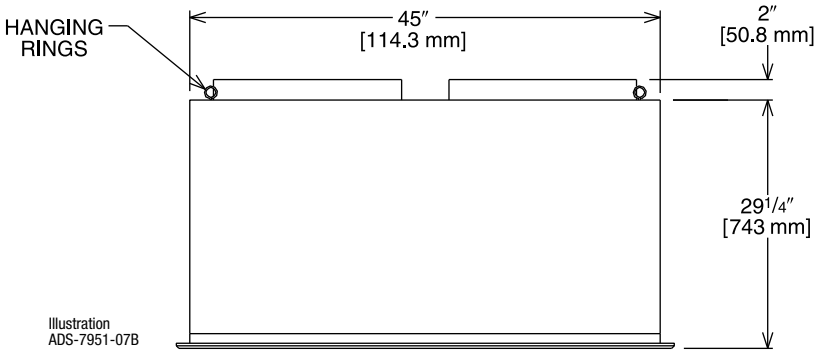


Illustration  
ADS-7951-07B

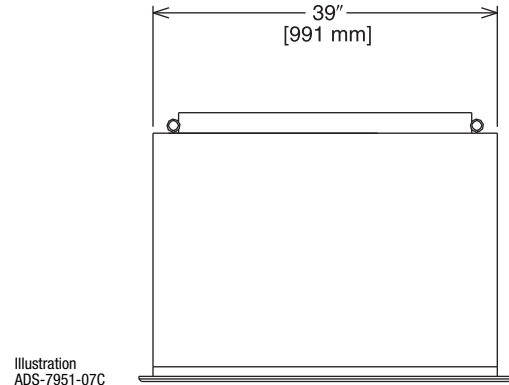


Illustration  
ADS-7951-07C

## ENGINEERING DATA<sup>①</sup>

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw <sup>②</sup> <sup>③</sup> Feet [m]	Neck Velocity fpm [m/s]	Noise Level <sup>④</sup> (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: <sup>①</sup> All data is based on the air diffusion council guidelines.  
<sup>②</sup> Throw data is based on 75 FPM Terminal Velocities using isothermal air.  
<sup>③</sup> Throw is based on diffuser blades being directed in a straight pattern.  
<sup>④</sup> 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-B073 - 151

Note about this specification: Copying this document directly into your building specification is permissible.

### GAS HEAT PACKAGED ROOFTOP

#### HVAC Guide Specifications

#### Size Range: 6 to 12<sup>1</sup>/<sub>2</sub> Nominal Tons

Section	Description
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<b>23 06 80</b>	<b>Schedules for Decentralized HVAC Equipment</b>
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<b>23 06 80.13</b>	<b>Decentralized Unitary HVAC Equipment Schedule</b>
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23 06 80.13.A.	Rooftop unit schedule
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1. Schedule is per the project specification requirements.

<b>23 07 16</b>	<b>HVAC Equipment Insulation</b>
-----------------	----------------------------------

<b>23 07 16.13</b>	<b>Decentralized, Rooftop Units:</b>
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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.

<b>23 09 13</b>	<b>Instrumentation and Control Devices for HVAC</b>
-----------------	---

<b>23 09 13.23</b>	<b>Sensors and Transmitters:</b>
--------------------	----------------------------------

23 09 13.23.A.	Thermostats
----------------	-------------

1. Thermostat must
  - a. energize both "W" and "G" when calling for heat.
  - b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
  - c. must include capability for occupancy scheduling.

<b>23 09 33</b>	<b>Electric and Electronic Control System for HVAC</b>
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<b>23 09 33.13</b>	<b>Decentralized, Rooftop Units:</b>
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23 09 33.13.A.	General:
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1. Shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side (B073-B150 units have a resettable circuit breaker).
2. Shall utilize color-coded wiring.
3. Unit shall include self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side with a resettable circuit breaker.
4. The heat exchanger shall be controlled by an integrated furnace controller (IFC) microprocessor. See heat exchanger section of this specification.
5. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

23 09 33.23.B.	Safeties:
----------------	-----------

1. Compressor over-temperature, over current.
2. Low-pressure switch.
  - a. Units shall have low pressure, loss of charge automatic reset device that will shut off compressor when tripped.
3. High-pressure switch.
  - a. Unit shall be equipped with high pressure switch manual reset device that will shut off compressor when tripped.
4. Automatic reset, motor thermal overload protector.
5. 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.
14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.

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.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.



## 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" - 2 NPT drain connection, possible either through the bottom or 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 and LED (light-emitting diode).
  - b. The Light Emitting Diode (LED) shall be visible without opening the control box access panel.

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. B073 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-ampereage 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 equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
  - g. Shall be capable of introducing up to 100% outdoor air.
  - h. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
  - i. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
  - j. 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.
  - k. 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%.
  - l. 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.
  - m. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - n. Economizer controller shall accept a 2-10Vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor-air damper to provide ventilation based on the sensor input.
  - 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. Powered convenience outlet.
  - b. Outlet shall be powered from main line power to the rooftop unit.
  - c. Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
  - d. Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
  - e. Outlet shall include 15 amp GFI receptacles with independent fuse protection.
  - f. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer.
  - g. Outlet shall be accessible from outside the unit.
  - h. Non-Powered convenience outlet.
  - i. Outlet shall be powered from a separate 115-120v power source.
  - j. A transformer shall not be included.
  - k. Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
  - l. Outlet shall include 15 amp GFI receptacle with independent fuse protection.
  - m. 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 is shall be mounted in return ductwork.
  - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
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 (CO<sub>2</sub>) 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:**

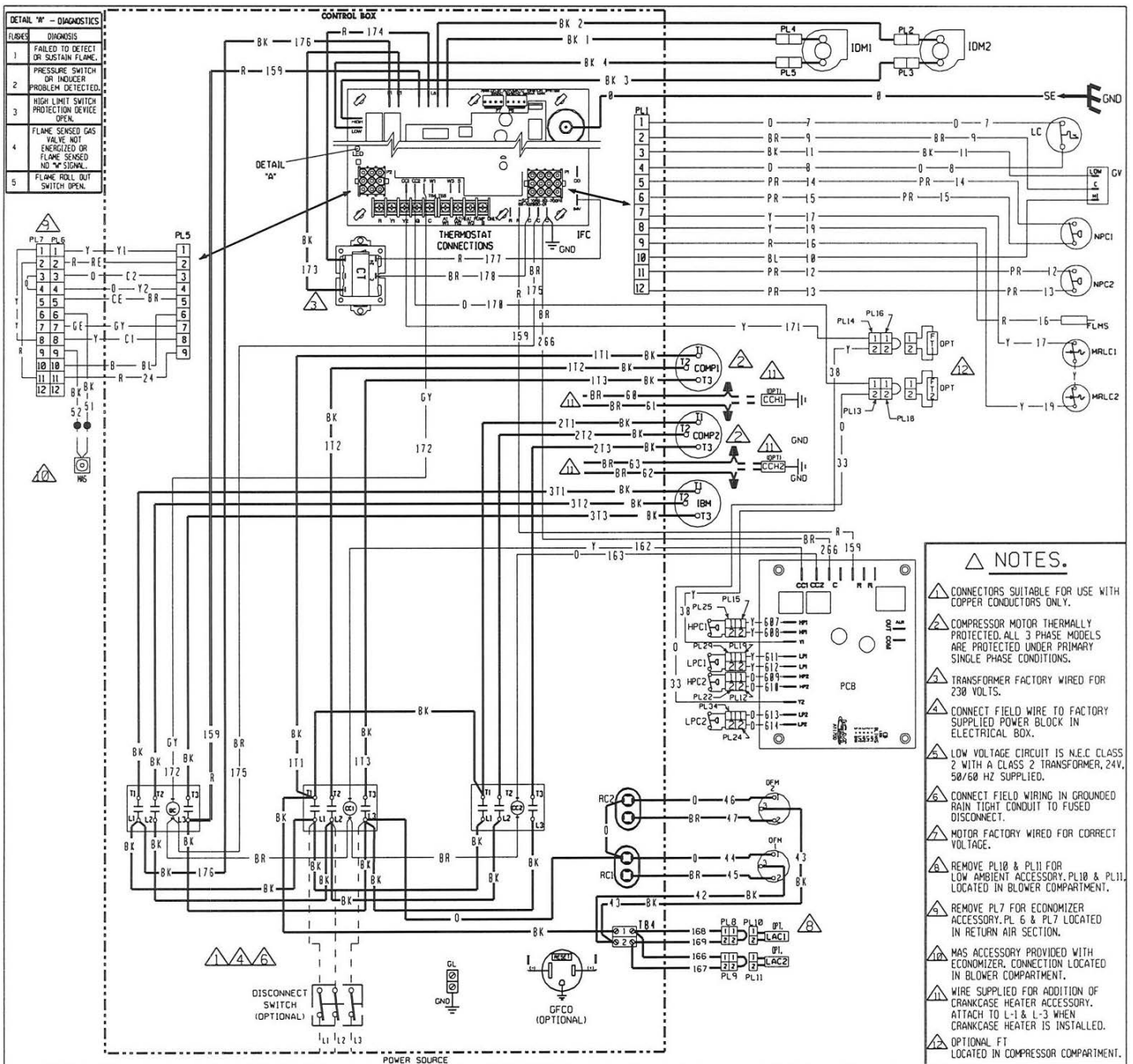
- a. Shall be a Four-Wire Controller and Detector.
- b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
- c. Shall use magnet-activated test/reset sensor switches.
- d. Shall have tool-less connection terminal access.
- e. Shall have a recessed 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**

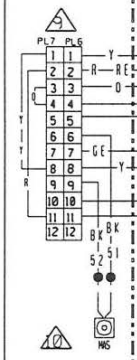
- a. Shall include damper, seals, hard-ware, and hoods to relieve excess building pressure.
- b. Damper shall gravity-close upon shutdown.

**16. Time Guard**

- a. Shall prevent compressor short cycling by providing a 5-minute delay ( $\pm 2$  minutes) before restarting a compressor after shutdown for any reason.
- b. One device shall be required per compressor.



DETAIL 'W' - DIAGNOSTICS	
FUSES	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 "W" SIGNAL.
5	FLAME ROLL OUT SWITCH OPEN.



- △ NOTES.**
- △ CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
  - △ COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
  - △ TRANSFORMER FACTORY WIRED FOR 230 VOLTS.
  - △ CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
  - △ LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
  - △ CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
  - △ MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
  - △ REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
  - △ REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
  - △ MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
  - △ WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
  - △ OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE	
BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FT	FREEZE STAT
GFCO	GROUND FAULT CONVENIENCE OUTLET
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
LPC	LOW PRESSURE CONTROL
MAS	MIX AIR SENSOR
MRLC	MANUAL RESET LIMIT CONTROL
NPC	NEGATIVE PRESSURE CONTROL
OPM	OUTDOOR FAN MOTOR
PCB	PRESSURE CONTROL BOARD
PL	PLUG
RC	RUN CAPACITOR
SE	SPARK ELECTRODE
TB	TERMINAL BLOCK
▲	WIRE NUT

**WIRING INFORMATION**

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

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

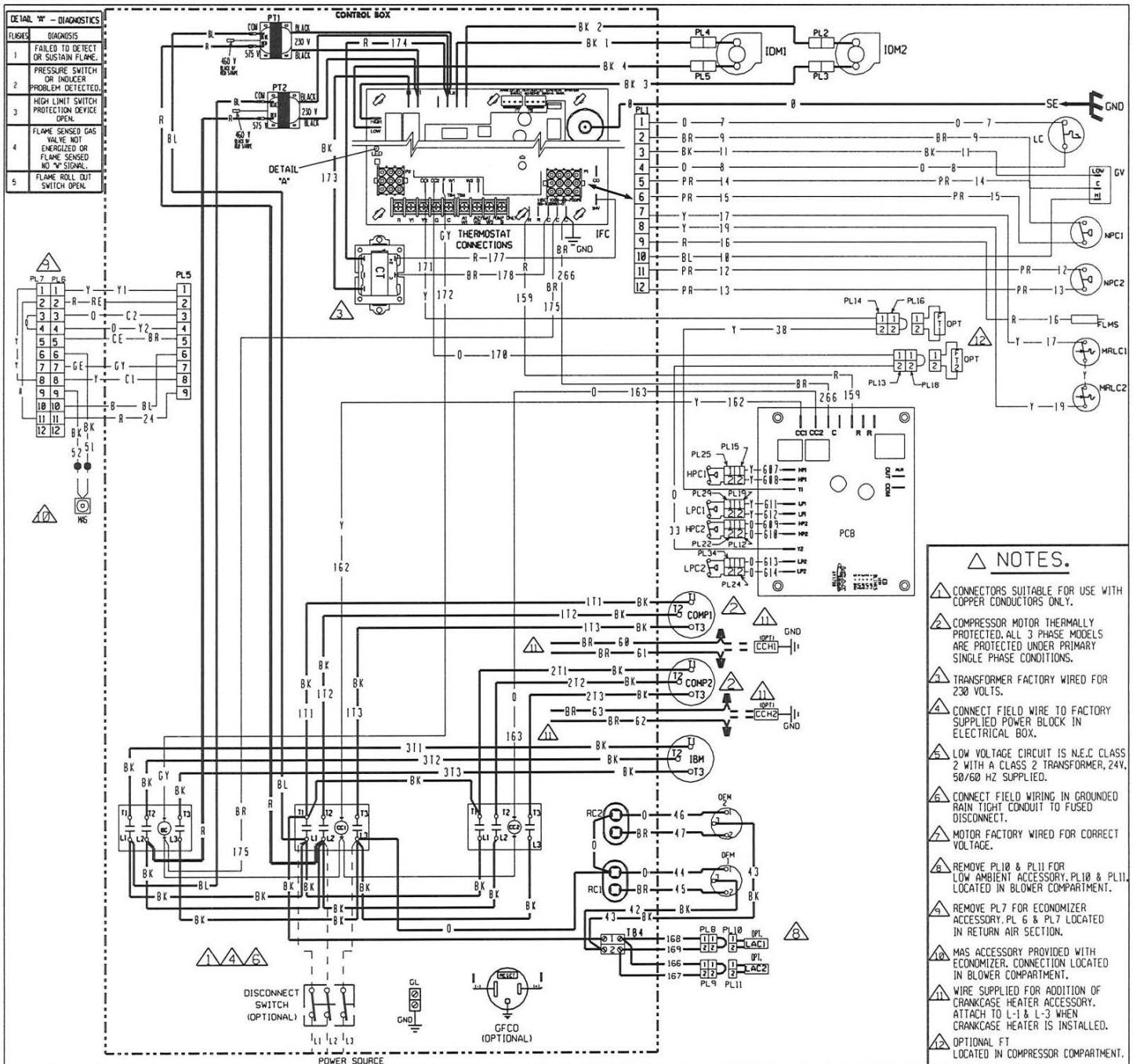
REPLACEMENT WIRE  
 -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105 C° MIN.)

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**  
 (-)KKL/KNL-B151  
 208-230/460V 3 PH, 60 HZ.  
 200-220/380-415V 3 PH, 50 HZ

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR	meb	8-14-12	90-102890-07	01



- 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 ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
  - 10. MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
  - 11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
  - 12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

**COMPONENT CODE**

BC	BLOWER CONTACTOR	LC	LIMIT CONTROL
CC	COMPRESSOR CONTACTOR	LPC	LOW PRESSURE CONTROL
CCH	CRANKCASE HEATER	MAS	MIX AIR SENSOR
COMP	COMPRESSOR	MRLC	MANUAL RESET LIMIT CONTROL
CT	CONTROL TRANSFORMER	NPC	NEGATIVE PRESSURE CONTROL
DISC	DISCONNECT SWITCH	OFM	OUTDOOR FAN MOTOR
FLMS	FLAME SENSOR	PCB	PRESSURE CONTROL BOARD
FT	FREEZE STAT	PL	PLUG
GFCO	GROUND FAULT CONVENIENCE OUTLET	PT	PUR POWER TRANSFORMER
GL	GROUND LUG	RC	RUN CAPACITOR
GND	GROUND	SE	SPARK ELECTRODE
GV	GAS VALVE	TB	TERMINAL BLOCK
HPC	HIGH PRESSURE CONTROL	▲	WIRE NUT
IBM	INDOOR BLOWER MOTOR BELT DRIVE		
IDM	INDUCED DRAFT MOTOR		
JFC	INTEGRATED FURNACE CONTROL		
LAC	LOW AMBIENT COOLING CONTROL		

**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.

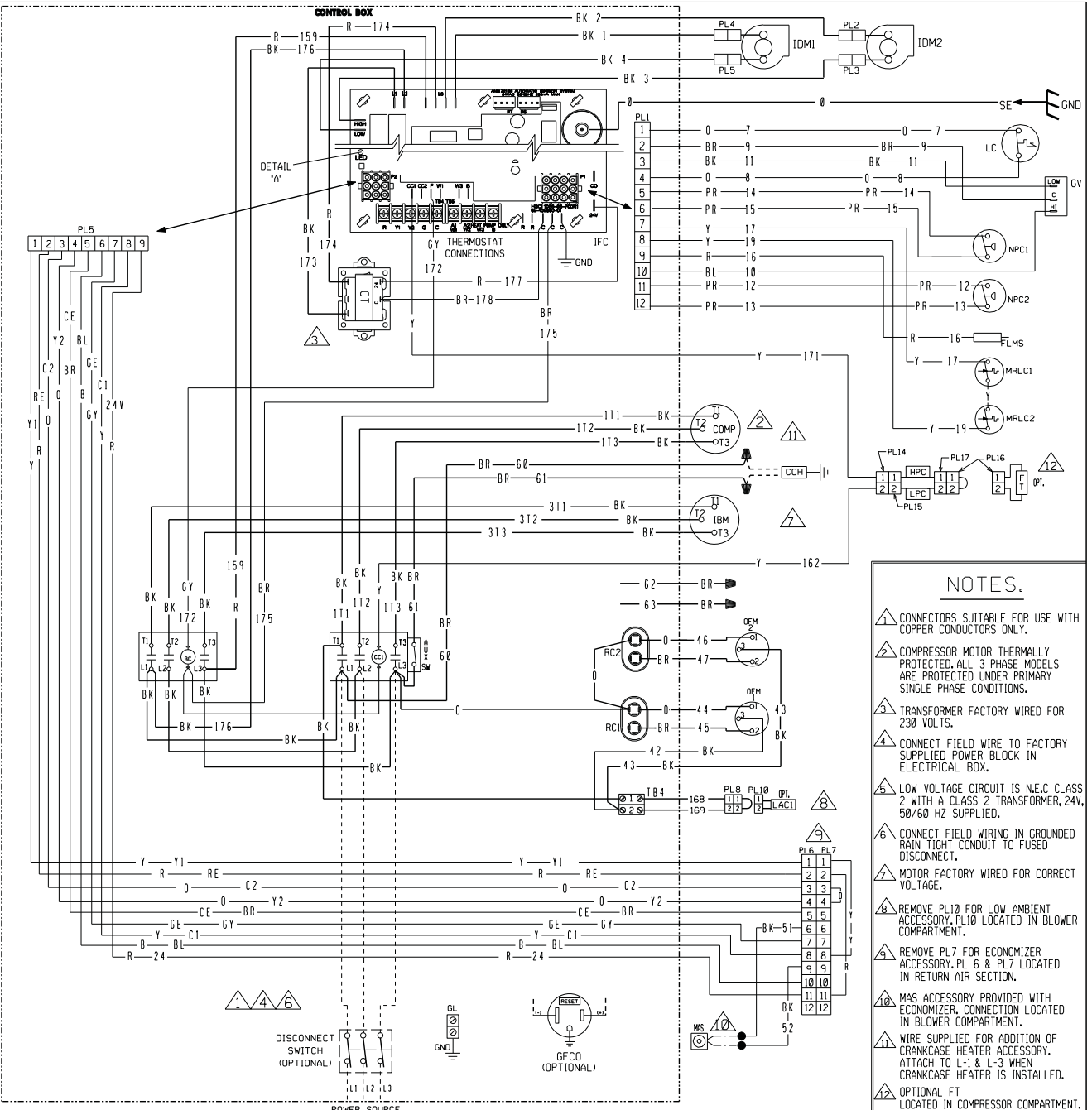
**WIRE COLOR CODE**

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

**WIRING DIAGRAM**  
 (-)KKL/KNL-B151  
 575V 3 PH, 60 HZ.  
 ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR	mc6	8-14-12	90-102890-08	01

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 "W" SIGNAL.
5	FLAME ROLL OUT SWITCH OPEN.



- NOTES.**
- ⚠ CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
  - ⚠ COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
  - ⚠ TRANSFORMER FACTORY WIRED FOR 230 VOLTS.
  - ⚠ CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
  - ⚠ LOW VOLTAGE CIRCUIT IS N.E.C. CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
  - ⚠ CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
  - ⚠ MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
  - ⚠ REMOVE PL10 FOR LOW AMBIENT ACCESSORY. PL10 LOCATED IN BLOWER COMPARTMENT.
  - ⚠ REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
  - ⚠ MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
  - ⚠ WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
  - ⚠ OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE	
AUX SW	AUXILIARY SWITCH
BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FT	FREEZE STAT
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
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LAC	LOW AMBIENT COOLING CONTROL
LC	LIMIT CONTROL
LPC	LOW PRESSURE CONTROL
MAS	MIX AIR SENSOR
MRLC	MANUAL RESET LIMIT CONTROL
NPC	NEGATIVE PRESSURE CONTROL
OFM	OUTDOOR FAN MOTOR
PL	PLUG
RC	RUN CAPACITOR
SE	SPARK ELECTRODE
TB	TERMINAL BLOCK
W	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.M.I.)

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

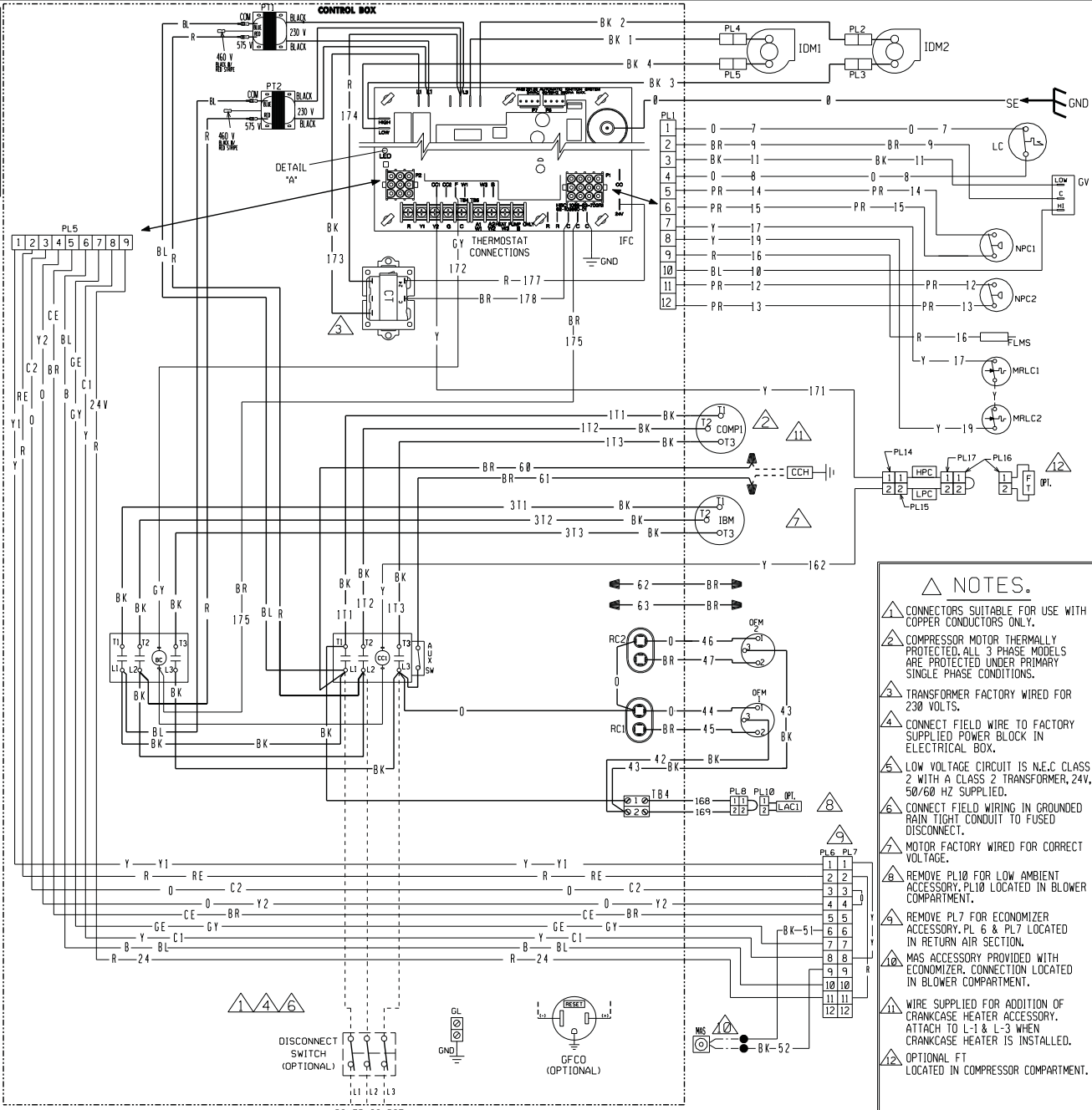
WIRE COLOR CODE			
BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

**WIRING DIAGRAM**  
**6 - 7 TON**  
208-230/460V 3 PH, 60 HZ.  
200-220/380-415V, 3 PH, 50 HZ

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-03	06



FLASKS	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 "M" SIGNAL.
5	FLAME ROLL OUT SWITCH OPEN.



- 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 FOR LOW AMBIENT ACCESSORY, PL10 LOCATED IN BLOWER COMPARTMENT.
  - 9. REMOVE PL7 FOR ECONOMIZER ACCESSORY, PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
  - 10. MAS ACCESSORY PROVIDED WITH ECONOMIZER, CONNECTION LOCATED IN BLOWER COMPARTMENT.
  - 11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
  - 12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

**COMPONENT CODE**

AUX SW	AUXILLIARY SWITCH	LC	LIMIT CONTROL
BC	BLOWER CONTACTOR	LPC	LOW PRESSURE CONTROL
CC	COMPRESSOR CONTACTOR	MAS	MIX AIR SENSOR
CCH	CRANKCASE HEATER	MRLC	MANUAL RESET LIMIT CONTROL
COMP	COMPRESSOR	NPC	NEGATIVE PRESSURE CONTROL
CT	CONTROL TRANSFORMER	OFM	OUTDOOR FAN MOTOR
DISC	DISCONNECT SWITCH	PL	PLUG
FLMS	FLAME SENSOR	PT	POWER TRANSFORMER
FT	FREEZE STAT	RC	RUN CAPACITOR
GFCD	GROUND FAULT CONVENIENCE OUTLET	SE	SPARK ELECTRODE
GL	GROUND LUG	TB	TERMINAL BLOCK
GND	GROUND	▲	WIRE NUT
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		

**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.)

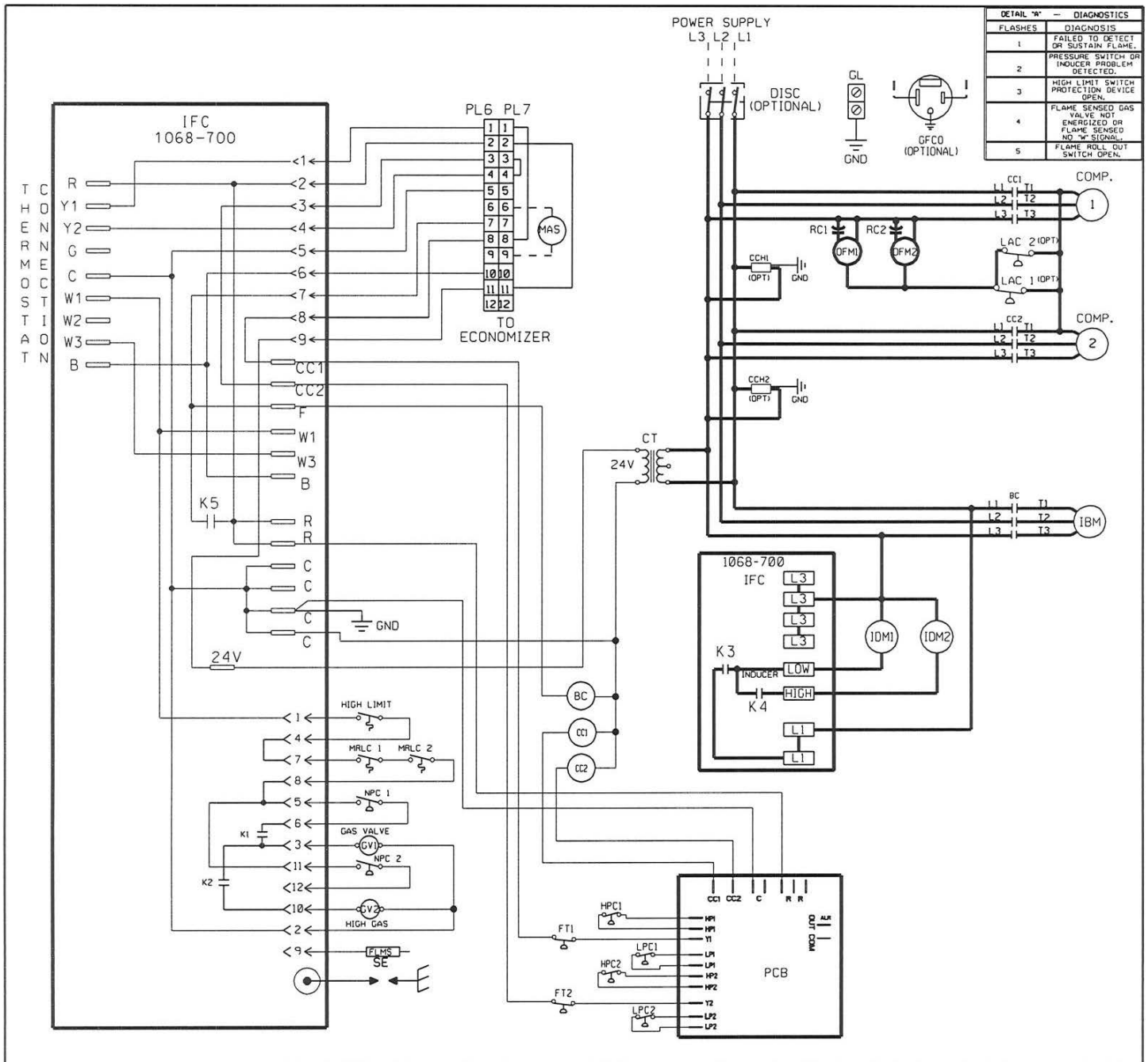
WARNING  
 -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., NATIONAL WIRING REGULATIONS, AND LOCAL CODES AS APPLICABLE.

**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**  
**6 - 7 TON**  
**575V 3 PH, 60 HZ.**  
**ROOFTOP**

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-04	05



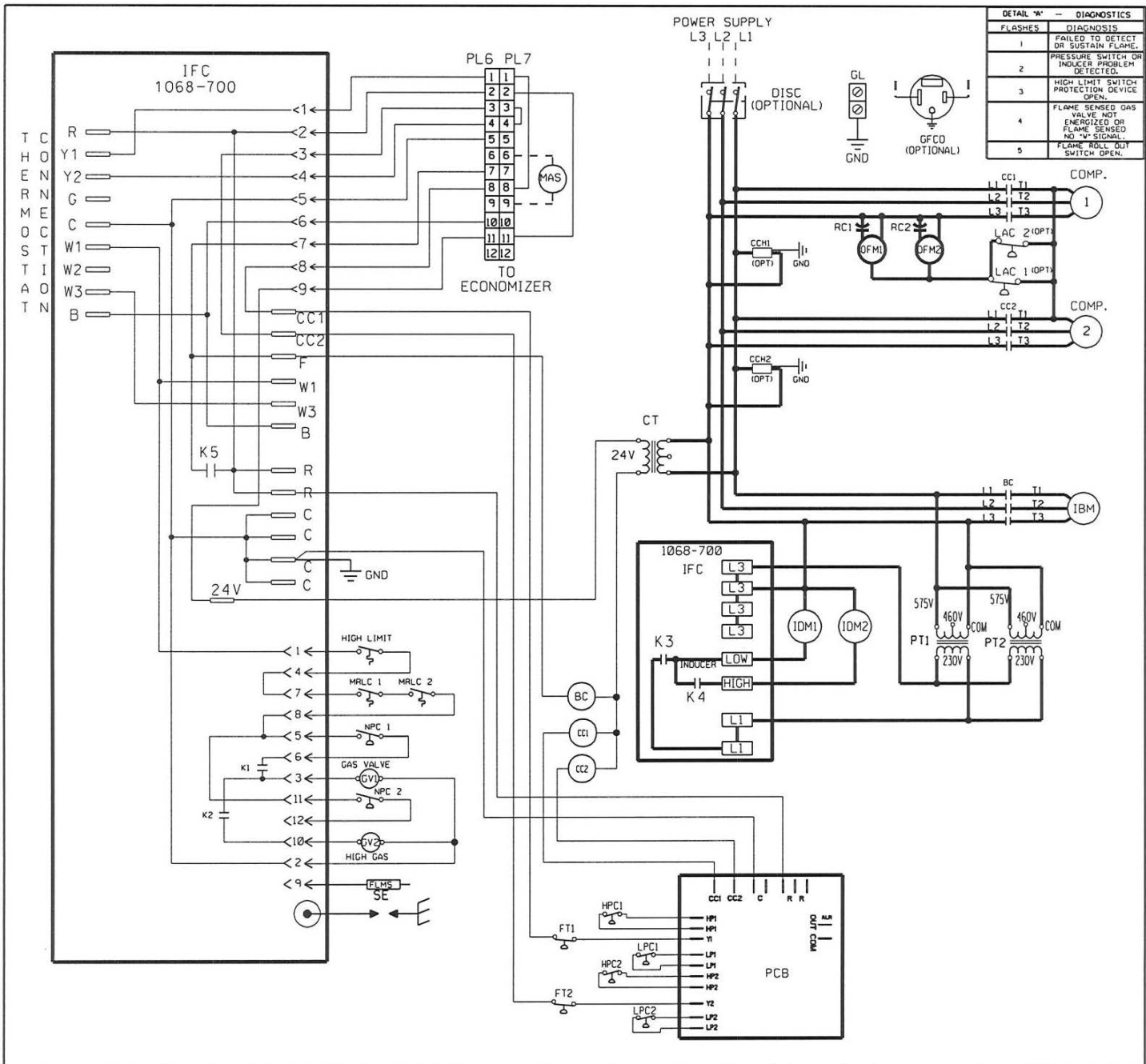
COMPONENT CODE	
BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FT	FREEZE STAT
GFCD	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
GV	GAS VALVE
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
IDM	INDUCED DRAFT MOTOR
IFC	INTEGRATED FURNACE CONTROL
LC	LIMIT CONTROL
LPC	LOW PRESSURE CONTROL
MAS	MIX AIR SENSOR
MRLC	MANUAL RESET LIMIT CONTROL
NPC	NEGATIVE PRESSURE CONTROL
DFM	OUTDOOR FAN MOTOR
PCB	PRESSURE CONTROL BOARD
PL	PLUG
PT	POWER TRANSFORMER
RC	RUN CAPACITOR
SE	SPARK ELECTRODE
TB	TERMINAL BLOCK

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., NATIONAL WIRING REGULATIONS, AND LOCAL CODES AS APPLICABLE.	

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

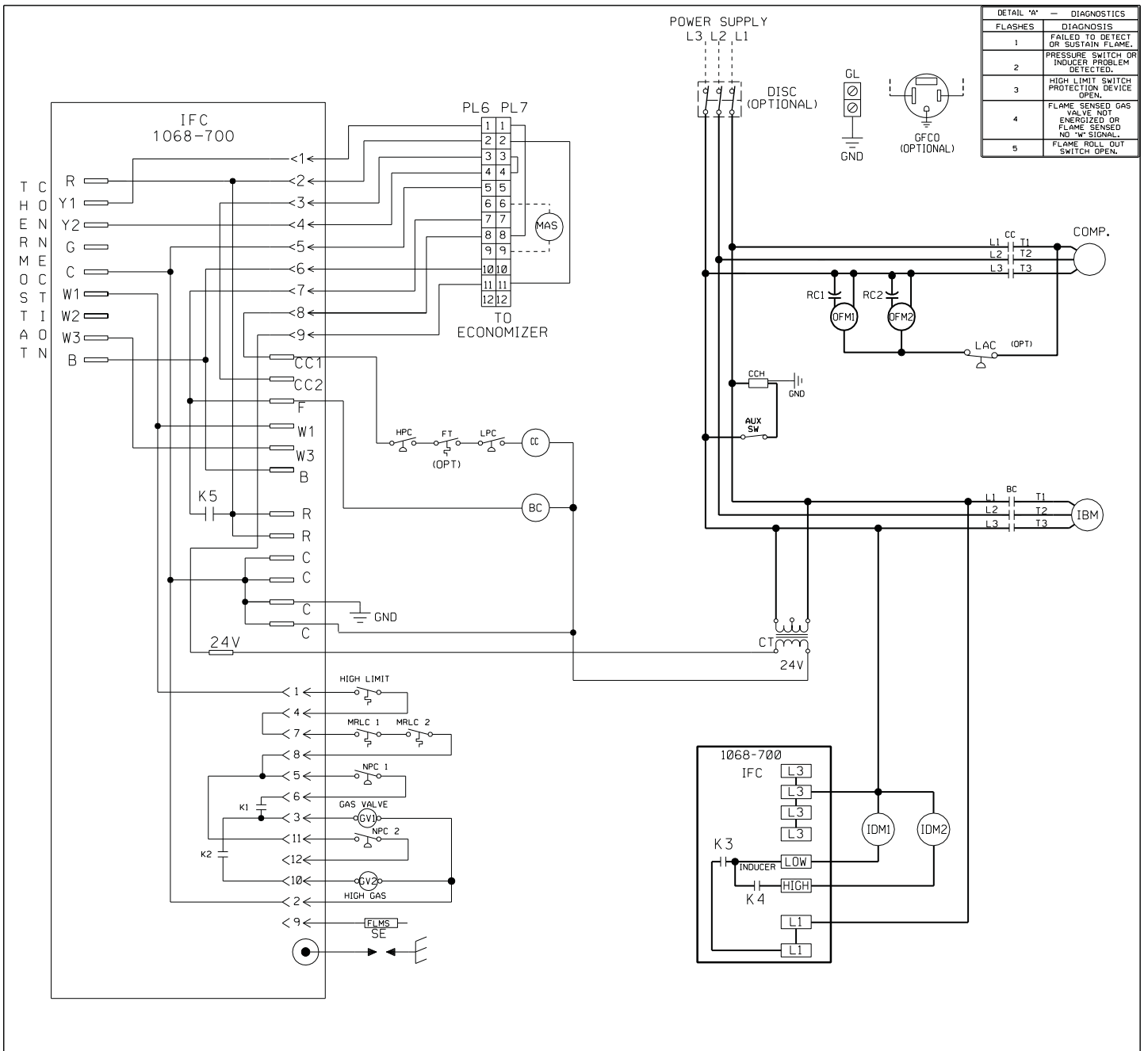
WIRING SCHEMATIC			
(-)KKL/KNL-B151			
208-230/460V, 3 PH, 60 HZ.			
200-220/380-415V, 3 PH, 50 HZ			
DR. BY	APP. BY	DATE	DWG. NO.
MGR	<i>MJB</i>	8-14-12	90-102891-07
			REV 01



COMPONENT CODE	WIRING INFORMATION	WIRE COLOR CODE
BC BLOWER CONTACTOR	LINE VOLTAGE	BK BLACK
CC COMPRESSOR CONTACTOR	-FACTORY STANDARD	BR BROWN
CCH CRANKCASE HEATER	-FACTORY OPTION	BL BLUE
COMP COMPRESSOR	-FIELD INSTALLED	G GREEN
CT CONTROL TRANSFORMER	LOW VOLTAGE	GY GRAY
DISC DISCONNECT SWITCH	-FACTORY STANDARD	O ORANGE
FLMS FLAME SENSOR	-FACTORY OPTION	PR PURPLE
FT FREEZE STAT	-FIELD INSTALLED	R RED
GFCO GROUND FAULT CONVENIENCE OUTLET	REPLACEMENT WIRE	W WHITE
GL GROUND LUG	-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)	Y YELLOW
GND GROUND	WARNING	
GV GAS VALVE	-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., NATIONAL WIRING REGULATIONS, AND LOCAL CODES AS APPLICABLE.	
HPC HIGH PRESSURE CONTROL		
IBM INDOOR BLOWER MOTOR BELT DRIVE		
IDM INDUCED DRAFT MOTOR		
IFC INTEGRATED FURNACE CONTROL		
LC LIMIT CONTROL		
LPC LOW PRESSURE CONTROL		
MAS MIX AIR SENSOR		
MRLC MANUAL RESET LIMIT CONTROL		
NPC NEGATIVE PRESSURE CONTROL		
OFM OUTDOOR FAN MOTOR		
PCB PRESSURE CONTROL BOARD		
PL PLUG		
PT POWER TRANSFORMER		
RC RUN CAPACITOR		
SE SPARK ELECTRODE		
TB TERMINAL BLOCK		

**WIRING SCHEMATIC**  
(-)KKL/KNL-B151  
575V, 3 PH, 60 HZ.  
ROOFTOP

DR. BY MGR	APP. BY MGB	DATE 8-14-12	OWG. NO. 90-102891-08	REV 01
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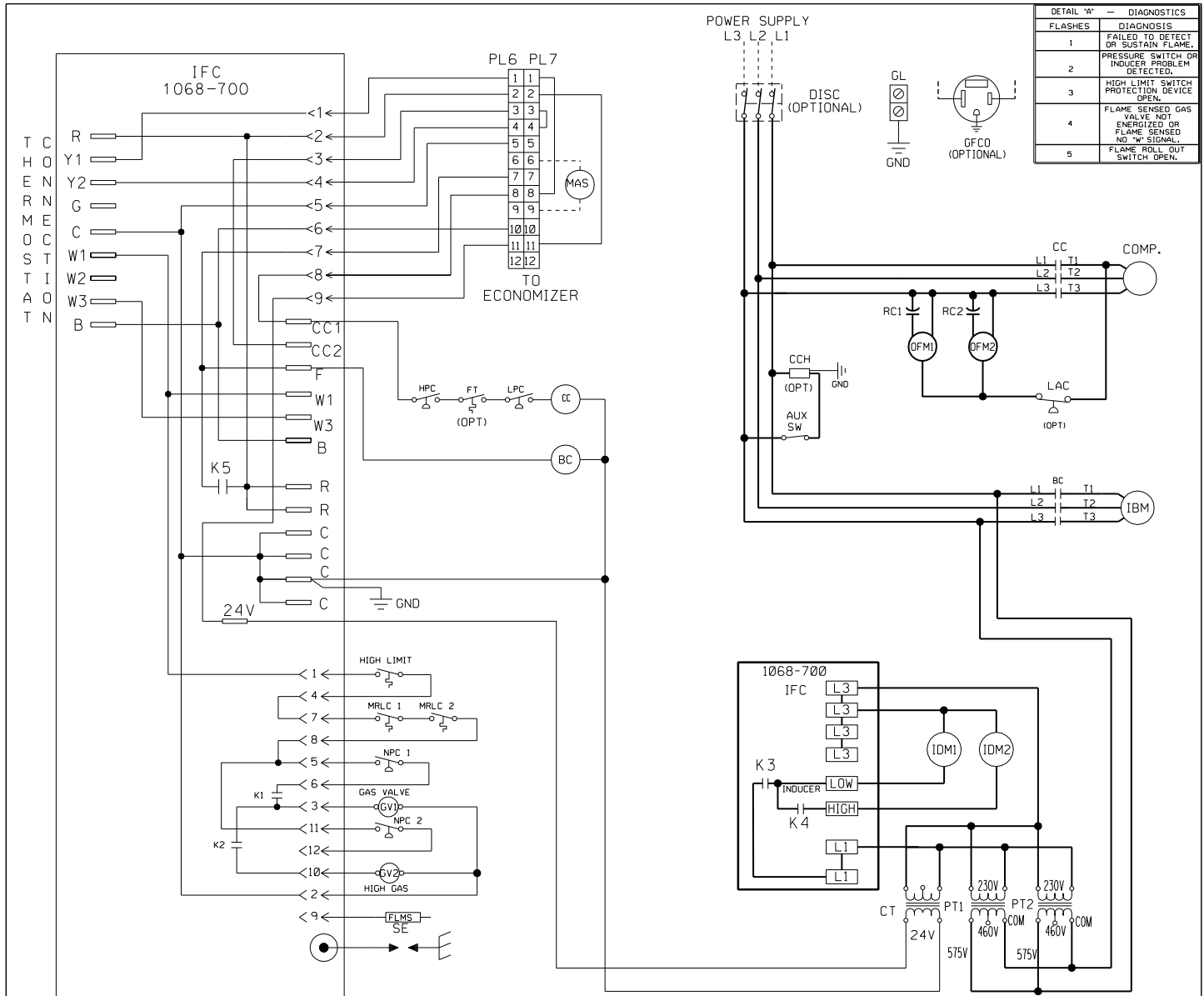
COMPONENT CODE	
AUX SW	AUXILIARY SWITCH
BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FT	FREEZE STAT
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
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HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
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IFC	INTEGRATED FURNACE CONTROL
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LPC	LOW PRESSURE CONTROL
MAS	MIX AIR SENSOR
MRLC	MANUAL RESET LIMIT CONTROL
NPC	NEGATIVE PRESSURE CONTROL
OFM	OUTDOOR FAN MOTOR
PL	PLUG
RC	RUN CAPACITOR
SE	SPARK ELECTRODE
TB	TERMINAL BLOCK

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.)	
<b>WARNING</b>	
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., NATIONAL WIRING REGULATIONS, AND LOCAL CODES AS APPLICABLE.	

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

WIRING SCHEMATIC			
6 - 7 TON			
208-230/460V, 3 PH, 60 HZ.			
200-220/380-415V, 3 PH, 50 HZ			
DR. BY	APP. BY	DATE	DWG. NO.
MGR		5-22-08	90-102891-03
			REV
			04



COMPONENT CODE	
AUX SW	AUXILIARY SWITCH
BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DISC	DISCONNECT SWITCH
FLMS	FLAME SENSOR
FT	FREEZE STAT
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
GV	GAS VALVE
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
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OFM	OUTDOOR FAN MOTOR
PL	PLUG
PT	POWER TRANSFORMER
RC	RUN CAPACITOR
SE	SPARK ELECTRODE
TB	TERMINAL BLOCK

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.)	
<b>WARNING</b>	
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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			
6 - 7 TON			
575V, 3 PH, 60 HZ.			
ROOF TOP			
DR. BY	APP. BY	DATE	DWG. NO.
MGR		5-22-08	90-102891-04
			REV
			02

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





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

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INTEGRATED AIR & WATER