



Air

Package Air Conditioner
RLNL-G Series

The new degree of comfort.™



Rheem *Commercial Classic® Series* Package Air Conditioner featuring HumidiDry™ Technology



RLNL-G 13 SEER Series

With ClearControl™

Nominal Sizes 3-5 Tons [10.6-17.6 kW]



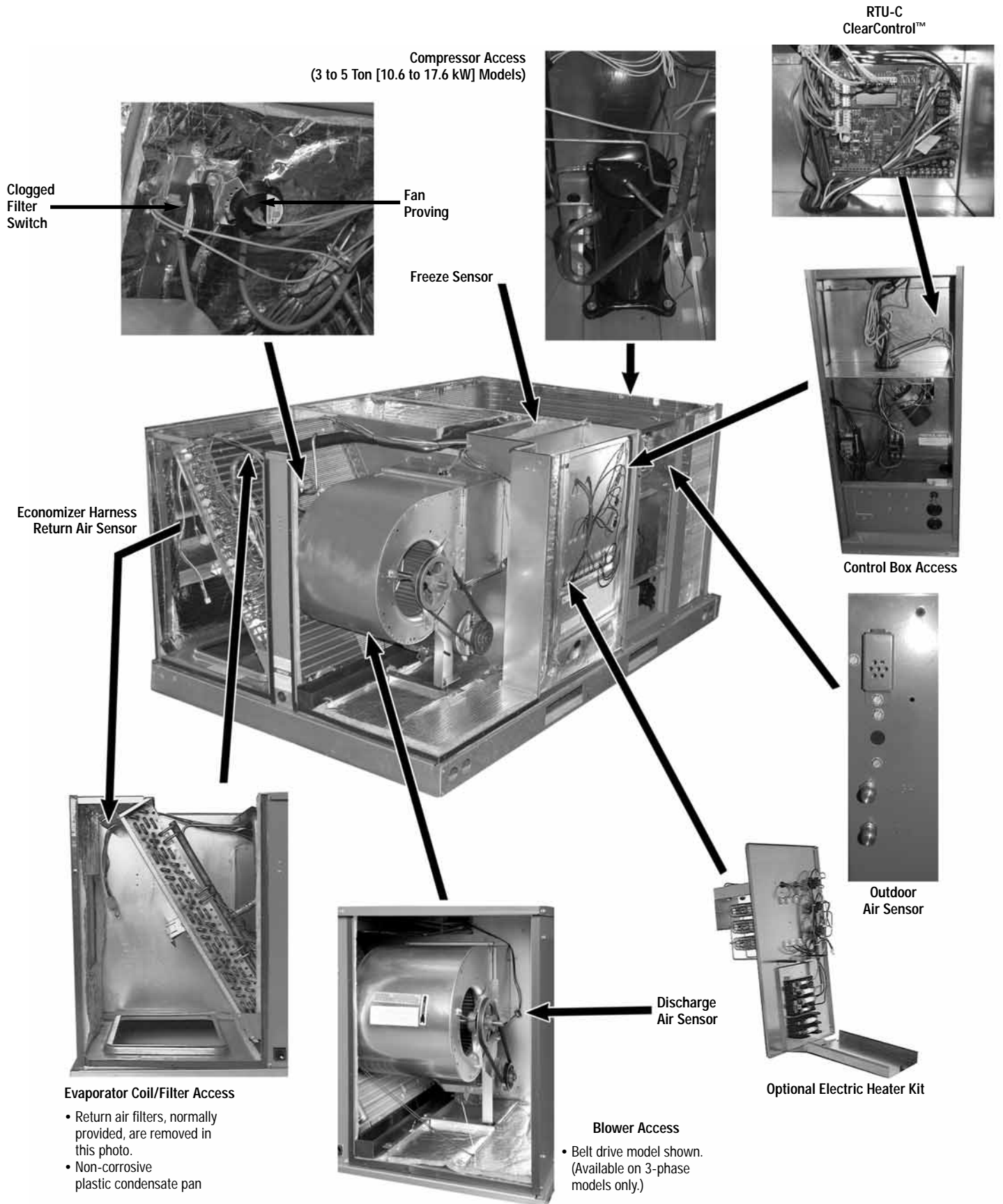
INTEGRATED AIR & WATER

FORM NO. S11-964

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Package Air Conditioner Features:



See pages 6 & 7 for HumidiDry features.

[] Designates Metric Conversions



RLNL - G036, G042, G048, G060

RLNL-G STANDARD FEATURES INCLUDE:

- R-410A HFC refrigerant.
- Complete factory charged, wired and run tested.
- Scroll compressors with internal line break overload and high-pressure protection.
- Single stage compressor on all models.
- Convertible airflow.
- TXV refrigerant metering system on each circuit.
- High Pressure and Low Pressure/Loss of charge protection standard on all models.
- Solid Core liquid line filter drier on each circuit.
- Single slab, single pass designed evaporator coil facilitates easy cleaning for maintained high efficiencies.
- Cooling operation up to 125 degree F ambient.
- Easily removable filter, blower, electric heat, and control access panels permits prompt service.
- Powder Paint Finish meets ASTM B117 steel coated on each side for maximum protection. G90 galvanized.
- One piece top cover and one piece base pan with drawn supply and return opening for superior water management.
- Externally mounted refrigerant gauge ports for easy service diagnostics.
- Factory or field-installed electric heat kits available up to 24 kW.
- Easy to install plug-in; slip in, 100% fully modulating economizer.
- Forkable base rails for easy handling and lifting.
- Single point electrical connections.
- High performance belt drive motor with variable pitch pulleys and quick adjust belt system.
- Permanently lubricated evaporator, condenser motors.
- Condenser motors are internally protected, totally enclosed with shaft down design.
- 1 inch filter standard with slide out design.
- Colored and labeled wiring.
- Copper tube/Aluminum Fin coils.
- Molded compressor plug.
- Factory Installed ClearControl™, a Direct Digital Control (DDC) and sensors which can connect to LonWorks™ or BACnet® BAS systems for remote monitoring and control.
- Factory Installed HumidiDry™ Dehumidification System (Refrigerant Reheat).

As part of the ClearControl™ system which allows real time monitoring and communication between rooftop units, the RLNL-G Package Air Conditioner has a Rooftop Unit Controller (RTU-C) factory mounted and wired in the control panel. The RTU-C is a solid-state microprocessor-based control board that provides flexible control and extensive diagnostics for all unit functions. The RTU-C through proportional/integral control algorithms perform specific unit functions that govern unit operation in response to: zone conditions, system temperatures, system pressures, ambient conditions and electrical inputs. The RTU-C features a 16 x 2 character LCD display and a five-button keypad for local configuration and direct diagnosis of the system. New features include a clogged filter switch (CFS), fan proving switch (FPS), return air temperature sensor (RAT), discharge air temperature sensor (DAT) and outdoor air temperature sensor (OAT). Freeze sensors (FS) are used in place of freezestats to allow measurement of refrigerant suction line temperatures. The RLNL-G Package air Conditioner with the RTU-C is specifically designed to be applied in four distinct applications:

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

The RLNL-G is compatible with a third party building management system that supports the LonMark Space Comfort controller (SCC) functional profile or LonMark Discharge Air Controller (DAC) functional profile. This is accomplished with a field installed LonMark communication module. The LonMark

Communication Module plugs onto the RTU-C controller and allows communication between the RTU-C and a LonWorks Network. A zone sensor, a LonTalk network zone sensor, or a LonTalk thermostat or DDC controller may be used to send the zone temperature or thermostat demands to the RTU-C. The LonMark Communication Module utilizes an FTT-10A free topology transceiver communicating at 78.8 kbps. It is compatible with Echelon qualified twisted pair cable, Belden 8471 or NEMA Level 4 cables. The Module can communicate up to 1640 ft. with no repeater. The LonWorks limits of 64 nodes per segment applies to this device.

The RLNL-G is compatible with a programmable 24 volt thermostat. Connections are made via conventional thermostat screw terminals. Extensive unit status and diagnostics are displayed on the LCD screen of the RTU-C.

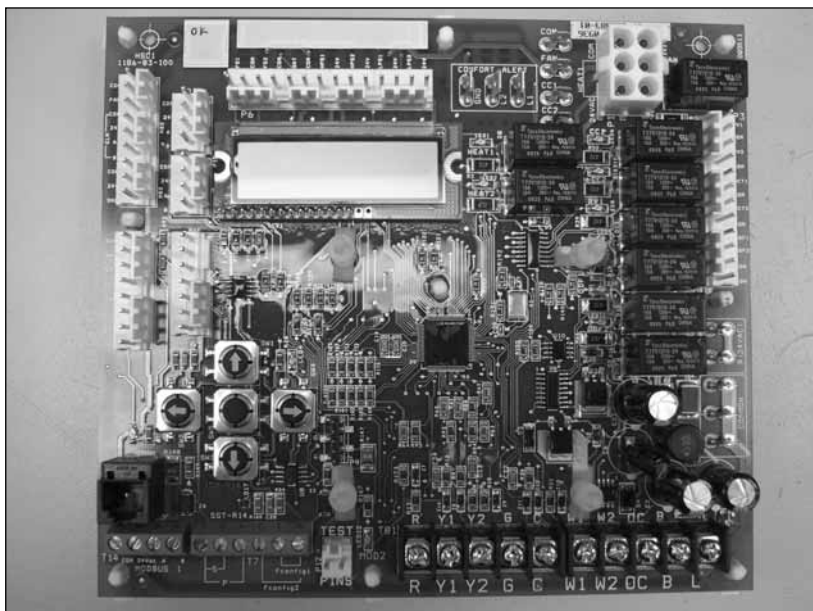
The RLNL-G is compatible with a zone sensor and mechanical or solid state time clock connected to the RTU-C. Extensive unit status and diagnostics are displayed on the LCD screen of the RTU-C.

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

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

The Space CO₂ level, mixed air temperature, and Economizer Status (Free Cooling Available, Single or Dual Enthalpy) can be read at the unit controller display or remotely through a network connection. Economizer Faults will trigger a network Alarm and can be read at the unit controller display or remotely through a network connection.

RTU-C/ClearControl™



HumidiDry™ Dehumidification System

With the factory installed dehumidification option, in addition to a thermostat or space temperature sensor that is normally present, an indoor relative humidity sensor is installed in the occupied space and connected to the Rooftop Unit Controller (RTU-C) which then controls the capacity of the cooling coil to remove moisture from the supply air and maintain space relative humidity below an adjustable limit visible on the RTU-C display. The default value is the ASHRAE recommended limit of 60% RH.

With this option, a refrigerant reheat coil is installed downstream from the evaporator coil. When the space humidity is too high and reheat is energized, this coil uses some of the heat that is normally rejected to the outside by the condenser coil to instead reheat the cold air from the evaporator coil just enough to avoid overcooling the space. Providing "neutral air" to the occupied space.

Because the demand for dehumidification can be different from the cooling demand, the unit will first satisfy the demand for cooling and then if the space humidity is still too high, dehumidification mode is energized. When in dehumidification mode, the supply air leaving the unit will be near the entering air temperature, but at a much lower humidity. The unit will exit the dehumidification mode when the humidity setpoint is satisfied; or if the load is increased, it will return to normal cooling mode. Reheat is not available during the gas heating mode.

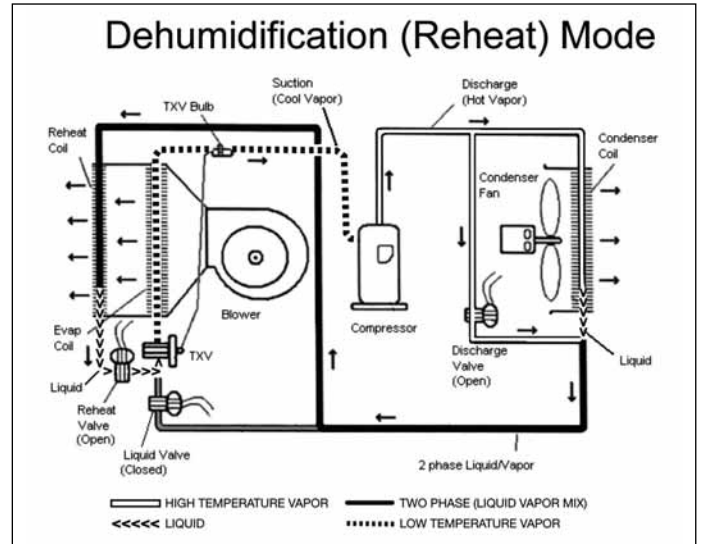


Figure 2 shows the refrigerant path during the dehumidification mode. When the reheat cycle is energized by the RTU-C, a solenoid valve downstream of the reheat coil opens, a solenoid valve ahead of the TXV closes, and a solenoid valve in the compressor discharge line opens. The liquid refrigerant leaves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

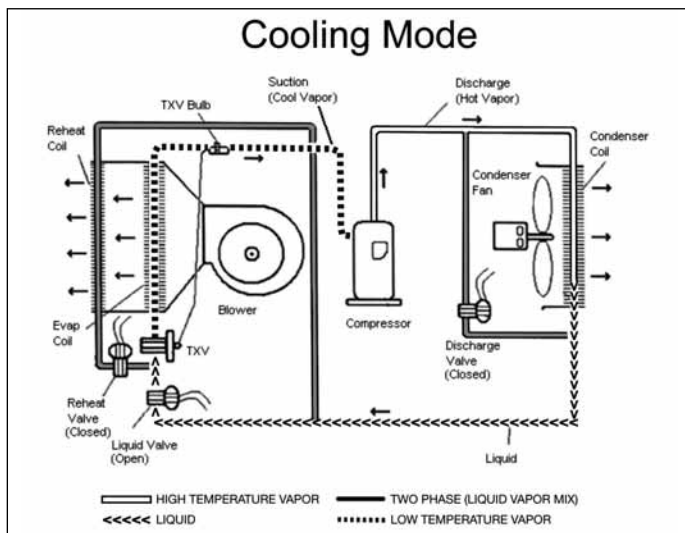


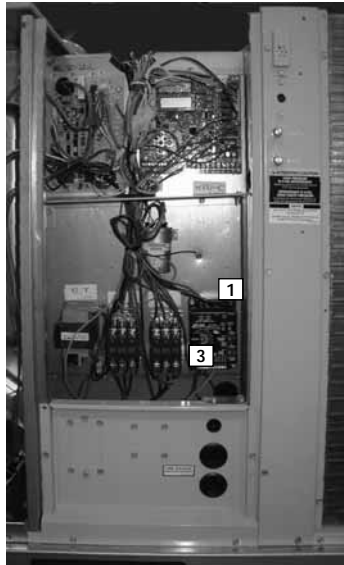
Figure 1 shows the refrigerant path during the normal cooling mode. The liquid refrigerant leaves the TXV with the sudden pressure drop causing the liquid to expand to a vapor and absorbing the heat from the supply air going through the evaporator coil. The refrigerant vapor then travels to the compressor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

HumidiDry Dehumidification System

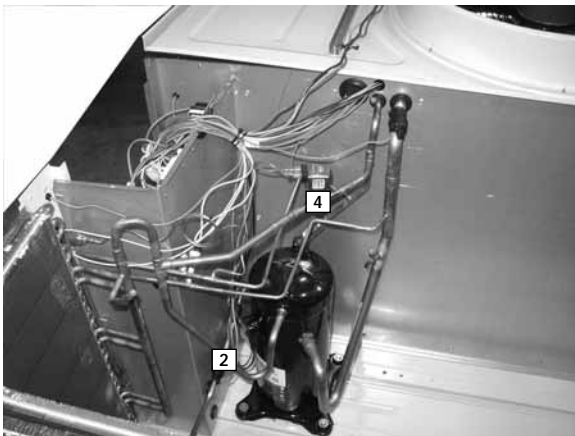
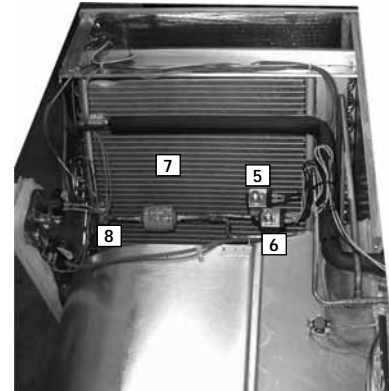
The factory installed dehumidification consist of the following components:

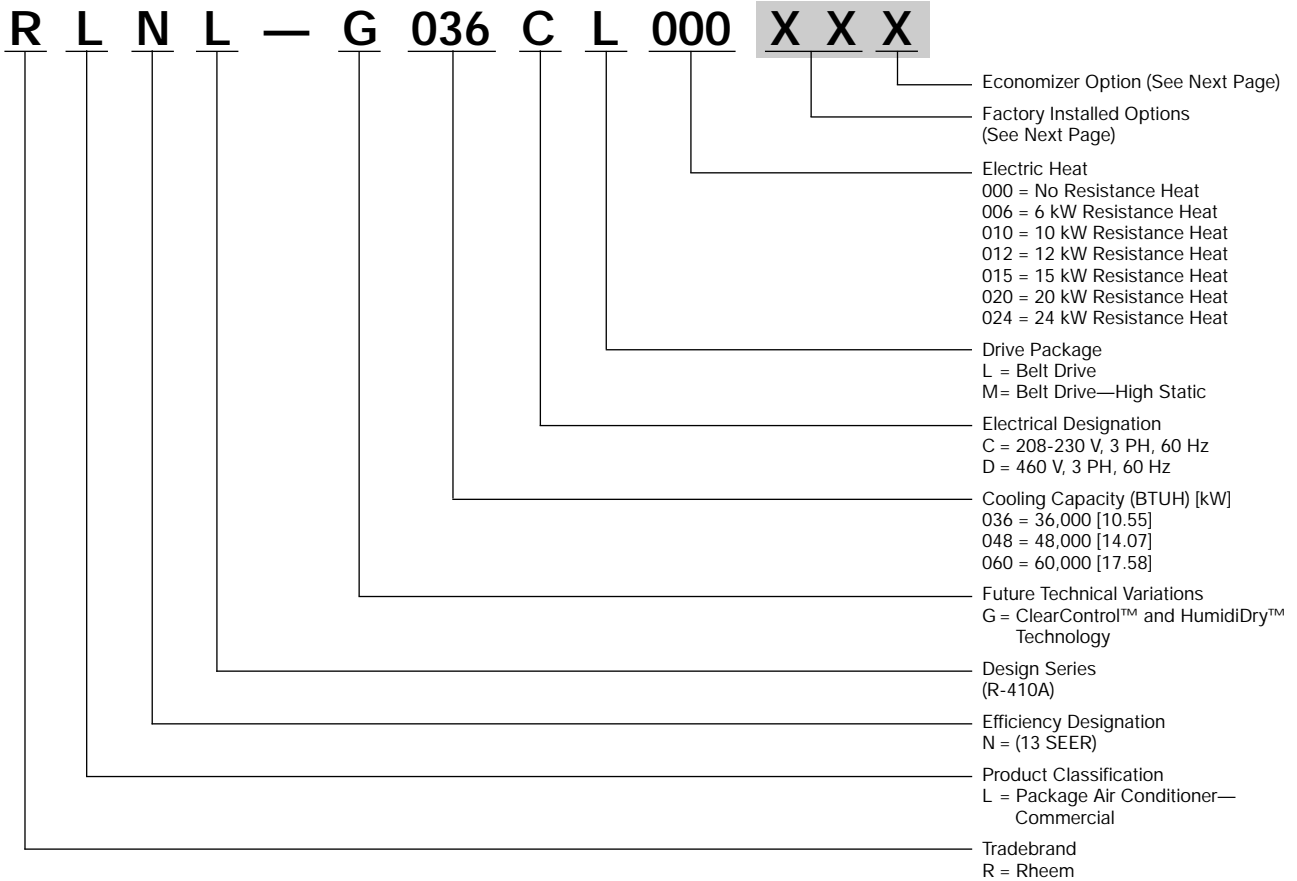
Outdoor Fan Motor Controller, Liquid Line Sensor, Discharge Line Solenoid Valve, Liquid Line Solenoid Valve, Reheat Solenoid Valve & Reheat coil.

During reheat mode the (1) outdoor fan motor controller (OFMC) slows the outdoor fan(s) to increase the liquid temperature to maintain an optimized amount of reheat required to provide neutral air to the occupied space. The OFMC uses a temperature sensor which is located on the liquid line (2) in the outdoor section to determine the temperature of the liquid line. The factory setting for the outdoor fan motor controller is 90° F which will provide neutral air +1 to -5°F from the entering air temperature (example if the entering or return air temperature is 75° F the leaving or supply air temperature will be 76° to 70°F during the reheat mode). If field adjustment is required to raise or lower the leaving air temperature this may be accomplished by turning the temperature control dial (3) on the outdoor fan motor controller (OFMC). Turning the dial to a higher temperature setting will raise the leaving or supply air temperature and turning the dial to a lower setting will reduce the leaving or supply temperature.



When the unit is in the dehumidification mode the discharge line solenoid valve (4) opens which injects discharge gas into the liquid line increasing the liquid line refrigerant temperature. In the reheat mode the liquid line solenoid (5) is closed and the reheat solenoid (6) is open. This forces the two phase refrigerant thru the reheat coil (7) where it is subcooled and then to the evaporator expansion valve (8).





[] Designates Metric Conversions

FACTORY INSTALLED OPTION CODES FOR RLNL-G (3-5 Ton) [10.6-17.6 kW]

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

Example: RLNL-G060CL000XX (where XX is factory installed option)

Example: No Options

RLNL-G060CL000

Example: No Options with Factory Installed Economizer

RLNL-G060CL000AAB

Example: Options with Hailguard with no Factory Installed Economizer

RLNL-G060CL000ADA

Example: Options same as above with Factory Installed Economizer

RLNL-G060CL000ADB

ECONOMIZER SELECTION FOR RLNL-G (3-5 TON) [10.6-17.6 kW]

	No Economizer	DDC Single Enthalpy Economizer With Barometric Relief	DDC Single Enthalpy Economizer With Barometric Relief and Smoke Detector
A	X		
H		X	
J			X

"x" indicates factory installed option.

[] Designates Metric Conversions

RLNL-G SELECTION PROCEDURES

1. Determine cooling and heating requirements at design conditions.

Example:

Power supply208/230 - 3 Phase
 Total cooling capacity42,500 BTUH [12.44 kW]
 Sensible cooling capacity34,000 BTUH [9.96 kW]
 Heating capacityNone
 Condenser entering air95°F [35°C]
 Evaporator entering air63°F [17°C] wb/76°F [24°C] db
 Indoor air flow1600 CFM [755 L/s]
 External static pressure1.1 in wg
 Required efficiency13 SEER

2. Select unit to meet cooling requirements.

Since total cooling is within the range of 4 ton [14.07 kW] unit and requires 13 SEER efficiency level, enter cooling performance from the RLNL-G048 table, at 95°F [35°C] outdoor temperature, 63°F [17°C] wb entering indoor air, and 1600 CFM [755 L/s]:
 Total capacity45,100 BTUH [13.21 kW]
 Power supply44,100 BTUH [12.91 kW]
 Power input3.6 kW

And also, at 76°F [24°C] db indoor entering air, and using the formula at the bottom of the page:

Sensible capacity38,327 BTUH [11.22 kW]

3. Determine blower speed and power to meet the system requirements.

At the given external static pressure of 1.1 in wg, the belt model must be selected. Enter the belt drive blower performance table at 1600 CFM [755 L/s] and 1.1 in wg ESP:

RPM1195
 Watts755
 DriveM

4. Calculate indoor blower BTUH heat effect.

BTUH = Watts x 3.413 = 2577

5. Calculate net cooling capacities.

Net total cooling = 45,100 – 2577 = 42,523 BTUH [12.45 kW]
 Net sensible cooling = 36,908 – 2577 = 35,750 BTUH [10.06 kW]

6. Select Model

RLNL-G048CM000

[] Designates Metric Conversions

NOMINAL SIZES 3-5 TONS [10.6-17.6 kW]

Model RLNL- Series	G036CL	G036CM	G036DL	G036DM
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	36,400 [10.67]	36,400 [10.67]	36,400 [10.67]	36,400 [10.67]
EER/SEER ²	11/13	11/13	11/13	11/13
Nominal CFM/AHRI Rated CFM [L/s]	1200/1200 [566/566]	1200/1200 [566/566]	1200/1200 [566/566]	1200/1200 [566/566]
AHRI Net Cooling Capacity Btu [kW]	35,400 [10.37]	35,400 [10.37]	35,400 [10.37]	35,400 [10.37]
Net Sensible Capacity Btu [kW]	25,600 [7.5]	25,600 [7.5]	25,600 [7.5]	25,600 [7.5]
Net Latent Capacity Btu [kW]	9,800 [2.87]	9,800 [2.87]	9,800 [2.87]	9,800 [2.87]
Net System Power [kW]	2.84	2.84	2.84	2.84
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)³	78	78	78	78
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]	16.91 [1.57]	16.91 [1.57]	16.91 [1.57]	16.91 [1.57]
Rows / FPI [FPcm]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]	1 / 22 [9]
Indoor Coil—Fin Type	Corrugated	Corrugated	Corrugated	Corrugated
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]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]
Rows / FPI [FPcm]	2 / 17 [7]	2 / 17 [7]	2 / 17 [7]	2 / 17 [7]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]
Re-Heat Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	3680 [1737]	3680 [1737]	3680 [1737]	3680 [1737]
No. Motors/HP	1 at 1/3 HP	1 at 1/3 HP	1 at 1/3 HP	1 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]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	1/2	3/4	1/2	3/4
Motor RPM	1725	1725	1725	1725
Motor Frame Size	48	56	48	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]
Refrigerant Charge Oz. [g]	96 [2722]	96 [2722]	96 [2722]	96 [2722]
Weights				
Net Weight lbs. [kg]	551 [250]	551 [250]	551 [250]	551 [250]
Ship Weight lbs. [kg]	558 [253]	558 [253]	558 [253]	558 [253]

See Page 14 for Notes.

[] Designates Metric Conversions

NOMINAL SIZES 3-5 TONS [10.6-17.6 kW]

Model RLNL- Series	G048CL	G048CM	G048DL	G048DM
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	49,000 [14.36]	49,000 [14.36]	49,000 [14.36]	49,000 [14.36]
EER/SEER ²	11/13	11/13	11/13	11/13
Nominal CFM/AHRI Rated CFM [L/s]	1600/1600 [755/755]	1600/1600 [755/755]	1600/1600 [755/755]	1600/1600 [755/755]
AHRI Net Cooling Capacity Btu [kW]	47,000 [13.77]	47,000 [13.77]	47,000 [13.77]	47,000 [13.77]
Net Sensible Capacity Btu [kW]	34,300 [10.05]	34,300 [10.05]	34,300 [10.05]	34,300 [10.05]
Net Latent Capacity Btu [kW]	12,700 [3.72]	12,700 [3.72]	12,700 [3.72]	12,700 [3.72]
Net System Power [kW]	4.03	4.03	4.03	4.03
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)³	78	78	78	78
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]	16.56 [1.54]	16.56 [1.54]	16.56 [1.54]	16.56 [1.54]
Rows / FPI [FPcm]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]
Indoor Coil—Fin Type	Corrugated	Corrugated	Corrugated	Corrugated
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]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]
Rows / FPI [FPcm]	3 / 15 [6]	3 / 15 [6]	3 / 15 [6]	3 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]
Re-Heat Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	3680 [1737]	3680 [1737]	3680 [1737]	3680 [1737]
No. Motors/HP	1 at 1/3 HP	1 at 1/3 HP	1 at 1/3 HP	1 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]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	1/2	3/4	1/2	3/4
Motor RPM	1725	1725	1725	1725
Motor Frame Size	48	56	48	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]
Refrigerant Charge Oz. [g]	165 [4678]	165 [4678]	165 [4678]	165 [4678]
Weights				
Net Weight lbs. [kg]	588 [267]	588 [267]	588 [267]	588 [267]
Ship Weight lbs. [kg]	595 [270]	595 [270]	595 [270]	595 [270]

See Page 14 for Notes.

[] Designates Metric Conversions

NOMINAL SIZES 3-5 TONS [10.6-17.6 kW]

Model RLNL- Series	G060CL	CG060CM	G060DL	G060DM
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	59,000 [17.29]	59,000 [17.29]	59,000 [17.29]	59,000 [17.29]
EER/SEER ²	11/13	11/13	11/13	11/13
Nominal CFM/AHRI Rated CFM [L/s]	2000/1850 [944/873]	2000/1850 [944/873]	2000/1850 [944/873]	2000/1850 [944/873]
AHRI Net Cooling Capacity Btu [kW]	57,000 [16.7]	57,000 [16.7]	57,000 [16.7]	57,000 [16.7]
Net Sensible Capacity Btu [kW]	41,600 [12.19]	41,600 [12.19]	41,600 [12.19]	41,600 [12.19]
Net Latent Capacity Btu [kW]	15,400 [4.51]	15,400 [4.51]	15,400 [4.51]	15,400 [4.51]
Net System Power [kW]	5.19	5.19	5.19	5.19
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)³	83	83	83	83
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]	16.56 [1.54]	16.56 [1.54]	16.56 [1.54]	16.56 [1.54]
Rows / FPI [FPcm]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]
Indoor Coil—Fin Type	Corrugated	Corrugated	Corrugated	Corrugated
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]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]	5.17 [0.48]
Rows / FPI [FPcm]	3 / 15 [6]	3 / 15 [6]	3 / 15 [6]	3 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]
Re-Heat Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	0.709 [18]	0.709 [18]	0.709 [18]	0.709 [18]
Face Area sq. ft. [sq. m]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]	4.5 [0.42]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	3930 [1855]	3930 [1855]	3930 [1855]	3930 [1855]
No. Motors/HP	1 at 1/3 HP	1 at 1/3 HP	1 at 1/3 HP	1 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]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]	1/10x10 [254x254]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3/4	1	3/4	1
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]	(1)1x16x25 [25x406x635] (1)1x16x25 [25x406x635]
Refrigerant Charge Oz. [g]	196 [5557]	196 [5557]	196 [5557]	196 [5557]
Weights				
Net Weight lbs. [kg]	598 [271]	598 [271]	598 [271]	598 [271]
Ship Weight lbs. [kg]	605 [274]	605 [274]	605 [274]	605 [274]

See Page 14 for Notes.

[] Designates Metric Conversions

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to $\pm 20\%$ of nominal CFM. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions



GROSS SYSTEMS PERFORMANCE DATA—RLNL-G036

		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]		1320 [623]	1200 [566]	1020 [481]	1320 [623]	1200 [566]	1020 [481]	1320 [623]	1200 [566]	1020 [481]	
DR ①		.15	.17	.21	.15	.17	.21	.15	.17	.21	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW] Sens BTUH [kW] Power	44.7 [13.1] 24.8 [7.3] 2.2	43.9 [12.9] 22.9 [6.7] 2.2	42.7 [12.5] 20.2 [5.9] 2.2	42.1 [12.3] 29.6 [8.7] 2.2	41.3 [12.1] 27.5 [8.1] 2.2	40.2 [11.8] 24.6 [7.2] 2.2	39.5 [11.6] 33 [9.7] 2.2	38.8 [11.4] 30.8 [9.0] 2.2	37.8 [11.1] 27.7 [8.1] 2.2
	80 [26.7]	Total BTUH [kW] Sens BTUH [kW] Power	43.6 [12.8] 24.8 [7.3] 2.3	42.8 [12.5] 22.9 [6.7] 2.2	41.6 [12.2] 20.2 [5.9] 2.2	40.9 [12.0] 29.6 [8.7] 2.3	40.2 [11.8] 27.6 [8.1] 2.2	39.1 [11.5] 24.6 [7.2] 2.2	38.3 [11.2] 33 [9.7] 2.3	37.7 [11.0] 30.9 [9.1] 2.3	36.6 [10.7] 27.7 [8.1] 2.2
	85 [29.4]	Total BTUH [kW] Sens BTUH [kW] Power	42.3 [12.4] 24.6 [7.2] 2.3	41.6 [12.2] 22.8 [6.7] 2.3	40.4 [11.8] 20.1 [5.9] 2.3	39.7 [11.6] 29.5 [8.6] 2.4	39 [11.4] 27.5 [8.1] 2.3	37.9 [11.1] 24.6 [7.2] 2.3	37.1 [10.9] 32.8 [9.6] 2.4	36.4 [10.7] 30.6 [9.0] 2.3	35.4 [10.4] 27.5 [8.1] 2.3
	90 [32.2]	Total BTUH [kW] Sens BTUH [kW] Power	41 [12.0] 24.2 [7.1] 2.5	40.3 [11.8] 22.4 [6.6] 2.4	39.2 [11.5] 19.8 [5.8] 2.4	38.4 [11.3] 29.1 [8.5] 2.5	37.7 [11.0] 27.1 [7.9] 2.4	36.6 [10.7] 24.2 [7.1] 2.4	35.8 [10.5] 32.3 [9.5] 2.5	35.2 [10.3] 30.3 [8.9] 2.4	34.2 [10.0] 27.2 [8.0] 2.4
	95 [35]	Total BTUH [kW] Sens BTUH [kW] Power	39.7 [11.6] 23.7 [6.9] 2.6	39 [11.4] 21.9 [6.4] 2.6	37.9 [11.1] 19.3 [5.7] 2.5	37 [10.8] 28.5 [8.4] 2.6	36.3 [10.6] 26.5 [7.8] 2.6	35.3 [10.3] 23.7 [6.9] 2.5	34.4 [10.1] 31.8 [9.3] 2.6	33.8 [9.9] 29.8 [8.7] 2.6	32.9 [9.6] 26.9 [7.9] 2.5
	100 [37.8]	Total BTUH [kW] Sens BTUH [kW] Power	38.2 [11.2] 22.8 [6.7] 2.7	37.6 [11.0] 21.2 [6.2] 2.7	36.5 [10.7] 18.7 [5.5] 2.7	35.6 [10.4] 27.7 [8.1] 2.7	34.9 [10.2] 25.8 [7.6] 2.7	34 [10.0] 23.2 [6.8] 2.7	33 [9.7] 31.1 [9.1] 2.7	32.4 [9.5] 29.1 [8.5] 2.7	31.5 [9.2] 26.2 [7.7] 2.7
	105 [40.6]	Total BTUH [kW] Sens BTUH [kW] Power	36.8 [10.8] 22 [6.4] 2.9	36.1 [10.6] 20.3 [5.9] 2.9	35.1 [10.3] 17.9 [5.2] 2.8	34.1 [10.0] 26.8 [7.9] 2.9	33.5 [9.8] 25 [7.3] 2.9	32.6 [9.6] 22.4 [6.6] 2.8	31.5 [9.2] 30 [8.8] 2.9	31 [9.1] 28.2 [8.3] 2.9	30.1 [8.8] 25.4 [7.4] 2.9
	110 [43.3]	Total BTUH [kW] Sens BTUH [kW] Power	35.2 [10.3] 20.8 [6.1] 3.1	34.6 [10.1] 19.3 [5.7] 3.1	33.6 [9.8] 17 [5.0] 3.0	32.6 [9.6] 25.7 [7.5] 3.1	32 [9.4] 24 [7.0] 3.1	31.1 [9.1] 21.5 [6.3] 3.0	30 [8.8] 29 [8.5] 3.1	29.5 [8.6] 27.2 [8.0] 3.1	28.7 [8.4] 24.6 [7.2] 3.0
	115 [46.1]	Total BTUH [kW] Sens BTUH [kW] Power	33.6 [9.8] 19.5 [5.7] 3.3	33 [9.7] 18 [5.3] 3.3	32.1 [9.4] 15.9 [4.7] 3.3	31 [9.1] 24.4 [7.1] 3.3	30.4 [8.9] 22.7 [6.7] 3.3	29.6 [8.7] 20.4 [6.0] 3.3	28.4 [8.3] 27.7 [8.1] 3.3	27.9 [8.2] 26 [7.6] 3.3	27.1 [7.9] 23.4 [6.9] 3.3

GROSS SYSTEMS PERFORMANCE DATA—RLNL-G048

		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]		1760 [831]	1600 [755]	1360 [642]	1760 [831]	1600 [755]	1360 [642]	1760 [831]	1600 [755]	1360 [642]	
DR ①		.13	.15	.18	.13	.15	.18	.13	.15	.18	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75 [23.9]	Total BTUH [kW] Sens BTUH [kW] Power	59.2 [17.3] 33.8 [9.9] 2.8	58.1 [17.0] 31.2 [9.1] 2.8	56.5 [16.6] 27.5 [8.1] 2.8	56.7 [16.6] 40.5 [11.9] 2.8	55.7 [16.3] 37.7 [11.0] 2.8	54.1 [15.9] 33.6 [9.8] 2.7	54.2 [15.9] 45.4 [13.3] 2.8	53.3 [15.6] 42.5 [12.5] 2.7	51.8 [15.2] 38.1 [11.2] 2.7
	80 [26.7]	Total BTUH [kW] Sens BTUH [kW] Power	57.5 [16.8] 33.7 [9.9] 3	56.4 [16.5] 31.1 [9.1] 3	54.9 [16.1] 27.5 [8.1] 2.9	54.9 [16.1] 40.3 [11.8] 3	54 [15.8] 37.6 [11.0] 2.9	52.5 [15.4] 33.6 [9.8] 2.9	52.5 [15.4] 45.2 [13.2] 2.9	51.6 [15.1] 42.3 [12.4] 2.9	50.2 [14.7] 38 [11.1] 2.9
	85 [29.4]	Total BTUH [kW] Sens BTUH [kW] Power	55.7 [16.3] 33.3 [9.8] 3.2	54.7 [16.0] 30.8 [9.0] 3.1	53.2 [15.6] 27.2 [8.0] 3.1	53.2 [15.6] 40 [11.7] 3.1	52.3 [15.3] 37.3 [10.9] 3.1	50.8 [14.9] 33.3 [9.8] 3.1	50.8 [14.9] 44.9 [13.2] 3.1	49.9 [14.6] 42 [12.3] 3.1	48.5 [14.2] 37.8 [11.1] 3
	90 [32.2]	Total BTUH [kW] Sens BTUH [kW] Power	54 [15.8] 32.8 [9.6] 3.4	53 [15.5] 30.3 [8.9] 3.3	51.6 [15.1] 26.9 [7.9] 3.3	51.5 [15.1] 39.5 [11.6] 3.3	50.5 [14.8] 36.7 [10.8] 3.3	49.2 [14.4] 32.9 [9.6] 3.3	49 [14.4] 44.4 [13.0] 3.3	48.1 [14.1] 41.5 [12.2] 3.3	46.8 [13.7] 37.4 [11.0] 3.2
	95 [35]	Total BTUH [kW] Sens BTUH [kW] Power	52.2 [15.3] 32 [9.4] 3.6	51.3 [15.0] 29.7 [8.7] 3.5	49.9 [14.6] 26.3 [7.7] 3.5	49.7 [14.6] 38.7 [11.3] 3.5	48.8 [14.3] 36.1 [10.6] 3.5	47.5 [13.9] 32.4 [9.5] 3.5	47.3 [13.9] 43.6 [12.8] 3.5	46.4 [13.6] 40.8 [12.0] 3.5	45.1 [13.2] 36.7 [10.8] 3.4
	100 [37.8]	Total BTUH [kW] Sens BTUH [kW] Power	50.4 [14.8] 31.1 [9.1] 3.8	49.5 [14.5] 28.8 [8.4] 3.7	48.2 [14.1] 25.6 [7.5] 3.7	47.9 [14.0] 37.8 [11.1] 3.7	47.1 [13.8] 35.3 [10.3] 3.7	45.8 [13.4] 31.6 [9.3] 3.7	45.5 [13.3] 42.7 [12.5] 3.7	44.7 [13.1] 40 [11.7] 3.7	43.4 [12.7] 36 [10.5] 3.6
	105 [40.6]	Total BTUH [kW] Sens BTUH [kW] Power	48.6 [14.2] 29.9 [8.8] 4	47.8 [14.0] 27.8 [8.1] 4	46.5 [13.6] 24.6 [7.2] 3.9	46.1 [13.5] 36.6 [10.7] 4	45.3 [13.3] 34.2 [10.0] 3.9	44.1 [12.9] 30.7 [9.0] 3.9	43.7 [12.8] 41.6 [12.2] 3.9	42.9 [12.6] 38.9 [11.4] 3.9	41.7 [12.2] 35.1 [10.3] 3.9
	110 [43.3]	Total BTUH [kW] Sens BTUH [kW] Power	46.8 [13.7] 28.6 [8.4] 4.2	46 [13.5] 26.5 [7.8] 4.2	44.8 [13.1] 23.5 [6.9] 4.1	44.3 [13.0] 35.3 [10.3] 4.2	43.5 [12.7] 32.9 [9.6] 4.2	42.4 [12.4] 29.6 [8.7] 4.1	41.9 [12.3] 40.2 [11.8] 4.2	41.2 [12.1] 37.7 [11.0] 4.1	40 [11.7] 33.9 [9.9] 4.1
	115 [46.1]	Total BTUH [kW] Sens BTUH [kW] Power	45 [13.2] 27 [7.9] 4.5	44.2 [13.0] 25 [7.3] 4.4	43 [12.6] 22.1 [6.5] 4.4	42.5 [12.5] 33.8 [9.9] 4.5	41.8 [12.2] 31.6 [9.3] 4.4	40.6 [11.9] 28.3 [8.3] 4.4	40.1 [11.7] 38.7 [11.3] 4.4	39.4 [11.5] 36.3 [10.6] 4.4	38.3 [11.2] 32.7 [9.6] 4.3

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

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

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

[] Designates Metric Conversions





GROSS SYSTEMS PERFORMANCE DATA—RLNL-G060

		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]		2040 [963]	1850 [873]	1570 [741]	2040 [963]	1850 [873]	1570 [741]	2040 [963]	1850 [873]	1570 [741]	
DR ①		.09	.11	.15	.09	.11	.15	.09	.11	.15	
O U T D O O R D R Y B U L B T E M P E R A T U R E ° F [° C]	75 [23.9]	Total BTUH [kW] Sens BTUH [kW] Power	70.9 [20.8] 42.1 [12.3] 3.7	69.6 [20.4] 38.9 [11.4] 3.7	67.7 [19.8] 34.4 [10.1] 3.7	67.4 [19.7] 50.3 [14.7] 3.7	66.2 [19.4] 46.8 [13.7] 3.7	64.3 [18.8] 41.7 [12.2] 3.6	63.8 [18.7] 56.1 [16.4] 3.7	62.6 [18.3] 52.3 [15.3] 3.7	60.9 [17.8] 47 [13.8] 3.6
	80 [26.7]	Total BTUH [kW] Sens BTUH [kW] Power	69.2 [20.3] 41.6 [12.2] 3.9	67.9 [19.9] 38.4 [11.3] 3.9	66.1 [19.4] 34 [10.0] 3.9	65.7 [19.2] 49.7 [14.6] 3.9	64.5 [18.9] 46.2 [13.5] 3.9	62.7 [18.4] 41.3 [12.1] 3.8	62.1 [18.2] 55.4 [16.2] 3.9	60.9 [17.8] 51.7 [15.1] 3.9	59.3 [17.4] 46.6 [13.7] 3.8
	85 [29.4]	Total BTUH [kW] Sens BTUH [kW] Power	67.4 [19.7] 40.8 [12.0] 4.2	66.2 [19.4] 37.7 [11.0] 4.1	64.4 [18.9] 33.4 [9.8] 4.1	63.9 [18.7] 48.9 [14.3] 4.1	62.7 [18.4] 45.5 [13.3] 4.1	61 [17.9] 40.7 [11.9] 4.0	60.3 [17.7] 54.7 [16.0] 4.1	59.2 [17.3] 51.1 [15.0] 4.1	57.6 [16.9] 46 [13.5] 4.0
	90 [32.2]	Total BTUH [kW] Sens BTUH [kW] Power	65.6 [19.2] 39.8 [11.7] 4.4	64.4 [18.9] 36.8 [10.8] 4.4	62.7 [18.4] 32.6 [9.6] 4.3	62.1 [18.2] 48 [14.1] 4.4	60.9 [17.8] 44.6 [13.1] 4.3	59.3 [17.4] 40 [11.7] 4.3	58.5 [17.1] 53.8 [15.8] 4.3	57.4 [16.8] 50.2 [14.7] 4.3	55.8 [16.3] 45.2 [13.2] 4.2
	95 [35]	Total BTUH [kW] Sens BTUH [kW] Power	63.8 [18.7] 38.9 [11.4] 4.6	62.6 [18.3] 35.9 [10.5] 4.6	60.9 [17.8] 31.8 [9.3] 4.5	60.2 [17.6] 46.9 [13.7] 4.6	59.1 [17.3] 43.7 [12.8] 4.6	57.5 [16.8] 39.1 [11.5] 4.5	56.6 [16.6] 52.7 [15.4] 4.6	55.6 [16.3] 49.3 [14.4] 4.5	54.1 [15.9] 44.4 [13.0] 4.5
	100 [37.8]	Total BTUH [kW] Sens BTUH [kW] Power	61.9 [18.1] 37.7 [11.0] 4.9	60.8 [17.8] 34.9 [10.2] 4.8	59.1 [17.3] 30.9 [9.1] 4.8	58.3 [17.1] 45.8 [13.4] 4.9	57.3 [16.8] 42.7 [12.5] 4.8	55.7 [16.3] 38.2 [11.2] 4.8	54.7 [16.0] 51.6 [15.1] 4.8	53.7 [15.7] 48.2 [14.1] 4.8	52.3 [15.3] 43.5 [12.7] 4.7
	105 [40.6]	Total BTUH [kW] Sens BTUH [kW] Power	59.9 [17.6] 36.4 [10.7] 5.2	58.8 [17.2] 33.6 [9.8] 5.1	57.2 [16.8] 29.7 [8.7] 5.0	56.4 [16.5] 44.5 [13.0] 5.1	55.4 [16.2] 41.5 [12.2] 5.1	53.8 [15.8] 37.1 [10.9] 5	52.8 [15.5] 50.3 [14.7] 5.1	51.8 [15.2] 47 [13.8] 5.1	50.4 [14.8] 42.4 [12.4] 5
	110 [43.3]	Total BTUH [kW] Sens BTUH [kW] Power	58 [17.0] 35.1 [10.3] 5.4	56.9 [16.7] 32.4 [9.5] 5.4	55.3 [16.2] 28.6 [8.4] 5.3	54.4 [15.9] 43.1 [12.6] 5.4	53.4 [15.6] 40.1 [11.7] 5.4	52 [15.2] 36 [10.5] 5.3	50.8 [14.9] 48.8 [14.3] 5.4	49.9 [14.6] 45.7 [13.4] 5.3	48.5 [14.2] 41.2 [12.1] 5.3
	115 [46.1]	Total BTUH [kW] Sens BTUH [kW] Power	56 [16.4] 33.5 [9.8] 5.7	54.9 [16.1] 30.9 [9.1] 5.7	53.4 [15.6] 27.3 [8.0] 5.6	52.4 [15.4] 41.6 [12.2] 5.7	51.4 [15.1] 38.7 [11.3] 5.7	50 [14.6] 34.7 [10.2] 5.6	48.8 [14.3] 47.4 [13.9] 5.7	47.9 [14.0] 44.3 [13.0] 5.6	46.6 [13.7] 40 [11.7] 5.6

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 (HIGH REHEAT MODE)—RLNL-G036

		ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①									
wbE		65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]			
CFM [L/s]		1320 [623]	1200 [566]	1020 [481]	1320 [623]	1200 [566]	1020 [481]	1320 [623]	1200 [566]	1020 [481]	
OUTDOOR DRY BULB TEMPERATURE	60 [15.6]	Total BTUH [kW]	13.1 [3.8]	12.9 [3.8]	12.6 [3.7]	12.7 [3.7]	12.5 [3.7]	12.1 [3.6]	11.5 [3.4]	11.2 [3.3]	10.9 [3.2]
		Sens BTUH [kW]	-0.8 [-0.2]	-0.8 [-0.2]	-0.7 [-0.2]	1.3 [0.4]	1.3 [0.4]	1.2 [0.3]	3.4 [1]	3.3 [1]	3 [0.9]
		Power	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	70 [21.1]	Total BTUH [kW]	12.3 [3.6]	12.1 [3.5]	11.8 [3.5]	11.9 [3.5]	11.7 [3.4]	11.4 [3.3]	10.6 [3.1]	10.5 [3.1]	10.2 [3]
		Sens BTUH [kW]	-1.6 [-0.5]	-1.6 [-0.5]	-1.4 [-0.4]	0.5 [0.2]	0.5 [0.1]	0.5 [0.1]	2.6 [0.8]	2.5 [0.7]	2.3 [0.7]
		Power	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1
	80 [26.7]	Total BTUH [kW]	12.2 [3.6]	12 [3.5]	11.7 [3.4]	11.8 [3.5]	11.6 [3.4]	11.3 [3.3]	10.5 [3.1]	10.4 [3]	10.1 [3]
Sens BTUH [kW]		-1.9 [-0.5]	-1.8 [-0.5]	-1.6 [-0.5]	0.3 [0.1]	0.3 [0.1]	0.3 [0.1]	2.4 [0.7]	2.3 [0.7]	2.1 [0.6]	
Power		2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
90 [32.2]	Total BTUH [kW]	12.9 [3.8]	12.6 [3.7]	12.3 [3.6]	12.4 [3.6]	12.2 [3.6]	11.9 [3.5]	11.2 [3.3]	11 [3.2]	10.7 [3.1]	
	Sens BTUH [kW]	-1.5 [-0.4]	-1.4 [-0.4]	-1.3 [-0.4]	0.6 [0.2]	0.6 [0.2]	0.6 [0.2]	2.8 [0.8]	2.6 [0.8]	2.4 [0.7]	
	Power	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	
100 [37.8]	Total BTUH [kW]	14.2 [4.2]	14 [4.1]	13.6 [4]	13.8 [4]	13.5 [4]	13.2 [3.9]	12.5 [3.7]	12.3 [3.6]	12 [3.5]	
	Sens BTUH [kW]	-0.6 [-0.2]	-0.6 [-0.2]	-0.5 [-0.2]	1.5 [0.5]	1.5 [0.4]	1.4 [0.4]	3.7 [1.1]	3.5 [1]	3.2 [1]	
	Power	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	
110 [43.3]	Total BTUH [kW]	16.3 [4.8]	16 [4.7]	15.6 [4.6]	15.9 [4.6]	15.6 [4.6]	15.1 [4.4]	14.6 [4.3]	14.3 [4.2]	13.9 [4.1]	
	Sens BTUH [kW]	0.9 [0.3]	0.8 [0.2]	0.8 [0.2]	3 [0.9]	2.9 [0.8]	2.7 [0.8]	5.1 [1.5]	4.9 [1.4]	4.6 [1.3]	
	Power	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	
120 [48.9]	Total BTUH [kW]	19.1 [5.6]	18.7 [5.5]	18.2 [5.3]	18.6 [5.5]	18.3 [5.4]	17.8 [5.2]	17.4 [5.1]	17.1 [5]	16.6 [4.9]	
	Sens BTUH [kW]	2.9 [0.8]	2.8 [0.8]	2.6 [0.8]	5 [1.5]	4.8 [1.4]	4.5 [1.3]	7.2 [2.1]	6.8 [2]	6.4 [1.9]	
	Power	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	

GROSS SYSTEMS PERFORMANCE DATA (HIGH REHEAT MODE)—RLNL-G048

		ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①									
wbE		65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]			
CFM [L/s]		1760 [831]	1600 [755]	1360 [642]	1760 [831]	1600 [755]	1360 [642]	1760 [831]	1600 [755]	1360 [642]	
OUTDOOR DRY BULB TEMPERATURE	60 [15.6]	Total BTUH [kW]	27.2 [8]	26.7 [7.8]	26 [7.6]	26.3 [7.7]	25.9 [7.6]	25.2 [7.4]	26.4 [7.7]	25.9 [7.6]	25.2 [7.4]
		Sens BTUH [kW]	4.3 [1.2]	4.1 [1.2]	3.8 [1.1]	7.2 [2.1]	6.9 [2]	6.4 [1.9]	10.7 [3.1]	10.3 [3]	9.5 [2.8]
		Power	2.8	2.8	2.7	2.8	2.8	2.7	2.8	2.8	2.7
	70 [21.1]	Total BTUH [kW]	26.4 [7.7]	26 [7.6]	25.2 [7.4]	25.5 [7.5]	25.1 [7.4]	24.4 [7.2]	25.6 [7.5]	25.1 [7.4]	24.4 [7.2]
		Sens BTUH [kW]	3.4 [1]	3.3 [1]	3 [0.9]	6.4 [1.9]	6.1 [1.8]	5.7 [1.7]	9.9 [2.9]	9.5 [2.8]	8.8 [2.6]
		Power	2.8	2.8	2.7	2.8	2.8	2.7	2.8	2.8	2.7
	80 [26.7]	Total BTUH [kW]	25.3 [7.4]	24.8 [7.3]	24.1 [7.1]	24.4 [7.1]	24 [7]	23.3 [6.8]	24.4 [7.2]	24 [7]	23.3 [6.8]
Sens BTUH [kW]		2.4 [0.7]	2.3 [0.7]	2.1 [0.6]	5.4 [1.6]	5.1 [1.5]	4.8 [1.4]	8.9 [2.6]	8.5 [2.5]	7.9 [2.3]	
Power		2.9	2.8	2.8	2.9	2.9	2.8	2.9	2.8	2.8	
90 [32.2]	Total BTUH [kW]	23.7 [7]	23.3 [6.8]	22.7 [6.6]	22.9 [6.7]	22.5 [6.6]	21.8 [6.4]	22.9 [6.7]	22.5 [6.6]	21.9 [6.4]	
	Sens BTUH [kW]	1.3 [0.4]	1.2 [0.4]	1.1 [0.3]	4.2 [1.2]	4 [1.2]	3.7 [1.1]	7.7 [2.3]	7.4 [2.2]	6.9 [2]	
	Power	3.0	3.0	2.9	3.0	3.0	2.9	3.0	3.0	2.9	
100 [37.8]	Total BTUH [kW]	21.9 [6.4]	21.5 [6.3]	20.9 [6.1]	21 [6.1]	20.6 [6]	20 [5.9]	21 [6.2]	20.6 [6.1]	20.1 [5.9]	
	Sens BTUH [kW]	0 [0]	0 [0]	0 [0]	2.9 [0.9]	2.8 [0.8]	2.6 [0.8]	6.4 [1.9]	6.2 [1.8]	5.7 [1.7]	
	Power	3.2	3.2	3.1	3.2	3.2	3.1	3.2	3.1	3.1	
110 [43.3]	Total BTUH [kW]	19.6 [5.7]	19.3 [5.6]	18.7 [5.5]	18.7 [5.5]	18.4 [5.4]	17.9 [5.2]	18.8 [5.5]	18.4 [5.4]	17.9 [5.3]	
	Sens BTUH [kW]	-1.5 [-0.4]	-1.4 [-0.4]	-1.3 [-0.4]	1.4 [0.4]	1.4 [0.4]	1.3 [0.4]	5 [1.5]	4.8 [1.4]	4.4 [1.3]	
	Power	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.3	
120 [48.9]	Total BTUH [kW]	17 [5]	16.7 [4.9]	16.2 [4.8]	16.1 [4.7]	15.8 [4.6]	15.4 [4.5]	16.1 [4.7]	15.9 [4.6]	15.4 [4.5]	
	Sens BTUH [kW]	-3.1 [-0.9]	-3 [-0.9]	-2.8 [-0.8]	-0.2 [-0.1]	-0.2 [0]	-0.2 [0]	3.4 [1]	3.2 [0.9]	3 [0.9]	
	Power	3.7	3.7	3.6	3.7	3.7	3.6	3.7	3.7	3.6	

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

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

NOTES: ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$.

[] Designates Metric Conversions



GROSS SYSTEMS PERFORMANCE DATA (HIGH REHEAT MODE)—RLNL-G060

ENTERING INDOOR AIR @ 75°F [23.9°C] dbE ①											
wbE		65.3°F [18.5°C]			64°F [17.8°C]			62.5°F [16.9°C]			
CFM [L/s]		2040 [963]	1850 [873]	1570 [741]	2040 [963]	1850 [873]	1570 [741]	2040 [963]	1850 [873]	1570 [741]	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	60 [15.6]	Total BTUH [kW]	26.1 [7.6]	25.6 [7.5]	24.9 [7.3]	25.2 [7.4]	24.7 [7.2]	24 [7]	24.8 [7.3]	24.3 [7.1]	23.7 [6.9]
		Sens BTUH [kW]	3.3 [1]	3.1 [0.9]	2.9 [0.8]	5.2 [1.5]	4.9 [1.4]	4.6 [1.3]	8.8 [2.6]	8.4 [2.5]	7.8 [2.3]
		Power	3.6	3.6	3.5	3.6	3.6	3.5	3.6	3.5	3.5
	70 [21.1]	Total BTUH [kW]	25.5 [7.5]	25 [7.3]	24.4 [7.1]	24.6 [7.2]	24.1 [7.1]	23.5 [6.9]	24.2 [7.1]	23.7 [7]	23.1 [6.8]
		Sens BTUH [kW]	2.4 [0.7]	2.3 [0.7]	2.1 [0.6]	4.3 [1.3]	4.1 [1.2]	3.8 [1.1]	7.9 [2.3]	7.6 [2.2]	7 [2.1]
		Power	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4
	80 [26.7]	Total BTUH [kW]	23.5 [6.9]	23.1 [6.8]	22.4 [6.6]	22.6 [6.6]	22.1 [6.5]	21.5 [6.3]	22.2 [6.5]	21.8 [6.4]	21.2 [6.2]
Sens BTUH [kW]		1.2 [0.3]	1.1 [0.3]	1 [0.3]	3.1 [0.9]	2.9 [0.9]	2.7 [0.8]	6.7 [2]	6.4 [1.9]	5.9 [1.7]	
Power		3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	
90 [32.2]	Total BTUH [kW]	20.1 [5.9]	19.7 [5.8]	19.2 [5.6]	19.1 [5.6]	18.8 [5.5]	18.3 [5.4]	18.8 [5.5]	18.4 [5.4]	17.9 [5.2]	
	Sens BTUH [kW]	-0.5 [-0.1]	-0.5 [-0.1]	-0.4 [-0.1]	1.4 [0.4]	1.4 [0.4]	1.3 [0.4]	5 [1.5]	4.8 [1.4]	4.5 [1.3]	
	Power	3.9	3.9	3.8	3.9	3.8	3.8	3.9	3.8	3.8	
100 [37.8]	Total BTUH [kW]	15.2 [4.5]	15 [4.4]	14.6 [4.3]	14.3 [4.2]	14 [4.1]	13.7 [4]	13.9 [4.1]	13.7 [4]	13.3 [3.9]	
	Sens BTUH [kW]	-2.5 [-0.7]	-2.4 [-0.7]	-2.2 [-0.7]	-0.6 [-0.2]	-0.6 [-0.2]	-0.6 [-0.2]	3 [0.9]	2.9 [0.8]	2.7 [0.8]	
	Power	4.3	4.2	4.2	4.3	4.2	4.2	4.3	4.2	4.2	
110 [43.3]	Total BTUH [kW]	9 [2.6]	8.8 [2.6]	8.6 [2.5]	8.1 [2.4]	7.9 [2.3]	7.7 [2.3]	7.7 [2.2]	7.5 [2.2]	7.3 [2.1]	
	Sens BTUH [kW]	-5 [-1.5]	-4.7 [-1.4]	-4.4 [-1.3]	-3.1 [-0.9]	-2.9 [-0.9]	-2.7 [-0.8]	0.6 [0.2]	0.5 [0.2]	0.5 [0.1]	
	Power	4.8	4.8	4.7	4.8	4.8	4.7	4.8	4.8	4.7	
120 [48.9]	Total BTUH [kW]	1.3 [0.4]	1.3 [0.4]	1.3 [0.4]	0.4 [0.1]	0.4 [0.1]	0.4 [0.1]	0 [0]	0 [0]	0 [0]	
	Sens BTUH [kW]	-7.8 [-2.3]	-7.5 [-2.2]	-6.9 [-2]	-5.9 [-1.7]	-5.6 [-1.7]	-5.2 [-1.5]	-2.3 [-0.7]	-2.2 [-0.6]	-2 [-0.6]	
	Power	5.5	5.5	5.4	5.5	5.4	5.4	5.5	5.4	5.4	

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

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

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

[] Designates Metric Conversions



BELT-DRIVE AIRFLOW PERFORMANCE RLNL-G

Capacity 3 Ton [10.55 kW] Packaged Air Conditioner (13 SEER)

Air Flow CFM [L/s]	3 PH—208-230/460 Volt—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
900 [425]	—	—	—	665	290	730	300	780	315	830	330	875	360	920	375	960	390	990	410	1040	445	1080	470	1140	510	1190	540	1235	590	
1000 [472]	—	625	275	680	295	750	310	805	325	850	345	895	375	935	390	970	410	1015	435	1065	465	1100	500	1160	530	1210	560	1255	610	
1100 [519]	—	640	300	710	315	780	325	830	340	875	365	915	390	955	405	990	430	1040	450	1080	485	1115	540	1180	540	1230	600	1270	630	
1200 [566]	—	670	315	735	330	800	345	850	365	890	385	935	410	975	430	1010	450	1060	475	1100	520	1145	560	1200	600	1250	630	1285	660	
1300 [614]	625	315	700	330	770	350	830	370	875	400	915	415	955	440	990	450	1040	495	1085	530	1125	565	1165	590	1220	645	1260	675	1305	710
1400 [661]	655	340	730	365	795	385	850	400	890	430	935	445	975	470	1010	500	1070	540	1110	575	1150	615	1195	645	1230	685	1280	725	1325	760
1500 [708]	685	380	755	390	825	415	870	435	915	450	955	480	990	505	1040	545	1090	590	1135	630	1180	660	1220	720	1255	740	1295	785	1350	820

Bold lines separate L, M and N drives respectively.

Drive Package	L	M	N (Field-Supplied)
Motor H.P. [w]	1/2 [373]	3/4 [559]	3/4 [559]
Blower Sheave	6.9 Pitch Diameter	6.4 Pitch Diameter	6.4 Pitch Diameter
Motor Sheave	Adjustable 2.4-3.4 Pitch Diameter	Adjustable 3.4-4.4 Pitch Diameter	Adjustable 4.0-5.0 Pitch Diameter
Turns Open	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
RPM	935 875 830 780 730 680 625 1295 1230 1185 1135 1085 1000 955		RPM Range 1090-1365

NOTES:

- Performance shown with dry coil & standard 2" [50.8 mm] filters.
- Standard CFM @ .075 lbs./cu. ft.
- Motor efficiency = 80%.
- BHP = $\frac{\text{Watts} \times \text{Motor Eff.}}{746}$
- Add component resistance to duct static to determine E.S.P. as shown on charts.

Capacity 4 Ton [14.06 kW]—Packaged Air Conditioner (13 SEER)

Air Flow CFM [L/s]	3 PH—208-230/460 Volt—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
1200 [566]	—	—	745	340	810	375	865	390	900	400	945	420	1000	440	1040	460	1075	490	1115	540	1170	580	1215	620	1260	650	1300	685		
1300 [614]	—	695	330	770	365	835	395	880	415	920	435	975	455	1010	470	1060	490	1100	530	1140	570	1190	600	1235	640	1270	685	1315	740	
1400 [661]	—	725	350	795	395	855	420	895	435	945	455	995	470	1030	500	1070	520	1115	560	1160	600	1205	640	1250	685	1290	745	1335	810	
1500 [708]	690	360	750	390	820	425	875	450	920	465	970	480	1010	500	1055	560	1100	580	1140	630	1180	660	1230	700	1270	760	1315	815	1350	865
1600 [755]	720	390	780	430	850	460	895	480	945	500	990	530	1035	565	1075	590	1115	635	1160	680	1205	725	1250	770	1290	830	1335	890	1365	935
1700 [802]	750	430	810	465	870	485	920	500	970	530	1015	570	1055	600	1090	645	1140	695	1180	735	1225	790	1270	845	1315	910	1350	960	—	—
1800 [850]	780	475	840	515	895	540	945	555	990	600	1035	625	1080	660	1115	710	1155	740	1205	800	1250	860	1295	930	1340	995	1365	1030	—	—
1900 [897]	820	520	870	560	925	580	970	600	1015	640	1060	690	1115	750	1145	790	1185	835	1225	880	1275	900	1315	1010	1355	1060	—	—	—	—
2000 [944]	850	585	900	610	950	630	1000	665	1045	715	1090	760	1130	810	1170	865	1205	900	1255	965	1300	1050	1340	1100	1365	1140	—	—	—	—

Drive Package	L	M	N (Field-Supplied)
Motor H.P. [w]	1/2 [373]	3/4 [559]	3/4 [559]
Blower Sheave	6.9 Pitch Diameter	6.4 Pitch Diameter	6.4 Pitch Diameter
Motor Sheave	Adjustable 2.8-3.8 Pitch Diameter	Adjustable 3.4-4.4 Pitch Diameter	Adjustable 4.0-5.0 Pitch Diameter
Turns Open	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
RPM	990 945 895 840 790 740 695 1270 1225 1170 1115 1065 1015 965		RPM Range 1090-1365

Factory sheave settings are shown in bold print.

[] Designates Metric Conversions

NOTES:

- Performance shown with dry coil & standard 2" [50.8 mm] filters.
- Standard CFM @ .075 lbs./cu. ft.
- Motor efficiency = 80%
- BHP = $\frac{\text{Watts} \times \text{Motor Eff.}}{746}$
- Add component resistance to duct static to determine E.S.P. as shown on charts.

BELT-DRIVE AIRFLOW PERFORMANCE—5 TON [17.58 kW] 13 SEER 3 PHASE MODELS

Capacity		3 PH—208-230/460 Volt—External Static Pressure—Inches of Water [kPa]																													
5 Ton [17.58 kW]—Package Air Conditioner (13 SEER)		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]	
Air Flow CFM [L/s]	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	
1400 [661]	—	—	—	780	370	815	385	840	415	895	440	945	500	995	540	1045	595	1080	615	1135	650	1165	675	1215	700	1255	735	1320	775	1355	805
1500 [708]	—	—	—	795	405	840	415	895	440	945	500	995	540	1045	595	1080	615	1135	650	1165	675	1215	700	1255	735	1320	775	1355	805	840	
1600 [755]	—	—	780	390	805	425	870	470	915	510	965	560	600	1015	600	1060	640	1105	680	1145	705	1180	730	1225	750	1275	790	1340	840	1365	880
1700 [802]	—	—	795	450	840	490	895	530	940	570	990	605	1035	640	1075	680	1120	725	1160	755	1200	790	1245	815	1300	855	1355	905	1375	940	
1800 [850]	780	455	815	470	870	540	915	540	965	675	1010	660	1055	710	1100	760	1140	785	1175	810	1225	850	1260	880	1320	930	1365	985	1390	1020	
1900 [897]	800	485	850	530	895	590	945	640	995	675	1035	720	1070	775	1120	810	1160	850	1200	890	1245	915	1290	960	1335	1000	1375	1050	1405	1100	
2000 [944]	830	550	880	605	930	655	970	700	1015	730	1055	790	1105	830	1145	875	1180	910	1225	950	1260	980	1320	1035	1350	1075	1385	1120	—	—	
2100 [991]	860	615	915	655	955	705	1005	760	1040	820	1090	870	1130	910	1170	950	1210	995	1250	1020	1290	1060	1335	1100	1370	1150	1400	1200	—	—	
2200 [1038]	895	680	945	735	995	780	1030	830	1060	880	1120	940	1155	980	1195	1020	1240	1055	1275	1100	1320	1140	1360	1180	1385	1225	—	—	—	—	
2300 [1085]	940	755	975	795	1015	830	1065	910	1100	965	1150	1025	1180	1050	1225	1095	1265	1125	1310	1175	1350	1230	1375	1260	1405	1320	—	—	—	—	
2400 [1133]	970	825	1015	880	1040	925	1100	1005	1145	1055	1175	1085	1225	1140	1260	1175	1300	1210	1340	1255	1370	1315	1400	1375	—	—	—	—	—	—	

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

Drive Package	L	M
Motor H.P. [w]	3/4 [559]	1 [746]
Blower Sheave	6.9 Pitch Diameter	6.9 Pitch Diameter
Motor Sheave	Adjustable 2.8-3.8 Pitch Diameter	Adjustable 4.0-5.0 Pitch Diameter
Turns Open	0 1 2 3 4 5	0 1 2 3 4 5
RPM	1007 963 922 880 833 785	1272 1242 1210 1172 1130 1089

Factory sheave settings are shown in bold print.

COMPONENT AIR RESISTANCE

Component	Standard Indoor Airflow—CFM [L/s]					
	2200 [944]	2400 [1133]	2600 [1227]	2800 [1321]	3200 [1510]	3400 [1605]
Wet Coil	.079	.090	.102	.118	.128	.135
Downflow	.061	.079	.089	.100	.108	.112
R.S.I. Economizer	.09	.10	.11	.12	.13	.15
R.A. Damper						

NOTES:

- Performance shown with dry coil & standard 2" [50.8 mm] filters.
- Standard CFM @ .075 lbs./cu. ft.
- Motor efficiency = 80%
- BHP = $\frac{\text{Watts} \times \text{Motor Eff.}}{746}$
- Add component resistance to duct static to determine E.S.P. as shown on charts.

[] Designates Metric Conversions

ELECTRICAL DATA – RLNL- SERIES							
		G036CL	G036CM	G036DL	G036DM	G048CL	G048CM
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	187-253	187-253
	Volts	208/230	208/230	460	460	208/230	208/230
	Minimum Circuit Ampacity	18/18	18/18	10	10	22/22	23/23
	Minimum Overcurrent Protection Device Size	20/20	25/25	15	15	25/25	30/30
	Maximum Overcurrent Protection Device Size	25/25	25/25	15	15	35/35	35/35
Compressor Motor	No.	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	208/230	208/230
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	3	3	3	3	4	4
	Amps (RLA), Comp. 1	10.4/10.4	10.4/10.4	5.8	5.8	13.7/13.7	13.7/13.7
	Amps (LRA), Comp. 1	88/88	88/88	38	38	83.1/83.1	83.1/83.1
	HP, Compressor 2	—	—	—	—	—	—
	Amps (RLA), Comp. 2	—	—	—	—	—	—
Amps (LRA), Comp. 2	—	—	—	—	—	—	
Condenser Motor	No.	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	208/230	208/230
	Phase	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	1.5/1.5	1.5/1.5	1	1	1.5/1.5	1.5/1.5
	Amps (LRA, each)	3/3	3/3	1.9	1.9	3/3	3/3
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	208/230	208/230
	Phase	3	3	3	3	3	3
	HP	1/2	3/4	1/2	3/4	1/2	3/4
	Amps (FLA, each)	2.8/2.8	3.4/3.4	1.4	1.6	2.8/2.8	3.4/3.4
	Amps (LRA, each)	11.3/11.3	16.8/16.8	6.2	8.4	11.3/11.3	16.8/16.8

1. Horsepower Per Compressor.
2. Amp Draw Per Motor. Multiply Value By Number of Motors to Determine Total Amps.

ELECTRICAL DATA – RLNL- SERIES							
		G048DL	G048DM	G060CL	G060CM	G060DL	G060DM
Unit Information	Unit Operating Voltage Range	414-506	414-506	187-253	187-253	414-506	414-506
	Volts	460	460	208/230	208/230	460	460
	Minimum Circuit Ampacity	11	11	26/26	26/26	13	13
	Minimum Overcurrent Protection Device Size	15	15	30/30	30/30	15	15
	Maximum Overcurrent Protection Device Size	15	15	40/40	40/40	20	20
Compressor Motor	No.	1	1	1	1	1	1
	Volts	460	460	208/230	208/230	460	460
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	4	4	5	5	5	5
	Amps (RLA), Comp. 1	6.2	6.2	15.6/15.6	15.6/15.6	7.8	7.8
	Amps (LRA), Comp. 1	41	41	110/110	110/110	52	52
	HP, Compressor 2	—	—	—	—	—	—
	Amps (RLA), Comp. 2	—	—	—	—	—	—
Amps (LRA), Comp. 2	—	—	—	—	—	—	
Condenser Motor	No.	1	1	1	1	1	1
	Volts	460	460	208/230	208/230	460	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	1	2.2/2.2	2.2/2.2	1	1
	Amps (LRA, each)	1.9	1.9	4.9/4.9	4.9/4.9	1.9	1.9
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	460	460	208/230	208/230	460	460
	Phase	3	3	3	3	3	3
	HP	1/2	3/4	3/4	1	3/4	1
	Amps (FLA, each)	1.4	1.6	3.4/3.4	3.8/3.8	1.6	1.9
	Amps (LRA, each)	6.2	8.4	16.8/16.8	24/24	8.4	12

1. Horsepower Per Compressor.
2. Amp Draw Per Motor. Multiply Value By Number of Motors to Determine Total Amps.

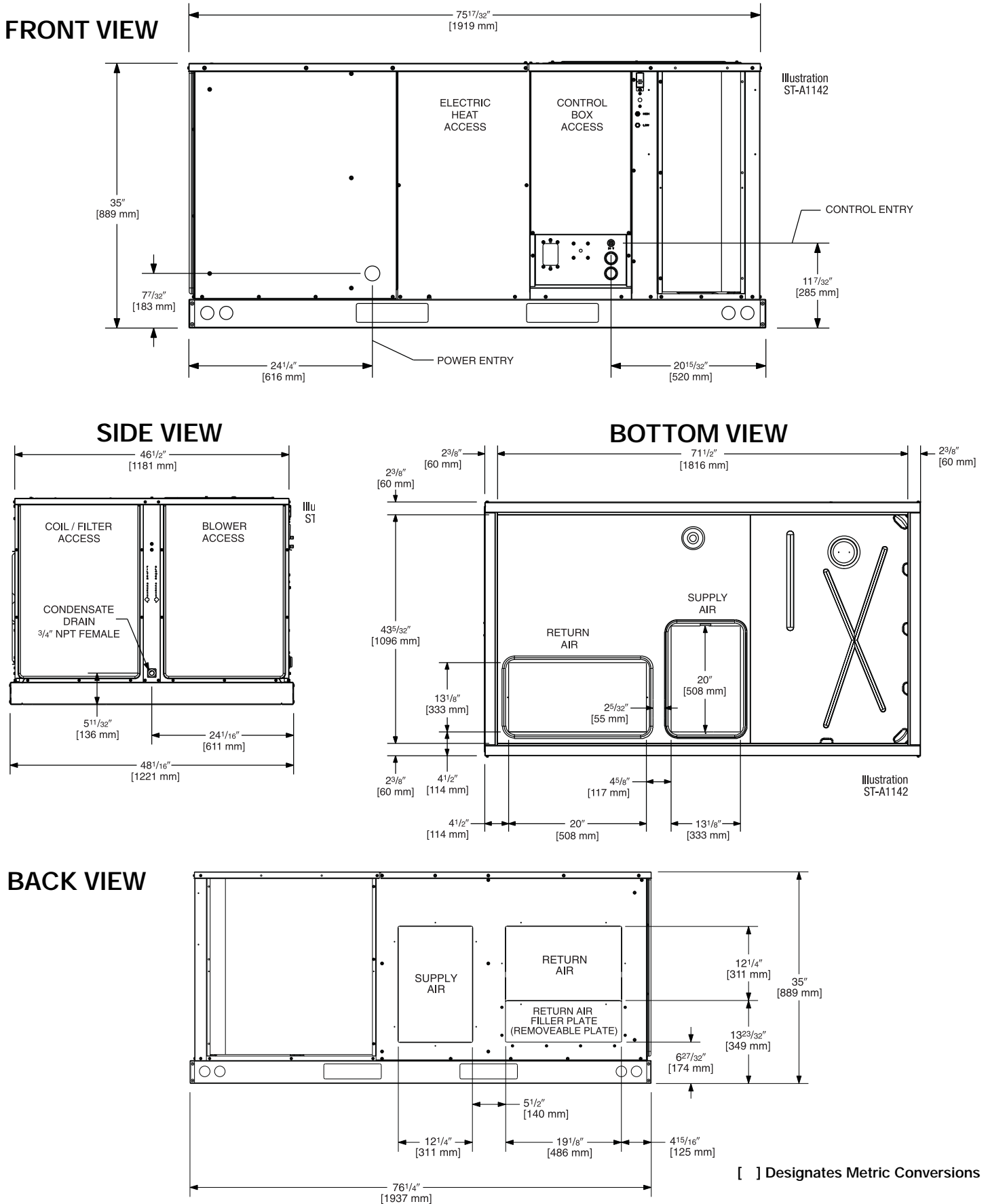
208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION																		
Separate Power Supply for Both Unit and Heater Kit																		
Single Power Supply for Both Unit and Heater Kit																		
Model No. RLNL-	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Heater Kit				Air Conditioner				Heater Kit				Air Conditioner			
			Rated Heater kW @ 208/240V	Heater kBTU/Hr @ 208/240V	Heater Amps @ 208/240V	Unit Min. Ckt. Ampacity @ 208/240V	Over Current Protective Device Size Min./Max. 208V	Over Current Protective Device Size Min./Max. 240V	Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240V	Min. Circuit Ampacity 208/240V	Over Current Protective Device Size Min./Max. 208V	Over Current Protective Device Size Min./Max. 240V					
G036CL	No Heat	—	—	—	—	18/18	20/25	20/25	20/25	—	18/18	20/25	20/25	20/25				
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	19/21	20/25	25/25	15/17	15/20	18/18	20/25	20/25	20/25				
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	29/33	30/30	35/35	25/29	25/30	18/18	20/25	20/25	20/25				
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	33/38	35/35	40/40	30/34	30/35	18/18	20/25	20/25	20/25				
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	42/47	45/45	50/50	38/44	40/45	18/18	20/25	20/25	20/25				
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	54/62	60/60	70/70	50/58	50/60	18/18	20/25	20/25	20/25				
G048CL	No Heat	—	—	—	—	22/22	25/35	25/35	—	—	22/22	25/35	25/35	25/35				
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	22/22	25/35	25/35	15/17	15/20	22/22	25/35	25/35	25/35				
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	29/33	30/35	35/35	25/29	25/30	22/22	25/35	25/35	25/35				
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	33/38	35/35	40/40	30/34	30/35	22/22	25/35	25/35	25/35				
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	42/47	45/45	50/50	38/44	40/45	22/22	25/35	25/35	25/35				
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	54/62	60/60	70/70	50/58	50/60	22/22	25/35	25/35	25/35				
G060CL	No Heat	—	—	—	—	26/26	30/40	30/40	—	—	26/26	30/40	30/40	30/40				
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	26/26	30/40	30/40	15/17	15/20	26/26	30/40	30/40	30/40				
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	30/34	30/40	35/40	25/29	25/30	26/26	30/40	30/40	30/40				
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	34/39	35/40	40/40	30/34	30/35	26/26	30/40	30/40	30/40				
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	42/48	45/45	50/50	38/44	40/45	26/26	30/40	30/40	30/40				
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	55/63	60/60	70/70	50/58	50/60	26/26	30/40	30/40	30/40				
A24C	1	18/24	61.41/81.88	50/57.7	67/77	70/70	80/80	63/73	70/80	26/26	30/40	30/40	30/40					

208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION														
Single Power Supply for Both Unit and Heater Kit							Separate Power Supply for Both Unit and Heater Kit							
Model No. RLNL-	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 208/240V	Heater kBTU/Hr @ 208/240V	Heater Amps @ 208/240V	Unit Min. Ckt. Ampacity @ 208/240V	Air Conditioner		Heater Kit		Air Conditioner		Over Current Protective Device Size 240V	
							Over Current Protective Device Size Min./Max. 208V	Over Current Protective Device Size Max. 240V	Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240V	Min. Circuit Ampacity 208/240V	Over Current Protective Device Size Min./Max. 208V		Over Current Protective Device Size Max. 240V
G036CM	No Heat	—	—	—	—	18/18	18/18	25/25	25/25	—	18/18	18/18	25/25	25/25
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	19/22	25/25	25/25	15/17	15/20	18/18	18/18	25/25	25/25
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	30/34	30/30	35/35	25/29	25/30	18/18	18/18	25/25	25/25
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	34/39	34/39	40/40	30/34	30/35	18/18	18/18	25/25	25/25
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	42/48	42/48	50/50	38/44	40/45	18/18	18/18	25/25	25/25
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	55/63	60/60	70/70	50/58	50/60	18/18	18/18	25/25	25/25
G048CM	No Heat	—	—	—	—	23/23	30/35	30/35	—	—	23/23	23/23	30/35	30/35
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	23/23	30/35	30/35	15/17	15/20	23/23	23/23	30/35	30/35
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	30/34	30/34	35/35	25/29	25/30	23/23	23/23	30/35	30/35
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	34/39	34/39	40/40	30/34	30/35	23/23	23/23	30/35	30/35
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	42/48	42/48	50/50	38/44	40/45	23/23	23/23	30/35	30/35
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	55/63	60/60	70/70	50/58	50/60	23/23	23/23	30/35	30/35
G060CM	No Heat	—	—	—	—	26/26	30/40	30/40	—	—	26/26	26/26	30/40	30/40
	A06C	1	4.2/5.6	14.33/19.1	11.7/13.5	26/26	30/40	30/40	15/17	15/20	26/26	26/26	30/40	30/40
	A10C	1	7.2/9.6	24.56/32.75	20/23.1	30/34	30/34	35/40	25/29	25/30	26/26	26/26	30/40	30/40
	A12C	1	8.4/11.2	28.66/38.21	23.4/27	34/39	34/39	40/40	30/34	30/35	26/26	26/26	30/40	30/40
	A15C	1	10.8/14.4	36.84/49.13	30.1/34.7	43/49	43/49	50/50	38/44	40/45	26/26	26/26	30/40	30/40
	A20C	1	14.4/19.2	49.13/65.5	40/46.3	55/63	60/60	70/70	50/58	50/60	26/26	26/26	30/40	30/40
A24C	1	18/24	61.41/81.88	50/57.7	68/77	80/80	80/80	63/73	70/80	26/26	26/26	30/40	30/40	

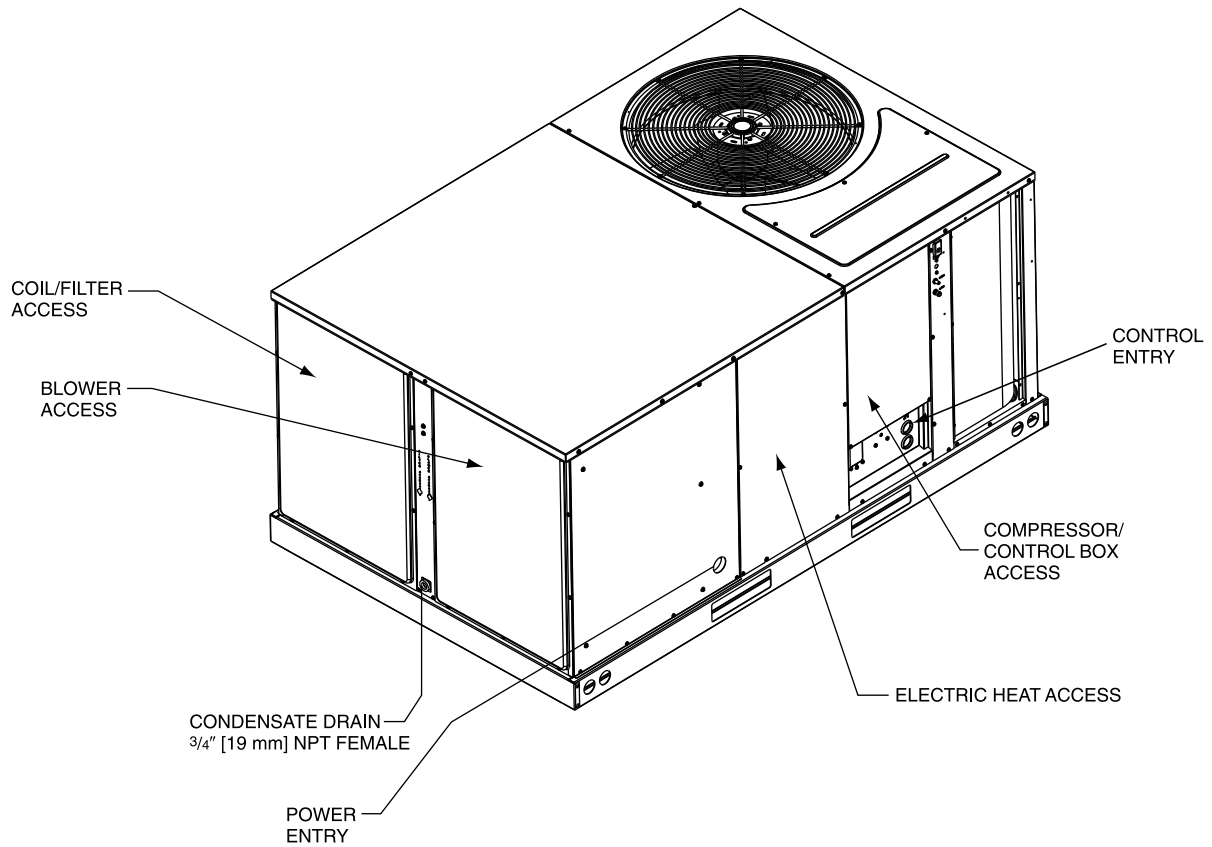
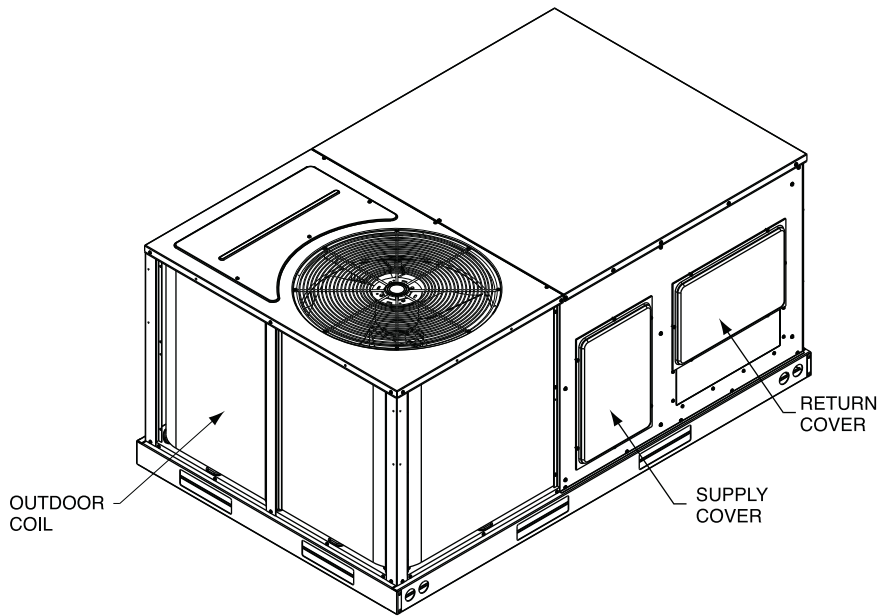
480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION															
Separate Power Supply for Both Unit and Heater Kit															
Single Power Supply for Both Unit and Heater Kit															
Model No. RLNL-	Heater Kit					Air Conditioner				Heater Kit				Air Conditioner	
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 480V	Heater kBTU/Hr @ 480V	Heater Amps @ 480V	Unit Min. Ckt. Ampacity @ 480V	Over Current Protective Device Size Min./Max. 480V	Min. Ckt. Ampacity 480V	Max. Fuse Size 480V	Min. Circuit Ampacity 480V	Over Current Protective Device Size Min./Max. 480V	Min. Ckt. Ampacity 480V	Max. Fuse Size 480V	Over Current Protective Device Size Min./Max. 480V	
G036DL	No Heat	—	—	—	—	10	15/15	—	—	10	15/15	—	—	—	
	A06D	1	5.6	19.1	6.7	11	15/15	9	15	10/0	15/15	15	15/15	0/0	
	A10D	1	9.6	32.75	11.6	17	20/20	15	15	10/0	15/15	15	15/15	0/0	
	A12D	1	11.2	38.21	13.5	19	20/20	17	20	10/0	15/15	20	15/15	0/0	
	A15D	1	14.4	49.13	17.4	24	25/25	22	25	10/0	15/15	25	15/15	0/0	
G048DL	A20D	1	19.2	65.5	23.3	31	35/35	30	30	10/0	15/15	30	15/15	0/0	
	No Heat	—	—	—	—	11	15/15	—	—	11	15/15	—	—	—	
	A06D	1	5.6	19.1	6.7	11	15/15	9	15	11/0	15/15	15	15/15	0/0	
	A10D	1	9.6	32.75	11.6	17	20/20	15	15	11/0	15/15	15	15/15	0/0	
	A12D	1	11.2	38.21	13.5	19	20/20	17	20	11/0	15/15	20	15/15	0/0	
G060DL	A15D	1	14.4	49.13	17.4	24	25/25	22	25	11/0	15/15	25	15/15	0/0	
	A20D	1	19.2	65.5	23.3	31	35/35	30	30	11/0	15/15	30	15/15	0/0	
	No Heat	—	—	—	—	13	15/20	—	—	13	15/20	—	—	—	
	A06D	1	5.6	19.1	6.7	13	15/20	9	15	13/0	15/20	15	15/20	0/0	
	A10D	1	9.6	32.75	11.6	17	20/20	15	15	13/0	15/20	15	15/20	0/0	
G060DL	A12D	1	11.2	38.21	13.5	19	20/20	17	20	13/0	15/20	20	15/20	0/0	
	A15D	1	14.4	49.13	17.4	24	25/25	22	25	13/0	15/20	25	15/20	0/0	
	A20D	1	19.2	65.5	23.3	32	35/35	30	30	13/0	15/20	30	15/20	0/0	
	A24D	1	24	81.88	28.9	39	40/40	37	40	13/0	15/20	40	15/20	0/0	

480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION														
Separate Power Supply for Both Unit and Heater Kit														
Single Power Supply for Both Unit and Heater Kit														
Model No. RLNL-	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 480V	Heater kBTU/Hr @ 480V	Heater Amps @ 480V	Unit Min. Ckt. Ampacity @ 480V	Air Conditioner		Heater Kit			Air Conditioner		
							Over Current Protective Device Size Min./Max. 480V	Over Current Protective Device Size Min./Max. 480V	Min. Ckt. Ampacity 480V	Max. Fuse Size 480V	Min. Circuit Ampacity 480V	Over Current Protective Device Size Min./Max. 480V		
G036DM	No Heat	—	—	—	—	10	15/15	—	—	—	10	15/15	15/15	—
	A06D	1	5.6	19.1	6.7	11	15/15	9	15	10/0	15/15	15/15	0/0	
	A10D	1	9.6	32.75	11.6	17	20/20	15	15	10/0	15/15	15/15	0/0	
	A12D	1	11.2	38.21	13.5	19	20/20	17	20	10/0	15/15	15/15	0/0	
G048DM	A15D	1	14.4	49.13	17.4	24	25/25	22	25	10/0	15/15	15/15	0/0	
	A20D	1	19.2	65.5	23.3	32	35/35	30	30	10/0	15/15	15/15	0/0	
	No Heat	—	—	—	—	11	15/15	—	—	11	15/15	15/15	—	
	A06D	1	5.6	19.1	6.7	11	15/15	9	15	11/0	15/15	15/15	0/0	
G060DM	A10D	1	9.6	32.75	11.6	17	20/20	15	15	11/0	15/15	15/15	0/0	
	A12D	1	11.2	38.21	13.5	19	20/20	17	20	11/0	15/15	15/15	0/0	
	A15D	1	14.4	49.13	17.4	24	25/25	22	25	11/0	15/15	15/15	0/0	
	A20D	1	19.2	65.5	23.3	32	35/35	30	30	11/0	15/15	15/15	0/0	
G060DM	A24D	1	24	81.88	28.9	39	40/40	37	40	13/0	15/20	15/20	0/0	
	No Heat	—	—	—	—	13	15/20	—	—	13	15/20	15/20	—	
	A06D	1	5.6	19.1	6.7	13	15/20	9	15	13/0	15/20	15/20	0/0	
	A10D	1	9.6	32.75	11.6	17	20/20	15	15	13/0	15/20	15/20	0/0	

3 TO 5 TON [10.6 TO 17.6 kW] MODELS



3 TO 5 TON [10.6 TO 17.6 kW] MODELS



WEIGHTS

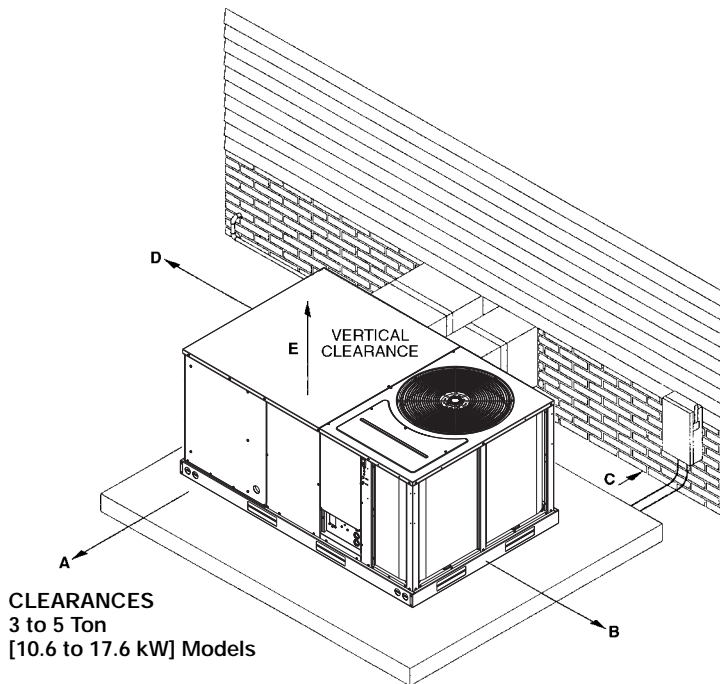
Accessory	3-5 Ton [10.6-17.6 kW]	
	Shipping	Operating
	lbs [kg]	lbs [kg]
Economizer with Single Enthalpy	70 [32]	60 [27]
Power Exhaust	70 [32]	67 [30]
Fresh Air Damper (Manual)	11 [5]	9 [4]
Fresh Air Damper (Motorized)	13 [6]	11 [5]
Roof Curb 14"	92 [42]	88 [40]
Roof Curb 24"	108 [49]	104 [47]
Concentric Diffuser 18" Flush	37 [17]	26 [12]
Concentric Diffuser 20" Flush	54 [24]	42 [19]
Side Discharge Concentric Diffuser RXRN-FA60	35 [16]	20 [9]
Side Discharge Concentric Diffuser RXRN-FA65	55 [25]	40 [18]

CLEARANCES (3 to 5 Ton [10.6 to 17.6 kW] Models)

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

Recommended Clearance in. [mm]	Location
48 [1219]	A - Front
18 [457]	B - Condenser Coil
*12 [305]	C - Duct Side
36 [914]	D - Evaporator End
60 [1524]	E - Above
*57" [1448 mm] With Economizer	

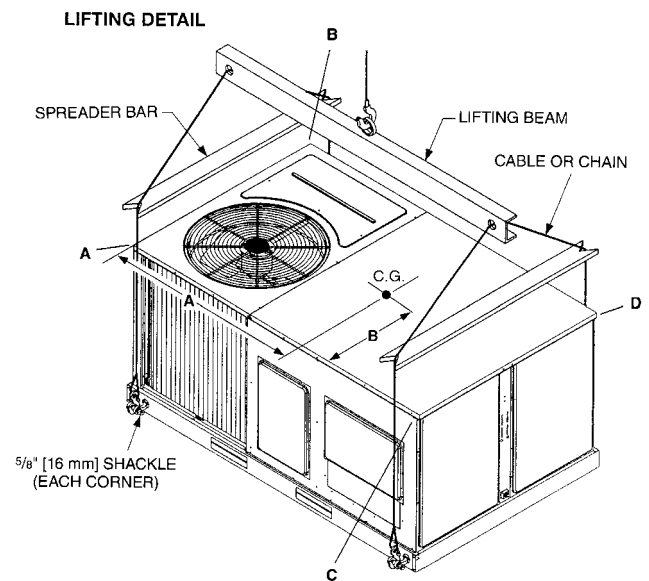
NOTE: Supply duct may be installed with "0" inch clearance to combustible materials, provided 1" [25.4 mm] minimum. Fiberglass insulation is applied either inside or on the outside of the duct.



CENTER OF GRAVITY (C.G.)

Capacity Tons [kW]	A in. [mm]	B in. [mm]
3-5 [10.6-17.6]	38 ¹ / ₄ [972]	25 ³ / ₄ [654]

Capacity Tons [kW]	Corner Weights by Percentage			
	A	B	C	D
3-5 [10.6-17.6]	22%	27%	23%	28%



[] Designates Metric Conversions

ACCESSORY EQUIPMENT

Accessory Description	Model Application 3 to 5 Ton [10.6 to 17.6 kW]	Accessory Model No. 3 to 5 Ton [10.6 to 17.6 kW]	Factory Installed 3 to 5 Ton [10.6 to 17.6 kW]
Thermostats	RLNL-G	See Thermostat Specification Sheet (T11-001)	No
Electric Heater Kits	RLNL-G	RXJJ-A06 (C,D) RXJJ-A10 (C,D) RXJJ-A12 (C,D) RXJJ-A15 (C,D) RXJJ-A20 (C,D) RXJJ-A24 (C,D)	See Heater Kit Electric Table
Roofcurb 14"	RLNL-G	RXKG-CAD14	No
Roofcurb 24"	RLNL-G	RXKG-CAD24	No
Roofcurb Adapters	RLNL-G	RXR- BBCDB21 RXR- BBCDB22 RXR- BBCDB23	No
DDC Economizer with Single Enthalpy and Barometric Relief ①	RLNL-G	AXRD-TKCM3	Yes
DDC Economizer with Single Enthalpy, Smoke Detector and Barometric Relief	RLNL-G	AXRD-UKCM3	Yes
Non-powered Convenience Outlet	RLNL-G	RXR- AN02	Yes
Dual Enthalpy Kit	RLNL-G	RXR- AV02	No
CO ₂ Sensor	RLNL-G	RXR- AR02	No
Power Exhaust	RLNL-G	AXR- BGF04 (C, D)	No
Fresh Air Damper Manual	RLNL-G	AXR- FBA1	No
Fresh Air Damper Motorized	RLNL-G	AXR- FBB1	No
Rectangular to Round 18" Duct Adapters for Concentric Diffuser	RLNL-G	RXMC-CB03	No
Rectangular to Round 20" Duct Adapters for Concentric Diffuser	RLNL-G	RXMC-CB04	No
Concentric Diffuser 18" Step	RLNL-G	RXR- FA60, RXR- FA65	No
Concentric Diffuser 18" Flush	RLNL-G	RXR- FA70, RXR- FA75	No
Rectangular to Round 16" Side	RLNL-G	RXMC-BB01	No
Louver Kit (3 Sides)	All RLNL-G Models	AXR- AAD01B	Yes
Low Ambient Control to 0°F [-18°C]	RLNL-G	RXR- A04	Yes
Unwired Convenience Outlet	RLNL-G	RXR- AN02	Yes
Comfort Alert (1 per compressor)	RLNL-G	RXR- AZ01	Yes
BACnet Communication Card	RLNL-G	RXR- AY01	No
LonWorks Communication Card	RLNL-G	RXR- AY02	No
Room Humidity Sensor	RLNL-G	RHC- ZNS4	No
Room Temperature & Relative Humidity Sensor	RLNL-G	RHC- ZNS5	No

*Voltage
 C = 208-230 VAC-3PH-60HZ D = 460 VAC-3PH-60HZ

NOTES: ① Economizer is designed for downflow or horizontal applications.

[] Designates Metric Conversions

THERMOSTATS



200-Series *
Programmable



300-Series *
Deluxe
Programmable

400-Series *
Special Applications/
Programmable



500-Series *
Communicating/
Programmable

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

* Photos are representative. Actual models may vary.

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

FLUSH MOUNT ROOM TEMPERATURE SENSORS FOR NETWORKED DDC APPLICATIONS (Replaces Thermostat)



**ROOM TEMPERATURE SENSOR
with TIMED OVERRIDE BUTTON**

RHC-ZNS1

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



**ROOM TEMPERATURE SENSOR
with TIMED OVERRIDE BUTTON and STATUS INDICATOR**

RHC-ZNS2

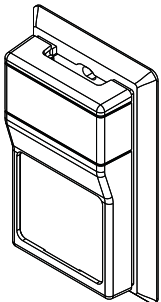
10k Ω room temperature sensor transmits room temperature to DDC system. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time. Status Indicator Light transmits ALARM flash code to occupied space.



**ROOM TEMPERATURE SENSOR
with SETPOINT ADJUSTMENT and TIMED OVERRIDE BUTTON**

RHC-ZNS3

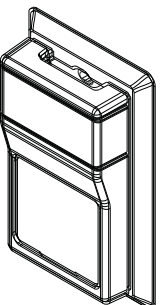
10k Ω room temperature sensor with setpoint adjustment transmits room temperature to DDC system along with desired occupied room temperature setpoint. Timed override button allows tenant to change from unoccupied temperature setpoint to occupied temperature setpoint for a preset time.



ROOM HUMIDITY SENSOR

RHC-ZNS4

Transmits room relative humidity to DDC System.



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

Transmits room temperature and relative humidity to DDC System.

COMMUNICATION CARDS

Field Installed



BACnet® COMMUNICATION CARD RXXR-AY01

The field installed BACnet® Communication Card allows the RTU-C unit controller to communicate with a third party building management system that supports the BACnet Application Specific Controller device profile. The BACnet® Communication Module plugs onto the unit RTU-C controller and allows communication between the RTU-C and the BACnet MSTP network.



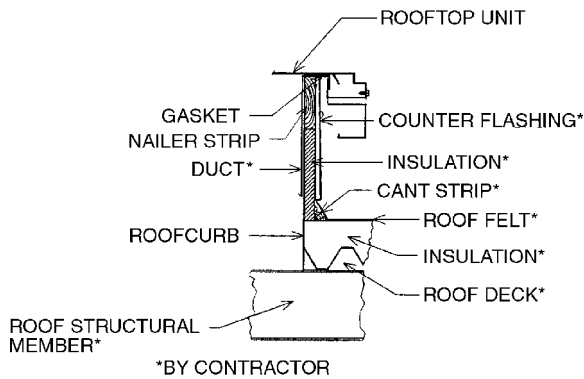
LonWorks® COMMUNICATION CARD RXXR-AY02

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

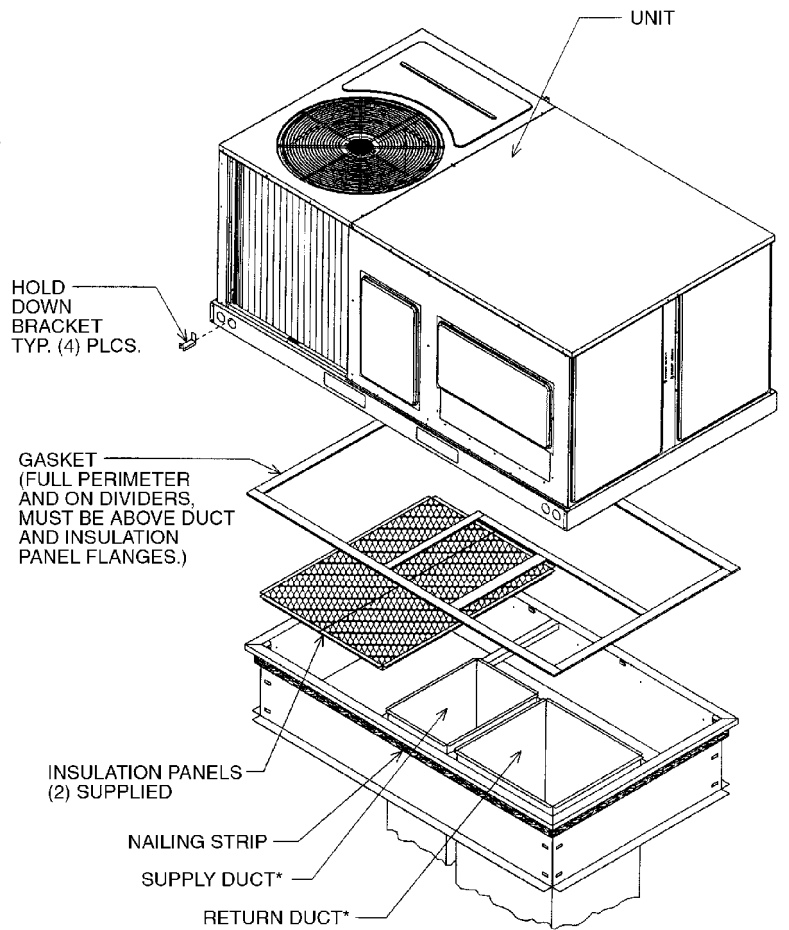
ROOFCURBS (Full Perimeter)

- Rheem's new roofcurb design can be utilized on 3 through 5 ton [10.6-17.6 kW] 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.
- 2" [51 mm] x 4" [102 mm] Nailer provided.
- Insulating panels provided.
- Sealing gasket (28" [711 mm]) provided with Roofcurb.
- Packaged for easy field assembly.

Roofcurb Model	Height of Curb
RXKG-CAD14	14" [356 mm]
RXKG-CAD24	24" [610 mm]



TYPICAL INSTALLATION



ROOFCURB FOR RLNL-G 3-5 TON [10.6-17.6 kW] MODELS

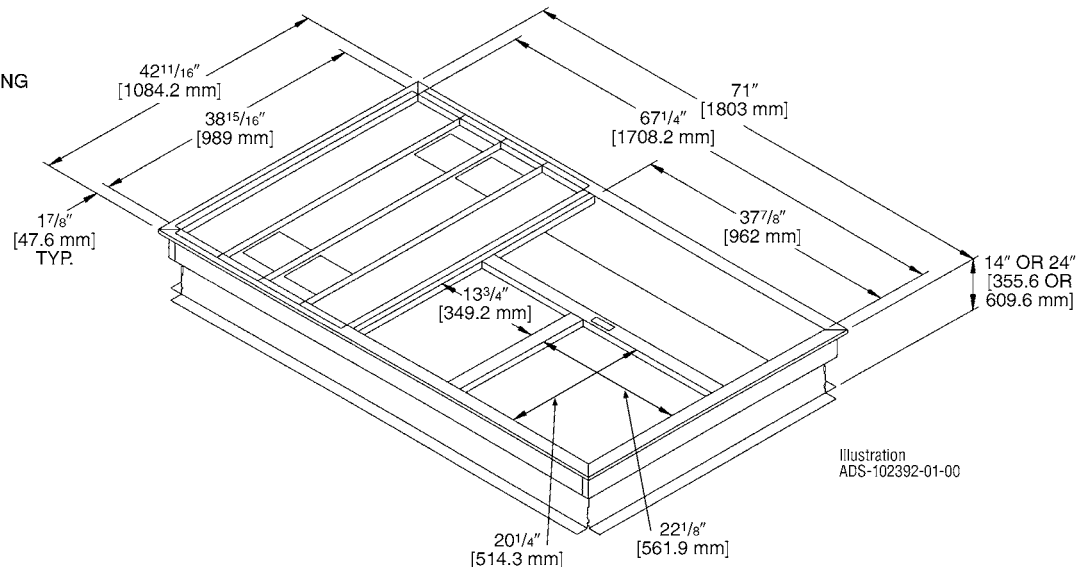
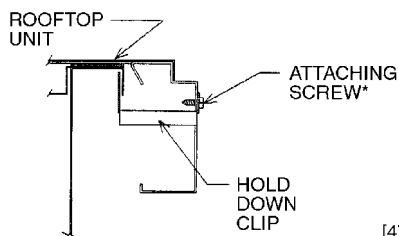


Illustration
ADS-102392-01-00

[] Designates Metric Conversions

ROOFCURB ADAPTERS

Old Models

MEDIUM CABINET (3 TON [11 kW])

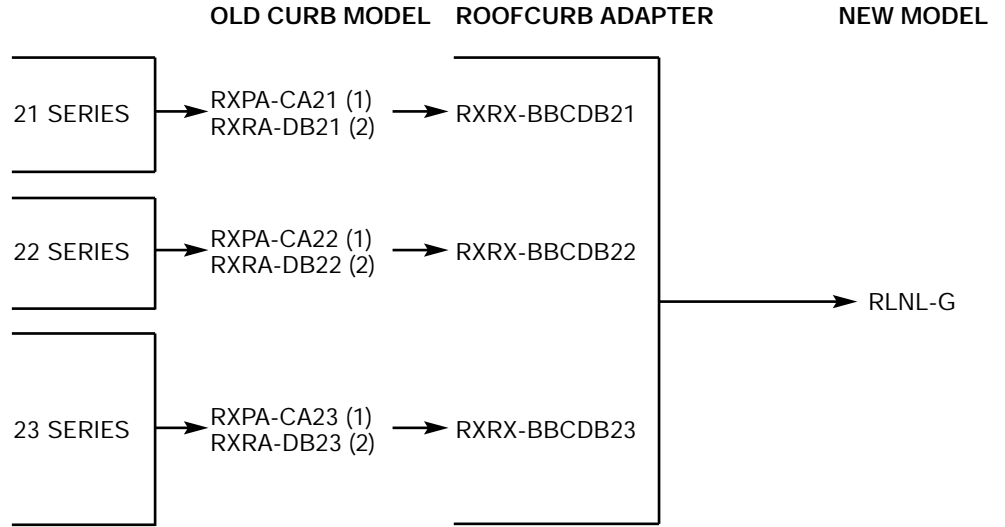
(-)SNC, (-)SND, (-)SNE
(-)RGE, (-)RGF, (-)RGG
(-)PNC, (-)PND

LARGE CABINET

(3-3.5 TON [11-12 kW])
(-)RGE, (-)RGF, (-)RGG,
(-)RGH (3 TON [11 kW])

EXTRA LARGE CABINET (3.5-5 TON [12-18 kW])

(-)SNC, (-)SND, (-)SNE
(-)RGE, (-)RGF,
(-)RGG (4-5 TON [14-18 kW])
(-)PNC, (-)PND, (-)RGH
(3.5, 4 TON [12-14 kW])

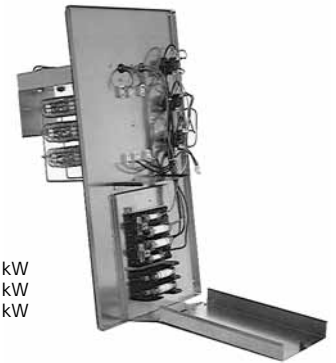
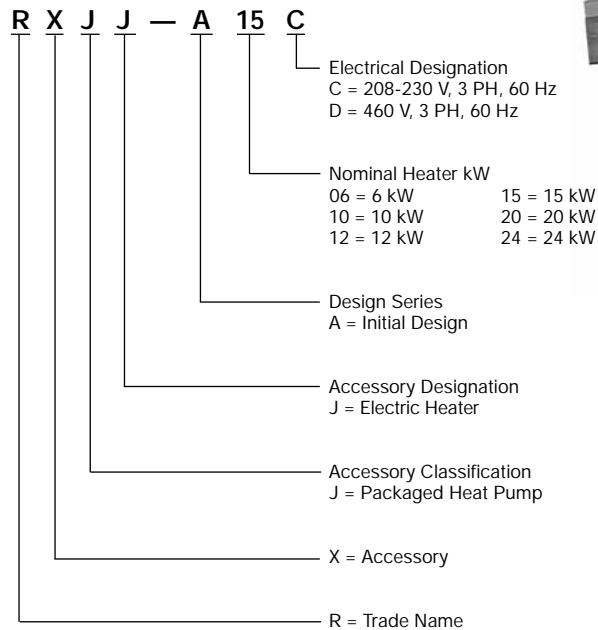


Field Installed Resistance Heater Kits

Electric Heater Kits are designed for field installation using either single-point power wiring or dual circuit wiring. Low voltage plugs are provided to allow for quick connection to the unit. Removing a block-off panel on the unit allows the heater elements to be inserted into the supply air stream down stream from the indoor coil and supply air blower.

[] Designates Metric Conversions

Model Number Identifier:



ECONOMIZERS

AXRD-TKCM3—3-5 Ton [10.6-17.6 kW] Models

AXRD-UKCM3—3-5 Ton [10.6-17.6 kW] Models

RXXR-AV03—3-5 Ton [10.6-17.6 kW] Models

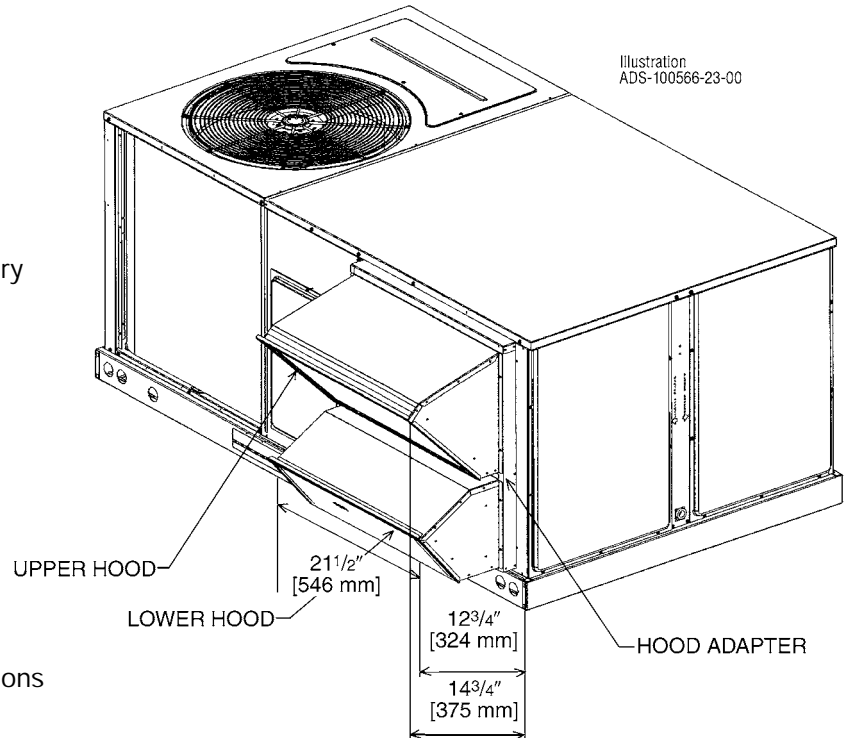
RXXR-AR02—3-5 Ton [10.6-17.6 kW] Models

DDC Economizer w/Single Enthalpy and Barometric Relief

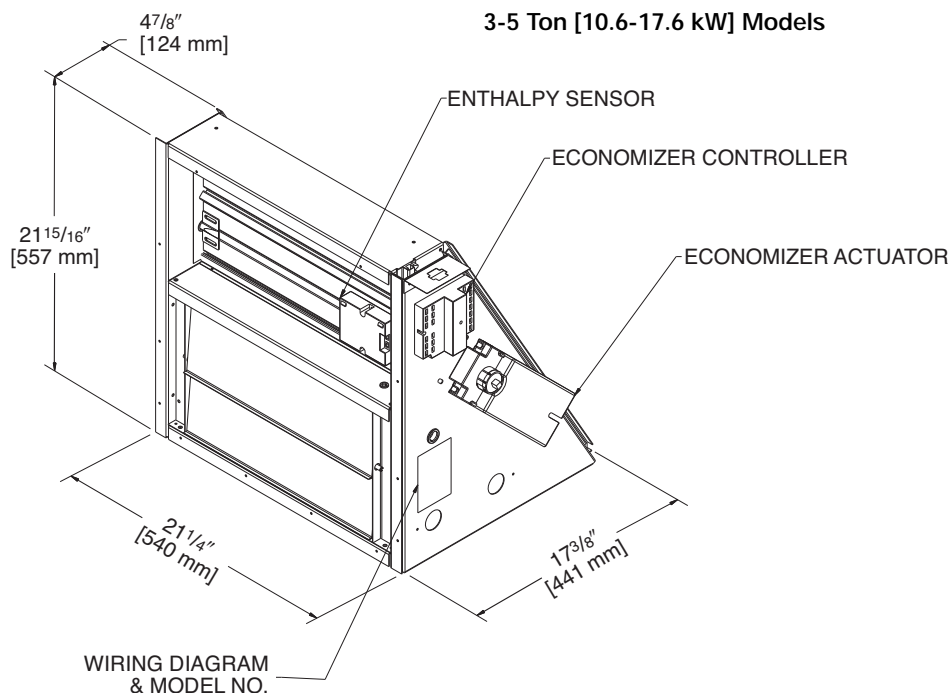
DDC Economizer w/Single Enthalpy, Barometric Relief and Smoke Detector

Dual Enthalpy Kit
Optional CO₂ Sensor

- Features **Honeywell** Controls
- Available factory installed or field accessory
- Gear Driven Direct Drive Actuator
- Fully Modulating (0-100%)
- Low Leakage Dampers
- Horizontal or Downflow Applications
- Slip-In Design for Easy Installations
- Plug-In Polarized 12-pin Electrical Connections
- Pre-configuring—No Field Adjustments Necessary
- Standard Barometric Relief Damper Provided
- Single Enthalpy with Dual Enthalpy upgrade kit
- CO₂ Input Sensor Available (field installed)
- Economizer slips in complete for downflow or horizontal duct applications
- Field assembled hood ships with Economizer
- Optional Remote minimum position (Honeywell #S963B1128) is available from ProStock
- Field installed power exhaust available
- If connected to a Building Automation System (BAS), all economizer functions can be viewed on the (BAS), or 16 x 2 LCD screen
- If connected to thermostat, all economizer functions can be viewed on 16 x 2 LCD screen



[] Designates Metric Conversions

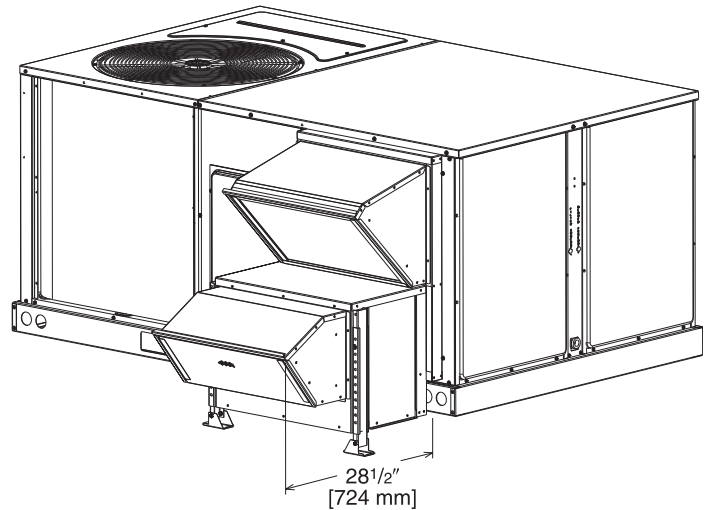


INTEGRAL POWER EXHAUST FOR ECONOMIZER (FIELD INSTALLED ONLY)

AXRX-BGF04C – RLNL-G 3-5 Ton [10.6-17.6 kW] Models
208-230V, 1 PH and 3 PH, 60 Hz

AXRX-BGF04D – RLNL-G 3-5 Ton [10.6-17.6 kW] Models
460V, 3 PH, 60 Hz

- For **Honeywell** Economizer
- Downflow or horizontal applications
- Requires separate 208-230 Volt – 1 PH power supply with disconnect or requires separate 460V – 3 PH power supply with disconnect
- Adjustable switch on economizer, factory preset to energize power exhaust at 95% outside air position
- Polarized plug connects power exhaust relay to economizer



POWER EXHAUST KIT FOR RXRD-MECM(-) ECONOMIZERS

Model No.	No. of Fans	Volts	Phase	Watts (ea.)	High Speed		FLA (ea.)	LRA (ea.)
					CFM ①	RPM		
AXRX-BGF04C	1	208/230	1	1000	2350	1725	4.8	25.6
AXRX-BGF04D	1	460	1	800	2350	1625	1.6	14.3

AXRX-BGF04C – RLNL-G 3-5 Ton [10.6-17.6 kW] Models & RLPL 3-5 Ton [10.6-17.6 kW] Models
208/230V, 3PH, 60 Hz

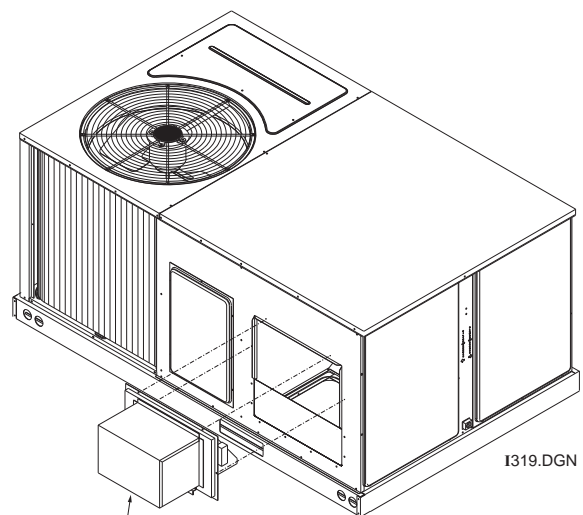
AXRX-BGF04D – RLNL-G 3-5 Ton [10.6-17.6 kW] Models & RLPL 3-5 Ton [10.6-17.6 kW] Models
460V, 3PH, 60 Hz

FRESH AIR DAMPER

RLNL-G 3-5 Ton [10.6-17.6 kW] Models

AXRF-FBA1 (Manual)

AXRF-FBB1 (Motorized)



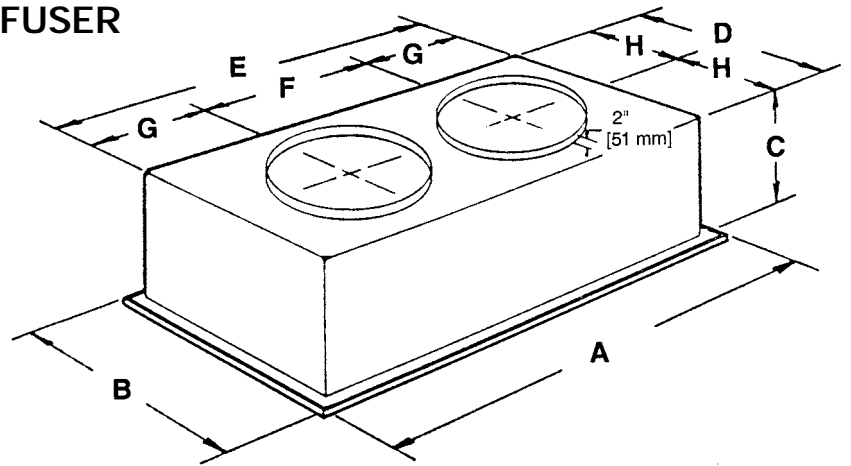
[] Designates Metric Conversions

FRESH AIR DAMPER

FLUSH MOUNT CONCENTRIC DIFFUSER

RXRN-FA70 (3 to 5 Ton [10.6 to 17.6 kW] Models)

For Use With Duct Adapter (RXMC)



DIMENSIONAL DATA

Model No.	A	B	C	D	E	F	G	H	Duct Size
RXRN-FA70	47 ⁵ / ₈ " [1210 mm]	23 ⁵ / ₈ " [600 mm]	13 ¹ / ₂ " [343 mm]	21" [533 mm]	45" [1143 mm]	22 ¹ / ₂ " [572 mm]	11 ¹ / ₄ " [286 mm]	10 ¹ / ₂ " [267 mm]	18RD
RXRN-FA75	47 ⁵ / ₈ " [1210 mm]	29 ⁵ / ₈ " [752 mm]	16 ⁵ / ₈ " [442 mm]	27" [666 mm]	45" [1143 mm]	22 ¹ / ₂ " [572 mm]	11 ¹ / ₄ " [286 mm]	13 ¹ / ₂ " [343 mm]	20RD

ENGINEERING DATA

Model No.	CFM [L/s]	Static Pressure	Throw Feet	Neck Vel.	Jet Vel.	Noise Level
RXRN-FA70	1000 [472]	.14	15-20	391	694	20
	1200 [566]	.17	16-22	469	833	25
	1400 [661]	.20	17-24	547	972	30
	1600 [755]	.24	18-25	625	1111	30
	1800 [850]	.30	20-28	703	1250	35
	2000 [944]	.36	21-29	781	1389	40
	2200 [1038]	.40	22-30	859	1528	40
RXRN-FA75	2600 [1227]	.17	19-24	663	1294	30
	2800 [1321]	.20	20-28	714	1393	35
	3000 [1416]	.25	21-29	765	1492	35
	3200 [1510]	.31	22-29	616	1592	40
	3400 [1605]	.37	22-30	667	1692	40

[] Designates Metric Conversions

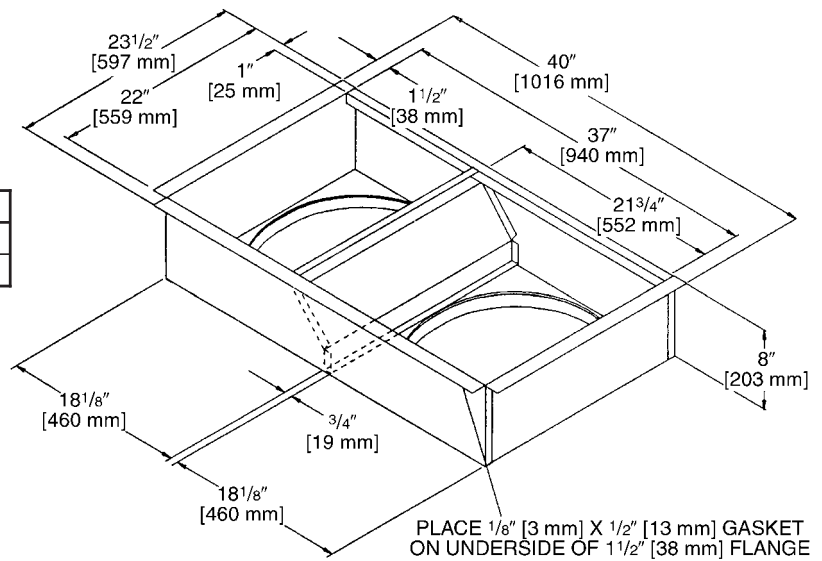
DUCT ADAPTERS (RLNL-G 3 TO 5 TON [10.6 TO 17.6 kW] MODELS)

Rectangular to Round Transitions (Downflow)

Two sizes available (18" [457 mm] and 20" [508 mm] round) fit all units. Drops into and secures to RXKG- Series Roofcurbs. For use with Concentric Diffusers.

Accessory Model No.	Model Application Tons [kW]	Size in. [mm]
RXMC-CB03	3-5 [10.6-17.6]	18 [457] Round
RXMC-CB04	3-5 [10.6-17.6]	20 [508] Round

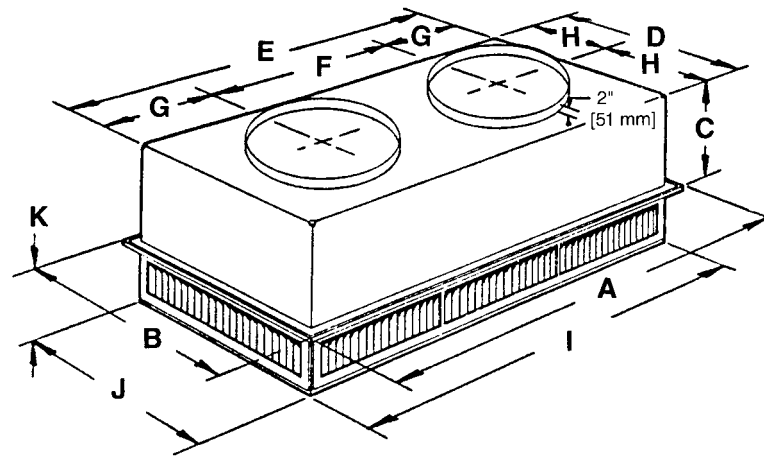
[] Designates Metric Conversions



SIDE DISCHARGE CONCENTRIC DIFFUSER

RXRN-FA60 (3 to 5 Ton [10.6 to 17.6 kW] Models)
RXRN-FA65 (3 to 7.5 Ton [10.6 to 26.4 kW] Models)

For Use With Duct Adapter (RXMC)



DIMENSIONAL DATA

Model No.	A	B	C	D	E	F	G	H	I	J	K	Duct Size
RXRN-FA60	47 5/8" [1210 mm]	23 5/8" [600 mm]	11 3/8" [289 mm]	21 1/2" [546 mm]	45 1/2" [1156 mm]	22 1/2" [572 mm]	11 1/2" [292 mm]	10 3/4" [273 mm]	45 1/2" [1156 mm]	21 1/2" [546 mm]	7 1/8" [181 mm]	18RD
RXRN-FA65	47 5/8" [1210 mm]	29 5/8" [752 mm]	14 3/8" [365 mm]	27 1/2" [699 mm]	45 1/2" [1156 mm]	22 1/2" [572 mm]	11 1/2" [292 mm]	13 3/4" [349 mm]	45 1/2" [1156 mm]	27 1/2" [699 mm]	8 1/8" [206 mm]	20RD

ENGINEERING DATA

Model No.	CFM [L/s]	Static Pressure	Throw Feet	Neck Vel.	Jet Vel.	Noise Level
RXRN-FA60	1000 [472]	.14	10-17	351	351	20
	1200 [566]	.17	11-18	421	421	20
	1400 [661]	.20	12-19	491	491	20
	1600 [755]	.24	12-20	561	561	20
	1800 [850]	.30	13-21	632	632	20
	2000 [944]	.36	14-23	702	702	20
	2200 [1038]	.40	16-25	772	772	20
RXRN-FA65	2600 [1227]	.17	24-29	669	669	20
	2800 [1321]	.20	25-30	720	720	25
	3000 [1416]	.25	27-33	772	772	25
	3200 [1510]	.31	28-35	623	623	25
	3400 [1605]	.37	30-37	874	874	30

GUIDE SPECIFICATIONS – RLNL-G036 thru G060

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

ELECTRIC HEAT PACKAGED ROOFTOP

HVAC Guide Specifications

Size Range: 3-5 Nominal Tons

Section	Description
---------	-------------

23 06 80	Schedules for Decentralized HVAC Equipment
-----------------	---

23 06 80.13	Decentralized Unitary HVAC Equipment Schedule
-------------	---

23 06 80.13.A.	Rooftop unit schedule
----------------	-----------------------

1. Schedule is per the project specification requirements.

23 07 16	HVAC Equipment Insulation
-----------------	----------------------------------

23 07 16.13	Decentralized, Rooftop Units:
-------------	-------------------------------

1. Interior cabinet surfaces shall be insulated with a minimum 3/4-in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, with aluminum foil facing on the air side.

2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

23 09 13	Instrumentation and Control Devices for HVAC
-----------------	---

23 09 13.23	Sensors and Transmitters
-------------	--------------------------

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

1. Thermostat must

- a. have capability to energize 2 different stages of cooling, and 2 different stages of heating.

- b. must include capability for occupancy scheduling.

23 09 23	Direct-digital Control system for HVAC
-----------------	---

23 09 23.13	Decentralized, Rooftop Units:
-------------	-------------------------------

23 09 23.13.A.	RTU-C controller
----------------	------------------

1. Shall be ASHRAE 62-2001 compliant.

2. Shall accept 18-32VAC input power.

3. Shall have an operating temperature range from -40°F (-40°C) to 158°F (70°C), 10% - 95% RH (non-condensing).

4. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air enthalpy, fire shutdown, return air enthalpy, fan status, remote time clock/door switch.

5. Shall accept a CO₂ sensor in the conditioned space, and be Demand Control Ventilation (DCV) ready.

6. Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust, occupied.

7. Unit shall provide surge protection for the controller through a circuit breaker.

8. Shall have a field installed communication card allowing the unit to be Internet capable, and communicate at a Baud rate of 19.2K or faster

9. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.

10. Shall have either a field installed BACnet® plug-in communication card which includes an EIA-485 protocol communication port, or a field installed LonWorks™ plug-in communications card.

11. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.

12. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.

13. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.

14. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000 ft sections.

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

1. Shall be ASHRAE 62-2001 compliant.

2. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.

3. Shall have an operating temperature range from -40°F (-40°C) to 130°F (54°C), 10% - 90% RH (non-condensing).

4. Shall have either a field installed BACnet® plug-in communication card which includes an EIA-485 protocol communication port, or a field installed LonWorks™ plug-in communications card.

5. The BACnet® plug in communication card shall include built-in protocol for BACNET (MS/TP and PTP modes)

6. The LonWorks™ plug in communication card shall include the Echelon processor required for all Lon applications.

7. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers

8. Baud rate Controller shall be selectable through the EIA-485 protocol communication port.

9. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.

10. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air enthalpy, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/ humidity/ remote occupancy.

11. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust.

12. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

23 09 33 Electric and Electronic Control System for HVAC

23 09 33.13 Decentralized, Rooftop Units:

23 09 33.13.A. General:

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

23 09 33.23.B. Safeties:

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

23 09 93 Sequence of Operations for HVAC Controls

23 09 93.13 Decentralized, Rooftop Units:

23 09 93.13 INSERT SEQUENCE OF OPERATION

23 40 13 Panel Air Filters

23 40 13.13 Decentralized, Rooftop Units:

23 40 13.13.A. Standard filter section shall

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

23 81 19 Self-Contained Air Conditioners

23 81 19.13 Small-Capacity Self-Contained Air Conditioners

23 81 19.13.A. General

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

23 81 19.13.B. Quality Assurance

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

- 23 81 19.13.C. Delivery, Storage, and Handling
1. Unit shall be stored and handled per manufacturer's recommendations.
 2. Lifted by crane requires either shipping top panel or spreader bars.
 3. Unit shall only be stored or positioned in the upright position.
- 23 81 19.13.E. Project Conditions
1. As specified in the contract.
- 23 81 19.13.F. Operating Characteristics
1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.
 2. Compressor with standard controls shall be capable of operation from 40°F (4°C) , ambient outdoor temperatures. Accessory low ambient kit is necessary if mechanically cooling at ambient temperatures below 40°F (4°C).
 3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
 4. Unit shall be factory configured for vertical supply & return configurations.
 5. Unit shall be field convertible from vertical to horizontal configuration.
- 23 81 19.13.G. Electrical Requirements
1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
- 23 81 19.13.H. Unit Cabinet
1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a baked enamel finish on all externally exposed surfaces.
 2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
 3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 3/4-in. thick, 1 lb density, flexible fiberglass insulation, aluminum foil-faced on the air side.
 4. Base of unit shall have locations for thru-the-base electrical connections (factory installed or field installed), standard.
 5. Base Rail
 - a. Unit shall have base rails on all sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 14 gauge thickness.
 6. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 1" -11 1/2 NPT drain connection, through the side of the drain pan. Connection shall be made per manufacturer's recommendations.
 7. Top panel:
 - a. Indoor section shall be a single piece top panel.
 8. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - (2.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
 9. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.
 - b. Stainless steel metal hinges are standard on all doors.
 - c. Panels covering control box, indoor fan, indoor fan motor, and electric or gas heater components (where applicable), shall have 1/4 turn latches.
- 23 81 19.13.J. Coils
1. Standard Aluminum/Copper Coils: on all models.
 - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
 - b. Evaporator and Condenser coils shall be leak tested to 150 psig, pressure tested to 550 psig, and qualified to UL 1995 burst test at 2,200 psig.
- 23 81 19.13.K. Refrigerant Components
1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. Thermal Expansion Valve (TXV) with venturi type distributor except the 072 & 085 models which shall use small orifice refrigerant control expansion devices.
 - b. Refrigerant filter drier.
 - c. External service gauge connections to unit suction and discharge lines.

2. Compressors

- a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
- b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- d. Compressors shall be internally protected from high discharge temperature conditions.
- e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
- f. Compressor shall be factory mounted on rubber grommets.
- g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
- h. Crankcase heaters shall be utilized on all models to protect compressor with specific refrigerant charge.

23 81 19.13.L. Filter Section

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

23 81 19.13.M. Evaporator Fan and Motor

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

23 81 19.13.N. Condenser Fans and Motors

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

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

1. Integrated Economizers:
 - a. Integrated, gear-driven parallel modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
 - c. Damper blades shall be galvanized steel with metal gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Shall be capable of introducing up to 100% outdoor air.
 - g. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - h. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - i. An outdoor single enthalpy sensor shall be provided as standard. Outdoor air sensor setpoint shall be adjustable and shall range from the enthalpy equivalent of 63°F @ 50% rh to 73°F @ 50% rh. Additional sensor options shall be available as accessories.
 - j. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 70%, with a range of 0% to 100%.
 - k. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy. A remote potentiometer may be used to override the damper setpoint.
 - l. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - m. Economizer controller shall accept a 2-10Vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor-air damper to provide ventilation based on the sensor input.

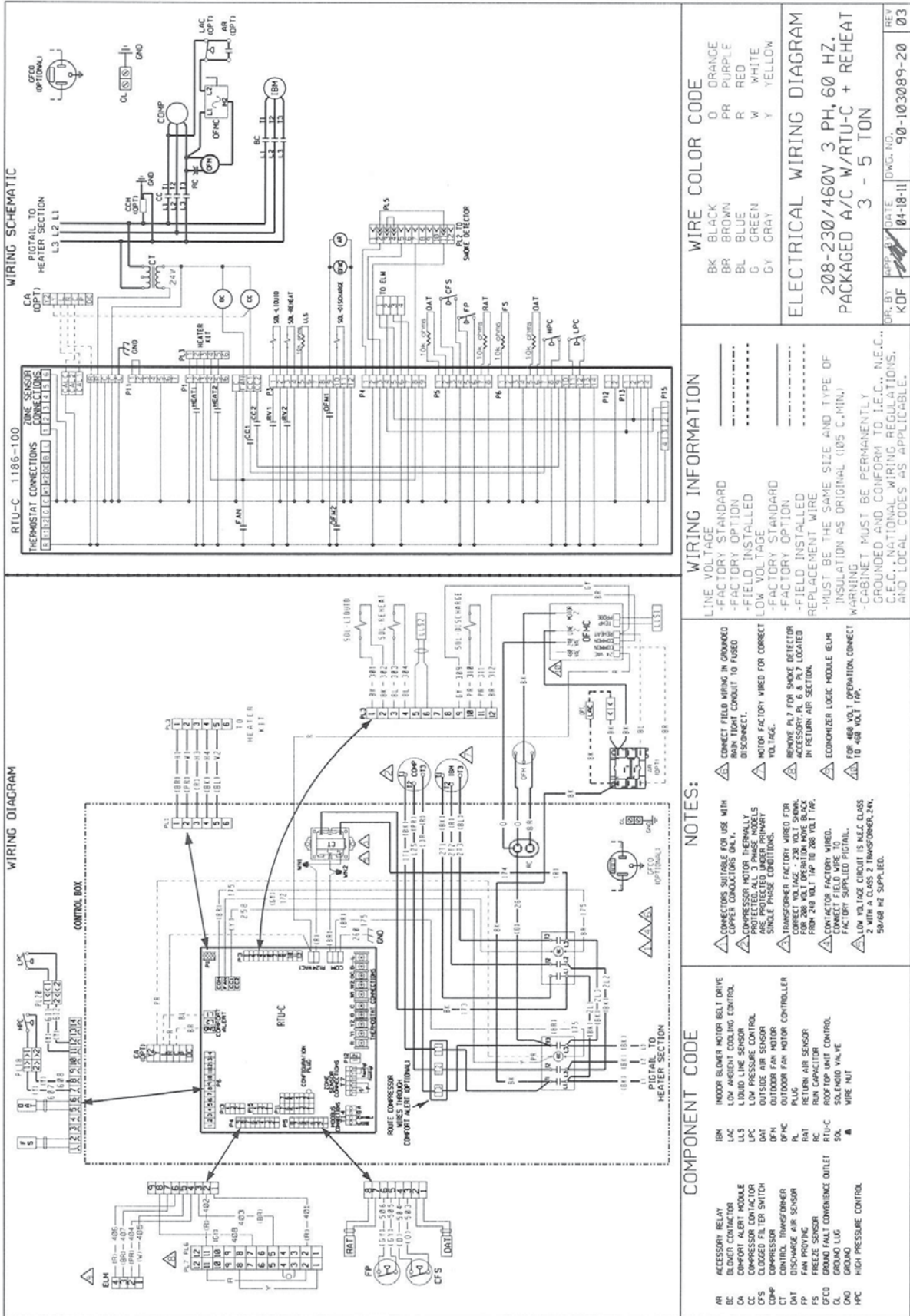
- n. Compressor lockout sensor on the unit controller is factory set at 35°F and is adjustable from 30°F (-1°C) to 50°F (10°C) and resets the cooling lockout at 5°F (+2.7°C) above the set point.
 - o. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - p. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
 - q. Economizer wire harness will have provision for smoke detector.
2. Two-Position Motorized Damper
 - a. Damper shall be a Two-Position Motorized Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter
 3. Manual damper
 - a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 50% outdoor air for year round ventilation.
 4. Head Pressure Control Package
 - a. Controller shall control coil head pressure by condenser-fan cycling.
 5. Condenser Coil Hail Guard Assembly
 - a. Shall protect against damage from hail.
 - b. Shall be louvered design.
 6. Convenience Outlet:
 - a. Non-Powered convenience outlet.
 - (1.) Outlet shall be powered from a separate 115-120v power source.
 - (2.) A transformer shall not be included.
 - (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
 - (4.) Outlet shall include 15 amp GFI receptacles.
 - (5.) Outlet shall be accessible from outside the unit.
 7. Fan/Filter Status Switch:
 - a. Switch shall provide status of indoor evaporator fan (ON/OFF) or filter (CLEAN/DIRTY).
 - b. Status shall be displayed either over communication bus (when used with direct digital controls) or through the controller LCD display inside the unit control box.
 8. Propeller Power Exhaust:
 - a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust is shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0-100% adjustable setpoint on the economizer control.
 9. Roof Curbs (Vertical):
 - a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
 10. High-Static Indoor Fan Motor(s) and Drive(s):
 - a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
 11. Outdoor Air Enthalpy Sensor:
 - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
 13. Return Air Enthalpy Sensor:
 - a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
 14. Indoor Air Quality (CO₂) Sensor:
 - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
 - b. The IAQ sensor shall be available in wall mount with LED display. The setpoint shall have adjustment capability.

15. Smoke detectors:

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

16. Electric Heat:

- a. Heating Section
 - (1.) Heater element open coil resistance wire, nickel-chrome alloy, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
 - (2.) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.



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GENERAL TERMS OF LIMITED WARRANTY*

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

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

Conditional Parts (Registration Required)

1 Phase, Residential ApplicationsTen (10) Years

Compressor

1 Phase, Residential ApplicationsTen (10) Years

1 & 3 Phase, Commercial ApplicationsFive (5) Years

Parts

1 & 3 Phase, Commercial ApplicationsOne (1) Year



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