



SELF-CONTAINED COOLING PACKAGE UNITS

FORM NO. EXS11-937

Featuring New Industry Standard R-410A Refrigerant

R-410A

SLNL-B STANDARD EFFICIENCY SERIES
NOMINAL SIZES 15-25 TONS [52.8-87.9 kW]





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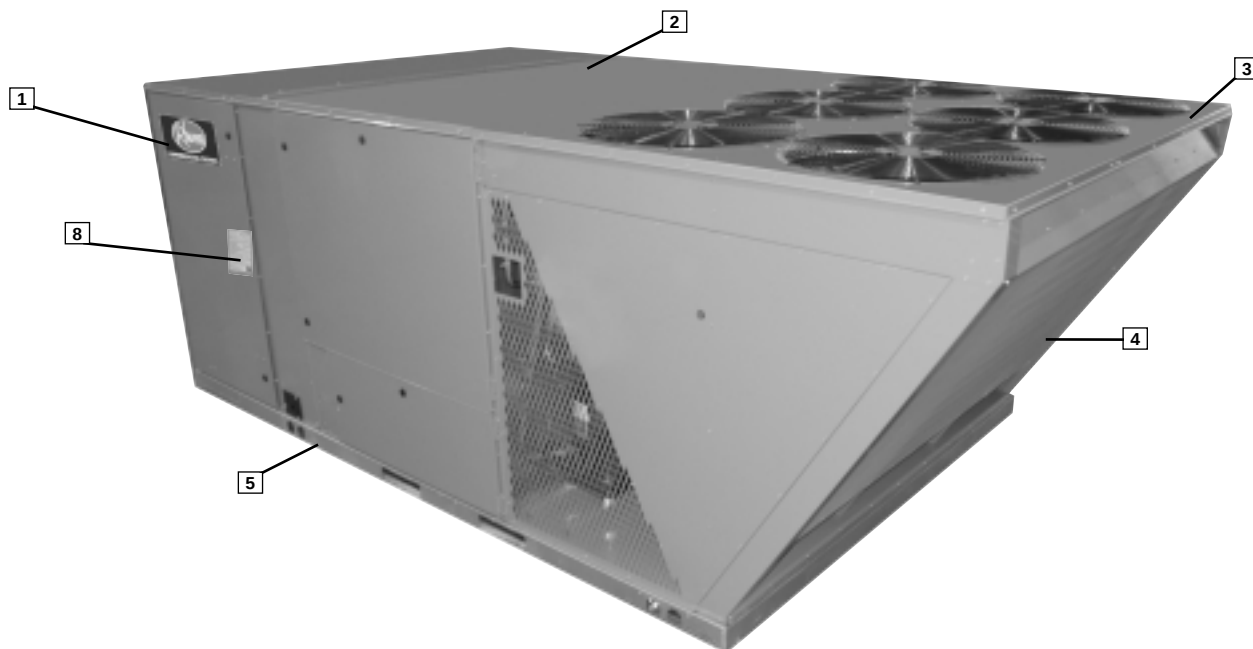


These quality features are included in the Rheem Package Air Conditioner Unit



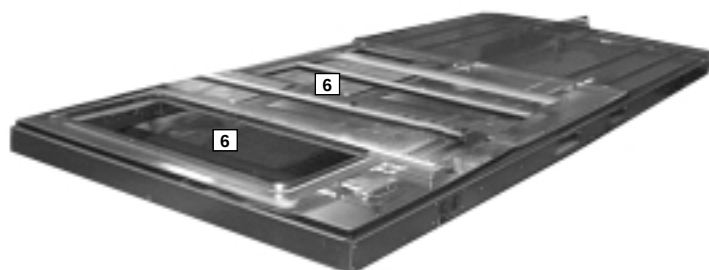
STANDARD FEATURES INCLUDE:

- R-410A HFC refrigerant.
- Complete factory charged, wired and run tested.
- Scroll compressors with internal line break overload and high-pressure protection.
- Dual stage compressor on all models.
- Convertible airflow – vertical downflow or horizontal sideflow.
- TXV refrigerant metering system on each circuit.
- High Pressure and Low Pressure/Loss of charge protection standard on all models.
- Solid Core liquid line filter drier on each circuit.
- Single slab, single pass designed evaporator and condenser coils facilitate easy cleaning for maintaining 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.
- Base pan with drawn supply and return opening for superior water management.
- Forkable base rails for easy handling and lifting.
- Single point electrical connections.
- Internally sloped slide out condensate pan conforms to ASHRAE 62 standards.
- High performance belt drive motor with variable pitch pulleys and quick adjust belt system.
- Permanently lubricated evaporator, 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.
- 24 volt control system with resettable circuit breakers.
- Colored and labeled wiring.
- Copper tube/Aluminum Fin coils.
- Supplemental electric heat provides 100% efficient heating.



Rheem Package equipment is designed from the ground up with the latest features and benefits required to compete in today's market. The clean design stands alone in the industry and is a testament to the quality, reliability, ease of installation and serviceability that goes into each unit. Outwardly, the large Rheem *Commercial Series*™ label (1) identifies the brand to the customer. The sheet-metal cabinet (2) uses nothing less than 20-gauge material for structural components with an underlying coat of G90. To ensure the leak-proof integrity of these units, the design utilizes a top with a 1/8" drip lip (3), gasket-protected panels and screws. (4) The outdoor coil is slanted to protect from hail. 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 cover 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.

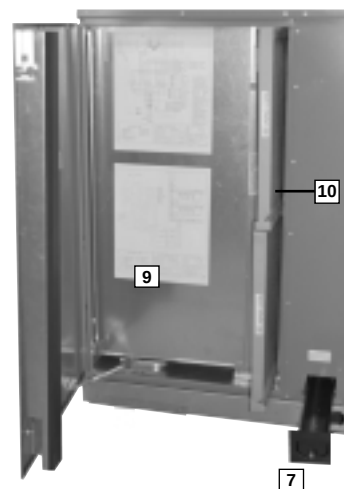


During development, each unit was tested to U.L. 1995, AHRI 340-360 and other Rheem-required reliability tests. Rheem adheres to stringent ISO 9002 quality procedures, and each unit bears the U.L. and AHRI certification labels located on the unit nameplate (8). Contractors can rest assured that when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

Access to all major compartments is from the front of the unit, including the filter and electrical compartment, blower compartment, heating section, and outdoor section. Each 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 with 1/4 turn latches. On the outside of the panel is the unit nameplate, which contains the model and serial number, electrical data and other important unit information.

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



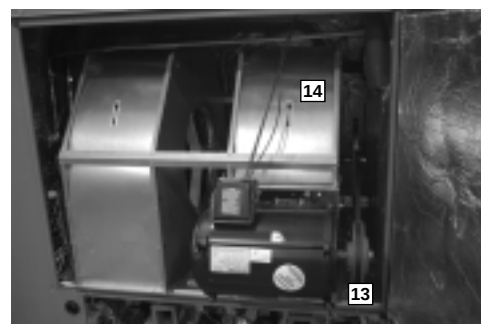


Inside the control box (**11**), each electrical component is clearly identified with a label that matches the component to the wire diagram for ease of trouble shooting. All wiring is numbered on each end of the termination and color-coded to match the wiring diagram. The control transformer has a low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

For added convenience in the field, a factory-installed convenience outlet (**12**) is 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 high voltage terminal block. The suggested mounting for the field-installed disconnect is on the exterior side of the electrical control box.



The blower compartment is to the right of the control box and can be accessed by 1/4 turn latches. To allow easy maintenance of the blower assembly, the entire assembly easily slides out by removing four #10 screws from the blower assembly. The adjustable motor pulley (**13**) can easily be adjusted by loosening the bolts on either side of the motor mount. Removing the bolts allows for easy removal of the blower pulley by pushing the blower assembly up to loosen the belt. Once the pulley is removed, the motor sheave can be adjusted to the desired number of turns, ranging from 0 to 6 turns open. Where the demands for the job require high static, 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 (**14**) 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.



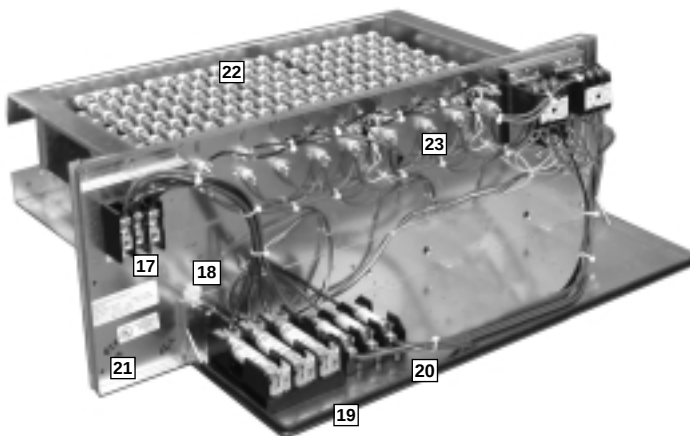
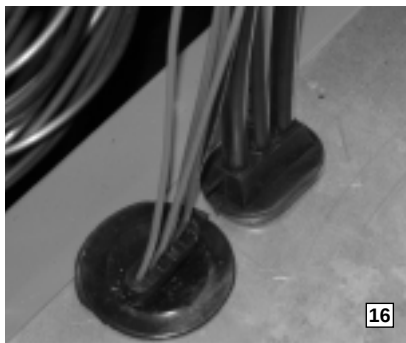
Also inside the blower compartment are the optional low-ambient controls (15). The optional low-ambient controls allow for operation of the compressors down to 0 degrees ambient temperature by cycling the outdoor fans on high pressure.



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.

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 (16) provides an air-tight and water-tight seal, and provides strain relief. Care is also taken to tuck raw edges of insulation behind sheet metal to improve indoor air quality.

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

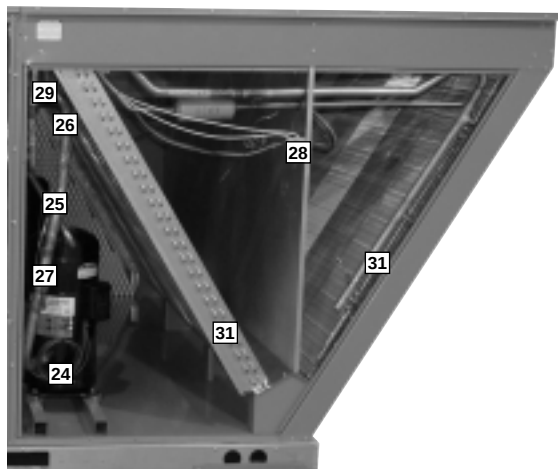


Power hook-up in the field is easy with single-point wiring to a terminal block (17) and a polarized plug for the low-voltage connection (18). The electric furnace comes with fuses for the unit (19) and for the electric furnace (20), and is UL certified (21). The electric heating elements are of a wound-wire construction (22) and isolated with ceramic bushings. The limit switch (23) protects the design from over-temperature conditions.

The compressor compartment houses the heartbeat of the unit. The scroll compressor (24) is known for its long life, and for reliable, quiet, and efficient operation. The suction and discharge lines are designed with shock loops (25) 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.



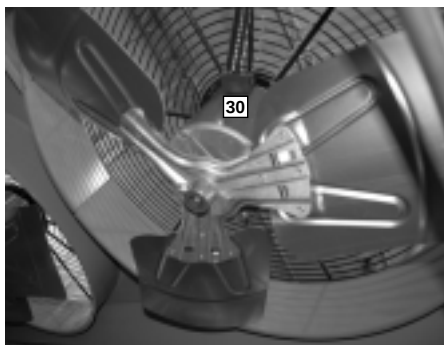
UNIT FEATURES & BENEFITS—SLNL-B SERIES



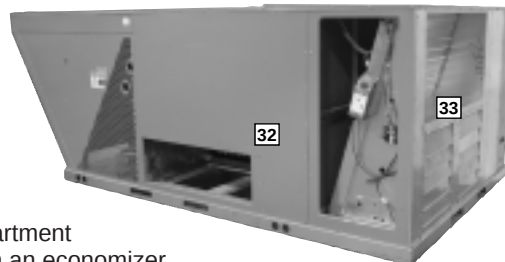
In the outdoor section are the external gauge ports (26). With the gauge ports mounted externally, an accurate diagnosis of system operation can be performed quickly and easily. Also located in this area are the refrigerant safety devices: the low-pressure switches (27), high-pressure switches (28) and the optional freeze-stats (29). The high-pressure switches will shut off the compressors if pressures exceeding 610 psig are detected as may occur if the outdoor fan motor fails. The low pressure switches shut off the compressors if low pressure is detected due to loss of refrigerant charge. The optional freeze-stats protect the compressors if the evaporator gets too cold (below freezing) due to low airflow. The factory-installed high and low pressure switches are brazed into the appropriate high or low side and wired appropriately. The optional freezestats clip on the suction lines above the compressors and connect to the low voltage circuit with the use of polarized plugs and a removable jumper for easy field or factory installation.

The condenser fan motor (30) can easily be accessed and maintained by removing the protective fan grille. 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 (31) for the most effective method of heat transfer. The outdoor coil is slanted to protect the unit from Mother Nature.



Each unit is designed for both downflow or horizontal applications (32) for job configuration flexibility. The return air compartment can also contain an economizer (33).

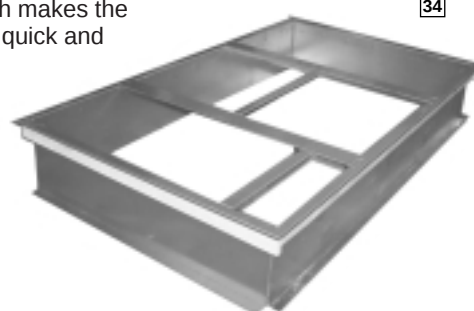


Two models exist, one for downflow applications, and one for horizontal applications. Each unit is pre-wired for the economizer to allow quick plug-in installation. The downflow economizer is also available as a factory-installed option. Power Exhaust is easily field-installed. The economizer, which 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 CO² 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 Rheem roofcurb (34) is made for toolless assembly at the jobsite by inserting a pin into the hinged corners (35), which makes the assembly process quick and easy.

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SELECTION PROCEDURE EXAMPLE—SLNL-B SERIES



To select an SLNL-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—	380/415 – 3 Phase – 50 Hz
Total Cooling Capacity—	195,000 BTUH [57.1 kW]
Sensible Cooling Capacity—	150,000 BTUH [43.9 kW]
Heating Capacity—	235,000 BTUH [68.8 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)—	7200 CFM [3398 L/s]
*External Static Pressure—	0.70 in. WG [.17 kPa]

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

Since total cooling is within the range of a nominal 20 ton [70.3 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 6625 CFM [3126 L/s] indoor air flow (table basis):

Total Cooling Capacity = 201,400 BTUH [58.97 kW]
Sensible Cooling Capacity = 165,900 BTUH [48.58 kW]
Power Input (Compressor and Cond. Fans) = 15,100 watts

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

Sensible Cooling Capacity = 152,928 BTUH [44.78 kW]

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

Select factors from airflow correction table at 7200 CFM [3398 L/s] and apply to data obtained in step 2 to obtain gross capacity:

Total Capacity = 201,400 x 1.02 = 205,428 BTUH [60.15 kW]
Sensible Capacity = 152,928 x 1.06 = 162,104 BTUH [47.47 kW]
Power Input = 15,100 x 1.01 = 15,251 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 7200 CFM [3398 L/s]. Total ESP (external static pressure) per the spec of 0.70 in. WG [.17 kPa] includes the system duct and grilles. Add from the table 'Component Air Resistance', 0.01 in. WG [.00 kPa] for wet coil, 0.08 in. WG [.02 kPa] for downflow air flow, for a total selection static pressure of 0.79 (0.8) in. WG [.20 kPa], and determine:

RPM = 748
WATTS = 3,058
DRIVE = M (7.5 H.P. motor)

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

$$3,058 \times 3.412 = 10,434 \text{ BTUH [3.06 kW]}$$

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

$$\text{Net Total Capacity} = 205,428 - 10,434 = 194,994 \text{ BTUH [57.10 kW]}$$

$$\text{Net Sensible Capacity} = 162,104 - 10,434 = 151,670 \text{ BTUH [44.41 kW]}$$

7. CALCULATE UNIT INPUT AND JOB EER.

$$\text{Total Power Input} = 15,251 \text{ (step 3)} + 3,058 \text{ (step 4)} = 18,309 \text{ Watts}$$

$$\text{EER} = \frac{\text{Net Total BTUH [kW] (step 6)}}{\text{Power Input, Watts (above)}} = \frac{194,994}{18,309} = 10.65$$

8. SELECT UNIT HEATING CAPACITY.

From Heater Kit Table select kW to meet heating capacity requirement:

Heating Capacity = 235,000 BTUH [68.8 kW]
Use 75 kW Heater Kit

9. CHOOSE MODEL SLNL-B240NM075

*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



MODEL IDENTIFICATION—SLNL-B SERIES



S	L	N	L	—	B	180	N	L	000	X	X	X
Tradebrand	Product Classification	Efficiency Designation	Design Series	Future Technical Variations	Cooling Capacity (BTUH) [kW]	Electrical Designation	Drive Package	Electric Heat	Factory Installed Options	Economizer Option		
S = Rheem	L = Packaged Air Conditioner—Commercial	N = High Efficiency ASHRAE 90.1-2007 Compliant	L = R410A Refrigerant		180 = 180,000 [52.75] 240 = 240,000 [70.34] 300 = 300,000 [87.92]	N = 380/415 V, 3 PH, 50 Hz	L = Belt Drive M = Belt Drive—High Static N = Belt Drive—Field Installed	000 = No Resistance Heat 020 = 20 kW Resistance Heat 040 = 40 kW Resistance Heat 060 = 60 kW Resistance Heat 075 = 75 kW Resistance Heat				

[] Designates Metric Conversions

FACTORY INSTALLED OPTION CODES FOR SLNL- (15-25 TON) [52.8-87.9 kW] (B180, B240, B300)

Option Code	Non-Powered Convenience Outlet	Low Ambient/ Freeze Stat
AA	NO OPTIONS	
AG	x	
AP		x
JC	x	x

Example: SLNL-B180NL000**XXX** (where **XX** is factory installed option)

Example: No Options

SLNL-B180NL000

Example: No Options with factory installed economizer

SLNL-B180NL000AAB

Example: Options with low ambient/freezestat and no factory installed economizer

SLNL-B180NL000APA

Example: Options same as above with factory installed economizer

SLNL-B180NL000APB

ECONOMIZER SELECTION FOR SLNL- (B180, B240, B300)

Option Code	No Economizer	Single Enthalpy Economizer* With Barometric Relief	Single Enthalpy Economizer* With Barometric Relief and Smoke Detector
A	x		
B		x	
C			x

"x" indicates factory installed option.

*Downflow economizer only.

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.

[] Designates Metric Conversions



NOM. SIZES 15-25 TONS [52.8-87.9 kW] MODELS

Model SLNL- Series	B180NL	B240NM	B300NM
Cooling Performance¹			
Gross Cooling Capacity Btu [kW]	160,000 [46.88]	206,000 [60.36]	266,000 [77.94]
EER/SEER ²	11.5/NA	11.7/NA	10.6/NA
Nominal CFM/AHRI Rated CFM [L/s]	5125 [2418]	6625 [3126]	8200 [3870]
AHRI Net Cooling Capacity Btu [kW]	156,000 [45.71]	200,000 [58.6]	254,000 [74.42]
Net Sensible Capacity Btu [kW]	117,200 [34.34]	147,800 [43.31]	186,800 [54.73]
Net Latent Capacity Btu [kW]	38,800 [11.37]	52,200 [15.29]	67,200 [19.69]
Integrated Part Load Value ³	13.8	13.8	12.4
Net System Power kW	13.46	17.14	24.07
Compressor			
No./Type	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁴			
	91	91	92
Outdoor Coil—Fin Type			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	53.3 [4.95]	53.3 [4.95]	53.3 [4.95]
	1 / 22 [9]	2 / 22 [9]	2 / 22 [9]
Indoor Coil—Fin Type			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]
Refrigerant Control	2 / 18 [7]	3 / 13 [5]	4 / 15 [6]
Drain Connection No./Size in. [mm]	TX Valves	TX Valves	TX Valves
	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type			
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller
Drive Type/No. Speeds	4/24 [609.6]	6/24 [609.6]	6/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1
No. Motors/HP	16000 [7550]	19800 [9344]	19800 [9344]
Motor RPM	4 at 1/3 HP	6 at 1/3 HP	6 at 1/3 HP
	1075	1075	1075
Indoor Fan—Type			
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]
No. Motors	Belt/Variable	Belt/Variable	Belt/Variable
Motor HP	1	1	1
Motor RPM	3	7 1/2	10
Motor Frame Size	1725	1725	1725
	56	184	215
Filter—Type			
Furnished	Disposable	Disposable	Disposable
(No.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes
	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]			
	205/211 [5812/5982]	402/331 [11397/9384]	339/357 [9611/10121]
Weights			
Net Weight lbs. [kg]	1958 [888]	2327 [1056]	2399 [1088]
Ship Weight lbs. [kg]	2058 [934]	2427 [1101]	2499 [1134]

See Page 12 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 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. Integrated Part Load Value is rated in accordance with AHRI Standard 210/240 or 340/360. Units are rated at 80° F ambient, 80° F entering dry bulb, and 67° F entering wet bulb at AHRI rated cfm.
4. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.
5. 25 Ton Model (B300) is outside the scope of AHRI Standard 340/360.



SYSTEMS PERFORMANCE—SLNL-B SERIES

GROSS SYSTEMS PERFORMANCE DATA—B180

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			6000 [2832]	5125 [2419]	4000 [1888]	6000 [2832]	5125 [2419]	4000 [1888]	6000 [2832]	5125 [2419]	4000 [1888]
DR ①			.05	.08	.13	.05	.08	.13	.05	.08	.13
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	197.0 [57.7]	191.1 [56.0]	183.4 [53.7]	184.8 [54.1]	179.3 [52.5]	172.1 [50.4]	177.0 [51.9]	171.7 [50.3]	164.8 [48.3]
		Sens BTUH [kW]	121.9 [35.7]	107.0 [31.4]	89.1 [31.4]	146.7 [43.0]	130.4 [38.2]	110.6 [38.2]	165.8 [48.6]	148.3 [43.5]	126.9 [43.5]
		Power	9.8	9.6	9.5	9.6	9.5	9.3	9.5	9.3	9.2
	80 [26.7]	Total BTUH [kW]	192.7 [56.5]	186.9 [54.8]	179.4 [52.6]	180.5 [52.9]	175.1 [51.3]	168.1 [49.3]	172.7 [50.6]	167.5 [49.1]	160.8 [47.1]
		Sens BTUH [kW]	119.7 [35.1]	105.1 [30.8]	87.6 [30.8]	144.7 [42.4]	128.6 [37.7]	109.1 [37.7]	163.8 [48.0]	146.5 [42.9]	125.5 [42.9]
		Power	10.4	10.2	10.0	10.2	10.1	9.9	10.1	9.9	9.7
	85 [29.4]	Total BTUH [kW]	188.1 [55.1]	182.4 [53.4]	175.1 [51.3]	175.9 [51.5]	170.6 [50.0]	163.8 [48.0]	168.0 [49.2]	163.0 [47.8]	156.5 [45.9]
		Sens BTUH [kW]	117.5 [34.4]	103.1 [30.2]	86.0 [30.2]	142.3 [41.7]	126.5 [37.1]	107.4 [37.1]	161.3 [47.3]	144.4 [42.3]	123.8 [42.3]
		Power	11.0	10.8	10.6	10.8	10.7	10.5	10.7	10.5	10.3
	90 [32.2]	Total BTUH [kW]	183.1 [53.6]	177.6 [52.0]	170.5 [50.0]	170.9 [50.1]	165.8 [48.6]	159.2 [46.6]	163.1 [47.8]	158.2 [46.4]	151.9 [44.5]
Sens BTUH [kW]		114.8 [33.6]	100.8 [29.5]	84.1 [29.5]	139.7 [40.9]	124.3 [36.4]	105.6 [36.4]	158.8 [46.5]	142.2 [41.7]	122.0 [41.7]	
Power		11.7	11.5	11.3	11.5	11.4	11.1	11.4	11.2	11.0	
95 [35]	Total BTUH [kW]	177.8 [52.1]	172.4 [50.5]	165.6 [48.5]	165.6 [48.5]	160.7 [47.1]	154.3 [45.2]	157.8 [46.2]	153.0 [44.8]	146.9 [43.0]	
	Sens BTUH [kW]	112.0 [32.8]	98.3 [28.8]	82.1 [28.8]	136.9 [40.1]	121.9 [35.7]	103.7 [35.7]	156.0 [45.7]	139.7 [40.9]	119.9 [40.9]	
	Power	12.4	12.2	12.0	12.3	12.1	11.9	12.1	11.9	11.7	
100 [37.8]	Total BTUH [kW]	172.2 [50.5]	167.0 [48.9]	160.3 [47.0]	160.0 [46.9]	155.2 [45.5]	149.0 [43.7]	152.2 [44.6]	147.6 [43.2]	141.7 [41.5]	
	Sens BTUH [kW]	109.0 [31.9]	95.8 [28.1]	80.0 [28.1]	133.9 [39.2]	119.2 [34.9]	101.4 [34.9]	152.2 [44.6]	137.1 [40.2]	117.8 [40.2]	
	Power	13.2	13.0	12.8	13.1	12.9	12.6	12.9	12.7	12.5	
105 [40.6]	Total BTUH [kW]	166.2 [48.7]	161.2 [47.2]	154.8 [45.4]	154.1 [45.2]	149.4 [43.8]	143.5 [42.0]	146.2 [42.8]	141.8 [41.5]	136.1 [39.9]	
	Sens BTUH [kW]	105.7 [31.0]	92.9 [27.2]	77.6 [27.2]	130.6 [38.3]	116.3 [34.1]	99.1 [34.1]	146.2 [42.8]	134.2 [39.3]	115.3 [39.3]	
	Power	14.1	13.9	13.6	13.9	13.7	13.4	13.8	13.6	13.3	
110 [43.3]	Total BTUH [kW]	159.9 [46.9]	155.1 [45.4]	148.9 [43.6]	147.8 [43.3]	143.3 [42.0]	137.6 [40.3]	139.9 [41.0]	135.7 [39.8]	130.3 [38.2]	
	Sens BTUH [kW]	102.1 [29.9]	89.8 [26.3]	75.0 [26.3]	127.2 [37.3]	113.3 [33.2]	96.6 [33.2]	139.9 [41.0]	131.2 [38.4]	112.9 [38.2]	
	Power	15.0	14.7	14.5	14.8	14.6	14.3	14.7	14.4	14.2	
115 [46.1]	Total BTUH [kW]	153.3 [44.9]	148.7 [43.6]	142.8 [41.8]	141.2 [41.4]	136.9 [40.1]	131.5 [38.5]	133.3 [39.1]	129.3 [37.9]	124.1 [36.4]	
	Sens BTUH [kW]	98.5 [28.9]	86.6 [25.4]	72.4 [25.4]	123.5 [36.2]	110.1 [32.3]	94.0 [32.3]	133.3 [39.1]	128.0 [37.5]	110.2 [36.4]	
	Power	15.9	15.7	15.4	15.8	15.5	15.2	15.6	15.4	15.1	
120 [48.9]	Total BTUH [kW]	146.4 [42.9]	142.0 [41.6]	136.3 [39.9]	134.2 [39.3]	130.2 [38.1]	125.0 [36.6]	126.4 [37.0]	122.6 [35.9]	117.7 [34.5]	
	Sens BTUH [kW]	94.6 [27.7]	83.2 [24.4]	69.6 [24.4]	119.5 [35.0]	106.7 [31.3]	91.1 [31.3]	126.4 [37.0]	122.6 [35.9]	107.3 [34.5]	
	Power	16.9	16.7	16.4	16.8	16.5	16.2	16.6	16.4	16.1	

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—B240

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]		7400 [3493]	6625 [3127]	5000 [2360]	7400 [3493]	6625 [3127]	5000 [2360]	7400 [3493]	6625 [3127]	5000 [2360]
DR ①		.09	.11	.17	.09	.11	.17	.09	.11	.17
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW] Sens BTUH [kW] Power	239.6 [70.2] 141.9 [41.6] 12.2	234.6 [68.7] 129.6 [38.0] 12.1	224.2 [65.7] 105.6 [38.0] 11.8	226.0 [66.2] 173.7 [50.9] 12.0	221.3 [64.8] 160.0 [46.9] 11.9	211.5 [62.0] 133.0 [46.9] 11.6	215.4 [63.1] 197.7 [57.9] 11.8	210.9 [61.8] 183.0 [53.6] 11.7
	80 [26.7]	Total BTUH [kW] Sens BTUH [kW] Power	237.0 [69.4] 141.1 [41.3] 12.9	232.1 [68.0] 128.9 [37.8] 12.8	221.8 [65.0] 105.0 [37.8] 12.5	223.5 [65.5] 173.0 [50.7] 12.8	218.8 [64.1] 159.3 [46.7] 12.6	209.1 [61.3] 132.5 [46.7] 12.4	212.8 [62.3] 196.9 [57.7] 12.6	208.4 [61.1] 182.3 [53.4] 12.5
	85 [29.4]	Total BTUH [kW] Sens BTUH [kW] Power	233.7 [68.5] 139.8 [41.0] 13.8	228.8 [67.0] 127.7 [37.4] 13.6	218.6 [64.0] 104.0 [37.4] 13.3	220.1 [64.5] 171.6 [50.3] 13.6	215.5 [63.1] 158.1 [46.3] 13.4	205.9 [60.3] 131.5 [46.3] 13.2	209.5 [61.4] 195.6 [57.3] 13.4	205.1 [60.1] 181.1 [53.1] 13.3
	90 [32.2]	Total BTUH [kW] Sens BTUH [kW] Power	229.5 [67.2] 137.9 [40.4] 14.6	224.7 [65.8] 126.0 [36.9] 14.5	214.7 [62.9] 102.7 [36.9] 14.2	216.0 [63.3] 169.9 [49.8] 14.4	211.5 [62.0] 156.6 [45.9] 14.3	202.0 [59.2] 130.3 [45.9] 14.0	205.3 [60.2] 193.7 [56.8] 14.3	201.0 [58.9] 179.4 [52.6] 14.1
	95 [35]	Total BTUH [kW] Sens BTUH [kW] Power	224.6 [65.8] 135.6 [39.7] 15.5	219.9 [64.4] 123.9 [36.3] 15.4	210.1 [61.6] 101.0 [36.3] 15.0	211.0 [61.8] 167.5 [49.1] 15.4	206.6 [60.5] 154.4 [45.2] 15.2	197.4 [57.8] 128.6 [45.2] 14.9	200.3 [58.7] 191.4 [56.1] 15.2	196.2 [57.5] 177.4 [52.0] 15.0
	100 [37.8]	Total BTUH [kW] Sens BTUH [kW] Power	218.8 [64.1] 132.8 [38.9] 16.5	214.2 [62.8] 121.3 [35.5] 16.3	204.7 [60.0] 99.0 [35.5] 16.0	205.2 [60.1] 164.6 [48.2] 16.3	201.0 [58.9] 151.9 [44.5] 16.2	192.0 [56.3] 126.5 [44.5] 15.8	194.6 [57.0] 188.6 [55.3] 16.2	190.5 [55.8] 174.7 [51.2] 16.0
	105 [40.6]	Total BTUH [kW] Sens BTUH [kW] Power	212.2 [62.2] 129.4 [37.9] 17.5	207.8 [60.9] 118.3 [34.7] 17.3	198.5 [58.2] 96.5 [34.7] 17.0	198.7 [58.2] 161.2 [47.2] 17.3	194.5 [57.0] 148.7 [43.6] 17.2	185.9 [54.5] 124.1 [43.6] 16.8	188.0 [55.1] 185.2 [54.3] 17.2	184.1 [53.9] 171.7 [50.3] 17.0
	110 [43.3]	Total BTUH [kW] Sens BTUH [kW] Power	204.9 [60.0] 125.6 [36.8] 18.6	200.6 [58.8] 114.8 [33.6] 18.4	191.7 [56.2] 93.8 [33.6] 18.0	191.3 [56.1] 157.3 [46.1] 18.4	187.3 [54.9] 145.2 [42.5] 18.2	179.0 [52.4] 121.2 [42.5] 17.8	180.7 [52.9] 180.7 [52.9] 18.3	176.9 [51.8] 168.2 [49.3] 18.1
	115 [46.1]	Total BTUH [kW] Sens BTUH [kW] Power	196.7 [57.6] 121.2 [35.5] 19.7	192.6 [56.4] 110.8 [32.5] 19.5	184.0 [53.9] 90.5 [32.5] 19.1	183.2 [53.7] 153.1 [44.9] 19.5	179.4 [52.6] 141.4 [41.4] 19.3	171.4 [50.2] 118.1 [41.4] 18.9	172.5 [50.5] 172.5 [50.5] 19.4	168.9 [49.5] 164.3 [48.1] 19.2
	120 [48.9]	Total BTUH [kW] Sens BTUH [kW] Power	187.8 [55.0] 116.4 [34.1] 20.9	183.9 [53.9] 106.5 [31.2] 20.7	175.7 [51.5] 87.0 [31.2] 20.2	174.2 [51.0] 148.2 [43.4] 20.7	170.6 [50.0] 136.9 [40.1] 20.5	163.0 [47.8] 114.5 [40.1] 20.1	163.5 [47.9] 163.5 [47.9] 20.6	160.1 [46.9] 159.8 [46.8] 20.3

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



SYSTEMS PERFORMANCE—SLNL-B SERIES

GROSS SYSTEMS PERFORMANCE DATA—B300

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]			9600 [4531]	8200 [3870]	6400 [3021]	9600 [4531]	8200 [3870]	6400 [3021]	9600 [4531]	8200 [3870]	6400 [3021]
DR ①			.04	.08	.13	.04	.08	.13	.04	.08	.13
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	322.9 [94.6]	313.1 [91.7]	300.6 [88.1]	304.8 [89.3]	295.6 [86.6]	283.8 [83.2]	293.9 [86.1]	285.0 [83.5]	273.7 [80.2]
		Sens BTUH [kW]	197.6 [57.9]	173.2 [50.7]	144.2 [50.7]	238.8 [70.0]	212.0 [62.1]	179.7 [62.1]	269.6 [79.0]	240.8 [70.6]	206.0 [70.6]
		Power	17	16.7	16.4	16.7	16.4	16.1	16.4	16.1	15.8
	80 [26.7]	Total BTUH [kW]	316.4 [92.7]	306.9 [89.9]	294.6 [86.3]	298.3 [87.4]	289.3 [84.8]	277.8 [81.4]	287.4 [84.2]	278.7 [81.7]	267.6 [78.4]
		Sens BTUH [kW]	194.2 [56.9]	170.4 [49.9]	141.9 [49.9]	235.5 [69.0]	209.1 [61.3]	177.4 [61.3]	266.2 [78.0]	237.9 [69.7]	203.6 [69.7]
		Power	17.9	17.7	17.3	17.6	17.4	17.0	17.3	17.1	16.7
	85 [29.4]	Total BTUH [kW]	309.1 [90.6]	299.8 [87.8]	287.9 [84.4]	291.0 [85.3]	282.3 [82.7]	271.0 [79.4]	280.1 [82.1]	271.7 [79.6]	260.9 [76.4]
		Sens BTUH [kW]	190.6 [55.8]	167.2 [49.0]	139.4 [49.0]	231.8 [67.9]	206.0 [60.4]	174.8 [60.4]	262.6 [76.9]	234.8 [68.8]	201.1 [68.8]
		Power	18.9	18.7	18.3	18.6	18.4	18.0	18.4	18.1	17.7
	90 [32.2]	Total BTUH [kW]	301.1 [88.2]	292.1 [85.6]	280.4 [82.2]	283.0 [82.9]	274.5 [80.4]	263.6 [77.2]	272.1 [79.7]	263.9 [77.3]	253.4 [74.2]
		Sens BTUH [kW]	186.6 [54.7]	163.8 [48.0]	136.5 [48.0]	227.8 [66.7]	202.5 [59.3]	172.0 [59.3]	258.6 [75.8]	231.3 [67.8]	198.2 [67.8]
		Power	20.0	19.7	19.3	19.7	19.4	19.1	19.4	19.1	18.8
OUTDOOR DRY BULB TEMPERATURE °F [°C]	95 [35]	Total BTUH [kW]	292.3 [85.6]	283.5 [83.1]	272.2 [79.8]	274.2 [80.3]	266.0 [77.9]	255.4 [74.8]	263.3 [77.1]	255.4 [74.8]	245.2 [71.8]
		Sens BTUH [kW]	182.3 [53.4]	160.0 [46.9]	133.5 [46.9]	223.5 [65.5]	198.8 [58.2]	168.9 [58.2]	254.3 [74.5]	227.6 [66.7]	195.1 [66.7]
		Power	21.2	20.8	20.4	20.9	20.6	20.2	20.6	20.3	19.9
	100 [37.8]	Total BTUH [kW]	282.8 [82.9]	274.3 [80.4]	263.3 [77.1]	264.7 [77.6]	256.7 [75.2]	246.5 [72.2]	253.8 [74.4]	246.2 [72.1]	236.3 [69.2]
		Sens BTUH [kW]	177.7 [52.1]	156.1 [45.7]	130.2 [45.7]	219.0 [64.2]	194.8 [57.1]	165.7 [57.1]	249.7 [73.2]	223.7 [65.5]	191.9 [65.5]
		Power	22.4	22.0	21.6	22.1	21.7	21.3	21.8	21.5	21.0
	105 [40.6]	Total BTUH [kW]	272.5 [79.8]	264.3 [77.4]	253.7 [74.3]	254.4 [74.5]	246.7 [72.3]	236.9 [69.4]	243.5 [71.3]	236.1 [69.2]	226.7 [66.4]
		Sens BTUH [kW]	172.7 [50.6]	151.8 [44.5]	126.7 [44.5]	214.0 [62.7]	190.5 [55.8]	162.2 [55.8]	243.5 [71.3]	219.3 [64.3]	188.4 [64.3]
		Power	23.6	23.3	22.8	23.3	23.0	22.6	23.1	22.7	22.3
	110 [43.3]	Total BTUH [kW]	261.4 [76.6]	253.5 [74.3]	243.4 [71.3]	243.3 [71.3]	236.0 [69.1]	226.5 [66.4]	232.4 [68.1]	225.4 [66.0]	216.4 [63.4]
		Sens BTUH [kW]	167.6 [49.1]	147.3 [43.2]	123.1 [43.2]	208.8 [61.2]	186.1 [54.5]	158.5 [54.5]	232.4 [68.1]	214.9 [63.0]	184.8 [63.0]
		Power	25.0	24.6	24.1	24.7	24.3	23.8	24.4	24.0	23.6
OUTDOOR DRY BULB TEMPERATURE °F [°C]	115 [46.1]	Total BTUH [kW]	249.5 [73.1]	242.0 [70.9]	232.3 [68.1]	231.4 [67.8]	224.4 [65.7]	215.5 [63.1]	220.5 [64.6]	213.9 [62.7]	205.3 [60.2]
		Sens BTUH [kW]	162.0 [47.5]	142.5 [41.8]	119.2 [41.8]	203.2 [59.5]	181.2 [53.1]	154.6 [53.1]	220.5 [64.6]	210.1 [61.6]	180.9 [60.2]
		Power	26.4	26.0	25.5	26.1	25.7	25.2	25.8	25.4	24.9
OUTDOOR DRY BULB TEMPERATURE °F [°C]	120 [48.9]	Total BTUH [kW]	236.9 [69.4]	229.7 [67.3]	220.6 [64.6]	218.8 [64.1]	212.2 [62.2]	203.7 [59.7]	207.9 [60.9]	201.6 [59.1]	193.6 [56.7]
		Sens BTUH [kW]	156.1 [45.7]	137.4 [40.3]	115.2 [40.3]	197.4 [57.8]	176.2 [51.6]	150.5 [51.6]	207.9 [60.9]	201.6 [59.1]	176.8 [56.7]
		Power	27.8	27.4	26.9	27.5	27.1	26.6	27.3	26.8	26.3

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—15 TON [52.8 kW]—50 Hz—SIDEFLOW

Model SLNL-B180		Voltage 380-415 — 3 Phase 50 Hz																	
Air Flow CFM [L/s]	W	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]	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
4000 [1888]	—	—	—	—	—	489	1014	518	1097	546	1180	1265	600	1352	626	1439	650	1528	674
4200 [1982]	—	—	—	—	—	498	1073	527	1158	555	1244	582	1331	608	1420	633	1510	657	1601
4400 [2076]	—	—	—	—	—	507	1135	536	1223	563	1311	590	1401	615	1492	640	1584	665	1678
4600 [2171]	—	—	—	—	—	488	1113	517	1201	545	1291	572	1382	598	1474	623	1567	648	1662
4800 [2265]	—	—	—	—	—	498	1180	526	1271	554	1363	580	1456	606	1550	631	1646	656	1743
5000 [2359]	—	—	—	—	—	508	1251	536	1344	563	1438	589	1534	615	1631	639	1729	663	1828
5200 [2454]	—	—	—	—	—	489	1231	518	1325	545	1421	572	1517	598	1615	623	1714	648	1815
5400 [2548]	—	—	—	—	—	500	1307	528	1403	555	1501	582	1600	607	1700	632	1802	656	1905
5600 [2643]	482	1289	510	1386	538	1485	565	1585	591	1686	616	1789	641	1893	664	1998	687	2105	709
5800 [2737]	493	1369	521	1469	548	1570	575	1672	601	1776	625	1881	649	1988	673	2095	695	2205	716
6000 [2831]	504	1453	532	1555	559	1659	585	1763	610	1870	635	1977	658	2086	681	2196	703	2308	724

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	BK100H	BK105H									
Motor Sheave	1VP-44	1VP-56									
Turns Open	1	2	3	4	5	6	1	2	3	4	5
RPM	620	592	565	538	510	481	789	764	736	708	679

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 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.

COMPONENT AIR RESISTANCE—15 TON [52.8 kW]

CFM [L/s]	Resistance — Inches of Water [kPa]														
	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]				
Wet Coil	0.00 [.00]	0.01 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]	0.04 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]				
Downflow	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]				
Downflow Economizer R.A. Damper Open	0.07 [.02]	0.07 [.02]	0.08 [.02]	0.08 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.13 [.03]	0.13 [.03]				
Horizontal Economizer R.A. Damper Open	0.00 [.00]	0.00 [.00]	0.00 [.00]	0.00 [.00]	0.00 [.00]	0.01 [.00]	0.01 [.00]	0.02 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]				
Concentric Grill RXRN-AD80 or RXRN-AD81 & Transition RXMC-CJ07	0.06 [.01]	0.10 [.02]	0.14 [.03]	0.17 [.04]	0.21 [.05]	0.25 [.06]	0.28 [.07]	0.32 [.08]	0.35 [.09]	0.39 [.10]	0.43 [.11]				

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

AIRFLOW CORRECTION FACTORS—15 TON [52.8 kW]

ACTUAL—CFM [L/s]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]
TOTAL MBH	0.96	0.97	0.97	0.98	0.99	1.00	1.00	1.01	1.02	1.02	1.03
SENSIBLE MBH	0.85	0.88	0.91	0.93	0.96	0.99	1.01	1.04	1.07	1.10	1.12
POWER kW	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	1.02

NOTES: Multiply correction factor times gross performance data—resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions



AIRFLOW PERFORMANCE—SLNL-B SERIES

AIRFLOW PERFORMANCE—20 TON [70.3 kW]—50 Hz—SIDEFLOW

Air Flow CFM (L/s)	Model SLNL-B240 Voltage 380-415 — 3 Phase 50 Hz															
	External Static Pressure—Inches of Water [kPa]															
	0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]
RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM
5000 [2359]	—	—	—	530 [1286]	558 [1406]	585 [1529]	613 [1654]	640 [1782]	667 [1912]	694 [2045]	721 [2180]	747 [2318]	774 [2459]	800 [2602]	826 [2747]	852 [2895]
5200 [2454]	—	—	—	540 [1356]	568 [1479]	595 [1604]	622 [1731]	649 [1862]	675 [1994]	702 [2129]	728 [2267]	754 [2407]	780 [2550]	806 [2695]	832 [2843]	858 [2993]
5400 [2548]	—	—	—	551 [1434]	578 [1559]	604 [1686]	631 [1816]	657 [1948]	684 [2083]	710 [2221]	736 [2361]	762 [2503]	787 [2648]	813 [2796]	838 [2946]	864 [3098]
5600 [2643]	—	—	—	535 [1394]	561 [1519]	588 [1646]	614 [1776]	640 [1908]	667 [2043]	692 [2180]	718 [2320]	744 [2462]	769 [2607]	795 [2754]	820 [2904]	845 [3056]
5800 [2737]	—	—	—	546 [1484]	572 [1611]	598 [1741]	624 [1873]	650 [2007]	676 [2144]	701 [2284]	727 [2428]	752 [2570]	777 [2717]	802 [2867]	827 [3019]	851 [3173]
6000 [2831]	—	—	—	531 [1455]	557 [1581]	583 [1711]	609 [1842]	635 [1977]	660 [2114]	685 [2253]	711 [2395]	736 [2539]	760 [2686]	785 [2835]	810 [2987]	834 [3141]
6200 [2926]	—	—	—	543 [1557]	569 [1686]	595 [1818]	620 [1952]	645 [2088]	670 [2227]	695 [2369]	720 [2513]	745 [2659]	769 [2809]	793 [2960]	818 [3114]	842 [3271]
6400 [3020]	530 [1538]	556 [1667]	581 [1798]	608 [1932]	631 [2068]	656 [2207]	681 [2348]	705 [2492]	730 [2638]	754 [2787]	778 [2939]	802 [3093]	826 [3249]	849 [3408]	873 [3569]	896 [3733]
6600 [3114]	543 [1652]	568 [1783]	593 [1917]	618 [2053]	643 [2192]	667 [2333]	691 [2476]	716 [2623]	740 [2771]	763 [2922]	787 [3076]	811 [3232]	834 [3391]	857 [3552]	880 [3716]	903 [3882]
6800 [3209]	556 [1774]	581 [1907]	606 [2043]	630 [2182]	654 [2323]	678 [2466]	702 [2612]	726 [2760]	750 [2911]	773 [3065]	797 [3221]	820 [3379]	843 [3540]	866 [3704]	888 [3870]	911 [4038]
7000 [3303]	570 [1903]	594 [2039]	618 [2177]	642 [2318]	666 [2461]	690 [2607]	713 [2755]	737 [2906]	760 [3059]	783 [3215]	806 [3373]	829 [3534]	852 [3697]	874 [3863]	896 [4031]	919 [4202]
7200 [3398]	584 [2040]	607 [2177]	631 [2318]	655 [2461]	678 [2606]	702 [2754]	725 [2905]	748 [3058]	771 [3213]	793 [3372]	816 [3532]	838 [3695]	861 [3861]	883 [4029]	905 [4199]	926 [4372]
7400 [3492]	597 [2183]	621 [2323]	644 [2466]	668 [2611]	691 [2759]	714 [2910]	736 [3062]	759 [3218]	782 [3375]	804 [3536]	826 [3699]	848 [3864]	870 [4032]	892 [4202]	913 [4375]	935 [4550]

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

Drive Package			L				M				N (field installed only)									
Motor H.P. [W]			5 [3728.5]				7.5 [5592.7]				7.5 [5592.7]									
Blower Sheave			BK130H				BK130H				BK120H									
Motor Sheave			1VP-56				1VP-71				1VP-71									
Turns Open			1	2	3	4	5	6	1	2	3	4	5	6						
RPM			639	619	598	575	553	530	783	759	736	713	690	666	936	909	881	854	826	799

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 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.

COMPONENT AIR RESISTANCE—20 TON [70.3 kW]

CFM [L/s]	Resistance – Inches of Water [kPa]															
	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]			
Wet Coil	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.00 [0.00]	0.01 [0.01]	0.01 [0.01]	0.02 [0.02]			
Downflow	0.05 [0.01]	0.05 [0.01]	0.05 [0.01]	0.05 [0.01]	0.05 [0.01]	0.05 [0.01]	0.06 [0.01]	0.06 [0.01]	0.06 [0.01]	0.07 [0.02]	0.08 [0.02]	0.08 [0.02]	0.09 [0.02]			
Downflow Economizer R.A. Damper Open	0.10 [0.02]	0.10 [0.02]	0.11 [0.03]	0.12 [0.03]	0.13 [0.03]	0.13 [0.03]	0.14 [0.04]	0.15 [0.04]	0.16 [0.04]	0.16 [0.04]	0.17 [0.04]	0.18 [0.04]	0.19 [0.05]			
Horizontal Economizer R.A. Damper Open	0.01 [0.00]	0.01 [0.00]	0.02 [0.00]	0.02 [0.00]	0.03 [0.01]	0.03 [0.01]	0.04 [0.01]	0.04 [0.01]	0.05 [0.01]	0.05 [0.01]	0.06 [0.01]	0.06 [0.01]	0.07 [0.02]			
Concentric Grill RXRN-AD80 or RXRN-AD81 & Transition RXMC-CJ07	0.25 [0.06]	0.28 [0.07]	0.32 [0.08]	0.35 [0.09]	0.39 [0.10]	0.43 [0.11]	0.46 [0.11]	0.50 [0.12]	0.54 [0.13]	0.57 [0.14]	0.61 [0.15]	0.64 [0.16]	0.68 [0.17]			
Concentric Grill RXRN-AD86 & Transition RXMC-CK08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.32 [0.08]	0.35 [0.09]	0.38 [0.09]	0.41 [0.10]			

AIRFLOW CORRECTION FACTORS—20 TON [70.3 kW]

ACTUAL—CFM [L/s]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]
	0.96	0.96	0.97	0.97	0.98	0.98	0.98	0.99	1.00	1.00	1.01	1.02	1.02
TOTAL MBH	0.83	0.85	0.87	0.90	0.92	0.94	0.96	0.98	1.00	1.02	1.04	1.06	1.08
POWER kW	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01

NOTES: Multiply correction factor times gross performance data—resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions



AIRFLOW PERFORMANCE—25 TON [87.9 kW]—50 Hz—SIDEFLOW

Air Flow CFM [L/s]		Model SLNL-B300										Voltage 380-415 — 3 Phase 50 Hz										External Static Pressure—Inches of Water [kPa]											
		0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]												
RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W												
6400 [3020]	—	—	—	—	—	—	—	—	—	685	2498	708	2642	731	2782	753	2919	774	3051	795	3180	815	3306	835	3427	854	3544	872	3658	890	3768	—	—
6600 [3114]	—	—	—	—	—	—	674	2475	697	2624	720	2768	742	2910	763	3047	784	3180	805	3310	825	3436	844	3557	862	3676	881	3790	898	3901	—	—	
6800 [3209]	—	—	—	—	—	—	686	2608	709	2757	731	2903	753	3045	774	3182	795	3316	815	3447	834	3573	853	3696	871	3815	889	3929	906	4041	—	—	
7000 [3303]	—	—	—	—	—	—	676	2595	699	2749	721	2899	743	3045	764	3187	785	3326	805	3460	825	3591	844	3718	862	3842	890	3961	897	4077	—	—	
7200 [3398]	—	—	—	—	—	665	2584	689	2743	711	2897	733	3048	755	3194	775	3337	796	3476	816	3612	835	3743	853	3871	871	3995	889	4115	906	4231	—	—
7400 [3492]	—	—	—	—	—	679	2739	701	2898	724	3053	745	3204	766	3351	787	3495	807	3635	826	3771	845	3903	863	4031	881	4156	898	4277	—	—	—	
7600 [3586]	—	—	—	—	—	669	2738	692	2901	714	3061	736	3216	757	3368	778	3516	798	3660	818	3801	837	3937	855	4070	873	4199	890	4325	—	—	—	
7800 [3681]	—	—	—	683	2907	705	3071	727	3231	749	3387	770	3540	790	3688	809	3833	829	3974	847	4112	865	4245	882	4375	899	4501	—	—	—	—	—	
8000 [3775]	—	—	674	2915	697	3084	719	3248	740	3409	761	3566	782	3719	802	3868	821	4014	840	4156	858	4294	875	4428	892	4558	—	—	—	—	—	—	
8200 [3869]	666	2926	688	3099	711	3268	732	3433	753	3595	774	3752	794	3906	813	4056	832	4202	851	4345	868	4483	886	4618	902	4749	—	—	—	—	—	—	
8400 [3964]	680	3117	703	3290	725	3460	746	3626	767	3788	787	3946	806	4100	825	4251	844	4398	862	4541	879	4680	896	4816	—	—	—	—	—	—	—	—	
8600 [4058]	695	3315	717	3489	739	3659	759	3826	780	3989	800	4147	819	4303	837	4454	855	4601	873	4745	890	4885	—	—	—	—	—	—	—	—	—	—	
8800 [4153]	710	3521	731	3695	753	3866	773	4034	793	4197	812	4356	831	4512	849	4664	867	4812	884	4957	901	5097	—	—	—	—	—	—	—	—	—	—	
9000 [4247]	725	3734	746	3909	767	4081	787	4249	806	4413	825	4573	844	4729	861	4882	879	5031	895	5176	—	—	—	—	—	—	—	—	—	—	—	—	
9200 [4341]	740	3955	760	4131	781	4303	800	4472	820	4636	838	4797	856	4954	873	5108	890	5257	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
9400 [4436]	755	4184	775	4360	795	4533	814	4702	833	4868	851	5029	869	5187	886	5341	902	5491	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
9600 [4530]	770	4420	790	4597	809	4771	828	4941	846	5106	864	5269	881	5427	898	5581	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

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

Drive Package	L		M	
Motor H.P. [W]	7.5 [5592.7]		10 [7457.0]	
Blower Sheave	BK130H		BK120H	
Motor Sheave	1VP-71		1VP-75	
Turns Open	1	2	3	4
RPM	779	756	733	710
	687	665	643	628
	603	583	563	543

- 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 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.

COMPONENT AIR RESISTANCE—25 TON [87.9 kW]

CFM [L/s]	Resistance — Inches of Water [kPa]																
	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]	8600 [4058]	8800 [4153]	9000 [4247]	9200 [4341]	9400 [4436]	9600 [4530]
Wet Coil	0.01 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]	0.04 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]	0.09 [.02]	0.09 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.12 [.03]	0.13 [.03]
Downflow	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]	0.08 [.02]	0.09 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.13 [.03]	0.14 [.03]	0.15 [.04]	0.16 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.22 [.05]
Downflow Economizer	0.15 [.04]	0.16 [.04]	0.16 [.04]	0.17 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.21 [.05]	0.22 [.05]	0.23 [.06]	0.24 [.06]	0.25 [.06]	0.26 [.06]	0.27 [.07]	0.28 [.07]	0.29 [.07]	0.30 [.07]
R.A. Damper Open	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.07 [.02]	0.08 [.02]	0.09 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.11 [.03]	0.12 [.03]	0.12 [.03]	0.13 [.03]
Concentric Grill RXRN-AD86 & Transition RXMC-CK08	0.26 [.06]	0.29 [.07]	0.32 [.08]	0.35 [.09]	0.38 [.09]	0.41 [.10]	0.44 [.11]	0.47 [.12]	0.50 [.12]	0.53 [.13]	0.56 [.14]	0.59 [.15]	0.62 [.15]	0.65 [.16]	0.69 [.17]	0.72 [.18]	0.75 [.19]
Concentric Grill RXRN-AD88 & Transition RXMC-CL09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.33 [.08]	0.36 [.09]	0.40 [.10]	0.43 [.11]

AIRFLOW CORRECTION FACTORS—25 TON [87.9 kW]

ACTUAL—CFM [L/s]	6400	6600	6800	7000	7200	7400	7600	7800	8000	8200	8400	8600	8800	9000	9200	9400	9600
	[3020]	[3114]	[3209]	[3303]	[3398]	[3492]	[3586]	[3681]	[3775]	[3869]	[3964]	[4058]	[4153]	[4247]	[4341]	[4436]	[4530]
TOTAL MBTUH	0.96	0.96	0.97	0.97	0.98	0.98	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03
SENSIBLE MBTUH	0.85	0.87	0.88	0.90	0.92	0.94	0.95	0.97	0.99	1.00	1.02	1.04	1.06	1.07	1.09	1.11	1.12
POWER KW	0.98	0.98	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01

NOTES: Multiply correction factor times gross performance data—resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions



ELECTRICAL DATA—SLNL-B SERIES

ELECTRICAL DATA – SLNL- SERIES				
		B180NL	B240NM	B300NM
Unit Information	Unit Operating Voltage Range	342-456	342-456	342-456
	Volts	380/415	380/415	380/415
	Minimum Circuit Ampacity	38/38	54/54	63/63
	Minimum Overcurrent Protection Device Size	45/45	60/60	70/70
	Maximum Overcurrent Protection Device Size	45/45	70/70	80/80
Compressor Motor	No.	2	2	2
	Volts	380/415	380/415	380/415
	Phase	3	3	3
	RPM	3450	3450	3450
	HP, Compressor 1	7	10	11 1/2
	Amps (RLA), Comp. 1	12.2/12.2	17.9/17.9	18.6/18.6
	Amps (LRA), Comp. 1	101/101	118/118	118/118
	HP, Compressor 2	7	7 1/2	11 1/2
	Amps (RLA), Comp. 2	12.2/12.2	14.7/14.7	18.6/18.6
	Amps (LRA), Comp. 2	101/101	95/95	118/118
Condenser Motor	No.	4	6	6
	Volts	380/415	380/415	380/415
	Phase	1	1	1
	HP	1/3	1/3	1/3
	Amps (FLA, each)	1.4/1.4	1.4/1.4	1.4/1.4
	Amps (LRA, each)	2.4/2.4	2.4/2.4	2.4/2.4
Evaporator Fan	No.	1	1	1
	Volts	380/415	380/415	380/415
	Phase	3	3	3
	HP	3	7 1/2	10
	Amps (FLA, each)	4.6/4.6	8/8	12.5/12.5
	Amps (LRA, each)	38.1/38.1	67/67	74.6/74.6

UNITS WITH HEATER KITS—SLNL-B SERIES



380/415 VOLT, THREE PHASE, 60 HZ. AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION													
Single Power Supply for Both Unit and Heater Kit							Separate Power Supply for Both Unit and Heater Kit						
Model No. SLNL-	RXJ- Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 380/415V	Heater kBtu/Hr @ 380/415V	Heater Amps @ 380/415V	Air Conditioner				Heater Kit			
						Unit Min. Ckt. Ampacity @ 380/415V	Over Current Protective Device Size		Min. Ckt. Ampacity 380/415V	Max. Fuse Size 380/415V	Min. Circuit Ampacity 380/415V	Air Conditioner	
							Min./Max. 380V	Min./Max. 415V				Min./Max. 380V	Min./Max. 415V
B180NL	No Heat	—	—	—	—	38/38	45/45	45/45	—	—	38/38	45/45	45/45
	CE20D	1	12/14.4	41.06/48.97	18.3/20	38/38	45/45	45/45	23/25	25/25	—	—	—
	CE40D	2	24.1/28.7	82.12/97.95	36.6/39.9	52/56	60/60	60/60	46/50	50/50	—	—	—
	CE60D	2	36.1/43.1	123.19/146.92	54.9/59.9	75/81	80/80	90/90	69/75	70/80	—	—	—
	CE75D	2	45.1/53.8	153.94/183.6	68.6/74.9	92/100	100/100	100/100	86/94	90/100	—	—	—
B240NM	No Heat	—	—	—	—	54/54	60/70	60/70	—	—	54/54	60/70	60/70
	CE20D	1	12/14.4	41.06/48.97	18.3/20	54/54	60/70	60/70	23/25	25/25	—	—	—
	CE40D	2	24.1/28.7	82.12/97.95	36.6/39.9	56/60	60/70	60/70	46/50	50/50	—	—	—
	CE60D	2	36.1/43.1	123.19/146.92	54.9/59.9	79/85	80/80	90/90	69/75	70/80	—	—	—
	CE75D	2	45.1/53.8	153.94/183.6	68.6/74.9	96/104	100/100	110/110	86/94	90/100	—	—	—
B300NM	No Heat	—	—	—	—	63/63	70/80	70/80	—	—	63/63	70/80	70/80
	CE20D	1	12/14.4	41.06/48.97	18.3/20	63/63	70/80	70/80	23/25	25/25	—	—	—
	CE40D	2	24.1/28.7	82.12/97.95	36.6/39.9	63/66	70/80	70/80	46/50	50/50	—	—	—
	CE60D	2	36.1/43.1	123.19/146.92	54.9/59.9	85/91	90/90	100/100	69/75	70/80	—	—	—
	CE75D	2	45.1/53.8	153.94/183.6	68.6/74.9	102/110	110/110	110/110	86/94	90/100	—	—	—

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

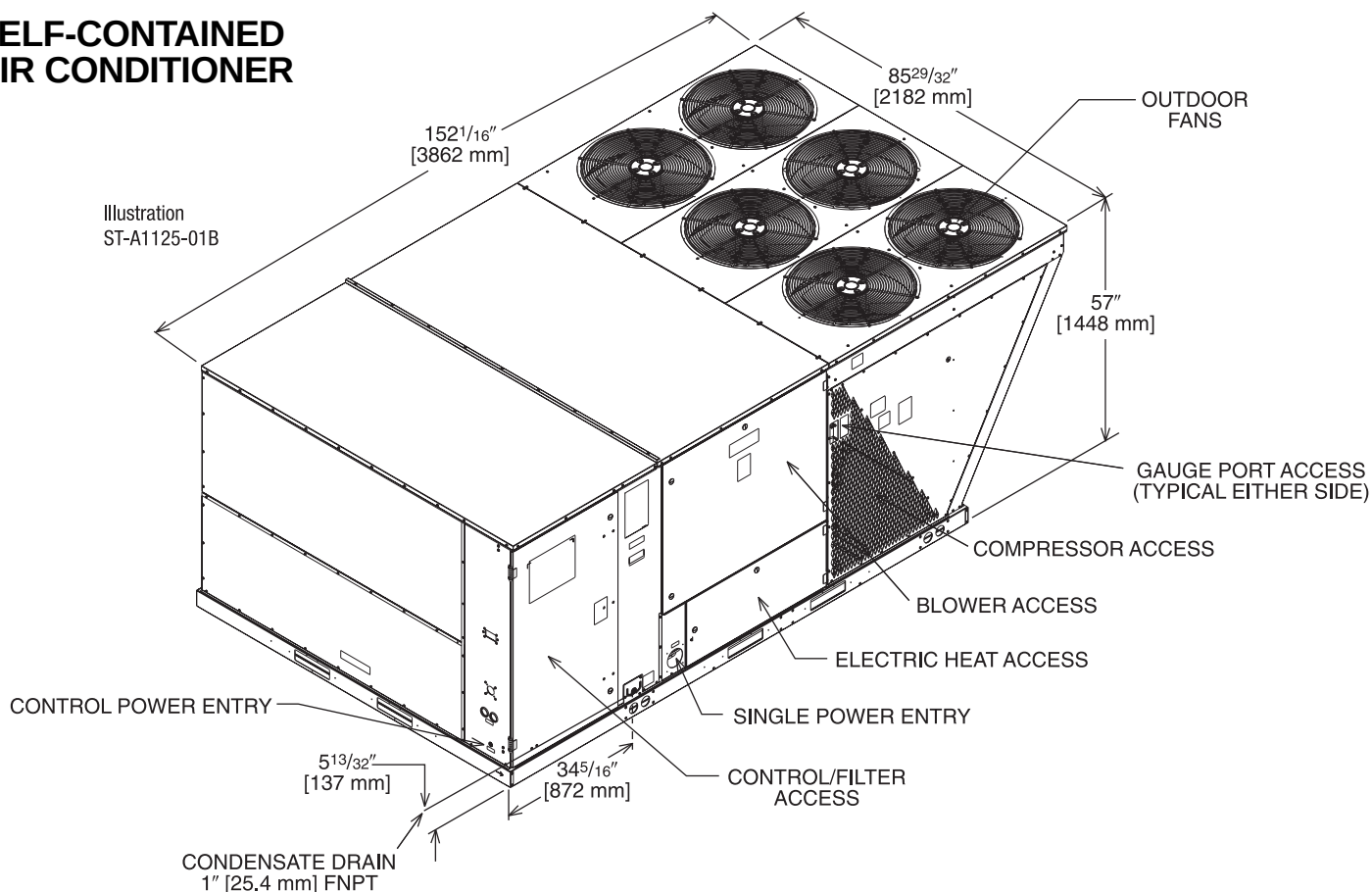
+ = Field installed only.



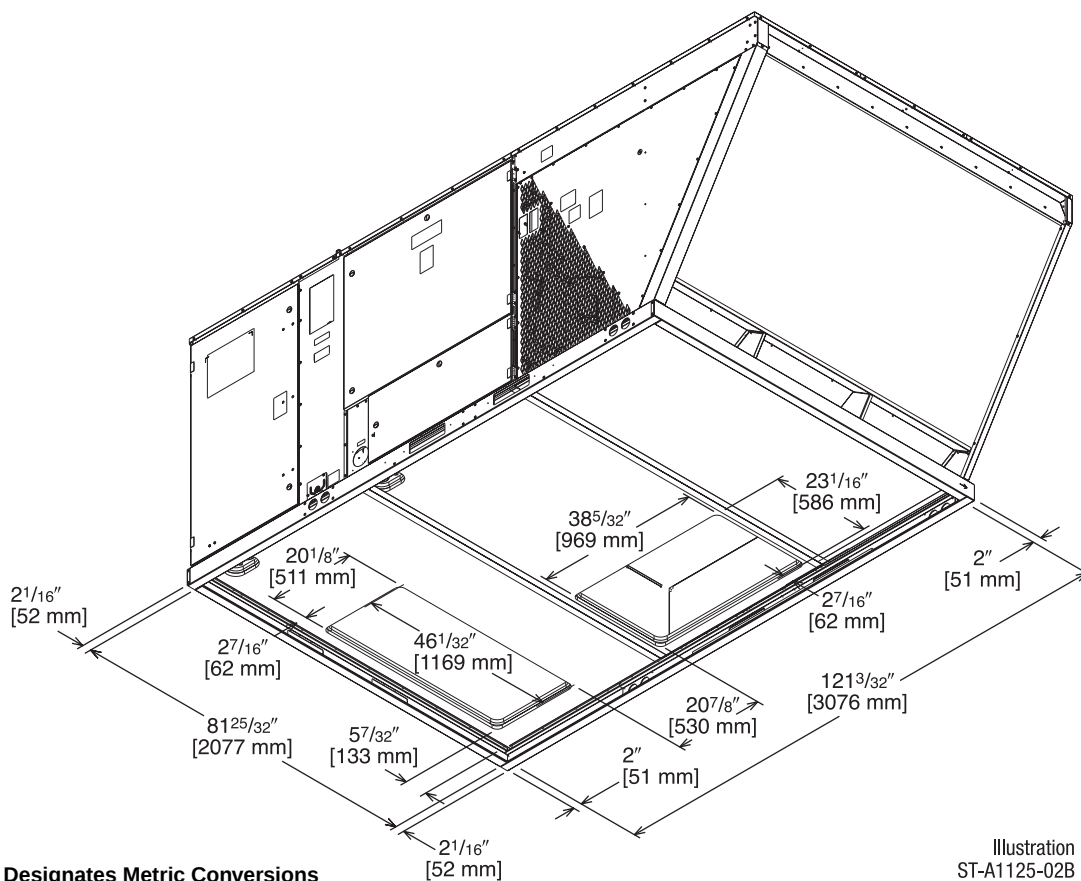
UNIT DIMENSIONS—SLNL-B SERIES

SELF-CONTAINED AIR CONDITIONER

Illustration
ST-A1125-01B



BOTTOM VIEW



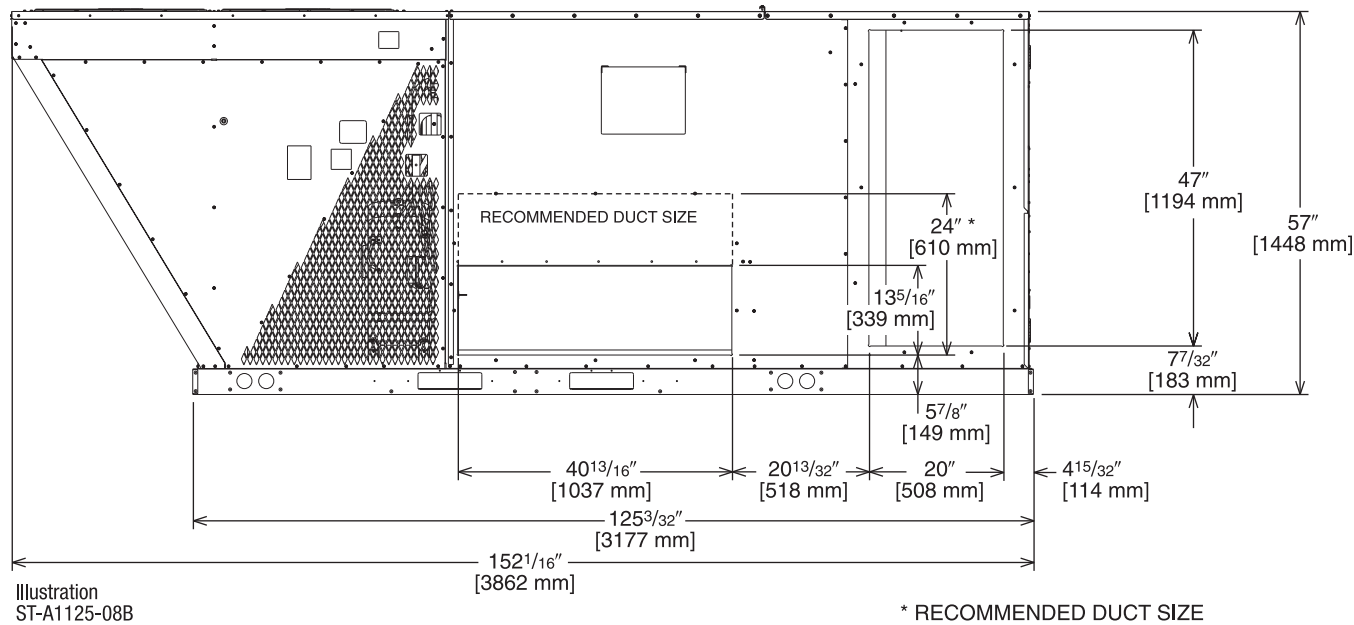
[] Designates Metric Conversions

Illustration
ST-A1125-02B



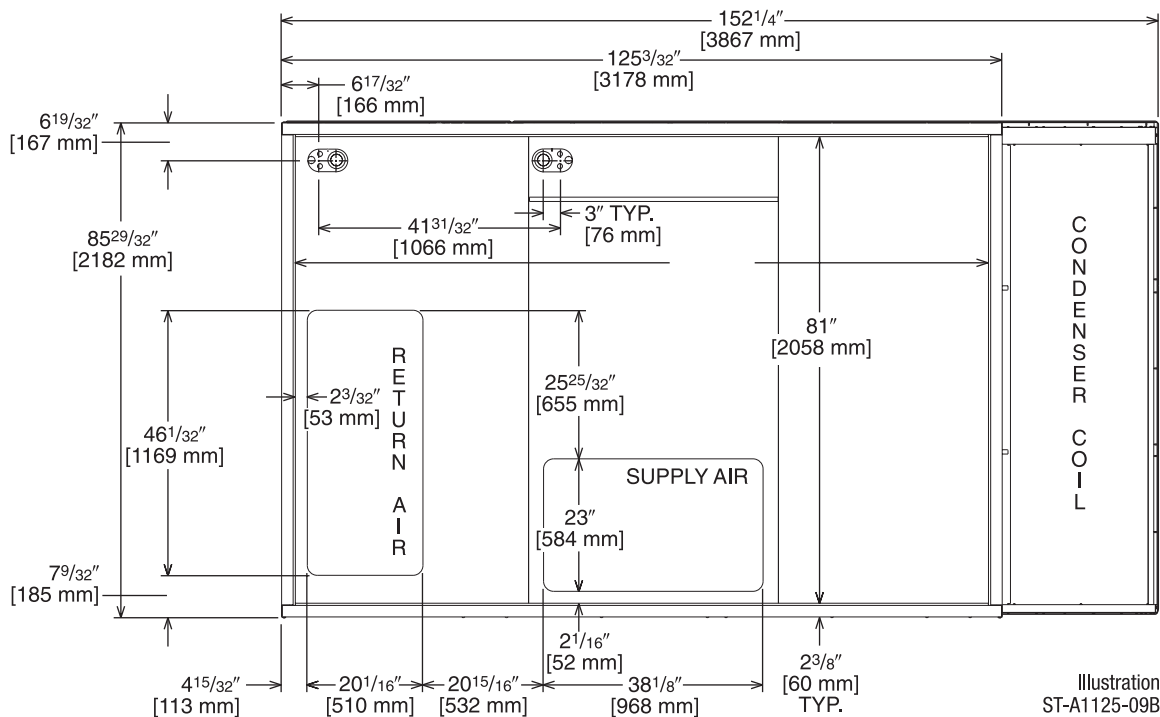
SELF-CONTAINED
AIR CONDITIONER

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS



DUCT SIDE VIEW (REAR)

SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS



BOTTOM VIEW

[] Designates Metric Conversions

UNIT DIMENSIONS SELF-CONTAINED AIR CONDITIONER

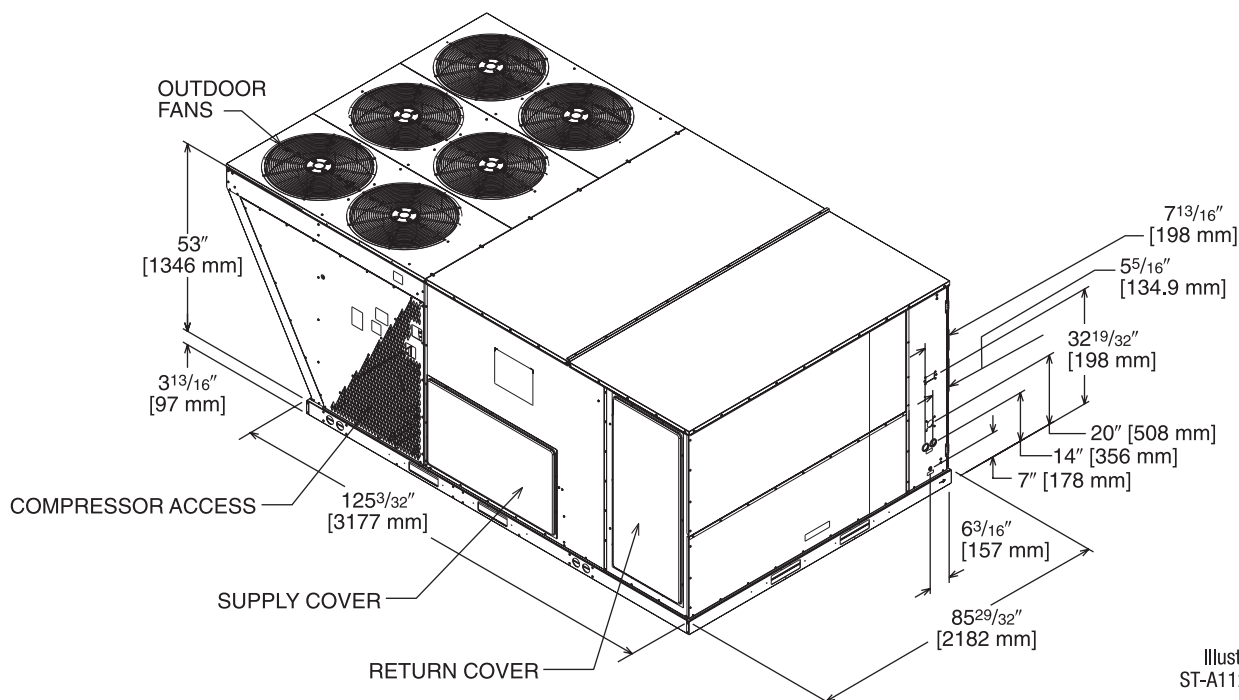
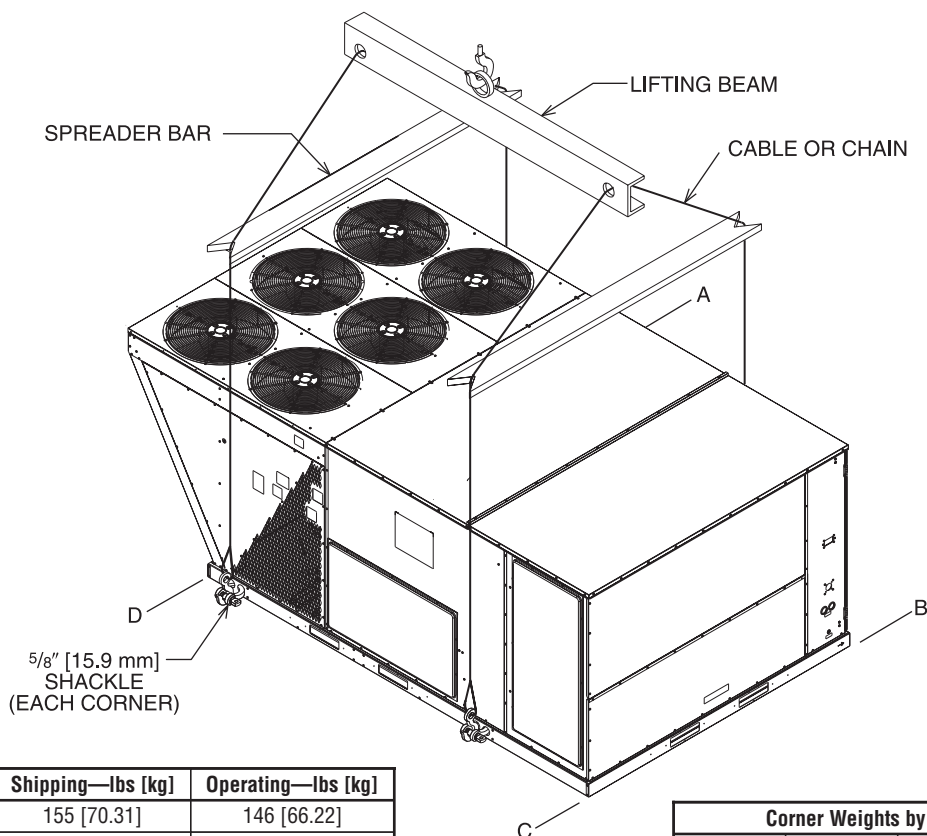


Illustration
ST-A1125-03



WEIGHTS

Accessory	Shipping—lbs [kg]	Operating—lbs [kg]
Economizer—Downflow	155 [70.31]	146 [66.22]
Economizer—Horizontal	165 [74.84]	155 [70.31]
Power Exhaust	44 [19.96]	42 [19.05]
Fresh Air Damper (Manual)	51 [23.13]	40 [18.14]
Fresh Air Damper (Motorized)	46 [20.87]	35 [15.88]
Roof Curb 14"	170 [77.11]	164 [74.39]

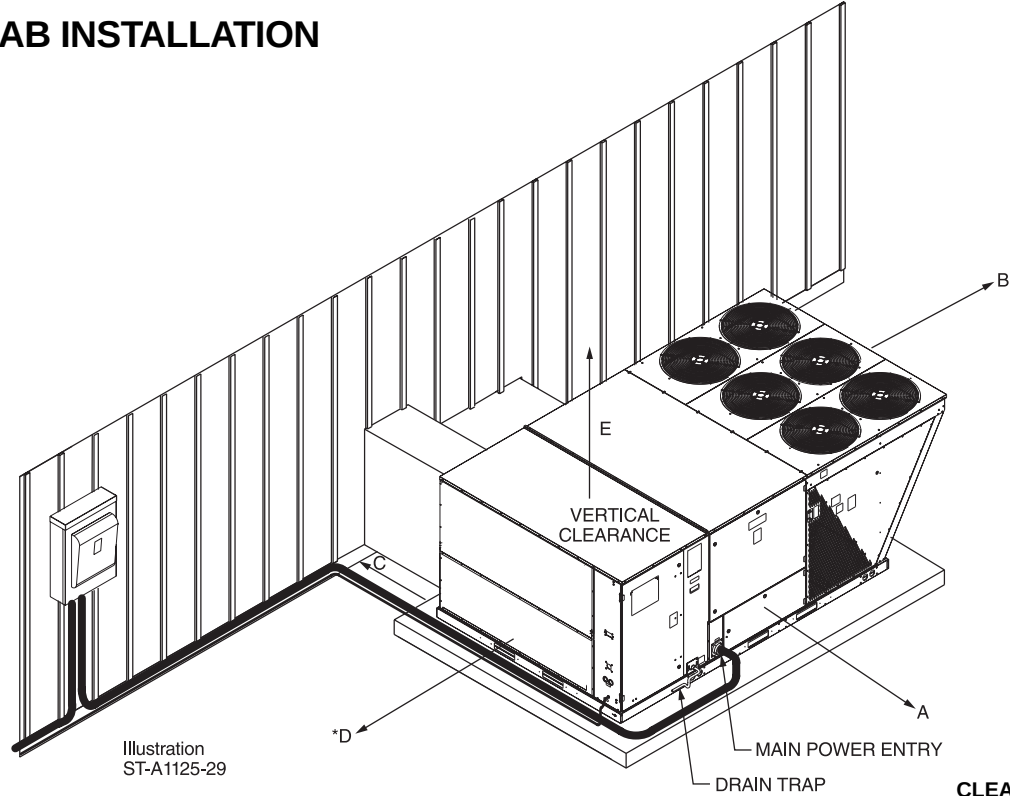
Corner Weights by Percentage			
A	B	C	D
32%	27%	16%	24%

*Note: Corner weights measured at base of unit.

[] Designates Metric Conversions



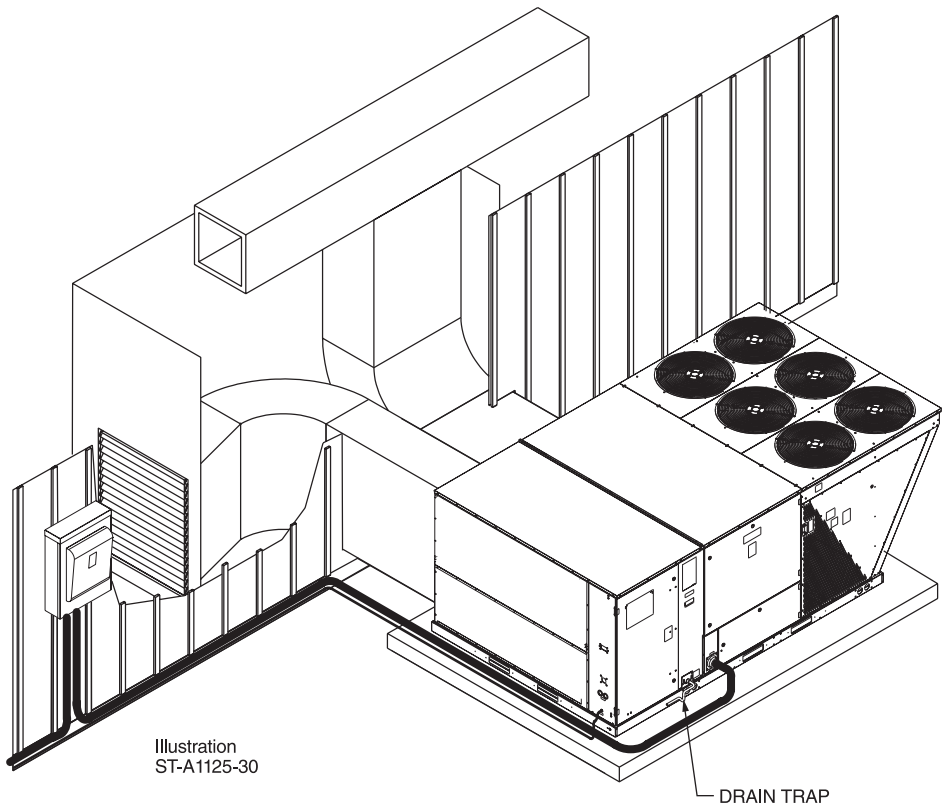
SLAB INSTALLATION



CLEARANCES

The following minimum clearances are recommended for proper unit performance and serviceability.

Recommended Clearance In. [mm]	Location
80 [2032]	A - Front
18 [457]	B - Condenser Coil
18 [457]	+C - Duct Side
18 [457]	*D - Evaporator End
60 [1524]	E - Above
*Without Economizer 18" [457 mm]. With Economizer 48" [1219 mm]. +Without Horizontal Economizer 18" [457 mm]. With Horizontal Economizer 42" [1067 mm].	



[] Designates Metric Conversions

FIELD INSTALLED ACCESSORY EQUIPMENT—SELF CONTAINED AIR CONDITIONER

New Descriptions	Model Number	Shipping Weight Lbs. [kg]	Installed Weight Lbs. [kg]	Factory Installation Available?
	SLNL-B180 thru B300			
Thermostat	See Thermostat Specification Sheet for Details (T11-001)			No
Electric Heaters	RXJJ-CE20 (D)	41 [18.6]	31 [14.1]	Yes
	RXJJ-CE40 (D)	44 [20.0]	34 [15.4]	Yes
	RXJJ-CE60 (D)	45 [20.4]	35 [15.9]	Yes
	RXJJ-CE75 (D)	46 [20.8]	36 [16.3]	Yes
Downflow Economizer w/Single Enthalpy	RXRD-PGCM3	277 [125.6]	168 [76.2]	Yes
Downflow Economizer w/Smoke Detector	RXRD-SGCM3	280 [127.0]	171 [77.6]	Yes
Dual Enthalpy Kit	RXRX-AV02	1 [.5]	.5 [.2]	No
Horizontal Economizer w/Single Enthalpy	RXRD-RGCM3	333 [151.0]	301 [36.5]	No
Carbon Dioxide Sensor (Wall Mount)	RXRX-AR02	3 [1.4]	2 [1.0]	No
Manual Fresh Air Damper*	RXRF-KFA1	61 [27.7]	52 [23.6]	No
Motorized Kit for Manual Fresh Air Damper*	RXRX-AW03	42 [19.1]	35 [15.9]	No
Roofcurb, 14"	RXKG-CBH14	184 [83.5]	176 [79.8]	No
Roofcurb Adapter to RXRK-E56	RXRX-CJCE56	465 [210.9]	415 [88.2]	No
Roofcurb Adapter to RXKG-CAF14	RXRX-CJCF14	555 [251.7]	505 [29.1]	No
Concentric Diffuser (Step-Down, 18" x 36")	RXRN-AD81	310 [140.6]	157 [71.2]	No
Concentric Diffuser (Step-Down, 24" x 48")	RXRN-AD86	367 [166.4]	212 [96.1]	No
Concentric Diffuser (Step-Down, 28" x 60")	RXRN-AD88	410 [186.0]	370 [67.8]	No
Concentric Diffuser (Flush, 18" x 36")	RXRN-AD80	213 [96.6]	115 [52.2]	No
Downflow Transition (Rect. to Rect., 18" x 36")	RXMC-CJ07	81 [36.7]	74 [33.6]	No
Downflow Transition (Rect. to Rect., 24" x 48")	RXMC-CK08	81 [36.7]	74 [33.6]	No
Downflow Transition (Rect. to Rect., 28" x 60")	RXMC-CL09	81 [36.7]	74 [33.6]	No
Low-Ambient Control Kit (1 Per Compressor)	RXRZ-C02	3 [1.4]	2 [1.0]	Yes
Freeze-Stat Kit	RXRX-AM03	1 [.5]	.5 [.2]	Yes
Unwired Convenience Outlet	RXRX-AN01	2 [1.0]	1.5 [.7]	Yes

*Motorized Kit and Manual Fresh Air Damper must be combined for a complete Motorized Outside Air Damper Selection.

[] Designates Metric Conversions

THERMOSTATS



100-Series *
Non-Programmable



200-Series *
Programmable



300-Series *
Deluxe
Programmable



400-Series *
Special Applications/
Programmable

500-Series *
Communicating/
Programmable

Brand	Unique Model Number Prefix	Descriptor (3 Characters)	Series (3 Characters)	System (2 Characters)	Type (2 Characters)
RHC	-	TST	101	GE	MS
RHC=Rheem		TST=Thermostat	100=Non-Programmable 200=Programmable 300=Deluxe Programmable 400=Special Applications/ Programmable 500=Communicating/ Programmable	GE=Gas/Oil/Electric HP=Heat Pump MD=Modulating Furnace DF=Dual Fuel UN=Universal AC/HP/GE 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.

ECONOMIZERS—DOWNFLOW ONLY

Factory or Field Installed

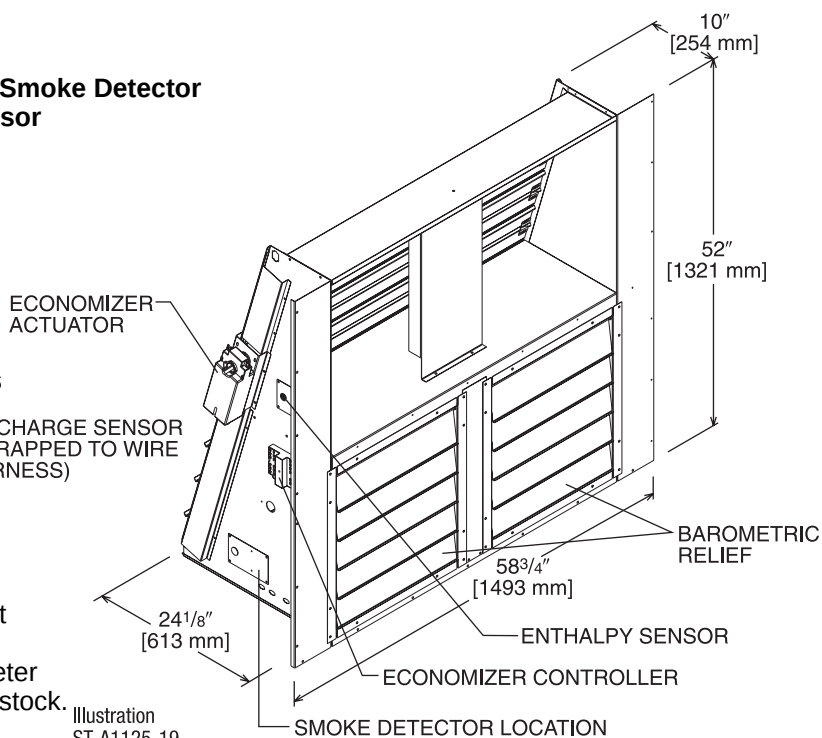
RXRD-PGCM3—Single Enthalpy (Outdoor)

RXRD-SGCM3—Single Enthalpy (Outdoor) w/Smoke Detector

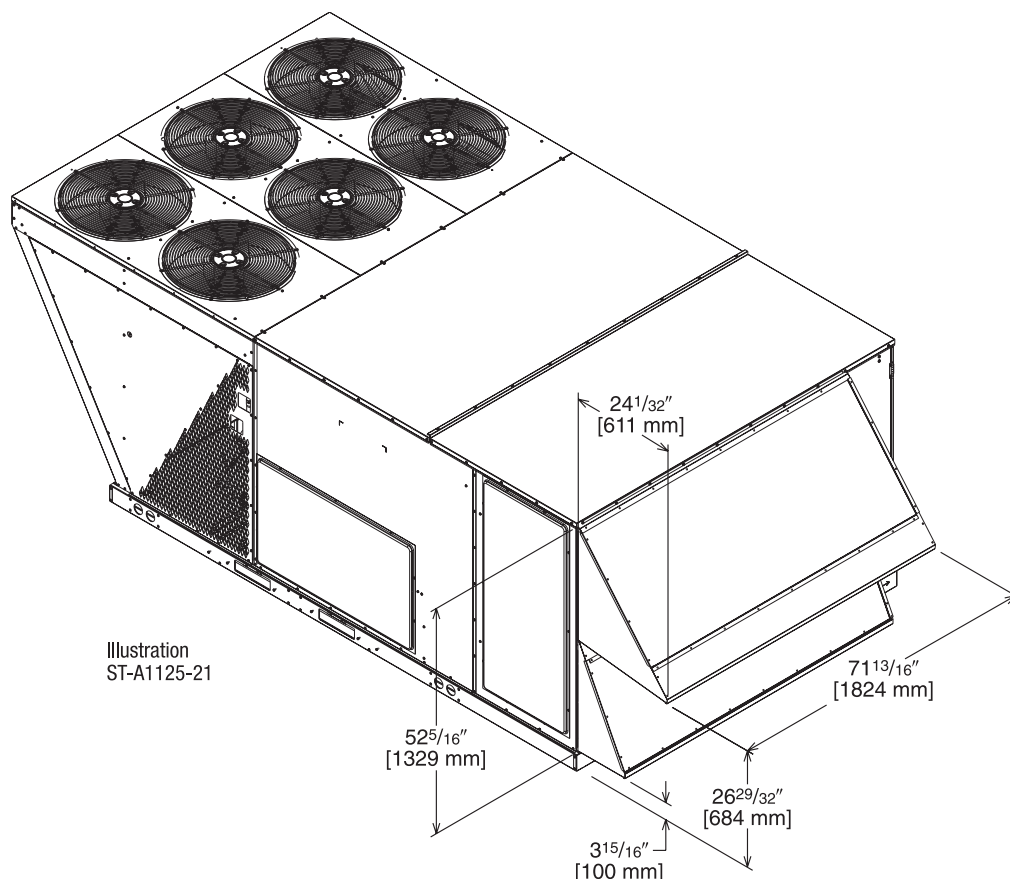
RXXR-AR02—Optional Wall-Mounted CO₂ Sensor

RXXR-AV02—Dual Enthalpy Upgrade Kit

- 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
- CO₂ 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



TOLERANCE ±.125



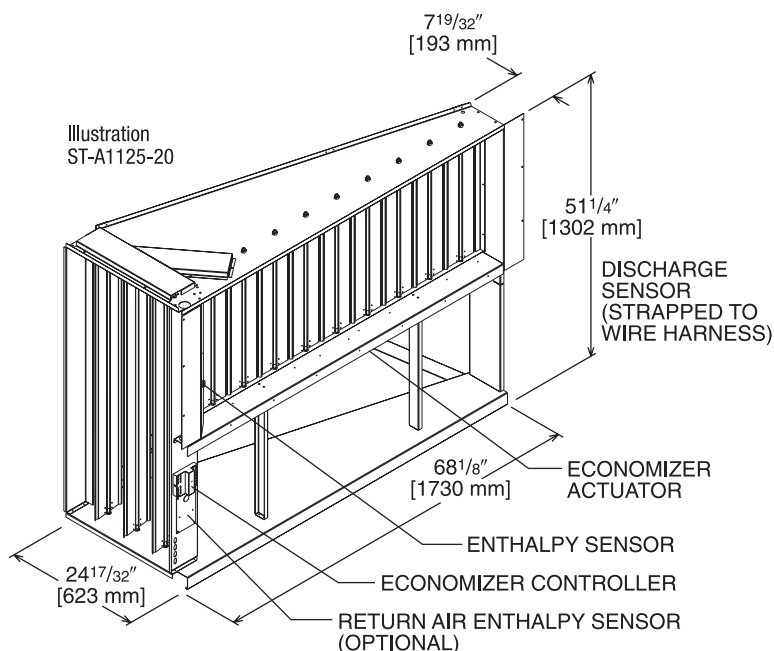
[] Designates Metric Conversions

ECONOMIZER FOR HORIZONTAL DUCT INSTALLATION

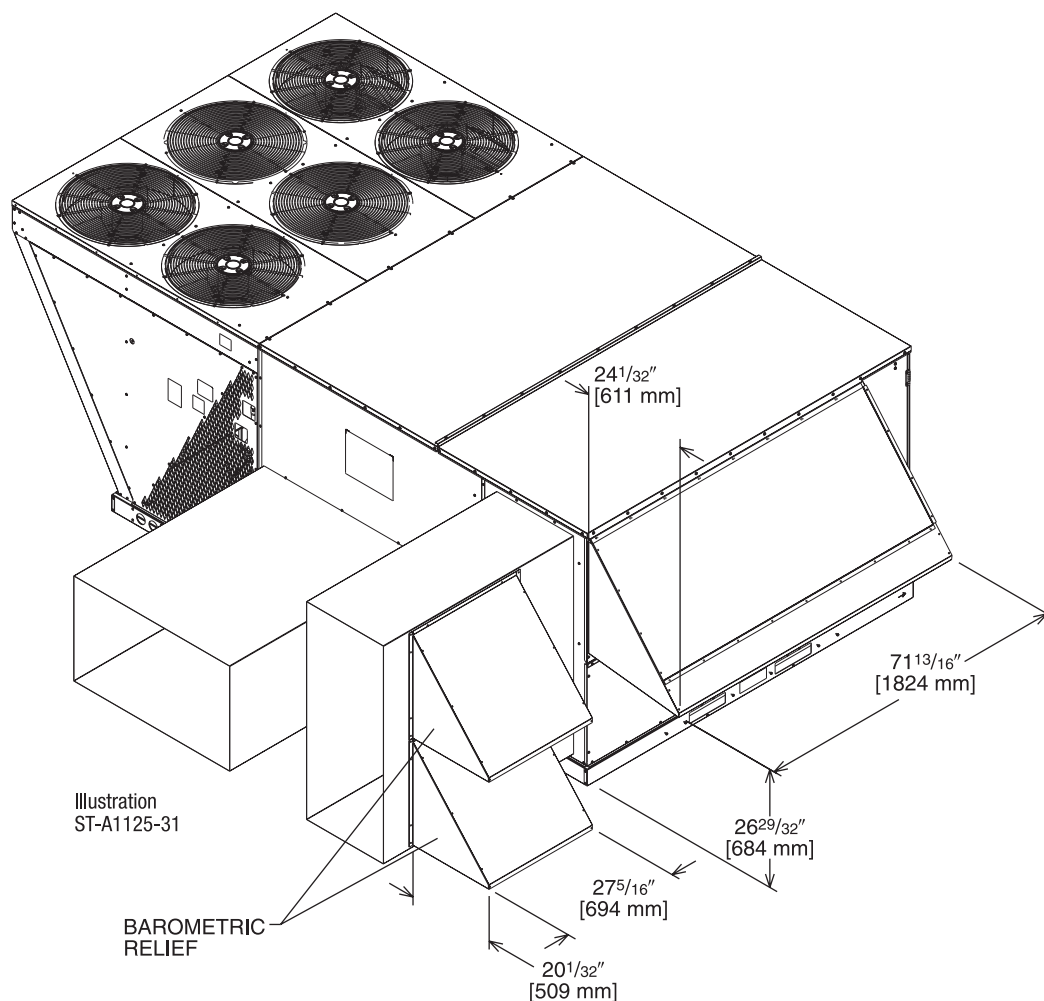
Field Installed Only

RXRD-RGCM3—Single Enthalpy (Outdoor)
RXXR-AV02—Dual Enthalpy Upgrade Kit
RXXR-AR02—Optional Wall-Mounted CO₂ Sensor

- Features **Honeywell** Controls
- Available as a Field Installed Accessory Only
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO₂ Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Horizontal Duct Application
- Optional Remote Minimum Position Potentiometer (Honeywell #S963B1128) is Available from Prostock
- Field Installed Power Exhaust Available



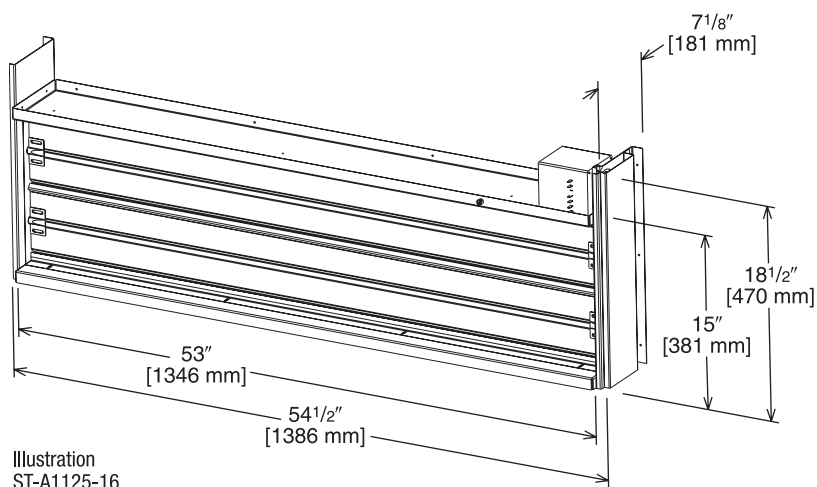
TOLERANCE $\pm .125$



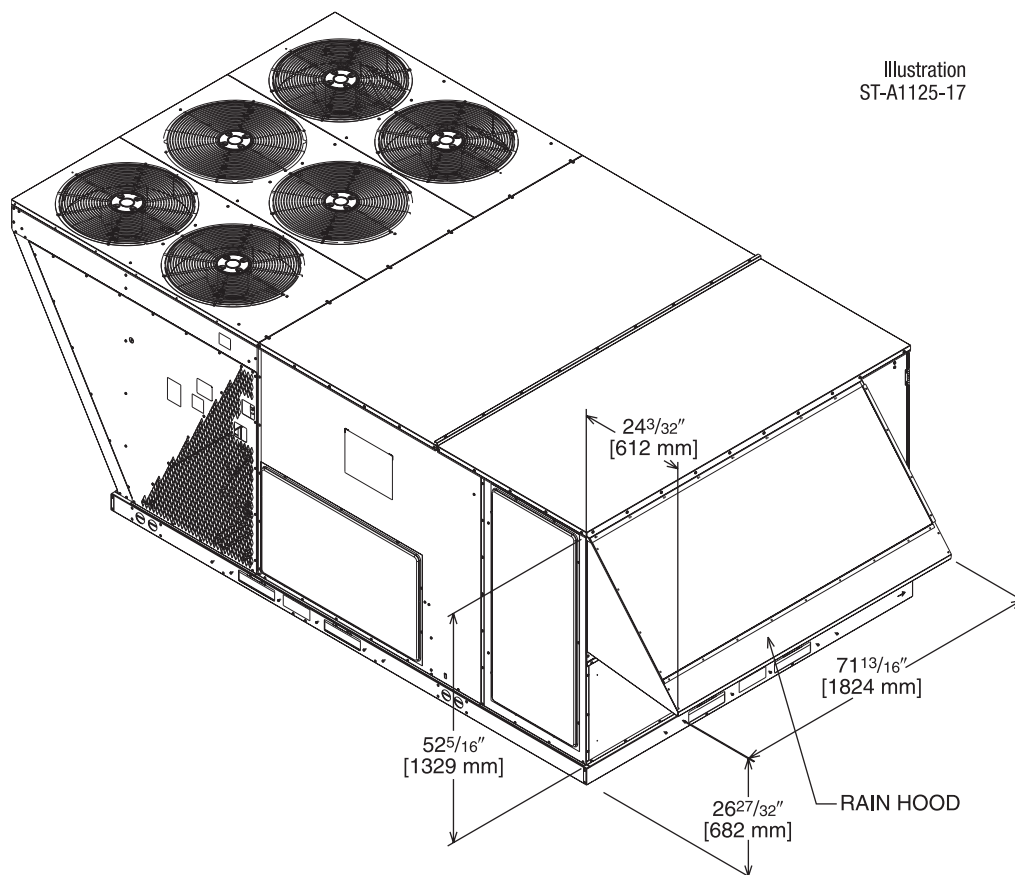
[] Designates Metric Conversions

FRESH AIR DAMPER

MOTORIZED DAMPER KIT
RXRX-AW03
(Motor Kit for RXRF-KFA1)



RXRF-KFA1 (Manual)
RXRX-AW03 (Motorized damper kit for manual fresh air damper)

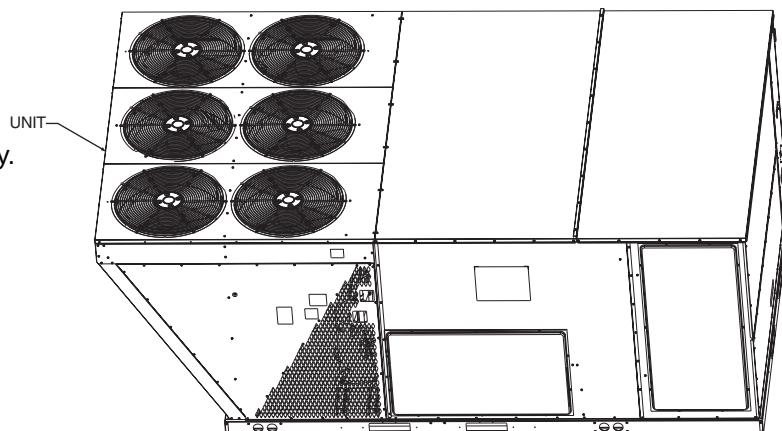


[] Designates Metric Conversions

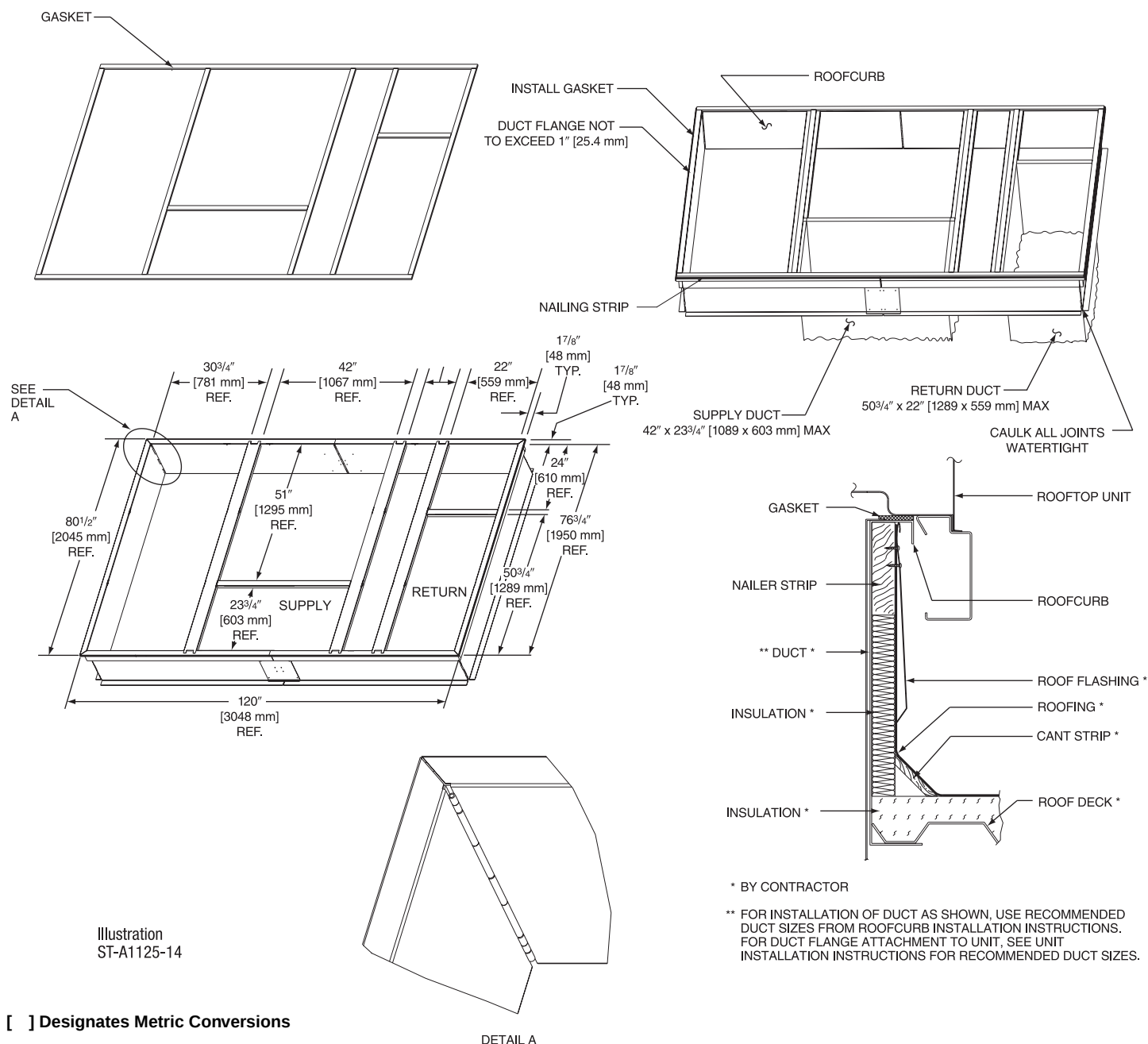
ROOFCURBS (Full Perimeter)

- Rheem's roofcurb design can be utilized on 15, 20 and 25 ton [52.8, 70.3 and 87.9 kW] models.
- One available height (14" [356 mm]).
- Quick assembly corners for simple and fast assembly.
- 1" [25.4 mm] x 4" [102 mm] Nailers provided.
- Insulating panels not required because of insulated outdoor base pan.
- Sealing gasket (28" [711 mm]) provided with Roofcurb.
- Packaged for easy field assembly.

TYPICAL INSTALLATION



ROOFCURB ASSEMBLY



ROOFCURB ADAPTERS

OLD MODELS

COMMERCIAL CABINET
(12.5, 15 & 20 TON)
([44, 52.8 & 70.3 kW])
(-)RCF, (-)RGF, (-)REF

OLD CURB MODEL

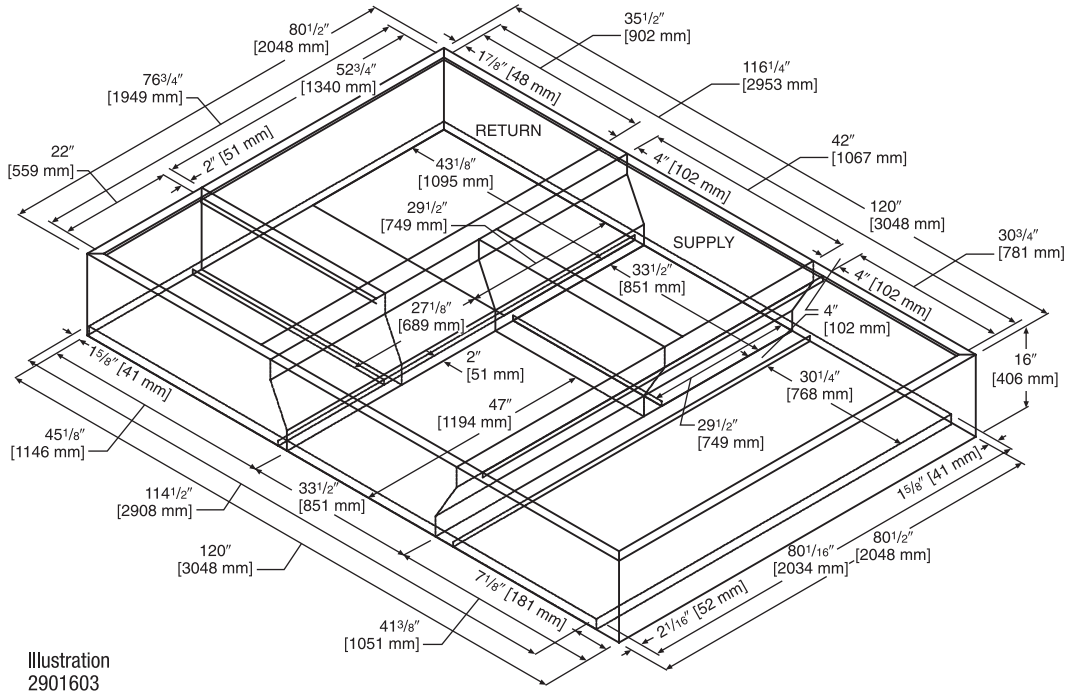
RXRK-E56

ROOFCURB ADAPTER

RXRK-CJCE56

NEW MODEL

(-)LNL
(15, 20 & 25 TON)
([52.8, 70.3 & 87.9 kW])

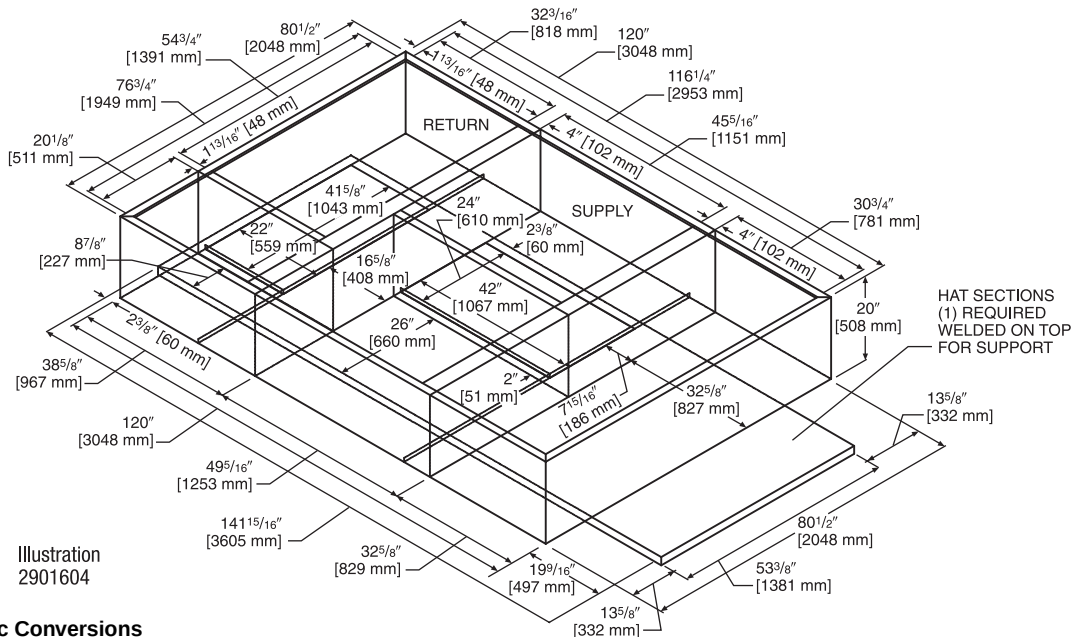


COMMERCIAL CABINET
(15, 20 & 25 TON)
([52.8, 70.3 & 87.9 kW])
(-)LKB, LMB, LNB

RXKG-CAF14

RXRK-CJCF14

(-)LNL
(15, 20 & 25 TON)
([52.8, 70.3 & 87.9 kW])



[] Designates Metric Conversions

CONCENTRIC DIFFUSER APPLICATION

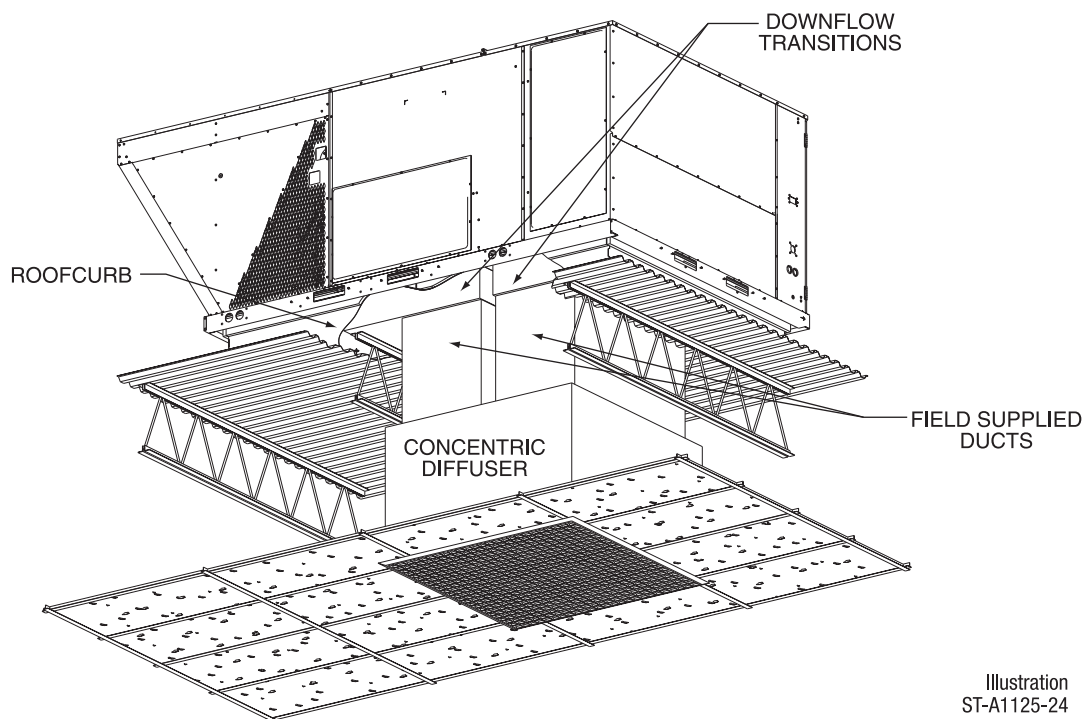


Illustration
ST-A1125-24

DOWNFLOW TRANSITION DRAWINGS

RXMC-CJ07 (15 Ton) [52.8 kW]

- Used with RXRN-AD80 and RXRN-AD81 Concentric Diffusers.

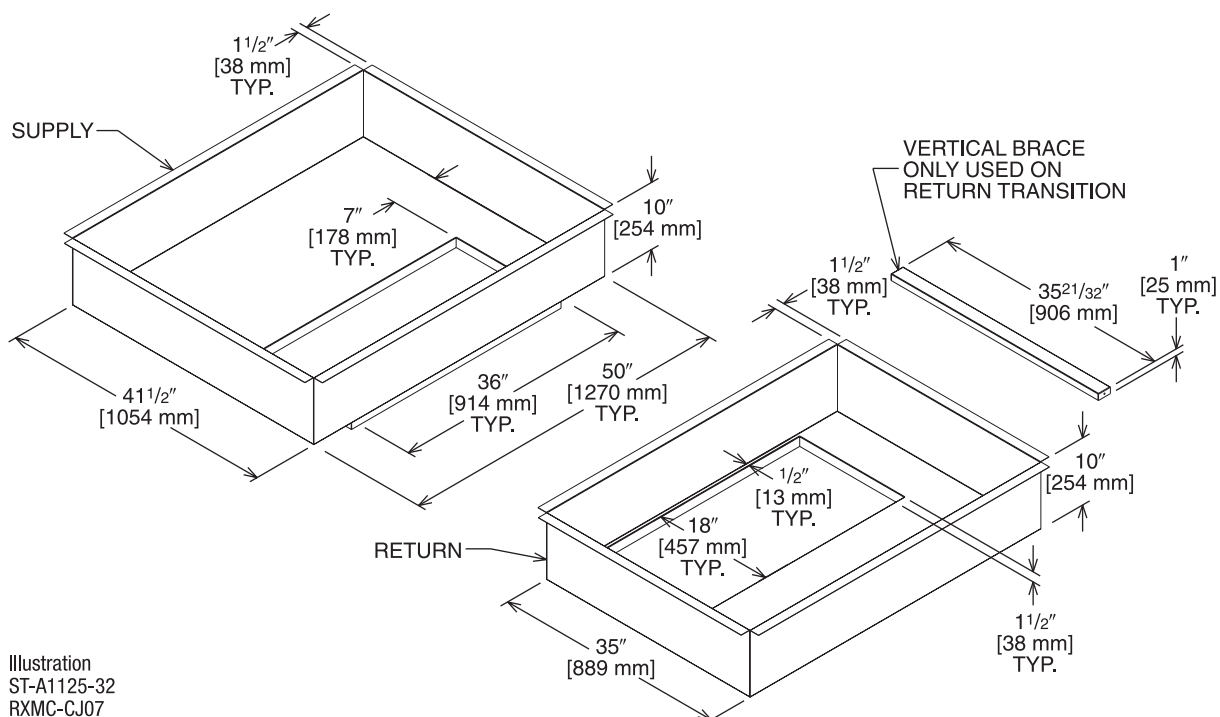


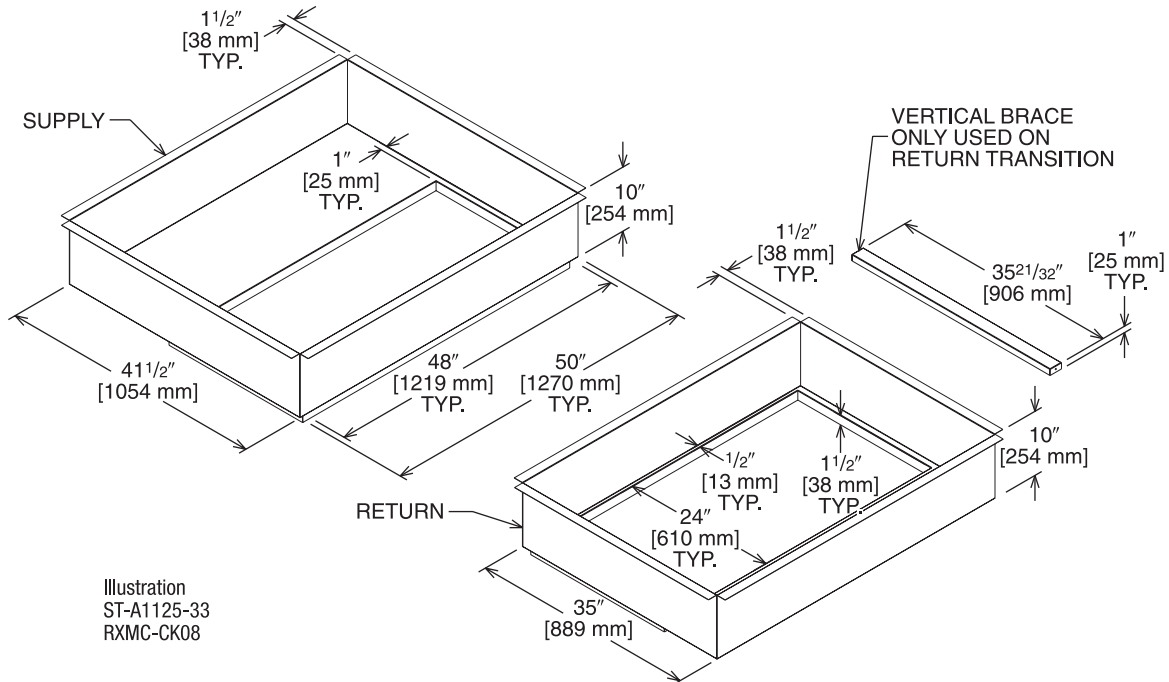
Illustration
ST-A1125-32
RXMC-CJ07

[] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS (Cont.)

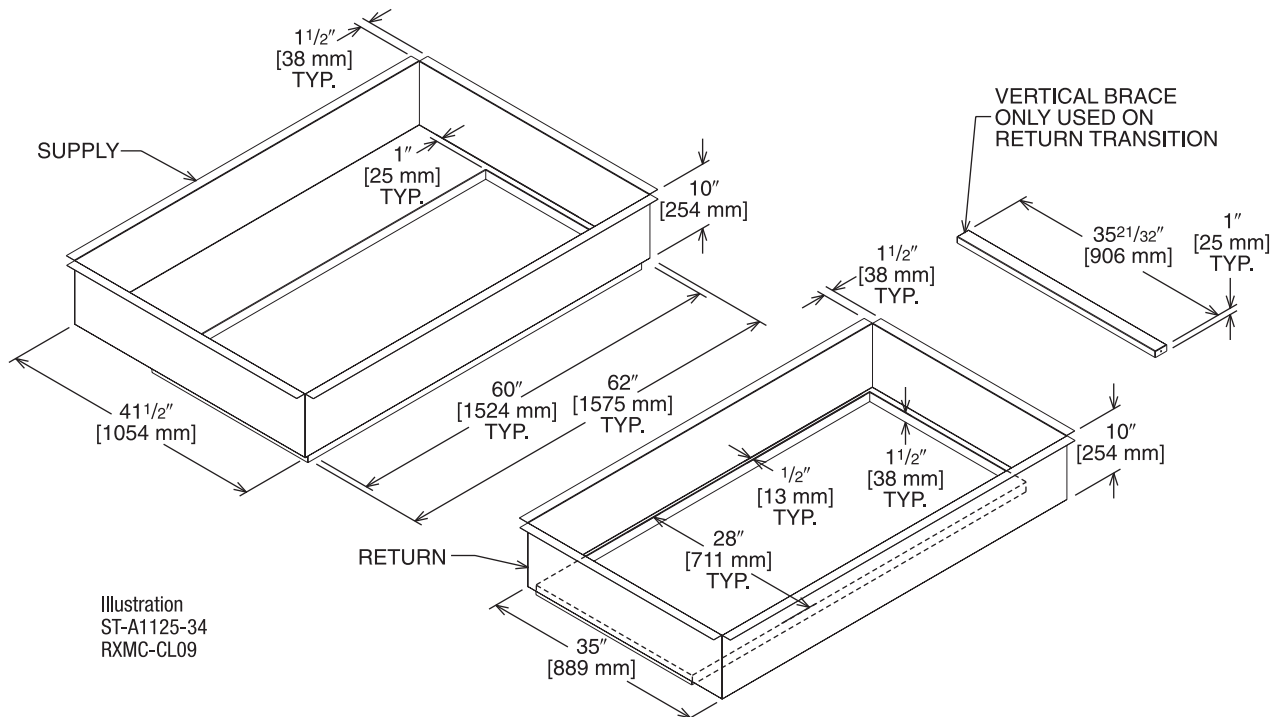
RXMC-CK08 (20 Ton) [70.3 kW]

- Used with RXRN-AD86 Concentric Diffusers.



RXMC-CL09 (25 Ton) [87.9 kW]

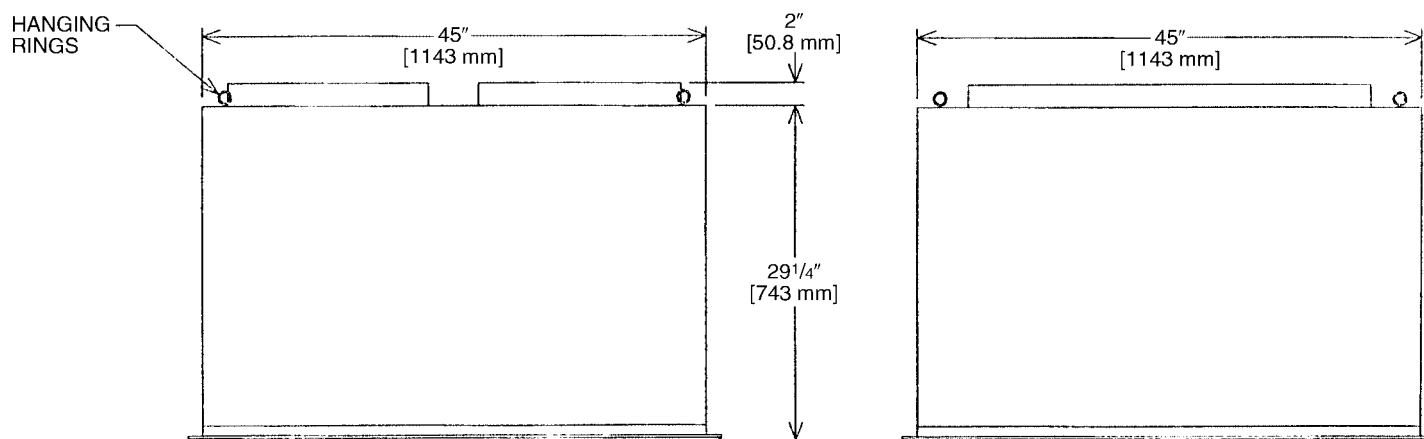
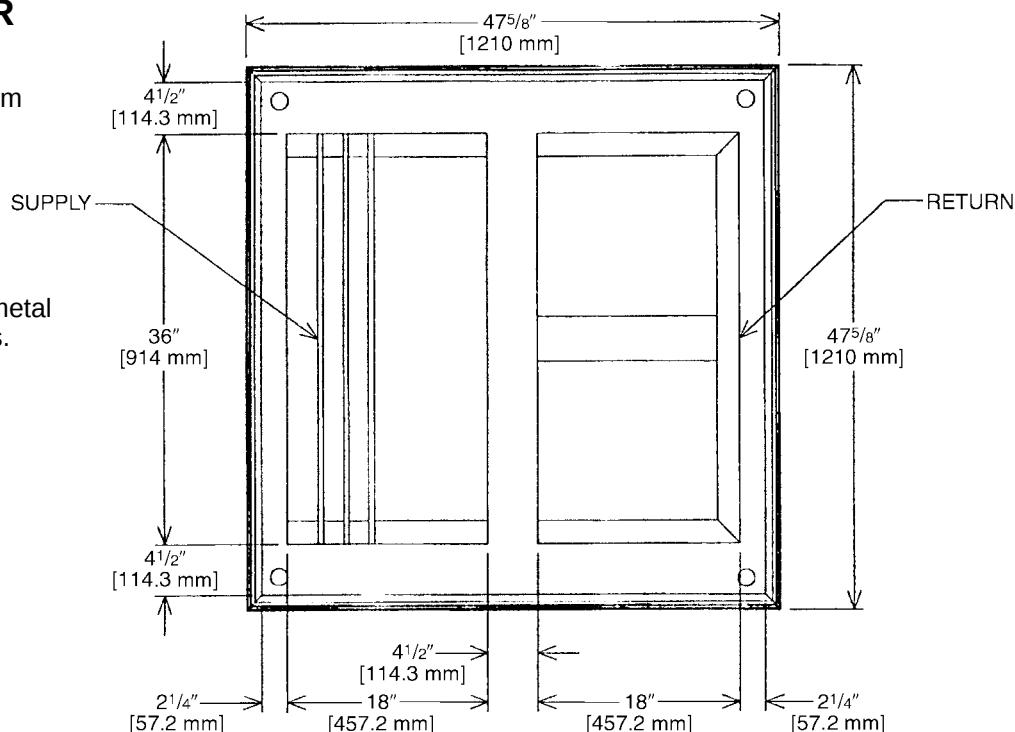
- Used with RXRN-AD88 Concentric Diffusers.



[] Designates Metric Conversions

CONCENTRIC DIFFUSER 15 TON [52.8 kW] FLUSH

- 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.



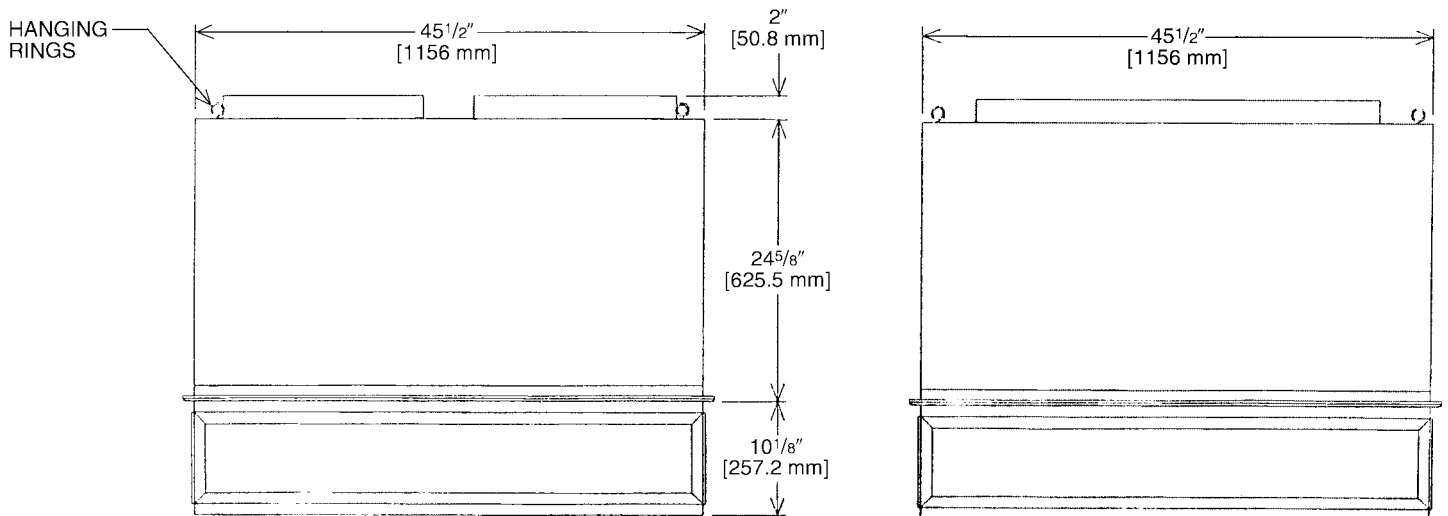
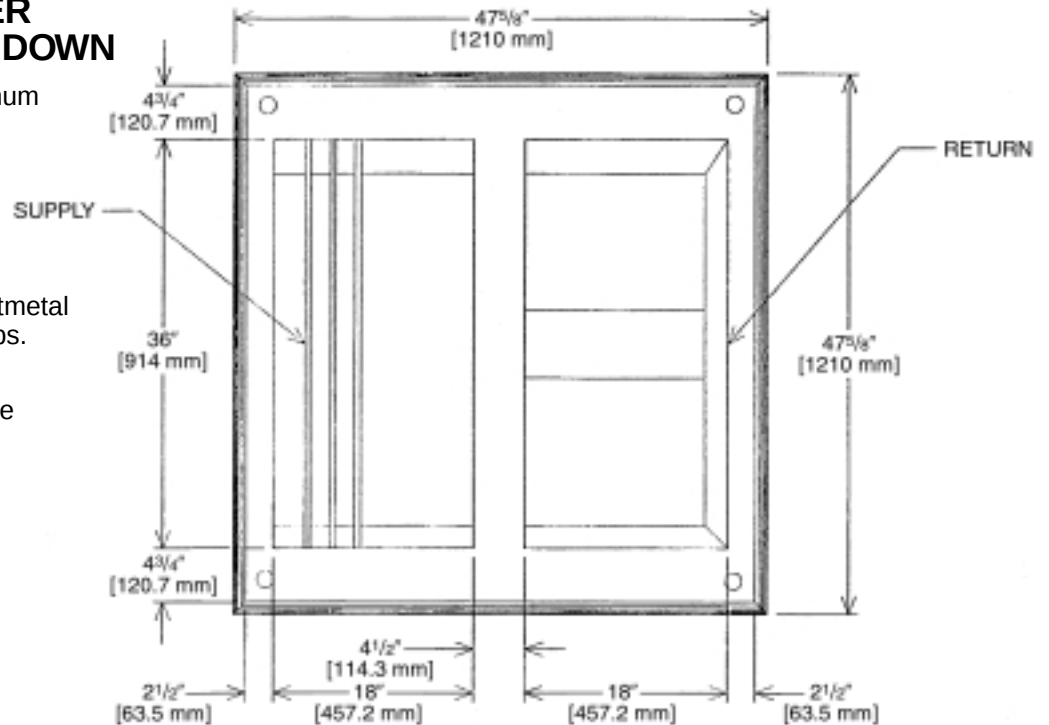
CONCENTRIC DIFFUSER SPECIFICATIONS

PART NUMBER	CFM [L/s]	STATIC PRESSURE	THROW FEET	NECK VELOCITY	JET VELOCITY
RXRN-AD80	5600 [2643]	0.36	28-37	1000	2082
	5800 [2737]	0.39	29-38	1036	2156
	6000 [2832]	0.42	40-50	1071	2230
	6200 [2926]	0.46	42-51	1107	2308
	6400 [3020]	0.50	43-52	1143	2379
	6600 [3115]	0.54	45-56	1179	2454

[] Designates Metric Conversions

CONCENTRIC DIFFUSER 15 TON [52.8 kW] STEP DOWN

- 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.



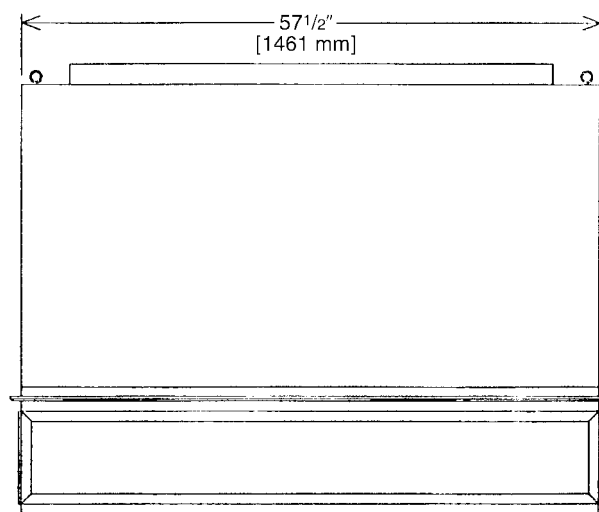
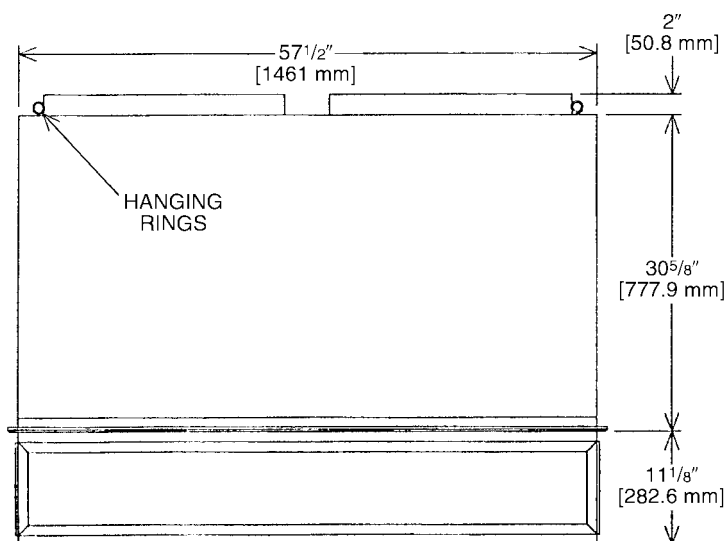
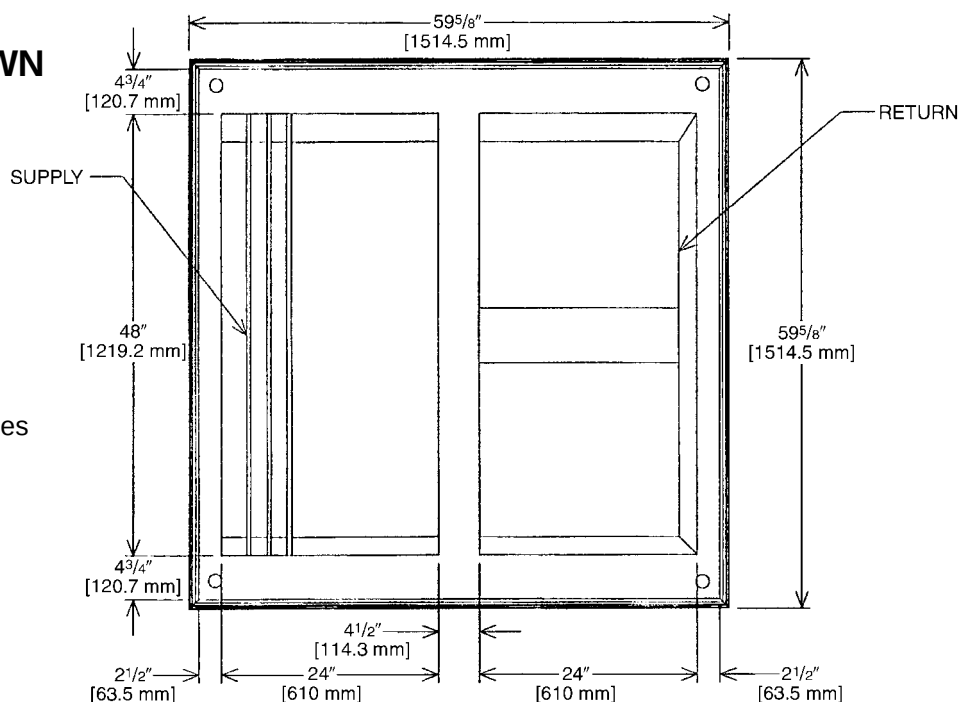
CONCENTRIC DIFFUSER SPECIFICATIONS

PART NUMBER	CFM [L/s]	STATIC PRESSURE	THROW FEET	NECK VELOCITY	JET VELOCITY
RXRN-AD81	5600 [2643]	0.36	39-49	920	920
	5800 [2737]	0.39	42-51	954	954
	6000 [2832]	0.42	44-54	1022	1022
	6200 [2926]	0.46	45-55	1056	1056
	6400 [3020]	0.50	46-55	1090	1090
	6600 [3115]	0.54	47-56	1124	1124

[] Designates Metric Conversions

CONCENTRIC DIFFUSER RXRN-AD86 SERIES 20 TON [70.3 kW] STEP DOWN

- 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.

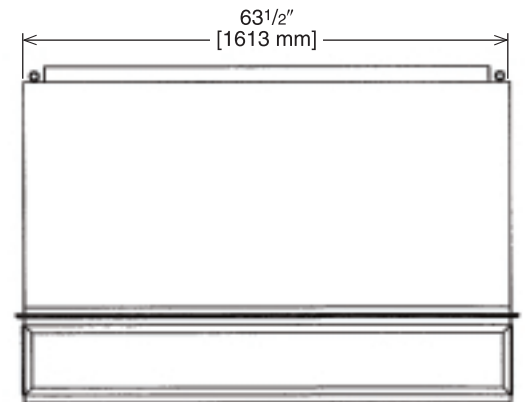
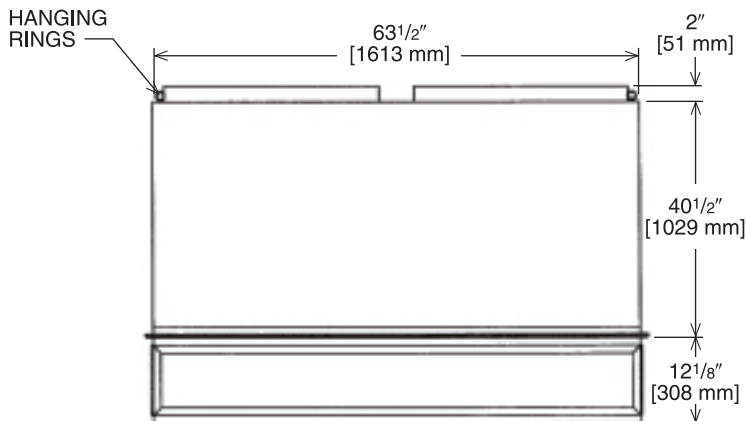
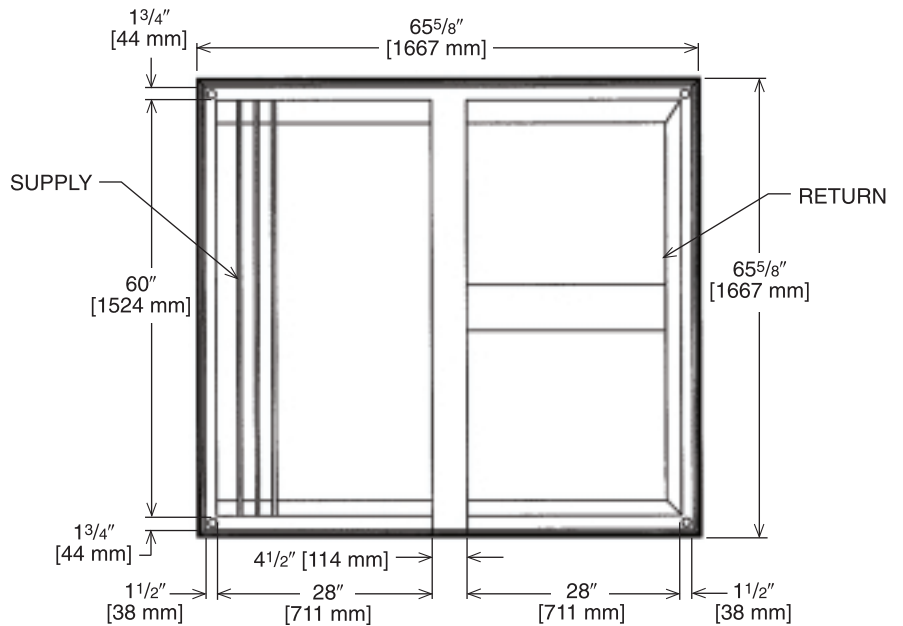


CONCENTRIC DIFFUSER SPECIFICATIONS

PART NUMBER	CFM [L/s]	STATIC PRESSURE	THROW FEET	NECK VELOCITY	JET VELOCITY
RXRN-AD86	7200 [3398]	0.39	33-38	827	827
	7400 [3492]	0.41	35-40	850	850
	7600 [3587]	0.43	36-41	873	873
	7800 [3681]	0.47	38-43	896	896
	8000 [3776]	0.50	39-44	918	918
	8200 [3870]	0.53	41-46	941	941
	8400 [3964]	0.56	43-49	964	964
	8600 [4059]	0.59	44-50	987	987
	8800 [4153]	0.63	47-55	1010	1010

CONCENTRIC DIFFUSER RXRN-AD88 SERIES 25 TON [87.9 kW] STEP DOWN

- 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.



CONCENTRIC DIFFUSER SPECIFICATIONS

PART NUMBER	CFM [L/s]	STATIC PRESSURE	THROW FEET	NECK VELOCITY	JET VELOCITY
RXRN-AD88	10000 [4719]	0.51	46-54	907	907
	10500 [4955]	0.58	50-58	953	953
	11000 [5191]	0.65	53-61	998	998
	11500 [5427]	0.73	55-64	1043	1043
	12000 [5663]	0.82	58-67	1089	1089
	12500 [5898]	0.91	61-71	1134	1134
	13000 [6134]	1.00	64-74	1179	1179

[] Designates Metric Conversions



Guide Specifications SLNL-B180 thru B300

Note about this specification: Please feel free to copy this specification directly into your building spec. This specification is written to comply with the 2004 version of the “master format” as published by the Construction Specification Institute www.csinet.org.

ELECTRIC HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 15-25 Nominal Tons

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

23 07 16	HVAC Equipment Insulation
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23 07 16.13	Decentralized, Rooftop Units:
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1. Interior cabinet surfaces shall be insulated with a minimum 3/4-in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, with aluminum foil facing on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 09 13	Instrumentation and Control Devices for HVAC
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23 09 13.23	Sensors and Transmitters:
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23 09 13.23.A.	Thermostats
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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.

23 09 33	Electric and Electronic Control System for HVAC
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23 09 33.13	Decentralized, Rooftop Units:
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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 resettable circuit breaker on the 24-v transformer side.
2. Shall utilize color-coded wiring.
3. Unit shall include a minimum of one 9-pin screw terminal connection board for connection of control wiring.

23 09 33.23.B.	Safeties:
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1. Compressor over-temperature, over current.
2. Low-pressure switch.
3. High-pressure switch.
4. Automatic reset, motor thermal overload protector.

23 09 93	Sequence of Operations for HVAC Controls
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23 09 93.13	Decentralized, Rooftop Units:
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23 09 93.13	INSERT SEQUENCE OF OPERATION
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23 40 13	Panel Air Filters
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23 40 13.13	Decentralized, Rooftop Units:
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23 40 13.13.A.	Standard filter section shall
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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 as described in the unit cabinet section of the specification (23 81 19.13.H).

23 81 19	Self-Contained Air Conditioners
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23 81 19.13	Small-Capacity Self-Contained Air Conditioners
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23 81 19.13.A.	General
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1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty and electric resistance heat 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 90.1-2004 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 500-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
10. Roof curb shall be designed to conform to NRCA Standards.
11. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.

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

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

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

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

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F / 16°C): 60, Hardness: H-2H Pencil hardness.
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 lb. density, flexible fiberglass insulation, aluminum foil-faced coated on the air side.
4. Base of unit shall have locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail
 - a. Unit shall have base rails on all sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 14 gauge thickness.

6. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 1" x 11 1/2 NPT drain connection through the side of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - i. Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - ii. No basepan penetration, other than those authorized by the manufacturer, is permitted.
8. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Stainless steel metal hinges are standard on all doors.
 - c. Panels covering control box, indoor fan, indoor fan motor, and electric or gas heater components (where applicable), shall have 1/4 turn latches.

23 81 19.13.J. Coils

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

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. Thermal Expansion Valve (TXV) with orifice type distributor.
 - b. Refrigerant filter drier.
 - c. Service gauge connections on suction and discharge lines.
 - d. Pressure gauge access through an access port in the front and rear panel of the unit.
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. Advanced Scroll Temperature Protection on 240-300 sizes.
 - d. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
 - e. Compressor shall be factory mounted on rubber grommets.
 - f. Compressor motors shall have internal line break thermal and current overload protection.
 - g. Crankcase heaters shall not be required for normal operating range.

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 sliding 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 365 fpm at nominal airflows.
5. Filters shall be standard, commercially available sizes.
6. Only one size filter per unit is allowed.

23 81 19.13.M. Evaporator Fan and Motor

1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - b. Shall have inherent automatic-reset thermal overload protection.
 - c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.

2. Belt-driven Evaporator Fan:

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

23 81 19.13.N. Condenser Fans and Motors

1. Condenser fan motors:

- a. Shall be a totally enclosed motor.
- b. Shall use permanently lubricated bearings.
- c. Shall have inherent thermal overload protection with an automatic reset feature.
- d. Shall use a shaft-down design. Shaft-up designs including those with “rain-slinger devices” shall not be allowed.

2. Condenser Fans shall:

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

23 81 19.13.O. Special Features

1. Integrated Economizers:

- a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
- b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
- c. Damper blades shall be galvanized steel with metal gears. Plastic or composite blades on intake or return shall not be acceptable.
- d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
- e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
- f. Shall be capable of introducing up to 100% outdoor air.
- g. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
- h. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
- i. An outdoor single enthalpy sensor shall be provided as standard. Outdoor air enthalpy set point shall be adjustable and shall range from the enthalpy equivalent of 63°F @ 50% rh to 73°F @ 50% rh. Additional sensor options shall be available as accessories.
- j. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 70%, with a range of 0% to 100%.
- k. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper set point.
- l. Economizer controller shall accept a 2-10Vdc CO2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor-air damper to provide ventilation based on the sensor input.
- m. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
- n. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

2. Two-Position Damper

- a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
- b. Damper shall include adjustable damper travel from 25% to 100% (full open).
- c. Damper shall include single or dual blade, gear driven damper and actuator motor.
- d. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
- e. Damper will admit up to 100% outdoor air for applicable rooftop units.
- f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
- g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
- h. Outside air hood shall include aluminum water entrainment filter.

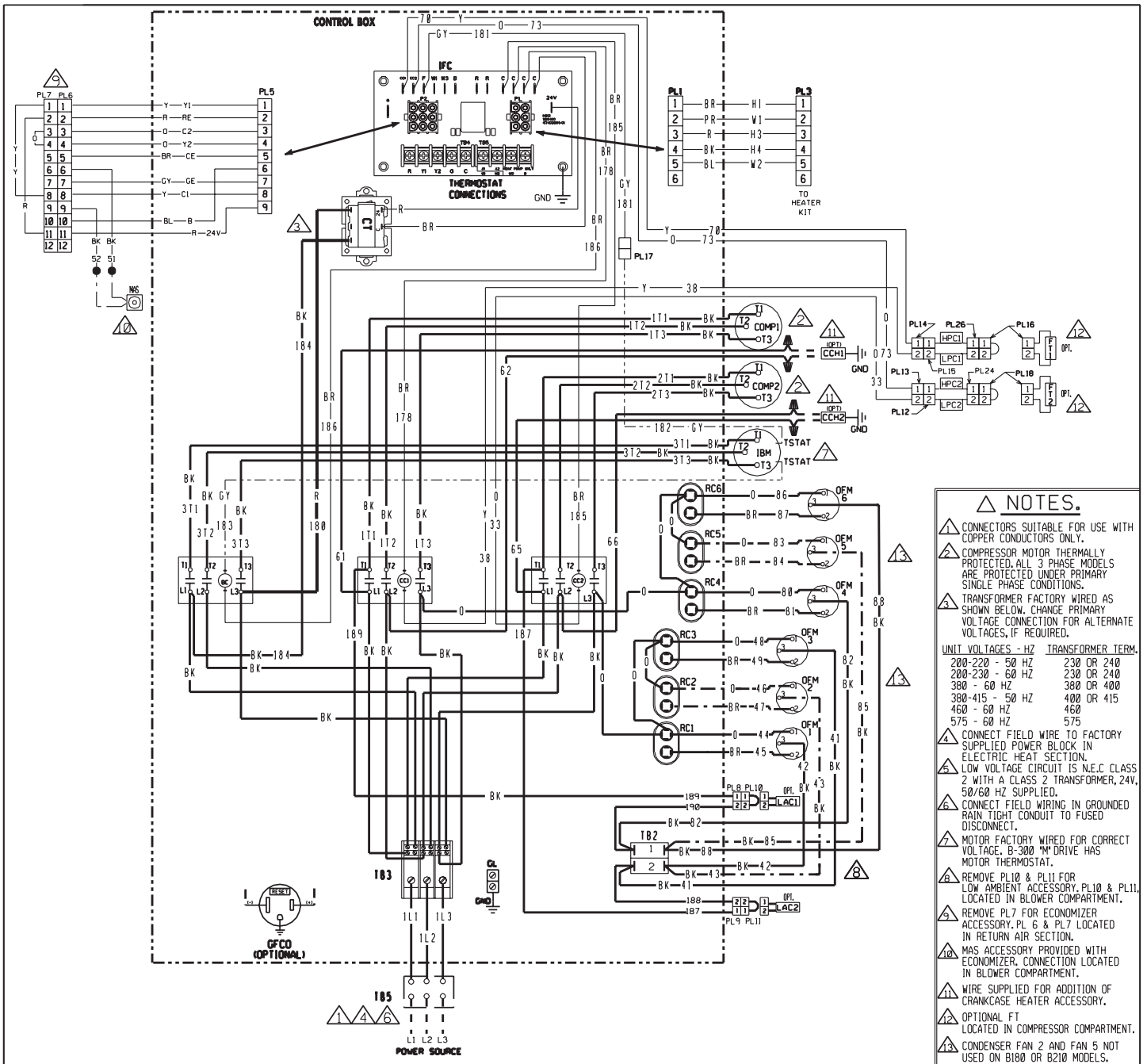
3. Manual damper

- a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.



4. Head Pressure Control Package
 - a. Controller shall control coil head pressure by condenser-fan cycling.
5. Convenience Outlet:
 - a. Non-Powered convenience outlet.
 - b. Outlet shall be powered from a separate 115-120v power source.
 - c. A transformer shall not be included.
 - d. Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
 - e. Outlet shall include 15 amp GFI receptacles.
 - f. Outlet shall be accessible from outside the unit.
6. Thru-the-Base Connectors:
 - a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
7. Propeller Power Exhaust:
 - a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
8. Roof Curbs (Vertical):
 - a. Full perimeter roof curb with exhaust capability providing separate airstreams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
9. Outdoor Air Enthalpy Sensor:
 - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
10. 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.
11. Indoor Air Quality (CO₂) Sensor:
 - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in wall mount with LED display. The set point shall have adjustment capability.
12. 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.

WIRING SCHEMATICS—SLNL-B SERIES



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 WIRING AS SHOWN BELOW. CHANGE PRIMARY VOLTAGE CONNECTION FOR ALTERNATE VOLTAGES, IF REQUIRED.
- | UNIT VOLTAGES - HZ | TRANSFORMER TERM. |
|--------------------|-------------------|
| 200-230 - 50 HZ | 230 OR 240 |
| 200-230 - 60 HZ | 230 OR 240 |
| 380 - 60 HZ | 380 OR 400 |
| 380-415 - 50 HZ | 400 OR 415 |
| 460 - 60 HZ | 460 |
| 575 - 60 HZ | 575 |
- 4 CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRIC HEAT SECTION.
 - 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 WIRING FOR CORRECT VOLTAGE. B-300 "M" DRIVE HAS MOTOR THERMOSTAT.
 - 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.
 - 12 OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.
 - 13 CONDENSER FAN 2 AND FAN 5 NOT USED ON B180 OR B210 MODELS.

COMPONENT CODE

BC	BLOWER CONTACTOR	MAS	MIX AIR SENSOR
CC	COMPRESSOR CONTACTOR	OFM	OUTDOOR FAN MOTOR
CCH	CRANKCASE HEATER	RC	RUN CAPACITOR
COMP	COMPRESSOR	TDC	TIME DELAY CONTROL
CT	CONTROL TRANSFORMER	TSTAT	MOTOR THERMOSTAT
FT	FREEZE STAT	PLUG	PLUG
GFCO	GROUND FAULT CONVENIENCE OUTLET	PT	POWER TRANSFORMER
GL	GROUND LUG	WIRE NUT	WIRE NUT
GND	GROUND		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR BELT DRIVE		
IFC	INTEGRATED FURNACE CONTROL		
LAC	LOW AMBIENT COOLING CONTROL		
LPC	LOW PRESSURE 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.

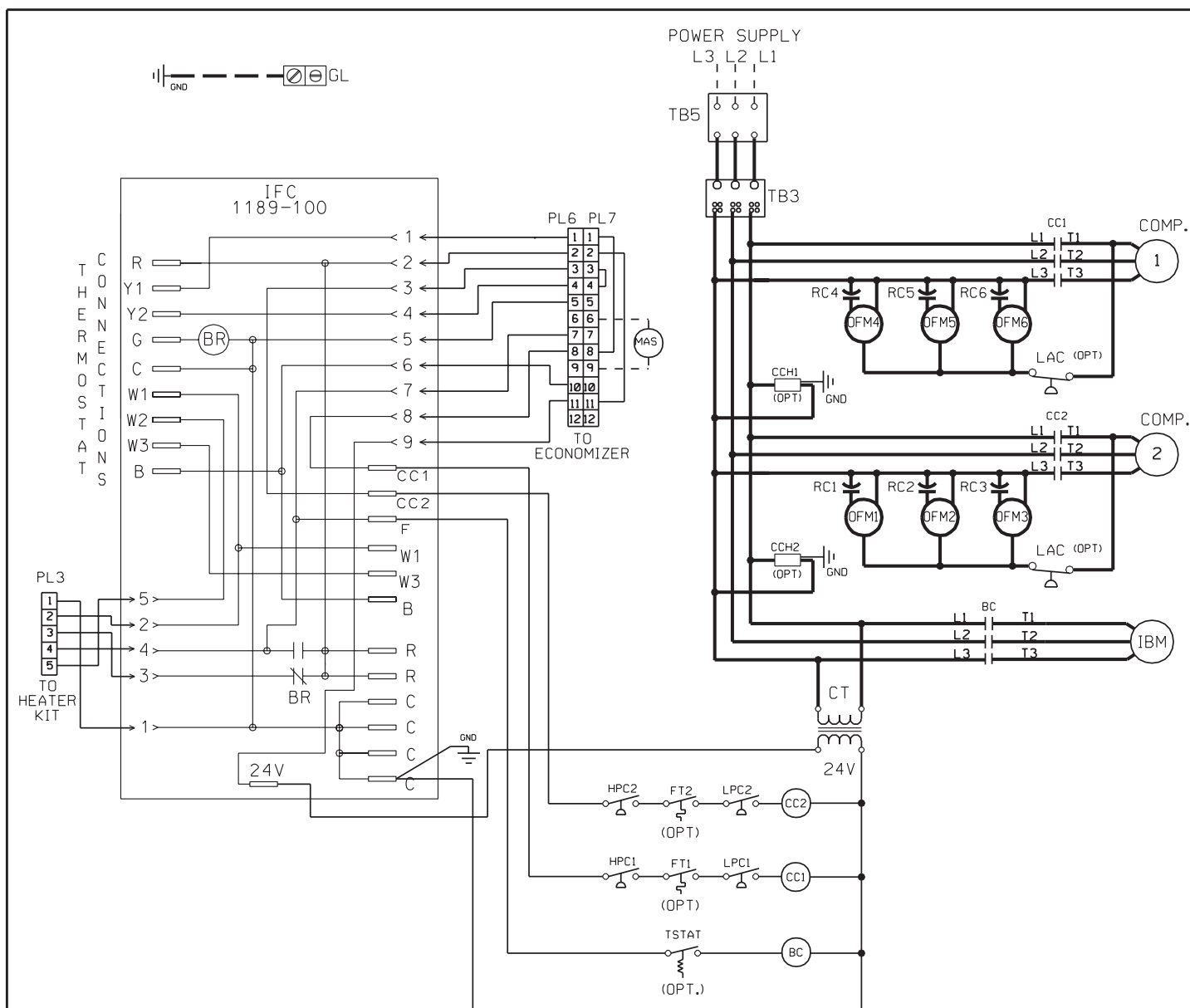
WIRE COLOR CODE

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

WIRING DIAGRAM

RLNL-B180/210/240/300
 208-230/460/575V 3 PH, 60 HZ.
 200-220/380-415 3PH, 50 HZ.
 PACKAGED A/C

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		4-7-08	90-42517-30	05



COMPONENT CODE

BC	BLOWER MOTOR CONTACTOR	MAS	MIXED AIR SENSOR
BR	BLOWER RELAY	OFM	OUTDOOR FAN MOTOR
CC	COMPRESSOR CONTACTOR	OPT	OPTIONAL
CCH	CRANKCASE HEATER	PL	PLUG
COMP	COMPRESSOR	RC	RUN CAPACITOR
CT	CONTROL TRANSFORMER	TB	TERMINAL BLOCK
FT	FREEZE STAT	TSTAT	MOTOR THERMOSTAT
GL	GROUND LUG		
GND	GROUND		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR		
IFC	INTEGRATED FURNACE CONTROL		
LAC	LOW AMBIENT CONTROL		
LPC	LOW PRESSURE 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 SCHEMATIC

RLNL-B180/210/240/300
 208-230V, 3PH, 60HZ. / 460V, 3PH, 60HZ.
 575V, 3PH, 60 HZ.
 200-220/380-415V 3 PH, 50 HZ.
 PACKAGED A/C

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		4-21-08	90-42517-33	03

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

**Rheem Heating,
Cooling and
Water Heating**

P.O. Box 17010, Fort Smith, AR 72917



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