PACKAGE GAS / ELECTRIC ROOFTOP UNITS

FORM NO. RTZ-841

Featuring Earth-Friendly R-410A Refrigerant

TZCGE- HIGH EFFICIENCY SERIES
NOMINAL SIZES 6-12.5 TONS [21.1-44.0 kW]
ASHRAE 90.1-2010 COMPLIANT MODELS

Manufactured for
Thermal Zone®
Philadelphia, PA

Unit shown with optional louvered coil protection.

ISO 9001:2000
Certificate Number: 30164

c UL us LISTED

ENERGY STAR PARTNER

"Proper sizing and installation of equipment is critical to achieve optimal performance. Ask your Contractor for details or visit www.energystar.gov."

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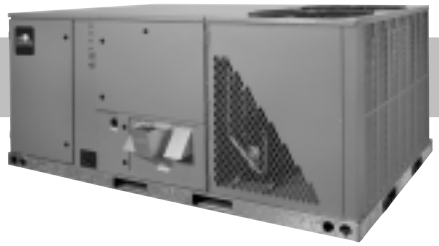
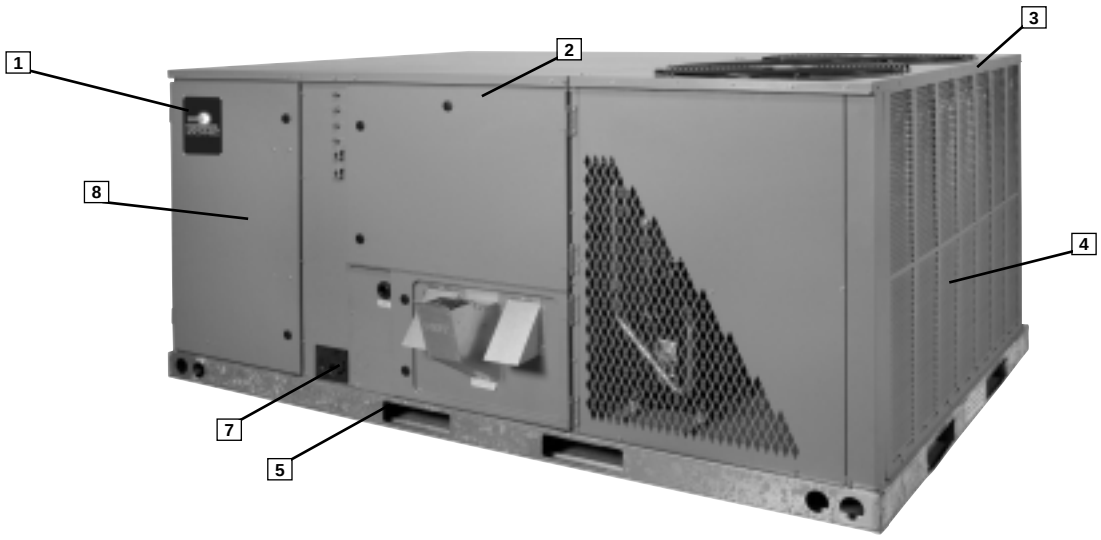


These quality features are included in the Thermal Zone® Package Gas/Electric Unit

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.
- Single stage compressor on 072 and 085 models.
- Dual stage compressor on 090 – 150 models.
- Convertible airflow.
- TXV refrigerant metering system on each circuit (except on 072 and 085).
- High Pressure and Low Pressure/Loss of charge protection standard on all models.
- Solid Core liquid line filter drier on each circuit.
- Single slab, single pass designed evaporator and condenser coils facilitate easy cleaning for maintained high efficiencies.
- Cooling operation up to 125 degree F ambient.
- Foil faced insulation encapsulated throughout entire unit minimizes airborne fibers from the air stream.
- Hinged major access door with heavy-duty gasketing, 1/4 turn latches and door retainers.
- Slide Out Indoor fan assembly for added service convenience.
- Powder Paint Finish meets ASTMB117 steel coated on each side for maximum protection. G90 galvanized.
- One piece top cover and one piece base pan with drawn supply and return opening for superior water management.
- Forkable base rails for easy handling and lifting.
- Single point electrical and gas connections.
- Internally sloped slide out condensate pan conforms to ASHRAE 62 standards.
- High performance belt drive motor with variable pitch pulleys and quick adjust belt system.
- Permanently lubricated evaporator, condenser and gas heat inducer motors.
- Condenser motors are internally protected, totally enclosed with shaft down design.
- 2 inch filter standard with slide out design.
- Two stage gas valve, direct spark ignition, and induced draft for efficiency and reliability.
- Tubular heat exchange for long life and induced draft for efficiency and reliability.
- Solid state furnace control with on board diagnostics.
- 24 volt control system with resettable circuit breakers.
- Colored and labeled wiring.
- Copper tube/Aluminum Fin coils (12 1/2 uses micro channel condenser).
- Molded compressor plug.

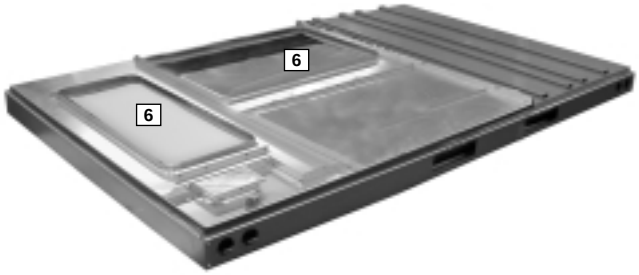
UNIT FEATURES & BENEFITS—TZCGE- SERIES



Thermal Zone® 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 Thermal Zone® *Commercial Series*™ label (1) identifies the brand to the customer.

The sheet-metal cabinet (2) uses nothing less than 18-gauge material for structural components with an underlying coat of G90. To ensure the leak-proof integrity of these units, the design utilizes a one-piece top with a 1/8" drip lip (3), gasket-protected panels and screws. The Thermal Zone® hail guard (4) (optional) is its trademark, and sets the standard for coil protection in the industry. Every Thermal Zone® package unit uses the toughest finish in the industry, using electro deposition baked-on enamel tested to withstand a rigorous 1000-hour salt spray test, per ASTM B117.

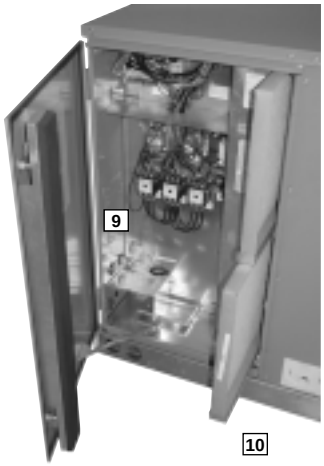
Anything built to last must start with the right foundation. In this case, the foundation is 14-gauge, commercial-grade, full-perimeter base rails (5), which integrate fork slots and rigging holes to save set-up time on the job site. The base pan is stamped, which forms a 1-1/8" flange around the supply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

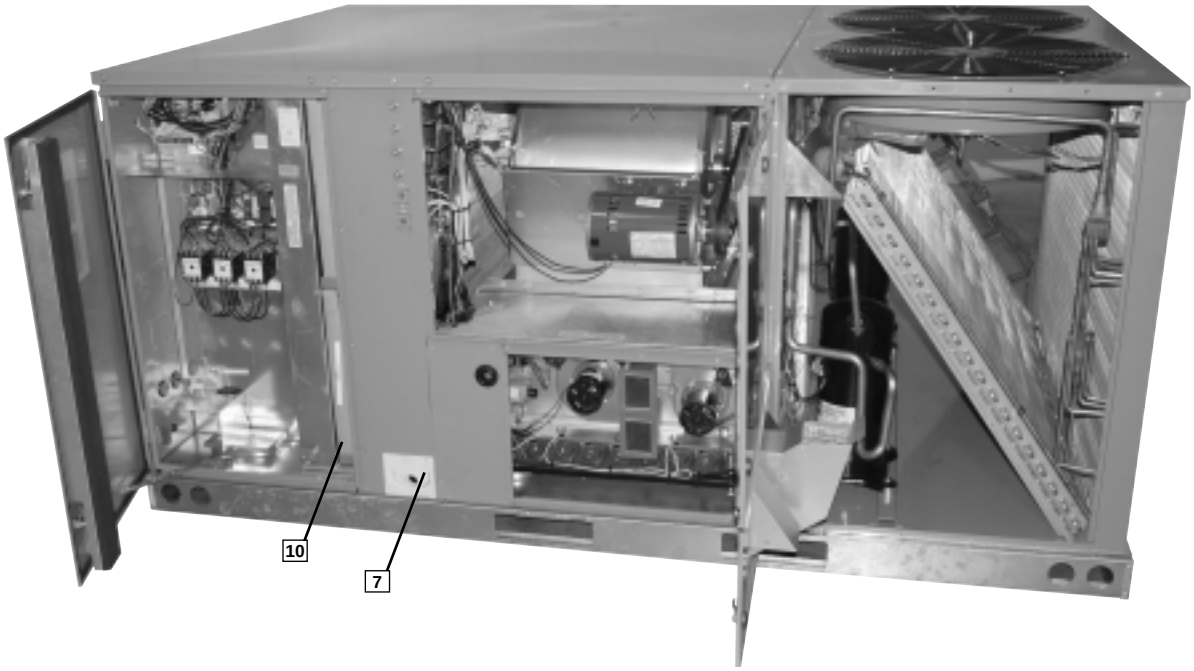


During development, each unit was tested to U.L. 1995, ANSI 21.47, ARI 340-370 and other Thermal Zone®-required reliability tests. Thermal Zone® adheres to stringent IS0 9002 quality procedures, and each unit bears the U.L. and ARI certification labels located on the unit nameplate (8). Contractors can rest assured that when a Thermal Zone® package unit arrives at the job, it is ready to go with a factory charge and quality checks. Each unit also proudly displays the "Made in the USA" designation.

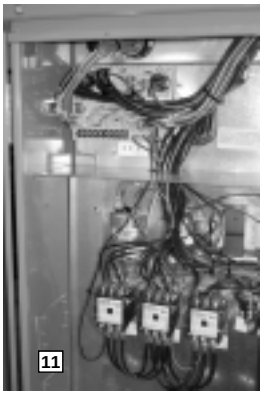
Access is granted with 1/4 turn fasteners and hinged access panels. Access to all major compartments is from the front of the unit, including the filter and electrical compartment, blower compartment, furnace section, and outdoor section. Each panel is permanently embossed with the compartment name (control/filter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

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





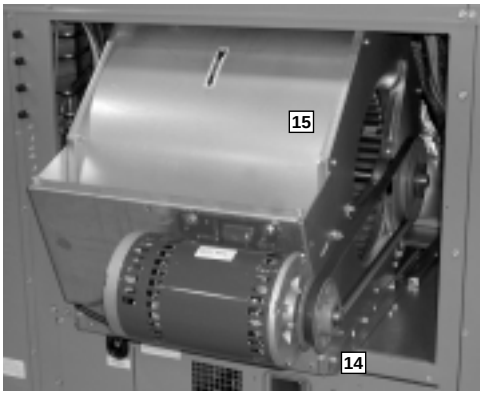
Inside the control box (11), each electrical component is clearly identified with a label that matches the component to the wire diagram for ease of trouble shooting. All wiring is numbered on each end of the termination and color-coded to match the wiring diagram. The integrated furnace control, used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



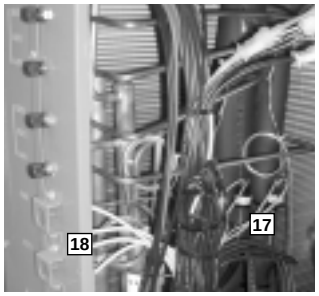
For added convenience in the field, a factory-installed convenience outlet and disconnect (12) are available. Low and High voltage can enter either from the side or through the base. Low-voltage connections are made through the low-voltage terminal strip. For ease of access, the U.L.-required low voltage barrier can be temporarily removed for low-voltage termination and then reinstalled. The high-voltage connection is terminated at the number 1 compressor contactor. The suggested mounting for the field-installed disconnect is on the exterior side of the electrical control box.

To the right of the electrical and filter compartment are the externally mounted gauge ports, which are permanently identified by embossed wording that clearly identifies the compressor circuit, high pressure connection and low pressure connection (13). With the gauge ports mounted externally, an accurate diagnostic of system operation can be performed quickly and easily. Brass caps on the shraeder fitting assure that the gauge parts are leak proof.

The blower compartment is to the right of the gauge ports and can be accessed by 1/4 turn fastener. To allow easy maintenance of the blower assembly, the entire assembly easily slides out by removing two 3/8" screws from the blower retention bracket. The adjustable motor pulley (14) can easily be adjusted by loosening the bolts on either side of the motor mount. Removing the bolts allows for easy removal of the blower pulley by pushing the blower assembly up to loosen the belt. Once the belt is removed, the motor sheave can be adjusted to the desired number of turns, ranging from 0 to 6 turns open. Where the demands for the job require high static, Thermal Zone® has high-static drives available that deliver nominal airflow up to 2" of static. By referring to the airflow performance tables listed in the installation instructions, proper static pressure and CFM requirements can be dialed in. The scroll housing (15) and blower scroll provide quiet and efficient airflow. The blower sheave is secured by an “H” bushing which firmly secures the pulley to the blower shaft for years of trouble-free operation. The “H” bushing allows for easy removal of the blower pulley from the shaft, as opposed to the use of a set screw, which can score the shaft, creating burrs that make blower-pulley removal difficult.



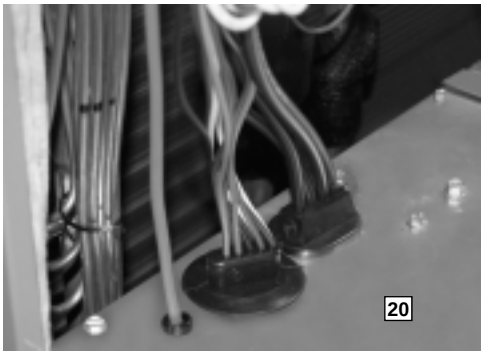
UNIT FEATURES & BENEFITS—TZCGE- SERIES

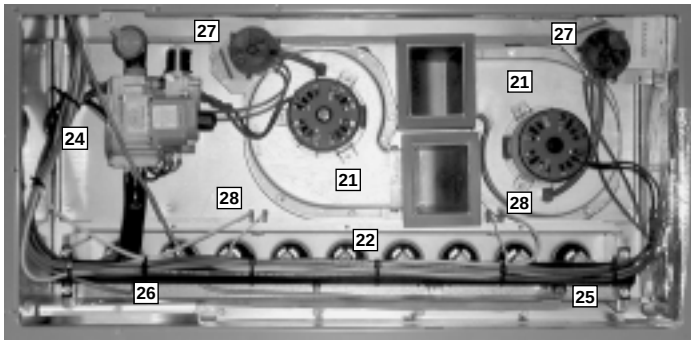


Also inside the blower compartment is the low-ambient control (16), low-pressure switch (17), high-pressure switch (18) and freeze stat refrigerant safety device (19). The low-ambient control allows for operation of the compressor down to 0 degrees ambient temperature by cycling the outdoor fans on high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

Inside the blower compartment the interlaced evaporator can also be viewed. The evaporator uses enhanced fin technology for maximum heat transfer. The TXV metering device assures even distribution of refrigerant throughout the evaporator. (Note: the single stage 6 and 71/2 utilize orifice).

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



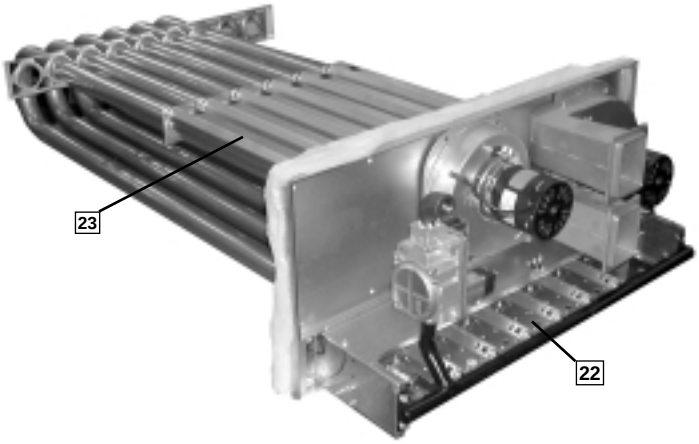


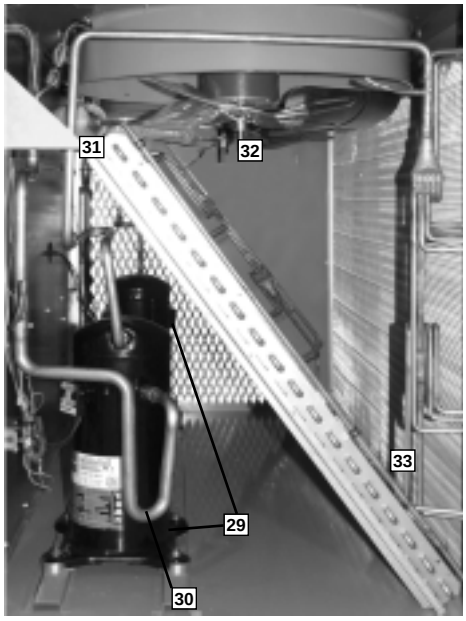
The furnace compartment contains the latest furnace technology on the market. The draft inducers (21) draw the flame from the Thermal Zone® exclusive in-shot burners (22) into the aluminized tubular heat exchanger (23) for clean, efficient gas heat. Stainless steel heat exchangers can be factory installed for those applications that have high fresh-air requirements, or applications in corrosive environments. Each furnace is equipment with a two-stage gas valve (24), which provides two stages of gas heat input. The first stage operates at 50% of the second stage (full fire). 81% steady state efficiency is maintained on both first and second stage by staging the multiple inducers to optimize the combustion airflow and maintain a near stioceometric burn at each stage.

The direct spark igniter (25) assures reliable ignition in the most adverse conditions. This is coupled with remote flame sense (26) to assure that the flame has carried across the entire length of the burner assembly. Gas supply can be routed from the side or up through the base.

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

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

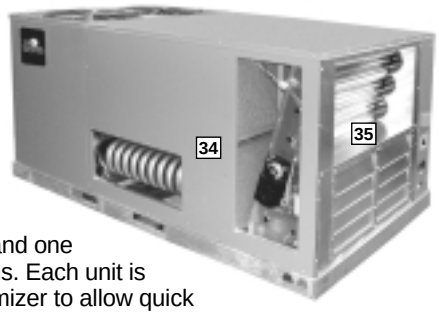




The compressor compartment houses the heartbeat of the unit. The scroll compressor (29) is known for its long life, and for reliable, quiet, and efficient operation. The suction and discharge lines are designed with shock loops (30) to absorb the strain and stress that the starting torque, steady state operation, and shut down cycle impose on the refrigerant tubing. Each compressor and circuit is independent for built-in redundancy, and each circuit is clearly marked throughout the system. Each unit has two stages of efficient cooling operation, first stage is approximately 50% of second stage. (072 & 085 single stage)

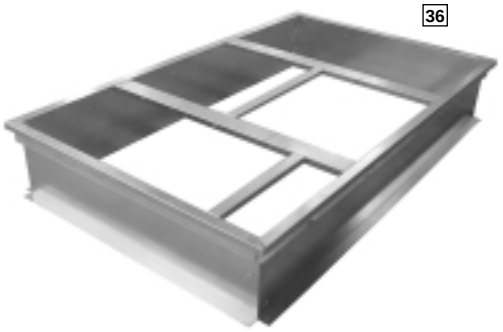
Each unit comes standard with filter dryer 31. The condenser fan motor (32) can easily be accessed and maintained through the blower compartment. The polarized plug connection allows the motor to be changed quickly and eliminates the need to snake wires through the unit.

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



Each unit is designed for both downflow or horizontal applications (34) for job configuration flexibility. The return air compartment can also contain an economizer (35). Two models exits, one for downflow applications, and one for horizontal applications. Each unit is pre-wired for the economizer to allow quick plug-in installation. The economizer is also available as a factory-installed option. Power Exhaust is easily field-installed. The economizer, which provides free cooling when outdoor conditions are suitable and also provides fresh air to meet local requirements, comes standard with single enthalpy controls. The controls can be upgraded to dual enthalpy easily in the field. The direct drive actuator combined with gear drive dampers has eliminated the need for linkage adjustment in the field. The economizer control has a minimum position setpoint, an outdoor-air setpoint, a mix-air setpoint, and a CO^2 setpoint. Barometric relief is standard on all economizers. The power exhaust is housed in the barometric relief opening and is easily slipped in with a plug-in assembly. The wire harness to the economizer also has accommodations for a smoke detector.

The Thermal Zone® roofcurb (36) is made for toolless assembly at the jobsite by engaging a pin into the hinged corners of adjacent curb sides, which makes the assembly process quick and easy.



SELECTION PROCEDURE EXAMPLE—TZCGE- SERIES

To select an TZCGE- 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:

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

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

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

Total Capacity = 118,900 BTUH [34.80 kW]
Sensible Capacity = 99,950 BTUH [29.29 kW]
Power Input (Compressor and Cond. Fans) = 8,950 watts

Use formula [1.10 x CFM x (1 – DR) x (dbE – 80)] in note ① to determine sensible capacity at 80°F [26.7°C] DB evaporator entering air:

Sensible Capacity = 92,268 BTUH [27.24 kW]

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

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

Total Capacity, 118,900 x .98 = 116,522 BTUH [34.15 kW]
Sensible Capacity, 92,268 x .95 = 87,655 BTUH [25.67 kW]
Power Input 11,650 x .99 = 8,861 Watts

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

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

Enter Indoor Blower performance table at 3600 CFM [1699 L/s]. Total ESP (external static pressure) per the spec of .40 in. includes the system duct and grilles. Add from the table "Component Air Resistance," .076 for wet coil, .13 for vertical air flow, for a total selection static pressure of .606 (.6) inches of water, and determine:

RPM = 796
WATTS = 1,650
DRIVE = L (standard 2 H.P. motor)

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

BTUH = 1,650 x 3.412 = 5,630

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

Net Total Capacity = 116,522 – 5,630 = 110,892 BTUH [32.5 kW]

Net Sensible Capacity = 87,655 – 5,630 = 82,025 BTUH [24.04 kW]

7. CALCULATE UNIT INPUT AND JOB EER.

Total Power Input = 88,610 (step 3) + 1,650 (step 4) = 10,511 Watts

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

8. SELECT UNIT HEATING CAPACITY.

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

Heating Capacity = 182,300 BTUH [53.43 kW]

*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

TZ	C	GE	—	072	C	L	B	150	A
THERMAL ZONE®	COMMERCIAL	GAS ELECTRIC		COOLING CAPACITY 072 = 72,000 [21.10] 085 = 85,000 [24.91] 090 = 90,000 [26.38] 102 = 102,000 [29.89] 120 = 120,000 [35.17] 150 = 150,000 [43.96]	ELECTRICAL DESIGNATION C = 208-230V —3PH—60Hz D = 460V —3PH—60Hz	DESIGN SERIES L = R-410A	B = BELT DRIVE	HEATING CAPACITY (MBH) 15 = 150,000 [44.0] 22 = 225,000 [65.9] 25 = 252,000 [73.9]	REVISION

[ ] Designates Metric Conversions

FACTORY INSTALLED OPTION CODES 6 TO 10 TON [21.1 TO 35.2 kW]

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

FACTORY INSTALLED OPTION CODES FOR 12.5 TON [44.0 kW]

Option Code	Stainless Steel Heat Exchanger	Non-Powered Convenience Outlet/Unfused Service Disconnect	Low Ambient/ Freeze Stat
AJ	x		
AH		x	
AP			x
JB	x	x	
CW	x	x	x

NOTES: (1) Hail guard is standard on (12.5 ton) B150 models.
(2) High and low pressure is standard on all models.
"x" indicates factory installed option.

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

Option Code	No Economizer	Single Enthalpy Economizer w/Barometric Relief	Single Enthalpy Economizer w/Barometric Relief and Smoke Detector
A	x		
B		x	
C			x

"x" indicates factory installed option.

Instructions for Factory Installed Option(s) Selection

Note: Three characters following the model number will be utilized to designate a factory-installed option or combination of options. If no factory option(s) is required, nothing follows the model number.

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

Proceed to Step 2.

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

[ ] Designates Metric Conversions

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

Model TZCGE- Series	072CLB150A	072DLB150A	085CLB150A	085CLB225A
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	76,000 [22.27]	76,000 [22.27]	88,000 [25.78]	88,000 [25.78]
EER/SEER[2]	11.5/NA	11.5/NA	11.2/NA	11.2/NA
Nominal CFM/ARI Rated CFM [L/s]	2400/2375 [1133/1121]	2400/2375 [1133/1121]	2800/3000 [1321/1416]	2800/3000 [1321/1416]
ARI Net Cooling Capacity Btu [kW]	73,000 [21.39]	73,000 [21.39]	85,000 [24.9]	85,000 [24.9]
Net Sensible Capacity Btu [kW]	53,900 [15.79]	53,900 [15.79]	66,100 [19.37]	66,100 [19.37]
Net Latent Capacity Btu [kW]	19,100 [5.6]	19,100 [5.6]	18,900 [5.54]	18,900 [5.54]
Integrated Part Load Value[3]	N/A	N/A	N/A	N/A
Net System Power kW	6.31	6.31	7.53	7.53
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ˚F [˚C]	30-60 [16.7/33.3]	30-60 [16.7/33.3]	25-55 [13.9/30.6]	40-70 [22.2/38.9]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	6	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.5 [12.7]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	Orifices	Orifices	Orifices	Orifices
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/11x12 [279x305]	1/11x12 [279x305]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	1 1/2	1 1/2	2	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	120 [3402]		190.9 [5412]	190.9 [5412]
Weights				
Net Weight lbs. [kg]	901 [409]	901 [409]	965 [438]	1001 [454]
Ship Weight lbs. [kg]	938 [425]	938 [425]	1002 [455]	1038 [471]

See Page 17 for Notes.

[ ] Designates Metric Conversions

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

Model TZCGE- Series	085DLB150A	085DLB225A	090CLB150A	090CLB225A
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	88,000 [25.78]	88,000 [25.78]	93,000 [27.25]	93,000 [27.25]
EER/SEER[2]	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/ARI Rated CFM [L/s]	2800/3000 [1321/1416]	2800/3000 [1321/1416]	3000/2775 [1416/1310]	3000/2775 [1416/1310]
ARI Net Cooling Capacity Btu [kW]	85,000 [24.9]	85,000 [24.9]	90,000 [26.37]	90,000 [26.37]
Net Sensible Capacity Btu [kW]	66,100 [19.37]	66,100 [19.37]	63,100 [18.49]	63,100 [18.49]
Net Latent Capacity Btu [kW]	18,900 [5.54]	18,900 [5.54]	26,900 [7.88]	26,900 [7.88]
Integrated Part Load Value[3]	N/A	N/A	13	13
Net System Power kW	7.53	7.53	7.99	7.99
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ˚F [˚C]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	25-55 [13.9/30.6]	40-70 [22.2/38.9]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	1/Scroll	1/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	Orifices	Orifices	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	2	2	2	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	190.9 [5412]		107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]
Weights				
Net Weight lbs. [kg]	965 [438]	1001 [454]	1017 [461]	1053 [478]
Ship Weight lbs. [kg]	1002 [455]	1038 [471]	1054 [478]	1090 [494]

See Page 17 for Notes.

[ ] Designates Metric Conversions

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

Model TZCGE- Series	090DLB150A	090DLB225A	102CLB150A	102CLB225A
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	93,000 [27.25]	93,000 [27.25]	101,000 [29.59]	101,000 [29.59]
EER/SEER[2]	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/ARI Rated CFM [L/s]	3000/2775 [1416/1310]	3000/2775 [1416/1310]	3200/3200 [1510/1510]	3200/3200 [1510/1510]
ARI Net Cooling Capacity Btu [kW]	90,000 [26.37]	90,000 [26.37]	97,000 [28.42]	97,000 [28.42]
Net Sensible Capacity Btu [kW]	63,100 [18.49]	63,100 [18.49]	74,000 [21.68]	74,000 [21.68]
Net Latent Capacity Btu [kW]	26,900 [7.88]	26,900 [7.88]	23,000 [6.74]	23,000 [6.74]
Integrated Part Load Value[3]	13	13	12.9	12.9
Net System Power kW	7.99	7.99	8.59	8.59
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range °F [°C]	25-55 [13.9/30.6]	25-55 [13.9/30.6]	25-55 [13.9/30.6]	40-70 [22.2/38.9]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	6	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.5 [12.7]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	2 / 18 [7]	2 / 18 [7]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	2	2	3	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	107.5/110.7 [3048/3138]	107.5/110.7 [3048/3138]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]
Weights				
Net Weight lbs. [kg]	1017 [461]	1017 [461]	1067 [484]	1103 [500]
Ship Weight lbs. [kg]	1054 [478]	1054 [478]	1104 [501]	1140 [517]

See Page 17 for Notes.

[ ] Designates Metric Conversions

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

Model TZCGE- Series	102DL150A	102DL225A	120CLB150A	120CLB225A
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	101,000 [29.59]	101,000 [29.59]	123,000 [36.04]	123,000 [36.04]
EER/SEER[2]	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/ARI Rated CFM [L/s]	3200/3200 [1510/1510]	3200/3200 [1510/1510]	4000/3750 [1888/1770]	4000/3750 [1888/1770]
ARI Net Cooling Capacity Btu [kW]	97,000 [28.42]	97,000 [28.42]	118,000 [34.57]	118,000 [34.57]
Net Sensible Capacity Btu [kW]	74,000 [21.68]	74,000 [21.68]	88,800 [26.02]	88,800 [26.02]
Net Latent Capacity Btu [kW]	23,000 [6.74]	23,000 [6.74]	29,200 [8.56]	29,200 [8.56]
Integrated Part Load Value[3]	12.9	12.9	12.9	12.9
Net System Power kW	8.59	8.59	10.49	10.49
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]
Temperature Rise Range ˚F [˚C]	25-55 [13.9/30.6]	40-70 [22.2/38.9]	15-45 [8.3/25]	25-55 [13.9/30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 22 [9]	2 / 22 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	3 / 18 [7]	3 / 18 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	3	3	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	154.4/166.6 [4377/4723]	154.4/166.6 [4377/4723]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]
Weights				
Net Weight lbs. [kg]	1067 [484]	1103 [500]	1120 [508]	1156 [524]
Ship Weight lbs. [kg]	1104 [501]	1140 [517]	1157 [525]	1193 [541]

See Page 17 for Notes.

[ ] Designates Metric Conversions

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

Model TZCGE- Series	120CLB150A	120CLB225A	150CLB150A	150CLB250A
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	123,000 [36.04]	156,000 [45.71]	156,000 [45.71]
EER/SEER[2]	11.2/NA	11.2/NA	11/NA	11/NA
Nominal CFM/ARI Rated CFM [L/s]	4000/3750 [1888/1770]	4000/3750 [1888/1770]	5000/4400 [2360/2076]	5000/4400 [2360/2076]
ARI Net Cooling Capacity Btu [kW]	118,000 [34.57]	118,000 [34.57]	148,000 [43.36]	148,000 [43.36]
Net Sensible Capacity Btu [kW]	88,800 [26.02]	88,800 [26.02]	107,600 [31.53]	107,600 [31.53]
Net Latent Capacity Btu [kW]	29,200 [8.56]	29,200 [8.56]	40,400 [11.84]	40,400 [11.84]
Integrated Part Load Value[3]	12.9	12.9	11.9	11.9
Net System Power kW	10.49	10.49	13.39	13.39
Heating Performance (Gas)[4]				
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	112,500/225,000 [32.96/65.92]	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	91,125/182,250 [26.7/53.4]	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]
Temperature Rise Range ˚F [˚C]	15-45 [8.3/25]	25-55 [13.9/30.6]	15-45 [8.3/25]	25-55 [13.9/30.6]
Steady State Efficiency (%)	81	81	81	81
No. Burners	6	9	6	9
No. Stages	2	2	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]	0.5 [12.7]	0.75 [19]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	MicroChannel	MicroChannel
Tube Size in. [mm] OD	0.375 [9.5]	0.375 [9.5]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 22 [9]	2 / 22 [9]	2 / 20 [8]	2 / 20 [8]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	3 / 18 [7]	3 / 18 [7]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/2 HP	2 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	3	5	5
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	184	184
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	172.8/180.8 [4899/5126]	172.8/180.8 [4899/5126]	159.2/156 [4513/4423]	159.2/156 [4513/4423]
Weights				
Net Weight lbs. [kg]	1120 [508]	1156 [524]	1238 [562]	1274 [578]
Ship Weight lbs. [kg]	1157 [525]	1193 [541]	1275 [578]	1311 [595]

See Page 17 for Notes.

[ ] Designates Metric Conversions

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

Model TZCGE- Series	150DLB150A	150DLB250A
Cooling Performance[1]		
Gross Cooling Capacity Btu [kW]	156,000 [45.71]	156,000 [45.71]
EER/SEER[2]	11/NA	11/NA
Nominal CFM/ARI Rated CFM [L/s]	5000/4400 [2360/2076]	5000/4400 [2360/2076]
ARI Net Cooling Capacity Btu [kW]	148,000 [43.36]	148,000 [43.36]
Net Sensible Capacity Btu [kW]	107,600 [31.53]	107,600 [31.53]
Net Latent Capacity Btu [kW]	40,400 [11.84]	40,400 [11.84]
Integrated Part Load Value[3]	11.9	11.9
Net System Power kW	13.39	13.39
Heating Performance (Gas)[4]		
Heating Input Btu [kW] (1st Stage / 2nd Stage)	75,000/150,000 [21.97/43.95]	126,000/252,000 [36.92/73.84]
Heating Output Btu [kW] (1st Stage / 2nd Stage)	60,750/121,500 [17.8/35.6]	102,000/204,000 [29.89/59.77]
Temperature Rise Range ˚F [˚C]	15-45 [8.3/25]	25-55 [13.9/30.6]
Steady State Efficiency (%)	81	81
No. Burners	6	9
No. Stages	2	2
Gas Connection Pipe Size in. [mm]	0.5 [12.7]	0.75 [19]
Compressor		
No./Type	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	88	88
Outdoor Coil—Fin Type	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 20 [8]	2 / 20 [8]
Indoor Coil—Fin Type	Louvered	Louvered
Tube Type	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/2 HP	2 at 1/2 HP
Motor RPM	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable
No. Motors	1	1
Motor HP	5	5
Motor RPM	1725	1725
Motor Frame Size	184	184
Filter—Type	Disposable	Disposable
Furnished	Yes	Yes
(No.) Size Recommended in. [mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	159.2/156 [4513/4423]	159.2/156 [4513/4423]
Weights		
Net Weight lbs. [kg]	1238 [562]	1274 [578]
Ship Weight lbs. [kg]	1275 [578]	1311 [595]

See Page 17 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on ARI Standard 210/240 or 360.
2. EER and/or SEER are rated at ARI conditions and in accordance with DOE test procedures.
3. Integrated Part Load Value is rated in accordance with ARI Standard 210/240 or 360. Units are rated at 80° F ambient, 80° F entering dry bulb, and 67° F entering wet bulb at ARI rated cfm.
4. Heating Performance limit settings and rating data were established and approved under laboratory test conditions using American National Standard Institute standards. Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet, ratings should be reduced at the rate of 4% for each 1000 feet above sea level.
5. Outdoor Sound Rating shown is tested in accordance with ARI Standard 270.

GROSS SYSTEMS PERFORMANCE DATA—072

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]			2800 [1321]	2375 [1121]	1800 [850]	2800 [1321]	2375 [1121]	1800 [850]	2800 [1321]	2375 [1121]	1800 [850]
DR ①			.05	.08	.14	.05	.08	.14	.05	.08	.14
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	91.3 [26.8]	88.4 [25.9]	84.5 [24.8]	87.4 [25.6]	84.6 [24.8]	80.9 [23.7]	81.6 [23.9]	79.0 [23.2]	75.5 [22.1]
		Sens BTUH [kW]	51.8 [15.2]	44.9 [13.2]	36.4 [10.7]	67.5 [19.8]	59.5 [17.4]	49.5 [14.5]	76.1 [22.3]	67.6 [19.8]	56.9 [16.7]
		Power	4.1	4.0	3.9	4.0	3.9	3.8	3.9	3.9	3.8
	80 [26.7]	Total BTUH [kW]	89.8 [26.3]	86.9 [25.5]	83.1 [24.4]	85.9 [25.2]	83.2 [24.4]	79.5 [23.3]	80.1 [23.5]	77.5 [22.7]	74.1 [21.7]
		Sens BTUH [kW]	51.9 [15.2]	45.0 [13.2]	36.5 [10.7]	67.5 [19.8]	59.6 [17.5]	49.6 [14.5]	76.1 [22.3]	67.6 [19.8]	56.9 [16.7]
		Power	4.4	4.3	4.2	4.3	4.2	4.2	4.3	4.2	4.1
	85 [29.4]	Total BTUH [kW]	87.8 [25.7]	85.1 [24.9]	81.3 [23.8]	83.9 [24.6]	81.3 [23.8]	77.7 [22.8]	78.1 [22.9]	75.7 [22.2]	72.4 [21.2]
		Sens BTUH [kW]	51.4 [15.1]	44.7 [13.1]	36.3 [10.6]	67.0 [19.6]	59.2 [17.4]	49.3 [14.5]	75.5 [22.1]	67.3 [19.7]	56.8 [16.7]
		Power	4.7	4.7	4.6	4.7	4.6	4.5	4.6	4.5	4.4
	90 [32.2]	Total BTUH [kW]	85.5 [25.1]	82.8 [24.3]	79.2 [23.2]	81.6 [23.9]	79.0 [23.2]	75.6 [22.2]	75.8 [22.2]	73.4 [21.5]	70.2 [20.6]
		Sens BTUH [kW]	50.4 [14.8]	43.8 [12.8]	35.7 [10.5]	66.1 [19.4]	58.4 [17.1]	48.8 [14.3]	74.7 [21.9]	66.5 [19.5]	56.1 [16.5]
		Power	5.1	5.0	4.9	5.0	4.9	4.8	5.0	4.9	4.8
	95 [35]	Total BTUH [kW]	82.7 [24.2]	80.1 [23.5]	76.6 [22.4]	78.8 [23.1]	76.4 [22.4]	73.0 [21.4]	73.0 [21.4]	70.7 [20.7]	67.6 [19.8]
		Sens BTUH [kW]	49.0 [14.4]	42.6 [12.5]	34.7 [10.2]	64.7 [19.0]	57.3 [16.8]	47.8 [14.0]	73.0 [21.4]	65.3 [19.1]	55.2 [16.2]
		Power	5.5	5.4	5.3	5.4	5.3	5.2	5.3	5.3	5.1
	100 [37.8]	Total BTUH [kW]	79.6 [23.3]	77.1 [22.6]	73.7 [21.6]	75.7 [22.2]	73.3 [21.5]	70.1 [20.5]	69.9 [20.5]	67.7 [19.8]	64.7 [19.0]
		Sens BTUH [kW]	47.2 [13.8]	41.1 [12.1]	33.4 [9.8]	63.0 [18.5]	55.7 [16.3]	46.6 [13.7]	69.9 [20.5]	63.7 [18.7]	53.8 [15.8]
		Power	5.9	5.8	5.7	5.8	5.7	5.6	5.7	5.7	5.5
	105 [40.6]	Total BTUH [kW]	76.0 [22.3]	73.6 [21.6]	70.3 [20.6]	72.1 [21.1]	69.8 [20.5]	66.7 [19.5]	66.3 [19.4]	64.2 [18.8]	61.4 [18.0]
		Sens BTUH [kW]	44.9 [13.2]	39.0 [11.4]	31.7 [9.3]	60.6 [17.8]	53.6 [15.7]	44.8 [13.1]	66.3 [19.4]	61.7 [18.1]	52.2 [15.3]
		Power	6.3	6.2	6.1	6.2	6.1	6.0	6.2	6.1	5.9
	110 [43.3]	Total BTUH [kW]	71.9 [21.1]	69.7 [20.4]	66.6 [19.5]	68.1 [20.0]	65.9 [19.3]	63.0 [18.5]	62.3 [18.3]	60.3 [17.7]	57.6 [16.9]
		Sens BTUH [kW]	42.0 [12.3]	36.6 [10.7]	29.7 [8.7]	57.8 [16.9]	51.1 [15.0]	42.8 [12.6]	62.3 [18.3]	59.2 [17.4]	50.1 [14.7]
		Power	6.8	6.6	6.5	6.7	6.6	6.4	6.6	6.5	6.4
	115 [46.1]	Total BTUH [kW]	67.5 [19.8]	65.4 [19.2]	62.5 [18.3]	63.6 [18.6]	61.6 [18.1]	58.9 [17.3]	57.8 [16.9]	56.0 [16.4]	53.5 [15.7]
		Sens BTUH [kW]	38.8 [11.4]	33.7 [9.9]	27.3 [8.0]	54.5 [16.0]	48.3 [14.2]	40.4 [11.9]	57.8 [16.9]	56.0 [16.4]	47.8 [14.0]
		Power	7.2	7.1	7.0	7.2	7.0	6.9	7.1	7.0	6.8

GROSS SYSTEMS PERFORMANCE DATA—085

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			3600 [1699]	3000 [1416]	2400 [1133]	3600 [1699]	3000 [1416]	2400 [1133]	3600 [1699]	3000 [1416]	2400 [1133]
DR ①			.05	.08	.11	.05	.08	.11	.05	.08	.11
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	105.4 [30.9]	101.7 [29.8]	98.0 [28.7]	99.6 [29.2]	96.1 [28.2]	92.7 [27.2]	98.5 [28.9]	95.0 [27.8]	91.6 [26.8]
		Sens BTUH [kW]	86.0 [25.2]	75.0 [22.0]	64.6 [18.9]	97.3 [28.5]	85.5 [25.1]	74.4 [21.8]	98.5 [28.9]	95.0 [27.9]	84.2 [24.7]
		Power	5.6	5.5	5.5	5.6	5.5	5.4	5.5	5.4	5.3
	80 [26.7]	Total BTUH [kW]	103.7 [30.4]	100.1 [29.3]	96.5 [28.3]	98.0 [28.7]	94.6 [27.7]	91.1 [26.7]	96.8 [28.4]	93.4 [27.4]	90.0 [26.4]
		Sens BTUH [kW]	80.6 [23.6]	70.1 [20.6]	60.3 [17.7]	91.9 [26.9]	80.7 [23.7]	70.0 [20.5]	96.8 [28.4]	91.4 [26.8]	79.8 [23.4]
		Power	5.9	5.8	5.7	5.8	5.7	5.6	5.8	5.7	5.6
	85 [29.4]	Total BTUH [kW]	101.8 [29.8]	98.2 [28.8]	94.7 [27.8]	96.1 [28.2]	92.7 [27.2]	89.3 [26.2]	94.9 [27.8]	91.6 [26.8]	88.2 [25.8]
		Sens BTUH [kW]	75.8 [22.2]	65.7 [19.3]	56.4 [16.5]	87.1 [25.5]	76.3 [22.4]	66.1 [19.4]	94.9 [27.8]	87.1 [25.5]	75.9 [22.3]
		Power	6.2	6.1	6.0	6.1	6.0	5.9	6.0	5.9	5.8
	90 [32.2]	Total BTUH [kW]	99.6 [29.2]	96.1 [28.2]	92.6 [27.1]	93.8 [27.5]	90.6 [26.6]	87.3 [25.6]	92.7 [27.2]	89.4 [26.2]	86.2 [25.3]
		Sens BTUH [kW]	71.5 [21.0]	61.9 [18.2]	52.9 [15.5]	82.8 [24.3]	72.5 [21.3]	62.7 [18.4]	92.7 [27.2]	83.3 [24.4]	72.6 [21.3]
		Power	6.5	6.4	6.2	6.4	6.3	6.2	6.3	6.2	6.1
	95 [35]	Total BTUH [kW]	97.1 [28.5]	93.7 [27.5]	90.3 [26.5]	91.4 [26.8]	88.1 [25.8]	84.9 [24.9]	90.2 [26.4]	87.0 [25.5]	83.9 [24.6]
		Sens BTUH [kW]	67.9 [19.9]	58.7 [17.2]	50.1 [14.7]	79.3 [23.3]	69.2 [20.3]	59.8 [17.5]	90.2 [26.4]	80.0 [23.5]	69.7 [20.4]
		Power	6.8	6.7	6.6	6.7	6.6	6.5	6.7	6.5	6.4
	100 [37.8]	Total BTUH [kW]	94.3 [27.6]	91.0 [26.7]	87.7 [25.7]	88.6 [26.0]	85.5 [25.1]	82.4 [24.1]	87.4 [25.6]	84.4 [24.7]	81.3 [23.8]
		Sens BTUH [kW]	64.7 [19.0]	55.9 [16.4]	47.7 [14.0]	76.2 [22.3]	66.6 [19.5]	57.6 [16.9]	87.4 [25.6]	77.4 [22.7]	67.4 [19.8]
		Power	7.1	7.0	6.9	7.1	6.9	6.8	7.0	6.9	6.8
	105 [40.6]	Total BTUH [kW]	91.3 [26.8]	88.1 [25.8]	84.9 [24.9]	85.5 [25.1]	82.5 [24.2]	79.5 [23.3]	84.4 [24.7]	81.4 [23.9]	78.5 [23.0]
		Sens BTUH [kW]	62.4 [18.3]	53.9 [15.8]	46.0 [13.5]	73.7 [21.6]	64.4 [18.9]	55.7 [16.3]	84.4 [24.7]	75.2 [22.0]	65.6 [19.2]
		Power	7.5	7.4	7.2	7.4	7.3	7.2	7.4	7.2	7.1
	110 [43.3]	Total BTUH [kW]	87.9 [25.8]	84.9 [24.9]	81.8 [24.0]	82.2 [24.1]	79.3 [23.2]	76.4 [22.4]	81.1 [23.8]	78.2 [22.9]	75.4 [22.1]
		Sens BTUH [kW]	60.5 [17.7]	52.3 [15.3]	44.6 [13.1]	71.9 [21.1]	62.9 [18.4]	54.4 [16.0]	81.1 [23.8]	73.7 [21.6]	64.3 [18.9]
		Power	7.9	7.7	7.6	7.8	7.7	7.5	7.7	7.6	7.5
	115 [46.1]	Total BTUH [kW]	84.3 [24.7]	81.4 [23.9]	78.4 [23.0]	78.6 [23.0]	75.8 [22.2]	73.1 [21.4]	77.4 [22.7]	74.7 [21.9]	72.0 [21.1]
		Sens BTUH [kW]	59.3 [17.4]	51.3 [15.0]	43.8 [12.8]	70.6 [20.7]	61.8 [18.1]	53.6 [15.7]	77.4 [22.7]	72.6 [21.3]	63.4 [18.6]
		Power	8.3	8.1	8.0	8.2	8.1	7.9	8.1	8.0	7.9

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

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power—KW input

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

[ ] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA—090

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]	3600 [1699]	2775 [1310]	2400 [1133]
DR ①			.06	.13	.17	.06	.13	.17	.06	.13	.17
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	111.2 [32.6]	105.5 [30.9]	102.9 [30.2]	107.2 [31.4]	101.7 [29.8]	99.2 [29.1]	101.3 [29.7]	96.1 [28.2]	93.8 [27.5]
		Sens BTUH [kW]	68.2 [20.0]	54.2 [15.9]	48.3 [14.2]	84.6 [24.8]	68.8 [20.2]	62.1 [18.2]	93.5 [27.4]	76.9 [22.5]	69.9 [20.5]
		Power	5.8	5.6	5.6	5.7	5.6	5.5	5.7	5.5	5.4
	80 [26.7]	Total BTUH [kW]	109.7 [32.1]	104.0 [30.5]	101.5 [29.7]	105.7 [31.0]	100.3 [29.4]	97.8 [28.7]	99.8 [29.2]	94.7 [27.8]	92.3 [27.1]
		Sens BTUH [kW]	68.3 [20.0]	54.3 [15.9]	48.5 [14.2]	84.6 [24.8]	68.9 [20.2]	62.2 [18.2]	93.5 [27.4]	77.0 [22.6]	69.9 [20.5]
		Power	6.1	6.0	5.9	6.0	5.9	5.8	6.0	5.8	5.8
	85 [29.4]	Total BTUH [kW]	107.7 [31.6]	102.2 [30.0]	99.7 [29.2]	103.7 [30.4]	98.4 [28.8]	96.0 [28.1]	97.8 [28.7]	92.8 [27.2]	90.5 [26.5]
		Sens BTUH [kW]	67.8 [19.9]	54.0 [15.8]	48.3 [14.2]	84.0 [24.6]	68.5 [20.1]	61.9 [18.2]	92.9 [27.2]	76.6 [22.5]	69.6 [20.4]
		Power	6.5	6.3	6.2	6.4	6.2	6.2	6.3	6.2	6.1
	90 [32.2]	Total BTUH [kW]	105.3 [30.9]	99.9 [29.3]	97.5 [28.6]	101.4 [29.7]	96.2 [28.2]	93.8 [27.5]	95.4 [28.0]	90.5 [26.5]	88.3 [25.9]
		Sens BTUH [kW]	66.6 [19.5]	53.1 [15.6]	47.5 [13.9]	83.1 [24.4]	67.8 [19.9]	61.3 [18.0]	91.9 [26.9]	75.8 [22.2]	69.0 [20.2]
		Power	6.8	6.7	6.6	6.8	6.6	6.5	6.7	6.5	6.4
	95 [35]	Total BTUH [kW]	102.5 [30.0]	97.3 [28.5]	94.9 [27.8]	98.5 [28.9]	93.5 [27.4]	91.2 [26.7]	92.6 [27.1]	87.9 [25.8]	85.7 [25.1]
		Sens BTUH [kW]	65.1 [19.1]	52.0 [15.2]	46.5 [13.6]	81.5 [23.9]	66.6 [19.5]	60.2 [17.7]	90.4 [26.5]	74.7 [21.9]	67.9 [19.9]
		Power	7.2	7.0	6.9	7.2	7.0	6.9	7.1	6.9	6.8
	100 [37.8]	Total BTUH [kW]	99.3 [29.1]	94.2 [27.6]	91.9 [26.9]	95.3 [27.9]	90.4 [26.5]	88.2 [25.8]	89.4 [26.2]	84.8 [24.9]	82.7 [24.2]
		Sens BTUH [kW]	63.2 [18.5]	50.4 [14.8]	45.1 [13.2]	79.6 [23.3]	65.0 [19.1]	58.8 [17.2]	88.4 [25.9]	73.0 [21.4]	66.4 [19.5]
		Power	7.6	7.4	7.3	7.6	7.4	7.3	7.5	7.3	7.2
	105 [40.6]	Total BTUH [kW]	95.6 [28.0]	90.7 [26.6]	88.5 [25.9]	91.6 [26.8]	86.9 [25.5]	84.8 [24.9]	85.7 [25.1]	81.3 [23.8]	79.3 [23.2]
		Sens BTUH [kW]	60.6 [17.8]	48.3 [14.2]	43.2 [12.7]	77.0 [22.6]	62.9 [18.4]	57.0 [16.7]	85.7 [25.1]	71.0 [20.8]	64.6 [18.9]
		Power	8.1	7.9	7.8	8.0	7.8	7.7	7.9	7.7	7.6
	110 [43.3]	Total BTUH [kW]	91.5 [26.8]	86.8 [25.4]	84.7 [24.8]	87.5 [25.6]	83.0 [24.3]	81.0 [23.7]	81.6 [23.9]	77.4 [22.7]	75.5 [22.1]
		Sens BTUH [kW]	57.6 [16.9]	45.9 [13.5]	41.0 [12.0]	73.9 [21.7]	60.4 [17.7]	54.7 [16.0]	81.6 [23.9]	68.5 [20.1]	62.4 [18.3]
		Power	8.5	8.3	8.2	8.4	8.2	8.1	8.4	8.2	8.1
	115 [46.1]	Total BTUH [kW]	87.0 [25.5]	82.5 [24.2]	80.5 [23.6]	83.0 [24.3]	78.7 [23.1]	76.8 [22.5]	77.1 [22.6]	73.1 [21.4]	71.3 [20.9]
		Sens BTUH [kW]	54.1 [15.9]	43.0 [12.6]	38.4 [11.3]	70.5 [20.7]	57.6 [16.9]	52.2 [15.3]	77.1 [22.6]	65.7 [19.3]	59.9 [17.6]
		Power	9.0	8.8	8.6	8.9	8.7	8.6	8.8	8.6	8.5

GROSS SYSTEMS PERFORMANCE DATA—102

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			4100 [6035]	3200 [1510]	2700 [1274]	4100 [6035]	3200 [1510]	2700 [1274]	4100 [6035]	3200 [1510]	2700 [1274]
DR ①			0	.05	.08	0	.05	.08	0	.05	.08
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	113.8 [33.4]	108.3 [31.7]	105.2 [30.8]	110.1 [32.3]	104.7 [30.7]	101.7 [29.8]	105.0 [30.8]	99.9 [29.3]	97.0 [28.4]
		Sens BTUH [kW]	69.9 [20.5]	56.3 [16.5]	49.3 [14.5]	91.3 [26.8]	75.3 [22.1]	67.0 [19.6]	103.1 [30.2]	86.0 [25.2]	77.0 [22.6]
		Power	6.4	6.3	6.2	6.3	6.2	6.1	6.2	6.1	6.0
	80 [26.7]	Total BTUH [kW]	113.7 [33.3]	108.2 [31.7]	105.1 [30.8]	110.0 [32.2]	104.6 [30.7]	101.7 [29.8]	104.9 [30.7]	99.8 [29.2]	96.9 [28.4]
		Sens BTUH [kW]	71.7 [21.0]	57.9 [17.0]	50.8 [14.9]	93.1 [27.3]	76.9 [22.5]	68.6 [20.1]	104.9 [30.8]	87.6 [25.7]	78.5 [23.0]
		Power	6.7	6.6	6.5	6.7	6.5	6.4	6.6	6.4	6.3
	85 [29.4]	Total BTUH [kW]	112.9 [33.1]	107.5 [31.5]	104.4 [30.6]	109.2 [32.0]	103.9 [30.5]	101.0 [29.6]	104.1 [30.5]	99.1 [29.0]	96.2 [28.2]
		Sens BTUH [kW]	72.6 [21.3]	58.8 [17.2]	51.6 [15.1]	94.0 [27.6]	77.8 [22.8]	69.4 [20.3]	104.1 [30.5]	88.5 [25.9]	79.4 [23.3]
		Power	7.1	6.9	6.8	7.0	6.8	6.7	6.9	6.7	6.7
	90 [32.2]	Total BTUH [kW]	111.5 [32.7]	106.1 [31.1]	103.1 [30.2]	107.8 [31.6]	102.5 [30.0]	99.6 [29.2]	102.7 [30.1]	97.7 [28.6]	94.9 [27.8]
		Sens BTUH [kW]	72.9 [21.4]	59.0 [17.3]	51.9 [15.2]	94.2 [27.6]	78.0 [22.9]	69.6 [20.4]	102.7 [30.1]	88.7 [26.0]	79.6 [23.3]
		Power	7.4	7.3	7.2	7.4	7.2	7.1	7.3	7.1	7.0
	95 [35]	Total BTUH [kW]	109.4 [32.1]	104.1 [30.5]	101.1 [29.6]	105.7 [31.0]	100.5 [29.5]	97.7 [28.6]	100.6 [29.5]	95.7 [28.0]	93.0 [27.3]
		Sens BTUH [kW]	72.2 [21.2]	58.5 [17.2]	51.5 [15.1]	93.6 [27.4]	77.5 [22.7]	69.3 [20.3]	100.6 [29.5]	88.2 [25.9]	79.3 [23.3]
		Power	7.8	7.6	7.5	7.7	7.6	7.4	7.7	7.5	7.4
	100 [37.8]	Total BTUH [kW]	106.6 [31.2]	101.4 [29.7]	98.6 [28.9]	102.9 [30.2]	97.9 [28.7]	95.1 [27.9]	97.8 [28.7]	93.0 [27.3]	90.4 [26.5]
		Sens BTUH [kW]	70.7 [20.7]	57.3 [16.8]	50.5 [14.8]	92.1 [27.0]	76.4 [22.4]	68.2 [20.0]	97.8 [28.7]	87.0 [25.5]	78.2 [22.9]
		Power	8.2	8.0	7.9	8.1	8.0	7.8	8.1	7.9	7.8
	105 [40.6]	Total BTUH [kW]	103.2 [30.2]	98.1 [28.8]	95.4 [28.0]	99.4 [29.1]	94.6 [27.7]	91.9 [26.9]	94.3 [27.6]	89.8 [26.3]	87.2 [25.6]
		Sens BTUH [kW]	68.4 [20.1]	55.4 [16.2]	48.9 [14.3]	89.7 [26.3]	74.5 [21.8]	66.6 [19.5]	94.3 [27.6]	85.2 [25.0]	76.6 [22.5]
		Power	8.7	8.4	8.3	8.6	8.4	8.2	8.5	8.3	8.2
	110 [43.3]	Total BTUH [kW]	99.0 [29.0]	94.2 [27.6]	91.5 [26.8]	95.3 [27.9]	90.7 [26.6]	88.1 [25.8]	90.2 [26.4]	85.8 [25.1]	83.4 [24.4]
		Sens BTUH [kW]	65.2 [19.1]	52.8 [15.5]	46.4 [13.6]	86.7 [25.4]	72.0 [21.1]	64.3 [18.9]	90.2 [26.4]	82.5 [24.2]	74.3 [21.8]
		Power	9.1	8.9	8.8	9.0	8.8	8.7	8.9	8.7	8.6
	115 [46.1]	Total BTUH [kW]	94.2 [27.6]	89.6 [26.3]	87.1 [25.5]	90.5 [26.5]	86.1 [25.2]	83.7 [24.5]	85.4 [25.0]	81.3 [23.8]	78.9 [23.1]
		Sens BTUH [kW]	61.3 [18.0]	49.6 [14.5]	43.7 [12.8]	82.7 [24.2]	68.7 [20.1]	61.5 [18.0]	85.4 [25.0]	79.4 [23.3]	71.4 [20.9]
		Power	9.6	9.3	9.2	9.5	9.3	9.1	9.4	9.2	9.1

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

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power—KW input

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

[ ] Designates Metric Conversions

GROSS SYSTEMS PERFORMANCE DATA—120

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

GROSS SYSTEMS PERFORMANCE DATA—150

ENTERING INDOOR AIR @ 80°F [26.7°C] ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			5800 [2737]	4400 [2077]	3800 [1793]	5800 [2737]	4400 [2077]	3800 [1793]	5800 [2737]	4400 [2077]	3800 [1793]
DR ①			0	.03	.07	0	.03	.07	0	.03	.07
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW]	187.3 [54.9]	177.0 [51.9]	172.7 [50.6]	175.9 [51.6]	166.3 [48.7]	162.2 [47.5]	169.7 [49.7]	160.5 [47.0]	156.5 [45.9]
		Sens BTUH [kW]	122.1 [35.8]	96.0 [28.1]	85.9 [25.2]	146.7 [43.0]	118.1 [34.6]	106.7 [31.3]	168.8 [49.5]	137.8 [40.4]	125.3 [36.7]
		Power	9.3	9.1	9.0	9.1	8.8	8.7	8.8	8.6	8.5
	80 [26.7]	Total BTUH [kW]	184.7 [54.1]	174.6 [51.2]	170.3 [49.9]	173.4 [50.8]	163.9 [48.0]	159.8 [46.8]	167.2 [49.0]	158.1 [46.3]	154.1 [45.2]
		Sens BTUH [kW]	121.4 [35.6]	95.6 [28.0]	85.5 [25.1]	146.1 [42.8]	117.7 [34.5]	106.4 [31.2]	167.2 [49.0]	137.4 [40.3]	124.9 [36.6]
		Power	9.9	9.6	9.5	9.6	9.4	9.3	9.4	9.1	9.0
	85 [29.4]	Total BTUH [kW]	181.9 [53.3]	172.0 [50.4]	167.7 [49.1]	170.5 [50.0]	161.2 [47.2]	157.2 [46.1]	164.4 [48.2]	155.4 [45.5]	151.5 [44.4]
		Sens BTUH [kW]	120.4 [35.3]	94.9 [27.8]	84.8 [24.9]	145.1 [42.5]	117.0 [34.3]	105.8 [31.0]	164.4 [48.2]	136.6 [40.0]	124.3 [36.4]
		Power	10.5	10.2	10.1	10.3	10.0	9.9	10.0	9.7	9.6
	90 [32.2]	Total BTUH [kW]	178.8 [52.4]	169.0 [49.5]	164.8 [48.3]	167.4 [49.1]	158.3 [46.4]	154.4 [45.3]	161.3 [47.3]	152.5 [44.7]	148.7 [43.6]
		Sens BTUH [kW]	119.0 [34.9]	93.8 [27.5]	83.9 [24.6]	143.7 [42.1]	116.0 [34.0]	105.0 [30.8]	161.3 [47.3]	135.6 [39.8]	123.4 [36.2]
		Power	11.2	10.9	10.8	10.9	10.6	10.5	10.7	10.4	10.3
	95 [35]	Total BTUH [kW]	175.4 [51.4]	165.8 [48.6]	161.7 [47.4]	164.1 [48.1]	155.1 [45.5]	151.2 [44.3]	157.9 [46.3]	149.3 [43.8]	145.6 [42.7]
		Sens BTUH [kW]	117.3 [34.4]	92.5 [27.1]	82.8 [24.3]	142.1 [41.7]	114.7 [33.6]	103.7 [30.4]	157.9 [46.3]	134.3 [39.4]	122.3 [35.9]
		Power	11.9	11.6	11.4	11.6	11.3	11.2	11.4	11.1	10.9
	100 [37.8]	Total BTUH [kW]	171.8 [50.3]	162.4 [47.6]	158.4 [46.4]	160.4 [47.0]	151.6 [44.4]	147.9 [43.3]	154.2 [45.2]	145.8 [42.7]	142.2 [41.7]
		Sens BTUH [kW]	115.3 [33.8]	91.0 [26.7]	81.5 [23.9]	140.0 [41.0]	113.1 [33.2]	102.4 [30.0]	154.2 [45.2]	132.7 [38.9]	120.9 [35.4]
		Power	12.6	12.3	12.1	12.4	12.0	11.9	12.1	11.8	11.6
	105 [40.6]	Total BTUH [kW]	167.8 [49.2]	158.7 [46.5]	154.7 [45.3]	156.5 [45.9]	147.9 [43.3]	144.2 [42.3]	150.3 [44.0]	142.1 [41.6]	138.6 [40.6]
		Sens BTUH [kW]	112.9 [33.1]	89.2 [26.2]	79.8 [23.4]	137.6 [40.3]	111.2 [32.6]	100.7 [29.5]	150.3 [44.1]	130.9 [38.4]	119.3 [35.0]
		Power	13.4	13.0	12.9	13.1	12.8	12.6	12.9	12.5	12.4
	110 [43.3]	Total BTUH [kW]	163.6 [47.9]	154.7 [45.3]	150.9 [44.2]	152.2 [44.6]	143.9 [42.2]	140.4 [41.1]	146.1 [42.8]	138.1 [40.5]	134.7 [39.5]
		Sens BTUH [kW]	110.1 [32.3]	87.0 [25.5]	77.9 [22.8]	134.8 [39.5]	109.1 [32.0]	98.9 [29.0]	146.1 [42.8]	128.7 [37.7]	117.3 [34.4]
		Power	14.2	13.8	13.7	14.0	13.6	13.4	13.7	13.3	13.2
	115 [46.1]	Total BTUH [kW]	159.1 [46.6]	150.4 [44.1]	146.7 [43.0]	147.8 [43.3]	139.7 [40.9]	136.2 [39.9]	141.6 [41.5]	133.9 [39.2]	130.5 [38.2]
		Sens BTUH [kW]	107.0 [31.4]	84.5 [24.8]	75.7 [22.2]	131.8 [38.6]	106.7 [31.3]	96.6 [28.3]	141.6 [41.5]	126.3 [37.0]	115.1 [33.7]
		Power	15.1	14.7	14.5	14.8	14.4	14.2	14.5	14.1	14.0

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

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power—KW input

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

[ ] Designates Metric Conversions

AIRFLOW PERFORMANCE—6 TON [21.1 kW]

Air Flow CFM [L/s]	Model TZCGE 072 Voltage 208/230, 460, 575 — 3 phase External Static Pressure—Inches of Water [kPa]																											
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
1800 [849]	—	—	—	—	—	—	—	—	835	631	880	686	924	740	965	794	1005	847	1043	898	1079	949	1113	999	1146	1048	1177	1096	1206	1144
1900 [897]	—	—	—	—	—	—	808	622	854	681	899	739	941	795	982	851	1021	906	1058	960	1093	1013	1127	1065	1159	1117	1189	1167	1217	1217
2000 [944]	—	—	—	—	—	—	828	673	874	734	918	794	959	853	999	911	1037	968	1074	1025	1108	1080	1141	1135	1172	1189	1201	1242	1228	1293
2100 [991]	—	—	—	—	803	663	850	727	894	790	937	853	978	914	1017	974	1055	1034	1090	1093	1124	1151	1156	1208	1186	1264	1214	1319	1241	1373
2200 [1038]	—	—	—	—	826	718	871	784	915	850	957	914	997	978	1036	1041	1072	1103	1107	1164	1140	1224	1171	1283	1201	1342	1228	1399	1254	1456
2300 [1085]	—	—	802	706	849	775	894	844	937	912	978	979	1017	1045	1055	1110	1091	1174	1125	1238	1157	1300	1187	1362	1216	1423	1242	1482	1267	1541
2400 [1133]	—	—	826	764	872	836	916	907	959	977	999	1047	1038	1115	1075	1183	1110	1249	1143	1315	1174	1380	1204	1444	1231	1507	1257	1569	1282	1630
2500 [1180]	805	751	852	826	897	900	940	973	981	1046	1021	1118	1059	1188	1095	1258	1129	1327	1162	1395	1192	1462	1221	1529	1248	1594	1273	1658	—	—
2600 [1227]	831	813	877	890	922	967	964	1043	1005	1118	1044	1191	1081	1265	1116	1337	1149	1408	1181	1478	1211	1548	1239	1616	1265	1684	—	—	—	—
2700 [1274]	858	878	904	958	947	1037	989	1115	1029	1192	1067	1268	1103	1344	1137	1418	1170	1492	1201	1565	1230	1637	1257	1708	1282	1778	—	—	—	—
2800 [1321]	886	947	931	1029	973	1110	1014	1190	1053	1270	1091	1349	1126	1426	1160	1503	1191	1579	1221	1654	1250	1728	1276	1802	—	—	—	—	—	—

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

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

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

AIRFLOW CORRECTION FACTORS 6 TON [21.1 kW]

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 6 TON [21.1 kW]

Component	Standard Indoor Airflow—CFM [L/s]					
	1800 [849]	**2000 [944]**	**2200 [1038]**	**2400 [1133]**	**2600 [1227]**	**2800 [1321]**
	Resistance—Inches Water [kPa]					
Wet Coil	0.031 [0.008]	0.036 [0.009]	0.041 [0.01]	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	DNA	DNA	DNA	DNA	0.017 [0.042]	0.02 [0.050]
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA
Economizer 100% R.A. Damper Open	0.02 [0.005]	0.03 [0.007]	0.04 [0.01]	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]
Horizontal Economizer 100% R.A. Damper Open	0.02 [0.005]	0.02 [0.005]	0.03 [0.007]	0.03 [0.007]	0.04 [0.01]	0.04 [0.01]
Horizontal Economizer 100% O.A. Damper Open	0.07 [0.017]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]

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

AIRFLOW PERFORMANCE—7.5 TON [26.4 kW] (085 & 090)

Air Flow CFM [L/s]	Capacity 7.5 Ton [26.4 kW]																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
2400 [1133]	—	—	—	—	540	580	582	664	612	729	645	812	711	890	740	952	770	1014	799	1076	828	1138	857	1200	887	1261	929	1538	958	1623	987	1709	1017	1794	1046	1879	1075	1965	1105	2050
2500 [1180]	—	—	—	—	552	633	593	717	624	791	656	878	720	950	749	1012	778	1074	808	1136	837	1198	866	1260	895	1322	936	1602	965	1687	995	1773	1024	1858	1053	1944	1083	2029	1112	2114
2600 [1227]	—	—	—	—	564	687	603	769	635	853	667	945	729	1010	758	1072	787	1134	816	1196	846	1258	875	1320	914	1581	943	1666	972	1751	1002	1837	1031	1922	1061	2008	1090	2093	1119	2178
2700 [1274]	—	—	539	670	577	744	614	828	648	923	680	1017	737	1070	766	1132	796	1194	825	1256	854	1318	883	1380	921	1645	950	1730	980	1816	1009	1901	1038	1986	1068	2072	1097	2157	1127	2243
2800 [1321]	—	—	554	733	590	801	625	887	660	993	708	1069	746	1131	775	1192	804	1254	834	1316	863	1378	892	1440	928	1709	958	1794	987	1880	1016	1965	1046	2050	1075	2136	1104	2221	1134	2307
2900 [1369]	—	—	569	801	604	866	638	956	673	1069	725	1129	755	1191	784	1253	813	1315	842	1376	872	1438	906	1688	936	1773	965	1858	994	1944	1024	2029	1053	2115	1082	2200	1112	2285	1141	2371
3000 [1416]	546	741	854	869	617	931	650	1024	685	1144	734	1189	763	1251	792	1313	822	1375	851	1437	880	1498	913	1752	943	1837	972	1923	1002	2008	1031	2093	1060	2179	1090	2264	1119	2350	1148	2435
3100 [1463]	560	804	598	940	632	1010	664	1107	713	1187	743	1249	772	1311	801	1373	830	1435	860	1497	889	1559	921	1816	950	1901	979	1987	1009	2072	1038	2157	1068	2243	1097	2328	1126	2414	1156	2499
3200 [1510]	576	876	612	1011	646	1089	678	1189	722	1247	751	1309	781	1371	810	1433	839	1495	868	1557	898	1619	928	1880	957	1965	987	2051	1016	2136	1045	2222	1075	2307	1104	2392	1134	2478	1163	2563
3300 [1557]	592	954	628	1096	660	1168	692	1274	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617	906	1859	935	1944	965	2029	994	2115	1023	2200	1053	2286	1082	2371	1111	2456	1141	2542	1170	2627
3400 [1605]	607	1030	643	1180	673	1247	710	1306	739	1368	769	1430	798	1491	827	1553	856	1615	886	1677	913	1923	943	2008	972	2094	1001	2179	1031	2264	1060	2350	1089	2435	1119	2521	1148	2606	1178	2691
3500 [1652]	622	1112	658	1271	689	1344	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737	920	1987	950	2072	979	2158	1009	2243	1038	2328	1067	2414	1097	2499	1126	2585	1155	2670	1185	2756
3600 [1699]	638	1202	672	1361	704	1440	728	1426	757	1488	786	1550	815	1612	844	1674	874	1735	903	1797	928	2051	957	2136	986	2222	1016	2307	1045	2393	1075	2478	1104	2563	1133	2649	1163	2734	1192	2820

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

Drive Package	L						M						N					
Motor H.P. [W]	2.0 [1491.4]						2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK110						BK90						BK65					
Motor Sheave	1VP-44						1VP-44						1VP-44					
Turns Open	1	2	**3**	4	5	6	1	2	**3**	4	5	6	1	2	3	4	5	**6**
RPM	682	650	**620**	587	555	523	869	838	**806**	774	742	710	1157	1106	1056	1005	954	**904**

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

AIRFLOW CORRECTION FACTORS 7.5 TON [26.4 kW] (085 & 090)

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 7.5 TON [26.4 kW]

Component	Standard Indoor Airflow—CFM [L/s]						
	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]
	Resistance—Inches Water [kPa]						
Wet Coil	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	DNA	.017 [0.042]	.020 [0.050]	.025 [0.062]	.031 [0.077]	.037 [0.092]	DNA
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	DNA	DNA	DNA	DNA	.017 [0.042]
Economizer 100% R.A. Damper Open	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]
Horizontal Economizer 100% R.A. Damper Open	0.03 [0.007]	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]
Horizontal Economizer 100% O.A. Damper Open	0.08 [0.020]	0.08 [0.020]	0.08 [0.020]	0.10 [0.024]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]

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

AIRFLOW PERFORMANCE—8.5 TON [29.9 kW] (102)

Air Flow CFM [L/s]	Capacity 8.5 Ton [29.9 kW]																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
2700 [1274]	—	—	—	—	—	—	—	—	—	—	708	1009	737	1070	766	1132	796	1194	825	1256	854	1318	883	1380	921	1645	950	1730	980	1816	1009	1901	1038	1966	1068	2072	1097	2157	1127	2243
2800 [1321]	—	—	—	—	—	—	—	—	—	—	717	1069	748	1131	775	1192	804	1254	834	1316	863	1378	892	1440	928	1709	958	1794	987	1880	1016	1965	1046	2050	1075	2136	1104	2221	1134	2307
2900 [1369]	—	—	—	—	—	—	—	—	—	—	725	1129	755	1191	784	1253	813	1315	842	1376	872	1438	906	1688	936	1773	965	1858	994	1944	1024	2029	1053	2115	1082	2200	1112	2285	1141	2371
3000 [1416]	—	—	—	—	—	—	—	—	705	1127	734	1189	763	1251	792	1313	822	1375	851	1437	880	1498	913	1752	943	1837	972	1923	1002	2008	1031	2093	1060	2179	1090	2264	1119	2350	1148	2435
3100 [1463]	—	—	—	—	—	—	—	—	713	1187	743	1249	772	1311	801	1373	830	1435	860	1497	889	1559	921	1816	950	1961	979	987	1009	2072	1038	2157	1068	2243	1097	2328	1126	2414	—	—
3200 [1510]	—	—	—	—	—	—	693	1185	722	1247	761	1309	781	1371	810	1433	839	1495	868	1557	898	1619	928	1880	937	1965	987	2051	1018	2136	1045	2222	1075	2307	1104	2392	1134	2478	—	—
3300 [1557]	—	—	—	—	—	—	701	1246	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617	906	1856	935	1944	968	2029	994	2115	1023	2200	1053	2286	1082	2371	1111	2456	1141	2542	—	—
3400 [1605]	—	—	—	—	681	1244	710	1306	739	1368	769	1430	798	1491	827	1553	856	1615	886	1677	913	1923	943	2008	972	2094	1001	2179	1031	2264	1060	2350	1089	2435	1119	2521	1148	2606	—	—
3500 [1652]	—	—	673	1270	690	1304	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737	920	1987	950	2072	979	2158	1009	2243	1038	2328	1067	2414	1097	2499	1126	2585	—	—	—	—
3600 [1699]	—	—	686	1352	698	1364	728	1426	757	1488	786	1550	815	1612	844	1674	874	1735	903	1797	928	2051	957	2136	986	2222	1016	2307	1045	2393	1071	2478	1104	2563	1133	2649	—	—	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2183	1002	2297	1030	2410	1054	2524	1075	2637	1111	2751	1140	2864	—	—	—	—
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1816	851	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416	1043	2529	1062	2643	1082	2756	1119	2870	1147	2983	—	—	—	—
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194	988	2307	1008	2421	1029	2534	1057	2648	1069	2761	1090	2875	1127	2988	—	—	—	—	—	—
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1981	878	2056	935	2085	955	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1135	3107	—	—	—	—	—	—
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658	1056	2772	1084	2885	1084	2999	1105	3112	1144	3226	—	—	—	—	—	—

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

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

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

AIRFLOW CORRECTION FACTORS 8.5 TON [29.9 kW]

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 8.5 TON [29.9 kW]

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

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

AIRFLOW PERFORMANCE—10 TON [35.2 kW]

Air Flow CFM [L/s]	Capacity 10 Ton [35.2 kW]																																										
	External Static Pressure—Inches of Water [kPa]																																												
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]		2.1 [.52]		2.2 [.55]		2.3 [.57]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3200 [1510]	—	—	—	—	—	—	657	1170	715	1245	742	1319	770	1394	797	1468	825	1543	852	1617	880	1692	956	1698	976	1703	996	1817	1017	1930	1037	2044	1057	2157	1077	2271	1098	2384	1118	2498	1138	2611	—	—	—	—
3300 [1557]	—	—	—	—	673	1179	701	1253	728	1328	756	1402	783	1477	811	1551	838	1626	866	1700	943	1705	963	1708	948	1822	976	1935	1024	2049	1044	2162	1065	2276	1085	2390	1105	2503	1125	2617	—	—	—	—	—	—
3400 [1605]	—	—	—	—	687	1261	714	1336	742	1410	769	1485	797	1559	824	1634	852	1708	879	1763	950	1811	971	1827	962	1941	989	2054	1032	2168	1052	2281	1072	2395	1092	2508	1113	2622	—	—	—	—	—	—	—	—
3500 [1652]	—	—	673	1270	700	1344	728	1419	755	1493	783	1588	810	1642	838	1717	865	1791	938	1813	958	1832	978	1946	975	2059	1003	2173	1039	2286	1059	2400	1080	2513	1100	2627	1120	2740	—	—	—	—	—	—	—	—
3600 [1699]	—	—	686	1352	714	1427	741	1501	769	1576	796	1650	824	1725	851	1799	879	1874	945	1892	966	1951	986	2065	989	2178	1016	2292	1047	2405	1067	2519	1087	2632	1108	2746	1128	2859	—	—	—	—	—	—	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2183	1002	2297	1030	2410	1054	2524	1075	2637	1095	2751	1115	2864	1135	2978	—	—	—	—	—	—	—	—
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1818	861	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416	1043	2529	1062	2643	1082	2756	1102	2870	1123	2983	—	—	—	—	—	—	—	—	—	—
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194	988	2307	1008	2421	1029	2534	1057	2648	1069	2761	1090	2875	1110	2988	1130	3102	—	—	—	—	—	—	—	—	—	—
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1961	878	2056	935	2085	955	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1117	3107	1138	3221	—	—	—	—	—	—	—	—	—	—
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658	1056	2772	1084	2885	1084	2999	1105	3112	1125	3226	—	—	—	—	—	—	—	—	—	—	—	—
4200 [1982]	740	1774	767	1849	795	1923	822	1998	850	2072	877	2147	930	2209	950	2323	970	2438	990	2550	1011	2663	1031	2777	1070	2890	1097	3004	1092	3117	1112	3231	1133	3345	—	—	—	—	—	—	—	—	—	—	—	—
4300 [2029]	753	1857	781	1932	808	2006	836	2081	853	2155	917	2215	937	2328	957	2442	978	2555	998	2669	1018	2782	1039	2896	1083	3009	1111	3123	1099	3236	1120	3350	1140	3453	—	—	—	—	—	—	—	—	—	—	—	—
4400 [2077]	767	1940	794	2014	822	2089	849	2163	877	2238	924	2333	945	2447	965	2560	985	2674	1006	2787	1026	2901	1046	3014	1097	3128	1124	3241	1107	3355	1127	3468	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500 [2124]	780	2023	808	2097	835	2172	863	2248	912	2338	932	2452	952	2585	973	2679	993	2793	1013	2906	1033	3020	1054	3133	1110	3247	1138	3360	1115	3474	1135	3587	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600 [2171]	794	2105	821	2180	840	2254	876	2329	919	2457	940	2571	960	2684	980	2798	1000	2911	1021	3025	1041	3138	1061	3252	1124	3365	1151	3479	1122	3592	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700 [2218]	807	2188	835	2263	862	2337	906	2462	927	2576	947	2689	967	2803	988	2916	1008	3030	1028	3143	1048	3257	1069	3371	1137	3484	1165	3598	1130	3711	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800 [2265]	821	2271	848	2345	876	2420	914	2581	934	2695	955	2808	975	2922	995	3035	1015	3149	1036	3262	1056	3376	1076	3489	1151	3603	1178	3716	1137	3830	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

Drive Package	L						M					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	**1**	2	3	4	5	6	1	2	3	4	5	**6**
RPM	**845**	810	775	739	704	669	1138	1089	1041	992	943	**894**

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

AIRFLOW CORRECTION FACTORS 10 TON [35.2 kW]

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 10 TON [35.2 kW]

Component	Standard Indoor Airflow—CFM [L/s]								
	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]
	Resistance—Inches Water [kPa]								
Wet Coil	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]	0.099 [0.025]	0.105 [0.026]	0.110 [0.027]
Concentric Diffuser RXRN-FA65 or FA75 & Transition RXMC-CD04	0.31 [0.077]	0.37 [0.092]	DNA	DNA	DNA	DNA	DNA	DNA	DNA
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	DNA	DNA	0.17 [0.042]	0.18 [0.045]	0.21 [0.052]	0.24 [0.060]	0.27 [0.067]	DNA	DNA
Concentric Diffuser RXRN-AA66 or AA76 & Transition RXMC-CF06	DNA	DNA	DNA	DNA	DNA	DNA	DNA	0.31 [0.077]	0.32 [0.080]
Economizer 100% R.A. Damper Open	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]	0.15 [0.037]	0.16 [0.040]	0.17 [0.042]
Horizontal Economizer 100% R.A. Damper Open	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]	0.09 [0.022]	0.10 [0.024]	0.10 [0.025]
Horizontal Economizer 100% O.A. Damper Open	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.0.36]	0.16 [0.040]	0.18 [0.044]	0.19 [0.047]	0.20 [0.50]	0.21 [0.052]

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

AIRFLOW PERFORMANCE—12.5 TON [44 kW]

Air Flow CFM [L/s]	Model TZCGE-A150 Voltage 208/230, 460, 575 — 3 phase External Static Pressure—Inches of Water [kPa]																																					
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3800 [1793]	—	—	—	—	—	—	—	—	—	—	834	1660	861	1743	888	1826	914	1909	939	1992	965	2075	990	2158	1014	2241	1038	2324	1062	2407	1082	2416	1104	2516	1125	2616	1146	2717	1167	2817
3900 [1840]	—	—	—	—	—	—	—	—	820	1647	847	1734	874	1821	900	1908	926	1995	951	2082	976	2169	1001	2256	1025	2343	1049	2430	1073	2517	1091	2516	1112	2619	1134	2722	1155	2824	1176	2927
4000 [1888]	—	—	—	—	—	—	—	—	833	1726	860	1817	887	1908	913	1999	938	2090	963	2181	988	2272	1013	2363	1037	2454	1060	2545	1079	2519	1100	2624	1122	2729	1143	2834	1164	2939	1184	3044
4100 [1935]	—	—	—	—	—	—	820	1717	847	1812	873	1907	900	2002	925	2097	951	2192	976	2287	1000	2382	1024	2477	1048	2572	1072	2668	1089	2631	1110	2739	1131	2846	1152	2953	1173	3060	1193	3167
4200 [1982]	—	—	—	—	—	—	834	1808	860	1907	887	2006	913	2106	938	2205	963	2304	988	2403	1012	2502	1036	2601	1060	2700	1077	2641	1098	2751	1120	2860	1140	2969	1161	3079	1182	3188	1202	3298
4300 [2029]	—	—	—	—	821	1805	848	1908	874	2011	900	2114	926	2217	951	2320	976	2423	1001	2527	1025	2630	1048	2733	1072	2836	1087	2765	1108	2877	1129	2989	1150	3100	1171	3212	1191	3324	1211	3435
4400 [2076]	—	—	—	—	835	1909	862	2016	888	2123	914	2230	939	2337	964	2445	989	2552	1013	2659	1037	2766	1061	2873	1077	2782	1098	2896	1119	3010	1139	3124	1160	3238	1180	3352	1201	3466	1221	3580
4500 [2123]	—	—	823	1910	850	2021	876	2133	902	2244	928	2355	953	2466	978	2577	1002	2688	1026	2800	1050	2911	1073	3022	1087	2917	1108	3034	1129	3150	1150	3266	1170	3382	1190	3499	1210	3615	1230	3731
4600 [2171]	812	1912	838	2027	865	2142	891	2258	917	2373	942	2488	967	2603	991	2718	1015	2834	1039	2949	1063	3064	1077	2941	1098	3060	1119	3178	1140	3297	1160	3415	1180	3534	1200	3653	1220	3771	1240	3890
4700 [2218]	827	2034	854	2153	880	2272	906	2391	931	2510	956	2630	981	2749	1005	2868	1029	2987	1052	3106	1076	3226	1089	3088	1109	3209	1130	3330	1151	3451	1171	3572	1191	3692	1211	3813	1230	3934	1250	4055
4800 [2265]	842	2163	869	2287	895	2410	920	2533	946	2656	970	2780	995	2903	1019	3026	1043	3149	1066	3273	1079	3119	1100	3243	1121	3366	1141	3489	1162	3612	1182	3735	1202	3858	1221	3981	1241	4104	1260	4227
4900 [2312]	858	2302	884	2429	910	2556	935	2684	960	2811	985	2938	1009	3065	1033	3193	1056	3320	1070	3153	1091	3278	1112	3403	1132	3529	1153	3654	1173	3779	1193	3905	1212	4030	1232	4155	1251	4281	1270	4406
5000 [2359]	874	2449	900	2580	926	2711	951	2843	975	2974	1000	3105	1024	3236	1047	3368	1070	3499	1082	3316	1103	3444	1124	3571	1144	3699	1164	3827	1184	3954	1204	4082	1223	4209	1243	4337	1262	4465	1281	4592
5100 [2407]	890	2604	916	2739	941	2875	966	3010	990	3145	1015	3281	1038	3416	1062	3551	1074	3357	1095	3486	1115	3616	1136	3746	1156	3876	1176	4006	1196	4136	1215	4266	1235	4396	1254	4525	1273	4655	—	—
5200 [2454]	906	2768	932	2907	957	3046	982	3186	1006	3325	1030	3465	1053	3604	1076	3743	1087	3532	1107	3664	1128	3796	1148	3928	1168	4060	1188	4192	1207	4324	1227	4457	1246	4589	1265	4721	1284	4853	—	—
5300 [2501]	923	2940	948	3083	973	3227	997	3370	1021	3514	1045	3657	1068	3800	1079	3579	1100	3713	1120	3848	1140	3982	1160	4117	1180	4251	1200	4385	1219	4520	1239	4654	1258	4789	1276	4923	—	—	—	—
5400 [2548]	939	3121	964	3268	989	3416	1013	3563	1037	3710	1060	3858	1072	3629	1092	3766	1113	3902	1133	4039	1153	4176	1173	4312	1193	4449	1212	4586	1232	4722	1251	4859	1269	4996	—	—	—	—	—	—
5500 [2595]	956	3310	981	3461	1005	3613	1029	3764	1053	3916	1076	4067	1085	3820	1106	3959	1126	4098	1146	4237	1166	4376	1186	4515	1205	4654	1225	4793	1244	4932	—	—	—	—	—	—	—	—	—	—
5600 [2643]	973	3508	998	3663	1022	3819	1045	3974	1068	4130	1079	3877	1099	4018	1120	4159	1140	4301	1160	4442	1179	4583	1199	4724	1218	4866	1237	5007	—	—	—	—	—	—	—	—	—	—	—	—
5700 [2690]	990	3714	1014	3873	1038	4033	1062	4192	1072	3936	1093	4080	1113	4223	1134	4367	1153	4510	1173	4654	1193	4797	1212	4941	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800 [2737]	1007	3928	1031	4092	1055	4255	1078	4419	1087	4144	1107	4290	1128	4435	1148	4581	1167	4727	1187	4873	1206	5018	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

Drive Package	L (B-51)						M (B-58)					
Motor H.P. [W]	3.0 [2237.1]						5.0 [3728.5]					
Blower Sheave	BK72H						BK85H					
Motor Sheave	1VP-44						1VP-65					
Turns Open	1	2	**3**	4	5	6	1	2	3	4	5	6
RPM	1058	1022	**978**	932	861	813	1278	1245	1206	1167	1138	1097

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 ARI minimum E.S.P.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance to duct resistance to determine total E.S.P.

AIRFLOW CORRECTION FACTORS 12.5 [44 kW]

ACTUAL—CFM [L/s]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]	5000 [2360]	5200 [2454]	5400 [2549]	5600 [2643]	5800 [2737]
TOTAL MBH	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04	1.05
SENSIBLE MBH	0.85	0.88	0.91	0.94	0.97	1.00	1.03	1.05	1.07	1.09	1.11
POWER kW	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.01	1.02	1.02	1.03

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 12.5 TON [44 kW]

Component	Standard Indoor Airflow—CFM [L/s]										
	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]
	Resistance—Inches Water [kPa]										
Wet Coil	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]	0.099 [0.025]	0.105 [0.026]	0.110 [0.027]	0.115 [0.029]	0.120 [0.030]	0.125 [0.031]	0.131 [0.033]	0.136 [0.034]
Concentric Diffuser RXRN-AA61 or AA71 & Transition RXMC-CE05	0.18 [0.045]	0.21 [0.052]	0.24 [0.060]	0.27 [0.067]	DNA	DNA	DNA	DNA	DNA	DNA	DNA
Concentric Diffuser RXRN-AA66 or AA76 & Transition RXMC-CF06	DNA	DNA	DNA	DNA	0.31 [0.077]	0.32 [0.080]	0.34 [0.085]	0.36 [0.090]	0.39 [0.097]	DNA	DNA
Economizer 100% R.A. Damper Open	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]	0.15 [0.037]	0.16 [0.040]	0.17 [0.042]	0.18 [0.045]	0.19 [0.047]	0.20 [0.050]	0.21 [0.052]	0.22 [0.055]
Horizontal Economizer 100% R.A. Damper Open	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]	0.09 [0.022]	0.10 [0.024]	0.10 [0.025]	0.10 [0.024]	0.09 [0.022]	0.10 [0.025]	0.12 [0.030]	0.14 [0.035]
Horizontal Economizer 100% O.A. Damper Open	0.15 [0.036]	0.16 [0.040]	0.18 [0.44]	0.19 [0.047]	0.20 [0.050]	0.21 [0.052]	0.21 [0.052]	0.21 [0.052]	0.22 [0.055]	0.23 [0.057]	0.24 [0.060]

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

ELECTRICAL DATA—TZCGE- SERIES

ELECTRICAL DATA – TZCGE SERIES (REV. 11/07/2008)							
		072CLB	072CLB	085CLB	085DLB	090CLB	090DLB
Unit Information	Unit Operating Voltage Range	187-253	414-506	187-253	414-506	187-253	414-506
	Volts	208/230	460	208/230	460	208/230	460
	Minimum Circuit Ampacity	37/37	18	42/42	21	43/43	21
	Minimum Overcurrent Protection Device Size	40/40	20	45/45	25	45/45	25
	Maximum Overcurrent Protection Device Size	50/50	25	60/60	30	50/50	25
Compressor Motor	No.	1	1	1	1	2	2
	Volts	200/240	480	200/240	480	200/240	480
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	5	5	6	6	3 1/4	3 1/4
	Amps (RLA), Comp. 1	20.5/20.5	9.6	23.2/23.2	11.2	13.1/13.1	6.1
	Amps (LRA), Comp. 1	155/155	75	164/164	75	83.1/83.1	41
	HP, Compressor 2	—	—	—	—	3 1/4	3 1/4
	Amps (RLA), Comp. 2	—	—	—	—	13.1/13.1	6.1
	Amps (LRA), Comp. 2	—	—	—	—	83.1/83.1	41
Condenser Motor	No.	2	2	2	2	2	2
	Volts	208/230	460	208/230	460	208/230	460
	Phase	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	1.2/1.2	0.7	1.2/1.2	0.7	1.2/1.2	0.7
	Amps (LRA, each)	4.7/4.7	2.4	4.7/4.7	2.4	4.7/4.7	2.4
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460
	Phase	3	3	3	3	3	3
	HP	1 1/2	1 1/2	2	2	2	2
	Amps (FLA, each)	5.6/5.6	2.8	8/8	4	8/8	4
	Amps (LRA, each)	28.8/28.8	14.4	56/56	28	56/56	28

ELECTRICAL DATA – TZCGE SERIES (REV. 11/07/2008)							
		102CLB	102DLB	120CLB	120DLB	150CLB	150DLB
Unit Information	Unit Operating Voltage Range	187-253	414-506	187-253	414-506	187-253	414-506
	Volts	208/230	460	208/230	460	208/230	460
	Minimum Circuit Ampacity	54/54	26	54/54	28	71/71	36
	Minimum Overcurrent Protection Device Size	55/55	30	55/55	30	75/75	40
	Maximum Overcurrent Protection Device Size	60/60	30	60/60	35	90/90	45
Compressor Motor	No.	2	2	2	2	2	2
	Volts	200/230	460	200/240	480	208/230	460
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	3 3/4	3 3/4	4 1/4	4 1/4	5 3/4	5 3/4
	Amps (RLA), Comp. 1	16/16	7.1	16/16	9.8	22.4/22.4	11.8
	Amps (LRA), Comp. 1	91/91	46	110/110	52	149/149	75
	HP, Compressor 2	3 3/4	3 3/4	4 1/4	4 1/4	5 1/4	5 1/4
	Amps (RLA), Comp. 2	16/16	7.1	16/16	9.8	19/19	9.7
	Amps (LRA), Comp. 2	91/91	46	110/110	52	123/123	62
Condenser Motor	No.	2	2	2	2	2	2
	Volts	208/230	460	208/230	460	208/230	460
	Phase	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/2	1/2
	Amps (FLA, each)	1.2/1.2	0.7	1.2/1.2	0.7	1.15/1.15	0.75
	Amps (LRA, each)	4.7/4.7	2.4	4.7/4.7	2.4	5.6/5.6	3.1
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460
	Phase	3	3	3	3	3	3
	HP	3	3	3	3	5	5
	Amps (FLA, each)	10/10	7	13/13	7	18.8/18.8	10
	Amps (LRA, each)	74.5/74.5	38.1	74.5/74.5	38.1	82.6/82.6	41.3

GAS HEAT / ELECTRIC COOLING PACKAGE

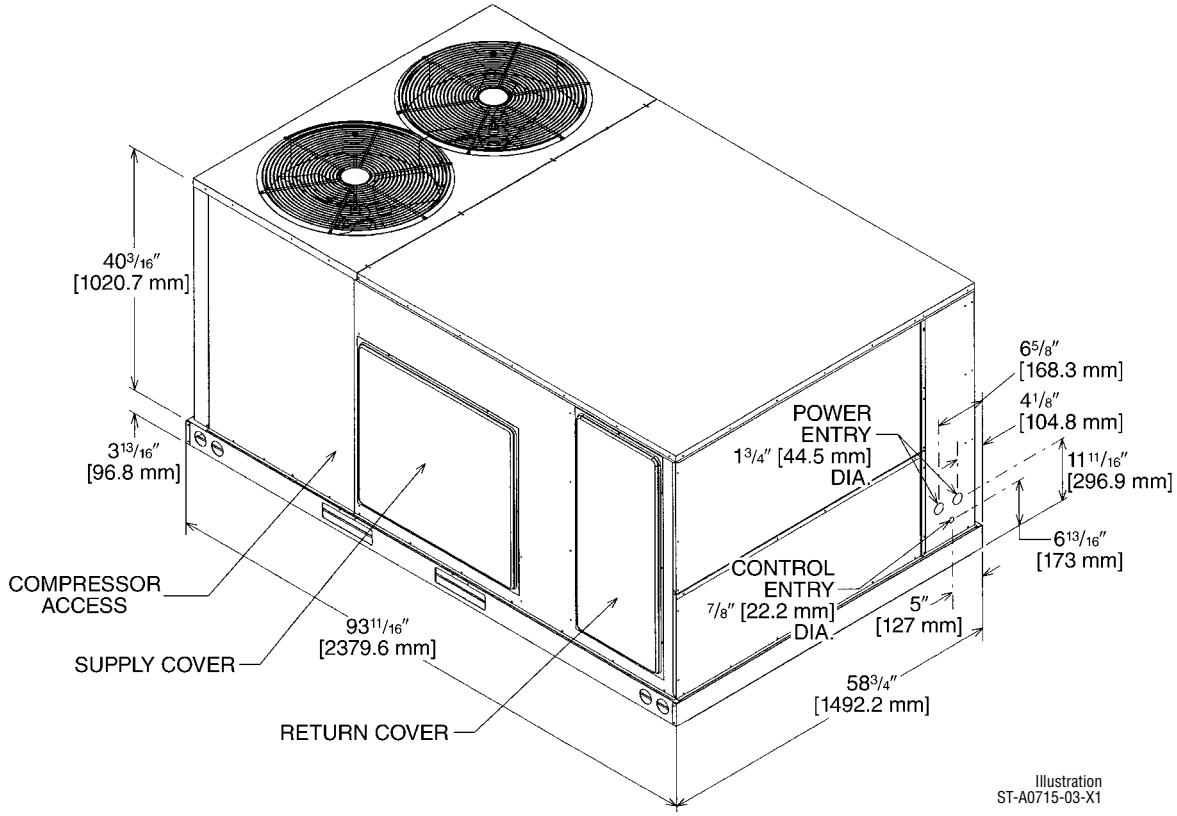


Illustration ST-A0715-03-X1

BOTTOM VIEW

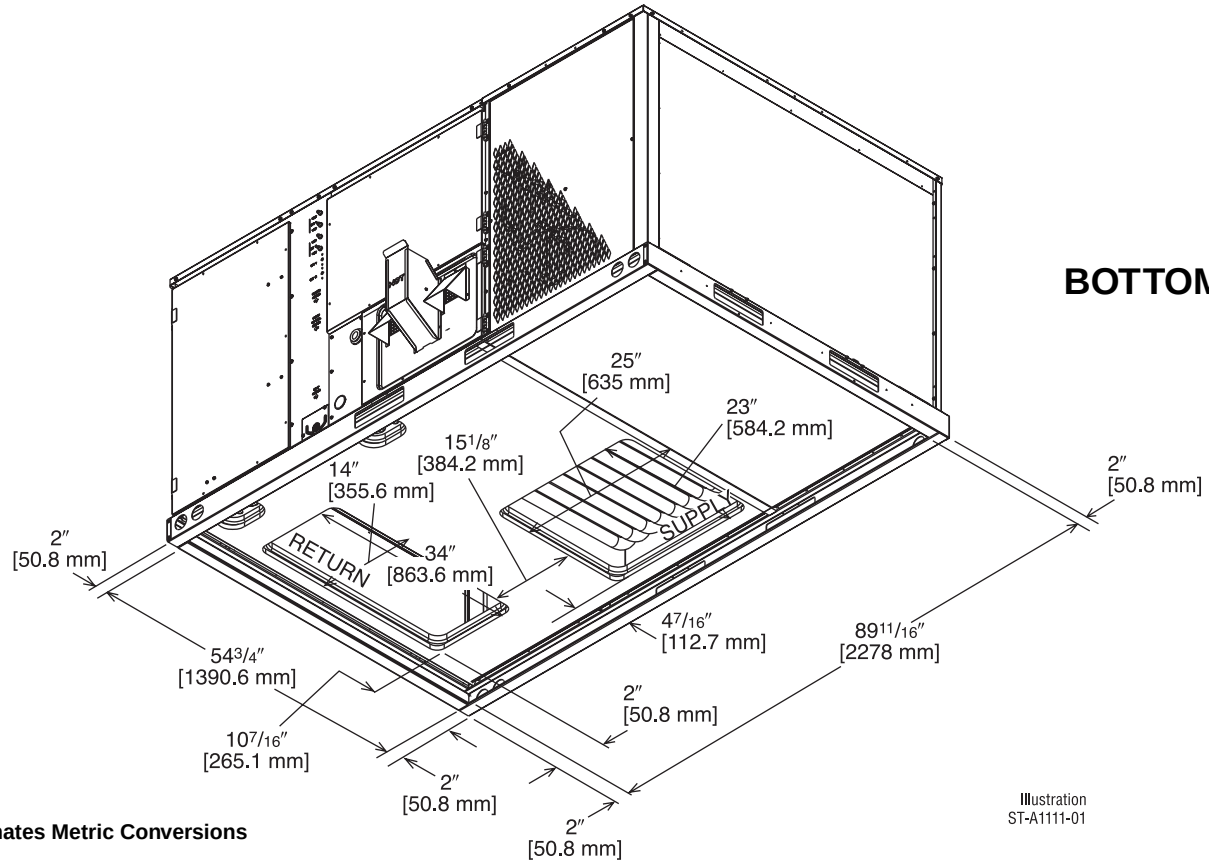


Illustration ST-A1111-01

[ ] Designates Metric Conversions

GAS HEAT / ELECTRIC COOLING PACKAGE

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATIONS

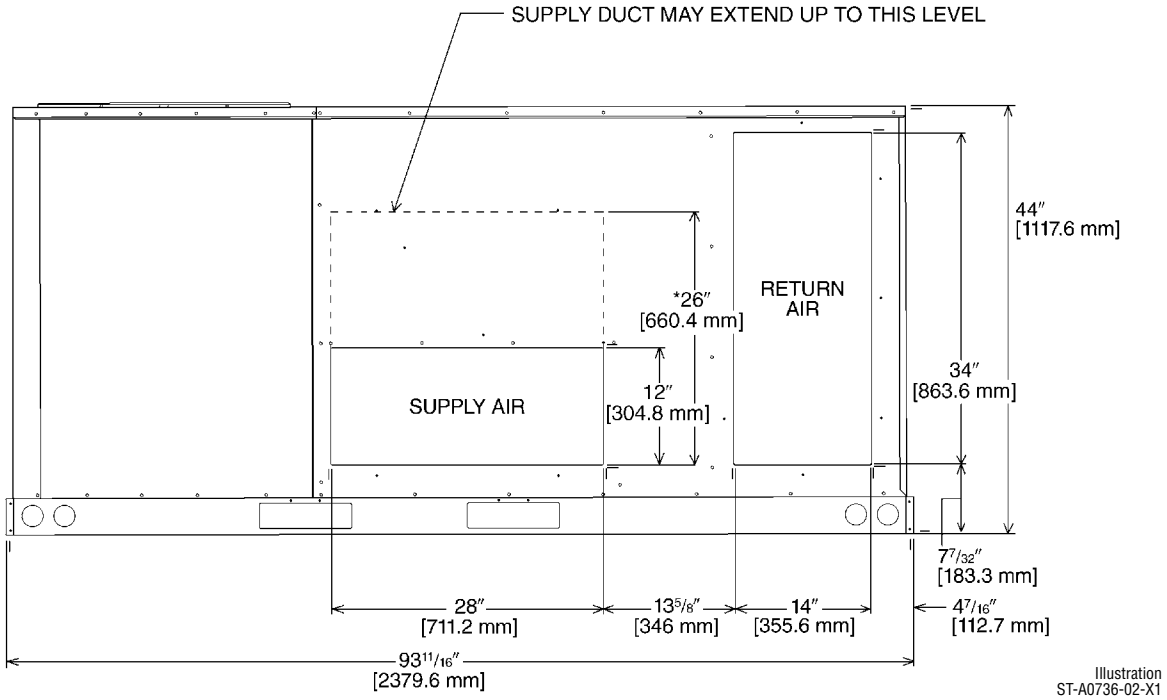


Illustration ST-A0736-02-X1

***RECOMMENDED DUCT DIMENSIONS ARE 26"**

SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS

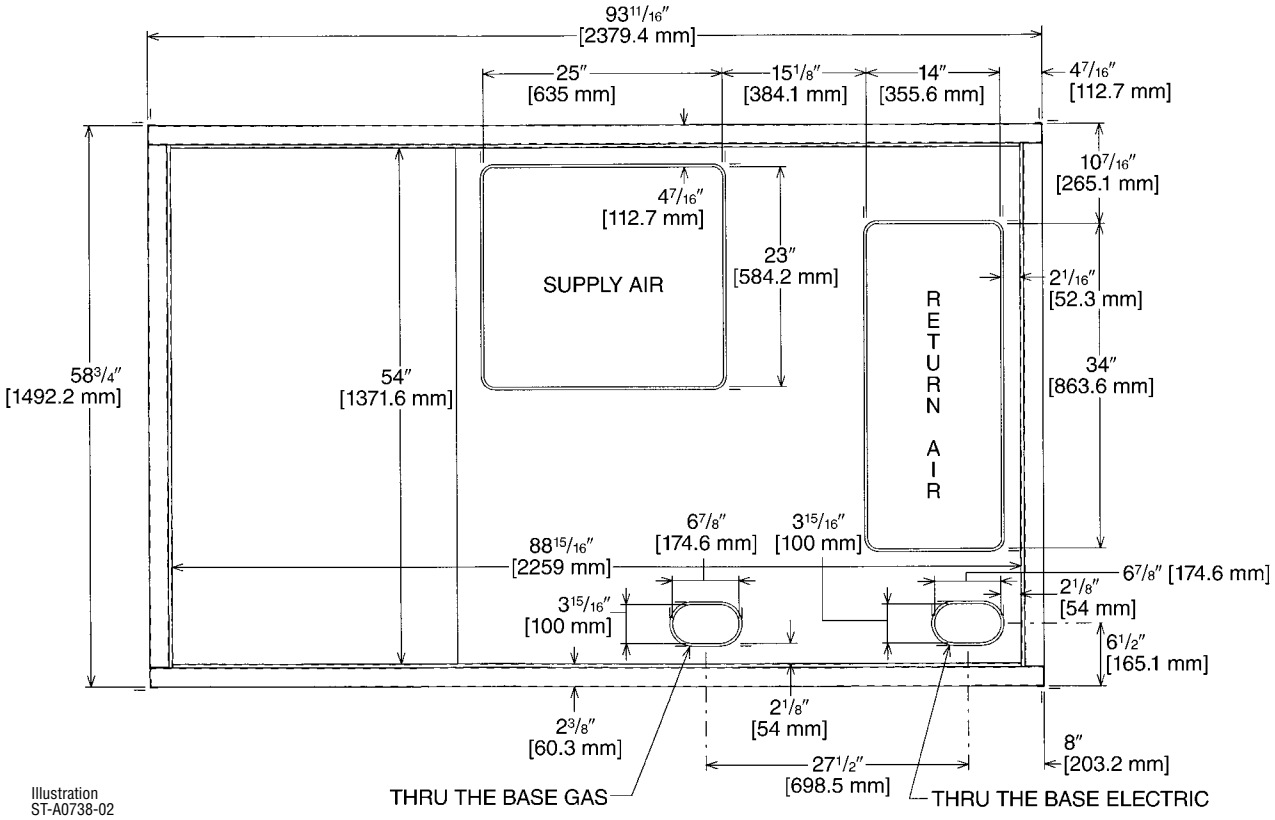


Illustration ST-A0738-02

[ ] Designates Metric Conversions

GAS HEAT / ELECTRIC COOLING PACKAGE

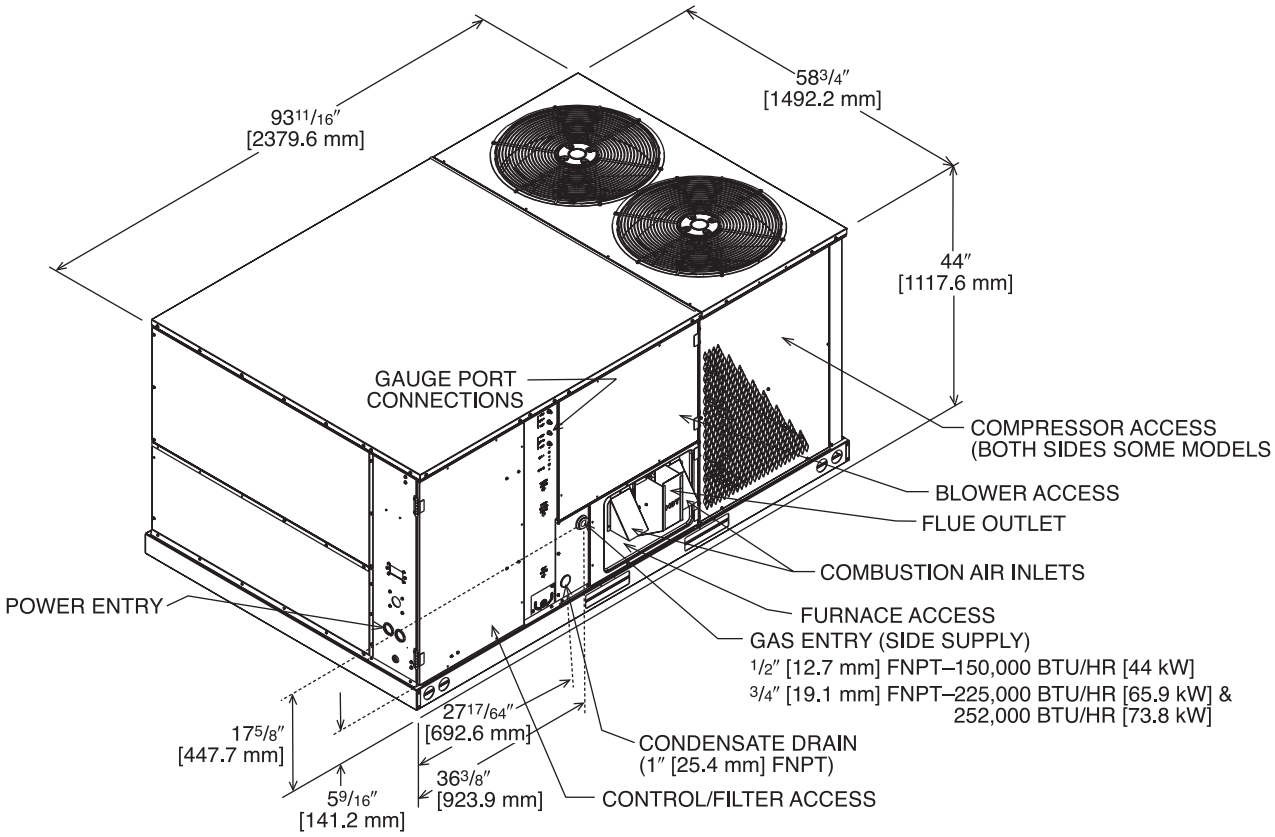


Illustration
ST-A1111-03

[ ] Designates Metric Conversions

WEIGHTS

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

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

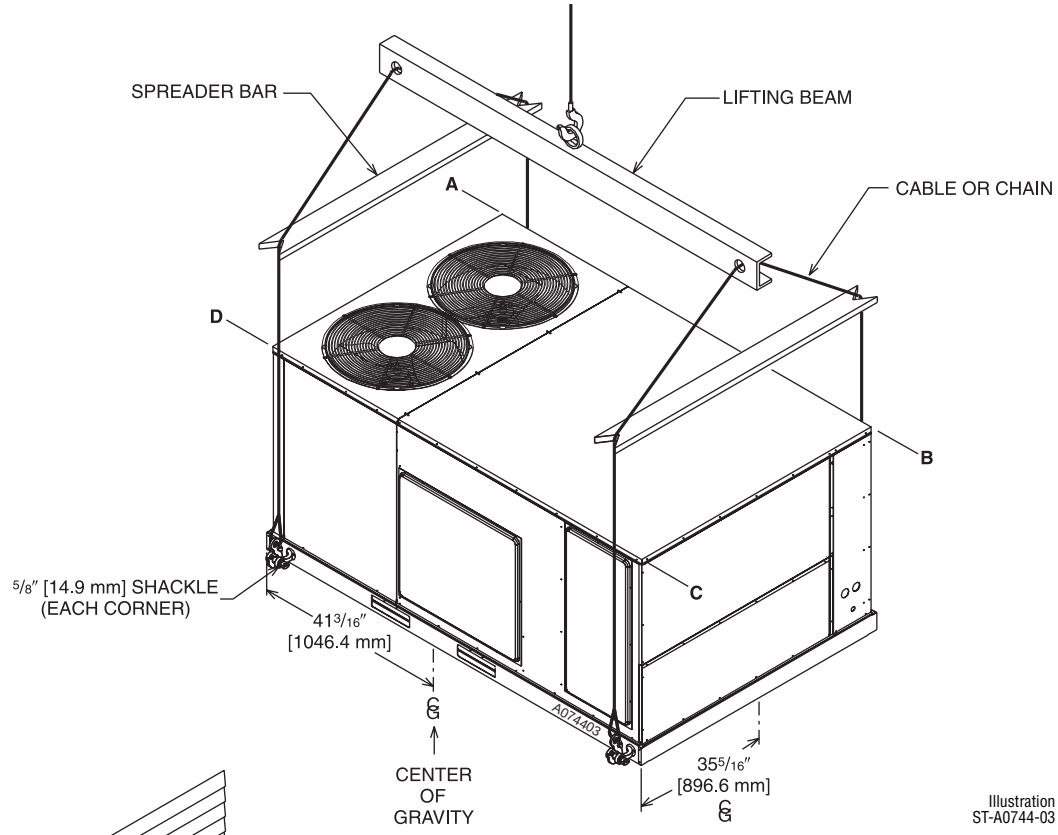
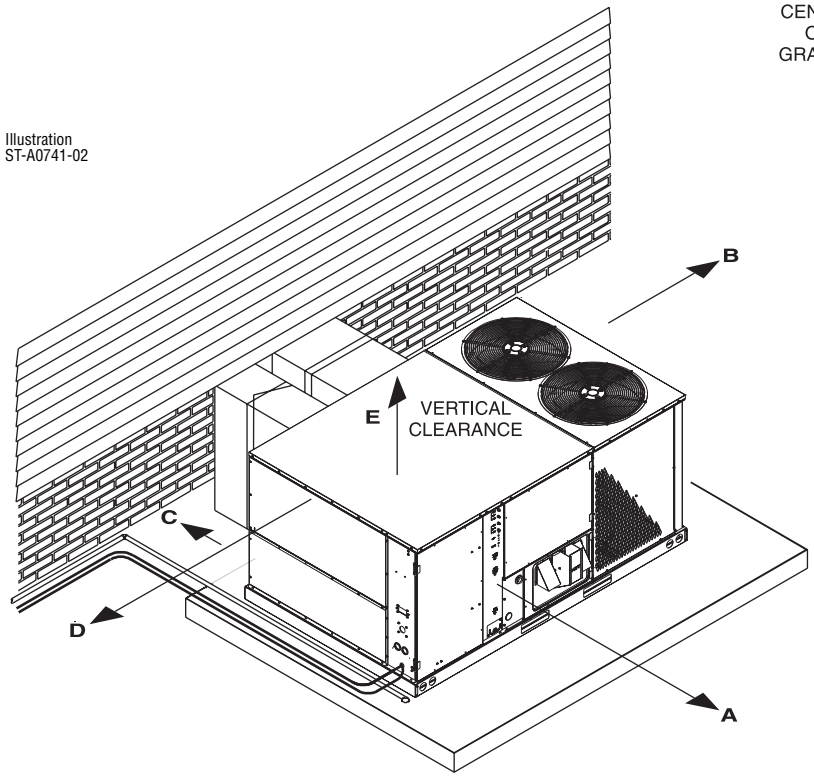


Illustration
ST-A0744-03

Illustration
ST-A0741-02



CLEARANCES

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

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

[ ] Designates Metric Conversions

FIELD INSTALLED ACCESSORY EQUIPMENT

Accessory	Model Number	Shipping Weight Lbs. [kg]	Installed Weight Lbs. [kg]	Factory Installation Available?
Economizer w/Single Enthalpy (Downflow)	RXRD-PDCM3	90 [40.8]	81 [36.7]	Yes
Economizer w/Single Enthalpy and Smoke Detector (Downflow)	RXRD-SDCM3	91 [41.3]	82 [37.2]	Yes
Dual Enthalpy Kit	RXRX-AV02	1 [.5]	1 [.5]	No
Horizontal Economizer w/Single Enthalpy	RXRD-RDCM3	94 [42.6]	89 [40.4]	No
Carbon Dioxide Sensor (Wall Mount)	RXRX-AR02	3 [1.4]	2 [1.0]	No
Power Exhaust	RXRX-BFF02 (C,D,Y)	43 [19.5]	38 [17.2]	No
Manual Fresh Air Damper (Horizontal Return Mounted)	RXRF-JDA1	26 [11.8]	21 [9.5]	No
Manual Fresh Air Damper (Left Panel Mounted)	RXRF-KDA1	38 [17.2]	31 [14.1]	No
Motor Kit for RXRF-KDA1 (Left Panel Mounted)	RXRX-AW02	35 [15.9]	27 [12.2]	No
Motorized Fresh Air Damper (Horizontal Return Mounted)	RXRF-JDB1	43 [19.5]	38 [17.2]	No
Roofcurb, 14"	RXKG-CAE14	90 [40.8]	85 [38.5]	No
Roofcurb, 24"	RXKG-CAE24	140 [63.5]	135 [61.2]	No
Roofcurb Adapters (See Chart on Page 39 for Application)	RXRX-CDCE50	300 [136.1]	290 [131.5]	No
	RXRX-CFCE54	325 [147.4]	315 [142.9]	No
	RXRX-CFCE56	350 [158.8]	340 [154.2]	No
	RXRX-CGCC12	450 [204.1]	410 [186.0]	No
Concentric Diffuser (Step-Down, 20" Round)	RXRN-FA65	139 [63.0]	60 [27.2]	No
Concentric Diffuser (Step-Down, 18 x 28)	RXRN-AA61	200 [90.7]	185 [83.9]	No
Concentric Diffuser (Step-Down, 18 x 32)	RXRN-AA66	247 [112.0]	227 [103.0]	No
Concentric Diffuser (Flush, 20" Round)	RXRN-FA75	54 [24.4]	42 [19.0]	No
Concentric Diffuser (Flush, 18 x 28)	RXRN-AA71	170 [77.1]	155 [70.3]	No
Concentric Diffuser (Flush, 18 x 32)	RXRN-AA76	176 [79.8]	161 [73.0]	No
Downflow Transition (Rect. to 20" Round)	RXMC-CD04 ①	15 [6.8]	13 [5.9]	No
Downflow Transition (Rect. to Rect., 18 x 28)	RXMC-CE05 ②	18 [8.2]	16 [7.3]	No
Downflow Transition (Rect. to Rect., 18 x 32)	RXMC-CF06 ③	20 [9.1]	18 [8.2]	No
Compressor Time-Delay Relay Kit	RXMD-A04	2 [1.0]	1 [.5]	No
Low-Ambient Control Kit (1 Per Compressor)	RXRZ-C02	3 [1.4]	2 [1.0]	Yes
Freeze-Stat Kit	RXRX-AM01	1 [.5]	0.5 [.2]	Yes
Outdoor Coil Louver Kit	RXRX-AAD01C (6-10 Ton)	29 [11.3]	26 [11.8]	Yes
Unwired Convenience Outlet	RXRX-AN01	2 [1.0]	1.5 [.7]	Yes
Unfused Service Disconnect	RXRX-AP01	10 [4.5]	9 [4.1]	Yes

NOTES: ① Used with RXRN-FA65 and RXRN-FA75 concentric diffusers.
② Used with RXRN-AA61 and RXRN-AA71 concentric diffusers.
③ Used with RXRN-AA66 and RXRN-AA76 concentric diffusers.
NOTICE: Please refer to conversion kit index provided with the unit for LP conversion kit.

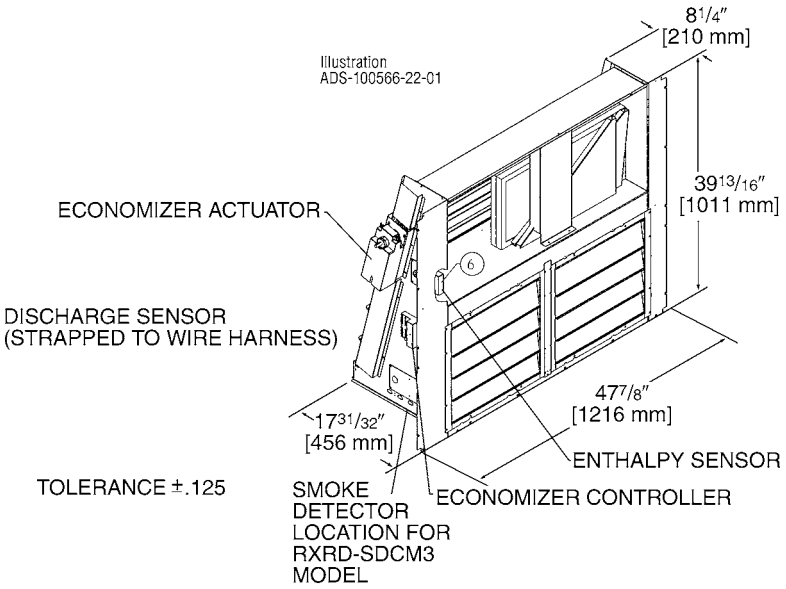
[ ] Designates Metric Conversions

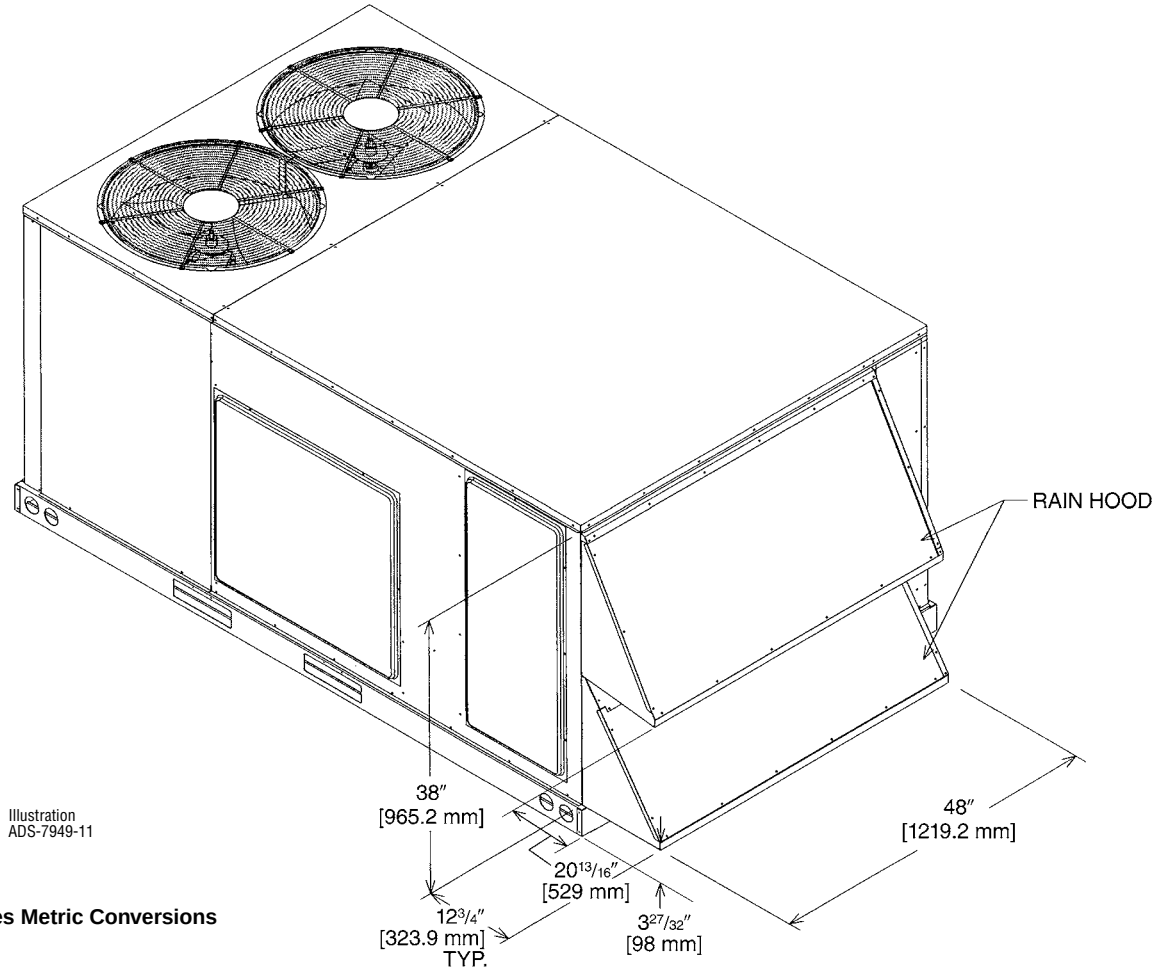
ECONOMIZER FOR DOWNFLOW DUCT INSTALLATION

Use to Select Factory Installed Options Only

RXRD-PDCM3—Single Enthalpy (Outdoor) and RXRD-SDCM3 Single Enthalpy with Smoke Detector
RXRX-AV02—Dual Enthalpy Upgrade Kit
RXRX-AR02—Optional Wall-Mounted CO_2 Sensor

- Features **Honeywell** Controls
- Available Factory Installed or Field Accessory
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO_2 Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Downflow Duct Application.
- Optional Remote Minimum Position Potentiometer (Honeywell #S963B1128) is Available from Prostock.
- Field Installed Power Exhaust Available
- Prewired for Smoke Detector





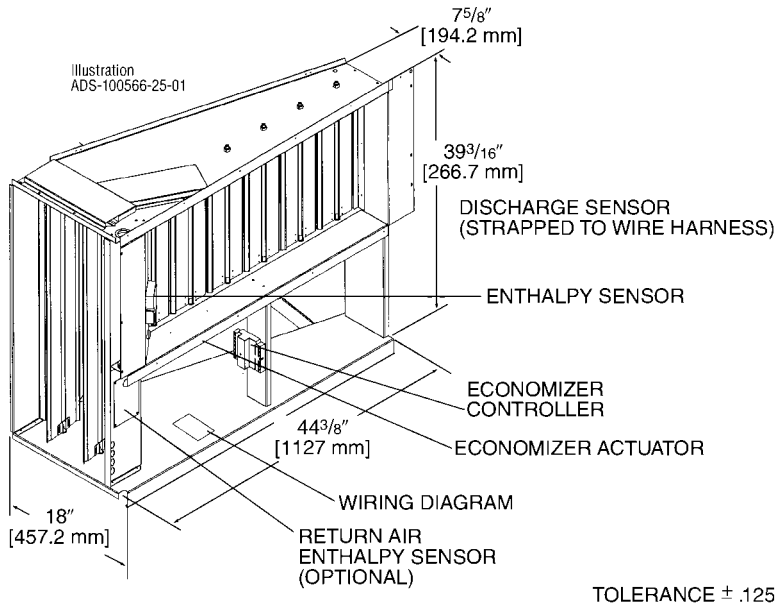
[ ] Designates Metric Conversions

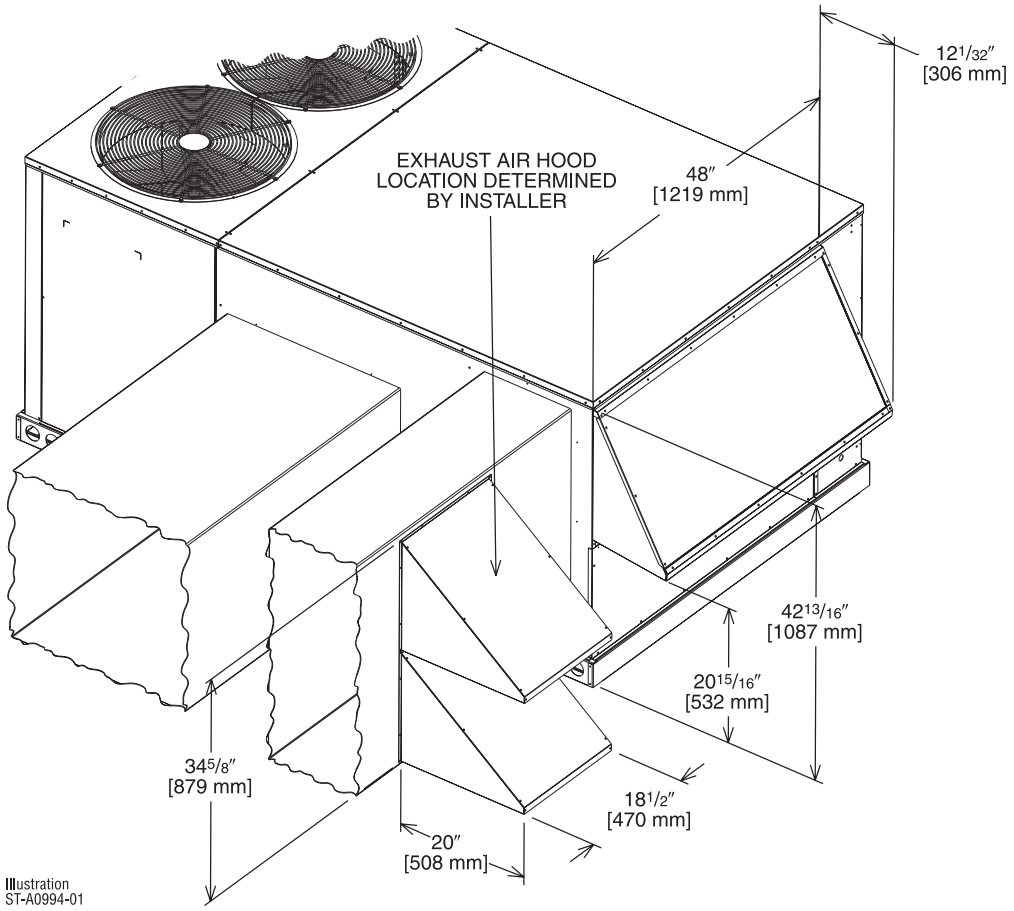
ECONOMIZER FOR HORIZONTAL DUCT INSTALLATION

Field Installed Only

RXRD-RDCM3—Single Enthalpy (Outdoor)
RXRX-AV02—Dual Enthalpy Upgrade Kit
RXRX-AR02—Wall-mounted CO_2 Sensor

- Features **Honeywell** Controls
- Available as a Field Installed Accessory Only
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Slip-In Design for Easy Installation
- Plug-In Polarized 12-pin Electrical Connections
- Pre-Configured—No Field Adjustments Necessary
- Standard Barometric Relief Damper
- Single Enthalpy with Dual Enthalpy Upgrade Kit Available
- CO_2 Input Sensor Available
- Field Assembled Hood Ships with Economizer
- Economizer Ships Complete for Horizontal Duct Application
- Optional Remote Minimum Position Potentiometer (Honeywell #S963B1128) is Available from Prostock
- Field Installed Power Exhaust Available





[ ] Designates Metric Conversions

POWER EXHAUST KIT FOR RXRD-MDCM3(-), RXRD-NDCM3(-) ECONOMIZERS

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

***Voltage Code**

VERTICAL AIRFLOW

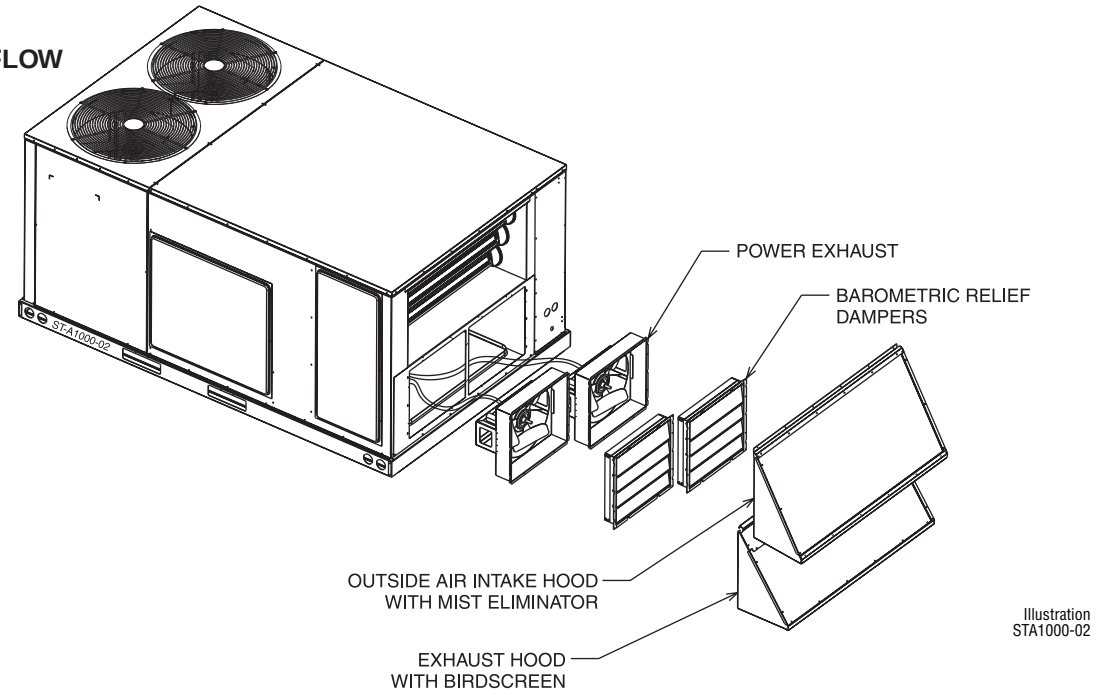


Illustration STA1000-02

HORIZONTAL AIRFLOW

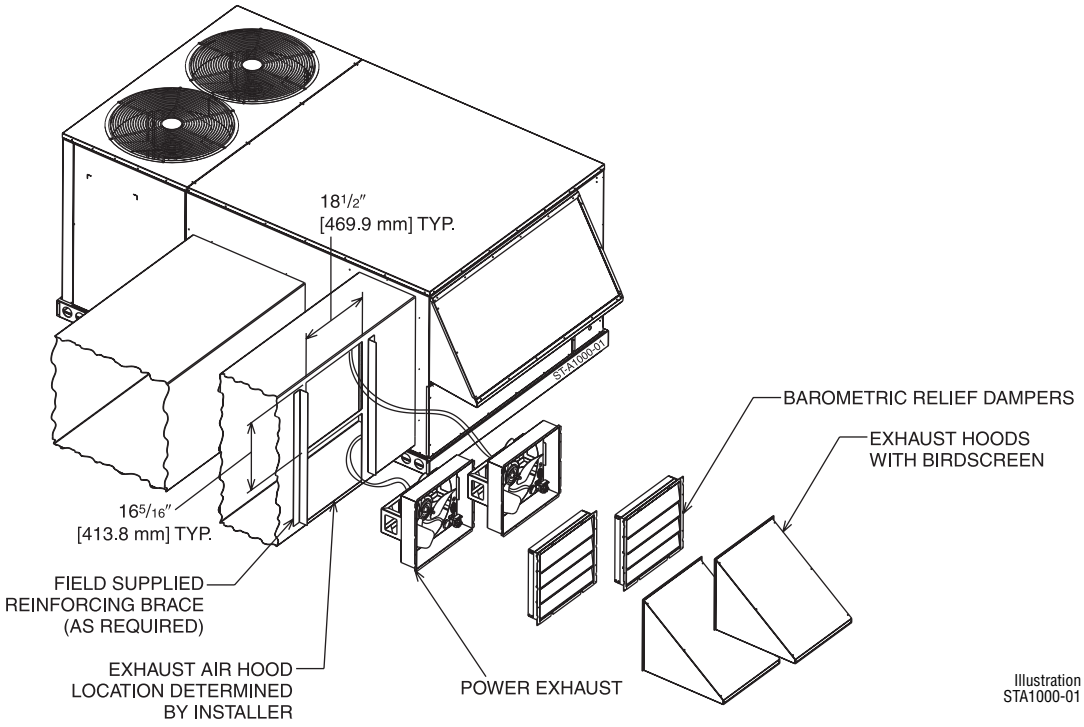


Illustration STA1000-01

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

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

[ ] Designates Metric Conversions

FRESH AIR DAMPER

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

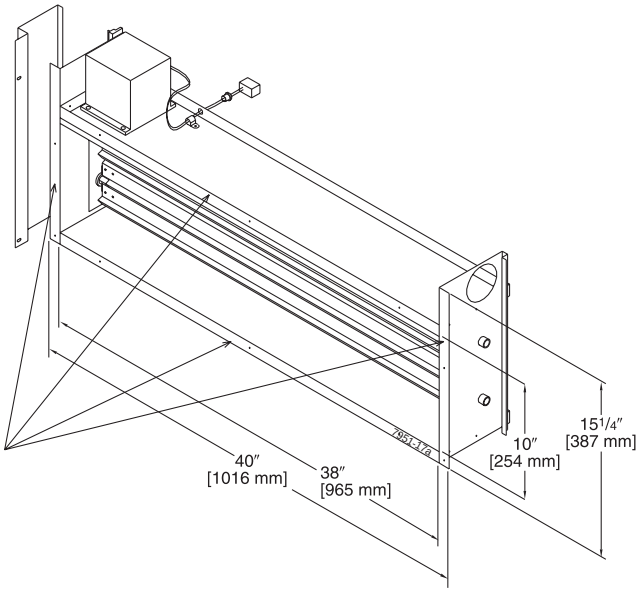


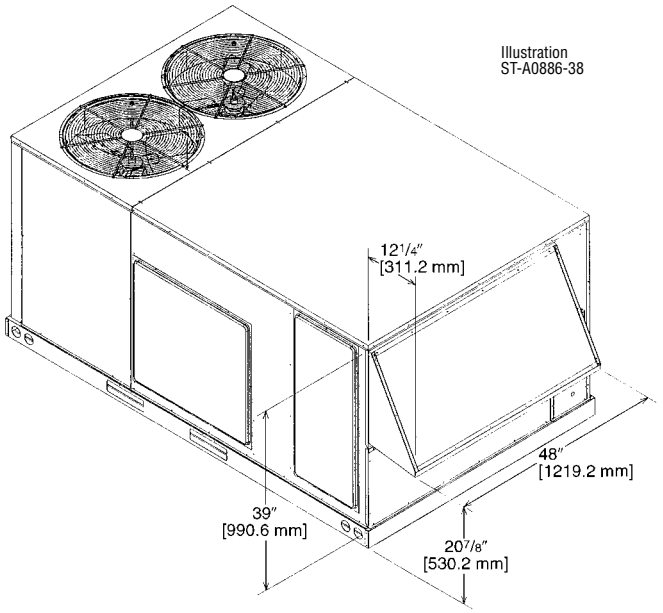
Illustration
ST-7951-17

[ ] Designates Metric Conversions

RXRF-KDA1 (Manual)

DOWNFLOW OR
HORIZONTAL APPLICATION

Illustration
ST-A0886-38



FRESH AIR DAMPER (Cont.)

RXRF-JDA1 (Manual)
RXRF-JDB1 (Motorized)

DOWNFLOW APPLICATION

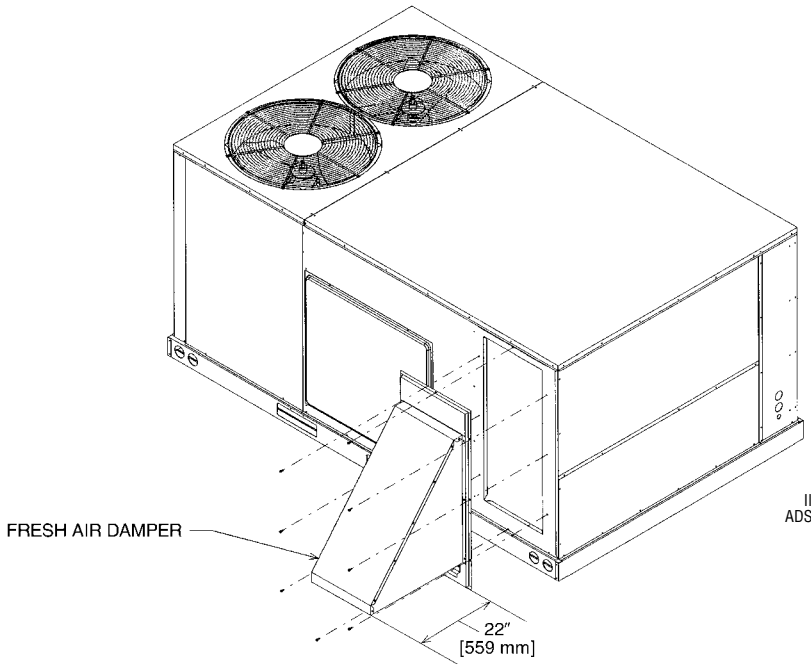
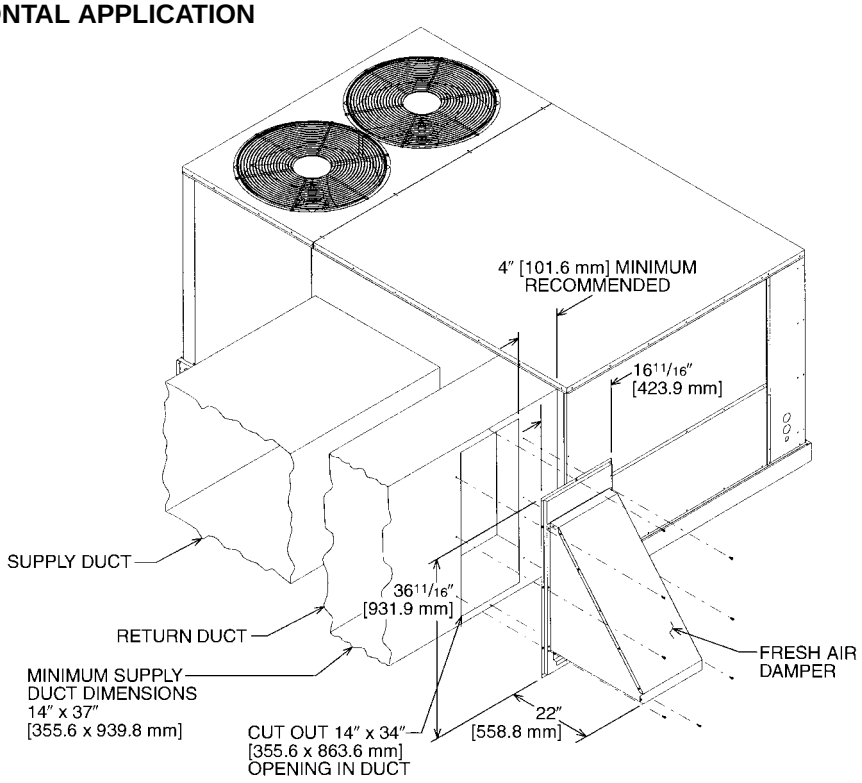


Illustration
ADS-7937-58

HORIZONTAL APPLICATION

Illustration
ST-A0901-01



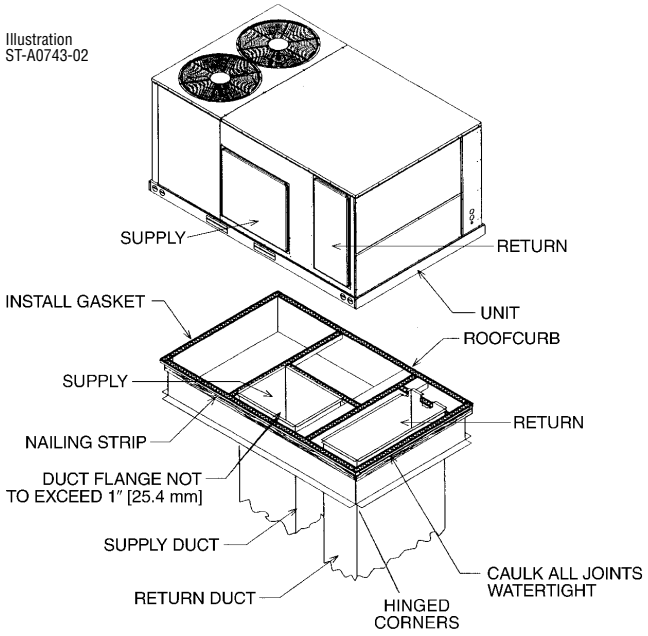
[ ] Designates Metric Conversions

ROOFCURBS (Full Perimeter)

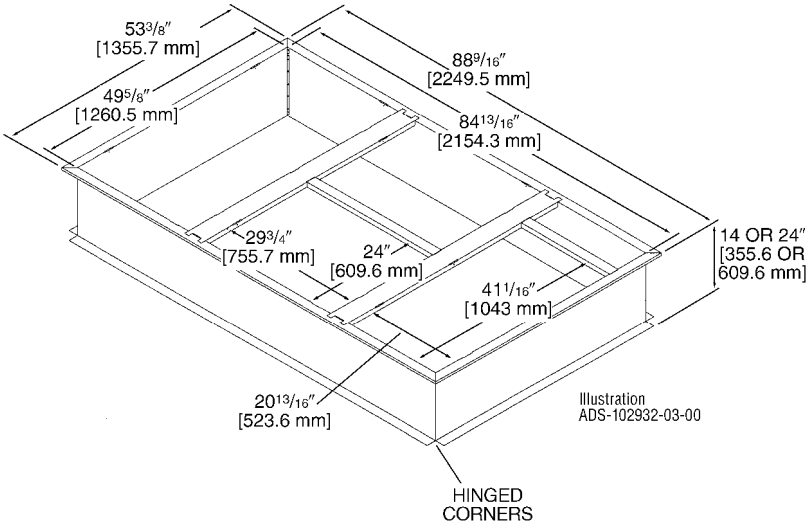
- Thermal Zone's® roofcurb design can be utilized on all 6-12.5 ton [21.1-44.0 kW] TZCGE- models.
- Two available heights (14" [356 mm] and 24" [610 mm]) for ALL models.
- Quick assembly corners for simple and fast assembly.
- Opening provided in bottom pan to match the "Thru the Curb" electrical connection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

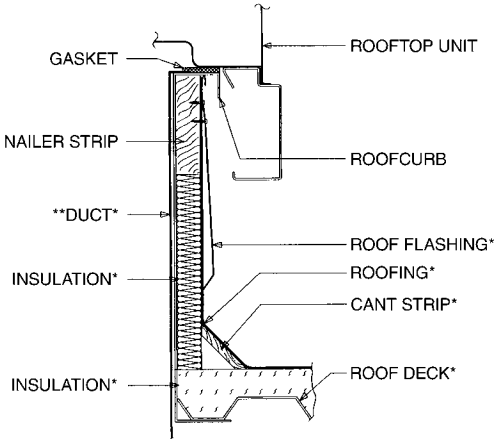
Roofcurb Model	Height of Curb
RXKG-CAE14	14" [356 mm]
RXKG-CAE24	24" [610 mm]

TYPICAL INSTALLATION



ROOFCURB INSTALLATION





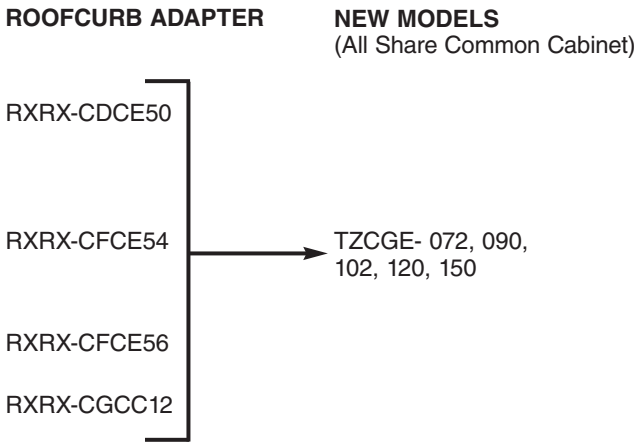
*BY CONTRACTOR

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

Illustration
ST-A0743-02

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS

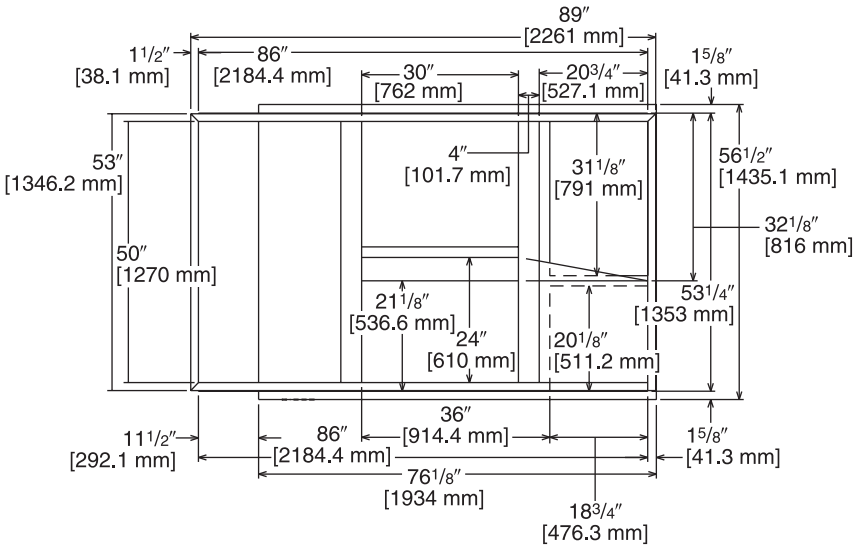


NOTE: Ductwork modifications may be necessary if the capacity and/or indoor airflow rate of replacement unit is not equivalent to that of the unit being replaced.

ROOFCURB ADAPTERS (Cont.)

RXRX-CDCE50

Illustration
ADS-7952-02
Sheet 2



TOP VIEW

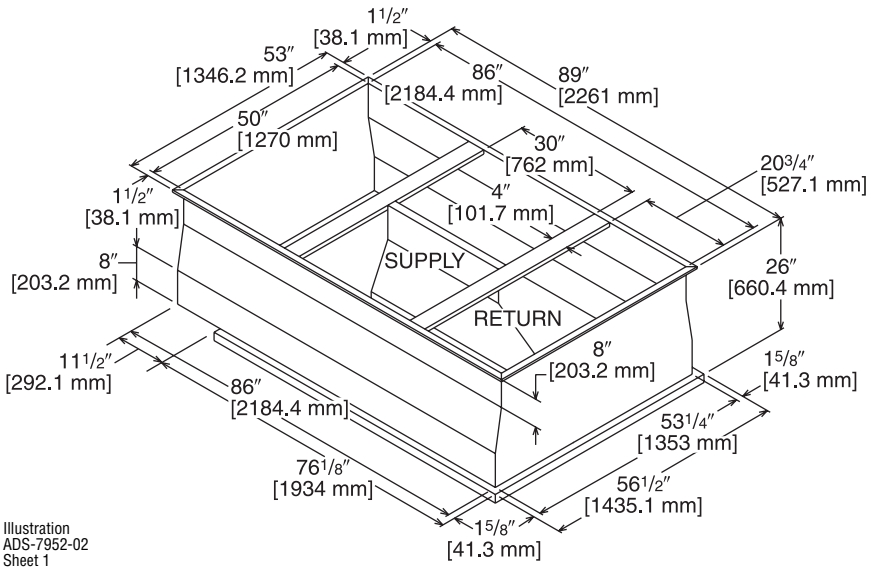


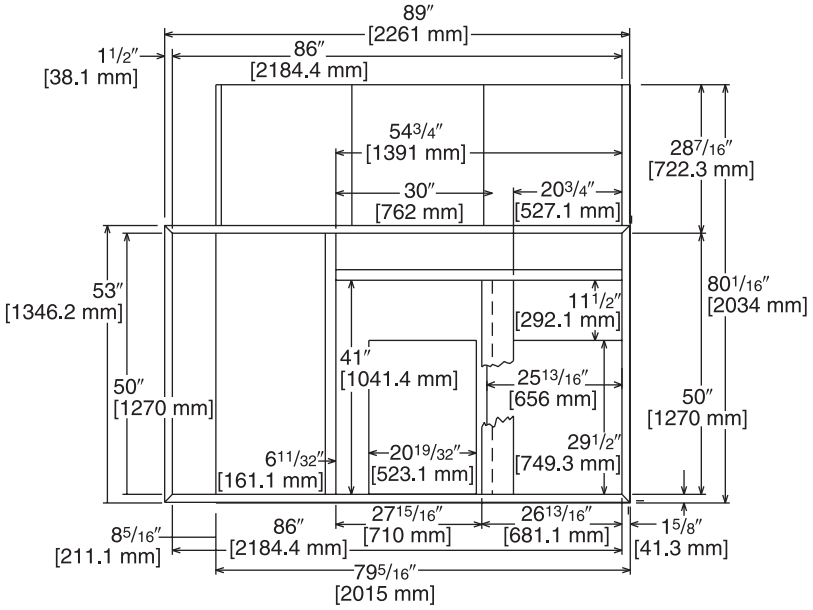
Illustration
ADS-7952-02
Sheet 1

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

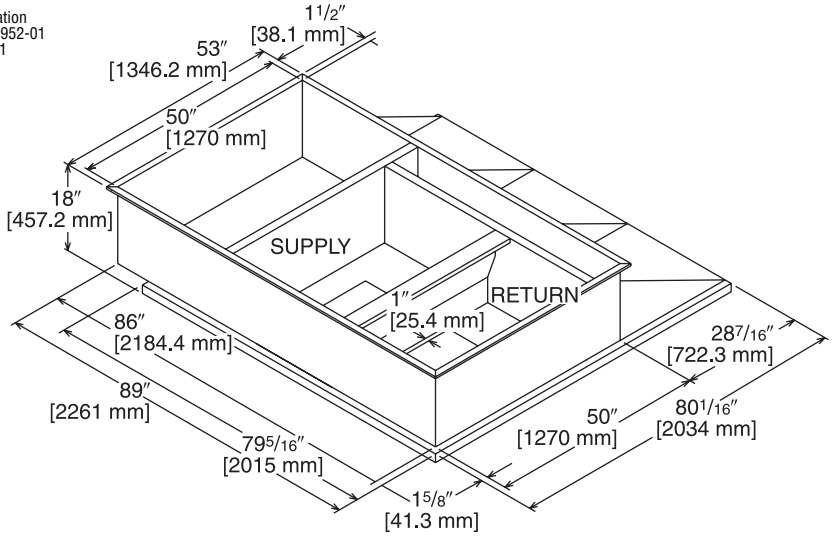
RXRX-CFCE54

Illustration
ADS-7952-01
Sheet 2



TOP VIEW

Illustration
ADS-7952-01
Sheet 1

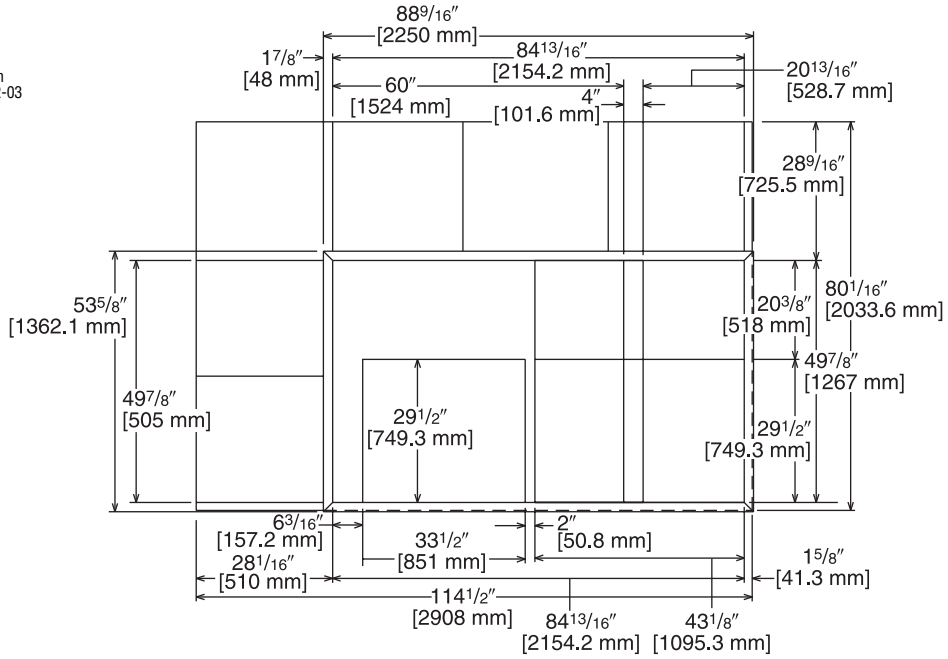


[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

RXRX-CFCE56

Illustration
ADS-7952-03
Sheet 2



TOP VIEW

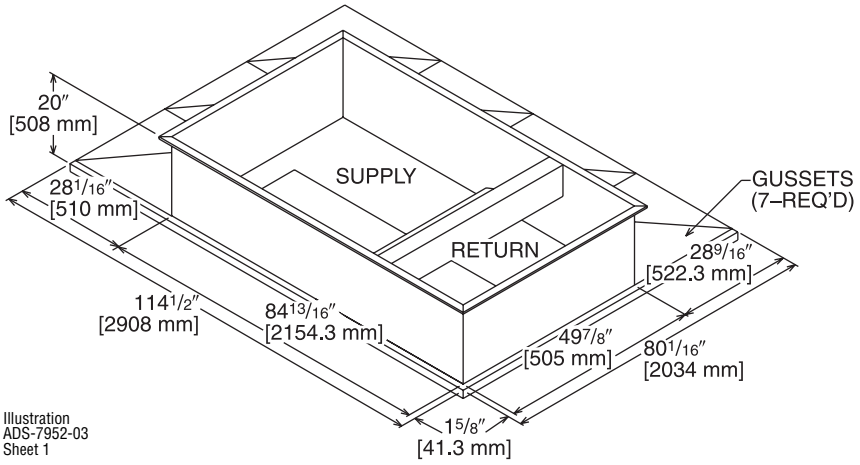


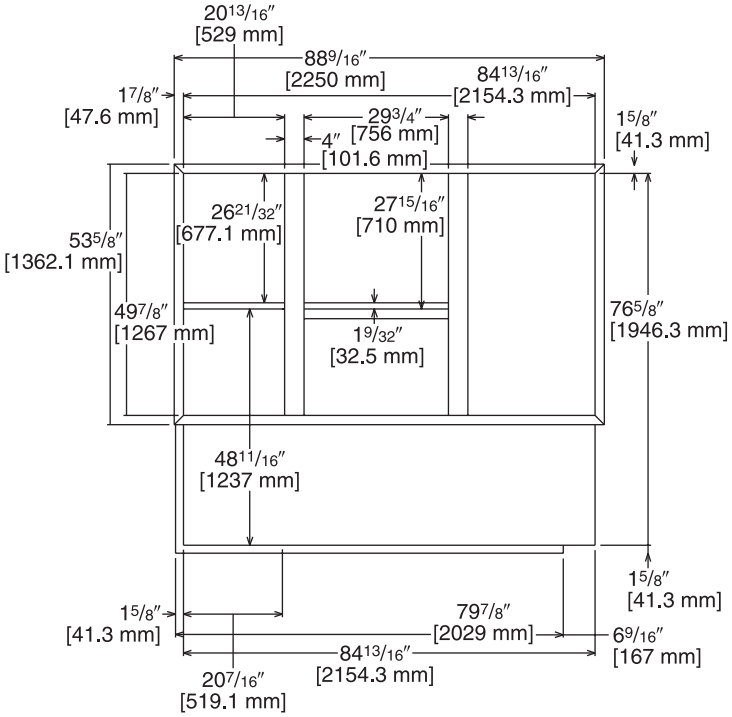
Illustration
ADS-7952-03
Sheet 1

[ ] Designates Metric Conversions

ROOFCURB ADAPTERS (Cont.)

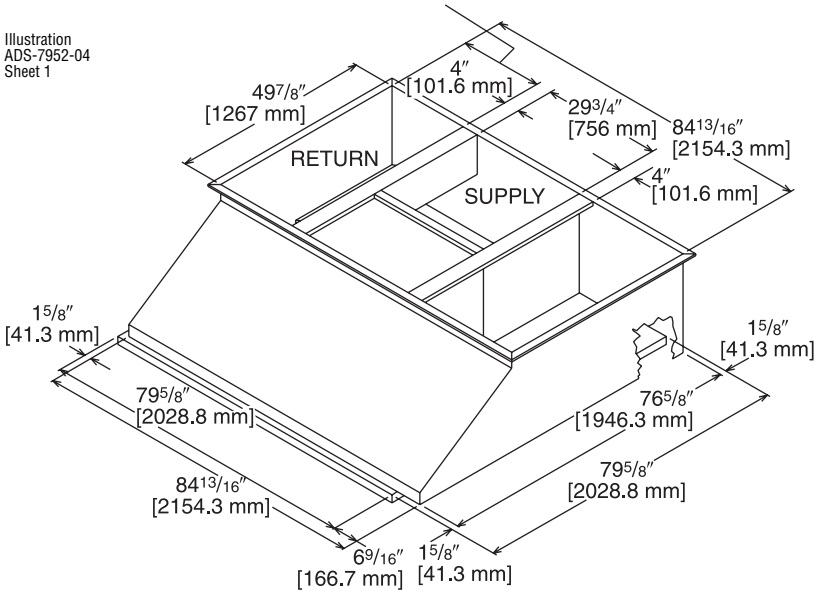
RXRX-CGCC12

Illustration
ADS-7952-04
Sheet 2



TOP VIEW

Illustration
ADS-7952-04
Sheet 1



[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER APPLICATION

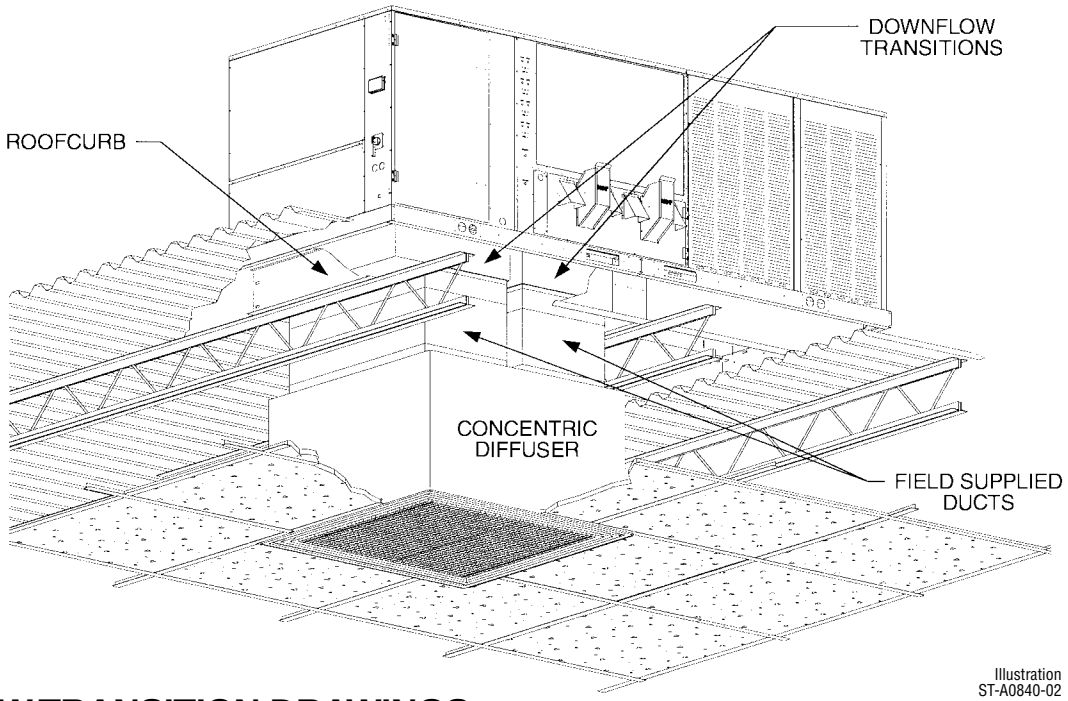


Illustration
ST-A0840-02

DOWNFLOW TRANSITION DRAWINGS

RXMC-CE05

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

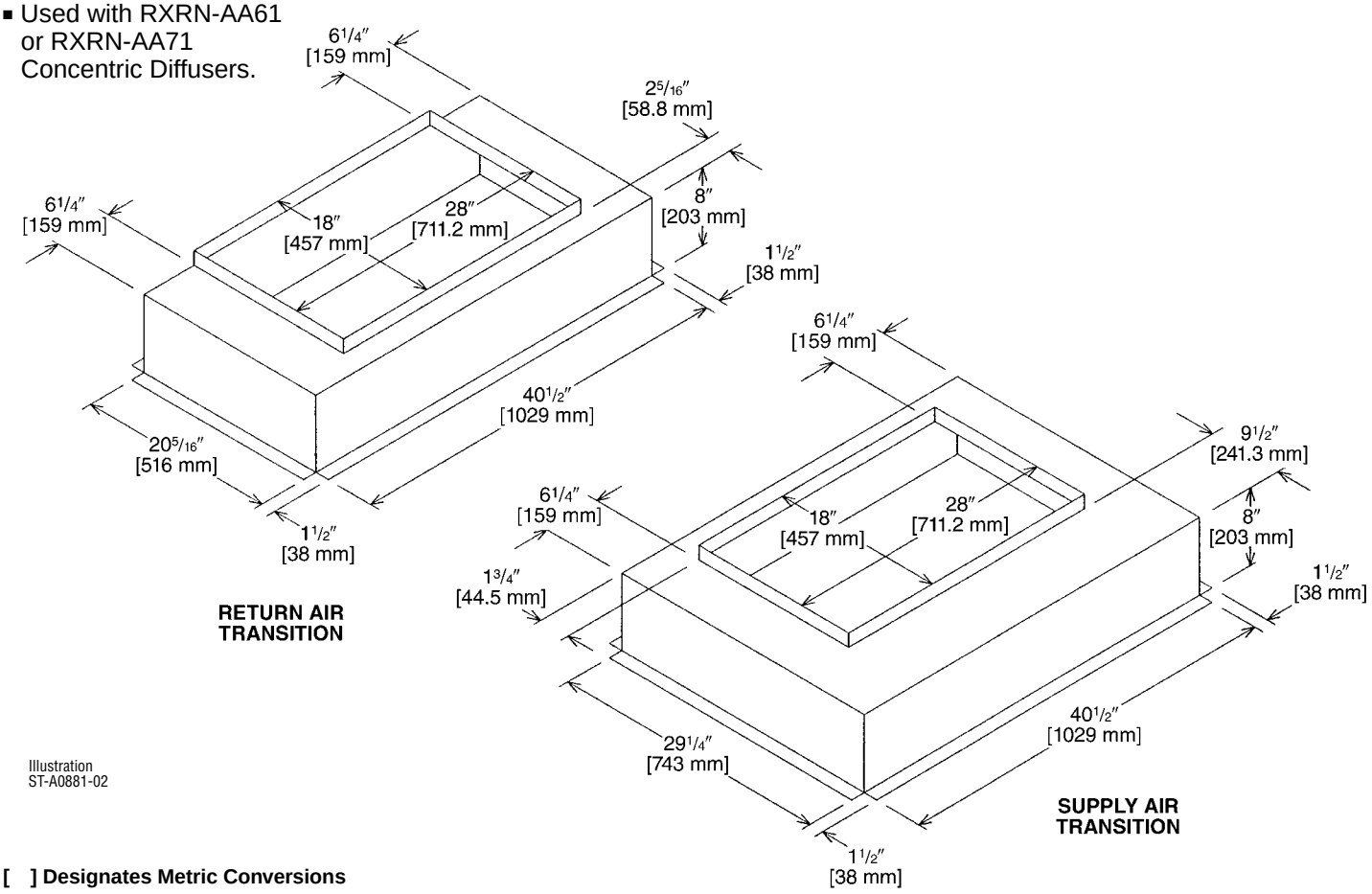


Illustration
ST-A0881-02

[ ] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS

RXMC-CF06

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

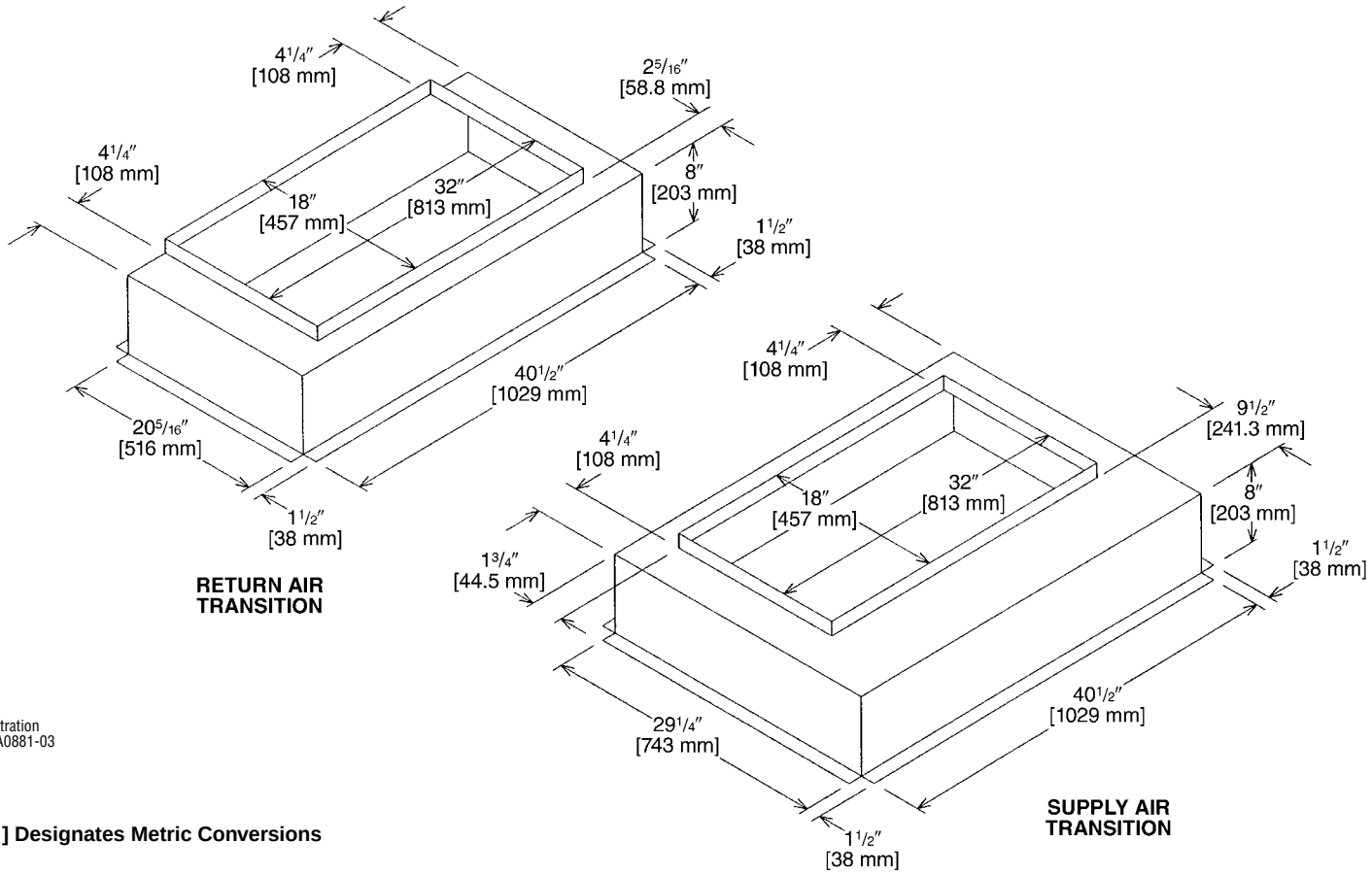


Illustration
ST-A0881-03

[ ] Designates Metric Conversions

DOWNFLOW TRANSITION DRAWINGS

RXMC-CD04

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

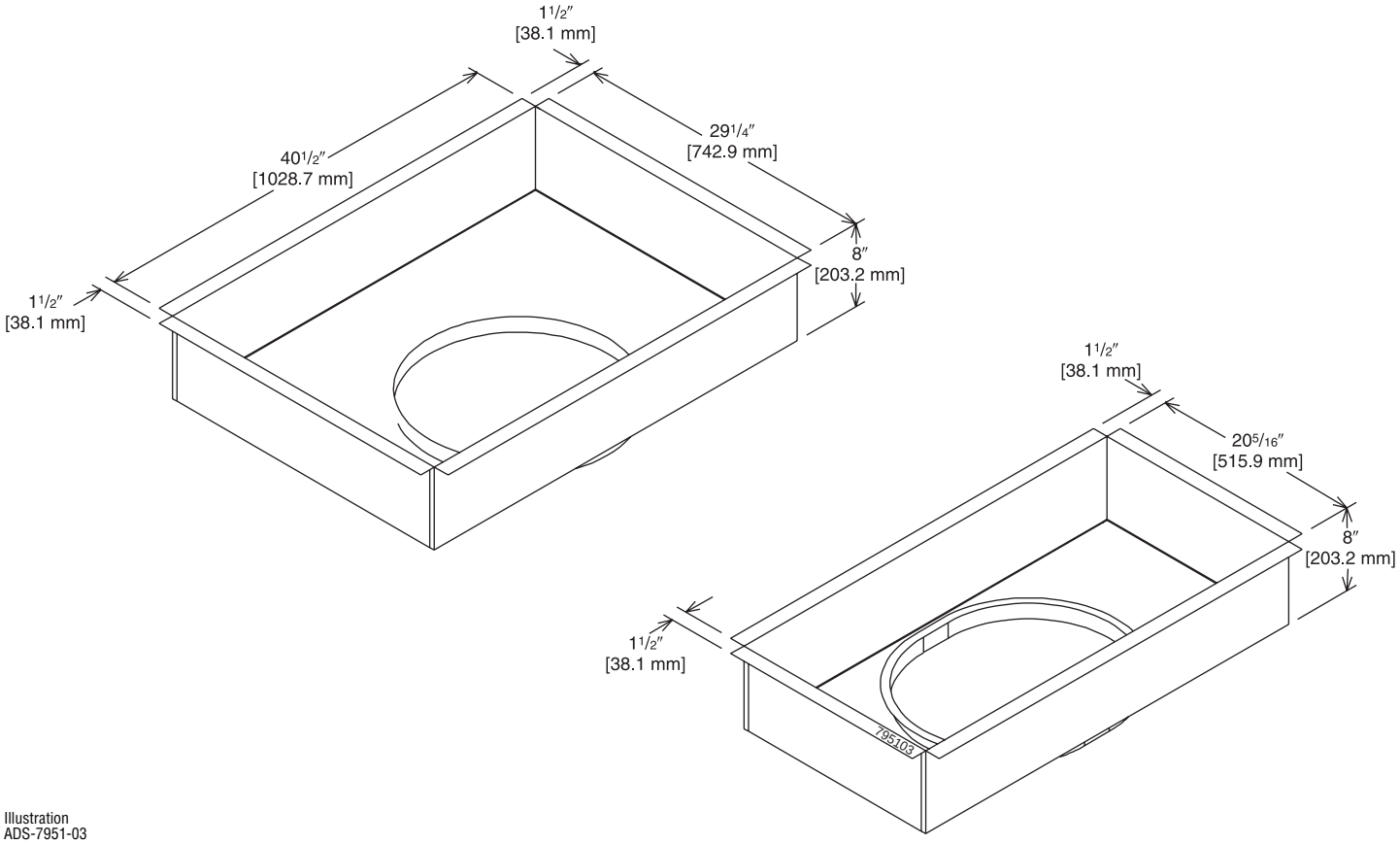


Illustration
ADS-7951-03

[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER—STEP DOWN

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

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

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

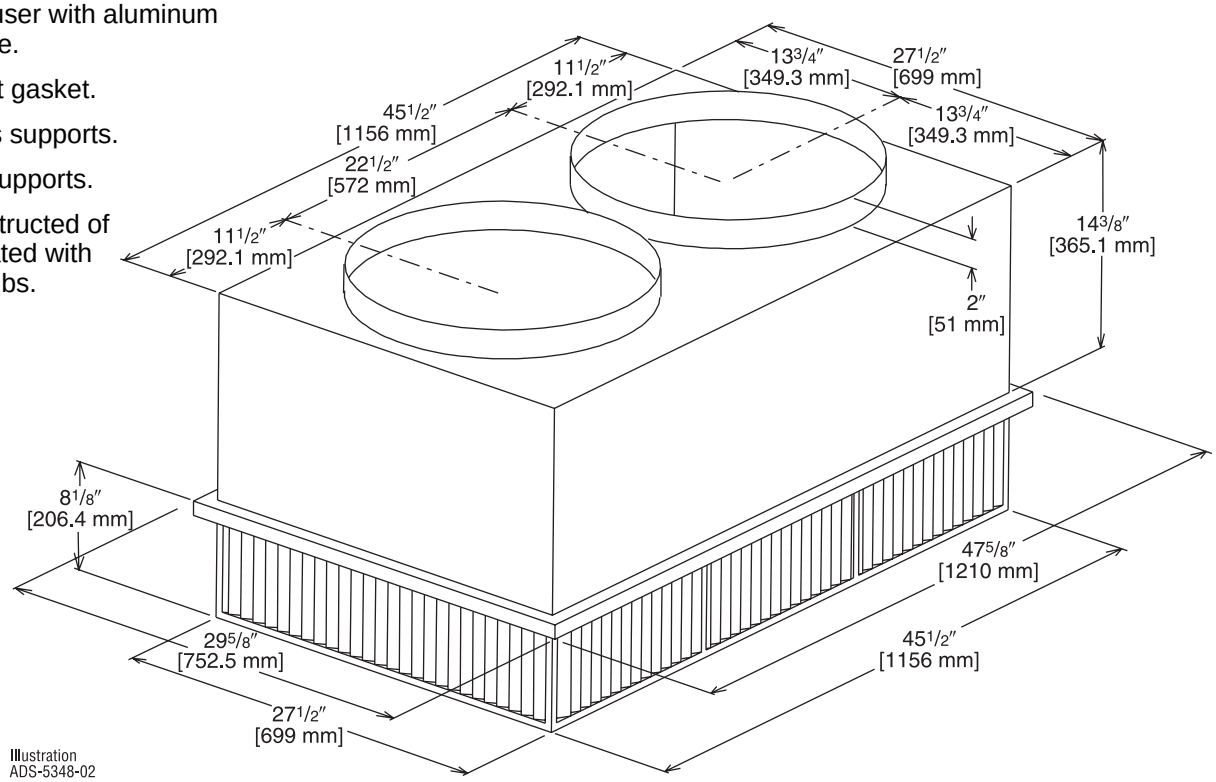


Illustration ADS-5348-02

ENGINEERING DATA①

Model No.	Flow Rate CFM [L/s]	Static Pressure in. w.c. [kPa]	Throw ② ③ Feet [m]	Neck Velocity fpm [m/s]	Noise Level ④ (dbA)
RXRN-FA65	2600 [1227]	0.17 [0.042]	24-29 [7.3-8.8]	669 [3.4]	20
	2800 [1321]	0.20 [0.050]	25-30 [7.6-9.1]	720 [3.7]	25
	3000 [1416]	0.25 [0.062]	27-33 [8.2-10.1]	772 [3.9]	25
	3200 [1510]	0.31 [0.077]	28-35 [8.5-10.7]	823 [4.2]	25
	3400 [1604]	0.37 [0.092]	30-37 [9.1-11.3]	874 [4.4]	30

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

[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER—STEP DOWN 18" x 28" [457.2 x 711.2 mm]

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

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

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

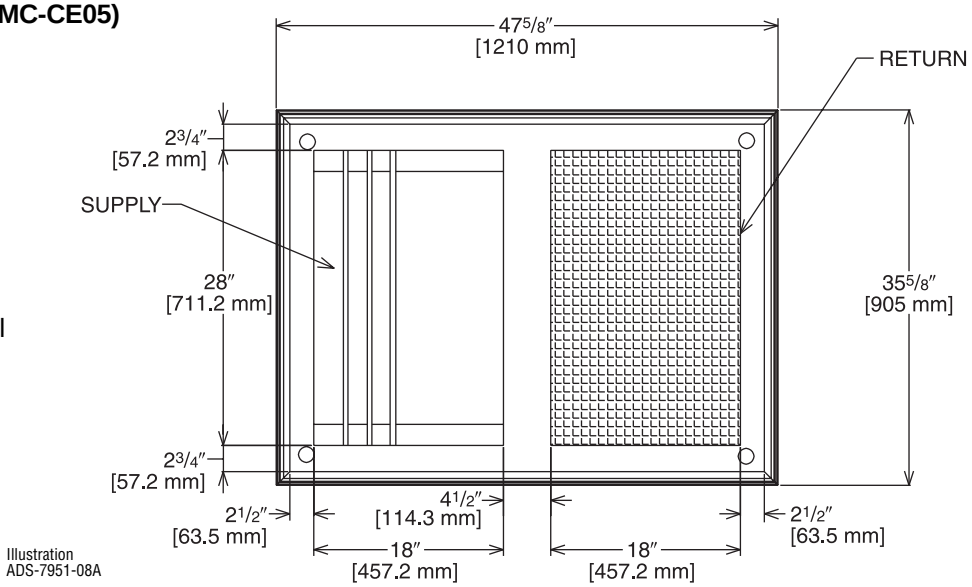


Illustration ADS-7951-08A

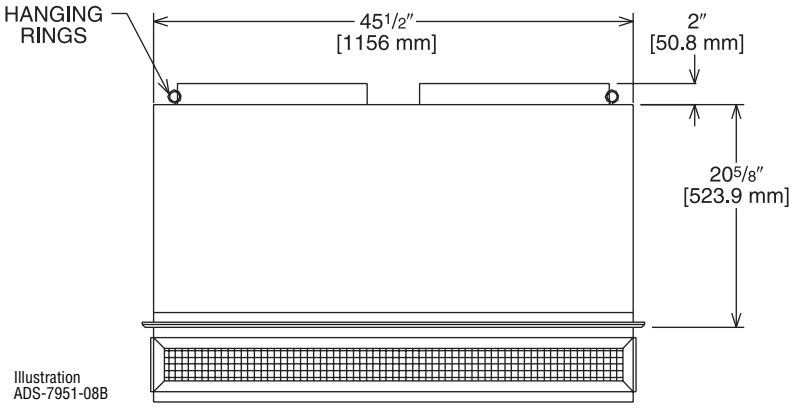


Illustration ADS-7951-08B

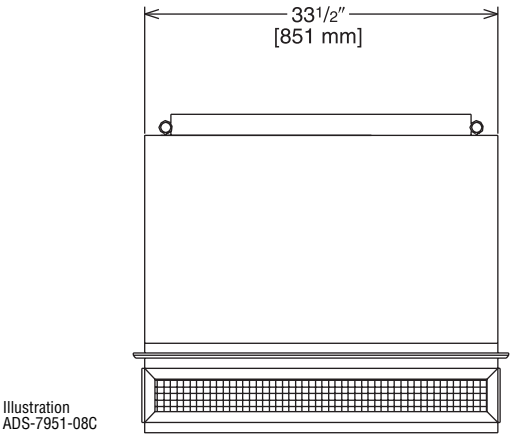


Illustration ADS-7951-08C

ENGINEERING DATA①

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

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

[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER—STEP DOWN 18" x 32" [457.2 x 813 mm]

RXRN-AA66 (12.5 & 15 Ton [44.0 & 52.8 kW] Models)

For Use With Downflow Transition (RXMC-CF06) and 18" x 32" [457.2 x 813 mm] Supply and Return Ducts

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

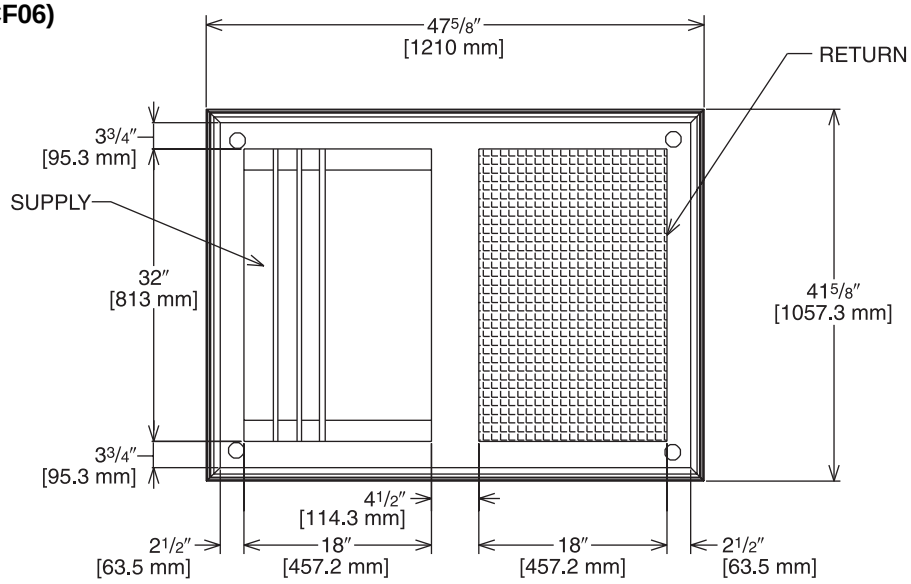


Illustration ADS-7951-09A

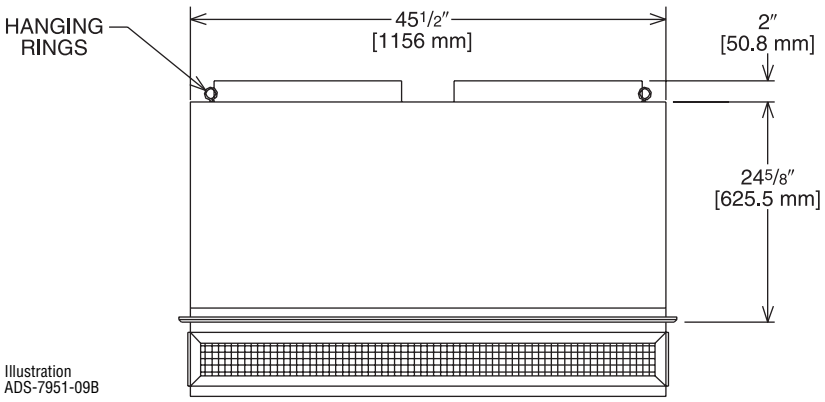


Illustration ADS-7951-09B

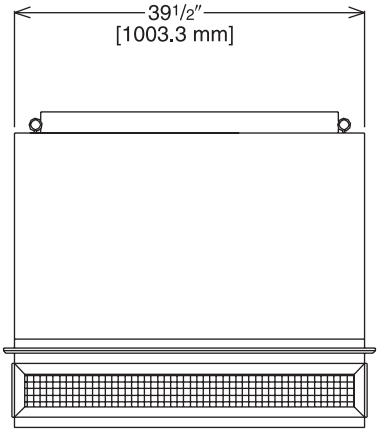


Illustration ADS-7951-09C

ENGINEERING DATA①

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

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

[ ] Designates Metric Conversions

FLUSH MOUNT CONCENTRIC DIFFUSER—FLUSH

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

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

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

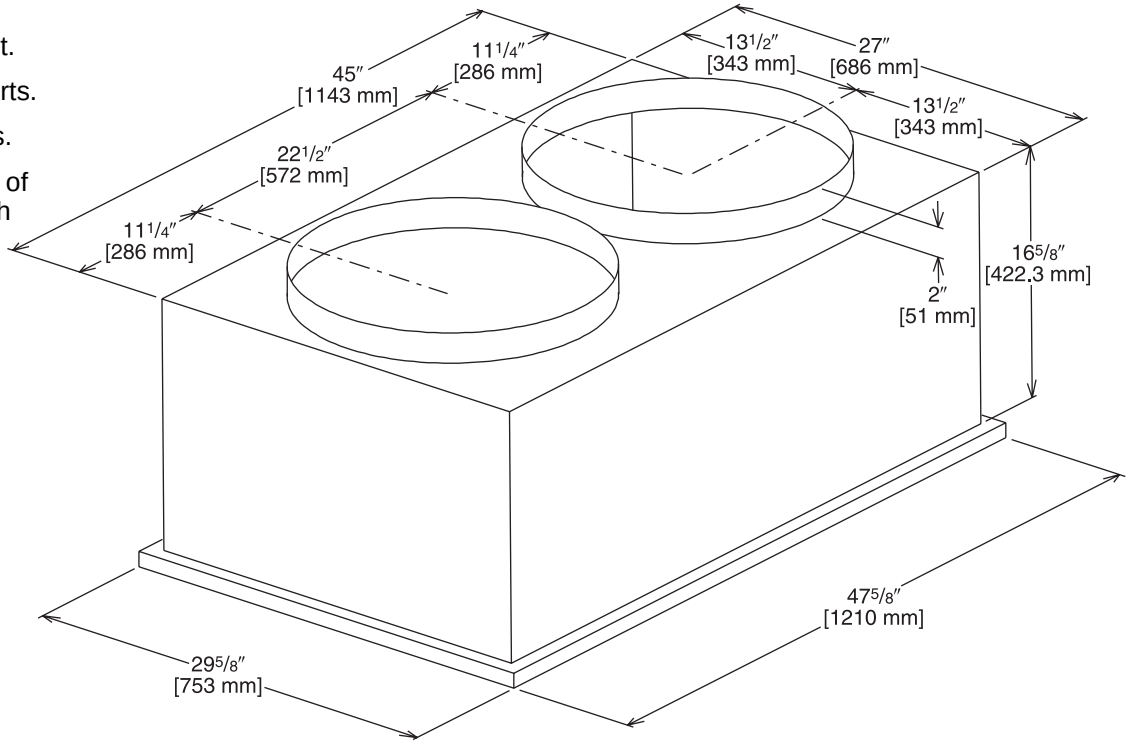


Illustration
ADS-5348-04

ENGINEERING DATA①

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

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

[ ] Designates Metric Conversions

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

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

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

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

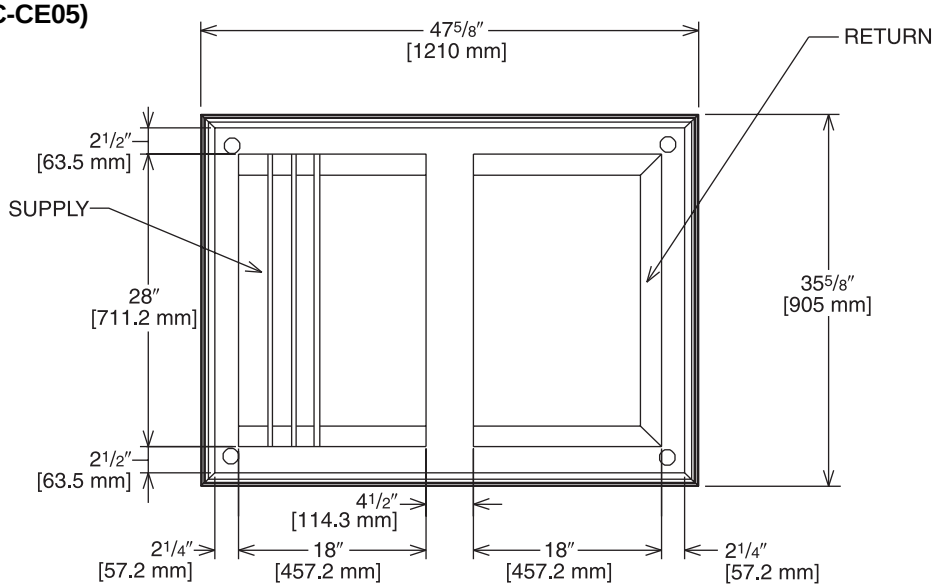


Illustration ADS-7951-06A

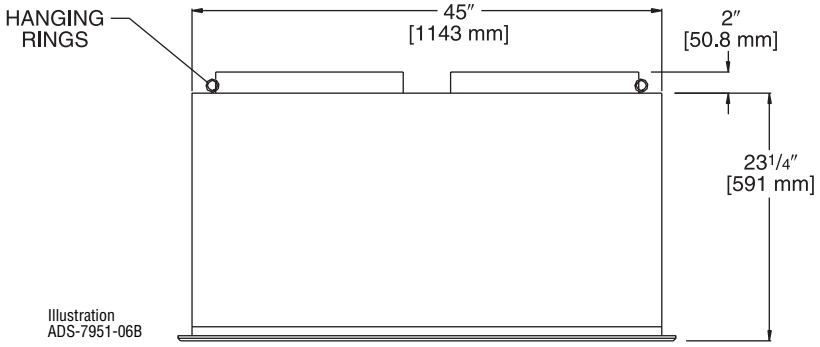


Illustration ADS-7951-06B

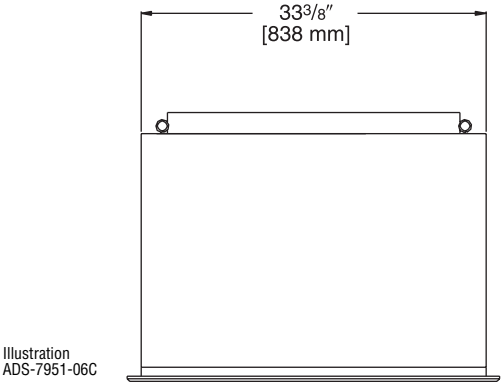


Illustration ADS-7951-06C

ENGINEERING DATA①

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

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

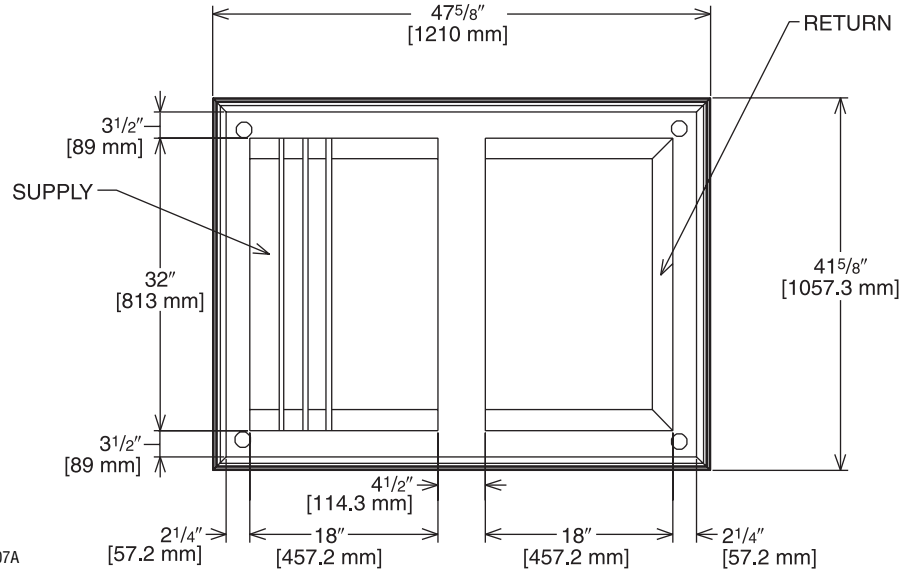
[ ] Designates Metric Conversions

CONCENTRIC DIFFUSER—FLUSH 18" x 32" [457.2 x 813 mm]

RXRN-AA76 (12.5 & 15 Ton [44.0 & 52.8 kW] Models)

For Use With Downflow Transition (RXMC-CF06) and 18" x 32" [457.2 x 813 mm] Supply and Return Ducts

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



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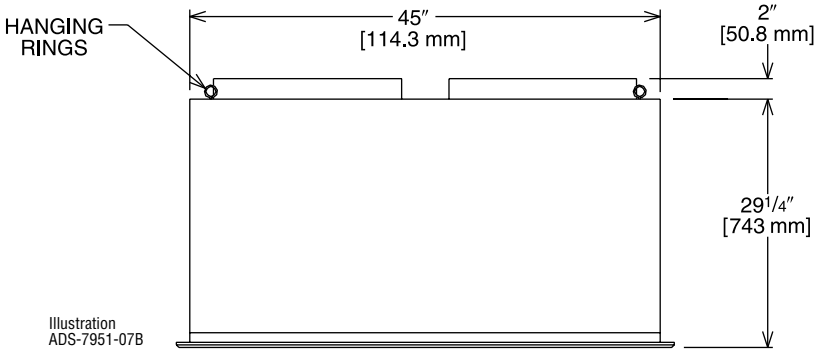


Illustration ADS-7951-07B

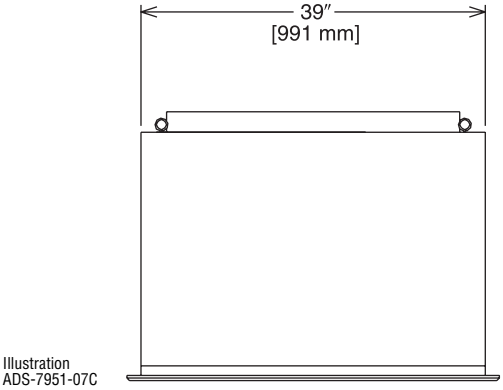


Illustration ADS-7951-07C

ENGINEERING DATA①

Model No.	Flow Rate CFM [L/s]	Static Pressure in w.c. [kPa]	Throw ② ③ Feet [m]	Neck Velocity fpm [m/s]	Noise Level ④ (dbA)
RXRN-AA76	4600 [2171]	0.31 [0.077]	25-34 [7.6-10.4]	922 [4.7]	40
	4800 [2265]	0.32 [0.080]	26-35 [7.9-10.7]	962 [4.9]	40
	5000 [2359]	0.34 [0.085]	27-36 [8.2-11.0]	1002 [5.1]	40
	5200 [2454]	0.36 [0.090]	30-39 [9.1-11.9]	1043 [5.3]	45
	5400 [2548]	0.39 [0.097]	32-41 [9.8-12.5]	1083 [5.5]	45

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

[ ] Designates Metric Conversions

Guide Specifications TZCGE- 072 - 150

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

GAS HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 6 to 12½ Nominal Tons

Section Description

23 06 80 Schedules for Decentralized HVAC Equipment

23 06 80.13 Decentralized Unitary HVAC Equipment Schedule

23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

23 07 16 HVAC Equipment Insulation

23 07 16.13 Decentralized, Rooftop Units:

23 07 16.13.A. Evaporator fan compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 3/4-in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with foil face on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
3. Insulation shall also be mechanically fastened with welded pin and retainer washer.

23 07 16.13.B. Gas heat compartment:

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

23 09 13 Instrumentation and Control Devices for HVAC

23 09 13.23 Sensors and Transmitters:

23 09 13.23.A. Thermostats

1. Thermostat must
   a. 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

23 09 33.13 Decentralized, Rooftop Units:

23 09 13.13.A. General:

1. Shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side (072-150 units have a resettable circuit breaker).
2. Shall utilize color-coded wiring.
3. Unit shall be include self-contained low-voltage control circuit protected by a fuse on the 24-V transformer side with a resettable circuit breaker.
4. The heat exchanger shall be controlled by an integrated furnace controller (IFC) microprocessor. See heat exchanger section of this specification.
5. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

23 09 33.23.B. Safeties:

1. Compressor over-temperature, over current.
2. Low-pressure switch.
   a. Units shall have low pressure, loss of charge automatic reset device that will shut off compressor when tripped.
3. High-pressure switch.
   a. Unit shall be equipped with high pressure switch manual reset device that will shut off compressor when tripped.
4. Automatic reset, motor thermal overload protector.
5. Heating section shall be provided with the following minimum protections:
   a. High-temperature limit switches.
   b. Induced draft motor pressure switch.
   c. Flame rollout switch.
   d. Flame proving controls.

23 09 33 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section shall

1. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Unit shall use only one filter size. Multiple sizes are not acceptable.
3. Filter face velocity shall not exceed 365 fpm at nominal airflows.
4. Filters shall be accessible through an access panel with “no-tool” removal as described in the unit cabinet section of the specification (23 81 19.13.H).

23 81 19 Self-Contained Air Conditioners

23 81 19.13 (6-12.5 Ton) Capacity Self-Contained Air Conditioners

23 81 19.13.A. General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty and gas combustion for heating duty.
2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
3. Unit shall use environmentally safe, R410A refrigerant.
4. Unit shall be installed in accordance with the manufacturer’s instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19.13.B. Quality Assurance

1. Unit meets ASHRAE 90.1-2010 minimum efficiency requirements.
2. 3 phase units are Energy Star qualified.
3. Unit shall be rated in accordance with ARI Standards 210 and 360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.
5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 1000-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
9. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered by ISO 9001:2000.
10. Roof curb shall be designed to conform to NRCA Standards.
11. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
12. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
13. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
14. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.

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

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

23 81 19.13.E. Project Conditions

1. As specified in the contract.

23 81 19.13.F. Operating Characteristics

1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 50°F (10°C), ambient outdoor temperatures. Low ambient accessory kit is necessary if mechanically cooling at ambient temperatures to 0°F (-17.7°C).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal configuration.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

23 81 19.13.G. Electrical Requirements

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

23 81 19.13.H. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel.
2. Unit cabinet exterior paint shall be: powder coat paint.
3. Evaporator fan compartment interior cabinet insulation shall conform to ARI Standards 210 or 360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 3/4-in. thick, 1-1/2 lb density, flexible fiberglass insulation, foil faced on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
4. Base of unit shall have a location for thru-the-base gas and electrical connections standard.
5. Base Rail
   a. Unit shall have base rails on a minimum of 4 sides.
   b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
   c. Holes shall be provided in the base rail for moving the rooftop for fork truck.
   d. Base rail shall be a minimum of 14 gauge thickness.
6. Condensate pan and connections:
   a. Shall be a sloped condensate drain pan made of a non-corrosive material and be removable for cleaning.
   b. Shall comply with ASHRAE Standard 62.
   c. Shall use a 1" - 2 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
   d. Shall be able to be easily removed.
7. Top panel:
   a. Shall be a single piece top panel over indoor section.
8. Gas Connections:
   a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   b. Thru-the-base capability
      i. Standard unit shall have a thru-the-base gas-line location using a continuous raised, flange around opening in the basepan.
      ii. No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Electrical Connections
   a. All unit power wiring shall enter unit cabinet a a single, factory-prepared, continuous raised flange opening in the basepan.
   b. Thru-the-base capability
      i. Standard unit shall have a thru-the-base electrical location(s) using a raised, continuous raised flange opening in the basepan.
      ii. No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Component access panels (standard)
   a. Cabinet panels shall be easily opened for servicing.
   b. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and filters shall have hinges with 1/4 turn fasteners.
   c. 1/4 fasteners shall be permanently attached.

23 81 19.13.I. Gas Heat

1. General
   a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
   b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
   c. Heat exchanger design shall allow combustion process condensate to gravity drain; maintenance to drain the gas heat exchanger shall not be required.
   d. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated furnace controller (IFC) microcompressor.
   a. IFC board shall notify users of fault using and LED (light-emitting diode).
   b. The Light Emitting Diode (LED) shall be visible without opening the control box access panel.

3. Standard Heat Exchanger construction
   a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gauge steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
   b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610m) elevation. Additional accessory kits may be required for applications above 2000 ft (610m) elevation, depending on local gas supply conditions.
   d. Each heat exchanger tube shall contain tubulators for increased heating effectiveness.
4. Optional Stainless Steel Heat Exchanger construction
   a. Use energy saving, direct-spark ignition system.
   b. Use a redundant main gas valve.
   c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gauge type 409 stainless steel.
   f. Type 409 stainless steel shall be used in heat exchanger tubes.
   g. Complete stainless steel heat exchanger allows for greater application flexibility.
5. Induced draft combustion motor and blower
   a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.
   b. Shall be made from steel with a corrosion-resistant finish.
   c. Shall be permanently lubricated sealed bearings.
   d. Shall have inherent thermal overload protection.
   e. Shall have an automatic reset feature.

23 81 19.13.J. Coils

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

23 81 19.13.K. Refrigerant Components

1. Refrigerant circuit shall include the following control, safety, and maintenance features:
   a. TXV metering system shall prevent mal-distribution of two-phase refrigerant. 072 and 085 shall use orifice refrigerant control.
   b. Refrigerant filter drier.
   c. Service gauge connections on suction and discharge lines.
   d. External pressure gauge ports access shall be located in front exterior of cabinet.
2. Compressors
   a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
   b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
   c. Compressors shall be internally protected from high discharge temperature conditions.
   d. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
   e. Compressor shall be factory mounted on rubber grommets.
   f. Compressor motors shall have internal line break thermal and current overload protection.
   g. Crankcase heaters shall not be required for normal operating range.
   h. Compressor shall have molded electrical plug.

23 81 19.13.L. Filter Section

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

23 81 19.13.M. Evaporator Fan and Motor

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

23 81 19.13.N. Condenser Fans and Motors

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

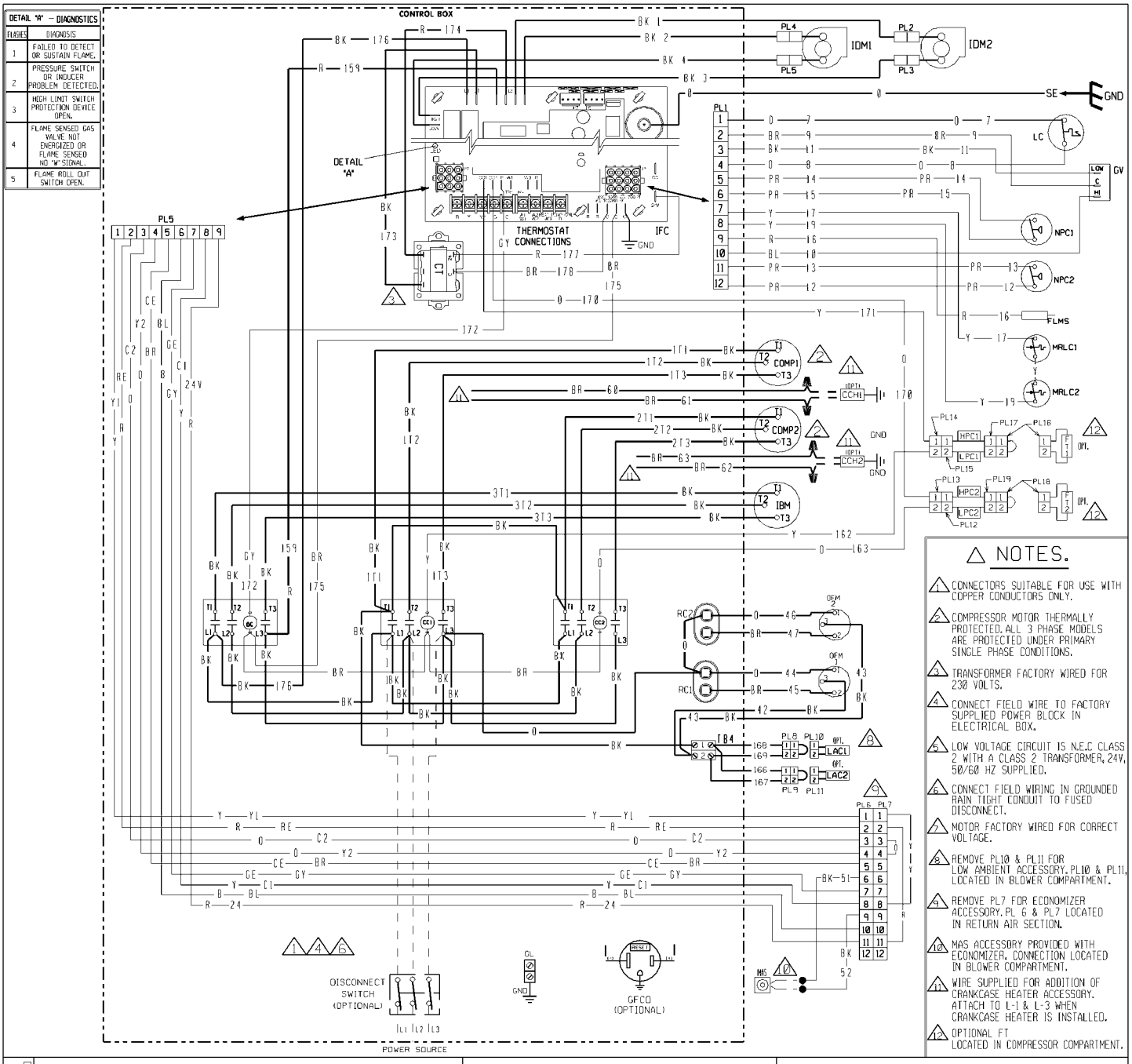
23 81 19.13.O. Special Features

1. Integrated Economizers:
   a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with metal gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
   e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
   f. Shall be equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
   g. Shall be capable of introducing up to 100% outdoor air.
   h. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
   i. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
   j. Enthalpy sensor shall be provided as standard. Outdoor air sensor set point shall be adjustable and shall range from 40 to 100°F / 4 to 38°C. Additional sensor options shall be available as accessories.
   k. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 70%, with a range of 0% to 100%.
   l. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper set point.
   m. Dampers shall be completely closed when the unit is in the unoccupied mode.
   n. Economizer controller shall accept a 2-10Vdc 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.
   o. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
   p. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
   q. Economizer wire harness will have provision for smoke detector.
2. Manual damper
   a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.

3. Liquid Propane (LP) Conversion Kit
   a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane, up to 2000 ft (610m) elevation.
4. Flue Shield
   a. Flue shield shall provide protection from the hot sides of the gas flue hood.
5. Condenser Coil Hail Guard Assembly
   a. Shall protect against damage from hail.
   b. Shall be louvered style.
6. Unit-Mounted, Non-Fused Disconnect Switch:
   a. Switch shall be factory-installed, internally mounted.
   b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
   c. Shall be accessible from outside the unit.
   d. Shall provide local shutdown and lockout capability.
7. Convenience Outlet:
   a. Powered convenience outlet.
   b. Outlet shall be powered from main line power to the rooftop unit.
   c. Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
   d. Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
   e. Outlet shall include 15 amp GFI receptacles with independent fuse protection.
   f. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer.
   g. Outlet shall be accessible from outside the unit.
   h. Non-Powered convenience outlet.
   i. Outlet shall be powered from a separate 115-120v power source.
   j. A transformer shall not be included.
   k. Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
   l. Outlet shall include 15 amp GFI receptacle with independent fuse protection.
   m. Outlet shall be accessible from outside the unit.
8. Flue Discharge Deflector:
   a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
   b. Deflector shall be defined as a “natural draft” device by the National Fuel and Gas (NFG) code.
9. Propeller Power Exhaust:
   a. Power exhaust shall be used in conjunction with an integrated economizer.
   b. Independent modules for vertical or horizontal return configurations shall be available.
   c. Horizontal power exhaust is shall be mounted in return ductwork.
   d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
10. Roof Curbs (Vertical):
    a. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
    b. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
11. Universal Gas Conversion Kit:
    a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000-7000 ft (610 to 2134m) elevation with natural gas or from 0-7000 ft (90-2134m) elevation with liquefied propane.
12. Return Air Enthalpy Sensor:
    a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
13. Indoor Air Quality (CO2) Sensor:
    a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
    b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The set point shall have adjustment capability.

14. Smoke detectors:
    a. Shall be a Four-Wire Controller and Detector.
    b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
    c. Shall use magnet-activated test/reset sensor switches.
    d. Shall have tool-less connection terminal access.
    e. Shall have a recessed momentary switch for testing and resetting the detector.
    f. Controller shall include:
        i. One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel
        ii. Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment
        iii. One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station
        iv. Capable of direct connection to two individual detector modules.
        v. Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
15. Barometric relief
    a. Shall include damper, seals, hard-ware, and hoods to relieve excess building pressure.
    b. Damper shall gravity-close upon shutdown.
16. Time Guard
    a. Shall prevent compressor short cycling by providing a 5-minute delay (±2 minutes) before restarting a compressor after shutdown for any reason.
    b. One device shall be required per compressor.

WIRING SCHEMATICS—TZCGE- 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 WIRED FOR 230 VOLTS.
4. CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5. LOW VOLTAGE CIRCUIT IS N.E.C. CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8. REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11, LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE

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

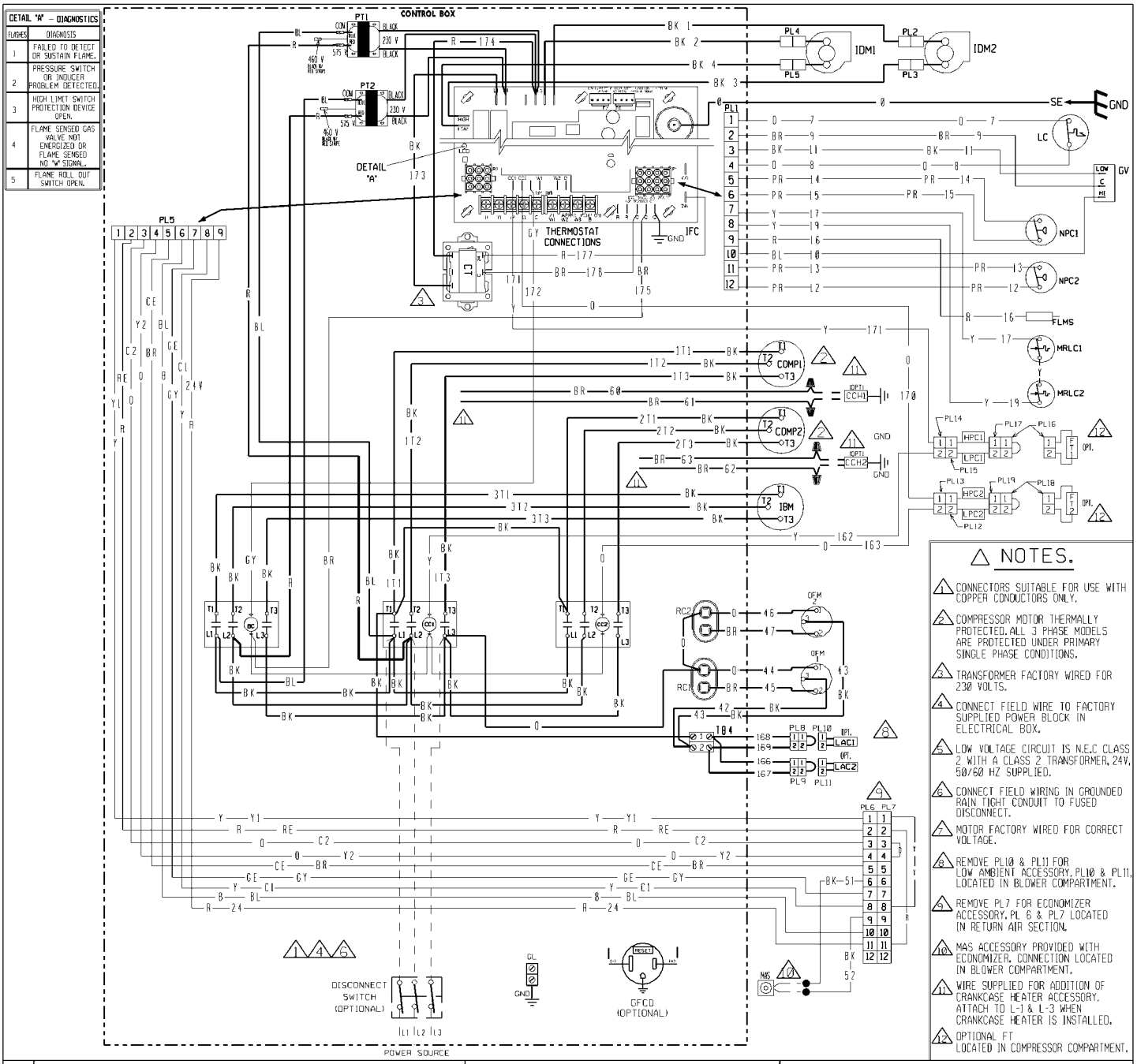
090/102/120/150

208-230/460V 3 PH, 60 HZ.

ROOFTOP

DWG. NO.	REV.
90-102890-01	02

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-01	02



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4. CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5. LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8. REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

WARNING
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WIRE COLOR CODE

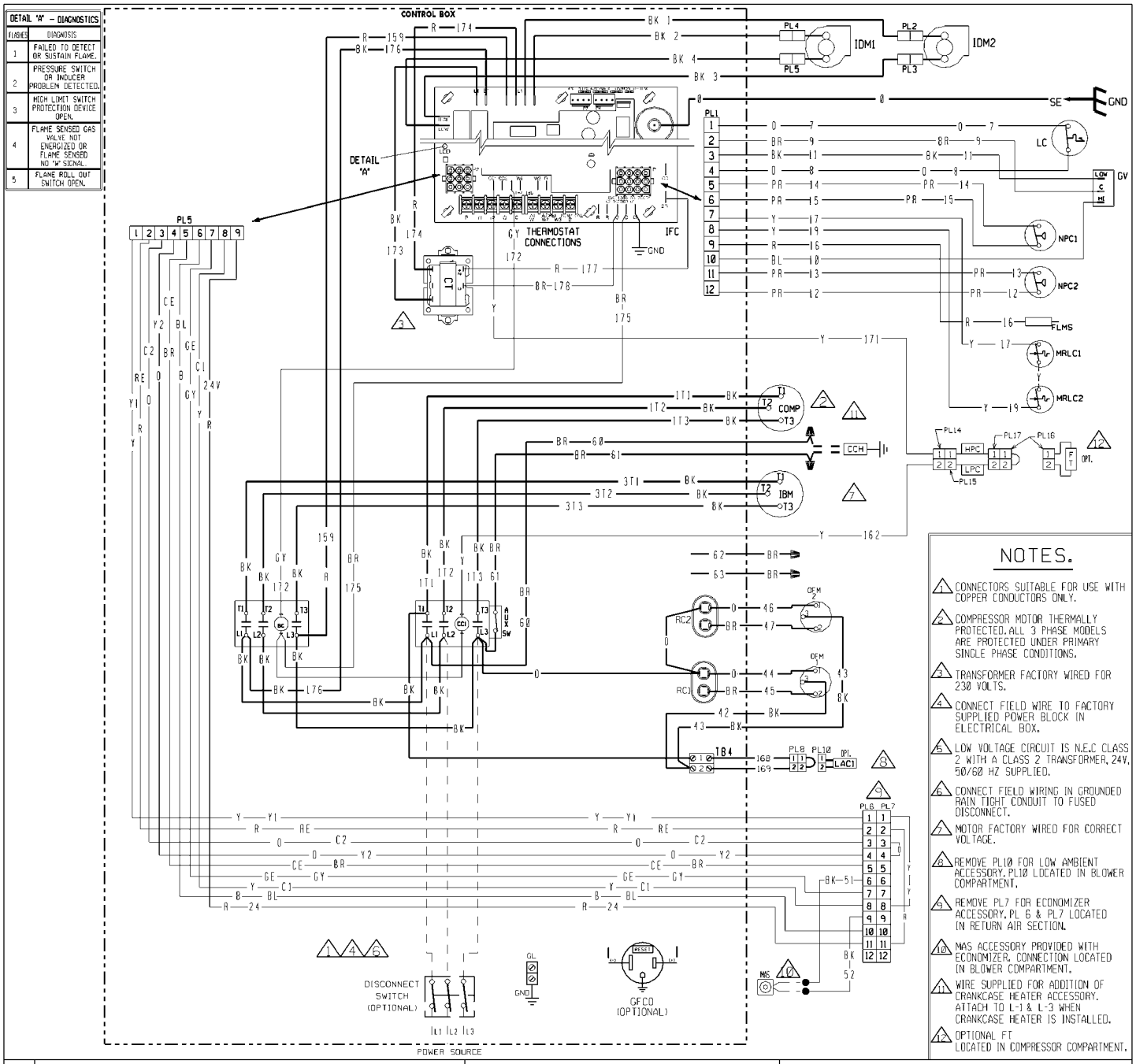
BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING DIAGRAM
090/102/120/150
575V 3 PH, 60 HZ.
ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-02	02

DWG. NO. 90-102890-02 REV 02

WIRING SCHEMATICS—TZCGE- SERIES



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4. CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5. LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8. REMOVE PL10 FOR LOW AMBIENT ACCESSORY. PL10 LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE

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

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.

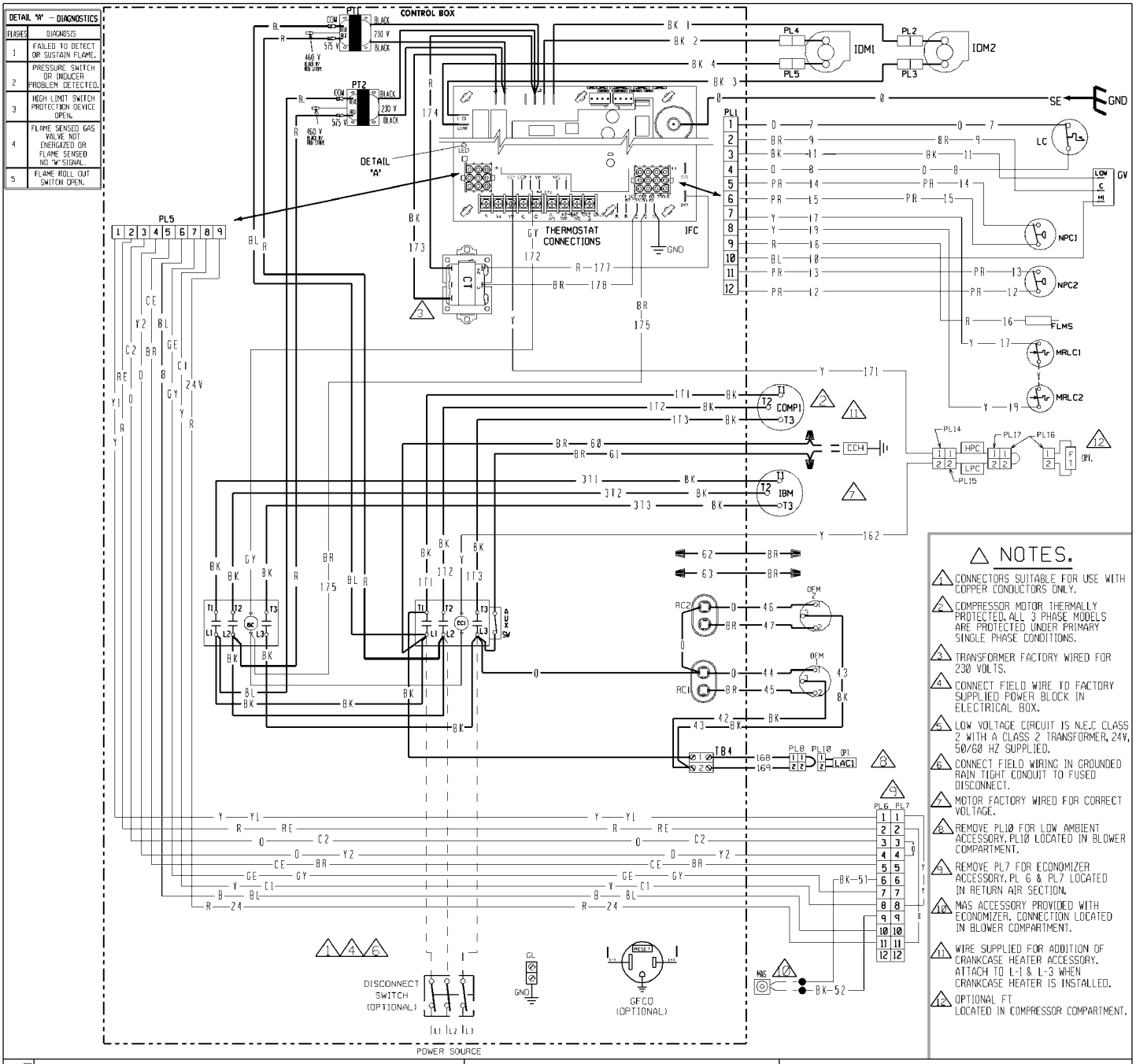
WIRE COLOR CODE

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

WIRING DIAGRAM
072/085
208-230/460V 3 PH, 60 HZ.
ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-03	02

DWG. NO. 90-102890-03 REV 02



DWG. NO. 90-102890-04 REV. 02

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

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

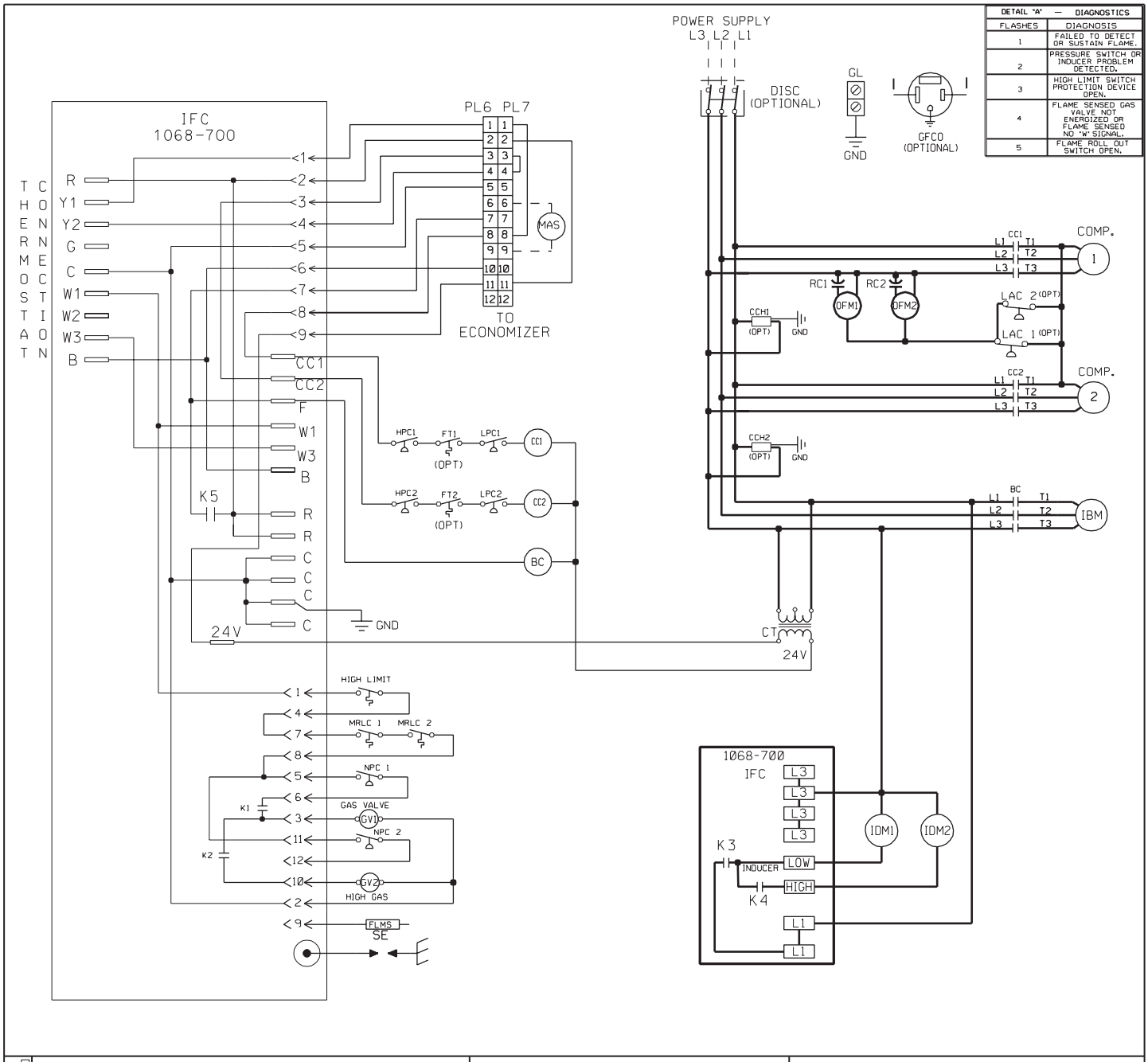
WIRE COLOR CODE

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

WIRING DIAGRAM
Ø72/Ø85
575V 3 PH, 60 HZ.
ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-19-08	90-102890-04	Ø2

WIRING SCHEMATICS—TZCGE- SERIES



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REV 00

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

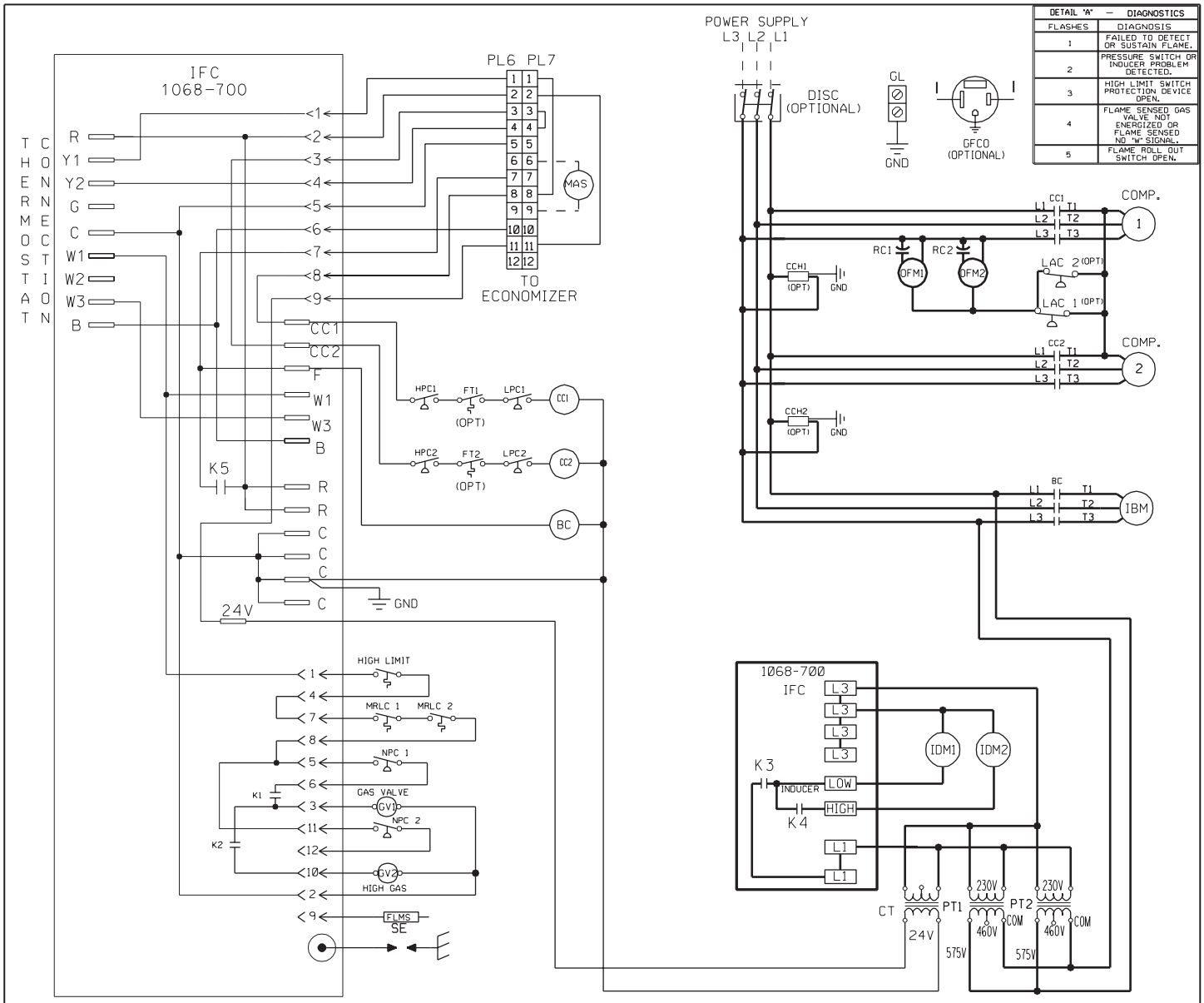
WARNING
- -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

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

WIRING SCHEMATIC
090/102/120/150
208-230/460V, 3 PH, 60 HZ.
ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-01	00



COMPONENT CODE

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

WIRING INFORMATION

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

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

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

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

WIRE COLOR CODE

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

WIRING SCHEMATIC

090/102/120/150

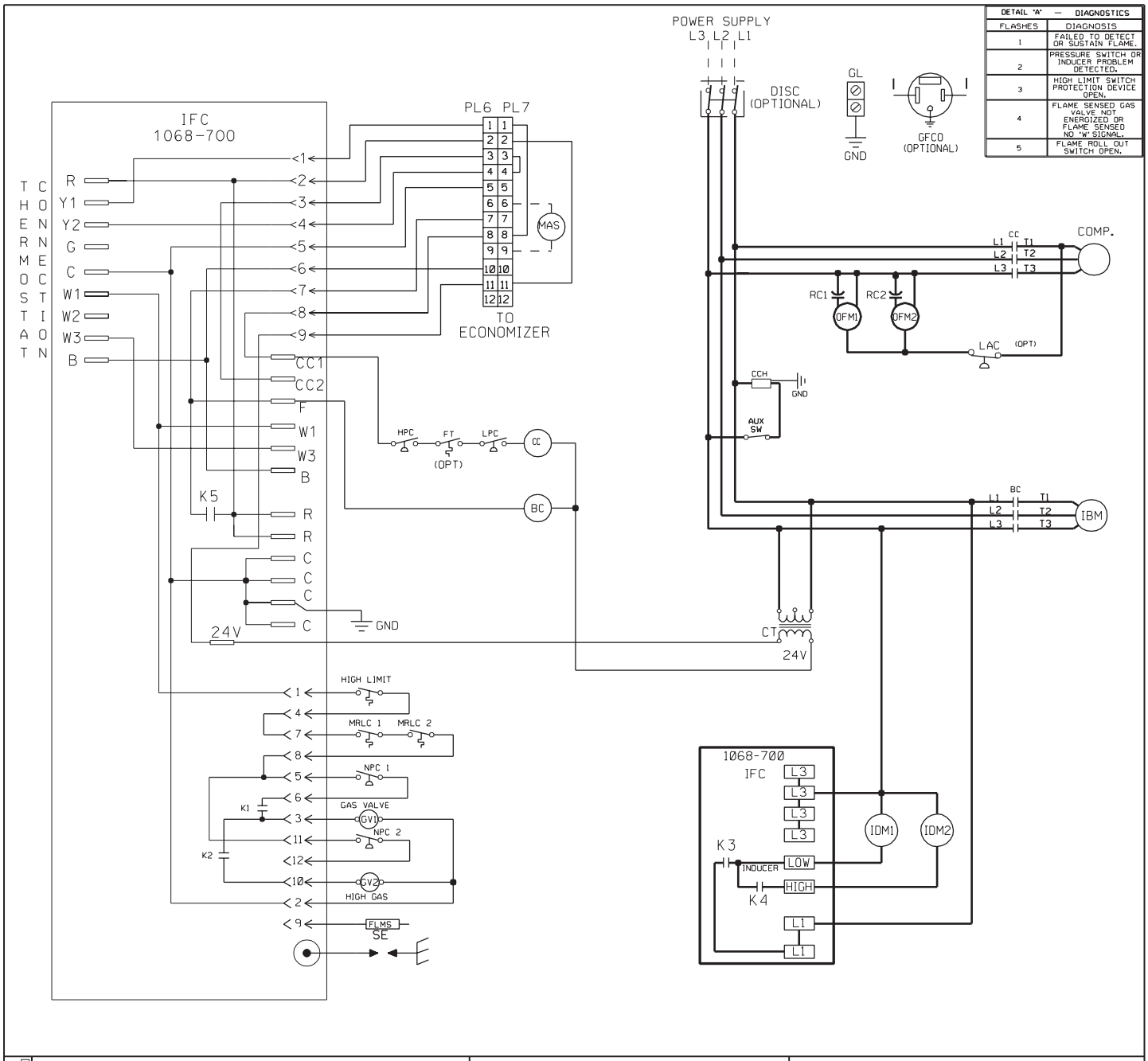
575V, 3 PH, 60 HZ.

ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-02	00

DWG. NO. 90-102891-02 REV 00

WIRING SCHEMATICS—TZCGE- SERIES



DWG. NO. 90-102891-03

REV. 00

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

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

WIRE COLOR CODE

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

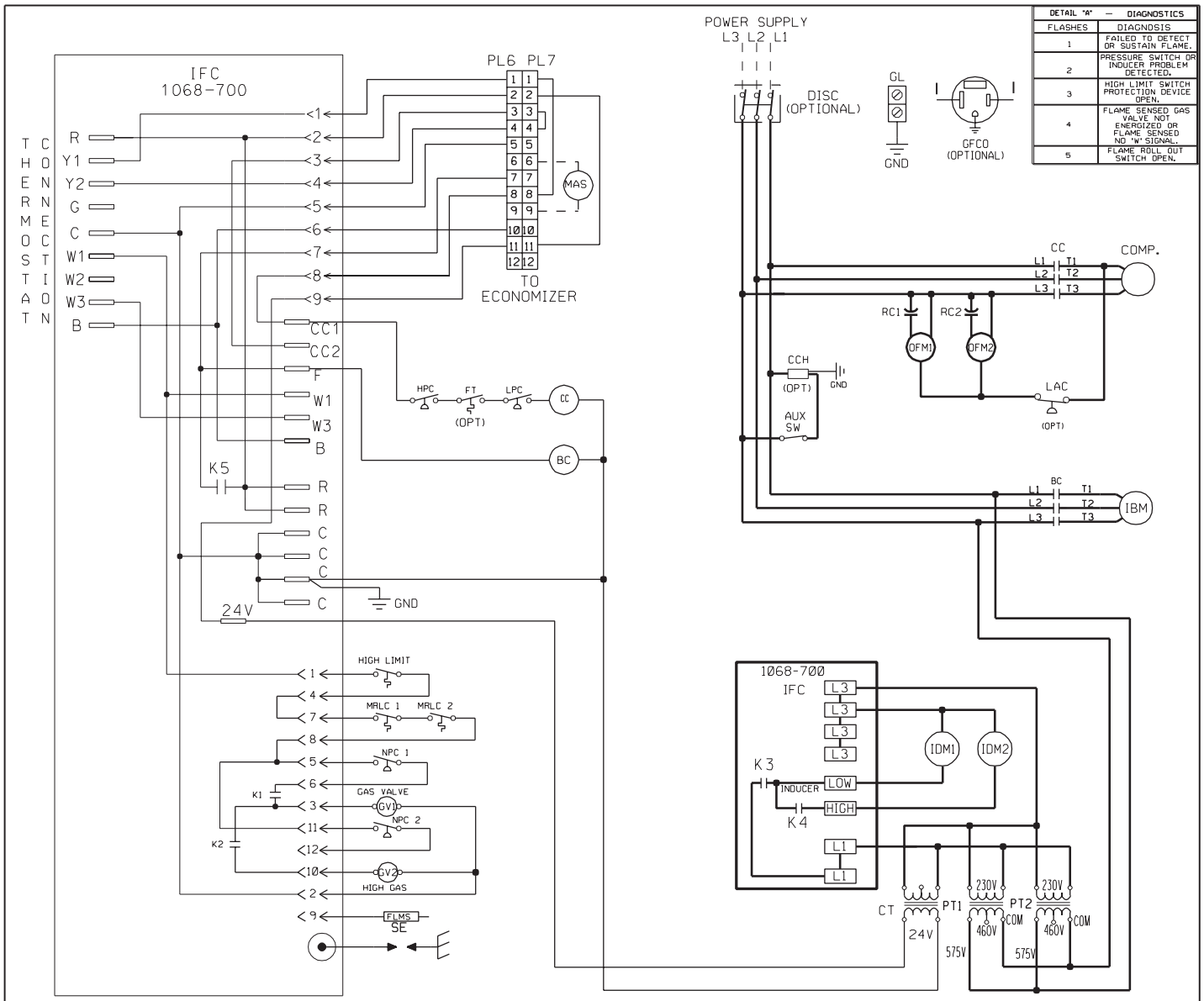
WIRING SCHEMATIC

072/085

208-230/460V, 3 PH, 60 HZ.

ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-03	00



DWG. NO. 90-102891-04

REV 00

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

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

WIRE COLOR CODE

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

WIRING SCHEMATIC

072/085

575V, 3 PH, 60 HZ.

ROOFTOP

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-04	00

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

GENERAL TERMS OF LIMITED WARRANTY

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

Heat Exchanger .....Ten (10) Years

For Complete Details of the Limited Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.

Condenser Coil and Evaporator Coil leaks caused by factory defects .....One (1) Year

Compressor .....Five (5) Years

*Any Other Part .....One (1) Year

***All other parts and components carry a limited warranty of five years, provided they are single-phase products installed in a residential application.**

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.

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

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